INFLUENCE OF FINANCIAL MANAGEMENT PRACTICES ON SUSTAINABILITY OF PENSION FUNDS ADMINISTRATIVE INSTITUTIONS IN KENYA

DAVID KIMANI NDURUHU

DOCTOR OF PHILOSOPHY

(Business Administration)

JOMO KENYATTA UNIVERSITY OF

AGRICULTURE AND TECHNOLOGY

2019

Influence of Financial Management Practices on Sustainability of Pension Funds Administrative Institutions in Kenya

David Kimani Nduruhu

A Thesis Submitted in Partial Fulfilment for the Degree of Doctor of Philosophy in Business Administration in the Jomo Kenyatta University of Agriculture and Technology

2019

DECLARATION

This thesis is my original work and has not been presented for a degree in any other University.

Signature …… Date ……

David Kimani Nduruhu

This thesis has been submitted for examination with our approval as University Supervisors.

Signature …… Date ……

Prof. Gregory Simiyu Namusonge, PhD

JKUAT, Kenya

Signature …… Date ……

Dr. Kabare Karanja, PhD

JKUAT, Kenya

DEDICATION

This work is dedicated to my late parents, Joseph Nduruhu Kimani and Lydia Nyambura. To my spouse, Rose and my children; Emily, Agnes, Joan, and Mark, ‘thank you for your love, prayers, support, encouragement and understanding throughout my study.’

ACKNOWLEDGMENT

It is with God that I can do all things. Thus I glorify Almighty God who has enabled me to come this far in my studies and in preparing this thesis. My sincere appreciation goes to the lecturers of College of Human Resources Development of Jomo Kenyatta University of Agriculture and Technology for imparting relevant knowledge and skills throughout my academic course. Secondly, I would like to express my profound gratitude to my supervisors, Prof. Gregory Simiyu Namusonge and Dr. Kabare Karanja for the intellectual advice, encouragement, and support provided throughout the research work. They were my mentors, a source of inspiration, motivation through dedicated professional guidance. I want to acknowledge my colleagues and friends for their invaluable guidance in writing this research thesis including among others Dr. Kimani E. Maina, Dr. Gichure, Dr. Peter Waweru Nduati, Dr. Maku Ngatia, and Mr. Mwangi George Gathogo. It is may not be possible to mention all the persons who made this thesis a success. To my colleagues, Wycliffe Nyangau, Simon Kimotho and Eva Githige 'thank you for your encouragement'.

TABLE OF CONTENTS

DECLARATION ..... **II**

DEDICATION ..... **III**

ACKNOWLEDGMENT ..... **IV**

TABLE OF CONTENTS ..... **V**

LIST OF TABLES ..... **XIV**

LIST OF FIGURES ..... **XVIII**

LIST OF APPENDICES ..... **XIX**

OPERATIONAL DEFINITION OF TERMS ..... **XXI**

ABSTRACT ..... **XXIII**

CHAPTER ONE **1**

INTRODUCTION **1**

1.1 Background of the Study 1

1.1.1 Global Perspective of Financial Management Practices and Sustainability 1

1.1.2 Regional Perspective of Financial Management Practices and Sustainability . 5

1.1.3 National Perspective of Financial Management Practices and Sustainability .. 6

1.2 Statement of the Problem 8

1.3 Objectives of the Study 11

1.3.1 General Objective 11

1.3.2 Specific Objectives 12

1.3.3 Research Hypotheses 12

1.4 Significance of the Study 12

1.4.1 Financial Market Stakeholders 13

1.4.2 Sponsors and employees 13

1.4.3 Pension Fund Trustees and Services Providers 14

1.4.4 Policy Makers 14

1.4.5 Researchers 14

1.5 The scope of the Study 15

1.6 Limitations of the Study 15

CHAPTER TWO 17

LITERATURE REVIEW 17

2.1 Introduction 17

2.2Theoretical Framework 17

2.2.1 Systems Theory 17

2.2.2 Modern Portfolio Theory 18

2.2.3 Theory of Financial Control 20

2.2.4 Stakeholders' Theory 21

2.2.5 Accounting Profitability theory 23

2.3 Conceptual Framework 25

2.4 Empirical Review of Variables 27

2.4.1 Funding Management Practice 27

2.4.2 Investment Management Practice 31

2.4.3 Financial Control Practice 33

2.4.4 Financial Reporting Practice 36

2.4.5 Sustainability of Pension Funds administrative Institutions 39

2.5 Empirical Studies 40

2.6 Research Gaps 48

2.7 Summary 51

CHAPTER THREE 53

RESEARCH METHODOLOGY 53

3.1 Introduction 53

3.2 Research Design 53

3.3 Target Population 54

3.4 Sampling Frame 54

3.5 Sampling Design 55

3.6 Sample Size and Sample Distribution 55

3.7 Data Collection Methods 57

3.7.1 Primary Data 57

3.7.2 Secondary Data 58

3.8 Data Collection Procedure 58

3.9 Pilot Study 59

3.9.1 Validity Test 60

3.9.2 Reliability Test 60

3.9.3 Diagnostic Tests 61

3.10 Data Analysis and Presentation 61

3.10.1 Multiple Linear Regression Model 64

3.10.2 Normality Tests 66

3.10.3 Sampling Adequacy Tests 66

3.10.4 Multicollinearity Tests 66

3.10.5 Auto-correlation Test 66

3.10.6 Definition and Measurement of Variables 67

CHAPTER FOUR **69**

RESULTS AND DISCUSSION **69**

4.1 Introduction 69

4.1.1 Response Rate 69

4.1.2 Demographic Characteristics 70

4.1.3 Academic and Professional Qualifications of the Respondents 71

4.1.4 Positions of the Respondents 72

4.1.5 Experience of the Respondents in Fund Administration 73

4.1.6 Types of Pension Schemes Administered 74

4.1.7 Rate of Conversion of Scheme Design 75

4.1.8 Period Taken To Pay Benefits Claims 76

4.1.9 Type of Administrative Services Rendered 76

4.2 Pilot Tests 76

4.2.1 Test of Reliability 77

4.2.2 Test of Validity 78

4.2.3 Sampling Adequacy Test 79

4.3 Sustainability of Pension Fund Administrative Institutions 80

4.3.1 Descriptive Statistics on Sustainability of PFAIs 80

4.3.2 Sampling Adequacy for Sustainability 81

4.3.3 Factor Analysis for Sustainability of PFAIs 82

4.4 Statistical Tests of Assumptions 84

4.4.1 Normality Test on Sustainability 84

4.4.2 Multi-collinearity Test 85

4.4.3 Autocorrelation Test 86

4.5 Influence of Funding Management Practice on Sustainability of PFAIs 87

4.5.1 Descriptive Statistics on Funding Management Practice 88

4.5.2 Sampling adequacy on Funding management practice 89

4.5.3 Total Variance Explained on Funding Management Practice 90

4.5.4 Normality Tests on Funding Management Practice 93

4.5.5 Correlation Analysis on Funding Management Practice 93

4.5.6 Regression Analysis on Funding Management Practice 95

4.6 Influence of Investment Management Practice on Sustainability of PFAIs 98

4.6.1 Descriptive Statistics of Investment Management Practice 99

4.6.2 Sampling Adequacy on Investment Management Practice 100

4.6.3 Total Variance Explained on Investment Management Practice 101

4.6.4 Normality Tests on Investment Management Practice 104

4.6.5 Correlation Analysis of Investment Management Practice 104

4.6.6 Regression Analysis on Investment Management Practice 106

4.7 Influence of Financial Control Practice on Sustainability of PFAIs 109

4.7.1 Descriptive Statistics on Financial Control Practice 110

4.7.2 Sampling Adequacy on Financial Control Practice 112

4.7.3 Total Variance explained on Financial Control Practice 112

4.7.4 Normality Tests on Financial Control Practice 115

4.7.5 Correlation Analysis on Financial Control Practice 115

4.7.6 Regression analysis on Financial Control Practice 117

4.8 Influence of Financial Reporting Practice on Sustainability of PFAIs 119

4.8.1 Descriptive Statistics on Financial Reporting Practice 120

4.8.2 Sampling Adequacy on Financial Reporting Practice 121

4.8.3 Total Variance Explained on Financial Reporting Practice 122

4.8.4 Normality Tests on Financial Reporting Practice 124

4.8.5 Correlation Analysis on Financial Reporting Practice 125

4.8.6 Regression Analysis on Financial Reporting Practice 126

4.9 Overall Correlation Analysis on Financial Management Practices 129

4.10 Multiple Regression Analysis of Joint Variables 132

4.11 Summary of Hypothesis Testing 136

4.12 Revised Conceptual Framework 137

CHAPTER FIVE 139

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS 139

5.1 Introduction 139

5.2 Summary 139

5.2.1 Sustainability of PFAIs 139

5.2.2 Influence of Funding Management Practice on Sustainability of PFAIs 140

5.2.3 Influence of Investment Management Practice on Sustainability of PFAIs 140

5.2.4 Influence of Financial Control Practice on Sustainability of PFAIs 141

5.2.5 Influence of Financial Reporting Practice on Sustainability of PFAIs 141

5.3 Conclusions 142

5.3.1 Sustainability of PFAIs 142

5.3.2 Funding Management Practice and Sustainability of PFAIs 143

5.3.3 Investment management practice and Sustainability of PFAIs 143

5.3.4 Financial Control Practice and Sustainability of PFAIs 143

5.3.5 Financial Reporting Practice and Sustainability of PFAIs 144

5.3.4 Financial Management Practices and Sustainability of PFAIs 144

5.4 Recommendations 145

5.5 Areas of Further Research Future researchers 146

REFERENCES 148

APPENDICES 177

LIST OF TABLES

Table 4.1: Response Rate 69

Table 4.2: Gender of the Respondent 70

Table 4.3: Age of the Respondent 71

Table 4.4: Academic Qualifications of the Respondents 72

Table 4.5: Positions of the Respondents 73

Table 4.6: Experience of the Respondents in Fund Administration 74

Table 4.7: Types of Pension Schemes Administered 74

Table 4.8: Rate of Conversion of Scheme Design in Kenya 75

Table 4.9: Period Taken to Pay Benefits Claims 76

Table 4.10: Test of Reliability results 78

Table 4.11: Sampling Adequacy Test - KMO and Bartlett's Test 79

Table 4.12: Descriptive Statistics on Sustainability of PFAIs 81

Table 4.13: Sampling Adequacy for Sustainability KMO and Bartlett's Test 82

Table 4.14: Total Variance Explained on Sustainability of PFAIs 83

Table 4.15: Rotated Component Matrix for Sustainability of PFAIs- 84

Table 4.16: Normality Test on Sustainability- Skewness and Kurtosis Test 85

Table 4.17: Test for Multi-Collinearity 86

Table 4.18: Autocorrelation Test Durbin- Watson Results 87

Table 4.19: Descriptive Statistics on Funding Management Practice 89

Table 4.20: Sampling Adequacy Test for Funding Management Practice 90

Table 4.21: Total variance explained on Funding Management Practice-..... 91

Table 4.22: Rotated component matrix on Funding Management Practice-..... 92

Table 4.23: Normality Test on Funding Management Practice..... 93

Table 4.24: Correlation Analysis of Funding Management Practice..... 95

Table 4.25: Regression Model Summary on Funding Management Practice 96

Table 4.26: ANOVA Results on Funding Management Practice..... 97

Table 4.27: Regression Coefficients Results on Funding Management Practice 98

Table 4.28: Descriptive Statistics on Investment Management Practice 100

Table 4.29: Sampling Adequacy on Investment Management Practice 101

Table 4.30: Total variance explained on Investment Management Practice..... 102

Table 4.31: Rotated component matrix on investment management practice - 103

Table 4.32: Normality tests on investment management practice 104

Table 4.33: Correlation Analysis - Investment Management Practice And Sustainability of PFAIs 106

Table 4.34: Model Summary - Investment Management Practice on Sustainability ... 107

Table 4.35: ANOVA Analysis of Investment Management Practice 108

Table 4.36: Regression Coefficients on Investment management practice and Sustainability of PFAIs 109

Table 4.37: Descriptive Statistics on Financial Control Practice 111

Table 4.38: Sampling Adequacy on Financial Control Practice 112

Table 4.39: Total variance explained on Financial Control Practice -..... 113

Table 4.40: Rotated component matrix on Financial Control Practice -..... 114

Table 4.41: Normality Tests on Financial Control Practice 115

Table 4.42: Correlation Analysis on Financial Control Practice 116

Table 4.43: Goodness-of-Fit Model Results on Financial Control Practice 117

Table 4.44: ANOVA Results on Financial Control Practice..... 118

Table 4.45: Regression Coefficients on Financial Control Practice 119

Table 4.46: Descriptive Statistics on Financial Reporting Practice..... 121

Table 4.47: Sampling Adequacy on Financial Reporting Practice 122

Table 4.48: Total Variance Explained on Financial Reporting Practice - 123

Table 4.49: Rotated Component Matrix on Financial Reporting Practice 124

Table 4.50: Normality Tests on Financial Reporting Practice 125

Table 4.51: Correlation Analysis on Financial Reporting Practice 126

Table 4.52: Model Summary on Financial Reporting Practice 127

Table 4.53: ANOVA Results on Financial Reporting Practice 128

Table 4.54: Regression Coefficients on Financial Reporting Practice 129

Table 4.55: Correlation Coefficient Matrix on Financial Management Practices..... 131

Table 4.56: Goodness-of-Fit Model Results on Financial Management Practice 132

Table 4.57: ANOVA Analysis on Financial Management Practices..... 133

Table 4.58: Regression Coefficients on Financial Management Practices 134

Table 4.59: Summary of Hypothesis Testing 136

LIST OF FIGURES

Figure 2. 1: Conceptual Framework**…….26**

Figure 4. 1: Revised Conceptual Framework**.....138**

LIST OF APPENDICES

Appendix I: Introductory Letter 177

Appendix II: Study Questionnaire 178

Appendix III: Internally Administered Pension Schemes in Kenya 185

Appendix IV: Registered Funds Administrators in Kenya 188

Appendix V: Variable Definition and Measurements 189

ACRONYMS

DB	Defined Benefits
DC	Defined Contributions
FS	Financial Sustainability
GDP	Gross Domestic Product
IAS	International Accounting Standards
IASB	International Accounting Standards Board
IFRS	International Financial Reporting Standards
ISO	International Standard Organisation
KRBA	Kenya Retirement Benefits Authority
MPT	Modern Portfolio Theory
OECD	Organization for Economic Corporation and Development
PFAs	Pension Funds Administrators
PFs	Pension Funds
PFAIs	Funds Administrative Institutions
PFC	Pension Funds Custodians
RBA	Retirement Benefits Authority
RoK	Republic of Kenya
SPSS	Statistical Package for Social Sciences

OPERATIONAL DEFINITION OF TERMS

Defined Benefit (DB) Plan:	Defined benefits plan is a retirement plan where workers accrue a promise of regular monthly payment in retirement that is based on a formula linked to an employee's salary and years of tenure at the sponsoring firm (Blake, 2008).
Defined Contribution (DC) Plan:	A defined contribution retirement plan is a retirement plan in which the workers accrue funds in individual accounts administered by the plan sponsor, and the benefits will be dependent on contributions and growth of the fund after allowing for the fund managers costs (KRBA, 2011).
Financial Control Practice:	Financial control practice is the means by which an organization's resources are directed, monitored and measured using but not limited to, income statements, cash flow statements, budget sheets, accounting systems and operating ratios (ISA 400). These are the procedures designed to protect assets and ensure that all financial transactions are recorded to prevent and reduce errors and fraud.
Financial Management Practice	Financial management practice is concerned with all areas of management, which involve finance, not only the sources and uses of finance in the enterprises but also the financial implications of investment, production, marketing or personnel decisions and the total performance of the enterprise. Thus, financial management is concerned with what is going to happen in the future, and its purpose is to look for ways to maximize the effectiveness of financial resources (Aveh, 2013).
Financial Reporting Practice:	Financial reporting practice is concerned with the communication of financial information to the financial statement users and other stakeholders like investors and creditors as per the accepted financial reporting framework (ISA, 400).

Funding Management practice:	Funding management practice is a pension fund management style that increases fund value as per funding policy in compliance with funding regulations to safeguard and grow members' funds thereby increasing its ability to meet financial liabilities to members who retire (Muingo, 2007).
Investment Management Practice:	Investment management practice is the professional asset management of various securities and other assets (e.g., real estate) in order to meet specified investment objectives (RBA, 2010).
Operational Sustainability:	Operational sustainability is the ability of a pension fund institution to cover its operational costs from its operating income regardless of whether it is subsidized or not (Nyamsogoro 2010).
Pension Funds Administrative Institutions:	Pension Funds administrators institutions charged with the responsibility of handling all administrative affairs of the pension fund, ensuring that the pension fund is run by the trust deed, rules and within the ambit of the law (RBA, 2013).
Pension Fund:	A pension fund is an institutional investor, which collect, pool and invest funds contributed by sponsors and beneficiaries, maintained by the Trustees to provide for the future pension entitlements of beneficiaries by the terms and conditions of the Trust Deed and Rules (KRBA, 2013).
Sustainability	Sustainability of an administrative institution means consistently, over a long term, deliver an adequate range of administrative retirement benefits services within an acceptable range of costs, is financially sound and can be maintained over a foreseeable horizon under a broad set of reasonable assumptions (Marwa & Aziakpono, 2015).

ABSTRACT

This study sought to investigate the influence of financial management practices on the sustainability of pension funds administrative institutions (PFAIs) in Kenya. The study was guided by four specific objectives which were: to assess the influence of funding management, investment management, financial control and financial reporting practices on the sustainability of PFAIs in Kenya. Systems theory, modern portfolio theory, Stewardship theory, stakeholders' theory and the theory of constraints guided the study. The study adopted a correlational research design with a target population of 85 PFAIs operating in Kenya from 2008 to 2016. Stratified sampling and simple random techniques were used to select the sample and a sample size of 70 PFAIs was drawn from the target population using Slovin's formula. In data collection, the study utilized disclosures in annual reports of pension funds and questionnaires comprising of structured questions which were administered to pension funds administrators in each institution that participated in the study. The study utilized primary collected through structured questionnaire and data was analysed using descriptive and inferential statistics in SPSS. Reliability of the research instrument was tested by use of Cronbach alpha. The findings of the study shows that funding management, investment management, financial control, and financial reporting practices had a positive and statistically significant influence on the sustainability of PFAIs in Kenya. The study recommends that pension funds trustees should regularly review financing policies that enhance the annual distribution of investment returns and cost management policies on annual budgets. They should consistently review policies on investment management strategies and that are fully compliant with the investment policy statements (IPS) while ensuring that they always give total investment discretion to fund managers for improved investment performance. Further, trustees should always comply with investment guidelines. Pension funds management should regularly review financial reporting policies that enhance preparations of proper accounting records and financial report. Trustees should always ensure that financial reporting practices are in compliance with the financial reporting framework and regularly review polices on communication strategies to all stakeholders. The Kenyan Government through the Retirement Benefits Authority should set and regularly review guidelines that strategically promote good financial management practices of pension funds by all stakeholders.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

This chapter gives the overview of the influence of financial management practices on sustainability of pension funds administrative institutions in Kenya. The chapter presents the background of the study, the statement of the problem, the study objectives, the hypotheses, the scope and significance of the study. Limitations of the study are also presented in the chapter.

1.1.1 Global Perspective of Financial Management Practices and Sustainability

Abdulai and Tewari (2017) notes that sustainability is the ability of an institution to repeat the performance for a long time in business which has become an investment consideration for many investors and pension funds. According to Abdulai and Tewari (2017) financial sustainability has been used to define the institutional sustainability or the possibility of making a profit out of institutional operations. Florea, Cheung, and Herndon (2013) reports that the values and implementation of financial management practices are at the heart of sustainability efforts for most organizations. Marwa, (2015) suggests that specific sustainable practices can lead to specific competitive outcomes which can lead to strategic competitive advantage and is considered a key driver to innovations for firms. Tijjani (2014) finds that achieving financial sustainability leads to reduced transaction costs, better products, and services that meet client needs and finding new ways to reach the retirees. Aveh (2013) finds that financial management is one of the several functional areas of management that is central to the success of any business including the sources and uses of finance with financial implications on investment, production, marketing, personnel decisions, and the total performance.

Kemp and Patel (2011) find that pension funds are important in the provision of adequate income in retirement but also manages large amounts of asset and liability

meaning that they should be managed efficiently and effectively. Karadag (2015) finds that financial management refers to the systems of efficient and effective management of resources in such a manner as to accomplish the objectives of the organization (Karadag, 2015). The study classified financial management practice in to the following five specific areas: Capital structure management, working capital management, financial reporting and analysis, capital budgeting and accounting information system. According to Fatoki (2012), the components of financial management includes financial planning and control, financial accounting, financial analysis, management accounting, capital budgeting and working capital management. Pension systems should, therefore, be managed effectively through financial management so as to increase the investment returns for the sustainability of all retirement benefits stakeholders.

Alonso, Devesa, Domínguez, Encinas, and Meneu (2018) note that in all countries, the earnings-related part of the public pension system are financed through contributions on earned income. Tijjani (2014) reports that in Ireland, the Netherlands and the United Kingdom, the flat rate basic pensions are financed through contributions, but in Denmark, pensions are financed by through taxes. According to Tijjani (2014), in almost all countries, additional needs for public financing may rise and may require increased contributions, higher retirement age, lower benefit, larger transfers from the general budget among other measures for sustainability. He further notes that in Sweden contribution rate to the new system is fixed and necessary adjustments can only be made on the benefit side. In Germany, contribution rates are below 22%, while in the Netherlands the contribution rate is over 18.25% with the deficit in the pension system being covered through transfers from the reserve fund.

Higgins (2012) notes that most countries in both developed and developing countries are increasingly shifting their pension systems toward partial or full funding in the hope that funded pensions will contribute to their economic development agenda. Sabugo (2017) reports that a few countries have reformed their public pension systems from defined benefits (DB) to defined contributions (DC) plans with the aim of stabilizing contribution rates across generations through incorporation of better incentives to work

for higher employment rates. Padachi (2012) points out that the main factors that contribute to success or failure of businesses are categorized as internal and external financial management factors. Nyongesa (2011) looked at the relationship between financial performance and financial management practices of insurance companies in Kenya. The study revealed that there was a consistent, significant positive association between financial management practices and financial performance. However, the study did not establish reasons for this correlation.

Forteza *et al.* (2012) study in South America established that density of contributions are particularly low at early ages with the average densities ranging between 20 to 39 in Chile, Uruguay and Argentina. As expected, densities increase as workers mature with mature workers contributing twice as early workers to their pension plan schemes. The study also established that density of contribution negatively correlate with income levels, with the study proving that low contributions are related with low income earners and high contributions with high income earners. Forteza and Mussio (2017) carried out a study in Jordan that established that workers contribute on average about one third of their working life.

Petraki (2012) conducted a study to investigate the performance of personal pension funds in the UK. The research identified two significant factors: fund's age and management outsourcing. The outcome demonstrated that risk-adjusted returns are statistically insignificantly different from zero but funds significantly outperform their benchmarks. Petraki (2012) observed that performance changes with fund's age as a control variable. However, the relationship was shown to be more complex with the effect varying for both private and public pension funds. Risk-adjusted returns of the internally managed and the outsourced funds were both indifferent from zero but the outsourced funds are better at outperforming their benchmarks.

OECD (2015) reports that despite uncertainties in the world economy and volatility in financial markets, pension funds rates of return in most OECD countries were positive in 2012 and 2013. According to OECD (2015), pension funds got negative investment

returns in real terms in 2013 for Mexico (-1.5%), Denmark (-4.6%) and Turkey (-7.6%). In order to increase sustainability, pension funds should adopt practical financial management practices that enhance their rates of return while controlling the costs of the resources entrusted to them. (OECD, 2015) notes that fees charged to plan members to cover the total operating costs vary considerably in structure and level across countries ranging from 0.1% of assets under management annually to 1.5%. KRBA (2013) reports that in DC private pension systems, services providers cover their operating costs through the fees that they charge to plan members, but it remains doubtful whether the fees charges made the service providers are sustainable to deliver on their mandate to members and other stakeholders. The basis on which fee is charged for service providers have different implication on the sustainability of service providers and specifically on pension funds administrators (KRBA, 2013).

Omar (2017) finds that financial management practices are one of the important factors that influence financial capability and financial well-being of institutions and pension systems for sustainability across countries. Janor (2017) observes three important core financial management components used by business institutions and other non-business organizations include financial planning and control, financial accounting, and working capital management. They find that three other financial management components namely, financial analysis, management accounting, and capital budgeting were used by a smaller percentage of the SMEs. Given that financial management is one of the key aspects of the wellbeing and survival of a business, it is important that this topic is explored in depth with regards to pension funds in Kenya.

1.1.2 Regional Perspective of Financial Management Practices and Sustainability

Adeoti *et al.* (2012) carried out a study on Determinants of Pension Fund Investment in Nigeria using primary data which were generated through a questionnaire. Respondents were selected using simple random sampling technique. Data collected were analyzed using factor analysis by principal component. Economic, Risk and Security of real estate factors were identified as the major determinants of pension fund investment. The study found out that interest rate and internal control system were not critical in determining investment of pension funds in Nigeria. However, the findings were in contrast to that of Tijjani (2014) in his study titled "Determinants of Financial Sustainability of Pensions Funds Administrators in Nigeria" which found that there was a significant positive relationship between age, size, net income and members' contributions as independent variables to financial sustainability. Tijjan (2014) had recommended that Pension Funds Administrators be monitored to remedy possible weaknesses.

World Bank (2014) reports that in Tanzania, sustainability of pensions fund was reported as questionable in that, during the year 2012/13, total benefits paid to beneficiaries by PSPF was TZS 543.71 billion whereas investment income was TZS 204.7 billion which is 38% of entire benefit payment. The total contributions received were 444.85 billion which is less by 98.86 billion as compared to benefit payments by PSPF in 2013. Sabugo (2017) notes that delays in benefit payments, long customer waiting lists, long benefits processing time, existence of many pending claims and customer complaints have been the main challenges facing Tanzanian pension fund schemes.

Simbabrashe *et al.* (2014) conducted an empirical study on the efficiency of pension schemes in Zimbabwe in the post multicurrency era from 2010 to 2013. The research was based on quantitative data such as portfolio returns of pension funds and their asset sizes. The research sample was 20 standalone pension funds and 9 fund administered pension funds using a cluster sample. Based on the data presented on Zimbabwean pension fund, the analysis demonstrated that there was no relationship between the

density of contribution and its investment performance. Therefore, the study established that density of contribution alone does not determine the performance of a pension.

Tijjani (2014) finds that, in both the developed and developing countries public professionals in the public sector strive to apply financial management, improve management and governance and audit fraud and corruption. Adeyemi (2018) reports that the serious deficiency in the financial control systems in most developing countries generally is the major factor blamed for the misuse of public resources and financial corruption in these countries. According to

Kyanda (2014) notes that, pension fund governance in South Africa has major knowledge gaps in management involving weak board discipline and conflicts of interest among consultants and asset managers that are not fully addressed which leads to a decline in performance of pension funds. Lakew and Rao (2012) observes that financial management practice is one of the several functional areas of management that contribute to the success of any business. Financial management is one of the several functional areas of management that is at the center of success of any business. According to Kawame (2010), careless financial management practices were the main cause of failure for business enterprises in Ghana.

1.1.3 National Perspective of Financial Management Practices and Sustainability

Muriithi (2017) reports that Kenya has several types of schemes offering social security that include public schemes, occupational schemes, and individual schemes, all covering workers mainly in the formal sector. According to Muriithi (2017), the public pension schemes form the first pillar where membership is not optional but compulsory. The Occupational schemes form the second pillar where membership is either voluntary or mandatory and are privately managed while the voluntary schemes form the third pillar where membership is voluntary. The pillars are the basis of contribution and the distribution of benefits to the retirement benefit schemes as governed by the Retirement Benefits Act 1997. The Government of Kenya overhauled the retirement funds industry, previously plagued with the mismanagement and misappropriation of pension scheme

assets. Under the Act, registered pension schemes are obliged to appoint a board of trustees who engages professional managers to manage the scheme assets and a custodian to hold the assets in safe-keeping. Additionally, schemes are obliged to produce audited accounts on an annual basis.

Strumskis and Balkevičius (2016) reports that pension boards, within the legal regulations outsources services provisions due to lack of administrative functional competencies functions. According to KRBA (2015), schemes may appoint an internal (in-house) or external administrator (out-sourced) for the responsibility of daily management of a scheme such as keeping records, paying benefits to and providing members with information relating to their benefits. Odundo (2008) finds that the administrative costs of a scheme should not exceed the budget approved by the trustees for that purpose and currently in Kenya, the pension funds regulatory authority has not given guidelines on services providers' charges for individual services providers including the funds administrators, investment managers and custodians. Operating costs are therefore expected to rise which may increase the cost of benefits administration thus, suggesting that sustainability of PFAIs is may not be clear.

KRBA (2013) finds that both employees and the employer make contributions into a fund for defined benefits (DB) schemes in Kenya with the employer bearing ultimate investment and financial risk in which he promises to pay the employees a guaranteed benefit/return. In its reform processes, the Kenyan government instructed that all pensions' schemes sponsored by public service organizations be converted to DC scheme design from 1st July 2011 so that the investment risk shifts from the sponsoring company to the members (RoK, 2010). The rate of contribution applied to all DC schemes includes an employer's contribution rate at two (2) times the employee's contribution or 20% of pensionable emolument. KRBA (2017) reports that in Kenya, the assets under management were Kshs. 831.78 billion in June 2016 and Kshs. 963.05 billion in June 2017. The fund managers and approved issuers held the majority of the assets amounting to Kshs. 811.17 billion. A total of Kshs. 63.25 billion of investments was internally administered by the National Social Security Fund (NSSF), while Kshs.

88.62 billion of property investments were directly managed by the trustees of the various schemes. The assets under fund management included Kshs.133.62 billion of NSSF funds that are managed by five external managers and are mainly in immovable property, quoted equities, fixed deposits as well as unquoted securities. The RBA Act (1997) provides for administrative guidance in which the pension funds administrators normally manages the pension funds as the regulator may from time to time prescribe. A service level agreement that set out clearly all the relevant agreed requirements and acceptable standards for delivery and the administrator's remuneration should be entered into by the pension scheme.

Muriithi (2017) finds that administrative challenges in Kenya include but not limited to: unguided negotiation with pension funds for administrative services, low profit margins, compromised quality of administration services to the schemes and low member engagement. According to Muriithi (2017), other challenges includes low investment in administration systems, unguided competition for services provision, unregulated administration fees charges to pension schemes and provision of multiple services to schemes for example administration, investment management and brokerage services, custodian services and consultancy services that may lead to compromised quality. Whether PFAIs will become part of a lasting solution to secure a sustainable retirement solution in Kenya or not depends on their ability to build capacities for sustainability through proper financial management practices as they try to continue to develop, expand and sustain themselves over time.

1.2 Statement of the Problem

According to KRBA (2017), the Kenyan pension industry is moving towards trust-based systems with fully funded status benefits management designs due to sustained reforms since independence in 1963 with about 87 % of pension schemes having converted from DB to DC designs. CAPSA (2012) reports that World over, in trust-based pension schemes designs, trustees that lack administrative functional competencies delegate responsibility for retirement benefits management to pension funds administrators within

the legal regulations. KRBA (OECD, 2011) reports that, in Kenya daily management of pension funds have mainly been devolved to pension funds administrators. These developments have underscored the importance of the role of pension funds administrative institutions in management of Kenyan pension funds industry. Due to their unique role, pension funds administrators in Kenya should be financially and operationally sustainable in order to continue carrying out their mandate.

Despite their important contribution to the management of funded pension funds, sustainability of funds administrators in Kenya however, has come under scrutiny. Odundo (2008) reports that some contributors assert that the sustainability of pension funds administrators has not been adequate. Some contributors contend that, lack of sound administrative efficiency is the problem while others believe that financial management practices by pension funds have not been inadequate. Yet, sustainability of PFAs is a necessary pre-condition for ensuring provision of adequate benefits to retirees and pensioners. According to Tijjani (2014), an efficient PFA should deliver at a reasonable cost, an assurance for a high degree of retirement income security. Muriithi (2017) argue that, high administrative overheads may lead to low retirement income for contributors since pension funds administration expenses are paid from the pension funds budgets especially for funded schemes. Hence, an important concern is how the PFAs become increasingly sustainable to ensure the sustainable provision of pension funds administrative services. The unique potential for funds administrators to improve administrative efficiency in pension funds and sustain itself can easily be lost if pension funds are not committed to continue improving pension funds governance through proper financial management practices on a long term basis.

Muriithi (2017) reveals that, among the problems faced by pension industry in Kenya include high service providers' expenses, inadequate investment returns, inadequate payments to retirees and low fund manager performance. Ambachtsheer (2011) reveal that, pension funds in Kenya are poorly managed and hence do not use minimal resources. Rao (2012) reports that weak financial management practices may lead to failure by pension funds to deliver adequate retirement benefits and may also expose pension funds to sustainability challenges. Njeru (2014) finds that in recent past, corporate governance has attracted much attention as the cause of underperforming pension schemes in Kenya because of lack of financial education of board members. According to Rao (2012), good financial management practices should enhance the growth of assets, improve investment returns and enhance the sustainability of administrative institutions.

There have been concerns over the misuse of funds by the management due to poor investment and financial control decisions for instance in Railway Corporation, National Society Security Fund, Postal Corporation and the University of Nairobi (Nyamita, 2014). Similarly, in Technical University of Kenya, the University was not remitting monthly pension deductions of over 800 employees to the pension fund, (Business Daily, 2015). Reports from Retirement Benefits Authority show the overall returns from pension industry have been inconsistent. For instance in year 2010 the industry return was 37% which was attributed to good performance from the equity industry. However the following years, 2011 and 2012 reported returns of negative 20% and 0% respectively, wiping out all the gains which were reported earlier. The total assets growth from 2010 to 2015 averaged 3% implying poor investment decisions and also higher expenses for managing the funds especially NSSF. KRBA (2013) notes that there has been a problem of bad investment decisions characterized by lack of diversification, for instance, a pension fund such as NSSF with an overwhelming 72% of total assets was invested in real estate. Additionally, 7% of the fund was invested in bank deposits with financial banking institutions of which 10 have collapsed, thus leading up to 4.6% of the total fund assets getting lost. It is, therefore, evident that there is a problem with

the pension funds investment management leading to poor performance and therefore high possibility of unsustainability.

A few past studies carried out locally have addressed various aspects of pension funds in Kenya. For instance, Osano (2013) sought to identify investment strategies adopted by investment funds in Kenya on the financial performance of the funds and concluded that investment funds take an active investment strategy. Ngetich (2012) investigated the factors influencing the growth of individual pension schemes in Kenya which revealed that fund regulation exerts a significant influence on the growth of individual pension schemes. Njoroge (2014) focused on the effect of firm size on the performance of pension schemes but ignored other factors. Njeru (2014) studied the effects of regulations on the financial performance of the retirement benefits funds in Kenya and suggested that more research could be done to widen the scope by considering other factors outside the regulations. A study by Mahfoudh (2013) on the effect of selected firm characteristics on firm financial performance as measured by return on assets suggested that other studies can be done using a combinations of factors other than firm size only and also using other measures of financial performance other than return on assets which they used. Thus previous studies on financial management will be extended by way of focusing on financial management practices for pension funds using empirical evidence from Kenya. Based on these suggestions and the gaps identified, the current study sought to analyze the influence of financial management practices on the sustainability of pension funds administrative institutions in Kenya.

1.3 Objectives of the Study

The study was guided by a general objective and four specific objectives.

1.3.1 General Objective

The general objective of the study was to assess the influence of financial management practices on the sustainability of pension funds administrative institutions in Kenya.

1.3.2 Specific Objectives

The study was guided by the following specific objectives:

1 To Assess the influence of funding management practice on sustainability of pension funds administrative institutions in Kenya
2 To evaluate the influence of investment management practice on sustainability of pension funds administrative institutions in Kenya
3 To determine the influence of financial control practice on sustainability of pension funds administrative institutions in Kenya
4 To assess the influence of financial reporting practice on sustainability of pension funds administrative institutions in Kenya

1.3.3 Research Hypotheses

The study utilized the following null hypothesis:

Ho_1: Funding management practice does not have a significant influence on sustainability of pension funds administrative institutions in Kenya

Ho_2: Investment management practice does not have a significant influence on sustainability of pension funds administrative institutions in Kenya

Ho_3: Financial control practice does not have a significant influence on sustainability of pension funds administrative institutions in Kenya

Ho_4: Financial reporting practice does not have a significant influence on sustainability of pension funds administrative institutions in Kenya

1.4 Significance of the Study

The study is necessary in the Kenyan context because adequacy of retirement benefits and sustainability of administrative services to pension funds institutions are important

goals that stakeholders and policymakers should ensure to give a balanced approach towards pension services as detailed in 1.4.1 to 1.4.5.

1.4.1 Financial Market Stakeholders

The study conclusions may help financial market stakeholders to appreciate the impact of financial management practices on the growth, profitability, and sustainability of pension funds administrators. The recommendations of the study may be important to the Nairobi securities exchange (NSE), issuers of securities, Capital Markets Authority (CMA), investors and financial services intermediaries. Monitoring of financial management practices for pension funds may provide accurate information that guides various financial market stakeholders' decisions to channel financial resources to funds administrators.

1.4.2 Sponsors and employees

The study will provide information on how financial management practices affect the performance of services providers who compete for the provision of various pension funds administrative services. Pension funds stakeholders (that is employers and employees, trustees and fund administrators, investment fund managers among others) beneficiaries will only update financial management practices when there is evidential proof on how financial management practices influences sustainability of PFAIs in Kenya. Also, improved performance spurred by good financial management practices may be of great use to sponsors. The study will provide reliable information to sponsors and employees on the financial management practices by trustees and services providers of retirement benefits solutions. The study may provide reliable information on the performance of pension funds and how the same may have affected the profitability of the pension industry in Kenya.

1.4.3 Pension Fund Trustees and Services Providers

Pension funds trustees and administrators, on the other hand, will use the study findings to identify financial management practices that influences operational and financial sustainability of the services providers. The board of trustees will be able to analyze the influence of financial management practices on pension funds administrative institutions thus taking decisions that will improve sustainability. The study findings will help the fund managers and funds administrators educate members on how investment management strategies can help improve pension benefits. The findings of the study can be used by trustees to improve operations and effect of performance and sustainability of services providers. These will be a form of benchmark for best practices that will enable trustees to establish, continuously monitor and review policies that enhance financial management practices of their funds to meet retirement goals.

1.4.4 Policy Makers

Government and KRBA (Regulator) are concerned about sustainability of PFAIs in Kenya. The study identifies policy gaps in financial management practices for pension funds. The findings of this study will be helpful to the regulator in formulation of better polices that are relevant in supporting good investment decision and better returns for pension funds. As the regulator, RBA may use the findings of the study to make changes to existing regulatory and supervisory policy guidelines to pension funds in Kenya. The suggestions from the study may provide information that could lead to the formulation and implementation of new policies by RBA that would enhance more effective financial management practices for the pension industry in Kenya

1.4.5 Researchers

Academicians, scholars, and researchers can access this study once the findings of the study are published. Since this is an area that has great potential to attract further academic research, the findings will also motivate researchers in providing reference materials for future researches to the existing knowledge about financial management

practices for pension funds. Scholars may replicate the findings of the study in future researches to gain a deeper understanding of financial management practices for pension funds in Kenya by trying to fill the gaps identified by the current study.

1.5 The scope of the Study

This study sought to establish the influence of financial management practices on sustainability of PFAIS in Kenya. Specifically, the study sought to establish the influence of funding management, investment management, financial control and financial reporting practices on the sustainability of PFAIs in Kenya. The population of the research was 85 pension funds administrators in Kenya from 2008 to 2016 which constituted the units of analysis. The target population of the study consisted both the in-house and registered fund administrators as respondents who may have different insights regarding the financial management practices for pension funds in Kenya covering a period of 8 years from 2008 to 2016. This time was chosen because regulation of fund administrators was enacted in 2007 resulting in the establishment of the Association of Pension Funds Administrators of Kenya (APAK). Additionally, previous studies in Kenya have not been focused on financial management practices influencing pension funds. Hence there is a gap that needed to be empirically evaluated.

1.6 Limitations of the Study

The researcher encountered some challenges in carrying out the research. However, the limitations did not have a significant interference with the outcome of the study. Considering the sensitivity of the research activity, most organizations maintain their records as a secret in which employees treat access to such information with confidentiality. Some of the respondents found it difficult to fill the questionnaire because they felt giving the information required might jeopardize their jobs. The researcher guaranteed confidentiality for the information supplied and also presented an introductory letter from the University assuring that the research was meant for research purposes only. Secondly, the study used the administrative institutions which might not be a true representative of all other services providers in the pension funds industry in

Kenya. Other stakeholders like investment managers could have had a different outcomes on sustainability. The study only collected information and views from the pension funds administrators thus ignoring other industry stakeholders including trustees.

Thirdly, pension funds administrative institutions were heterogeneous consisting of both outsourced and in-house administrators of different institutional firm sizes. As such, it may not be wholly representative of all firms' sizes. This may limit the global application of the study, though the findings elicit new approaches for future studies. Fourthly, the present study relied largely on the quantitative methodology of data collection with limited use of a qualitative methodology that was restrictive. Therefore, more of the qualitative methodology of data collection should be undertaken in future researches in the same topic to provide a wider perspective to the present study. For instance, the research design can employ a case study methodology or content analysis to provide a view of the topic.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides the theoretical foundation of the study and outlines a reviewed conceptual and empirical literature relating to key variables with the aim of highlighting the gaps in the research study. The study's conceptual framework is also presented. Further, the empirical review of studies that best relate to the objectives of the study is also presented and discussed.

2.2Theoretical Framework

A theoretical framework consists of concepts, together with their definitions, and existing theory/theories that are used for a particular study. The theoretical framework connects the researcher to existing knowledge (Creswell, 2017). Kombo and Tromp (2009) asserts that, the researcher should be conversant with those theories applicable to his/her area of research. Some of the most common theories of pension funds in literature relevant for the current study are systems theory, modern portfolio theory, the theory of financial control, stakeholders' theory and the accounting profitability theory.

2.2.1 Systems Theory

According to Jayeoba (2013), Dunlop pioneered the input output model of systems theory for application in social science. Mele, Pels and Polese (2010) envisage that a systems theory is a theoretical perspective that analyzes a phenomenon seen as a whole and not as simply the sum of elementary parts. The focus is on the interactions and on the relationships between parts in order to understand an entity's organization, functioning and outcomes. Systems can be found in nature, in science, in society, in an economic context, and within information systems. System theory stresses the effects of external systems on the decisions and behavior of an organization; where external

systems include regulations, the law, professional standards, interest organizations and social belief.

Zamuee (2015) reports that pension funds are open systems that have inputs (contributions) which are converted to outputs (retirement benefits) for optimization of scarce resources. According to Njuguna (2016), systems theory considers an organization as a system that converts inputs into products that are valuable to consumers which consists the inputs, conversion process and results in outputs. Njuguna (2016) argues that systems theory measures the extent to which the scarce resources (in the form of contributions) have been converted into retirement benefits for members. Their inputs are accumulated monthly contributions from beneficiaries and sponsors, pooled together into a common fund from different contributing members. The conversion process involves investment of the pooled funds which is held as output in stewardship for members' benefits when they retire. Systems theory is relevant to funding management practice for pension funds as it explains how the inputs are converted into outputs and how the same is managed by the stakeholders to ensure adequacy of benefits for members as they leave the schemes.

2.2.2 Modern Portfolio Theory

The history of modern portfolio management (also known as modern portfolio theory (MPT)), originates with Markowitz (1952, 1959). Stalebrink (2016) reports that Markowitz introduced the Modern Portfolio Theory (MPT) that explores how risk-averse investors can construct optimal portfolios taking into consideration the trade-off between market risk and expected returns. The portfolio theory provides a good basis for evaluating the selection and allocation of assets so that it can minimize risks (Njeru, 2014). According to Stalebrink (2016), MPT quantifies the benefits of diversification and shows a universe of risky assets, an efficient frontier of optimal portfolios may be constructed. Each portfolio on the efficient frontier offers the maximum possible expected return for a given level of risk with Investors holding one of the optimal portfolios on the efficient frontier as they adjust their total market risk which they

leverage or de-leverage that portfolio with while taking positions in the risk-free asset such as government bonds. According to Jafarzadeh, Tareghian, Rahbarnia and Ganbari (2015), the assumption of MPT is that investors consider each investment alternative as being represented by a probability distribution of expected returns for a holding period. Secondly, investors maximizes one-period expected utility, their utility curves demonstrating the diminishing marginal utility of wealth. Thirdly, investors estimate risk on the basis of variability of expected returns. Finally, investors base decisions solely on expected return and risk, preferring higher returns to lower risk and lower risk for the same level of return.

MPT provides a broad context for understanding the interactions of systematic risk and reward which has profoundly shaped how institutional portfolios are managed thereby motivating the use of passive investment management strategies. Markowitz model is a single-period approach which assumes that an investor has a given initial endowment for investment. Stalebrink (2016) finds that the investment can be held for a specific length of time referred to as the investor's holding period. At the end of that period, the investor can liquidate his holdings either re-investing it or using it for his own consumption needs (or a combination of both) as a fixed mix or a buy-and-hold strategy.

Bodie (2015) reports that the modern portfolio theory demonstrates that organizations manage their businesses on a portfolio basis. It is therefore important for pension funds to deploy prudent financial management practices in order to instill control within the various portfolios with a target of maximizing returns on each portfolio. MPT is relevant to the study as diversification in investment funds assets can be done while employing financial management practices. Knowledge of MPT applies to trustees as they seek out efficient combinations of securities that optimize risk and return. According to Bodie (2015), the portfolio is efficient if it offers the highest return for a given level of risk. Trustees are assumed to be risk-averse, who penalizes or demand higher compensation for riskier investments. Therefore, efficient capital markets compensate trustees only for the aggregate market risk, leading them to seek to maximize portfolio diversification that influences the investment strategy. Therefore it can be argued that MPT is relevant to the

present study in guiding pension funds investment practice which is hypothesized to influence sustainability of PFAIs in Kenya.

2.2.3 Theory of Financial Control

According to Wakiriba (2014), the theory of financial control was advanced by Ostman (2009). The theory considers the personal functions of humans, both present and future, as its fundamental reference point. This theory holds that existing and possible functions of financial tools for organizations are most essential. It further states that, payments, financial instruments, accounting, control models, economic calculations, and related considerations, both within and outside of the organization, ought to be discussed in regard to inner characteristics but also possible effects. According to Ostman (2009), establishing the relationships between various activities and financial processes, from a financial control point of view, is a general and basic issue Cheruiyot, Oketch, Namusonge and Sakwa (2017) reports that the present and future personal functions of human beings are asserted to constitute the fundamental point of reference in a theory of financial controls. This theory stipulates that existing and possible functions of financial tools for organizations are most essential.

Joshi *et al*. (2003) stated that, payments, financial instruments, accounting, control models, economic calculations, and related considerations, both within and outside of the organization, ought to be discussed in regard to inner characteristics but also possible effects. Joshi *et al*. (2003) argue that the theory of financial controls for organizations places a natural focus on the firms such that they are viewed from several latitudinal areas. The first regards the human beings' functions of what is accomplished through organizations, their activities and output. The second is about the structure of the organization and activities, and of transactions that various parties have with each other. The third area covers the control systems in the sense of recurring procedures and methods that are employed to relate present and future functions to resources both externally and internally. The fourth and last area illustrates the specific processes of

individual organizations for certain issues. The theory further states that structure and financial control system works together (Joshi *et al.*, 2003).

The regulations of the Kenya Retirement Benefits Act provides trustees with discretion in decision making which is expected to be in best interest of members in that trustees may make a decision that favors stakeholders' interests (KRBA, 2011). Njuguna (2010) find that pension scheme members may not have adequate knowledge and understanding to query the actions of the trustees thus opening up a chance for trustees and funds administrators to exercise financial control and management of the funds. Theory of financial control is of relevance to financial control practice of pension funds thus pointing to the Board of trustees and the funds administrator as the key players and therefore stewards for funded pension schemes. The financial control theory is very pertinent to the present study in that it enables the understanding of financial controls that are an aspect of financial management for pension funds in Kenya. The financial control theory is very relevant to the current study given that it assists in better understanding of the intricacies surrounding financial management practices in an organization. Based on the preceding, the study instigated the third specific objective which assessed the influence of financial control practice on the sustainability of PFAIs.

2.2.4 Stakeholders' Theory

Stakeholders' theory was originally proposed by Freeman (1984) but more recent scholarly works on stakeholders' theory relevant to the present study include Donaldson and Preston (1995), Mitchell *et al.* (1997), Friedman and Miles (2001) and Phillips (2003). The theory begins with the assumption that values are necessarily and explicitly established as part of doing business. It requires managers to articulate the shared sense of the value they create, and what brings its core stakeholders together. It also pushes managers to be clear about how they want to do business, what kinds of relationships they want to create with their stakeholders to deliver on their purpose. Wicks (1994) argues that the focus of stakeholder theory is articulated in two core questions. First, it

asks, ‘what is the purpose of the firm?’ This encourages managers to articulate the shared sense of the value they create, and what brings its core stakeholders together. This propels the firm forward and allows it to generate outstanding performance, determined both by regards for its purpose and market place financial metrics. Second, stakeholder theory asks, ‘what responsibility does management have to stakeholders?’ This pushes managers to articulate how they want to do business-specifically, what kinds of relationships they want and need to create with their stakeholders to deliver on their purpose.

Smith (2014) argue that stakeholders represent both financial and non-financial organizations and business partners that managerial decision makers must interact and do business with. He further notes that it can be difficult, however, to effectively quantify and translate relationships with stakeholders into actionable business information. Weighing the costs and benefits of enhanced stakeholder reporting and engagement, as well as creating and monitoring specific methodologies with which to engage these stakeholders are both clear areas in which accountants and posed to lead (Fernando, 2014). Fernando (2014) uses stakeholder model to exemplify the theory of value creation as one that encompasses a stakeholder as all those who create or capture value or who in their relationship with the firm (owners, managers, employees) assume risk or outside the firm (consumers and suppliers), or who suffer the impact of the firms externalities or misinformation (local communities, environment, future generations, society at large). Stakeholder is a theory of organizational management and business ethics that addresses morals and values in managing an organization. The basic proposition of stakeholder theory is that a firm’s success is dependent upon the successful management of all the relationships that a firm has with its stakeholders (Sievanen, 2013). The internal stakeholders who include employees, managers and owners react differently from the external stakeholders to the same stimuli. Umalomwa *et al*. (2012) reports that stakeholder theory provides a framework for corporate social disclosures where disclosure of social and environmental information was because of the pressure from the stakeholders.

Njuguna (2016) reports that many pension schemes especially in developed economies have developed and run their businesses in terms highly consistent with stakeholder theory. According to Njuguna (2016), the main objective of financial reporting include how trustees have performed in the past so they can gauge their likely performance in the future, ability to gauge the extent to which investment decision improve pension funds efficiency, how the board performance has been and how payment transactions are undertaken. KRBA (2013) reports that the financial reporting objective of the board is about providing information about the past including, for example, the investment entered into, the decisions taken and the policies adopted at a level of detail and in a way that enables the funds past performance needs to be assessed. ISA, (400) requires that trustee boards should provide information about how a fund has been positioned for payment of future pension liabilities. As a result, the trustees owes a responsibility to the larger number of users to provide quality, reliable and complete financial information. Stakeholder theory is therefore relevant to financial reporting practice for pension funds. The theory guides the present study into an investigation of whether financial management practices have an influence on sustainability of PFAIs in Kenya, taking financial reporting practice as a function of the trustees to all stakeholders of pension funds.

2.2.5 Accounting Profitability theory

Tijjani (2014) reports that accounting profitability theory was initially propounded by Hicks (1946). Considering profit as residual, (Hicks, 1946) definition of income has been incorporated in financial accounting (Nyamasogoro, 2010). Based on the accounting profitability theory, the reviewed literature indicates that several factors could affect financial sustainability of fund administrators. According to Tijjani (2014), accounting profitability theory is used to explain the relationship between various factors that can affect the number and riskiness of contributors, the income and expenses of PFAs and therefore their profitability that enhances sustainability. Nyamasogoro (2010) report that efficiency is the ability to produce maximum output at given level of input or cost minimization at a given level of operation. According to

Abdulai and Tewari (2017), profit can be used to ensure efficiency of an organization. Marwa, (2015) notes that profitability is a stepping stone to financial sustainability of an institution which has been considered as an indicator of the extent sustainability. According to Marwa, (2015), PFAs can reduce their total expenses at a given level of operations or increase income at the same level of operation or both, hence operate efficiently for sustainability. Adongo and Stork (2006) argue that the income (revenue) and expenditure (costs) of the PFAs can be affected by either internal or external factors or both. The level of the impact that these factors cause on profitability may vary from one factor to another regardless of whether they are internal or external factors. According to Adongo and Stork (2006) external factors that may drive the level of income or expenditure of PFAs are not controllable from within.

Tijjani, (2014) argues that using the profitability theory, PFAIs are considered sustainable if and only if they are able to cover all their operating and financing costs from their own generated revenue, mainly through contributions. According to Marwa, (2015), accounting profitability is a measure of financial sustainability which assumes that the PFAIs are going concerns, maintaining the same, or achieving higher performance throughout the accounting periods. He further notes that without this assumption, using one year or few years‘ profitability to measure long term sustainability may become inappropriate. For PFAs that depend solely on their generated funds to keep their current level of operations, and yet be able to reach their desired level of growth, profitability can be considered as a measure of financial sustainability (Tijjani, 2014).

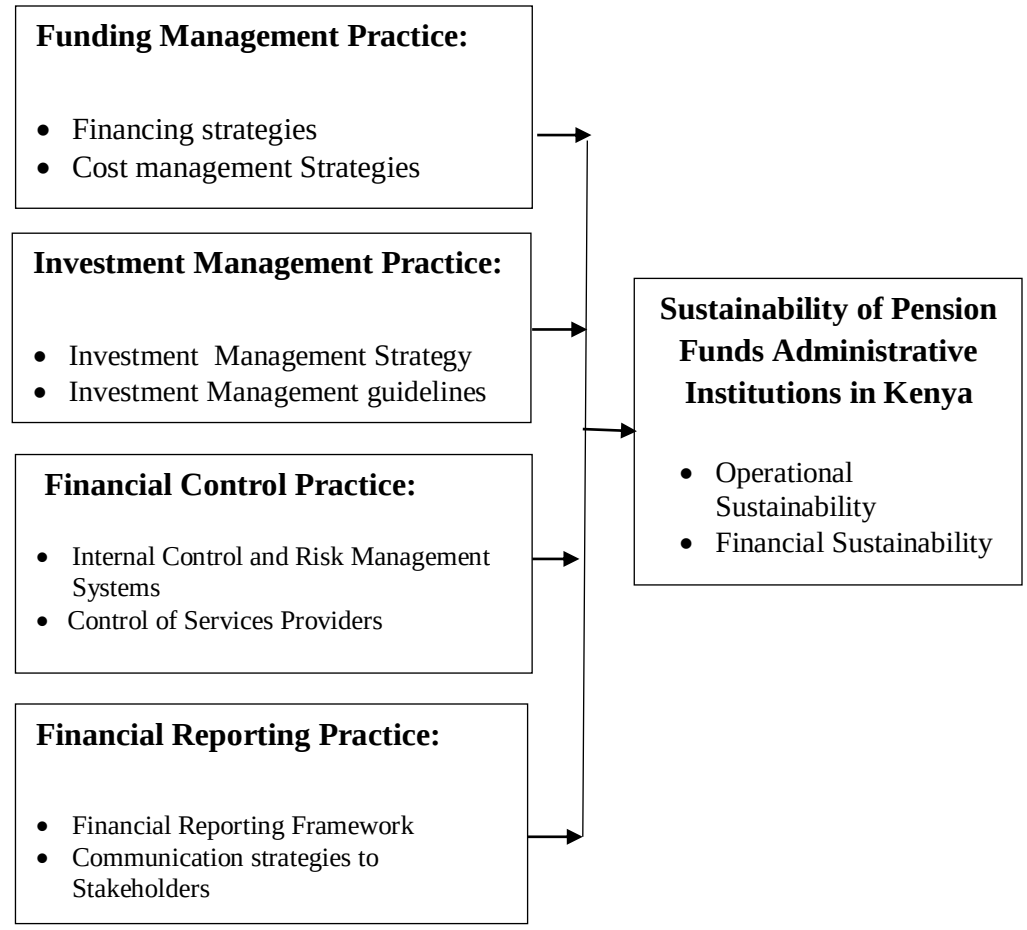
Funds administrators draw their income from administration fees which they have to manage well so as to achieve their objective of benefits management for pension funds. Marwa, (2015) reports that minimization of administrative costs is an objective that has to be maximized for the achievement of financial efficiency. According to Marwa, (2015), PFAIs have to be equipped with the capacity to remain in technical, administrative and allocative resources for more sustainable administrative retirement solutions. This is possible if the influence of financial management practices on

sustaianbility of PFAIs are researched and understood. The present study was guided by the accounting profitability theory, taking financial sustainability and operational sustainability as possible indicators of sustainability of PFAIs in Kenya.

2.3 Conceptual Framework

Kothari (2014) posits that a conceptual framework explains either graphically, or in narrative form, the main things to be studied; the key variables and the presumed relationship among them. Creswell (2013) reports that, a conceptual framework is a written or visual presentation that explains either graphically, or in narrative form, the main things to be studied, the key factors, concepts and variables, and the presumed relationship among them. The conceptual framework for this research illustrates the conceptualized relationship between financial management practices and sustainability of PFAIs in Kenya as shown diagrammatically in Figure 2.1. Punch (2013) also found out that the main purpose of a conceptual framework is to clarify concepts and propose relationships among the concepts in the study. This can be used to provide a context for interpreting the study findings. The variables that were investigated consisted of; funding management, investment management, financial control and financial reporting practices in pension funds industry in Kenya. The variables are relevant in the Kenyan situation and data for their analysis can readily be collected. In view of the literature review and the research gaps identified, there is need to investigate the Kenyan situation further with the aim of finding out the influence of the selected variables on sustainability of pension funds administrative institutions in Kenya.

Financial Management Practices



Independent Variables **Dependent Variable**

Figure 2.1: Conceptual Framework

2.4 Empirical Review of Variables

Lakew and Rao (2014) reports that financial management is one of the several functional areas of management which is at the center to the success of any business. Consequently, a business organization's profitability could be damaged because of inefficient financial management. Researchers with different objectives have studied different aspects of financial management practices (Asuquo *et al*., 2012). Most authors and researchers approach the specific areas of financial management in different ways depending upon their emphasis. Hoe (2010) identified the components of financial management as financial planning and control, financial accounting, financial analysis, management accounting, capital budgeting and working capital management. Lusardi (2014) categorized financial management practice as Capital structure management, working capital management, financial reporting and analysis, capital budgeting and accounting information system. Financial management practices considered in the current study included funding management, investment management, financial control, and financial reporting practices. This study examined each of these components in detail to determine the components being practiced by the pension funds in Kenya.

2.4.1 Funding Management Practice

Muia (2015) finds that pension funds uses their financial and non-financial assets to generate enough income to meet both short and long-term liabilities which leads to positive impact on investment income. The growth in investment income is expected to be positively related to members' contributions. Effective use of assets in this regard will lead to positive impact on investment income. The growth in investment income was expected to be positively affected with Member Contributions. Sebugo (2017) argue that the main source of investment funds for pension funds is monthly contributions from scheme members and sponsors. Shola (2013) argue that benefits are the major part of pension funds expenditure since they draw financial resources from the pension funds thus reducing investment funds. Oluoch (2013) in her study titled "The Determinants of Performance of Pensions Funds done in Kenya" found that Member Contributions has a

weak positive relationship with return on investment. Olouch (2013) argued that weak positive impact of member contributions on return on investment indicated that member contributions were not effectively utilized on income generation.

According to the study done by Shola (2013) titled "Determinant of the Growth of Investment Income of Pension Funds in Tanzania" it was found that member Contributions were positively related to the growth of investment income at one percent level of statistical significance level. Shola (2013) findings indicate existence of a very strong positive relationship between member contributions and Investment income growth. While the study by Oluoch (2013) found a weak positive relationship, Shola's (2013) study found a very strong positive relationship for Member Contributions.

Tijjani (2014) in his study titled "Determinant of Financial Sustainability of Pensions Fund Administrators in Nigeria" found that Contributions from Members had a weak positive impact to financial Sustainability of Social Security Schemes at 0.0552 level of statistical significance. Oluoch (2013) study titled "The Determinants of Performance of Pensions Funds done in Kenya" found that Member Contributions has a weak positive relationship with return on investment. Olouch (2013) argued that weak positive impact of member contributions on return on investment indicated that member contributions were not effectively utilized on income generation. Tijjani (2014) findings are similar to that from the study done by Oluoch (2013) but different from Shola (2013) study that indicated a strong positive relationship between Member Contributions and investment income growth.

According to the study done by Shola (2013) titled "Determinant of the Growth of Investment Income of Pension Funds in Tanzania" it was found that member Contributions were positively related to the growth of investment income at one percent level of statistical Significance. Shola (2013) findings indicate existence of a very strong positive relationship between member contributions and Investment income growth. While Oluoch (2013) study found a weak positive relationship, Shola (2013) study found a strong positive relationship for member Contributions. The higher the member

contributions the higher the investment income and vice versa. Baruti (2010) argue that the main source of investable funds is monthly contributions from members and sponsors and pension funds' major role is to collects monetary contributions, invest the same and pay benefits to members at their due dates. This being the case, high contributions collections present enough funds for investment and increase chances for high return on investment and vice versa (Shola, 2013).

Sebugo (2017) report that although the pension fund costs may determine the development of scheme assets throughout the year, the short term impact is not the critical factor. Ambachtsheer (2011) asserts that administrative efficiency of a public pension fund is the ability of the pension fund to achieve the mission assigned to it using minimal resources which is measured by how close a pension fund is to its principal stakeholders. Whitehouse (2010) reports that there are different ways of levying pension scheme costs. These various methods of levying reflect the pattern of pension scheme cost structures in other parts of the world as revealed by a research conducted on pension scheme costs in thirteen countries, Pension scheme costs may be fixed, levied for each transaction or a combination of both methods. In addition, the levying mechanisms can also be explicit or implicit. Furthermore, the pension funds may also be taxed lump sum amount or a stretched fee over their lifetime.

Njuguna (2010) find that although investment costs have a significant influence on the performance of pension funds, empirical studies on cost structures of pension schemes are few. The absence of such studies can be attributed to the lack of detailed, unbiased and comparable data on investment costs. A majority of the studies on the subject have concluded that the link between costs and size of pension funds is negative. However, most of the researchers such as Bikker and De Dreu (2009) and Bauer *et al.* (2010) have focused mainly on U.S. pension schemes investment costs and total investment cost levels respectively. As such, empirical studies on investment costs for European pension funds are limited. Typically, the European pension schemes differ from their U.S. counterparts regarding asset allocation or incentive for economies of scale. Bauer, Cremers and Frehen (2010) in a study on domestic equity investments for American

pension schemes established that there are economies of scale in investment costs. Andonov, Bauer and Cremers (2011) also concluded that the effect of investment costs on performance differs across asset classes. According to Andonov *et al.* (2011), the economies of scale result from the greater bargaining power of larger pension funds and the relative advantage of internalization.

Bikker, Steenbeek, and Torracchi (2012) notes that cost efficiency in pension provision can have a large impact on the net rate of return on pension contributions. The components determining the costs of pension provision are the quality of the pension schemes and the net rate of return on investments. According to Andonov *et al*. (2011), large pension funds can benefit from economies of scale by spreading these costs over a bigger asset base. Dyck and Pomorski (2011) suggest that large pension schemes have greater capability of replacing expensive external asset management with less costly internal management. Pfeuti (2010) suggest that consolidation amongst smaller schemes would improve their efficiency and lower costs, but for larger schemes, they should reform their internal processes to lower costs. The study indicated that the administration costs of pension funds are very important in financial performance as they may erode the wealth accrued for retirement. According to KRBA (2016), pension schemes should review all measures considered necessary to reduce the scheme's expenditure, present a reviewed annual budget to the AGM for approval and monitor the implementation of any projects undertaken by the Scheme. The present study included instruments that measure funding management practice for the period from 2008 to 2016 for pension funds and assessed their influence on sustainability of pension funds administrative institutions in Kenya.

2.4.2 Investment Management Practice

Eliya (2014) carried out a study on the factors that determine investment income of Pensions Funds, taking into account only one Pensions Fund among seven in Tanzania. He used time series data and ordinary least squire method for model estimation. The study findings revealed that member's contributions, investment in fixed deposits and Government Securities are significant positively related to the growth of investment income. The findings were somewhat different to that of Oluoch (2013) in Kenyan the variable members' contributions which was found to have a weak relationship. However, Eliya (2014) recommended that further similar studies should be done to include a wider sample contrary to the sample he employed of one SSS out of seven.

Gupta (2012) in a study examining various segments of the managed funds, sought to determine if there is any significant difference on how assets are allocated into various asset categories and if investors make their investment decisions based on the past performance of the fund. The research used a panel regression model to test the relationship between flows and past excess returns. The study established that there is a significant difference in asset allocation between the wholesale and retail and segment. Retail investors prefer investments that are less risky compared to wholesale investors and they have lower preference investing overseas. The results showed that past performance of funds influence investment decisions, with the retail section demonstrating a higher level of influence as compared to the wholesale segment. In addition, the outcomes show statistically the relationship between the fund size and the net cash flows is negative. Gupta (2013) states that the cause of this negative relationship is that when funds grow, they do not increase the quantity of assets in the portfolio and this may result in less than optimal allocation of funds. The result implies that investors, especially retail investors, should be considering the size of the fund as a factor when they choose a fund.

A study carried out by Muia (2015) on the effect of asset allocation on the financial performance of Pension Funds in Kenya came out with similar findings as the study

done by Tonks (2005). This research study was conducted through a descriptive survey study and utilized secondary data obtained from the website on the asset allocation and financial performance of the pension schemes. Muia (2015) found out that there is a positive correlation between a pension fund's performance and the returns of the various assets. However, the study based on only secondary data which among its disadvantages is lack control of data quality, consisting irrelevancy information and also may be lack sufficient representation of the population.

Mos and Seulean (2010) carried out a study on the determinant of investment performance of voluntary Pension Funds in Romania. The study aimed at examining the factors that had great impact on investment performance considering investment funds allocated into each investment options. Fixed Deposits, Government Bonds, Mutual Funds, Municipal Bonds, Multinational Bonds, Cash and Deposits, Listed Equity and Corporate Bonds as independent variables. The data collected and used for the study were quarterly panel data for the period from year 2007 to 2010. The study findings revealed that investment made in deposits, Government Bonds and Listed Equity had positive impact on the investment performance and also further revealed that the rate of return obtained were affected by the risks preference adopted by the Pension Funds Managers. According to the study done by Oluoch (2013) titled "The Determinants of Performance of Pensions Funds done in Kenya" it was found that Value of Social Security Schemes has a weak positive relationship with return on investment which indicated that Value of Social Security Schemes were not effectively utilized on in generation of investment income. Oluoch (2013) findings are different from Mugambi (2014) on the same variable Value of SSS.

Eaton and Nofsinger (2001) finds that to get more returns, retirement funds have to take more risk suggesting that retirement funds adopt appropriate investment strategies that provide higher returns on investments with moderate risk. OECD (2011) finds that, investment strategy varies depending on the type of retirement fund and investment strategy. He notes that for example in a DB plan, the goal of the investment strategy is to generate the highest possible returns consistent with the liabilities and liquidity needs of

the retirement fund. For a DC plan, the main goal of the investment strategy is to generate gains that accrue to individual member account balances as per the investment goals. According to OECD (2011), the investment strategy contributes to the returns obtained on investments, which directly impacts on the financial efficiency of the retirement fund. According to Odundo (2008), there is a need to invest pension funds within the investment guidelines to enable them to attain maximum results. According to Thompson (2008), more discretional power to the fund manager ensures that investment performance is optimized since the investment managers are inherently more informed on investment matters than the trustees. KRBA (2013) reports that, fund managers may invest funds in the segregated or guaranteed funds arrangement based on the objective of the scheme. According to KRBA (2013), an investor who is risk averse will chooses guaranteed pension funds while an investor with a high appetite for return will choose segregated pension.

2.4.3 Financial Control Practice

Njuguna (2011) carried out a study on the determinants of pension fund corporate governance in Kenya. The study established that pension governance is influenced by pension regulations, leadership, and membership age. The pension plan design and number of members do not have significant influence on how the pension plans are governed. Ngetich (2012) carried out a study on determinants of the growth of individual pension schemes in Kenya. The study established that that fund governance exert a significant relationship on the growth of the pension schemes. This means that pension fund governance lead to improved growth of the individual pension schemes. Shikhule *et al.* (2012) also conducted a study on determinants of pension schemes governance effectiveness in Kenya. It was revealed that knowledge of the trustee's covenants by the members, information flow to members and participation of members in the governance of pension schemes are the main factors that influence effectiveness of governance of pension schemes

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. Dessie (2016) finds that control of the financial decisions in the organization including method, process and internal audit are established by the administration to ensure that the activities are carried out in compliance with administrative purpose and policies. Effective financial control includes maintenance of proper accounting records and helps to mitigate against exposure to financial risks ensuring that the financial information is used only within the business and contributes to the safeguarding of assets, including prevention and detection of fraud (Zietlow, Hankin, Seidner, & O'Brien, 2018).

Emmanuel (2016) examined an assessment of internal audit control on the efficiency of public sector in Kogi State, Nigeria, using structured questionnaire which were analysed through cross tabulation and chi-square test. They found that internal audit can effectively check fraud and fraudulent activities in the public sector, while the public sector in Kogi State has significant numbers of internal audit and department to function effectively. These led to the recommendation that there is need for effective internal control system which is free from interference. Badara and Saidin (2014) examined the imperativeness of transparency and probity in the Nigerian public sector, using econometric estimation model and two-way estimation. In their findings, they discovered that the Nigerian public sector is characterised by mismanagement, resulting in low growth of the economy, lack of transparency and probity thereby promoting corruption, serving the personal interest of managers of the resources and that mechanisms for control to ensure compliance are ineffective, thereby recommending that the principles and regulations for enthronement of transparency and probity in

public service should be upheld, as they remain the vital checks against abuse of position.

Ogbodo (2014) investigated empirical evidence of antecedents of internal audit effectiveness from a Nigerian perspective, by collecting primary data through questionnaire and analysing them using SPSS version 21. The findings of the study indicated that for internal audit to achieve the established objectives within various local government or organisations, there should be well established risk management in place by such organisations. It was also stated that internal audit effectiveness can equally be attained where there is effective internal control in place. Ogbodo (2014) assessed the effectiveness of internal control in government ministries. It was established that the Benue State Ministry of Finance prepared the annual budget promptly and it also has adequate expenditure tracking to prevent financial recklessness. The recommendation in this regard was that the Ministry of Finance should strictly abide by the principles and procedures, in order to ensure that slacks are built into the budget.

Wakiriba (2014) assert that sometimes financial resource is mismanaged and misappropriated by those put in charge due to absence of adequate financial control measures of pension funds to certain threats such as incorrect financial statements, loss of assets, mismanagement of vital documents, incorrect and unreliable financial records. Emmanuel (2016) however notes that, there is a general perception that institution and enforcement of proper internal control systems may lead to improved financial management and reporting process and also gives rise to reliable reports which enhance the accountability function of financial management of an entity. According to Emmanuel (2016), available literature indicates that despite the elaborate system of controls in organizations, financial management practices have been elusive in most of these organizations. Therefore, all aspects of financial management in pension funds should operate in an environment where there is confidence in the use of the financial information. Hence, the pension funds require robust systems of financial controls supported by effective audit and assurance arrangements. According to KRBA (2013), schemes should ensure control of the management of risks including assisting

management of the internal administration and monitoring the external administrator in setting the risk appetite for the scheme.

Dyck and Pormorski (2011) assessed the effectiveness of internal control in government ministries taking a case of Benue State ministry of finance. According to the study findings, it was established that Benue State ministry of finance prepare annual budget promptly and also have adequate expenditure tracking to prevent financial recklessness. Consequently, it was recommended that, the ministry of finance should strictly abide by the principles and procedures in order to ensure that slack are built into the budget. Bikker and Dreu (2009) assert that pension funds can outsource fund administration and investment management services to specialized companies such as insurance companies, thus gaining access to the necessary expertise, particularly for small firms, at relatively low costs. The expert personnel required are pension administrators, actuaries, accountants, legal, staff and investment managers. The board of trustees is solely responsible for the appointment of service providers and experts who advise the scheme (KRBA, 2013). KRBA (2013) suggests that appointments of services providers should follow a competitive process with trustees regularly monitoring their performance. KRBA (2016) reports that, the trustees have responsibility for ensuring that the administration of the Scheme is done in the best interest of members and the sponsor. The present study sought to assess the effect of control of service providers on the sustainability of PFAIs.

2.4.4 Financial Reporting Practice

Brady (2009) observes that financial reports of pension schemes provide valuable financial performance information to the users of the financial statements, as well as employees and retirees of that company. Yang, (2005) notes that, when pension funds adopt elaborate reporting frameworks, independent entities can evaluate their performance which consequently improves the fund performance by introducing best practice financial practice management practices. According to Impavido (2002), the information that should be reported in addition to the statutory financial statements is the

pension fund's mission, the governance code, investment mix, administrative cost structure, investment returns, remuneration of key individuals and service providers and actuarial assumptions used in the computation of the funding levels.

International Accounting Standards (IAS 26) provides existing guidance for all plans, whether DC or DB, with some common valuation and disclosure requirements. Accordingly to (KRBA, 2013), the board of trustees should produces the scheme's audited financial statements annually indicating the business financial position and performance. The report should be availed to key stakeholders ensuring that it discloses the details of the scheme through a scheme booklet. KRBA Act (1997) provides for all registered schemes to hold an annual general meeting (AGM) each year and members' days at a company's registered office or a place determined by the board of trustees with a minimum agenda. KRBA (2013) notes that voting at the AGM should be done according to the scheme rules and the minutes of the AGM made available at the scheme members at the registered office as soon as possible.

Yang (2005) find that, pension funds financial reporting practice influences the pension fund's investment outcomes. Eijffinger and Shi (2007) reports that, the pension crises have made pension funds inefficient and unable to deliver on their promises to the stakeholders, suggesting that pension laws should be created in licensing, governance, asset restrictions, financial information disclosures and guarantees. According to Kenyan retirements benefits Act (1997) and regulations, the board of trustee should ensures adherence to regulations and scheme rules on compliance to all the reporting and disclosure requirements to all members, the regulator and all other stakeholders. International accounting standards (IAS 26) requires that the investments held by retirement benefit plans should be carried at fair value and should also contain a statement of net assets available for benefits. This information enlightens the stakeholders and contributes to improved economic decision-making on their part (Impavido, 2002).

KRBA (2013) reports that trustees should ensure that members receive accurate, clear, relevant and timely communication to enable them to understand the operations of the scheme, guide them in decision making and monitor matters reported using the scheme's whistleblowing mechanisms. Pension funds should also have a constant dialogue with the sponsors and channel information for the relevant stakeholders' decision-making thus improving efficiency for sustainability (Teisseire, 2009). Moriarty and Zadorozny (2008) notes that formal communication policies reduce the legal risks associated with incomplete member communication especially in the case of DC pension funds. The OECD (2009) documents the information that should be communicated to pension fund members on a continuous basis as internal and external regulations, the features of pension fund design, the role, composition and responsibilities of the different supervisory and executive bodies of a pension fund and the relationship between them, extent of delegation of managerial functions to third parties and the Investment composition and mix. KRBA (2013) notes that the schemes should maintain a formal and transparent strategy for engaging its key stakeholders in the decisions and development of the Scheme.

(KRBA, 2013) reports that the board of trustees should ensure access for all relevant scheme information to scheme members in a clear and comprehensive format and respond to all requests for information including proper management of scheme information. According to Liu (2013), information that needs to be communicated to members includes the pension fund performance, pension fund expenses, pension fund incomes, the funding status (proportion of assets to liabilities), and the investment classes in which pension funds' assets are held. Njuguna (2010) finds that, disclosures enable members to monitor the trustees' ability to optimize pension fund returns which are an indicator of pension fund efficiency for sustainability. Stokes (2009) suggests that the pension fund board of trustees should communicate with the participants, beneficiaries and supervisory authorities in a timely, accurate and transparent manner.

Asher and Nandy (2006) suggest that pension funds should have clear reporting channels between all persons and entities involved in the administration of the pension

fund. Carrasco (2006) notes the main effects that regulation might have over financial institutions includes the ability to enhance growth and increase the scale of operations, improvement of financial performance, strengthening of financial management practices, encouragement of good governance, improvement of control and reporting procedures, among others. According to Odundo (2008, timely reporting ensures compliance with the pension law, creates stakeholder confidence and ensures that stakeholders get information on time for effective decision-making. Odundo (2008) observes that, it is also the responsibility of the trustee boards to review scheme financials reports as prepared by the auditor at least once every year. The current study examined the influence of financial reporting practice on financial sustainability of PFAIs.

2.4.5 Sustainability of Pension Funds administrative Institutions

The concept of sustainable business has appealed to many investors including pension funds and has become a major consideration for pension funds administrators (Tijjani, 2014). According to Tijjani (2014), a successful funds administrator is one that can consistently, over a long term, deliver an adequate range of administrative retirement benefits services within an acceptable range of costs. Steenbeek and Torracchi et al., (2012) find that an increase in costs in a pension fund would result in a reduction of future pension benefits. According to Steenbeek and Torracchi *et al.* (2012), achieving sustainability means reducing transaction costs, offering better products and services that meet the members' needs and finding new ways to serve the retirees. An efficient funds administrator will therefore operate at a reduced financing and overall expense. (Cox, Beland & Valence, 2013) notes that pension reform is a key policy area in which the concept of sustainability has in recent times become increasingly influential.

Filene (2011) suggest that sustainability gives an entity the opportunity to continue a defined behavior indefinitely towards its goals or target over the long term. Sa-Dhan (2013) reports that the concept of sustainability has broader dimensions, including financial sustainability which is an indirect proxy of other sustainability measures in the

short run. The current study is informed by the institutional view that pension funds administrative institutions needs to be financially sustainable or working towards that goal. Lakew and Rao (2014) pointed out that financial management practices are crucial to the profitability, survival and wellbeing of business enterprises and therefore necessary for sustainability of institutions. According to Lakew and Rao (2014), business enterprises often fail due to lack of knowledge of efficient financial management.

Ventulla and Melia (2014) reports that, specific sustainable financial management practices have led to specific competitive outcomes in which financial sustainability has become a core principle of social security. Ventulla and Melia (2014) argue that sustainability of a pension funds administrators is an improvement of its financial management practices that ensure greater cost efficiency or having adequate resources for efficient delivery of pension promises to members. Emmanuel (2016) finds that, business enterprises profitability is related to financial management practices. According to Emmanuel (2016) financial managers or owner managers should pay much attention to financial management practices due to its positive effect on profitability of the firm that can lead to sustainability of institutions. Nyamsogoro (2010) notes that, more efficient financial institutions tend to incur relatively lower expenditure and to generate higher revenue per unit which positively affects sustainability through two channels, that is, cost reduction and increased revenue. According to Tijjani (2014), previous empirical and theoretical studies have suggested different sets of important determinants of sustainability for pension funds administrators. This study focused on the influence of financial management practices on the sustainability of PFAIs in Kenya.

2.5 Empirical Studies

Different scholars have done studies that addressed various aspects financial management practices for businesses and pension funds: for instance, Ichingwa and Mbithi (2017) surveyed the effect of total contribution on the financial performance of pension schemes in Kenya. The target population for this study was all the registered

occupational pension schemes in Kenya which according to the Retirement Benefits Authority report are 818 by the end of the year 2016. Random sampling method was applied to come up with the sample size of 261 registered occupational retirement benefits schemes. The study used secondary data which was analyzed using inferential and descriptive statistics. The study findings established that total contribution has a positive and significant effect on financial performance of pension schemes. The study recommended that Pension Schemes in Kenya should invest more in systems to recruit more members to increase the total contributions as it positively affects financial performance. While the study came up with important findings, it ignored the effect of contributions on the sustainability of pension funds administrative institutions in Kenya.

Sabugo (2017) carried out a study on the determinants of investment income growth in the Tanzanian social security schemes. The study aimed at assessing the determinants of investment income growth in the Tanzanian social security schemes. The study used various methodologies to undertake the study for instance, the study used aggregate secondary data from the year 2005/06 to 2016/17. Data were collected through documentary review method and analyzed using regression analysis method. Based on the empirical evidence from this study, findings showed that, value of social security schemes, member contributions and benefits payment were statistically significant at 5% significance level and positively affected investment income growth. The coefficients of value of social security schemes, member contributions and benefits payment were .001, .022 and .194 respectively. Any changes by one unit may result to change of investment income growth by the amount equal to the coefficient of respective independent variables. The study concluded that, growth of investment income in social security schemes is positively affected by member contributions, benefits payment and value of social security schemes. The findings revealed that benefits payment contributes more to investment income growth, followed by member contributions and finally value of social security schemes. The study recommended that, social security schemes should increase coverage into informal sector, increase member registration, improve benefit packages and invest contributions of members into more productive investments to facilitate investment income growth.

Oluoch (2013) in Kenya did a study on the determinants of financial performance of pension funds in Kenya. The purpose of this study was to establish the determinants of performance of pension funds in Kenya. The study was done on Kenyan pension funds at aggregate level using annual data on fund value, assets, age, contributions and returns. The data was from between 2000 through 2012. Time series regression analysis was used to determine the relationship between returns as the dependent variable and fund value, assets, age and the contributions of pensioners as the independent variables. The study found a strong positive relationship between ages of the investors measured by national life expectancy of Kenya indicating that a longer life expectation positively affected returns. However, weak positive relationships between returns and fund value, assets and contributions of pensioners was weak which indicated that fund values, assets, and contributions were not utilized in the generation of income for the pension funds in Kenya. The study recommended that the pension funds should use the increasing value of their funds to generate returns for the pensioners. The study also recommended utilization of assets to generate income for the pension funds. Further, the study noted that there was a need to put the contributions of pensioners to more productive investments other that just keeping the funds safely for the pensioners. The study was similar to that of Tijjani (2014) done in Nigeria in respect to age as independent variable but had different findings in respect to member contributions.

Tari (2014) did a study titled ‘determinants of scheme design in occupational defined contribution schemes in Kenya’ defined contribution schemes involve no promises about the size of the benefits and no risk to the employer. Based on modern portfolio and the life cycle theories, the study investigated the key determinants of scheme design in occupational defined contribution schemes in Kenya. The study evaluated trustee related determinants of scheme design of scheme design. Primary data were collected using a questionnaire administered to scheme administrators in the sample. Descriptive statistics were used to profile respondents, describe sample characteristics and a logistic econometric model was applied to evaluate the determinants of scheme design. Overall, the majority of retirement benefits schemes in Kenya were designed as pension schemes and contributory. Most schemes had a bigger proportion of their investments in treasury

bonds and bills, with a majority not setting any investment performance targets. In addition most schemes did not target any level of pensions to their members and paid pension through purchase of annuities. In addition, most scheme administrators reported that their scheme design was poor. The key trustee related determinant of scheme design was investment strategy. The results also revealed that the key regulatory related determinant of scheme design was the existence of a separate public pillar. Gender was important but was mostly associated with poor scheme designs. From the findings, it was recommended that trustees should consider investment returns, target pension, charges by service providers, annuity rates and the investment strategy. This study made interesting revelation about contributory designs but failed to link them to sustainability of funds administrators.

Muriithi (2017) did a study on the effect of operating cost on the financial performance of occupational pension schemes in Kenya. The objective of the study was to determine how the operating cost affect the financial performance of occupational pension schemes in Kenya. The study found a strong relationship between financial performance and investment management cost as well as an administrative cost which lowered retirement income since the expenses are paid from the pension funds. The study recommended that trustees and authorities should monitor and regulate the operating cost incurred by the pension schemes respectively. However, other aspects of financial management practices were note covered by this study.

Mutula (2018) did a study on the determinants influencing pension fund investment performance in Kenya. The study concluded that diversification decisions, management competency, investment strategies, and regulation compliance have a positive and significant association with the investment performance of pension funds. Based on the findings, the study recommended that pension funds management should be composed of people with high managerial competence. Further, the study recommended that pension funds should incorporate investment literacy and capability programs in their organizations. Additionally, the study recommended that pension funds should continue adhering to the set regulations. The study had very strong and comprehensive

recommendations on investment management matters for pension funds but did not investigate the influence of other financial management practices on sustainability of pension funds administrators.

Osano (2013) did a study with an objective of seeking to identify investment strategies adopted by investment funds in Kenya and how they affect the financial performance of the funds. The population of study was all investment funds in Kenya and census was carried out on the nineteen investment funds since they are not many as given by Capital Market Authority Cap. 485A as of 2013. Primary data was collected through personal interview by use of interview guide to a total of ten investment managers. Secondary data was also collected from respective investment funds financial reports for the year 2012. Descriptive analysis was used and classified them either active investment strategy or passive investment strategy. The study concluded that investment funds in Kenya takes an active investment strategy and found out to be integrated into operation investment funds in Kenya; financial performance is of positive influence to investment funds performance and greatly so is liquidity which probably means the investment firms utilize liquid assets to make quick investment which translates to good returns. From inferential statistics, a positive relationship was established between ROA and investment strategy, Leverage, Liquidity, age and size. Chi square test results showed that companies with high liquidity can be said to be better performing as compared to those without or with lower liquidity. However, the study did not concern itself with how investment activities affect sustainability of pension funds administrators in Kenya.

Kiplagat (2014) researched the impact of asset allocation on the financial performance of pension funds in Kenya. The study revealed that there is a linear correlation between fund performance and the weights of asset classes with the strongest correlation being between fund performance and asset weights of cash deposits, quoted shares, Government securities, and property. His study further established that 58% of the variability among fund performance is due to policy differences in the asset allocation of the various funds. The balance of about 42% is due to other factors such as the manager's selection, the timing of investments and securities selection within an asset

class and whether the manager adopts an active style of management of the fund. However, this was a case study as opposed to the whole industry analysis which did not look at the factors contributing to profitability and therefore sustainability.

Sau and Njeru (2018), did a study on determinants of financial growth of occupational retirement benefits scheme in Kenya. The study found out that investment strategy, members' contribution, and regulatory framework were key determinants of financial growth of occupational retirement schemes in Kenya. The three determinants were found to have a positive and significant relationship with the financial growth of occupational retirement schemes. The study concluded that investment strategies employed by the schemes have the potential to enhance financial efficiency and generate high returns in the pension fund. Members' contributions were also a found to be a major determinant of financial growth of retirement benefits. The study recommended that assets and members' contributions should be invested more productively to generate returns for the pensioners but failed to demonstrate how investment management practice influenced the sustainability of funds administrators.

Namusonge, Sakwa and Gathogo (2017) did a study on the impact of asset mix on the financial performance of registered occupational pension schemes in Kenya. The study found that the asset mix has an immensely positive influence on the financial performance of occupational pension schemes. From the study findings, the independent variable (Asset mix) revealed that 66.1% of the variation in the financial performance of pension schemes could be explained by the independent variable. This study made a very important contribution to investment strategy but did not assess its impact on the sustainability of PFAIs.

Kiprotich (2012) did a study on the determinants of retirement benefits schemes financial performance in Kenya. The study used regression model that related the determinants and retirement benefits schemes to financial performance. The findings showed that portfolio management strategies, the risk of asset class, selectivity and timing had a positive relationship with the schemes financial performance. This implies

that good management of portfolios and risks, and choice of the investment and their timing determines the performance and growth of the schemes. However, the study did not investigate how performance evaluations of the pension funds and investment risk management strategies influence sustainability of PFAIs yet these institutions facilitate implementation of risk management processes for pension funds.

Muia (2015) did a study on the effect of asset allocation on the financial performance of pension funds in Kenya which established that financial performance of the pension funds was explained by approximately 82.7% of the independent variables of the different asset classes. Muia (2015) study found out that there is a linear correlation between investment returns and the returns of the various asset classes with the strongest correlation being between fund performance and returns from offshore investments and government securities. The balance of about 17.3% was attributed to other factors such as the manager's selection, the timing of investments and securities selection within an asset class and whether the manager adopts an active style of management of the fund. However, the study did not show the effect of investment returns on the sustainability of pension funds administrators.

Kyanda (2014) carried out a study on the effect of corporate governance practices on administrative efficiency of Kenya power pension fund which revealed that the internal control systems to monitor and mitigate risks had improved the mechanism for members to make complaints regarding service provision which had improved. The study also revealed that corporate financial management practices affect the administrative efficiency of Kenya power pension fund. The study further revealed that the fund conducted AGMs for its members annually, prepared audited financial statements and made them available to members' which improved its administrative efficiency. The study determined that communication channels had improved interactions with members and regular updates on services offered by the fund had improved as evidenced improved reporting on the status of investments. There is however a need to replicate the study with a view to establishing the influence of financial management practices on sustainability of funds administrators in Kenya.

Okeyo (2013) conducted a study on the effects of corporate governance practices on the growth of pension schemes in Kenya. The findings showed that the members of the pension schemes receive inaccurate information which led to inappropriate decisions. Late payment of contributions was also evidence which led to delay or inaccuracies in payment of benefits. Also, the existing IT system was found to be insufficient to handle the financial transactions effectively. However, the study did not show the relationship between financial reporting practice and sustainability of pension funds administrators.

Nyongesa (2017) did a study on the effect of financial management practices on the financial performance of insurance companies in Kenya. The study sought to establish the effect of financial management practices on the financial performance of insurance companies in Kenya. The study found that working capital management, capital budgeting techniques, capital structure decisions, claims management policies and corporate governance had a positive and statistically significant effect on the financial performance of insurance companies in Kenya. It also established that firm characteristic had a moderating effect on the relationship between working capital management, capital budgeting techniques, capital structure decisions, claims management policies, corporate governance and financial performance of insurance companies in Kenya. The study recommended that the management of insurance companies should ensure that their financial management practices are improved for the financial performance of insurance companies in Kenya. This study was on the insurance industry and not done to assess how financial management practices affect pension funds industry.

Mohammad (2014) study on effect of American financial management practices on business enterprises in Mumbai city, India found that factors of financial management are good tools for improving enterprise's profitability. The study concluded that the efficiency of financial management practices and characteristics can bring about higher profitability. The study recommended that business organizations could improve profitability by raising the efficiency of financial management practices and characteristics. Sound financial management is essential to the success of businesses organizations. Successfully managing financial resources was important in both new and

expanding business. So time should be taken to develop and implement financial management practices that ensure success of business enterprises. Additionally, the study suggested that a more comprehensive survey throughout the country in future so as to come up with country level conclusion. However the study was done in India and did not concern itself with financial management practices for pension funds.

Tijjani (2014) did a study on the determinants of financial sustainability of pension fund administrators in Nigeria. The study findings revealed that the age, size, net income, contribution, and board size are positive revealing a strongly significant positive relationship respectively. The study recommended that financial sustainability needed to be ensured and monitored throughout the lifetime of PFAs. Tijjan (2014) recommended that swift actions should be monitored to remedying possible weakness in the Pension Funds Administrators adding that more efforts to increase contributions should be made. However, the study only considered the internal factors that influenced financial sustainability of PFAs thus ignoring other external factors related to financial management practices except for contributions.

2.6 Research Gaps

According to studies done by Oluoch (2013); Tijjani (2014), size of pension funds and member contributions have positive impact on the growth of investment income and that fund value, and benefit payments do not have significant impact on investment income. The findings from these studies however contradicts from the findings from the studies done by Tonks (2005); Muia (2015); Mos and Seulean (2010); Shola (2013) on investment performance which found that member contributions, value of pension funds and benefits payment are the significant determinant of the growth of investment income. Most of these studies such as Tonks (2005), Shola (2013) and Tijjani (2014) have been done in other countries except for a study done by Oluoch (2013) and Muia (2015) but all of them studied only one Social Security Scheme aspect in their respective countries. Because of this limitation Shola (2013) recommended that similar studies should be done but in different Social Security Schemes and model specifications to be

able to generalize findings. The findings of these studies did not relate to sustainability of pension funds administrators. Although previous studies provided useful insights about growth of investment income for pension funds, the contradiction of the findings leaves inconclusive evidence in this area of study. Most of these studies have been done in other countries hence little is known about the influence of investment income on sustainability of pension funds administrative institutions.

Waweru and Ngugi (2014) argues that the influence of financial management practices on performance is one significant topic that is evidenced by an increasing number of publications and studies on the topic. Lakew and Rao (2009) finds that most authors and researchers have approached the specific areas of financial management in different ways depending upon their emphasis. Previous studies have broadly categorized financial management practices into institutional characteristics, agency cost, environmental/governance and business strategy (Aveh *et* al., 2013; Nyamsogoro, 2010). Some past research studies identified the components of financial management practices as financial planning and control, financial accounting, financial analysis, management accounting, capital budgeting, and working capital management while others categorized it as capital structure management, working capital management, financial reporting and analysis, capital budgeting and accounting information system. The current study identified four major areas of financial management practices for pension funds as funding management, investment management, financial control and financial reporting practices.

Kenya is moving towards the funded status benefits management designs with increasing reforms under KRBA. Most of the existing empirical literature has been focused on separate aspects of investments, pension fund governance, pension contribution management, asset allocation and funds regulations in Kenya and other countries. Studies done on various contexts reveal knowledge gaps in literature for developing countries where studies were not done exhaustively and therefore inconclusive. Some studies reached contradictory conclusions revealing positive correlations, others negative correlations while others found no correlations. Some

studies had methodological weaknesses which hampered reliable generalization of findings. None of the studies in Kenya has focused on the combined effects of all the variables under investigation in this study. Further, research is needed especially to identify in developing countries aspects of financial management practices that are necessary to improve pension funds management for improved performance and therefore sustainability of funds administrators.

Lack of empirical evidence from less developed economies and the lack of examination of the influence of financial management practices sustainability is a major gap in the knowledge of financial management. Therefore, it is difficult to convince trustees of pension funds and services providers of the need for establishment of financial management practices until evidence is provided and the relationship between the two variables is proved. Based on previous research findings and recognition of these gaps, a study of the influence of financial management on sustainability is justified and should be developed and tested by using empirical data from less developed economies. Most trustees have no formal training in management skills, especially financial management. Moreover, the concepts of financial management have also not been recognized directly in Kenyan pension industry since the beginning of the 1960s when the pension funds industry was at its formative stages of establishment. Hence, financial management is still one of the challenges of pension industry in Kenya (KRBA, 2016). The main objective of this study was to investigate the influence of financial management practices on sustainability of PFAIs. Specifically, this study investigated the influence of financial management practices such as funding management, investment management, financial control and financial reporting on sustainability of PFAIs.

Most previous researchers have concentrated on examining, investigating and describing the behavior of business enterprises in practicing financial management. Their findings are mainly related to exploring and describing the behavior of business enterprises towards financial management practices and characteristics. Although they provided much descriptive and empirical evidence on financial management practices, it appears that there are still some gaps in the literature which need to be addressed. First, most

empirical evidences came from the developed economies such as the United States of America. There seems to be a lack of evidence from less developed countries like Kenya. Secondly, most previous researchers focused on investigating and describing financial management practices. There has been little research examining the effect of financial management practices on sustainability.

The present study considered additional variables including funding management, investment management, financial control and financial reporting practices that had been omitted by previous studies. Investment management practice included investment strategies and investment guidelines. Financial control practice included internal control and risk management systems and service providers while financial reporting practice included compliance with the financial reporting framework and communication with stakeholders. Additionally, most of the studies reviewed on sustainability were carried out in western countries, leading to a contextual gap thus necessitating the need to evaluate whether the foreign findings are applicable in Kenya. While some financial management and sustainability aspects may have been studied locally, some are quite outdated, hence, there is a need for up to date information to enhance the currency of that information. This study was therefore conducted in order to fill these pertinent gaps in the literature by assessing the specific financial management practices that may have influenced sustainability of pension funds administrators in Kenya.

2.7 Summary

This chapter reviewed available literature related to financial management practices and sustainability and their conceptualized determinants. It was established that various theoretical and empirical studies had been conducted about the financial management of corporate institutions, and the financial services sector. The study also presented various theories relevant to the topic that included the theory of contribution density, Modern Portfolio Theory, theory of financial control, stakeholders' theory and the accounting profitability theory. A conceptual framework was developed with the independent

variables as funding management, investment management, financial control, financial reporting practices and sustainability of PFAIs as the dependent variable.

There were several empirical studies of financial management practices, financial performance, and sustainability. However, a significant portion of the studies has concentrated in developed and emerging countries especially the United States of America. Some studies reviewed have been done on the sustainability of microfinance institutions and enterprises in East and Central Africa including Kenya. There are few studies on the effect of financial management practices on financial performance of companies in Kenya but not for pension funds. This study, therefore, intended to cover this pertinent gap in empirical literature. This study is unique due to its concentration on pension funds and the administrative services providing institutions in Kenya where so many reforms related to retirement benefits solutions have occurred.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methodology used to capture the data for the research. Research methodology is a related set of assumptions that reflect how a researcher views reality and how this reality is articulated through research. The choice of method is reflective of what the researcher wants to uncover. The chapter presents the research design, population, sample and sampling techniques, a description of data collection techniques, the measurement of variables and the technique that was used in analyzing data. Reasons and justifications for the research methodology used are also given.

3.2 Research Design

A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose (Kothari & Garg, 2014). This study used a correlational research design which is a quantitative method of research with two or more quantitative variables from the same group of subjects, from which a relationship is determined (or covariation) between the variables. correctional design was adopted to determine both the direction relationships among variables and also the relationships between different variables. Theoretically, any two quantitative variables can be correlated as long as you have scored on these variables from the same participant (Mugenda & Mugenda, 2003). Kothari (2004) explain that correlational research is used to explore the relationship between variables and this is consistent with this study which seeks to establish the relationship between financial management practices and sustainability of pension funds administrative institutions.

3.3 Target Population

The population is a large collection of individuals or objects that are the main focus of a scientific inquiry. Zikmund *et al.* (2010) defines a population as all items in any field of inquiry, also known as the universe. The target population is asserted to be the entire set of units to which the study findings will be generalized (Levy & Lemeshow, 2013). This study comprised of 85 pension funds administrators in Kenya as at December 2016 from which the target and accessible population was drawn as indicated in Appendix IV and V. According to RBA (2017), there were 54 internal pension funds administrators (in-house) and 31 registered fund administrators in Kenya which was also the accessible population in this study as shown in table 3.1.

Table 3.1: Population of the Study

Description	Number
In-house Pension Funds Administrators	.54
Outsourced Pension Funds Administrators	31
Total	.85

Source: RBA, 2017

3.4 Sampling Frame

A sampling frame is the source material or device from which a sample is drawn which describes the list of all population units from which the sample is selected (Cooper & Schindler 2011). It is a physical representation of the accessible population and comprises all the units that are potential members of the sample (Kothari, 2004). Polit and Beck (2003) argue that, a sampling frame facilitates the formation of a sampling unit

that refers to one member of a set of entities being studied which is the material source of the random variable For this study, the sampling frame for the target population consisted of pension funds administrators of self-administered pension funds and the registered PFAs operating in Kenya as at December 2016 as they appear in the RBA website and database of PFAIs and pension schemes.

3.5 Sampling Design

A sample design is an architecture or the strategy used to select study participants or respondents (Kothari, 2004). Sampling refers to the systematic selection of a limited number of elements out of a theoretically specified population of elements. The rationale is to conclude the entire population. According to Kothari (2004), the ultimate test of a sample design is how well it represents the characteristics of the population it purports to.

This study used a combination of stratified and simple random sampling method on all the PFAIs. Stratified random sampling was used in each category of funds administrators to group respondents into two strata. The strata were that of in-house and externally outsourced pension funds administrators operating in Kenya. Within each of the two strata, simple random sampling was used to identify individual respondents who were issued with a questionnaire to respond to the research statements. Kothari (2004) supports random sampling as it satisfies the law of statistical regularity if a sample is chosen at random, on average it has the same characteristics and composition as the population.

3.6 Sample Size and Sample Distribution

Kombo and Tromp (2009) describes sampling as the selection of a subset of individuals from within a population to yield some knowledge about the whole population, especially to make predictions based on statistical inference. The advantages of sampling are cost, speed, accuracy, and quality of the data (Mugenda & Mugenda,

2003). The sampling process comprises of defining the population, sampling frame, sampling method, sample size and sample plan.

Cooper and Schindler (2011) recommend that a sample can be drawn from a sampling frame using a formula for determining an appropriate sample from a small population. This study adopted a stratified sampling technique to select the sample size of 70 from the internal and external funds administrators from the sampling frame as at 31st December 2016. If a population from which a sample is to be drawn does not constitute a homogeneous group, a stratified sampling technique is generally applied in order to obtain a representative sample (Kothari, 2004). The sample respondents were selected randomly on the basis that the sample units selected out of the sample size were typical or representative of the whole (Kothari & Garg, 2014). In determining the sample size, Slovin's formula was used to calculate the sample size (at 95% confidence level and $\alpha = 0.05$) as indicated in Equation 3.1.

$$n = \frac{N}{(1+N e^2)} \quad \text{.....Equation 3.1}$$

Where,

n = is the desired sample size

N = is the population size

e = margin of error (at 95% confidence level)

Simple random sampling was then used to select the sample sizes from each stratum to increase the samples' statistical efficiency. Table 3.2 shows the sample sizes and sample distribution from the strata. The target sample size of 70 constituted 82.35% of the target population which was adequate based on the recommendation by Kothari (2004) and Creswell (2017) who assert that a sample of at least 10% to 15% can lead to meaningful generalizations about the general characteristics of a study population. The target sample

size was distributed within the 85 PFAIs in the two strata using the study population ratio. This ensured that sample distribution is unbiased and balanced.

Table 3.2: Sample Size and Sample Distribution

Description	Target population	Sample size
In-house PFAIs	54	44
Outsourced PFAIs	31	26
Total	85	70

3.7 Data Collection Methods

Both primary and secondary data were collected for this study.

3.7.1 Primary Data

The primary data was collected using semi-structured questionnaire which comprised of both open and closed-ended questions. Questionnaires are uniform and standardized and are less susceptible to biases due to deviations from instructions and method of administration are generally less costly, less time consuming, and considerably less demanding concerning such matters such as selection, training, and supervision of personnel (Cooper & Schindler, 2011). A questionnaire is more preferred by respondents due to anonymity. In the current study, the questionnaire was based on a 5-point Likert scale. This scale was used to quantify responses on items in the questionnaires. The 5-point Likert scale was thus adopted for the predictor and the predicted variables to ensure that respondents make a definite choice rather than an inclination to a neutral response. Kothari and Garg (2014) defines a questionnaire as a document that consists of some questions printed or typed in a definite order on a form or set of forms, sent to persons concerned with a request to answer the questions and return the questionnaire.

According to Creswell (2003), there are three basic types of questionnaires; closed-ended, open-ended or a combination of both. Closed-ended questionnaires are used to generate statistics in quantitative research while open-ended questionnaires are used in qualitative research, although some researchers will quantify the answers during the analysis stage. Obtaining data from participants with different methods and experience will help prevent information bias thus, increasing credibility regarding the information collection (Cohen & Morrison, 2013). Sasaka, Namusonge, and Sakwa (2014) argued that self-administered questionnaires are usually preferred for purposes of developing a close relationship with the respondents and also assists in providing clarifications sought by respondents on the spot. The questions were formulated to address all the objectives of the study and consisted of three parts: Part A focused on the respondent's demographics, and part B assessed the measures of the relationship between pension funds financial practices and sustainability of PFAIs.

3.7.2 Secondary Data

This study also utilized secondary data from published reports and financial statements of the pension funds collected from the PFAIs' Website, RBA, and pension schemes as summarized in Appendix VII. The study reviewed secondary data for pension funds for eight (8) years from 2008 to 2016. The secondary data included total contributions, net assets available for benefits, investment returns, schemes expenditure, administrative expenses, number of active contributors and related pension funds information. This data was used to compute the expenses ratios and trends related to performance and growth of pension funds for assessment of the sustainability of PFAIs. Secondary data was used to complement information from the primary sources (Zikmund *et al.*, 2010). However this information was not directly used in the study.

3.8 Data Collection Procedure

Data was collected through the administration of questionnaires in which the researcher distributed the questionnaires in person to the institutions identified for the study. The unit of analysis for this study was the fund administrator. The questionnaires were self-

administered to participants who included administrators, accountants, senior managers or chief administration managers working under the administrator with delegated authority. The questionnaires were first dropped with an introductory letter of authority to carry out research to the institutions identified for the study and follow up was done through telephone and personal visits to secure appointment dates for collection of the filed questionnaires.

3.9 Pilot Study

A pilot test is done to ascertain the reliability and validity of the instrument to be used for collecting data essentially to reveal the weakness that may be in the questionnaire, for instance, unclear directions, ambiguous questions, and general layout. Pilot study also helps in assessing the feasibility of the study; designing a research protocol and assessing whether it is realistic; establishing the effectiveness of the sampling frame and technique; identifying logistical problems that might occur with the proposed methodology; determining resources required for the planned study for assessment of the proposed data analysis techniques to uncover potential problems (Duncan *et al*., 2015).

The questionnaire was pre-tested on selected PPFAIs before the study started. It was essential to pre-test the questionnaire to increase the validity and reliability to identify any ambiguous questions in the questionnaire and to establish the range of possible responses for each question. Adjustments were made based on the outcome of the pre-test results. Ten percent of the questionnaires were used for the pilot study. According to Creswell (2017); Cooper and Schindler (2011), the respondents used in the pilot test should constitute 10 percent of the sample used in data collection. The questionnaires used in the current study were seven (10% of 70 questionnaires). The final version of the questionnaire included in Appendix I of this report was later administered to the respondents selected excluding the respondents who participated earlier in the pilot test. The questionnaires were given to the respondents throughout 30 days.

3.9.1 Validity Test

Validity refers to the degree to which a test measures the variables that it is meant to measure (Recker, 2012). According to Kothari and Garg, (2014) validity is the degree to which results obtained from the analysis of data represent the phenomenon under study. According to Mugenda and Mugenda (2003), validity is the degree to which results obtained from the analysis of the data represent the phenomenon under study. This study utilized both construct validity and content validity. For construct validity, the questionnaire is divided into several sections to ensure that each section assesses information for a specific objective, and also ensures the same was guided by the conceptual framework for the study (Cooper & Schindler, 2011). Validity of the questionnaire was initially tested by reviewing it with my supervisors. The data points must reflect the actual measurement on the ground. To ensure this, the questionnaire was given to two senior managers from the non-sampled PFAIs who were able to assess the validity of the statements on the questionnaire. Their views and responses were reviewed and used appropriately to improve the questionnaire as a data collection instrument. According to Cooper and Schindler (2011), the respondents in a pilot test do not have to be statistically selected when testing the validity and reliability of the instruments.

3.9.2 Reliability Test

Reliability is the extent to which an instrument is predictable, accurate and dependable to yield the same results every time it is administered (Kothari & Garg, 2014). Reliability refers to the repeatability, stability or internal consistency of a questionnaire (Jack & Clarke, 1998). In this study, the data collection instrument was tested on 10% of the sample as recommended by Sekaran (2016) and Kothari (2004) who stated that 5% to 10% of the sample could be adequate for running reliability tests. The reliability of the questionnaire was tested using the Cronbach's Alpha correlation coefficient using the Statistical Package for Social Sciences (SPSS) software. According to Cronbach (1951) and Sekaran (2016) the closer Cronbach's alpha coefficient is to 1, the higher the internal consistency of reliability. Cronbach (1951) as cited in Sekaran (2016)

recommend Cronbach coefficient of 0.7 for a newly developed questionnaire. Cronbach's alpha basic equation which is an extension of the Kuder- Richardson formula for reliability coefficient measure of internal consistency was determined as given by equation 3.3. Stable reliability was considered before actual research was undertaken.

$$KR\text{-}20=\frac{(K)(S2 - \sum S^2)}{(S^2)(K-1)} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 3.2$$

Where:

KR-20 – Reliability coefficient of internal consistency

K – Number of questions used to measure the reliability

ΣS^2 – Total variance of overall scores on the entire test

S^2 – Variance of scores on each question

3.9.3 Diagnostic Tests

It was essential to ensure non-violations of the assumptions of the classical linear regression model (CLRM) before attempting to estimate equation. Estimating these equations when the assumptions of the linear regression are violated runs the risk of obtaining biased, inefficient, and inconsistent parameter estimates (Brooks, 2008). Consequently, normality test, sampling adequacy, multicollinearity, and autocorrelation tests were conducted to ensure proper specification of equations.

3.10 Data Analysis and Presentation

Data analysis refers to the application of reasoning to understand the data that has been gathered with the aim of determining consistent patterns and summarizing the relevant details revealed in the investigation (Zikmund et al., 2010). In order to determine the patterns revealed in the data collected regarding the selected variables, data analysis was

guided by the objectives of the research and their measurement. Statistical Package for Social Sciences (SPSS) version 20.0 was used as the tool of analysis for this study.

Information was sorted, coded and input into SPSS for production of tables, descriptive statistics, and inferential statistics. The data were processed and analyzed concerning the study objectives, using both descriptive and inferential statistics. Data were analyzed quantitatively and qualitatively and presented descriptively and illustrated by use of tables. Descriptive statistics included frequencies, minimum, maximum, mean and standard deviation. These tools were used to describe the respondent's degree of agreement or disagreement with various statements under each variable. Descriptive approach is justifiable because it describes and interprets what is being researched upon and it establishes the condition or relationship that exists (Mugenda, 2011).

Inferential statistics utilized correlation and multiple linear regression analyses to determine the relationship between the financial management practices and sustainability of PFAIs. Statistical Package for Social Sciences (SPSS) was also utilized to help in the analysis. Sustainability was assessed by two measures namely; operational sustainability and financial sustainability and four constructs were tested for factor analysis. Factor analysis was conducted after successfully testing for sampling adequacy and reliability. The essence of conducting factor analysis for each variable is to generate factor loadings for every statement. The extraction of the factors followed the Kaiser Criterion where an eigenvalue of 1 or more indicates a unique factor. Total Variance analysis was used to test the four statements on sustainability could be factored into 1 factor.

A multiple regression model was used to test the significance of the influence of the independent variables on the dependent variable. The research hypotheses were tested by use of F-tests (ANOVA) and t-tests to measure and determine the statistical significance between the variables and to draw conclusions of the study. Data analysis using statistical techniques such as correlation analysis and ANOVA.

Correlation analysis measures the extent of interdependence where two variables are linearly related (Kenny, Mannetti, Pierro, Livi, & Kashy, 2002). If variables are correlated, then a change in one variable is accompanied by a proportionate change in another variable. The correlation coefficient (R) is a measure of correlation between two variables. If variables are independent, r = 0, if dependent, then r = 1. If the value of R is close to one, then it reveals a strong correlation between the variables. If the value of R is close to zero, then the association is weak. Pearson's product-moment correlation coefficient (r) was used to explore relationships between the variables, specifically to assess both the direction and strength. This was crucial to assess the nature of relationships existing between the variables before carrying out further analysis.

Analysis of Variance (ANOVA) is a statistical technique specially designed to test whether the means of more than two quantitative populations are equal (Davis, 2002). This is done through F-test for testing the significance of the difference between the two variances. ANOVA is a powerful tool for determining if there is a statistically significant difference between two or more sets of data and also for measuring variations within a group (Basu & Altinay, 2002). This study used the F-test test because it allows analysis of two or more groups and thus test for significant difference between means.

Faraway (2016), posits that multiple linear regressions are useful in situations where the number of independent variables is more than one. Regression analysis is also valuable for quantifying the effect of various simultaneous influences upon a single dependent variable. Further, because of omitted variables and bias with simple regression, multiple regression is often essential even when the researcher is only interested in the effects of one of the independent variables. Faraway (2016) posits that multiple regression analysis involves combining several predictor variables in a single regression equation. With multiple regression analysis, we can assess the effects of multiple predictor variables (rather than a single predictor variable) on the dependent measure. The multiple regression model was as laid below:

3.10.1 Multiple Linear Regression Model

There were four independent variables in which the following multiple linear regression analysis models was used to guide the study:

$$Y=\beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+\varepsilon \quad \text{Equation 3.3}$$

Where;

Y represents sustainability (Dependent variable),

$\mathbf{X_1}$ represents funding management practice,

$\mathbf{X_2}$ represents investment management practice,

$\mathbf{X_3}$ represents financial control practice,

$\mathbf{X_4}$ represents financial reporting practice,

$\boldsymbol{\beta_0, \beta_1, \beta_2, \beta_3}$, **and** $\boldsymbol{\beta_4}$ are regression coefficients to be estimated.

$\boldsymbol{\varepsilon}$ is Error term.

Univariate analysis was first done for each of the independent variables to establish their influence on the dependent variable in preparation for multivariate analysis as follows:

Objective 1: To assess the influence of funding management practice on sustainability of pension funds administrative institutions in Kenya

$$Y = \beta_0+\beta_1X_1 + e \quad \text{Equation 3.4}$$

Objective 2: To evaluate the influence of investment management practice on sustainability of pension funds administrative institutions in Kenya.

$$Y = \beta_0 +\beta_2X_2+ e \quad \text{Equation 3.5}$$

Objective 3: To determine the influence of financial control practice on sustainability of pension funds administrative institutions in Kenya

$$\mathbf{Y = \beta_0 + \beta_3 X_3 + e} \quad \text{.....Equation 3.6}$$

Objective 4: To assess the influence of financial reporting practice on sustainability of pension funds administrative institutions in Kenya

$$\mathbf{Y = \beta_0 + \beta_4 X_4 + e} \quad \text{..... Equation 3.7}$$

The model fitness was estimated using the coefficient of determination which helps to explain how closely the predictor variables explain the variations in the dependent variable. The t-test statistic was used to test the significance of each predictor or independent variable and hypothesis. The p-value for each t-test was used to make conclusions on whether to reject or accept the null hypotheses. The benchmark for this study for accepting or rejecting the null hypothesis was a level of significance of 5 percent. If the p-value was less than five percent, the null hypothesis was rejected, and the alternative hypothesis was accepted. Also if the p-value was greater than 5 percent, the null hypothesis was accepted, and the alternate hypothesis was rejected.

Similarly, Fischer distribution test called F-test was applied. The p-value for the F-statistic was applied in determining the robustness of the model. The conclusion was based on p-value where if the null hypothesis of the beta was rejected then the overall model was significant and if null hypothesis was accepted the overall model was insignificant. In other words, if the p-value was less than 0.05 then it was concluded that the model was significant and has good predictors of the dependent variable and that the results are not based on chance. If the p-value was greater than 0.05, then the model was not significant and cannot be used to explain the variations in the dependent variable.

3.10.2 Normality Tests

Parametric tests such as correlation and multiple regression analysis require normal data. When data is not normally distributed, it can distort the results of any further analysis. Preliminary analysis to assess if the data fits a normal distribution was performed. To assess the normality of the distribution of scores, KMO tests, and the Kolmogorov-Smirnov test was used. When non-significant results (> 0.05) are obtained for a score, it shows the data fit a normal distribution (Tabachnik & Fidell, 2007).

3.10.3 Sampling Adequacy Tests

In order to examine whether the data collected was adequate and appropriate for inferential statistical tests such as the factor analysis, regression analysis, and other statistical tests, two main tests were performed namely; Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity. For a data set to be regarded as adequate and appropriate for statistical analysis, the value of KMO should be greater than 0.5 (Williams *et al.*, 2010).

3.10.4 Multicollinearity Tests

Tests for multicollinearity were carried out because in severe cases of perfect correlations between predictor variables. Multi-collinearity can imply that a unique least squares solution to regression analysis cannot be computed Williams *et al.* (2010).. Multi-collinearity inflates the standard errors and confidence intervals leading to unstable estimates of the coefficients for individual predictors. Multi-collinearity was assessed in this study using the Variance Inflation Factor and tolerance.

3.10.5 Auto-correlation Test

This study used the Wooldridge test for serial correlation to test for the presence of autocorrelation in the linear panel data. The test for autocorrelation was made using Durbin and Watson (1951) test. Durbin-Watson (DW) is a test for first-order

autocorrelation that it tests only for a relationship between an error and its immediately previous value. This study used Durbin-Watson (DW) test to check that the residuals of the models were not autocorrelated since the independence of the residuals is one of the basic hypotheses of regression analysis. The Durbin-Watson statistic ranges in value from 0 to 4. A value above 2 indicates non-autocorrelation; a value toward 0 indicates positive autocorrelation; a value toward 4 indicates negative autocorrelation.

3.10.6 Definition and Measurement of Variables

Each of these five measures was developed from previous studies. Although these items were developed from existing research, they were being examined in a single study unlike previously: The dependent variable in the study is sustainability. Just as there is no standard definition of sustainability, there is no standardization in the measures that are used in research studies. There are many different measures that could be used to assess sustainability. Four useful measures of these includes ratios relating to efficiency, profitability and budgets while non-financial measures are operational and technical aspects of an institution. However in this study sustainability was measured by operational sustainability and financial sustainability.

In this study, questions related to financial management practices in pension funds were asked to test the level of understanding of the funds administrators. Independent variables were funding management, investment management, financial control and financial reporting practices. Funding management was indicated by financing strategies and cost management strategies. Investment management was measured using investment management strategies and investment management guidelines. Financial control: The measures for these included internal control and risk management systems. Financial reporting was measured by financial reporting framework and communication strategies to stakeholders. Appendix VI shows the operationalization of the variables.

The variables were investigated using a response index scale of 1 to 5 to determine the influence of the independent variables on the dependent variable. This study adopted the measurement procedures used by Hardouvalis (2010). In the first part of the

questionnaire, the respondent's demographic characteristics were captured. In the second part of the questionnaire, the questions attempted to capture the extent to which a given variable influences sustainability in practices. Questionnaires with more than 25 percent of the questions left unanswered were excluded from the data set.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the data analysis, interpretation, discussion and summary of findings. The data analysis is in harmony with the specific objectives where patterns were investigated, interpreted and inferences drawn on them. These presentations are organized as follows: response rate, pilot results, demographic information on the respondents, descriptive statistics and inferential statistics. The results form the basis for discussion on how each of the variables on financial management practices influences sustainability of PFAIs in Kenya.

4.1.1 Response Rate

The study utilized a self-administered questionnaire that were picked immediately after the respondents completed them. The number of questionnaires administered to the respondents was 70. A total of 60 questionnaires were properly filled and returned while ten questionnaires were not returned as indicated in Table 4.1. The questionnaire response rate on was 85.7%. Rogers *et al.* (2009) notes that a response rate of 50% is acceptable in descriptive social studies while Babbie (2004) reports that return rate of 50% is acceptable to analyze and publish, 60% is good, and 70% is very good. Studies by Theuri *et al*. (2015) and Duncan *et al*. (2015), obtained similar response rates, hence adequate.

Table 4.1: Response Rate

Response	Frequency	Percentage
Responded	60	85.7
Non-response	10	14.3
Total	70	100

4.1.2 Demographic Characteristics

The demographic characteristics investigated among the main study participants were gender age, academic and professional qualification, experience and position held in the PFAIs.

Gender of the Respondents

The study findings showed that 56.7% of the respondents were male while 43.3 % were female (Table 4.2). From the results, it may be concluded that this could be attributed to cultural set up in Kenya where the male dominate leadership positions and women are relegated to lower level tasks. This study seems to support the spirit of the Kenyan constitution 2010 which provides for gender fairness (RoK, 2010).

Table 4.1: Gender of the Respondent

Gender	Frequency	Percentage
Male	34	56.70
Female	26	43.30
Total	60	100.00

Age of the Respondents

The study findings indicate that majority (45%) of the respondents were in the age bracket of between 31 and 40 years of age (Table 4.3). This shows that majority of the respondents were mature with appropriate work experience and therefore they were well versed with management issues affecting pension schemes in Kenya. The age is considered as a significant factor in pension funds management as it influences a person's perception. The study findings are consistent with Halim, Miller, and Dupont

(2010) whose results imply that age has a linkage to the level of the responsibility in the pension scheme.

Table 4.3: Age of the Respondent

Age	Frequency	Percentage
21-30 years	25	25%
31-40 years	45	45%
41-50 years	16.7	17%
51-60 years	13.3	13%
		100%

4.1.3 Academic and Professional Qualifications of the Respondents

The study revealed that majority (56.7%) of the respondents had a Bachelor's degree, 38.3 % had a master's degree and 5% of the respondents were diploma holders (Table 4.4). Warrington, and Kiragu, (2012). observes that the level of education influences the impartation of managerial skills of most entrepreneurs. Education is taken as the key factor to change which is important for transmission of skills and values for sustenance of societies and the promotion of social change (Aiyabei, 2014).. The results show that 56.7 % of the FAs had at least a bachelor's degree qualification. The findings of this study are in agreement with the findings of Stewart (2009) who found that the skills and education level are critical for management.

Table 4.4: Academic Qualifications of the Respondents

Qualification	Frequency	Percentage
Diploma	3	5.0
Bachelor's degree	34	56.7
Master's degree	23	38.3
Total	60	100.0

The high level of education among the respondents coupled with the wide professional qualification ranging from accounting, insurance and administration is an indication that most of the respondents were suited for their jobs. This suggests that the respondents passed the management skills relevant to the performance of pension schemes which could affect the sustainability of the PFAIs in Kenya.

4.1.4 Positions of the Respondents

Table 4.5 gives a summary of the position held by the respondents in the scheme. Majority (66.7%) of those interviewed were senior administrators. The rest (33.3%) held various positions within the organizations which were related to administration of the scheme.

Table 4.5: Positions of the Respondents

Position	Frequency	Percentage
Chief Funds manager	8	13.3
Senior admin	15	25.0
Administrator	25	41.7
Business Development and Consulting	1	1.7
Manager pensions	2	3.3
Supervisor	1	1.7
Accountant	6	10.0
Actuarial Analyst	1	1.7
Relationship manager	1	1.7
Total	60	100.0

4.1.5 Experience of the Respondents in Fund Administration

Based on the findings in Table 4.6, experience of the respondents in fund administration was varied. Specifically, 46.7% of the respondents had been in fund administration for 6 to 10 years, 31.7% for over ten years while 21.7% had less than five years. The respondents comprised of senior management employees. Koech, and otieno (2014), argues that senior management as those managers responsible for efficient and coordinated functioning of their department by the basic objectives and policies laid down by the top management. This, therefore seems to suggest that, the respondents were well versed with management which they are entrusted with implying that they were conversant with the operations of the pension schemes and therefore suitable to give correct and accurate information required by the researcher.

Table 4.6: Experience of the Respondents in Fund Administration

Years of experience	Frequency	Valid Percent
Less than five years	13	21.7
6-10 years	28	46.7
over ten years	19	31.7
Total	60	100.0

4.1.6 Types of Pension Schemes Administered

Table 4.7 shows the type of schemes considered in this study. Almost all the schemes (98.3%) were of contributory type while 1.7% were both contributory and non-contributory. In contributory schemes both the members and the sponsor finances the scheme having complied with RBA requirement that all schemes convert from DB to DC by 2011, hence becoming contributory by that date.

Table 4.7: Types of Pension Schemes Administered

Type of scheme	Frequency	Percentage
Contributory	59	98.3
Contributory+ Non-Contributory	1	1.7
Total	60	100.0

Therefore, most pension schemes and provident funds were contributory in support of the findings by Marwa (2015) that most pension schemes and provident funds were contributory. The results were also consistent with those of the Chartered Insurance Institute (1998) which reported that contributory schemes deliver superior benefits and were preferable since they delivered higher benefits to members with both the employees and employers contributing more equitably. This is also consistent with

population database from the Kenya Retirement Benefits registered occupational schemes which have about 89% of the occupational schemes being of the DC type (RBA, 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.

4.1.7 Rate of Conversion of Scheme Design

Most of the respondents (82%) did not have scheme conversion while 18% had scheme conversion (Table 4.8). The low percentage of conversion meant that the schemes were already of DC type and there was no need for further conversion. A total of 876 schemes out of 1240 were DC scheme designs. This supported the findings of Knupp (2010) who reported that most schemes had converted from DB to DC. These findings were also consistent with those of Blake (2008) who found that employers were converting from DB to DC as a way of cutting their costs.

Brown and McInnes (2014)reports that there is a gradual trend of pension schemes shifting from DB to DC with an estimated ratio of 1:6 for DB and DC schemes respectively. The finding of this study confirms the general global trend in the type of pension operations and the structure of the schemes existing in Kenya (KRBA, 2012). Therefore the majority (81.7%) of the schemes had converted from DB to DC as well as from non-contributory to contributory. This fact calls for the need for pension stakeholders to understand FMPs befitting the risks associated with DC designs and sustainable administrative structures required to achieve the set retirement goals.

Table 4.8: Rate of Conversion of Scheme Design in Kenya

Conversion from DB to DC design	**N=70**	**Percentage**
Yes	13	18.3%
No	57	81.7%
Total	70	100%

4.1.8 Period Taken To Pay Benefits Claims

Time taken to pay a claim was teste and the results reveal that time taken varies from one scheme to another with most (96.7%) claims being processed within 30 days as shown in Table 4.9. This seemed to confirm that most of these schemes were operating with the required RBA period of maximum 30 days after a claim is submitted.

Table 4.9: Period Taken to Pay Benefits Claims

The period taken to pay benefits	Frequency	Percentage
1-10 days	21	35.0
11-20 days	17	28.3
21-30 days	20	33.3
Over 30 days	2	3.3
Total	60	100.0

4.1.9 Type of Administrative Services Rendered

From the results, (61.7%) of the respondent reported to offer in-house services (self-administered) while 38.3% of services were outsourced (externally administered) to registered PFAIs.

4.2 Pilot Tests

A pilot test is an evaluation of the specific questions, format, question sequence and instructions before use in the main survey. Reliability and Validity tests were carried out before the actual study was conducted.

4.2.1 Test of Reliability

Reliability of an instrument refers to its ability to produce consistent and stable measurements. Sweeney and Swait (2008). explains that reliability can be seen from two sides: reliability (the extent of accuracy) and unreliability (the extent of inaccuracy). The most common reliability coefficient is Cronbach's Alpha which estimates internal consistency by determining how all items on a test relate thus testing the internal coherence of data. According to Sekaran (2016), Cooper and Schindler (2011), Cronbach's alpha has the most utility for multi-item scales at the interval level of measurement, it requires only a single administration and provides a unique quantitative estimate of the internal consistency of a scale. Reliability is expressed as a coefficient between 0 and 1. The closer Cronbach's alpha coefficient is to 1, the higher the internal consistency reliability (Sekaran, 2016).The higher the coefficient, the more reliable the test is.

Reliability of this instrument was evaluated using Cronbach Alpha which measures the internal consistency. Mungiru and Njeru (2015) states that the size of a sample to be used for pilot testing varies depending on time, costs and practicality but the same would tend to be 5-10 percent of the main survey. According to Cooper and Schindler (2011), the respondents in a pilot test need not be statistically selected when testing the reliability of the instruments. In this study, the data collection instrument was tested on 10% of the sample of the questionnaire to ensure that it was relevant and effective. Reliability was tested using questionnaire duly completed by seven randomly selected respondents.

The questionnaire responses were processed using the statistical package for social sciences (SPSS) and Cronbach's alpha coefficient was generated to assess reliability. A Cronbach Alpha of 0.7 and above indicates the presence of internal consistency and that the instrument is reliable for use in the study (Khomba & Vermaak, 2012).). Internal consistency means that the questions or item measures included for a construct belong to that construct (Khomba & Vermaak, 2012).). Table 4.9 shows that all the variables had a

Cronbach Alpha above 0.7 and thus were accepted. These represented a high level of reliability, and on this basis, the scales suggested that they were reliable to capture the variables.

Tables 4.10 indicates the statistical reliability for the various variables. All the variables were quite reliable with a Cronbach's alpha reliability coefficient greater than 0.7. Funding management practice had a reliability of (α=0.725), investment management practice (α=0.856), financial control practice (α=0.775), financial reporting practice (α=0.881) and sustainability (α=0.702). This seemed to suggest that the instruments used were reliable and could therefore be utelised for further analysis.

Table 4.10: Test of Reliability results

Variable	Cronbach Alpha	No. of items	Comments
Sustainability	0.702	4	Accepted
Funding Management Practice	0.725	8	Accepted
Investment management Practice	0.856	8	Accepted
Financial Control Practice	0.775	8	Accepted
Financial Reporting Practice	0.881	9	Accepted

4.2.2 Test of Validity

Test of validity is done to show the degree to which a research instrument measures what it is expected to measure (Kothari, 2004). It describes validity as the degree of congruence between the explanations of the phenomena and the realities of the world. According to Mugenda and Mugenda (2003), validity is the accuracy and meaningfulness of inferences which are based on the research results. In other words, validity is the degree to which results obtained from the analysis of the data represent the phenomenon under study. This study used both construct validity and content validity.

For construct validity, the questionnaire was divided into several sections to ensure that each section assessed information for a specific objective and also ensures the same had close ties to the conceptual framework. The validity of the questionnaire was initially tested by reviewing it with the help of the supervisors. The questionnaire was also validated by discussing it with two randomly selected managers of the target administrative institutions. Their views were evaluated and incorporated by adding the missing links, deleting unclear and general statement or replacing with wordings that would be clearly understood to enhance content validity of the questionnaire.

4.2.3 Sampling Adequacy Test

To examine the adequacy of the data and appropriateness for inferential statistical tests such as the factor analysis, regression analysis, and other statistical tests, the main tests performed were Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's Test of Sphericity. For a data set to be regarded as adequate and appropriate for statistical analysis, the value of KMO should be greater than 0.5 Williams *et al.* (2010). as summarized in Table 4.11. The findings showed that the KMO statistic was 0.753 which was significantly high. In addition to the KMO test, Bartlett's Test of Sphericity was also highly significant (Chi-square = 54.141with 10 degrees of freedom, at $p < 0.05$). These results provide an excellent justification for further statistical analysis with this data.

Table 4.11: Sampling Adequacy Test - KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.753
Bartlett's Test of Sphericity	Approx. Chi-Square	54.141
	df	10
	Sig.	.000

4.3 Sustainability of Pension Fund Administrative Institutions

Sustainability is defined as the ability of an entity to continue a defined behavior indefinitely and is the ability of an organization to meet its goals or target over the long term (Filene, 2011). The term sustainability has broader dimensions, but this study focused on the financial and operational sustainability of PFAIs. Financial sustainability is the key dimension of sustainability. It also implies the possibility of making a profit out of the PFAIs' operations thus, allowing continuous provision of pension administrative services to the pension funds. The current study is informed by the institutional view that PFAIs needs to be commercially viable and financially sustainable or working towards that goal.

4.3.1 Descriptive Statistics on Sustainability of PFAIs

The study sought to evaluate the influence of financial management practices, (funding management, investment management, financial control, and financial reporting practices) on sustainability of PFAIs (dependent variable) in Kenya. In order to determine whether FMPs had improved sustainability of PFAIs, the respondents were requested to indicate the importance of measures of sustainability used in the study. The responses were rated on a five-point Likert scale where: 1-least important, 2-Not important, 3- Somehow important, 4-Important, 5-Very important.

Sustainability was assessed by two measures namely, operational sustainability and financial sustainability. Descriptive data shown in Table 4.12 presents the relevant results. Responses to sustainability attracted various responses from the respondents. From the study findings, pension funds had consistently been realizing increasing investment returns (Mean = 4.1500), schemes had consistent improvement in the performance of services providers (Mean = 4.1500), pension funds had increasingly complied with the relevant financial reporting framework (Mean = 4.0833) and the PFAIS had been experienced decreasing administrative cost in the past (Mean = 4.0333). Majority of the respondents agreed (mean = 4) that all the four factors were considered as appropriate measures of sustainability of PFAIs in Kenya.

Table 4.12: Descriptive Statistics on Sustainability of PFAIs

Statement	N	Min	Max	Mean	Std. Dev
1. Our institution has been experiencing decreasing administrative cost in the past	60	2.00	5.00	4.0333	.82270
2. The pension funds have consistently been realising increasing investment returns	60	2.00	5.00	4.1500	.79883
3. There has been a consistent improvement in performance of services providers in the pension funds	60	3.00	5.00	4.1500	.65935
4. Pension funds have increasingly complied with the relevant financial reporting framework	60	1.00	5.00	4.0833	.73857

Key: 1= very low extent, 2=Low extent, 3 = Somehow, 4 = Great extent, 5 = Very great extent.

4.3.2 Sampling Adequacy for Sustainability

To examine whether the data collected on sustainability was adequate and appropriate for inferential statistical tests such as the factor analysis, regression analysis, and other statistical tests, two main tests were performed namely; Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's Test of Sphericity. For a data set to be regarded as adequate and appropriate for statistical analysis, the value of KMO should be greater than 0.5 Williams *et al.* (2010).as summarized in Table 4.13.

The findings showed that the KMO statistic was 0.676 which was significantly high; that is greater than the critical level of significance of the test which was set at 0.5 Williams *et al.* (2010). . In addition to the KMO test, Bartlett's Test of Sphericity was also highly

significant (Chi-square = 27.202 with 6 degrees of freedom, at $p < 0.05$). These results also provided an excellent justification for further statistical analysis to be conducted on sustainability.

Table 4.13: Sampling Adequacy for Sustainability KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.676
Bartlett's Test of Sphericity	Approx. Chi-Square	27.202
	df	6
	Sig.	.000

4.3.3 Factor Analysis for Sustainability of PFAIs

Factor analysis is used to produce a small number of factors from a large number of variables which is capable of explaining the observed variance in the larger number of variables (Theuri *et al*., 2015). According to Bartholomew *et al.,* (2014), factor analysis works on the fact that measurable and observable variables can be reduced to fewer latent variables that share a common variance and are unobservable, which is known as reducing dimensionality. The broad purpose of factor analysis is to summarize data so that relationships and patterns can easily be interpreted and understood. It is normally used to regroup variables into a limited set of clusters based on shared variance (Yong & Pearce, 2013). Table 4.14 shows the variance explained for sustainability which is the dependent variable where constructs were subjected to a variance test through the principal component analysis test for data reduction and interpretation.

Sustainability was assessed by two measures namely; operational sustainability and financial sustainability and four constructs were tested for factor analysis. Factor analysis was conducted after successfully testing for sampling adequacy and reliability using KMO and Bartlett's Test of Sphericity coefficients and Cronbach alpha results respectively. The essence of conducting factor analysis for each variable is to generate

factor loadings for every statement. The extraction of the factors followed the Kaiser Criterion where an eigenvalue of 1 or more indicates a unique factor. Total Variance analysis indicated that the four statements on sustainability could be factored into 1 factor. The component identified to have the highest influence was the consistent improvement in the performance of services providers which had Eigenvalue greater than 1 and explained 52.61 % in this construct. This was therefore used as the main factor explaining more on sustainability of PFAIs in Kenya.

Table 4.14: Total Variance Explained on Sustainability of PFAIs

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.105	52.613	52.613	2.105	52.613	52.613
2	.805	20.131	72.744			
3	.674	16.855	89.599			
4	.416	10.401	100.000			

Extraction Method: Principal Component Analysis.

Table 4.15 shows the factor loadings for sustainability statements on rotated component matrix. All the four factors attracted had coefficients of more than 0.4 hence all the statements were retained for analysis. According to Linyiru and Ketyenya (2017).a factor loading equal to or greater than 0.4 is considered adequate. This is further supported by Rusuli *et al*. (2013) who asserts that a factor loading of 0.4 had good factor stability and is deemed to lead to desirable and acceptable solutions.

Table 4.15: Rotated Component Matrix for Sustainability of PFAIs-

Statement	Component Financial sustainability
1. Decreasing administrative cost	.695
2. Increasing investment returns	.787
3. Improved performance of services providers	.795
4. Compliance with the financial reporting framework.	.608

Extraction Method: Principal Component Analysis.

a. One component extracted.

4.4 Statistical Tests of Assumptions

Linear regression makes assumptions about the data used including that it is normally distributed, that there is linearity and that there is no multi-collinearity and no heteroscedasticity. If these assumptions are not met by the data used, statistical results may yield inappropriate results. Use of data which does not conform to these assumptions may lead to type I or type II errors or may lead to over or underestimation of statistical significance (Osborne & Waters, 2002). The results of the tests for normality, multicollinearity and tests of independence (Auto correlations) are presented under:

4.4.1 Normality Test on Sustainability

Normality test was done to test for significance of confidence interval estimates of the parameters of sustainability with the assumption is that the variables were normally distributed. Ali *et al*. (2016) showed that the assumptions and application of statistical tools as well as the suitability of the tests were important aspects for statistical analysis.

In order to check for normality, the study adopted the skewness and kurtosis tests. Measures of skewness are based on mean and median while kurtosis measures the peakedness of the curve of the frequency distribution (Kothari & Garg, 2014). The results presented in Table 4.16 indicated that sustainabilty had a skewness coefficient of -0.168 and kurtosis of -0.662 respectively suggesting that the data was normally distributed. George and Mallery (2010) reports that, values for asymmetry and kurtosis lying between -2 and +2 are considered acceptable in order to prove normal distribution.

Table 4.16: Normality Test on Sustainability- Skewness and Kurtosis Test

Statement	N	Minimum	Mean	Std. Deviation	Skewness		Kurtosis	
	Stat	Stat	Stat	Stat	Stat	Std. Error	Stat	Std. Error
Schemes regularly monitors the performance of services providers	60	3.00	4.1500	.65935	-.168	.309	-.662	.608

4.4.2 Multi-collinearity Test

Tests for multicollinearity were carried out because in severe cases of perfect correlations between predictor variables can imply that a unique least squares solution to regression analysis cannot be computed Williams *et al.* (2010). Multi-collinearity inflates the standard errors and confidence intervals leading to unstable estimates of the coefficients for individual predictors. Multi-collinearity in this study was assessed using the Variance Inflation Factor (VIF) and Tolerance. The results of the tests of multicollinearity are presented in Table 4.17. Collinearity statistics indicated a VIF < 5

and Tolerance > 0.2, an indication that the variables were not highly correlated, hence no existence of multicollinearity. This is an indication of the suitability of the variables for multiple regression. The cut off for VIF is 10 but if a variable had a value of 10 and above, it should have been dropped.

Table 4.17: Test for Multi-Collinearity

Variables	Tolerance	VIF
Improved performance of services providers	.609	1.643
The schemes distribute investment returns to members	.672	1.487
The schemes regularly carry out investment performance appraisal	.689	1.451
The schemes prepare proper accounting records and financial reports	.799	1.252

4.4.3 Autocorrelation Test

This study used the Wooldridge test for serial correlation to test for the presence of autocorrelation in the linear panel data. Serial autocorrelation is a common problem experienced in panel data analysis and has to be accounted for in order to achieve the correct model specification. According to Born and Breitung. (2016). failure to identify and account for serial correlation in a panel model would result into biased standard errors and inefficient parameter estimates. The null hypothesis of this test was that the data had no serial autocorrelation. If serial autocorrelation were detected in the study data, then the feasible generalized least square (FGLS) estimation procedure would be adopted.

The test for autocorrelation was made using Durbin and Watson (1951) test. Durbin-Watson (DW) is a test for first-order autocorrelation in that it tests only for a relationship between an error and its immediately previous value. This study used Durbin-Watson (DW) test to check that the residuals of the models were not autocorrelated since the independence of the residuals is one of the basic hypotheses of regression analysis (Table 4.18). The Durbin-Watson statistic ranges in value from 0 to 4. A value above 2 indicates non-autocorrelation; a value toward 0 indicates positive autocorrelation; a value toward 4 indicates negative autocorrelation. Results indicate that the overall statistic was 1.73. The Durbin-Watson d =1.73, which is between the two critical values of $1.5 < d < 2.5$. Therefore, the study assumed that there was no first order linear auto-correlation in our multiple linear regression and therefore, the null hypothesis was not rejected since the data was not autocorrelated.

Table 4.18: Autocorrelation Test Durbin- Watson Results

Variable	Durbin-Watson	P-Value
Funding Management practice	1.55	0.019
Investment management practice	1.59	0.000
Financial control practice	1.59	0.000
Financial reporting practice	1.52	0.005
Overall	**1.73**	**0.000**

4.5 Influence of Funding Management Practice on Sustainability of PFAIs

The first objective of the study was to assess the influence of funding management practice on sustainability of PFAIs in Kenya. Funding management practice is meant to increase fund value as per funding policy in compliance with funding regulations to safeguard and grow members' funds thereby increasing its ability to meet financial liabilities to members who retire (Muingo, 2007).

4.5.1 Descriptive Statistics on Funding Management Practice

Funding management practice in this study was assessed by two measures namely; financing strategies and cost management strategies. Descriptive data shown in Table 4.19 presents the relevant results on a scale of 1 to 5 (where 5 = Very great extent and 1 = very low extent). From the descriptive results, majority of the respondents agreed to a great extent that the schemes regularly distributed investment returns to members (Mean = 4.6667), that the schemes used funding policy in compliance with the RBA Act (Mean = 4.6500), that the schemes always ensured accurate determination of payment of members' benefits (Mean = 4.400), that the schemes maintained accurate records of contributions received from sponsors and members (Mean = 4.2833), that the schemes presented reviewed annual budget at annual general meetings (Mean = 4.100), that the schemes always ensured adherence to regulations on fees charged by services providers (Mean=4.0833), that the schemes regularly reviewed cost strategies (Mean = 4.0500), and that the schemes regularly reviewed the trustees remuneration policy (Mean = 3.8500). Descriptive statistics on funding management practice therefore, showed that majority of the respondents agreed (mean = 4) with most of the financial management practices as being incorporated in the pension funding decisions in Kenya.

These findings are in line with the study by Kigen (2016) which concluded that pension contribution, costs and accumulated fund assets significantly affect the financial performance of pension funds. The finding also concurs with the results of Mutula and Kagiri (2018) which revealed that the performance of pension funds is determined by several factors.

Table 4.19: Descriptive Statistics on Funding Management Practice

Statement	N	Min	Max	Mean	Std.Dev
1. The schemes use funding policy in compliance with the RBA Act	60	4.00	5.00	4.650	.4809
2.The schemes regularly distributes investment returns to members	60	3.00	5.00	4.283	.7611
3. The schemes maintain accurate records of contributions received from sponsors and members	60	3.00	5.00	4.666	.5097
4. The schemes present reviewed the annual budget at annual general meetings	60	2.00	5.00	4.100	.8171
5.The schemes regularly review cost strategies	60	2.00	5.00	4.100	.7685
6. The schemes always ensure adherence to regulations on fees charged by service providers	60	3.00	5.00	4.083	.7656
7.The schemes regularly review the trustees remuneration policy	60	2.00	5.00	3.850	.8197
8. The schemes always ensure accurate determination of payment of members 'benefits	60	2.00	5.00	4.400	.7635

Key: 1= very low extent, 2=Low extent, 3 = Somehow, 4 = Great extent, 5= Very great extent.

4.5.2 Sampling adequacy on Funding management practice

In order to examine whether the data collected on funding management practice was adequate and appropriate for inferential statistical tests such as the factor analysis, regression analysis, and other statistical tests, two main tests were performed namely; Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's Test of Sphericity. For a data set to be regarded as adequate and appropriate for statistical

analysis, the value of KMO should be greater than 0.5 Williams *et al.* (2010). as summarized in Table 4.20.

Findings showed that the KMO statistic was 0.638 which was significantly high, that is greater than the critical level of significance of the test which was set at 0.5 Williams *et al.* (2010). . In addition to the KMO test, Bartlett's Test of Sphericity was also highly significant (Chi-square = 100.382 with 28 degrees of freedom, at $p < 0.05$). These results provided an excellent justification for further statistical analysis to be conducted on fundng management practice.

Table 4.20: Sampling Adequacy Test for Funding Management Practice

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.638
Bartlett's Test of Sphericity	Approx. Chi-Square	100.382
	Df	28
	Sig.	.000

4.5.3 Total Variance Explained on Funding Management Practice

The study sought to assess the influence of FMPs on the sustainability of PFAIs in Kenya. Funding management practice was assessed through financing policy and cost management strategies and eight constructs were tested fin factor analysis. Through factor analysis, it emerged that only two factors were identified which had the biggest influence on sustainability with a cumulative variance of 51.4%. Factor one was the highest with 35.68% (Eigenvalue 2.855) while factor two contributed 15.76% (Eigen value 1.261) of the total variance. Therefore, the components identified to have the highest influence were regarded as schemes regularly distributing investment returns to members and ensuring review of the annual budget presented at every annual general meeting. These two factors had their Eigenvalues greater than 1 and had the greatest influence on sustainability as shown in Table 4.21. The contributions decreased as one

moved from one factor to the other up to factor 2. These were therefore used as the main factors explaining funding management practice for PFs.

Table 4.21: Total variance explained on Funding Management Practice-

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.855	35.682	35.682	2.855	35.682	35.682
2	1.261	15.763	51.445	1.261	15.763	51.445
3	.978	12.227	63.672			
4	.862	10.779	74.452			
5	.757	9.456	83.908			
6	.545	6.817	90.725			
7	.454	5.671	96.396			
8	.288	3.604	100.000			

Extraction Method: Principal Component Analysis.

Rotated component matrix was done on funding management practice. Table 4.22 depicts the rotated component factor loadings for attributes of funding management practice measures. Component 1 was financing strategies, and Component 2 was cost management strategies. All the variables of funding management practice had a factor loading of higher than 0.4 in component one and two. Therefore, the component values indicate that they are highly interrelated with each other and therefore explain the funding management practice for pension schemes under the study.

Table 4.22: Rotated component matrix on Funding Management Practice-

1. Statement	1=CMS	2=FS
2. The schemes use funding policy in compliance with the RBA Act	.579	
3. The schemes regularly distribute investment returns to members	.684	
4. The schemes maintain accurate records of contributions received from sponsors and members	.599	
5. The schemes present reviewed the annual budget at annual general meetings		.614
6. The schemes regularly review cost strategies	.656	
7. The schemes always ensure adherence to regulations on fees charged by service providers		.582
8. The schemes regularly review the trustee's remuneration policy	.432	
9. The schemes always ensure accurate determination of payment of members 'benefits	.659	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 3 iterations.

KEY: 1 = Cost Management Strategies 2 = Financing strategies.

4.5.4 Normality Tests on Funding Management Practice

Normality test was done to test for significance of confidence interval estimates of the parameters. The assumption is that the variables are normally distributed. Ali *et al*. (2016) showed that the assumptions and application of statistical tools as well as the suitability of the tests were important aspects for statistical analysis. In order to check for normality, the study adopted the skewness and kurtosis tests. Measures of skewness are based on mean and median while kurtosis measures the peakedness of the curve of the frequency distribution (Kothari & Garg, 2014). The results presented in Table 4.23 indicated that funding management practice had a skewness coefficient of -0.856 and kurtosis of -0.493 respectively suggesting that the data was normally distributed. According to George and Mallery (2010), values for asymmetry and kurtosis lying between -2 and +2 are considered acceptable in order to prove normal distribution.

Table 4.23: Normality Test on Funding Management Practice

	N	Min	Max	Mean	Std.Dev	Skewness		Kurtosis	
	Stat	Stat	Stat	Stat	Stat	Stat	Std. Error	Stat	Std. Error
Funding management practice	60	3.00	5.00	4.6167	.52373	-.856	.309	-.493	.608

4.5.5 Correlation Analysis on Funding Management Practice

Correlation analysis was used to establish the strength and the nature of the relationship between funding management practice measures (financing strategies and cost management strategies), and sustainability (operational sustainability and financial sustainability) of PFAIs in Kenya. Table 4.24 shows the correlation matrix with varying degree of interrelationship between funding management practice and sustainability of

PFAIs. The Pearson correlation coefficient was generated at 0.05 significance level (2-tailed). The output indicates a weak positive relationship between funding management practice and sustainability of PFAIs in Kenya. The correlation analysis value between funding management practice and sustainability of PFAIs showed a weak, positive and significant correlation ($r = 0.319$, $p<0.05$), an indication that sustainability increases with improvement in funding management practice.

This suggests that funding management practice is critical in influencing sustainability. These findings conform to (Sau & Njeru, 2018) who reported that there was a positive and significant relationship between members' contribution and financial growth of retirement benefits in Kenya. The findings are also consistent with the results of the study by Ichingwa and Mbithi (2017) who found that total contributions had a positive and significant effect on the financial performance of pension schemes. The study indicated that total contribution had a positive ($r = 0.276$, $p < 0.05$) and a significant correlation with the financial performance of occupational schemes in Kenya. Hauner et al. (2007); Christen, Lyman, and Rosenberg (2003) found that there was a significant relationship between efficiency and financial sustainability by looking at various cost and revenue elements. They concluded that an efficient PFAIs operates at a reduced financing and overall expenses; therefore, leading to financial sustainability. The study is also supported by the findings of Lusardi and Mitchell. (2014) who found a positive and significant correlation between expenses, pension contribution, retirement age and financial performance of pension funds.

Table 4.24: Correlation Analysis of Funding Management Practice

Variable		Funding Management	Financial Sustainability
Funding Management	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	60	
Financial Sustainability	Pearson Correlation	.319*	1
	Sig. (2-tailed)	.013	
	N	60	60

*. Correlation is significant at the 0.05 level (2-tailed).

4.5.6 Regression Analysis on Funding Management Practice

The results on Table 4.25 shows that funding management practice measures (financing strategies and cost management strategies) had explanatory power on sustainability as it accounted for 11.6% of its variability (R Square = 0.116) as indicated in the model. Based on the results of the regression analysis (model summary), this finding indicates that funding management practice explains about 11.6% of the variations observed in sustainability among PFAIs in Kenya. The model equation $Y= \beta_0+\beta_1X_1 +\varepsilon$ explained 11.6% of variability of sustainability of PFAIs as measured by the goodness of fit (R-square).

Table 4.25: Regression Model Summary on Funding Management Practice

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.341[a]	.116	.085	.63061

a. Predictors: (Constant), Funding Management practice

The findings of the study are also consistent with the results of the study by Kigen (2016) which found out that the fund size could explain the financial performance of pension funds in Kenya. The model had a coefficient of determination $R^2 = 0.06$, indicating that 6% of the variation in the financial performance of pension fund in Kenya was explained by the model. Mahfoudh (2013) found out that there was a positive relationship between the financial performance of retirement funds and liquidity of the scheme.

Table 4.26 presents the ANOVA results of the study on funding management practice measures (financing strategies and cost management strategies) and sustainability (operational sustainability and financial sustainability). The results reveal that a significant relationship exists between funding management practice and sustainability ($F = 3.751$, $p = 0.029$) as indicated in the model. The NOVA results indicates that the model is statistically significant ($p< 0.05$) and that funding management practice has a positive significant influence on the sustainability of PFAIs in Kenya.

Table 4.26: ANOVA Results on Funding Management Practice

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.983	2	1.491	3.751	.029[a]
	Residual	22.667	57	.398		
	Total	25.650	59			

a. Predictors: (Constant), Funding Management practice

b. Dependent Variable: Sustainability of PFAIs

In order to establish the influence of funding management practice (that is, cost management and financing strategies) on the sustainability of PFAIs in Kenya, the following hypothesis was tested: **$H0_1$**: Funding management practice has no significant influence on the sustainability of PFAIs in Kenya. Regression analysis was conducted to empirically determine whether funding management practice measures (financing strategies and cost management) had any significant influence on sustainability of PFAIs in Kenya. Table 4.27 displays the regression coefficients results of the funding management practice measures ($\beta = 0.268$, p-value = 0.040) which are statistically significant in explaining the sustainability of PFAIs in Kenya. The influence of funding management practice is therefore significant indicating that the greater the funding management practice, the greater the sustainability as measured by operational sustainability and financial sustainability. Thus, higher levels of funding management practice in pension funds are associated with increased sustainability of PFAIs.

The regression model is summarized by equation 4.1. Therefore, the null hypothesis is rejected since $\beta \neq 0$ and p-value<0.05 and instead stated that funding management practice significantly influences the sustainability of PFAIs in Kenya. Based on these findings, holding all the other factors constant, a unit increase in funding management practice leads to an increase of 0.346 units in sustainability among PFAIs in Kenya. These findings are consistent with the findings of a study by Nyangeri (2014) who reported strong positive relationships between contribution density and return on

investments. A unit increase in density of contributions would lead to a 0.624 increase in return on investment (ROI.)

Dyck and Pormorski (2011), reported an increase in pension contributions with an increase in the financial performance of pension funds. The findings are also in conformity with (Sau & Njeru, 2018) study that found a positive and significant relationship between members' contribution and financial growth of retirement benefits in Kenya. Tijjani (2014) showed that the net income has a significant positive impact on the financial sustainability of Nigerian pension funds administrators at 0.05 level of significance

Table 4.27: Regression Coefficients Results on Funding Management Practice

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.974	.805		2.453	.017
	Funding Management practice ($X1_1$)	.346	.165	.268	2.099	.040
	Funding Management practice ($X1_2$)	.138	.109	.161	1.264	.211

a. Dependent Variable: Sustainability of PFAIs

4.6 Influence of Investment Management Practice on Sustainability of PFAIs

The second objective was to evaluate the influence of investment management practice on sustainability of PFAIs in Kenya. Investment management practice is the professional asset management of various securities and other assets in order to meet specified investment objectives (KRBA, 2010).

4.6.1 Descriptive Statistics of Investment Management Practice

Investment management practice was assessed by two measures namely investment strategies and investment guidelines. Descriptive data shown in Table 4.28 presents the relevant results on a scale of 1 to 5 (where 5 = Very great extent and 1 = very low extent). From the study findings, majority of the respondents agreed that the schemes maintained statutory compliant investment policy statements (IPS) (mean = 4.8000), that the schemes gave total investment discretion to fund managers within IPS guidelines (mean = 4.6000), that the schemes consistently diversified assets investments within RBA investment guidelines (mean = 4.5833), that the schemes consistently made investment choices compliant with IPS (mean = 4.4167).

Descriptive results revealed that the schemes consistently used professional investment advisors in investment decisions (mean= 4.3333), that the schemes continuously monitored fund manager's adherence to the IPS (mean = 4.3167), that the schemes regularly carried out investment performance appraisal (mean = 4.0833), and that the schemes reliably used investment risk management policy (mean = 3.9667). The respondents seemed to agree (mean = 4 and strongly agree, mean = 5) with almost all investment management practice measures as being incorporated in pension funds investment decision making. Osano (2013) study concluded that investment strategies have a positive influence on investment funds performance. The findings also concur with Mutula and Kagiri (2018) study which revealed that investment strategies determine the returns from investment.

Table 4.28: Descriptive Statistics on Investment Management Practice

Statement	N	Min	Max	Mean	Std Dev
1.The schemes maintain statutory compliant IPS	60	3.00	5.00	4.8000	.48011
2. The schemes give total investment discretion to fund managers within IPS guidelines.	60	2.00	5.00	4.6000	.66892
3.The schemes reliably use investment risk management policy	60	1.00	5.00	3.9667	.91996
4. The schemes regularly carry out investment performance appraisal	60	2.00	5.00	4.0833	.88857
5. The Schemes consistently diversify assets investment within RBA investment guidelines	60	4.00	5.00	4.5833	.49717
6. The schemes consistently make investment choices compliant with IPS	60	2.00	5.00	4.4167	.64550
7. The schemes consistently use professional investment advisors in investment decisions	60	3.00	5.00	4.3333	.62887
8. The schemes continuously monitor fund manager's adherence to the IPS	60	2.00	5.00	4.3167	.77002

Key: 1= very low extent, 2=Low extent, 3 = Somehow, 4 = Great extent, 5 = Very great extent.

4.6.2 Sampling Adequacy on Investment Management Practice

To examine whether the data collected on investment management practice was adequate and appropriate for inferential statistical tests such as the factor analysis, regression analysis, and other statistical tests, two main tests were performed namely; Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's Test of

Sphericity. For a data set to be regarded as adequate and appropriate for statistical analysis, the value of KMO should be greater than 0.5 Williams *et al.* (2010). as summarized in Table 4.29.

The results showed that the KMO statistic was 0.765 which was significantly high, that is greater than the critical level of significance of the test which was set at 0.5 Williams *et al.* (2010). Bartlett's Test of Sphericity was also highly significant (Chi-square = 228.717 with 28 degrees of freedom, at $p < 0.05$). These results provided an excellent justification for further statistical analysis to be conducted on investment management practice.

Table 4.29: Sampling Adequacy on Investment Management Practice

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.765
Bartlett's Test of Sphericity	Approx. Chi-Square	228.717
	Df	28
	Sig.	.000

4.6.3 Total Variance Explained on Investment Management Practice

Factor analysis was done on investment management practice variables where constructs were subjected to a variance test through the principal component analysis test. Investment Management practice was assessed through investment strategies and investment guidelines and eight constructs were tested for factor analysis. Through factor analysis, out of the eight factors that were considered to be measuring investment management practice, the results showed that only two had their Eigen values greater than 1 with a cumulative 67.7% of the total variance. Factor 1 contributed the highest variation of 52.20% (Eigen value 4.176), while factor 2 contributed 15.52% (Eigen value 1.241) of the total variation. Therefore, the components identified to have the highest influence were that the schemes consistently made investment choices compliant

with IPS and gave total investment discretion to fund managers within IPS. These two factors had their Eigenvalues greater than 1 and had the greatest influence on sustainability as shown in Table 4.30. Their contributions decreased as one moved from one factor to the other up to factor 2. These were therefore used as the main factors explaining investment management practice.

Table 4.30: Total variance explained on Investment Management Practice

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.176	52.199	52.199	4.176	52.199	52.199
2	1.241	15.515	67.714	1.241	15.515	67.714
3	.878	10.978	78.692			
4	.483	6.042	84.733			
5	.472	5.899	90.633			
6	.300	3.756	94.389			
7	.278	3.472	97.861			
8	.171	2.139	100.000			

Extraction Method: Principal Component Analysis.

Rotated component matrix was also carried out on investment management practice. From the results, all the investment management practice variables had a factor loading of higher than 0.4 (Table 4.31). Therefore, the component values indicate that they are highly interrelated with each other.

Table 4.31: Rotated component matrix on investment management practice -

Statement	1= IS	2 = IG
1. The schemes maintain statutory compliant investment policy statements (IPS)	.687	
2. The schemes give total investment discretion to fund managers within IPS guidelines.		.768
3. The schemes reliably use investment risk management policy	.713	
4. The schemes regularly carry out investment performance appraisal	.833	
5. The Schemes consistently diversify assets investment within RBA investment guidelines	.565	
6. The schemes consistently make investment choices compliant with IPS	.868	
7. The schemes consistently use professional investment advisors in investment decisions	.730	
8. The schemes continuously monitor fund manager's adherence to the IPS	.813	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

KEY: IS = investment Strategies, IG = Investment Guidelines

4.6.4 Normality Tests on Investment Management Practice

Normality test was done to test for significance of confidence interval estimates of the parameter variables which were assumed to be normally distributed. Abbadi, Hijazi, & Al-Rahahleh, . (2016) showed that the assumptions and application of statistical tools as well as the suitability of the tests were important aspects for statistical analysis. In order to check for normality, the study adopted the skewness and kurtosis tests in which measures of skewness was based on mean and median while kurtosis measured the peakedness of the curve of the frequency distribution (Kothari & Garg, 2014).

Investment management practice had a skewness coefficient of -0.380 and kurtosis coefficient of -0.827 (Table 4.32). According to George &and Mallery (2010), values for asymmetry and kurtosis lying between -2 and +2 are considered acceptable in order to prove normal distribution. All the statistical values for both skewness and kurtosis were within the recommended range. Based on these results, therefore, it was concluded that the data was normally distributed since their statistical values were between -2 and +2.

Table 4.32: Normality tests on investment management practice

	N	Minimum	Maximum	Mean	Std. Dev	Skewness		Kurtosis	
	Statisti	Statisti	Statisti	Statisti	Statisti	Statisti	Std. Error	Statisti	Std. Error
Investment management practice	60	3.00	5.00	4.4500	.56524	-.380	.309	-.827	.608

4.6.5 Correlation Analysis of Investment Management Practice

The second objective of the study was to determine how investment Management practice influences the sustainability of PFAIs in Kenya. Correlation analysis was used to establish the strength and the nature of the relationship between investment

management practice measures (investment strategy and investment guidelines) and sustainability (operational sustainability and financial sustainability) of PFAIs in Kenya. Table 4.33 shows the results of the correlation analysis with a varied degree of interrelationship between investment management practice and sustainability of PFAIs.

Pearson correlation coefficient was generated at 0.05 significance level (2-tailed). The output indicated a weak positive relationship between investment management practice and sustainability of PFAIs in Kenya. Correlation analysis results showed a significant positive correlation ($r = 0.448$; $p<0.05$) indicating that sustainability increases with an increase in the investment management practice of pension funds. The findings conform to Mugambi (2014) study which revealed a Pearson coefficient of 0.780 and p-value of 0.000 with a strong, significant, positive relationship between property investment and growth of pension funds in Kenya.

Kyanda (2014) also established that the KPLC pension fund had increased its reliance on relevant professional advisors in making investment decisions that led to improved returns. The findings are also in agreement with Namusonge, Sakwa, and Gathogo (2017) who found that Asset mix had a positive influence on the financial performance of occupational pension schemes in Kenya. From the study findings, correlation coefficient, (r) value was 0.813 which is a good predictor of the pension fund financial performance by the independent variable (Asset mix).

Table 4.33: Correlation Analysis - Investment Management Practice And Sustainability of PFAIs

Variable	Investment Management practice ($X2_1$)	Investment Management practice ($X2_2$)	Sustainability
Investment management practice $X2_1$	1	.314*	.061
		.015	.641
	60	60	60
Investment management practice $X2_2$	.314*	1	.448**
	.015		.000
	60	60	60
Sustainability	.061	.448**	1
	.641	.000	
	60	60	60

*. Correlation is significant at the 0.05 level (2-tailed).

4.6.6 Regression Analysis on Investment Management Practice

The results on Table 4.34 shows that investment management practice measures (investment strategies and investment guidelines) had explanatory power on sustainability. Based on these findings, the model equation (model summary) $Y= \beta_0+\beta_2X_2 +\varepsilon$ explained 20.8% (R squared = 0.208) of the variations in sustainability of PFAIs in Kenya as measured by the goodness of fit (R-square). The findings are in agreement with Mutula (2018) study which showed that the investment strategies explain 78.1% of the total variations in the investment performance of pension funds in Kenya.

Namusonge, Sakwa, and Gathogo (2017) in a similar study found out that Asset mix had an immensely positive influence on the financial performance of occupational pension schemes in Kenya. From their study findings, the coefficient of determination (r^2) value was 0.661 meaning that 66.1% of the variation in financial performance of pension schemes could be explained by the independent variable which was the asset mix.

Table 4.34: Model Summary - Investment Management Practice on Sustainability

Model	R	R Square	Adjusted R Square	Std. The error of the Estimate
1	.456[a]	.208	.180	.59712

a. Predictors: (Constant), investment management practice

Similarly, Lumby and Steve (2011) established that when risks are well controlled through wise and prudent selection of investment opportunities such as financial assets and other properties, the pension scheme performance improves tremendously.

Table 4.35 presents the analysis of variance (ANOVA) of the study on investment management practice measures (investment strategies and investment guidelines) and sustainability (operational sustainability and financial sustainability). The results revealed that a significant relationship exists between investment management practice and sustainability ($F = 7.470$, $p = 0.01$) of PFAIs as indicated in the model. The ANOVA results indicate that the model is statistically significant ($p< 0.05$) and that investment management practice has a significant positive influence on sustainability of PFAIs in Kenya.

Table 4.35: ANOVA Analysis of Investment Management Practice

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.327	2	2.663	7.470	.001[a]
	Residual	20.323	57	.357		
	Total	25.650	59			

a. Predictors: (Constant), investment management practice

b. Dependent Variable: Sustainability of PFAIs

Kosowski *et al.* (2006) found that some growth-oriented mutual fund managers earned positive abnormal returns due to genuine skill rather than good luck. Lusardi and Mitchell. (2014) showed that superior growth-oriented fund managers had growth timing abilities revealing that growth timing accounted for about half of the abnormal returns. The study further determined that investment performance had improved over the years with benefits paid to members and investment returns reported having improved and being above the average returns as reported by industry surveys.

To establish the influence of investment management practice (that is, investment strategies and investment guidelines) on the sustainability of PFAIs in Kenya, the following hypothesis was tested: $H0_2$: Investment management practice does not have a significant influence on the sustainability of PFAIs in Kenya. Regression analysis was conducted to empirically determine whether investment management practice measures had any significant influence on sustainability of PFAIs in Kenya. Table 4.36 displays the regression coefficients results of the investment management practice measures (β = 0.476, p-value = 0.000) which were statistically significant in explaining sustainability of PFAIs in Kenya indicating that the greater the investment management practice, the greater the sustainability as measured by operational sustainability and financial sustainability. The results of coefficients to the model $Y= 2.403 + 0.486X_2$ estimates were both significant at the 0.05 level of significance. This was because the significance was 0.000, which was less than 0.05. The constant term implied that at zero investment

management practice, sustainability of PFAIs in Kenya performs at 2.403 units. The coefficient 0.486 implies that improvement in investment management practice by one unit increases sustainability by 0.486 units.

Therefore, based on the findings, the null hypothesis was rejected since $\beta \neq 0$ and p-value<0.05 as per the regression model summarized by equation 4.2. This, therefore, led to the rejection of the null hypothesis and instead stated that investment management practice significantly influenced sustainability of PFAIs in Kenya. Thus, higher levels of investment management practice in pension funds are associated with increased sustainability of PFAIs. The results are consistent with those of Blake *et al.,* (2004) which reported that key differences between outcomes depend on the strategic asset allocation strategy chosen.

Table 4.36: Regression Coefficients on Investment management practice and Sustainability of PFAIs

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.403	.662		3.627	.001
	Investment management practice ($X2_1$)	-.087	.122	-.088	-.708	.482
	Investment management practice ($X2_2$)	.486	.127	.476	3.830	.000

a. Dependent Variable: Sustainability of PFAIs

4.7 Influence of Financial Control Practice on Sustainability of PFAIs

The third objective of this study was to assess the influence of financial control on the sustainability of PFAIs in Kenya. Financial control practice is the means by which an organization's resources are directed, monitored and measured using but not limited to, income statements, cash flow statements, budget sheets, accounting systems and

operating ratios (ISA, 400). Wakiriba, Ngahu & Wagoki (2014), reports that, financial control aims to provide an overall guiding framework for a sound and efficient financial management of resources encourages adherence to prescribed policies and regulations. Dessie (2016) finds that control of the financial decisions in the organization including method, process and internal audit are established by the administration to ensure that the activities are carried out in compliance with administrative purpose and policies.

4.7.1 Descriptive Statistics on Financial Control Practice

Financial control practice was assessed by use of internal control and risk management systems and control of services providers. Descriptive data shown in Table 4.37 presents the relevant results on a scale of 1 to 5 (where 5 = Very great extent and 1 = very low extent). The incorporation of financial control practice was measured using eight statements on a Likert scale. From the study findings, majority of the respondents agreed that; the schemes prepared proper accounting records and financial reports (mean = 4.5667), the schemes maintained secure information technology (IT) systems (mean = 4.3500), the schemes effectively used finance manuals (mean = 4.3167), the schemes consistently monitored the effectiveness of internal control and risk management systems (mean = 4.3000), the schemes reliably outsourced specialized management functions (mean = 4.1500).

Descriptive results showed that the schemes regularly monitored performance of services providers (mean = 4.0667), the schemes offered timely relevant statutory financial training/education to all stakeholders (mean = 4.0333) and that the schemes adhered to the provision conflict of interest policy (mean = 3.6833). Results, therefore, indicated that most of the respondents agreed (mean = 4) on the incorporation of financial control practice in the management of pension funds. The results were in agreement with Owino (2015) study which found that there existed a positive relationship between management competence and firm performance. Muriuki (2010) observed that governance had enormous effects on firm performance. The study is also

supported by findings of the study by Mutula (2018) which found out that management competence influences pension fund investment performance.

Table 4.37: Descriptive Statistics on Financial Control Practice

Statement	N	Min	Max	Mean	Std Dev
1. The schemes consistently monitor the effectiveness of internal control and risk management systems	60	2.00	5.00	4.3000	.80885
2. The schemes reliably outsources specialized management functions	60	2.00	5.00	4.1500	.84020
3. The schemes regularly monitor the performance of service providers	60	2.00	5.00	4.0667	.75614
4. The schemes adhere to the provision conflict of interest policy	60	1.00	5.00	3.6833	.94764
5. The schemes prepare proper accounting records and financial reports	60	2.00	5.00	4.0333	.78041
6. The schemes effectively uses finance manuals	60	2.00	5.00	4.5667	.59280
7. The schemes offer timely relevant statutory financial training/education to all stakeholders	60	1.00	5.00	4.3167	.89237
8. The schemes maintain secure information technology(ICT) systems	60	2.00	5.00	4.3500	.81978

Key: 1= very low extent, 2=Low extent, 3 = Somehow, 4 = Great extent, 5 = Very great extent.

4.7.2 Sampling Adequacy on Financial Control Practice

To examine whether the data collected on financial control practice was adequate and appropriate for inferential statistical tests such as the factor analysis, regression analysis and other statistical tests, two main tests were performed namely, Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's Test of Sphericity. For a data set to be regarded as adequate and appropriate for statistical analysis, the value of KMO should be greater than 0.5 (Williams *et al.* (2010). as summarized in Table 4.38.

Findings showed that the KMO statistic was 0.752 which was **s**ignificantly high, that is greater than the critical level of significance of the test which was set at 0.5 (Williams *et al.* (2010). Bartlett's Test of Sphericity was also highly significant (Chi-square = 158.905 with 28 degrees of freedom, at $p < 0.05$). These results provided good justification for further statistical analysis to be conducted on financial control practice.

Table 4.38: Sampling Adequacy on Financial Control Practice

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.752
Bartlett's Test of Sphericity	Approx. Chi-Square	158.905
	Df	28
	Sig.	.000

4.7.3 Total Variance explained on Financial Control Practice

Factor analysis was done on financial control practice variables where constructs were subjected to a variance test through the principal component analysis test. Eight factors were used in this study to measure financial control practice. On subjecting these to factor reduction, only two (2) factors remained to explain further on financial control practice representing 68.5% of the total variation observed in financial control practice (Table 4.39). Factor 1 contributed the highest variation of 55.49% (Eigenvalue 4.439),

factor 2 contributed 12.97% (Eigenvalue 1.037) of variations. Therefore, the components identified to have the highest influence were regular preparation of proper accounting records and financial reports and the schemes effectively using finance manuals. These two factors had their Eigen values greater than 1 and were considered to have the greatest influence on financial control practice. The contributions decreased as one moved from one factor to the other up to factor 2.

Table 4.39: Total variance explained on Financial Control Practice -

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.439	55.486	55.486	4.439	55.486	55.486
2	1.037	12.969	68.454	1.037	12.969	68.454
3	.693	8.661	77.115			
4	.586	7.321	84.436			
5	.461	5.768	90.205			
6	.407	5.092	95.296			
7	.199	2.486	97.782			
8	.177	2.218	100.000			

Extraction Method: Principal Component Analysis.

Table 4.40 depicts the rotated component factor loadings for attributes of financial control practice measures. Component 1 was internal control, and risk management systems and Component 2 was control of services providers. All the financial control practice variables had a factor loading of higher than 0.4. Therefore, the component values indicated that they were highly interrelated with each other.

Table 4.40: Rotated component matrix on Financial Control Practice -

Component	1=ICRM	2=SP
1. The schemes consistently monitor the effectiveness of internal control and risk management systems	.622	
2. The schemes reliably outsource specialized management functions	.713	
3. The schemes regularly monitor the performance of service providers	.670	
4. The schemes adhere to the provision conflict of interest policy	.677	
5. The schemes prepare proper accounting records and financial reports	.808	
6. The schemes effectively use finance manuals		.797
7. The schemes offer timely relevant statutory financial training/education to all stakeholders	.737	
8. The schemes maintain secure information technology(ICT) systems	.713	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

KEY: ICRM = Internal Control and Risk Management Systems, SP = Control of Services Providers

4.7.4 Normality Tests on Financial Control Practice

Normality test was done on the data to determine its distribution. Abbadi, Hijazi, & Al-Rahahleh (2016) showed that the assumptions and application of statistical tools as well as the suitability of the tests were important aspects for statistical analysis. In order to check for normality, the study adopted the skewness and Kurtosis tests.

Measures of skewness are based on mean and median while kurtosis is measured through the peakedness of the curve of the frequency distribution (Kothari & Garg, 2014). Financial control practice had a skewness coefficient of -0.502 and kurtosis coefficient of -0.044. According to George and Mallery (2010), values for asymmetry and kurtosis between -2 and +2 are considered acceptable in order to prove normal distribution as per Table 4.41. All the statistical values for both skewness and kurtosis were within the recommended range. Based on these results, therefore, it was concluded that the data was normally distributed since their statistical values were between -2 and +2.

Table 4.41: Normality Tests on Financial Control Practice

Item	N	Min	Max	Mean	Std. Dev	Skewness		Kurtosis	
	Stat	Stat	Stat	Stat	Stat	Stat	Std. Error	Stat	Std.Error
Financial control practice	60	2.00	5.00	4.0333	.78041	-.502	.309	-.044	.608

4.7.5 Correlation Analysis on Financial Control Practice

The third objective of the study was to determine the influence of financial control practice on the sustainability of PFAIs in Kenya. Correlation analysis was done to establish the nature and strength of the relationship between financial control practice

measures (internal control and risk management systems and services providers) and sustainability (operational sustainability and financial sustainability) of PFAIs in Kenya. The results in Table 4.42 shows the correlation analysis with a varied degree of interrelationship between financial control practice and sustainability of PFAIs.

Pearson correlation coefficient was generated at 0.05 significance level (2-tailed). The output indicated a moderate positive relationship between financial control practice and sustainability of PFAIs in Kenya. Correlation analysis results show a moderate positive significant correlation ($r = 0.484$; $p<0.05$) indicating that sustainability of PFAIs increases with increases with financial control practice of pension funds. The findings of the study are consistent with the results of a study by Kyanda (2014) who found that the internal control systems to monitor and mitigate risks had improved, and the mechanism for members to make complaints regarding service provision had also improved. The findings were collaborated by Stewart (2010) who identified a requirement by the board to set acceptable levels of risk, measuring, monitoring and controlling these risks and ensuring that adequate and effective internal control systems were in place as a key responsibility of the board of trustees of a pension fund.

Table 4.42: Correlation Analysis on Financial Control Practice

Variable	Financial sustainability	Financial control practice ($X3_1$)	Financial control practice ($X3_2$)
Financial sustainability	1	.484**	.343**
		.000	.007
	60	60	60
Financial control practice (X3)	.484**	1	.361**
	.000		.005
	60	60	60

**. Correlation is significant at the 0.01 level (2-tailed).

4.7.6 Regression analysis on Financial Control Practice

The regression results on Table 4.43 shows that financial control practice measures (internal control and risk management systems and services providers) had explanatory power on sustainability as it accounted for 26.7% of its variability (R Square = 0.267) as indicated in the model. These results indicate that pension funds financial control practice explains about 26.7% of the variations observed in sustainability among PFAIs in Kenya.

Based on these findings, the model equation $Y= \beta_0+\beta_3X_3+\varepsilon$ explained 26.7% of the variations in sustainability as measured by the goodness of fit (R-square). These findings are consistent with the results of Kyanda (2014) who also determined that improved efficiency was as a result of Kenya power pension fund having formed board committees to deal with specialized matters such as audit, investments, governance, staff and administration, internal control systems to monitor and mitigate risks in which the mechanism for members to make complaints regarding service provision had improved.

Table 4.43: Goodness-of-Fit Model Results on Financial Control Practice

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.516[a]	.267	.241	.57443

Predictors: (Constant), Financial Control Practice

Brunner, Hinz, and Rocha (2008), reports that proper risk management led to better financial results for pension funds as it focuses on a proactive approach to losses. According to Gifford (2004), proper fund governance controls in pension fund management minimizes compliance costs and ensures that the risks taken by the trustees are acceptable and within the appropriate thresholds as prescribed in the investment policy, thus improving efficiency.

Table 4.44 presents the ANOVA results of the study on financial control practice measures (internal control and risk management systems and control of services providers) and sustainability (operational sustainability and financial sustainability). The results show that a significant relationship exists between financial control practice and sustainability (F = 10.367, p = 0.000) as indicated in the ANOVA model. The results of coefficients to the model Y= 1.758 + 0.350 X_3 + 0.612 estimates were both significant at the 0.05 level of significance. This was because the significance was 0.000, which was less than 0.05. The ANOVA results revealed that the model was statistically significant ($p< 0.05$) in that financial control practice has a significant positive influence on the sustainability of PFAIs in Kenya. The constant term implied that at zero financial control practice, sustainability of PFAIs in Kenya performs at 1.758 units. The coefficient 0.350 implied that improvement in financial control practice by one unit increased sustainability by 0.350 units.

Table 4.44: ANOVA Results on Financial Control Practice

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.842	2	3.421	10.367	.000[a]
	Residual	18.808	57	.330		
	Total	25.650	59			

a. Predictors: (Constant), Financial Control Practice

b. Dependent Variable: Sustainability

To establish the influence of financial control practice (that is, internal control and risk management systems and services providers) on the sustainability of PFAIs in Kenya, the following hypothesis was tested: $H0_3$: Financial control practice does not have a significant influence on the sustainability of PFAIs in Kenya. Regression analysis was conducted to empirically determine whether financial control practice measures had any significant influence on the sustainability of PFAIs in Kenya. Table 4.45 displays the

regression coefficients results of financial control practice measures ($\beta = 0.350$, p-value = 0.001) which were statistically significant in explaining the sustainability of PFAIs in Kenya. The influence of financial control practice was therefore significant indicating that the greater the financial control practice, the greater the sustainability. Thus, higher levels of financial control practice in pension funds are associated with increased sustainability of PFAIs. Therefore, the null hypothesis was rejected since $\beta \neq 0$ and p-value<0.05 as per regression model summarized by equation 4.3. This, therefore, led to the rejection of the null hypothesis and instead stated that financial control practice significantly influences sustainability of PFAIs in Kenya. Based on these findings, holding all other factors constant, a unit increase in financial control practice led to an increase of. 0.350 units in sustainability among PFAIs in Kenya.

Table 4.45: Regression Coefficients on Financial Control Practice

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.758	.612		2.876	.006
	Financial control practice ($X3_1$)	.350	.103	.415	3.408	.001
	Financial control practice ($X3_2$)	.214	.135	.193	1.584	.119

a. Dependent Variable: Sustainability

4.8 Influence of Financial Reporting Practice on Sustainability of PFAIs

The fourth objective was to assess the influence of financial reporting practice on the sustainability of PFAIs in Kenya. Financial reporting practice is concerned with communication of financial information to financial statement users and other stakeholders like investors and creditors as per the accepted financial reporting framework (ISA, 400).

4.8.1 Descriptive Statistics on Financial Reporting Practice

Financial reporting practice was assessed by two measures namely compliance with the financial reporting framework and communication to stakeholders. Descriptive data shown in Table 4.46 presents the relevant results on a scale of 1 to 5 (where 5 = Very great extent and 1 = very low extent). The incorporation of financial reporting practice was measured using eight statements on a Likert scale. From the study findings, the majority of the respondents agreed that the pension funds prepared audited financial statements and made them available to members (mean = 4.8167) that the schemes complied with financial reporting framework (mean = 4.8167),

Descriptive results revealed that the schemes conducted statutory meetings for their stakeholders (mean = 4.5333), that the schemes regularly issued members' statements (mean = 4.4667), that the schemes always reviewed financials reports at least once every year (mean = 4.3167), that the schemes ensured timely communication of pension matters to members (mean = 4.0500), that the schemes regularly issued members handbooks/booklets on pension matters (mean = 3.9322) and that the schemes reported to the stakeholders on the risk management policy (mean = 3.5333). With a mean of four and five descriptive statistics indicated that the respondents agreed/strongly agreed that financial management practice was incorporated in financial reporting practice.

Table 4.46: Descriptive Statistics on Financial Reporting Practice

Statement	N	Min	Max	Mean	Std. Dev
1. The schemes complies with financial reporting framework.	60	3.00	5.00	4.8167	.43146
2. The schemes present audited financial statements to members	60	3.00	5.00	4.7667	.49972
3. The schemes conduct a statutory meeting for its stakeholders	60	3.00	5.00	4.5333	.62346
4. The schemes ensure timely communication of pension matters to members	60	2.00	5.00	4.0500	.72311
5. Schemes regularly issue members handbooks/booklets on pension matters	59	1.00	5.00	3.9322	.90714
6. The schemes report to the stakeholders on the risk management policy	60	1.00	5.00	3.5333	.98233
7. The schemes regularly issue members' statements	60	3.00	5.00	4.4667	.59565
8. The schemes always review financials reports at least once every year	60	3.00	5.00	4.3167	.77002

Key: 1= very low extent, 2=Low extent, 3 = Somehow, 4 = Great extent, 5 = Very great extent.

4.8.2 Sampling Adequacy on Financial Reporting Practice

In order to examine whether the data collected on financial reporting practice was adequate and appropriate for inferential statistical tests such as the factor analysis, regression analysis and other statistical tests, two main tests were performed namely,

Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity. For a data set to be regarded as adequate and appropriate for statistical analysis, the value of KMO should be greater than 0.5 Williams *et al.* (2010).as summarized in Table 4.47.

The findings showed that the KMO statistic was 0.660 which was significantly high, that is greater than the critical level of significance of the test which was set at 0.5 Williams *et al.* (2010). Bartlett's test of sphericity was also highly significant (Chi-square = 205.893 with 36 degrees of freedom, at $p < 0.05$). These results provided an excellent justification for further statistical analysis to be conducted on financial reporting practice.

Table 4.47: Sampling Adequacy on Financial Reporting Practice

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.660
Bartlett's Test of Sphericity	Approx. Chi-Square	205.893
	Df	36
	Sig.	.000

4.8.3 Total Variance Explained on Financial Reporting Practice

All the eight measures of financial reporting practice were subjected to factor analysis and the results showed that there were two factors extracted that were explaining financial reporting practice variables which had cumulative of 62.3% of the total variance. Factor 1 contributed the highest variation of 45.35% (Eigenvalue=3.628), factor 2 had 16.98% (Eigenvalue=1.359) of the total variance. Therefore, the components identified to have the highest influence were that, the schemes always reviewed financial reports at least once every year and that the schemes regularly issued members' statements. These two factors had their Eigen values greater than 1 and were considered to have the greatest influence on financial reporting practice as shown in

Table 4.48. The two components retained were used for further analysis representing financial reporting practice.

Table 4.48: Total Variance Explained on Financial Reporting Practice -

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.628	45.349	45.349	3.628	45.349	45.349
2	1.359	16.983	62.332	1.359	16.983	62.332
3	.922	11.524	73.856			
4	.760	9.495	83.351			
5	.551	6.886	90.237			
6	.368	4.601	94.838			
7	.277	3.466	98.304			
8	.136	1.696	100.000			

Extraction Method: Principal Component Analysis

Table 4.49 depicts the rotated component factor loadings for determinants of financial reporting practice measures. Component 1 was compliance with the financial reporting framework Component 2 was communication to stakeholders. All the constructs of financial reporting practice had a factor loading of higher than 0.4 therefore, indicating that they were highly interrelated with each other.

Table 4.49: Rotated Component Matrix on Financial Reporting Practice

Component	1	2
1. The schemes comply with the financial reporting framework.		.078
2. The schemes present audited financial statements to members		.111
3. The schemes conduct a statutory meeting for its stakeholders		.162
4. The schemes ensure timely communication of pension matters to members		.256
5. Schemes regularly issue members handbooks/booklets on pension matters	.074	
6. The schemes report to the stakeholders on the risk management policy	.398	
7. The schemes regularly issue members' statements	.519	
8. The schemes always review financials reports at least once every year		.824

Extraction Method: Principal Component Analysis

Rotation Method: Varimax with Kaiser Normalization

KEY: CFRF = Compliance with Financial Reporting Framework, CS = Communication to Stakeholders.

4.8.4 Normality Tests on Financial Reporting Practice

In order to check for normality, the study adopted the skewness test which was based on mean and median and kurtosis test which was measured by the peakedness of the curve of the frequency distribution (Kothari & Garg, 2014). Financial reporting practice had a skewness coefficient of -0.221 and kurtosis coefficient of -0.740. According to George and Mallery (2010), values for asymmetry and kurtosis between -2 and +2 are considered acceptable in order to prove normal distribution. All the statistical values for

both skewness and kurtosis were within the recommended range (Table 4.50). Based on these results, therefore, it was concluded that the data was normally distributed since their statistic values were between -2 and +2.

Table 4.50: Normality Tests on Financial Reporting Practice

	N	Min	Max	Mean	Std. Dev	Skewness		Kurtosis	
	Stat	Stat	Stat	Stat	Stat	Stat	Std. Error	Stat	Std. Error
Financial reporting practice	60	2.00	5.00	4.0000	.78113	-.221	.309	-.740	.608

4.8.5 Correlation Analysis on Financial Reporting Practice

The fourth objective of the study was to assess the influence of financial reporting practice on sustainability of PFAIs in Kenya. Correlation analysis was done to establish the nature and strength of the relationship between financial reporting practice measures (compliance with financial reporting framework and communication with stakeholders) and sustainability (operational sustainability and financial sustainability) of PFAIs in Kenya. The results in Table 4.51 shows correlation analysis with a varied degree of interrelationship between measures of financial reporting practice and sustainability of PFAIs.

Pearson correlation coefficient (r) was generated at 0.05 significance level (2-tailed). The output indicated a weak positive relationship between financial reporting practice and sustainability of PFAIs in Kenya. Correlation analysis results showed a significant positive correlation ($r = 0.296$; $p<0.05$) indicating that sustainability of PFAIs increased with an increase in financial reporting practice. Ambachtsheer, (2011), found that in private pension schemes, organizational performance was strongly correlated with good mechanisms to understand and communicate with plan stakeholders. The findings of the

study are consistent with a study by Kyanda (2014) who found that the internal control systems to monitor and mitigate risks had improved the mechanism for members to make complaints regarding service provision.

Table 4.51: Correlation Analysis on Financial Reporting Practice

Variable		Sustainability	Financial reporting practice
Sustainability	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	60	
Financial reporting practice	Pearson Correlation	.296*	1
	Sig. (2-tailed)	.022	
	N	60	60

*. Correlation is significant at the 0.05 level (2-tailed).

4.8.6 Regression Analysis on Financial Reporting Practice

The results on Table 4.52 shows that financial reporting practice measures (compliance with financial reporting framework and communication with stakeholders) had explanatory power on sustainability as it accounted for 16.9% of its variability (R Square = 0.169) as indicated in the model. The results indicated that financial reporting practice explained about 16.9% of the variations observed in sustainability among PFAIs in Kenya. This implied that there was a moderate positive relationship between financial reporting practice measures and sustainability of PFAIs.

Based on these findings, the model equation $Y= \beta_0+\beta_4X_4 +\varepsilon$ explained 16.9% of the variations in sustainability as measured by the goodness of fit (R-square). The univariate model was significant and therefore, supported the objective that financial reporting practice influenced sustainability of PFAIs in Kenya. Kyanda (2014), established that

administrative efficiency was improved as a result of the fund having a quality management systems and procedures that were compliant with ISO standards were evidenced by the fact that reporting on the status of investments had improved. According to Mitchell and Yang (2005), reporting practices influenced the performance of pension funds.

Table 4.52: Model Summary on Financial Reporting Practice

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.411[a]	.169	.125	.61686

a. Predictors: (Constant), Financial reporting practice

Table 4.53 presents the ANOVA results of the study on financial reporting practice measures (compliance with the financial reporting framework and communication with stakeholders) and sustainability (operational sustainability and financial sustainability). The results showed that a significant relationship exists between financial reporting practice and sustainability ($F = 3.803$, $p = 0.015$) as indicated in the ANOVA model. The results reveal that the model was statistically significant ($p < 0.05$) in that financial reporting practice had a significant positive influence on sustainability of PFAIs in Kenya.

Table 4.53: ANOVA Results on Financial Reporting Practice

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.341	3	1.447	3.803	.015[a]
	Residual	21.309	56	.381		
	Total	25.650	59			

a. Predictors: (Constant), Pension funds financial reporting practice

b. Dependent Variable: Sustainability

In order to establish the influence of financial reporting practice (that is, compliance with financial reporting framework and communication with stakeholders) on the sustainability of PFAIs in Kenya, the following hypothesis was tested: **$H0_4$**: Financial reporting practice does not have a significant influence on the sustainability of PFAIs in Kenya. Regression analysis was conducted to empirically determine whether financial reporting practice measures (compliance with the financial reporting framework and communication with stakeholders) had any significant influence on the sustainability of PFAIs in Kenya.

Table 4.54 displays the regression coefficients results of the financial reporting practice measures ($\beta = 0.352$, p-value = 0.011) that were statistically significant in explaining sustainability of PFAIs in Kenya. The results of coefficients to the model $Y = 3.715 + 0.230X_4$ were both significant at the 0.05 level of significance. This was because the significance was 0.011, which was less than 0.05. The constant term implied that at zero financial reporting practice, sustainability of PFAIs in Kenya performed at 3.715 units. The coefficient (0.230) implied that improvement in financial reporting practice by one unit increased sustainability by 0.230 units. Thus, higher levels of financial reporting practice in pension funds were associated with increased sustainability of PFAIs.

Therefore, the null hypothesis was rejected since $\beta \neq 0$ and p-value<0.05 as per the regression mode summarized by equation 4.4 and instead stated that financial reporting practice significantly influenced sustainability of PFAIs in Kenya. Based on these findings, holding all the other factors constant, a unit increase in financial reporting practice leads to an increase of 0.230 units in sustainability among PFAIs in Kenya.

Table 4.54: Regression Coefficients on Financial Reporting Practice

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.715	.700		5.303	.000
	Financial reporting practices ($X4_1$)	.230	.087	.352	2.644	.011
	Financial reporting practices ($X4_2$)	-.176	.106	-.206	-1.660	.103

a. Dependent Variable: Sustainability

4.9 Overall Correlation Analysis on Financial Management Practices

Preliminary analysis was carried out to determine whether there were significant associations between funding management, investment management, financial control, financial reporting practices and sustainability of PFAIs in Kenya. In this study, Pearson's product-moment correlation coefficient (r) was used to explore relationships existing between the variables, specifically to assess both the direction and strength before carrying out further analysis.

Pearson's product-moment correlation coefficient (r) was used to examine the extent of correlation between the variables of study and to show the strength of the linear relationships between the variables in the regression which ranges between ±1. Where r = + 0.7 and above, it indicates a very strong relationship; r=+0.5 to below 0.7, shows a strong relationship; r=0.3 - 0.49 reveals a moderate relationship while r = 0.29 and below is an indication of a weak relationship. Where r = 0 it indicates that there is no relationship at all (Mulili, 2011). The results of correlation analysis are presented in Table 4.55.

Correlation results showed that the relationship between funding management practice and sustainability was weak positive and statistically insignificant ($r = 0.218$, $p>0.05$), investment management practice and sustainability was moderate positive and significant ($r= 0.407$, $p<0.05$), financial control practice and sustainability was moderate, positive and significant ($r = 0.484$, $p<0.05$), financial reporting practice and sustainability was weak, positive and significant ($r = 0.296$, $p<0.05$). From the findings no variable correlated at 0.7. Hence the study sought to do the regression analysis to establish a further relationship.

Table 4.55: Correlation Coefficient Matrix on Financial Management Practices

Variable		Funding management practice	Investment management practice	Financial control practice	Financial reporting practice	Sustainability
Funding management practice	Pearson Correlation	1				
	Sig. (2-tailed)					
Investment management practice	Pearson Correlation	.306*	1			
	Sig. (2-tailed)	.017				
Financial control practice	Pearson Correlation	.198	.426**	1		
	Sig. (2-tailed)	.130	.001			
Financial reporting practice	Pearson Correlation	.414**	.384**	.306*	1	
	Sig. (2-tailed)	.001	.002	.017		
Sustainability	Pearson Correlation	.218	.407**	.484**	.296*	1
	Sig. (2-tailed)	.094	.001	.000	.022	

*. Correlation is significant at the 0.05 level (2-Tailed).

**. Correlation is significant at the 0.01 level (2-Tailed).

4.10 Multiple Regression Analysis of Joint Variables

Multiple linear regression analysis of the joint variables was conducted to establish the contribution of each independent variable to sustainability, and the results are as presented in Table 4.56. The results of the goodness- of- the fit model was used in explaining the influence of funding management, investment management, financial control and financial reporting practices on the dependent variable which was the sustainability of PFAIs in Kenya.

This assertion was supported by the coefficient of determination, (R-square = 0.300). This meant that funding management, investment management, financial control, and financial reporting practices explain 30% of the variations in the dependent variable which is the sustainability of PFAIs in Kenya. These results further meant that the model applied to link the relationship between the variables was satisfactory.

Table 4.56: Goodness-of-Fit Model Results on Financial Management Practice

Model	R	R Square	Adjusted R Square	Std. The error of the Estimate
1	.547[a]	.300	.249	.57148

a. Predictors: (Constant), Funding management practice, Investment management practice, Financial control practice, Financial reporting practice

The (ANOVA) results in Table 4.57 indicated that the model was statistically significant. Further, the results implied that the independent variables were good predictors of sustainability. This was supported by an F statistic of 5.885 which indicated that the overall model was significant as it was more than the critical F value of 3.88 with (4, 55) degrees of freedom at the P equals to less than 0.05 level of significance. The reported p=0.001 was less than the conventional probability of 0.05 level of significance.

Table 4.57: ANOVA Analysis on Financial Management Practices

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.688	4	1.922	5.885	.001a
	Residual	17.962	55	.327		
	Total	25.650	59			

a. Predictors: (Constant), Funding management practice, Investment management practice, Financial control practice, Financial reporting practice,

b. Dependent Variable: Sustainability

Multiple regression analysis was performed to assess the relationship between sustainability (regarding operational sustainability and financial sustainability) of PFAIs and the independent variables (measures of funding management practice, investment management practice, financial control practice, and financial reporting practice). The results shows the regression coefficients on multiple regression which indicates the contribution of the various independent variables towards sustainability of PFAIs with only financial control practice making a significant contribution towards sustainability among the four variables considered. On combination, however, the other three variables, that is, funding management practice, investment management practice, and financial reporting practice showed a non-significant positive contribution towards sustainability among PFAIs in Kenya.

Based on these findings, funding management practice slightly positively contributed to financial sustainability by a factor of .033. However, this contribution was also found to be statistically insignificant (β =0.033, p>0.05, t= 0.205). The results also revealed that investment management practice slightly contributed positively to sustainability by a factor of 0.164. This could be attributed to investment discretion given by trustees to fund managers and also ensuring maintenance of statutory compliant IPS. This

contribution was however statistically insignificant (β = 0.164, P= 0.839, t = 1.680) when combined with other financial management practices.

The study findings (Table 4.58) also revealed that financial control practice contributed positively to sustainability by a factor of 0.302. This contribution was statistically significant (β= 0.302, P= 0.006, t= 2.831) implying that financial control practice played a fundamental part in the delivery of pension benefits provision. This could be attributed to reliable outsourcing of specialized management functions and proper preparation of accounting records and financial reports. The study established that financial reporting practice positively contributed to the sustainability of PFAIs by a factor of 0.085 which may have been due to adherence to the financial reporting framework and enhanced communication with key stakeholders. This contribution was however statistically insignificant (β= 0.085, P= 0.44, t= 0 .775).

Table 4.58: Regression Coefficients on Financial Management Practices

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
1 (Constant)	1.770	.712		2.488	.016
Funding management practice	.033	.161	.026	.205	.839
Investment management practice	.164	.098	.222	1.680	.099
Financial control practice	.302	.107	.357	2.831	.006
Financial reporting practice	.085	.109	.100	.775	.442

a. Dependent Variable: Sustainability

The regression equation model connecting the variables as per the results therefore becomes:

$$\mathbf{Y = 1.770 + 0.033X_1 + 0.164X_2 + 0.302X_3 + 0.085X_4}$$

Where: $\mathbf{X_1}$ represents funding management practice,

$\mathbf{X_2}$ represents investment management practice,

$\mathbf{X_3}$ represents financial control practice and

$\mathbf{X_4}$ represents financial reporting practice.

The final regression model equation is as follows:

Sustainability = 1.770 + 0.033 (Funding management practice) + 0.164 (Investment management practice) + 0.302 (Financial control practice) + 0.085 (Financial reporting practice) + 0.712

The constant term = 1.770 implying that without the existence of predictors, sustainability of PFAIs in Kenya would amount to 1.770 units. That means that the coefficients of funding management practice, investment management practice, financial control practice, and financial reporting practice would be zero thus not influence sustainability at all. With $\beta_1 = 0.033$, one unit change in funding management practice resulted in 0.033 units increase in sustainability of PFAIs, $\beta_2 = 0.164$ implied that one unit change in investment management practice resulted in 0.164 units increase in sustainability of PFAIs, $\beta_3 = 0.302$ implied that one unit change in financial control practice resulted in 0.302 units increase in sustainability of PFAIs while $\beta_4 = 0.085$, implied that one unit change in financial reporting practice resulted in 0.085 units increase in sustainability of PFAIs.

4.11 Summary of Hypothesis Testing

The study sought to test four hypotheses. Table 4.59 indicates the results of the hypotheses, the variables that were tested and the explanation of the results given. The results show the summary of the hypothesis tested in this study with all the four (4) null hypothesis tested being rejected. It was therefore concluded that funding management practice, investment management practice, financial control practice, and financial reporting practice positively and significantly influences sustainability of PFAIs in Kenya.

Table 4.59: Summary of Hypothesis Testing

Hypothesis	Statistics	Remark
Ho1: Funding management practice has no significant influence on sustainability of pension funds administrative institutions in Kenya.	r^2 = 0.116, p< 0.05; β = 0.268	Rejected
Ho2: Investment management practice has no significant influence on sustainability of pension funds administrative institutions in Kenya	r^2 = 0.208 p< 0.05; β =0.476	Rejected
Ho3: Financial control practice has no significant influence on sustainability of pension funds administrative institutions in Kenya	r^2 = 0.267, p<0.05; β = 0.415	Rejected
Ho4: Financial reporting practice has no significant influence on sustainability of pension funds administrative institutions in Kenya	r^2 = 0.169, p<0.05; β = 0.352	Rejected

4.12 Revised Conceptual Framework

Based on the outcomes of the joint regression coefficients, the optimal regression model was as shown below. The revised conceptual framework was arranged based on the strengths of coefficient values.

$$Y = 1.770 + 0.302X_1 + 0.164X_2 + 0.085X_3 + 0.033X_4$$

Where: **Y** represents Sustainability,

X_1 represents financial Control Practice,

X_2 represents investment Management Practice,

X_3 represents financial reporting Practice,

X_4 represents funding Management Practice.

Therefore, Figure 4.1 presents the revised conceptual framework from the above optimal regression model. It ranks financial management practices according to the order of optimality.

Financial Management Practices

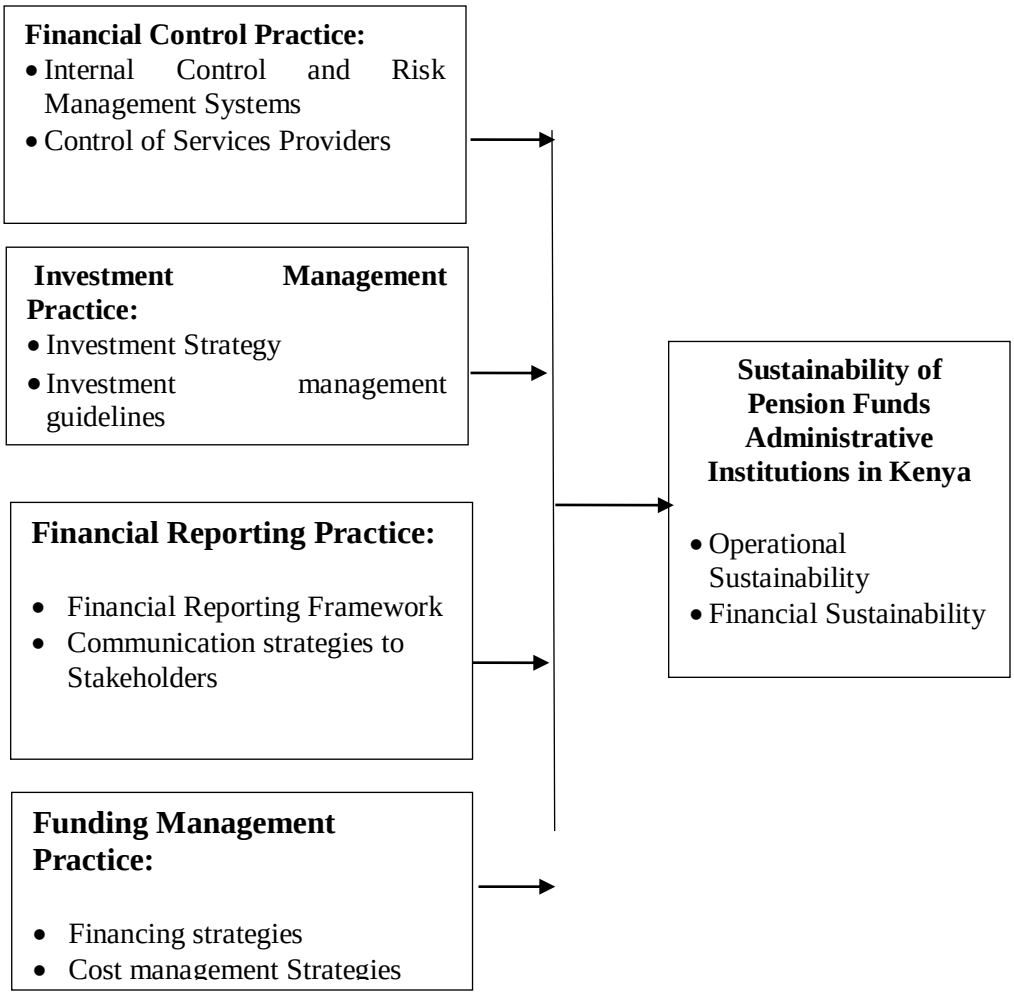


Figure 4.1: Revised Conceptual Framework

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the major findings of the study, relevant discussions, conclusions, and the necessary recommendations. The study sought to assess the influence of financial management practices on sustainability of pension funds administrative institutions in Kenya. The summary of key findings, conclusions and recommendations were done in line with the objectives of the study based on the output of the descriptive and inferential statistical analyses that guided to test the research hypothesis.

5.2 Summary

The main objective of this study was to empirically assess the influence of financial management practices on sustainability of PFAIs in Kenya. In particular, the specific objectives of the study were; to assess the influence of funding management practice, investment management practice, financial control practice and financial reporting practice on sustainability of PFAIs in Kenya. The target population PFAIs was used to derive the sample size using Slovin's formula. A pilot study was done to test reliability and validity of the research instrument through a sample of respondents selected by use of stratified and simple random sampling method. The respondents were top and middle-level management staff of PFAIs and a high response rate was achieved. The findings are presented under the following headings.

5.2.1 Sustainability of PFAIs

Sustainability was assessed through operational and financial sustainability. Descriptive statistics indicated that, all the four measures of sustainability were appropriate. Results from Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett's test of sphericity

revealed that, sustainability measures in the study were adequate and appropriate for inferential statistical tests, that is, greater than the critical level of significance of the tests. These results provided an excellent justification for further statistical analysis to be conducted. Factor analysis using total variance indicated that the four statements on sustainability could be factored into one factor explaining sustainability of PFAIs in Kenya, that is, consistent improvement in the performance of services providers. All the four sustainability factor loadings statements on rotated matrix used were adequate and therefore retained for analysis. Normality test utilizing skewness and kurtosis tests suggested that sustainability was normally distributed and therefore acceptable.

5.2.2 Influence of Funding Management Practice on Sustainability of PFAIs

The first objective of the study sought to assess the influence of funding management practice on sustainability of PFAIs in Kenya. This objective gave rise to hypothesis one (H_1) which predicted that funding management practice does not have a significant influence on sustainability of PFAIs in Kenya. Regression analysis was carried out to determine the relationship between funding management practice and sustainability. The regression model was thus fitted to the data, and the model was found to be significant. The R-value or Pearson correlation coefficient) showed that there was a positive linear relationship between funding management practice and sustainability of PFAIs. Coefficient of determination as represented by R-squared indicated the explanatory power of the independent variable which revealed that, the variation in sustainability was explained by the model. The results of coefficients to the model estimates were both significant indicating that the null hypothesis was rejected hence there was a significant of funding management practice on sustainability of PFAIs in Kenya.

5.2.3 Influence of Investment Management Practice on Sustainability of PFAIs

The second objective of the study sought to establish the influence of investment management practice on sustainability of PFAIs in Kenya. Hypothesis two (H_2) was generated from this objective which predicted that investment management does not a significant influence on sustainability of PFAIs in Kenya. Regression analysis was

carried out to determine the relationship between investment management practice and sustainability. Regression model was thus fitted to the data, and the model was found to be significant. The R-value or correlation coefficient showed that, there was a positive linear relationship between investment management and sustainability. The R^2 value or coefficient of determination indicated that, the independent variables had explanatory power on the variation in sustainability as explained by the model. The results of coefficients to the model estimates were both significant at five percent level of significance. The null hypothesis was rejected hence, there was a investment management had a significant influence on sustainability of PFAIs in Kenya.

5.2.4 Influence of Financial Control Practice on Sustainability of PFAIs

The third objective was intended to examine the influence of financial control practice on sustainability of PFAIs in Kenya. This objective gave rise to hypothesis three (H_3) which predicted that financial control practice does not have a significant influence on sustainability of PFAIs in Kenya. Regression analysis was carried out to determine the relationship between financial control practice and sustainability of PFAIs. The regression model was thus fitted to the data and the model was found to be significant. The R-value (Pearson correlation coefficient) indicated that there was a positive linear relationship between financial control practice and sustainability of PFAIs. The R^2 value (coefficient of determination) indicated that the explanatory power of the independent variables in variability of sustainability as was explained by the model. The results of coefficients to the model estimates were both significant at five percent level of significance. This indicated that the null hypothesis was rejected hence financial control practice had a significant influence on sustainability of PFAIs in Kenya.

5.2.5 Influence of Financial Reporting Practice on Sustainability of PFAIs

The fourth objective of the study sought to establish the influence of financial reporting practice on the sustainability of PFAIs in Kenya. Based on this objective, fourth hypothesis was formulated which predicted that financial reporting practice has no significant influence on sustainability of PFAIs in Kenya. Regression analysis was done

to determine the influence of financial reporting practice on sustainability of PFAIs. The regression model was thus fitted to the data, and the model was found to be significant. Pearson correlation coefficient showed that there was a positive linear relationship between financial reporting practice and sustainability of PFAIs. Coefficient of determination indicated the explanatory power of the independent variables on variation in sustainability as explained by the model. The results of coefficients to the model estimates were significant at the five percent level of significance. This showed that the null hypothesis was rejected hence, there was a significant influence of financial reporting practice on sustainability of PFAIs in Kenya.

5.3 Conclusions

The conclusions were based on the objectives of the study which was to assess the influence of financial management practices on sustainability of PFAIs in Kenya which evaluated the influence of the measures of each variable on sustainability individually and finally all variables jointly. Four hypotheses had been formulated to help achieve the study objectives.

5.3.1 Sustainability of PFAIs

The current study assessed sustainability of PFAIS through operational and financial sustainability. Descriptive statistics indicated that, all the four measures of sustainability were appropriate. Measures of sampling adequacy used were adequate and appropriate for inferential statistical tests. These results provided an excellent justification for further statistical analysis to be conducted. Factor analysis using total variance and rotated matrix results indicated that the four statements on sustainability could be factored into one factor explaining sustainability of PFAIs in Kenya. Additionally, normality test results suggested that sustainability of PFAIs in Kenya was normally distributed. Based on the finding of the study, it was therefore concluded that all sustainability measures used were appropriate and therefore acceptable.

5.3.2 Funding Management Practice and Sustainability of PFAIs

The first objective was to determine the influence of funding management practice on sustainability of PFAIs in Kenya. The study found that there exists a relationship between funding management practice and sustainability of PFAIs in Kenya. The results showed that funding management practice had a positive and a statistically significant influence on sustainability of PFAIs in Kenya. Based on the study findings, it can be concluded that an increase in funding management practice leads to an improvement in sustainability of PFAIs in Kenya. This conclusion is supported by other studies reviewed.

5.3.3 Investment management practice and Sustainability of PFAIs

The second objective of the study sought to establish the influence of investment management practice on sustainability of PFAIs in Kenya. It was found that there was a positive relationship between investment management practice and sustainability of PFAIs in Kenya. Based on the study findings, it can be concluded that increased investment management practice leads to a positive influence on sustainability of PFAIs in Kenya which is as per some previous studies.

5.3.4 Financial Control Practice and Sustainability of PFAIs

The third objective sought to determine the influence of financial control practice on sustainability of PFAIs in Kenya. The results provided sufficient statistically significant evidence to justify the relationship between financial control practice and sustainability of PFAIs in Kenya. Based on the study findings, it can be concluded that financial control practice exerts a significant influence on sustainability of PFAIs in Kenya. In light of the above, it was concluded that an increase in financial control practice influences sustainability. The results also support the findings of other studies as reported in chapter four.

5.3.5 Financial Reporting Practice and Sustainability of PFAIs

Under the fourth objective, the study sought to determine the influence of financial reporting practice on the sustainability of PFAIs in Kenya. The study revealed that there exist a relationship between financial reporting practice and sustainability of PFAIs in Kenya. The results showed that financial reporting practice had a positive and statistically significant influence on the sustainability of PFAIs in Kenya. Based on the study findings, it was concluded that financial reporting practice exerts a significantly positive influence on sustainability of PFAIs in Kenya. From the foregoing, it can be concluded that an improvement in financial reporting practice leads to an increase in sustainability of PFAIs in Kenya. These findings support other studies described by the literature reviewed.

5.3.4 Financial Management Practices and Sustainability of PFAIs

Finally, the general objective of the study was to assess the joint influence of the four variables on sustainability of PFAIs. The results revealed that the joint influence of funding management practice, investment management practice, financial control practice, and financial reporting practice, is greater than the individual influence of financial management practices on the sustainability of PFAIs in Kenya. Based on the study findings, it can be concluded that financial management practices have a positive and significant influence on sustainability of PFAIs. Firms have to continuously seek to improve these variables as revealed by this study. From the preceding, adoption of best practice FMPs may lead to superior sustainable performance of PFAIs. As failure to do so may lead them to perform at a lower than the optimum possible level of sustainability.

5.4 Recommendations

The recommendations made were based on the study the objective which was to assess the influence of financial management practices on sustainability of PFAIs in Kenya. It was concluded that funding management practice measures had a weak positive influence on the sustainability of pension on funds administrative Institutions in Kenya. Based on the study conclusions therefore, it was recommended that pension funds trustees should regularly review the funding management practice policies. These policies enhances annual distribution of investment returns and cost management strategies on annual budgets tabled to members at annual general meetings.

The study also concluded that investment management practice has a moderate positive influence on sustainability of pension on funds administrative Institutions in Kenya. The study, therefore, recommended that trustees should consistently review investment management strategies as per investment policy statements (IPS). Investment management strategies ensures that total investment discretion is given to fund managers. Pension funds should also be always compliant with investment management guidelines.

The study concluded that financial control practice had a weak positive influence on the sustainability of pension on funds administrative Institutions in Kenya. It is therefore recommended that, pension funds should regularly review financial control policies. Financial control policies enhances regular preparation of proper accounting records and financial reports. The study further recommended that services providers should be competitively hired on a merit basis to promote sustainability.

The study concluded that financial reporting practice measures had a weak and positive influence on sustainability of pension funds administrative Institutions in Kenya. It is therefore recommended that trustees should always ensure that financial reporting practices are in strict compliance with the financial reporting framework and regularly review communication strategies to all stakeholders.

Based on the study findings and conclusions, policy makers (Government and Retirement Benefits Authority in Kenya) should set and regularly review best practice financial management guidelines. The guidelines should strategically promote efficient governance of pension fund that leads to increased efficiency through regular monitoring of pension funds.

5.5 Areas of Further Research Future researchers

The current study sought to assess the influence of funding management, investment management, financial control and financial reporting practices on sustainability of pension on funds administrative Institutions in Kenya. There is a need for more research efforts on pension funds in the wider geographical regions including East and Central Africa. However, it was noted that previous empirical studies had a partial approach to the influence of financial management practices on sustainability of Institutions. This study recommends that, future studies should investigate the holistic influence of the four variables on sustainability of other institutions such as Micro finance Institutions (MFIs) and Savings and Credit Cooperatives (SACCOs).

Future researchers could test for moderating effect of variables such as leadership style and government regulation on the influence of financial management practices on sustainability of sustainability of pension on funds administrative Institutions. Further, future studies should investigate the influence of the four variables of this study on sustainability of trustees and other services providers including funds managers and custodians. The current study utilized operational and financial sustainability to measure sustainability of pension funds administrative institutions. It is suggested that other measures of sustainability including return on assets, profitability and efficiency could be used to confirm or nullify the results.

Future researches could focus more on the influence of financial management practices on sustainability of defined contributions as opposed to defined benefits pension funds designs. This may be justified by the fact that, fund risk in Kenya has shifted to members, thus requiring application of the best financial management practices for

pension funds governance. Further research can focus on the influence of services providers' institutional characteristics on sustainability of pension funds administrative Institutions in Kenya. Research could focus on identifying other aspects of financial management practices such as liquidity, budgeting and investment risk management that influences sustainability of pension funds institutions. Thus, while this research has achieved its objectives, more opportunities exist for further research.

REFERENCES

Abbadi, S. S., Hijazi, Q. F., & Al-Rahahleh, A. S. (2016). Corporate governance quality and earnings management: Evidence from Jordan. *Australasian Accounting, Business and Finance Journal*, *10*(2), 54-75.

Abdulai, A., & Tewari, D. D. (2017). Trade-off between outreach and sustainability of microfinance institutions: evidence from sub-Saharan Africa. *Enterprise Development and Microfinance*, *28*(3), 162-181.

Adeoti, J. O., Umar, G. U. N. U., & Tsado, E. (2012). Determinants of Pension Fund Investment in Nigeria: The Critical Factors. *International Journal of Human Resource Studies*, *2*(4), 1.

Adeyemi, F. K., & Olarewaju, O. M. (2018). Internal Control System and Financial Accountability: An Investigation of Nigerian South-Western Public Sector. *Acta Universitatis Danubius. Œconomica*, *15*(1).

Alonso Fernández, J. J., Devesa Carpio, J. E., Devesa Carpio, M., Domínguez Fabián, I., Encinas Goenechea, B., & Meneu Gaya, R. (2018). Towards an adequate and sustainable replacement rate in defined benefit pension systems: The case of Spain. *International Social Security Review*, *71*(1), 51-70.

Adongo, J., & Stork, C. (2006). *Factors Influencing the Financial Sustainability of Selected Microfinance Institutions in Namibia. The Namibian Economic Policy Research Unit (NEPRU)* (No. 39). Research Report.Ahire, S. L., & Dreyfus, P. (2000). The impact of design management and process management on quality: an empirical investigation. *Journal of operations management*, *18*(5), 549-575.

Andonov, A., Bauer, R. M. M. J., & Cremers, M. (2011). Can large pension funds beat the market. *Asset Allocation, Market Timing, Security Selection and the Limits of Liquidity (October 2012)*. Retrieved from: https://ssrn.com/abstract=1885536

Aiyabei, J. K. (2014). *Determinants Influencing the Likelihood of Risk Management Strategies Adoption by Pension Schemes in Kenya*, Unpublished PhD dissertation, Juja: JKUAT.

Ammann, M., & Ehmann, C. (2017). Is Governance Related to Investment Performance and Asset Allocation? Empirical Evidence from Swiss Pension Funds. *Swiss Journal of Economics and Statistics*, *153*(3), 293-339.

Ambachtsheer, K. (2007). *The three grades of pension fund governance quality: Bad, better, and best.* Toronto: Rotman International Centre for Pension Management, University of Toronto.

Ammann, M., & Zingg, A. (2010). Performance and governance of Swiss pension funds. *Journal of Pension Economics & Finance*, *9*(1), 95-128.

Armendáriz, B., & Morduch, J. (2010). *The economics of microfinance*. MA: MIT press.

Asebedo, G., & Grable, J. E. (2004). Predicting mutual fund over-performance over a nine-year period. *Journal of Financial Counseling and Planning*, *15*(1).

Asher, M. G., & Nandy, A. (2006). Reforming provident and pension fund regulation in India. *Journal of Financial Regulation and Compliance*, *14*(3), 273-284.

Asuquo, A., Effiong, S., & Tieiseh, A., (2012). The Effect of Financial Management Practices on the Profitability of Small and Medium Enterprises in Nigeria. *IJRIME, 2*(3), 1-27.

Aveh, F.K. (2013), "An evaluation of how institutional characteristics, agency cost, business strategy, and governance affect the sustainability of microfinance institutions in Ghana," *International Journal of Advances in Management and Economics, 2*(2), 47-60.

Babbie, E. (2004). *The practice of social research* (10th ed.), California: Belmont.

Badara, M. A. S., & Saidin, S. Z. (2014). Empirical evidence of antecedents of internal audit effectiveness from Nigerian perspective. *Middle-East Journal of Scientific Research*, *19*(4), 460-469.

Basu, A., & Altinay, E. (2002). The interaction between culture and entrepreneurship in London's immigrant businesses. *International small business journal*, *20*(4), 371-393.

Bateman, H. & Mitchell. O. (2004). New evidence on pension plan design and administrative expenses: the Australian experience, *Journal of Pension Economics and Finance, 3*(S), 63-76.

Barr, N. (2001). The truth about pension reform. *Finance and development*, *38*(3), 6-9.

Bauer, R., Frehen, R., Otten, R., & Lum, H. (2007, February). The performance of US pension funds. In *Se puede descargar en http://ssrn. com/abstract* (Vol. 965388).

Beasley, M. S., Clune, R., & Hermanson, D. R. (2005). Enterprise risk management: An empirical analysis of factors associated with the extent of implementation. *Journal of accounting and public policy*, *24*(6), 521-531.

Bikker, J. A., & De Dreu, J. (2009). Operating costs of pension funds: the impact of scale, governance, and plan design. *Journal of Pension Economics & Finance*, *8*(1), 63-89.

Bikker, J. J., & Boeijen, T. D. (2007). K.(Karin) Aarssen (1968) works at the Financial & Risk Policy Depart-ment of ABP Pension Fund, focusing on pension policy and risk manage-ment. She studied Operations Research at the Erasmus University and Actuarial Science at the University of Amsterdam. After graduating she worked at KPMG Brans&Co (now: Watson Wyatt) and ING Group. *Costs and Benefits of Collective Pension Systems*, 237.

Bikker, J. A., Steenbeek, O. W., & Torracchi, F. (2012). The Impact of Scale, Complexity, and Service Quality on the Administrative Costs of Pension Funds: A Cross-Country Comparison. *Journal of Risk and Insurance*, *79*(2), 477-514. London: Brunel University.

Born, B., & Breitung, J. (2016). Testing for serial correlation in fixed-effects panel data models. *Econometric Reviews*, *35*(7), 1290-1316.

Brown, R. L., & McInnes, C. (2014). Shifting Public Sector DB Plans to DC. *The experience so far and implications for Canada: Canadian Public Pension Leadership Council*.

Cohen, L., Manion, L., & Morrison, K. (2013). The ethics of educational and social research. *In Research methods in education* (pp. 99-128). London: Routledge.

Donaldson, T., & Preston, L. E. (1995). The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of Management Review*, *20*(1), 65-91.

Dovi, E. (2008). Boosting domestic savings in Africa. *Africa Renewal*, *22*(3), 12-14.

Davis, E. P. (2002). Aging and financial stability. In *Ageing, financial markets and monetary policy* (pp. 191-227). Berlin, Heidelberg: Springer.

Davis, C. S. (2002). *Statistical methods for the analysis of repeated measurements*. New Jersey: Springer Science & Business Media.

Dessie, M. (2016). *Effect of Capacity Development on the Financial Management System of local NGO's: The case of Pact Ethiopia Implementing Partners* Unpublished PhD dissertation, Ethiopia: St. Mary's University).

Dietman, T. E. (1991). *Applied Regression Analysis for Business and Economics.* Boston: PWS – Kert Publishing Company.

Duncan, N. M., Njeru, A., & Tirimba, O. I. (2015). Effect of Loan Repayment on Financial Performance of Deposit Taking SACCOs in Mount Kenya Region. *International Journal of Innovation and Applied Studies*, *10*(4), 1238.

Durbin, J., & Watson, G. S. (1951). Testing for serial correlation in least squares regression. II. *Biometrika*, *38*(1/2), 159-177.

Dyck, I. J., & Pomorski, L. (2011). Is bigger better? Size and performance in pension plan management. *Size and Performance in Pension Plan Management (June 1, 2011). Rotman School of Management Working Paper*, (1690724).

Eaton, T.V & Nofsinger, J.R. (2001). An Examination of ERR and Asset Allocation in Public Pension Plans. *Financial Accountability and Management. 17*(2), .l 19-132.

EBRI. (2004). *Retirement Income Statistics. Employee Benefit Research Institute.* Retrieved from: www.ebri.orgpdf/programs/policyforums/may 2004/ristats.pdf.

Eijffinger, S., & Shi, Z. (2007). *EU Pension Fund Regulation: Why, Where and How to Continue.* UK: EU Pension Regulation.

Eisenhardt, K. M. (1989). Agency theory: An assessment and review. *Academy of management review, 14*(1), 57-74.

Eliya, S. (2014). *Determinants Of The Growth Of Investment Income Of Pensions Fund Schemes: The Case of LAPF in Dodoma,* Unpublished PhD dissertation, Mzumbe: Mzumbe University.

Emmanuel, K. Y. (2016). *Financial management practices and profitability of business enterprises in Obuasi,* Unpublished PhD dissertation, Ghana: Kwame Nkrumah University of Science and Technology.

Faraway, J. J. (2016). *Linear models with R*. London: Chapman and Hall/CRC.

Fatoki, O. (2012). An investigation into the financial management practices of new micro-enterprises in South Africa. *Journal of social sciences*, *33*(2), 179-188.

Faryadras, I. (2004). Study the relationship between organizational structure & performance of the company's oil export terminals. *The master thesis Islamic Azad University. Tehran central Branch, Mirdamad graduate center*, *142*.

Fernando, S., & Lawrence, S. (2014). A theoretical framework for CSR practices: integrating legitimacy theory, stakeholder theory and institutional theory. *Journal of Theoretical Accounting Research*, *10*(1), 149-178.

Forteza, A., & Mussio, I. (2017). Contribution Densities, Transitions and Pension Rights: The Case of Jordan. *Journal of International Development*, *29*(1), 67-88.

Forteza, A., & Mussio, I. (2012). Contribution Densities and Transitions in Social Security. *Journal of management studies*, *9*(1), 1-21.

Franzoni, F., & Marin, J. M. (2006). Pension plan funding and stock market efficiency. *The Journal of Finance*, *61*(2), 921-956.

Freeman, R. E. (2004). The stakeholder approach revisited. *Zeitschrift für Wirtschafts- und Unternehmensethik*, *5*(3), 228-254.

Freeman, R. E., & McVea, J. (2001). A stakeholder approach to strategic management. *The Blackwell handbook of strategic management*, 189-207.

Friedman, A. L., & Miles, S. (2002). Developing stakeholder theory. *Journal of management studies*, *39*(1), 1-21.

Friedman, A. L., & Miles, S. (2001). Socially responsible investment and corporate social and environmental reporting in the UK: an exploratory study. *The British Accounting Review*, *33*(4), 523-548.

Florea, L., Cheung, Y. H., & Herndon, N. C. (2013). For all good reasons: Role of values in organizational sustainability. *Journal of Business Ethics*, *114*(3), 393-408.

Galer, R. (2002). Prudent person rule standard for the investment of pension fund assets. *Financial Market Trends*, *83*, 41-75.

Gbitse, B. (2006). *Understanding Pension Fund Investment Guideline. This day Newspapers,* Nigeria: IBTC Wealth Management Services.

George, D., & Mallery, P. (2010). SPSS for Windows step by step. A simple study guide and reference (10. Baskı). New York: Prentice Hall

Gill, I., Packard, T., Yermo, J., & Pugatch, T. (2004). *Keeping the promise of old age income security in Latin America.* Washington, DC: World Bank.

Gillion, C. (Ed.). (2000). *Social security pensions: Development and reform*. Netherlands: International Labour Organisation.

González-Páramo, J. M. (2005, October). The reform of the Stability and Growth Pact: an assessment. In *Speech at the Conference on New Perspectives on Fiscal Sustainability, ECB, Frankfurt* (Vol. 13).

Government of Kenya (2000). *The Retirement Benefits Act, (No. 3 of 1997)* The Retirement Benefits (Occupational Retirement Benefits Scheme) Regulations 2000.

Gupta, A. (2013). Old-age pension scheme in Jharkhand and Chhattisgarh. *Economic and Political Weekly,* 54-59.

Hales, C., & Gough, O. (2003. Employee evaluations of company occupational pensions: HR implications. *Personnel Review*, *32*(3), 319-340.

Halim, S., Miller, T., & Dupont, D. C. (2010). How pension funds manage investment risks: A global survey. *Rotman International Journal of Pension Management, 3(2), 30,*

Hardouvelis, G. A. (2010). Actions for a less procyclical financial system. *Economy & Markets, Eurobank Research*, *5*(5), 1-33.

Hatchett, J., Bowie, D., & Forrester, N. (2010). Risk management for DB pension funds. *Staple Inn Actuarial Society*, *26*.

Hauner, D., Leigh, D., & Skaarup, M. (2007). *Ensuring fiscal sustainability in G-7 countries* (No. 7-187). Washington, D.C: International Monetary Fund.

Heath, J., & Norman, W. (2004). Stakeholder theory, corporate governance, and public management: what can the history of state-run enterprises teach us in the post-Enron era?. *Journal of business ethics*, *53*(3), 247-265.

Hess, D., & Impavido, G. (2003). *Governance of public pension funds: lessons from corporate governance and international evidence*. Washington D.C: The World Bank.

Hicks, U. K. (1946). The terminology of tax analysis. *The Economic Journal*, *56*(221), 38-50.

Higgins, R. C. (2012). *Analysis for financial management*. New York: McGraw-Hill/Irwin.

Hinz, R., Heinz, R., Antolín, P., & Yermo, J. (Eds.). (2010). *Evaluating the financial performance of pension funds*. Geneva: The World Bank.

Hishigsuren, G. (2007). Evaluating mission drift in microfinance: lessons for programs with a social mission. *Evaluation Review*, *31*(3), 203-260.

Hoe, C. H. (2010). Financial management practices: an in-depth study among the CEOs of Small and Medium Enterprises (SMEs). *International Review of Business Research Papers*, *6*(6), 13-35.

Holzmann, R., & Stiglitz, J. E. (Eds.). (2001). *New ideas about old age security: Toward sustainable pension systems in the 21st century*. Geneva: The World Bank.

Hustead, E. C. (2009). Administrative Costs of State Defined Benefit and Defined Contribution Systems. *The Future of Public Employee Retirement Systems*, 97.

Hu, Y., Stewart F. & Yermo J. (2007) *Pension Fund Investment and Regulation*: An International Perspective and Implications for China's Pension System. Beijing: OECD/IOPS Global Private Pensions Forum.

Ichingwa, B. I., & Mbithi, S. M. (2017). Effect of total contribution on the financial performance of pension schemes in Kenya: a survey of pension schemes in Kenya. *International Journal of Finance and Accounting*, *2*(6), 11-19.

Iyortsuun, A. S., & Akpusugh, K. T. (2013). Effective Management of Life after Retirement and its Impact on Retirees from the Public Service: A Case Study of Benue State, Nigeria. *Global Journal of Management And Business Research*, *13*(5), 302 - 389.

Jayeoba, F. I., Ayantunji, O. I., & Sholesi, O. Y. (2013). A critique of the systems theory of JT Dunlop. *International Journal of Academic Research in Economics and Management Sciences*, *2*(2), 97.

Jafarzadeh, M., Tareghian, H. R., Rahbarnia, F., & Ghanbari, R. (2015). Optimal selection of project portfolios using reinvestment strategy within a flexible time horizon. *European Journal of Operational Research*, *243*(2), 658-664.

Janor, H., Yakob, R., Hashim, N. A., Zanariah, Z., & Wel, C. A. C. (2017). Financial literacy and investment decisions in Malaysia and United Kingdom: A comparative analysis. *Geografia-Malaysian Journal of Society and Space*, *12*(2).

Johnson, R. A., Kast, F. E., & Rosenzweig, J. E. (1964). Systems theory and management. *Management Science*, *10*(2), 367-384.

Joshi, P. L., Al-Mudhaki, J., & Bremser, W. G. (2003). Corporate budget planning, control and performance evaluation in Bahrain. *Managerial Auditing Journal*, *18*(9), 737-750.

Kakes, J., & Broeders, D. (2006). *The sustainability of the Dutch pension system* (No. 406). Geneva: Netherlands Central Bank, Research Department.

Kakwani, N., Sun, H., & Hinz, R. (2006). Old-Age Poverty and Social Retirements in Kenya. *International Poverty Center, Working Paper*, (24).

Karadag, H. (2015). *Strategic financial management for small and medium sized companies*. London: Emerald Group Publishing.

Kast, F. E., & Rosenzweig, J. E. (1972). General systems theory: Applications for organization and management. *Academy of management journal*, *15*(4), 447-465.

Kemp, M. H. D., & Patel, C. C. (2012). Entity-wide risk management for pension funds. *British Actuarial Journal*, *17*(2), 331-394.

Kenya Retirement Benefits Authority. (2011). *Pensions annual Financial Report 2011*. Nairobi: RBA.

Kenya Retirement Benefits Authority (2012). *Pensions annual Financial Report 2012.* Nairobi: RBA.

Kenya, F. S. D. (2011). Central Bank of Kenya (2009). *Results of the FinAccess National Survey: Dynamics of Kenya's Changing financial landscape.* Nairobi: FSD Kenya.

Kenny, D. A., Mannetti, L., Pierro, A., Livi, S., & Kashy, D. A. (2002). The statistical analysis of data from small groups. *Journal of personality and social psychology*, *83*(1), 126.

Khomba, J. K., & Vermaak, F. N. (2012). Business ethics and corporate governance: An African socio-cultural framework. *African Journal of Business Management*, *6*(9), 3510-3518.

Kigen, A. K. (2016). *Effect of Fund Size on The Financial performance of Pension Funds in Kenya*, Unpublished PhD dissertation, Nairobi: KCA University.

Kiprotich, R. V. (2012). Determinants of retirement benefits schemes financial performance in Kenya. *Journal of finance, 61*(6), 2551-2595.

Koech, c. K., & otieno, m. (2014). Role of human resource planning on employees performance: a case of kenya ports authority, mombasa, kenya. *Clear International Journal of Research in Commerce & Management*, *5*(2).

Kombo, D. K., & Tromp, D. L. A. (2009). *Proposal and thesis writing. An Introduction.* Nairobi: Don Bosco Printing Press.

Knupp, E. (2010). *The Path Forward: Designing the Ideal Defined Contribution Plan, Line of Sight,* New York: John Wiley and Sons.

Krammer, P. H., Arnold, R., & Lavrik, I. N. (2007). Life and death in peripheral T cells. *Nature Reviews Immunology*, *7*(7), 532.

Kothari, C. R. (2004). *Research Methodology: Methods and techniques*. New Delhi: New Age International.

Kosowski, R., Timmermann, A., Wermers, R., & White, H. (2006). Can mutual fund "stars" really pick stocks? New evidence from a bootstrap analysis. *The Journal of finance*, *61*(6), 2551-2595.

Kothari, C. R. (2014). *Research Methodology*. New Delhi: *New Age International Publishers.*

Kothari, C. R. (2004). *Research Methodology*, New Delhi: New age international publishers.

Kyanda, H. K. (2014). *Corporate Governance as a Strategy to Improve Performance in Pension Funds: A Survey of Kenya Power Pension Fund*, Unpublished PhD dissertation, Nairobi: United States International University-Africa.

Kyereboah-Coleman, A., & Osei, K. A. (2008). Outreach and profitability of microfinance institutions: the role of governance. *Journal of Economic Studies*, *35*(3), 236-248.

Kyiv. (2003). *Pension Investment Regulation: Collection of Data and Recommendations.* Washington: USAID.

Lakew, D. M., & Rao, D. (2012). Effect of financial management practices and characteristics on profitability: A study on business enterprises in Jimma Town, Ethiopia. *National Monthly Refereed Journal of Research in Commerce and Management*, *2*(5), 2277-1166.

Levy, P. S., & Lemeshow, S. (2013). *A sampling of populations: methods and applications*. New York: John Wiley & Sons.

Liu, H., & Li, Y. (2002). From Strategic Risk Measurement to Strategic Risk Management A Resource-Based View. *USA-China Business Review*, *2*(2).

Liu, K. (2013). Australian superannuation: operational structure, investment performance, and trustee governance. Sydney: The University of sydney.

Linyiru, B. M., & Ketyenya, R. P. (2017). Influence of Innovativeness on Performance of State Corporations in Kenya. *Journal of Entrepreneurship and Project Management*, *2*(2), 40-54.

Lumby, S. & Jones, C. (2011). *Corporate Finance, Theory and Practice* (8th ed). Hampshire UK: Northway Cheriton House. Vi…

Lungu, F. (2011). *An assessment of the viability of occupational pension schemes in Zambia* Unpublished MBA Project, Nairobi: University of Nairobi.

Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of economic literature*, *52*(1), 5-44.

Mahfoudh, O. (2013). Effect of selected firm characteristics on financial performance of firms listed in the agricultural sector at the Nairobi securities exchange. Unpublished MBA Project, Nairobi: University of Nairobi.

Mahon, A., & O'Donohoe, S. (2006). Economies of Scale in Irish Occupational Pension Plans. Retrieved from: repository.wit.ie

Makame, A. H., & Murinde, V. (2006). *Empirical findings on cognitive dissonance around microfinance outreach and sustainability*. Unpublished paper, Birmingham: University of Birmingham.

Markowitz, H. (1952). Portfolio selection. *The journal of finance*, *7*(1), 77-91.

Marwa, S. M. (1992). *Actuarial costing methods used in insured pension schemes in Kenya.* Unpublished MBA Project, Nairobi: University of Nairobi.

Marwa, N. W. (2015). *Efficiency and sustainability of Tanzanian saving and credit cooperatives,* Unpublished PhD dissertation, Stellenbosch: Stellenbosch University).

Mcclave, J. T. (2008). Statistics for Business and Economics. (10th edn.). London: Prentice-Hall.

Mele, C., Pels, J., & Polese, F. (2010). A brief review of systems theories and their managerial applications. *Service Science*, *2*(1-2), 126-135.

Melis, D. A., & Nijhof, A. (2018). The role of institutional investors in enacting stewardship by corporate boards. *Corporate Governance: The International Journal of Business in Society*. *18*(4), 728-747.

Mercer Human Resource Consulting (2006). *Global Governance of Retirement Plans Survey 2006: Meeting the Challenge of Implementation*, Europe: Mercer Human Resource Consulting.

Michele, S., & Gibbs, A. (2008). *Information technology and its role in risk management.* Bombay: Patty Ltd.

Mitchell, O., & Yang, T. (2005). Public pension governance, funding, and performance: a longitudinal appraisal. *Pension Research Council, PRC WP, 2*.

Minter, E. (2003). *Using graphics to report evaluation results*. Wisconsin: University of Wisconsin-Extension.

Mitchell, R. K., Agle, B. R., & Wood, D. J. (1997). Toward a theory of stakeholder identification and salience: Defining the principle of who and what counts. *Academy of management review*, *22*(4), 853-886.

Mohammad, N. B. (2014). Effect of American Financial Management Practices on Business Enterprises in Mumbai City, India. *International Journal of Engineering Science & Advanced Technology*, *4*(1), 121-126.

Moriarty, K., & Zadorozny, L. (2008). Excellence in Pension Governance: Real Life. No Drama. Retrieved from: *http://www. mecer. com/summary.*

Mugambi, M. P. (2014). *The Effect of Property Investment on Asset Growth of Pension Funds in Kenya*. Unpublished MBA Project, Nairobi: University of Nairobi.

Mugenda, A. (2003). *Research methods Quantitative and qualitative approaches,* Nairobi: ACTS.

Mugenda, A. G. (2008). *Social science research: Theory and principles*. Nairobi: Applied.

Mugendi, N. J. (2018). *Effect of Financial Management Policy Implementation on Financial Performance of Ngos in Nairobi County,* Unpublished PhD dissertation, Nairobi: St. Paul's University.

Muia, F. M. (2015). *The Effect of Asset Allocation on the Financial Performance of Pension Funds in Kenya.* Unpublished MBA Project, Nairobi: University of Nairobi.

Mulili, B. M. (2011). Towards the best corporate governance practices model for public universities in developing countries: the case of Kenya.

Mungiru, J. W., & Njeru, A. (2015). Effects of Informal Finance on the Performance of Small and Medium Enterprises in Kiambu County. *International Journal of Scientific and Research Publications*, *338*.

Muingo, L. K. (2007). *Impact of Regulations of the Retirement Benefits Schemes on the Financial Performance of Occupational Pension Schemes in Kenya.* Unpublished MBA Project, Nairobi: University of Nairobi.

Muriithi, J. (2017). *Analysis of the Effect of Operating Costs on Financial Performance of Occupational Pension Schemes in Kenya.* Unpublished PhD thesis, Nairobi: University of Nairobi.

Muriuki, M. (2010). Factors affecting Sacco performance in Meru South district: a case of Tharaka Nithi Teachers Sacco. Unpublished MBA Project, Nairobi: University of Nairobi.

Mutuku, N. (2006). The trends and challenges for pension schemes. Research Paper RBA presented at Maseno University, Kenya.

Mutula, A. K., & Kagiri, A. (2018). Determinants Influencing Pension Fund Investment Performance in Kenya. *International Journal of Finance*, *3*(1), 14-36.

Mwachanya, M. (2015). *Impact of Asset Allocation on Financial Performance of Pension Funds in Kenya*, unpublished MSc. Finance, Nairobi: University of Nairobi.

Myers, N. D., Martin, J. J., Ntoumanis, N., Celimli, S., & Bartholomew, K. J. (2014). Exploratory bifactor analysis in sport, exercise, and performance psychology: A substantive-methodological synergy. *Sport, Exercise, and Performance Psychology*, *3*(4), 258.

Nachmias C. & Nachmias D. (2008). *Research methods in the social sciences:* London: Worth Publishers.

Namusonge, G. S., Sakwa, W. W., & Gathogo, G. M. (2017). Impact of Asset Mix on Financial Performance of Registered Occupational Pension Schemes. *International Journal of Innovative Research and Development*, *6*(8).

Njeru, J. M. (2014). *Effects of Regulations on Financial Performance of the Retirement Benefits Funds in Kenya*. Unpublished MBA Project, Nairobi: University of Nairobi.

Njoroge, N. (2014). *The effect of firm size on the financial performance of pension schemes in Kenya*. Unpublished MBA Project, Nairobi: University of Nairobi.

Ngetich, C. (2012). *Determinants of the growth of individual pension schemes in Kenya*. Unpublished MBA Project, Nairobi: University of Nairobi.

Njuguna, A. G. (2011). Determinants of Pension Governance: A Survey of Pension Plans in Kenya. *International Journal of Business and Management, 6*(11), 1010 111.

Njuguna, A. G., Arnolds, C., & Elizabeth, P. (2010). *Improving the financial efficiency of pension funds in Kenya.* Port Elizabeth: Nelson Mandela Metropolitan University.

Njuguna, A. G. (2016). Governance in Kenya's Occupational Retirement Benefit Schemes: The Service Providers Perspective: *European Journal of Business and Management, 8*(24), 125-136.

Nöcker, R. (2001). Pensions governance: The control of occupational pension schemes in the UK and Germany. *Pensions: An International Journal*, *6*(3), 227-248.

Nyakundi, B. (2009). Pension coverage in Kenya. *Legal and Policy Framework required to encourage coverage in Kenya.* Retrieved from: Www. ssrn. Com.

Nyakundi, B. (2009). Pension Coverage in Kenya: Legal and Policy Framework required to encourage coverage in Kenya. Retrieved from: www. ssrn. Com.

Nyamita, M. O. (2014). *Factors influencing debt financing and its effects on financial performance of state corporations in Kenya*, Unpublished PhD dissertation, Durban: Durban University of Technology.

Nyamsogoro, G. D. (2010). *Financial sustainability of rural microfinance institutions (MFIs) in Tanzania,* Unpublished PhD dissertation, Greenwich: University of Greenwich.

Nyangeri, F. O. (2014). *The Effect of Firm Characteristics on the Financial Performance of Pension Schemes in Kenya.* Unpublished Masters Thesis, Nairobi: University of Nairobi.

Nyce, S. A., & Schieber, S. J. (2005). *The economic implications of aging societies: The costs of living happily ever after*. Cambridge: Cambridge University Press.

Nyongesa, M. N. (2011). *An examination of the relationship between financial performance and financial management practices adopted by insurance companies in Kenya.* Unpublished PhD Thesis, Juja: JKUAT.

Odundo, E. (2008). *Retirement Benefits Authority, Kenya on Pensions Reforms: An Agenda for Sub- Saharan Africa Seminar*, Washington DC: World Bank. Retrieved from: www.worldbank.org.

Odundo, E. (2008). *Supervision of Pensions. Kenyan Experience*. Nairobi: Retirement Benefits Authority.

OECD, O. (2004). The OECD principles of corporate governance. *Contaduría y Administración*, (216).

OECD. (2006). OECD Guidelines on Pension Fund Asset Management. *International Social Security Review*, *6*(12), 65-130.

OECD. (2009). Pension Fund Governance, Investment Strategies, and their Role in Corporate Governance. *International Social Security Review*, *63*(2), 5-30.

Ogbodo, O. C., & Akabuogu, (2014). N. J. Effect of Audit Quality on the Financial Performance of Selected Banks in Nigeria. *International Social Security Review*, *6*(2), 85-100.

Okeyo, L. (2013). *The effects of corporate governance practices on the growth of pension schemes in Kenya*, Unpublished MSc Research Project, Nairobi: Kenyatta University.

Olivares-Polanco, F. (2005). Commercializing microfinance and deepening outreach? Empirical evidence from Latin America. *Journal of Microfinance/ESR Review*, *7*(2), 5.

Oluoch, M. A. (2013). The determinants of performance of pension funds in Kenya. Unpublished PhD Dissertation, Nairobi: University of Nairobi.

Omar, N. A. (2017). *Influence of Financial Management Practices on the Growth of Family Businesses in Kenya,* Unpublished PhD dissertation, Juja: JKUAT.

Omisore, I., Yusuf, M., & Christopher N., (2012). Portfolio theory and strategic management. *Journal of Accounting and Taxation* 4(2), 19-28.

Omondi, E.A. (2013). *The relationship between asset allocation and performance of pension funds in Kenya,* Unpublished MBA Project, Nairobi: University of Nairobi.

Onyango, D. A. (2011). *The relationship between investment strategies and financial performance of pension funds in Kenya,* Unpublished PhD Dissertation, Nairobi: University of Nairobi.

Osano, B. O. (2013). *The Effect of Investment Strategies on Financial Performance of Investment Funds in Kenya.* Unpublished PhD Dissertation, Nairobi: University of Nairobi.

Osborne, J., & Waters, E. (2002). Four assumptions of multiple regression that researchers should always test. *Practical assessment, research & evaluation*, *8*(2), 1-9.

Östman, L. (2009). *Towards a general theory of financial control for organisations*. Economic Research Institute (EFI), Stockholm: Stockholm School of Economics.

Owino, S. A. (2015). *The Effect of Management Competence, Competition and Working Environment on Performance of Public Service Vehicle SACCOS in Nairobi County*, Unpublished PhD Dissertation, Nairobi: University of Nairobi.

Owizy, S. O. (2011). *Assessment of effectiveness of internal control in government ministries: A study of Benue State ministry of finance*. Unpublished Master's Thesis, Benue: Benue State University.

Padachi, K. (2012). Factors affecting the adoption of formal accounting systems by SMEs. *Business and Economics Journal*. *13*(4), 479-502.

Pandey, I. M. (2010). *Financial Management*. (9th ed.). New Delhi, India: Vikas Publishing House Pvt Ltd.

Patton, M. Q. (2002). *Qualitative evaluation and research methods* (3rd ed.). Thousand Oaks, CA: Sage Publications, Inc.

Pfeuti, E. (2010). *Administration costs are risking pension payouts.* Netherlands: Financial Newspaper.

Phillips, R., Freeman, R. E., & Wicks, A. C. (2003). What stakeholder theory is not. *Business ethics quarterly*, *13*(4), 479-502.

Polit, D., & Beck, C. (2003). *Research principles & methods*, (7th ed.). Lippincott: Williams & Wilkins.

Punch, K. F. (2013). *Introduction to social research: Quantitative and qualitative approaches*. London: sage.

RBA (2007). Case File Interim Administration. RBA News, September 2006 Vol. 6 No. 1, pp. 3, Retrieved from: http://www.rba.go.ke

RBA Quarterly reports 2008, 2009, 2010, 2011, 2012, 2013,2014,2015,2016, 2017, 2018. Retrieved from: http://www.rba.go.ke

Raichura, S. K. (2008). Analytical Review of the Pension System in Kenya. OECD. Available: http://www.oecd.org/finance/private-pensions/41564693.pdf

Recker, J. (2012). *Scientific research in information systems: a beginner's guide*. London: Springer Science & Business Media.

Reisberg, A., & Anna, T. (2019). Fiduciary Duty under the Microscope: Stewardship and the Spectrum of Pension Fund Engagement. *13*(4), 479-502.

Republic of Kenya (2010). *National Council for Law Reporting.* Nairobi: Government Printers

Richardson, D. C., & Lennon, B. L. (2001). Teaching Old Dogs New Tricks. *The Commercialization of Credit Unions B*ethseda, MD, USA: Microenterprise Best Practices.

Rinaldi, A., & Giacomel, E. (2008). Information to Members of DC Pension Plans: Conceptual Framework and International Trends. Retrieved from: https://ssrn.com/abstract=1813752

Rogers, P. R., Miller, A., & Judge, W. Q. (1999). Using information-processing theory to understand planning/performance relationships in the context of strategy. *Strategic Management Journal*, *20*(6), 567-577.

Robbins, S. P. & Judge, T. A. (2007). Essentials of Organizational Behavior. (9th ed.), Upper Saddle River: Prentice Hall.

Robinson, M. S. (2001). *The microfinance revolution: Sustainable finance for the poor*. Geneva: The World Bank.

Rono, L. J. (2009). An evaluation of factors influencing pension managers' investment decisions in Kenya. *The International Business & Economics Research Journal*, *8*(10), 81-99.

Rosenberg, R. (1996). *Micro-Credit Interest Rates:* (No. 1). Washington D.C. Retrieved from: www.worldbank.org/html/cgap/0CC1.html

Rusconi, R. (2008). South African Institutional Investments: Whose Money is it Anyway. *A Discussion Document, January*.

Rusuli, C., Tasmin, R., Takala, J., & Norazlin, H. (2013). Factor retention decisions in exploratory factor analysis results: A study type of knowledge management process at Malaysian university libraries. *Asian Social Science*, *9*(15), 227.

Sabugo, N. Y. (2017). *Determinants of Investment Income Growth in the Tanzanian Social Security Schemes a Case of Social Security Schemes Industry*, Unpublished PhD dissertation, Mzumbe: Mzumbe University.

Samuelson, P. A. (1989). The judgment of economic science on rational portfolio management: Indexing, timing, and long-horizon effects. *The Journal of Portfolio Management*, *16*(1), 4-12.

Sasaka, P. S., Namusonge, G. S., & Sakwa, M. M. (2014). Effects of strategic management practices on corporate social responsibility performance of parastatals in Kenya. *European Journal of Business and Innovation Research*, *2*(1), 106-128.

Sau, E & Njeru, A. (2018): Determinants of financial growth of retirement benefits in Kenya: a case of occupational retirement schemes *International Journal of Innovations, Business and Management (IJIBM) 12*(1), 201 - 268.

Schreiner, M., & Woller, G. (2003). Microenterprise development programs in the United States and the developing world. *World development*, *31*(9), 1567-1580.

Shikhule, A. F., Momanyi, G., Naibei, K. I., Oginda, M. N., & Nyakweba, I. (2012). Determinants of Pension Schemes Governance Effectiveness: A Case of Kenya Medical Research Institute (KEMRI). *African Research Review*, *6*(2), 353-370.

Schreiner, M. (2002). Aspects of outreach: A framework for discussion of the social benefits of microfinance. *Journal of international development*, *14*(5), 591-603.

Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach*. New York: John Wiley & Sons.

Shankar, S. (2007). Transaction costs in group microcredit in India. *Management decision*, *45*(8), 1331-1342.

Sievänen, R., Rita, H., & Scholtens, B. (2013). The drivers of responsible investment: The case of European pension funds. *Journal of business ethics*, *117*(1), 137-151.Simbabrashe, M., Charity, M., & Lilian, N. (2014). Pension Fund Size (Asset Size) and Fund Investment Performance in Zimbabwe: Does Size Really Matter?. *The International Journal of Business & Management*, *2*(9), 291.

Sinrich, M. B. (2008). *Statistics for Business and Economics. 10th edn. USA: Pearson Education Inc. Small Businesses Access to Finance in Tanzania, IDPM,* Manchester: University of Manchester.

Stalebrink, O. J. (2016). Public Pension Funds and Alternative Investments: A Tale of Four Swedish National Pension Funds. *International Journal of Public Administration*, *39*(2), 107-121.

Stanko, D. (2003). *Polish Pension Funds, Does the System Work?: Cost, Efficiency and Performance Measurement Issues*. London: Pensions Institute, Birkbeck College.

Stewart, F. (2009). Pension funds' risk-management framework: regulation and supervisory oversight. *International Organization of Pension Supervisors Working Paper,* (11)

Stewart, F., & Yermo, J. (2009). Pensions in Africa. Retrieved from: oecd-ilibrary.org

Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach*. New York: John Wiley & Sons.

Smith, S. S. (2015). Accounting: An Emerging Business Partner. *Journal of Finance and Accounting*, *2*(6), 6-12.

Stokes, T. (2009). *Pension Trustee Code of Conduct. Can. B. Rev.*, *91*, 163.

Strumskis, M., & Balkevičius, A. (2016). Pension fund participants and fund managing company shareholder relations in Lithuania second pillar pension funds. *Intellectual Economics*, *10*(1), 1-12.

Sweeney, J., & Swait, J. (2008). The effects of brand credibility on customer loyalty. *Journal of retailing and consumer services*, *15*(3), 179-193.

Sze, M. (2008). *Funding of Private Funds: Technical Assistance for Policy Reforms*. Geneva: World Bank.

Tabachnick, B. G., Fidell, L. S., & Ullman, J. B. (2007). *Using multivariate statistics* (Vol. 5). Boston, MA: Pearson.

Takayama, N. (Ed.). (2003). *Taste of pie: Searching for better pension provisions in developed countries* (No. 38). Tokyo: Maruzen Co., Ltd.

Tari, J. (2014). *Determinants of Scheme Design in Occupational Defined Contribution Schemes in Kenya,* Unpublished PhD dissertation, Nairobi: Kenyatta University.

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International journal of medical education*, *2*, 53.

Teisseire, D. (2009). *Pension Governance*. Italy: OECD Publishing.

Theuri, S. F. (2015). *Strategic Management Determinants of Value Addition of Industrial Fish Processors in the Sea Food Processing Sub-Chain in Kenya,* Unpublished PhD dissertation, Nairobi: University of Nairobi.

Thompson, G. (2008). *Risk-based supervision of pension funds in Australia*. Geneva: The World Bank.

Tijjani, M. (2014). *Determinants of financial sustainability of pension fund administrators in Nigeria*. Lagos: Ahmadu Bello University.

Trochim, T. (2002). *Research Methods Knowledge Base.* Retrieved from: http://anatomyfacts.com/Research/ResearchMethodsKnowledgeBase.pdf

Trochim, V. J. (2006). *Understanding the Methods and Process.* Thousand Oaks: CA: Sage.

UK Regulator (2011). The United Kingdom pensions regulator. *Bimonthly publication Issue, 1267*(234), 13 -30.

Ventura-Marco, M., & Vidal-Meliá, C. (2014). An actuarial balance sheet model for defined benefit pay-as-you-go pension systems with disability and retirement contingencies. *ASTIN Bulletin: The Journal of the IAA*, *44*(2), 367-415.

Wakiriba, J. W., Ngahu, S., & Wagoki, J. (2014). Effects of financial controls on financial management in Kenya's public sector: A case of National Government departments in Mirangine Sub-County, Nyandarua County. *Journal of Business and Management*, *16*(10), 105-115.

Wamagata, K. (2011). *The impact of risk management on the profitability of the Kenya Power and Lighting Company Staff Retirement Benefits Scheme.* Unpublished MBA Thesis, Nairobi: University of Nairobi.

Warrington, M., & Kiragu, S. (2012). "It makes more sense to educate a boy": Girls 'against the odds' in Kajiado, Kenya. *International Journal of Educational Development*, *32*(2), 301-309.

Waweru, C., & Ngugi, K. (2014). Influence of financial management practices on the performance of micro and small enterprises in Kenya. *European Journal of Business Management*, *1*(11), 141-161.

Weber, T. (2007). *Systems theory and applications to business management.* New Delhi: Croat publishers.

Were, M. A. (2011). *An investigation of the determinants of the amount of benefits accessed before retirement age in Kenya,* Unpublished PhD dissertation, Nairobi: University of Nairobi.

Whitehead, P., & Whitehead, G. (1992). *Statistics for business: an introduction*. Los Angeles: Pitman.

Wicks, A. C., Gilbert Jr, D. R., & Freeman, R. E. (1994). A feminist reinterpretation of the stakeholder concept. *Business Ethics Quarterly*, 475-497.

Williams, B., Onsman, A., & Brown, T. (2010). Exploratory factor analysis: A five-step guide for novices. *Australasian Journal of Paramedicine*, *8*(3).

Woller, G. (2000). Reassessing the financial viability of village banking: Past performance and prospects. *Micro-Banking Bulletin*, *5*, 3-8.

Woller, G., Dunford, C. & Warner, W. (1999). Where to pension fund system *International Journal of Economic Development, 1,* 28-76.

Yermo, J. (2008). Pension fund governance: Challenges and potential solutions. Retrieved from: https://ssrn.com/abstract=1217266

Yong, A. G., & Pearce, S. (2013). A beginner's guide to factor analysis: Focusing on exploratory factor analysis. *Tutorials in quantitative methods for psychology*, *9*(2), 79-94.

Yoo, K. R. (2002). Evaluating the operational efficiency of Korean public pension schemes: A stochastic cost frontier approach. *Korean social science journal*, *29*(1), 137-162.

Yusuf, H. A., Salisu, S. J., & Idris, M. (2016). Effect of Coordination among the Stakeholders on the Management of Contributory Pension Scheme in Nigeria. *International Journal of Arts & Sciences*, *9*(1), 173.

Zamuee, M. R. (2015). Efficiency of Pension Funds in Namibia. *American Journal of Marketing Research*, *1*(3), 106-112.

Zietlow, J., Hankin, J. A., Seidner, A., & O'Brien, T. (2018). *Financial management for nonprofit organizations: policies and practices*. New York: John Wiley & Sons.

Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2013). *Business research methods*. London: Cengage Learning.

APPENDICES

Appendix I: Introductory Letter

David Kimani Nduruhu

E-Mail: kim123muraya@gmail.com

Mobile: 0725 700 144

Jomo Kenyatta University of Agriculture and Technology

Dear Sir/Madam

RE: QUESTIONNAIRE

I am a Ph.D. student taking a Business Administration Degree at the Jomo Kenyatta University of Agriculture and Technology. One of the requirements for the award of the degree would be to write a dissertation in the area of my studies.

I have chosen the pensions sector for my study. The gap from the reviewed literature led me to research on '***Influence of Financial Management Practices on the sustainability of Pension Funds Administrative Institutions in Kenya.'***

Collection of data will involve administration of questionnaires. I would kindly request for your cooperation and participation through answering the presented questionnaires either by myself or my research assistants. I would be very grateful for your assistance in giving me your sincere feedback on the questionnaire attached.

The research is purely for academic purpose and all information will be held in confidentiality. Please note that it would be optional to identify yourself and thus can remain anonymous.

Thank you.

David Kimani Nduruhu

Appendix II: Study Questionnaire

Dear Sir/Madam,

PART ONE: BACKGROUND INFORMATION (CLASSIFICATION DATA)

1. Name of the Company/Scheme: (Optional)…….
2. Gender: Male [ ] Female [ ]
3. Age Bracket: Below 20 years [ ] 21-30 years [ ]

31-40 years [ ] 41-50 years [ ] 51-60 years [ ] 61 years & above [ ]

3. Highest academic qualification:

Certificate [ ] Diploma [ ] Bachelor's Degree [ ] Master's Degree level [ ]

Doctorate Degree [ ] Other……

4. Professional qualification:

PMI [ ] ACII [ ] Actuary [ ] Other…….

5. Position held in your schemes administration business:

Chief funds manager [ ] Senior Administrator [ ] Administrator [ ] other…

6. Years' of experience in funds administration services:

Less than 5 Years [ ] 6 -10 years [ ] Over 10 years [ ]

6. Please indicate the design of the scheme that you manage

Contributory [ ] Non-contributory [ ]

7. Design of the schemes that you administer by number:

DB plans…….... DC plans……Other (Specify)……

8. Has there been a scheme conversion to the retirement scheme(s) that you administer from the year 2010 to 2016 Yes [ ] No [ ]

If yes, please indicate the number of retirement schemes converted from 2008- 2016.

DB plans to DC plans……DC plans to DB plans ……Other (Specify)……

9. How many days does it take to pay benefits to a beneficiary after they become due?

1- 10 days [ ] 11 – 20 Days [ ] 21-30 Days [ ] Over 30 Days [ ]

10. Type of administrative services offered:

In-house [ ] Out-sourced [ ] In-house plus Out-sourced [ ]

PART TWO: SECTION 1: Sustainability of PFAIs in Kenya

11. Please rank the importance of the following measures of sustainability for pension fund administrative institutions in Kenya: Use a Likert scale where; **1= Least Important, 2= Not Important, 3 = Somehow Important, 4 = Important, 5 = very Important.**

Investment Management Practice	**1**	**2**	**3**	**4**	**5**
Decreasing administrative cost is an important indicator of the sustainability of pension funds administrative institutions					
Increasing schemes' investment returns is an important measure of the sustainability of administrative capacity					
Improvement in performance of our services providers is an important measure of the sustainability of pension funds administrative institutions					
Compliance with financial reporting framework been is an important indicator of the sustainability of administrative institutions					

PART THREE: FINANCIAL MANAGEMENT PRACTICES AND SUSTAINABILITY

SECTION ONE: FUNDING MANAGEMENT PRACTICE

For each of the following elements of financial practices, kindly indicate the extent of influence on the sustainability of PFAIs. Use a Likert scale where; **1= very low extent Low extent, 3 = Somehow, 4 = Great extent, 5 = Very great extent.**

Funding Management Practice	**1**	**2**	**3**	**4**	**5**	
Schemes use of funding policy in compliance with the RBA Act						
Schemes regular distribution of investment returns to members						
Schemes maintenance of accurate records of contributions from sponsors and members						
Schemes presentation of reviewed annual budget at annual general meetings						
Schemes regular review cost strategies						
Schemes always ensuring adherence to regulations on service providers' fees						
Schemes regular review of trustees remuneration policy						
Schemes always ensuring accurate determination of members 'benefits						

2. Other funding management practice that has influenced the sustainability of PFAIs in Kenya……..

SECTION TWO: INVESTMENT MANAGEMENT PRACTICE

Investment Management Practice	**1**	**2**	**3**	**4**	**5**
Schemes maintenance of statutory compliant investment policy statements (IPS)					
Schemes giving total investment discretion to fund managers within IPS guidelines.					
Schemes reliably using investment risk management policy					
The schemes regularly carrying out investment performance appraisal					
Schemes consistently diversifying assets investment within RBA investment guidelines					
Schemes consistently making investment choices compliant with IPS					
Schemes consistently using professional investment advisors in investment decisions					
Schemes continuously monitoring fund managers adherence to the IPS					

2. Other dimensions of investment management practice that have influenced the sustainability of PFAIs in Kenya …….

SECTION THREE: FINANCIAL CONTROL PRACTICE

Financial Control Practice	**1**		**2**	**3**	**4**	**5**
Schemes consistently monitoring effectiveness of internal control and risk management systems						
Schemes reliably outsourcing specialized management functions						
Schemes regularly monitoring the performance of service providers						
Schemes adhering to the provision of conflict of interests policy						
Schemes preparing proper accounting records and financial reports						
Schemes effectively using finance manuals						
Schemes offering timely relevant statutory financial training/education to all stakeholders						
Schemes maintenance of secure information technology(ICT) systems						

2. Please indicate other dimensions of financial control practice that have influenced the sustainability of PFAIs in Kenya ……

SECTION FOUR: FINANCIAL REPORTING PRACTICE

Financial Reporting Practice	**1**	**2**	**3**	**4**	**5**
Schemes compliance with the financial reporting framework.					
Schemes presenting audited financial statements to members					
Schemes conducting a statutory meeting for stakeholders					
Schemes ensuring timely communication of pension matters to members					
Schemes regularly issuing handbooks/booklets to members on pension fund matters					
Schemes reporting to the stakeholders on risk management policy					
Schemes regularly issuing members statements					
Schemes always reviewing financial reports at least once every year					

2. Please indicate other dimensions of financial reporting practices that have influenced the financial sustainability of funds administrators in Kenya……

In case you need a preview of the final report of this work, please indicate your e-mail address…….

THANK YOU.

Appendix III: Internally Administered Pension Schemes in Kenya

S/NO	NAME OF THE PENSION SCHEME
1	Laptrust (umbrella) Retirement Fund
2	Chevron Kenya Provident Fund "A" and "B"
3	Kenchic Limited Staff Retirement Benefits Scheme
4	Black Empowerment Trust Retirement Benefits Scheme
5	Kenya Pipeline Company Limited SRBS 2006
6	Kenya Sugar Authority Staff Retirement Benefits Scheme
7	Biselex Kenya Limited Staff Provident Fund
8	Communications Commission of Kenya (CCK) SRBS
9	Western University College of Science and Technology SRBS
10	The Anglican Church of Kenya Staff Provident Fund
11	National Security Intelligence Service Staff Superannuation Scheme
12	Moi University Provident Fund
13	The Local Authorities Pensions Trust
14	The Kenya Airways Limited Unregistered Staff Provident Fund
15	Postal Corporation of Kenya Staff Pension Scheme
16	Postal Corporation of Kenya Provident Fund

17 P.A. G (K) Pastors Staff Provident Fund

18 Kenya Tea Development Authority Retirement Benefits Scheme

19 The Kenya Institute of Management Staff Retirement Pension Scheme

20 Nzoia Sacco Staff Provident Fund

21 Timsales Provident Fund

22 Teachers Service Commission Staff Superannuation Scheme

23 Williamson Tea Kenya Staff Provident Fund

24 The KPLC Limited Staff Retirement Benefits Scheme 2006

25 Kenya Pipeline Ltd Staff Retirement Benefits Scheme

26 Amedo Centres Kenya Limited Senior Staff Provident Fund

27 Eculine Kenya Limited Staff Pension Scheme

28 Pentecostal Assemblies of God (KENYA) Provident Fund Scheme

29 Kenya Ports Authority Pension Scheme

30 University of Nairobi Pension Scheme 2007

31 Dry Associates Limited Staff Pension Plan

32 Moi University Pension Scheme

33 Telposta Pension Scheme

34 Telposta Provident Fund

35 Banki Kuu Pension 2012

36 United Insurance Company Limited Staff Retirement Benefits Scheme

37 Friends Personal Pension Plan

38 Mwavuli Pension Fund

39 Postal Corporation of Kenya Staff Retirement Benefits Scheme

40 Kenya Agricultural Research Institute Staff Retirement Benefits Scheme

41 Clarkson Notcutt Insurance Brokers Staff Retirement Benefits Scheme

42 The Kenya Airways Limited Staff Provident Fund

43 Kenya Revenue Authority Staff Pension Scheme

44 Maseno University College Staff Retirement Benefits Scheme

45 Commission on Revenue Allocation Staff Pension Scheme

46 Commission for Higher Education Staff Retirement Benefits Scheme

47 Jomo Kenyatta University of Agriculture and Technology SRBS

48 Kenya Agricultural Research Institute (KARI) SRBS Scheme

49 Kenya Railways Staff Retirement Benefits Scheme

Source: KRBA 2017

Appendix IV: Registered Funds Administrators in Kenya

Administrators		Number of schemes
1	Alexander Forbes Financial Services (EA) Limited	148
2	Aon Kenya Insurance Brokers Limited	145
3	ITSL Trust Company Limited	137
4	The Jubilee Insurance Company of Kenya Limited	104
5	Kenindia Assurance Company Limited	90
6	Octagon Pension Services Limited	61
7	Enwealth Financial Services Limited	59
8	Liberty Life Assurance Kenya Ltd	45
9	Eagle Africa Insurance Brokers Kenya Limited	42
10	Roberts Insurance Brokers Limited	42
11	Liaison Financial Services Limited	38
12	British-American Insurance Company (K) Limited	36
13	Madison Insurance Company Kenya Limited	24
14	APA Life Assurance Limited	19
15	Pacific Insurance Brokers (EA) Limited	15
16	UAP Life Assurance Limited	15
17	The Kenyan Alliance Insurance Company Limited	14
18	Kingsland Court Benefits Services Limited	13
19	CIC Life Assurance Limited	12
20	Chancery Wright Insurance Brokers Limited	6
21	Sanlam Life Insurance Ltd	5
22	The Monarch Insurance Company	4
23	Sedgwick Kenya Insurance Brokers Limited	4
24	Saham Assurance Company Ltd	4
25	CPF Financial Services Limited	3
26	Kenya Orient Life Assurance Limited	3
27	Pioneer Assurance Company Ltd.	3
28	Zimele Asset Management Company Limited	1
29	Takaful Insurance of Africa	1
30	CFC insurance	8
31	Laptrust (umbrella)Retirement Fund	1

Source: KRBA 2017

Appendix V: Variable Definition and Measurements

VARIABLES/Objective	MEASUREMENT INDICATORS	TYPE OF DATA	SCALE
Funding management practice: (Independent variable)	**Indicators:** • Financing strategies • Cost management strategies	Quantitative Both primary and secondary	Five point Likert scale And interval scale
Investment management practice: (Independent variable)	**Indicators:** • Investment strategy • Investment guidelines	Quantitative Primary data	Five point Likert scale
Financial control practice: (Independent variable)	**Indicators:** •Internal control Risk management control system	Quantitative Primary data	Five point Likert scale
Financial reporting practice: (Independent variable)	**Indicators:** • Adherence to reporting framework • Communication with members	Quantitative primary data	Five point Likert scale
Financial sustainability of funds administrators: (Dependent variable)	Indicators: • Profitability • Solvency	Quantitative secondary data	Five point Likert scale and Interval scale