IMPACT OF RETIREMENT BENEFITS AUTHORITY REFORMS ON FINANCIAL PERFORMANCE OF PENSION FIRMS IN KENYA

BY

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DECLARATION

This research project is my original work and has not been submitted for examination in any University

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This research project has been submitted for examination with my approval as University Supervisor.

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DEDICATION

I dedicate this study to my husband Adams, my parents Moses and Praxides and my siblings Chelsea and Whitney for their unconditional love and support.

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ABSTRACT

The Retirement Benefits Authority has been at the fore front of pension reforms in a bid to improve the pension sector. The study sought find out the effect of RBA reforms on financial performance of pension firms in Kenya. This study employed a descriptive research approach. Total of 518 pension schemes that were registered before the RBA Act 2007 were targeted. A sample of 50 randomly selected pension schemes were used for analysis. The research employed both primary and secondary data for its data analysis .For primary data, questionnaires were distributed to the 50 middle level managers of RBA registered pension firms. Pretesting with five randomly chosen respondents established the questionnaire's face validity. Quantitative data techniques were used in this study. The study concludes that innovation influences financial performance of pension funds in Kenya. This comes from alignment of the current innovations to the strategic goals of their pension firms. This is also based on the fact that the benefits of innovation have outridden the costs of innovation. This shows that innovation has a net positive effect on financial performance of pension funds. The analysis shows that, change in pension model influenced financial performance of pension funds. This is due to the contribution of innovation on the current financial performance to pension model. The benefits of the new pension model outride the costs of regulation which supported conclusion that change in pension model influenced financial performance of pension funds. The new pension models provided better benefit retention within the pension funds. From the analysis, fund value had a negative and significant effect on financial performance of pension funds. However, lump sum had a positive and significant effect on financial performance; fund contributions had a positive and significant effect on financial

performance; while membership age had a negative and significant effect on financial performance. The study recommends that RBA undertake regular reforms within the pension funds in order to enhance the financial performance of pension funds.

CHAPTER ONE: INTRODUCTION

1.1 Background of Study

A pension scheme is a company that allows or gives the provision for its members to channel their contributions for retirement either individually, as an employer or as an employee. Contributions are intended towards retirement through one of four exits: regular retirement, early retirement, disability retirement, or death in retirement. Pension systems have grown in popularity as a result of their contribution to the GDP and economic growth. Because of their contribution pension schemes have become of great interest to people pursuing research (Tapia, 2008).

According to Bril-Mascarenhas and Maillet (2019), there are a lot of pension sector reforms that strive to make the pension sector a better place. Globally in the (OECD) countries there are a series of pension reforms and its main impact has been on financial performance. The financial impact is so great that it is expected to manifest in future generations as its effects have a ripple effect. The reforms also have a distribution impact which is shown by how reforms affect different people in different groups.The main financial impact has been increasing in fund value of the three pensionschemes: the defined benefit, defined contribution and the individual pension plan. The main distribution impact has been growth in pension members and increased sensitization among the public on pension matters. Some of the main pension sector reforms globally are increase in the retirement age and changes in the benefit calculation.

As noted from Republic of Kenya (2016) report, RBA has been quite active in making advancements in the Kenyan pension sector. This was necessitated by the need to have an improvement of the financial performance of pension firms. Pension sector

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reforms generally affect the financial performance of pension firms in Kenya through change in contribution amounts, introduction of new revenue generating products and change in the benefit paid out to pensioners. Performance of pension schemes is key because it is an essential contributor to the economy. Bikker and Dreu (2009), argue that there are various pension reforms which have led to growth in pension schemes and great financial improvement in financial markets.

Some of the pension sector reforms include change in pension model, increased density of contributions and a push for financial innovation by RBA. Firstly, a change in pension model is depicted through abolishing of the defined benefits scheme and adoption of the defined contribution model. Secondly, increased density of contribution by RBA is depicted through the implementation of the NSSF Act 2013 which mainly affects pension contribution. The NSSF Act 2013 entails the laws that compel employed members of the public to join a pension scheme and it also sets the minimum contribution rate for employed persons. This Act was created in a bid to increase the density of contributions to pension firms and its main impact is increased contributions in pension firms Lastly financial innovation focuses on the new pension products in the pension sector for example the individual pension plan and setting up of the post-retirement medical fund. This study shall focus on the largest financial innovation which is the individual pension plan. (Oluoch, 2013)

According to a report by the Kenya National Bureau of Statistics (2019), by 2050 the aging population will be quite huge, hence they are of great concern to RBA. The benefits initially provided by NSSF were not adequate to fully cater for one's retirement needs. This necessitated the need for the NSSF Act (2013), to ensure the pension industry makes structural changes that increase contributions and that meet

the changing needs of the growing population. RBA also pushed for setting up of an individual pension scheme in a bid to push financial innovation in the pension sector and to motivate people to contribute individually towards pension. This also necessitated a change in pension model as a reform by RBA because the defined benefit pension model wasn't sustainable to pension firms with the growing population. It is generally noted that pension reforms have a great impact financially and towards the economy hence are of great concern (Olukuru, 2014).

1.1.1 RBA Reforms

Since the formation of the Retirement Benefits Authority there has been various reforms as discussed in this section. During the Pre-RBA era there was little or no reforms in the pension sector. This created a need to have structure and improve financial viability of the pension schemes hence the forming of the Retirement Benefits Authority and the start of reforms. Lack of financial viability of pension schemes was caused by poor administration and poor investment of funds. The Retirement Benefits Authority was hence set up to ensure reforms and to ensure effectiveness of NSSF and the occupational pension sector (Nyageri, 2014).

In a bid to ensure pension retention till retirement, RBA attempted to increase density of contributions by restricting pension withdrawal at early stages. This was affected by an amendment in the year 2000, to ensure that people know that pension is a fund for usage at retirement. The amendments generally sparked a lot of financial debates, as most pension firms sought to achieve profitability and great financial performance as they also provide value. The main financial debate was the impact of the reforms to the performance of pension firms and whether the reforms increased uptake of

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pension products. It was of great concern to pension firms whether the amendments brought about good financial tidings (OECD, 2005).

Kusewa (2007) argues that there has been increased density of contributions through making NSSF payments compulsory for both the employed and the employer, this has also enhanced the pension coverage and has definitely had an impact on pension firms. The Retirement Benefits Authority approved the setting up of set the minimum contribution rate at 6% in a bid to increase pension uptake and contributions. RBA has also made a reform by changing the pension model or the pension structure. Pension schemes are structured in three ways, namely: the defined benefit scheme, defined contribution scheme and the individual pension scheme. The pension structure determines the payout which is termed as the benefit the client receives. Different structures have different calculation methods. Generally, the defined benefit structure offers a higher pension than the defined contribution structure as the defined benefit structure is paid out in perpetuity (Republic of Kenya, 2016).

The defined benefit scheme is a scheme where the benefits are predetermined beforehand and an employer is obligated to pay a certain lump sum or annuity upon retirement. A defined contribution plan is determined by the employee, the benefit one gets is based on the employer and employee contributions and any interest earned. The benefits are not predetermined but are given based on a person's contribution. The main advantage of the defined contribution scheme over the defined benefit scheme is its less costly on the employer and the scheme because its payouts are based on contributions received and not a predetermined benefit. The new pension structure is hence more achievable and sustainable in the long run. (Chen & Matkin, 2017)

The Retirement Benefits Authority (2016), report states that due to pension scheme innovation, more value offering has been realized in pension products. Pension scheme innovation is seen through various ways like the setting up of the individual pension scheme was in a bid to capture the unemployed group and encourage them to contribute to pension. Secondly, the selling of pension products bundled up with medical insurance and welfare solutions has also increased pension uptake. Innovation has had a great impact financially on pension schemes, mainly due to increase of pension uptake.

1.1.2 Financial Performance

Financial performance is generally the measure of the health of a company (Carton, 2004). Pension scheme performance is mostly measured by the return on assets. The main assets assessed by pension schemes when looking at financial performance are income streams gained from contributions and the net returns realized from investment of contributions. Pension schemes that depict healthy performance are able to safeguard members' funds and are able to meet their liabilities upon retirement Gordana and Pesi, (2008).

According to the Kenya National Bureau of Statistics (2019) report, the pension performance was assessed through measuring the assets under management. The report showed there was a growth of assets under management by a 10-year CAGR of 15.8% to Kshs 1.3 trillion as of December 2016, from Kshs 0.3 trillion in 2006. It is alleged this growth is attributed to pension sector reforms. Some of the reforms that took place during this time period were the enacting of the NSSF Act and abolition of the defined benefit scheme. From the

previous report, poor financial performance was attributed to lack of adequate administrative laws and the defined benefit model which was not profitable.

According Cytonn, (2019) report, assessing the asset utilization of a pension firm and its overall management ability is of great concern to pension stakeholders. ROA is more suitable as a measurement of financial performance in this study as it accesses net income over total assets used in generating this income and is comparable to firms that may have a different capital structure. Net income for pension firms will highly be influenced by the firm's ability to adopt to changing pension sector reforms for example through creation of innovative products generating more income.

1.1.3 RBA reforms and Financial Performance

Retirement Benefits Authority reforms is any change that causes a shift of paradigm in the pension sector. According to Kuhn (2018), there is always a new idea that can explain the current idea and an idea is only retained if there is no better idea to replace it. The pension sector adopted RBA reforms to ensure that there is constant improvement and financial viability. According to Olukuru (2014), 94% of the RBA reforms contribute to growth in revenue and mostly bring good financial and economic tidings to pension firms. Some of the RBA reforms are compulsory and some are based on the discretion of the management of the organization for implementation.

Financial performance is generally how well a firm can be able to meet both its obligations and one measures it through assessing assets, liabilities, expenses, payables and receivables. It can be deduced through assessing firms' controls, operations and policies in monetary terms. Great financial performance enables

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pension schemes to safeguard the retirement needs of their members and in the long run to ensure growth of the pension schemes due to increased uptake because of their reliability. Assessing financial performance of pension schemes ensures future productivity and it can assist during comparison with industry players. (Corporate Finance Institute, 2015).

Pension firms are fully dependent on RBA to set for them their operation guidelines. Performance of pension schemes relies on RBA as they provide guidelines on percentage of funds that can be collected from pensioners, how these funds can be invested, and the assets in which they can be invested and also provides guidelines on the payout that should be distributed to pensioners. These guidelines affect performance of pension firms, hence financial performance of pension firms is fully dependent on RBA reforms. Hinz et al, (2010) states that positive changes in pension businesses' financial performance benefits financial markets. This is demonstrated by their involvement in the stock market and their influence on the economy's liquidity. The establishment of the Retirement Benefits Authority was therefore a great milestone in the pension sector as it is a precondition for greater financial performance in the pension sector.

RBA reforms enhance financial performance through the NSSFAct 2013 which has enhanced growth in numbers of the pension clients by making it compulsory for employed persons to join a pension scheme. In the long run increase in pension numbers leads to generation of more income due to increasedcontributions. Secondly, it has also enhanced financial performance through setting up of Post-Retirement Medical scheme and individual pension plan. This was in a bid to increase value offering for the pension scheme members as well increase profitability of the pension

sector. Thirdly, the switch of DB to DC scheme led to more retention of funds in the pension sector and this had a positive impact financially as less money was paid out. As depicted from the above it is imperative that a firm implements RBA reforms as it does not only enhance financial performance but it has enhances its competitiveness (Nyakundi, 2009).

1.1.4 Pension Firms in Kenya

A pension scheme is a firm where members channel their contribution for saving upon retirement. There are three schemes run by pension firms in Kenya that is the defined benefit scheme: one that has predetermined benefits for life this is where the employer has already promised the employee a certain amount of benefits at retirement, the defined contributions scheme where benefits are entirely based on the employer employee contributions, here the employee determines how much they go home with and the individual pension plan where a member opts to contribute for themselves, this is mostly for unemployed people or people who wish to top up their pension (Njoroge , 2014).

Individual Retirement Schemes, NSSF, Civil Servants Pension Scheme (CSPS), and Occupational Retirement Schemes are the four categories of pension businesses. NSSF is a public scheme that was set up as a provident fund by an act of parliament in 1965. NSSF is a fund that is compulsory to all members in the private and in the public sector. Any Kenyan that is employed is actually required to contribute to NSSF. NSSF is generally set at 10% of the employee's salary and is meant to be contributed by both the employer and the employee and currently the maximum contribution is 400. Over the years there has only been two changes on the statutory contribution ceiling . (Cytonn, 2019).

The second type of scheme is the civil servant scheme which is for teachers, police and prison staff. The third type of scheme is occupational pension schemes set for the employees benefit and it is strongly regulated under the Retirement Benefit Authority Act. Lastly, there is the individual pension scheme that is a voluntary scheme where one is allowed to join as per their own wish and contribute as per their own wish. The public service pension scheme is the only non-funded pension scheme. Pension coverage is estimated at not less than 15 percent of the total labor workforce. Currently there are 1246 registered retirement benefit schemes which fall under the four categories listed above. (Retirement Benefits Authority, 2020)

1.2 Research Problem

Retirement is a significant life change that affects various areas and, in most cases, it entails changes to individual economic circumstances (Fadila & Alam, 2016). Many countries have implemented pension reforms in bid to improve the management of pension firms under a regulated environment and to enhance profitability through innovative products and viable pension calculation models. The RBA has implemented various reforms and is looking into putting up various reforms in order to enhance performance of pension firms and the general economic status of the country. RBA has been quite active in trying to set record improvements in the pension sector. RBA reforms are meant to make pension firms experience better financial performance (Cytonn, 2021). The Retirement Benefits Authority has been at the fore front on pension reforms in a bid to improve the pension sector. It is key to find out the effects of this pension reforms on the financial performance of pension firms and the determinants of financialperformance in pension firms. There have been various studies that have sought to determine this. Some global studies have assessed

determinants of pension performance   and factors leading to an increase in pension public debt. (Matar & Eneizan, 2018) explored the factors affecting Jordanian pension firms and determinants leading to an increase in pension public debt respectively. Their conclusion that liquidity, profitability, and revenue are positively related to (ROA) and that investment return reduces the annual change in public pension debt is difficult to generalize in a country like Kenya that is still developing and does not enjoy the benefits of developing countries, due to the context being different. Ade, (2017) assessed the determinants of pension performance in Nigerian firms, the results are hard   to infer in a Kenyan context because the two countries experience different factors hence it is important to conduct the same study in a Kenyan context.

 (Rono, Bitok & Asamoah, 2010; Miriti 2017) study focuses on the effect of the RBA Act on investment returns and investment guidelines, this poses a conceptual gap since it focuses only on one aspect of RBA reforms and not others like the NSSF Act, financial innovation and change of pension model. Their study also just looks at the effects of reforms on investment and does not focus wholly on financial performance. Some previous studies concluded that membership age and firm returns do indeed affect financial performance in Kenya, whereas others discovered that firm size, and fund size, does indeed affect financial performance in Kenya. Total contributions, according to the research, also have a beneficial influence on pension performance (Oluoch, 2013; Njoroge, 2014; Ichingwa & Mbithi 2017). From their research RBA reforms is not considered as a determinant of financial performance. This poses a conceptual gap.

Existing studies like (Kwena, 2013) assessed financial performance by focusing on return on investment and this poses a methodological gap as return on investment is

dependent on companies that use similar accounting policies and companies that value assets in a similar manner Their research did however not ascertain the use of similar accounting policies. For some of the studies this sample size is also too small hence it cannot provide a statistical representation of the whole population. This study seeks to bridge all this gaps. Though past studies provide insight of their relationship between pension reforms and financial performance some pose a conceptual, methodological or contextual gap and do not exhaustively assess pension reforms in the case of Kenya. The study seeks to cover the above gaps through answering the research question. What is the impact of pension sector reforms on financial performance of pension firms in Kenya?

1.3 Research Objective

To determine the effect of RBA reforms on financial performance of pension firms in Kenya.

1.4 Value of the Study

The research will be beneficial to many stakeholders as discussed below:

The regulatory authority which is the Retirement Benefits Authority of Kenya, mostly they are originators or at the centre of many of the pension sector reforms. This study will enable them to see the financial impact of the pension sector reforms. It will also assist them in seeing which reforms should be dropped and which ones need to be implemented.

It can help the general public to be weary of certain reforms that can affect the financial performance of a pension firm that they have entrusted their savings in. Pension firms will also keep up to date with global pension reforms as this could lead to a ripple effect on its financial performance at large.

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CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter discusses the theoretical foundation for the study, the factors that influence financial performance, the empirical literature, conceptual framework and finally a summary of the literature review.

2.2 Theoretical Framework

This chapter shall focus on reviewing theories that shall help build up the area of study and shall act as a major theoretical foundation. The theoretical framework shall also look at the determinants of financial performance and the empirical research.

2.2.1 Modern Portfolio Theory

Investors are classified into: risk aggressive, risk averse, and risk moderate. Risk aggressive investors are those who are typically eager to take risk, risk moderate investors are those who are indifferent to risk, and risk averse investors are those who would avoid risk in general. The modern portfolio theory by Markowitz (1952), assumes that risk averse investors will want minimum risk for the highestlevel of expected return. According to this theory investors generally come up with a mix of assets a portfolio in order to reduce the risk through diversification and to achieve maximum return. Some of the assumptions of the modern portfolio theory are investors are all able to get information and they have the same access to information, investors generally have similar views on the rate of return, taxes are generally not considered in this calculation and lastly at the risk-free return, unlimited capital can be borrowed. An investor wants an efficient frontier, which is a portfolio that maximizes return while minimizing risk (Markowitz, 1952).

The modern Portfolio theory by Markowitz forms the basis of reforms around ensuring that pension firms get the maximum return possible at an acceptable level of risk. It is generally not allowed for pension assets to be invested in very risky ventures hence pension funds tend to be risk averse as per the RBA regulations. The modern portfolio theory is relevant in terms of the reasons why the change of pension model reforms was made. It clearly depicts how investors are risk averse and why they seek to have the least amount of risk possible but the maximum return (Holzmann, 2012.)

The previous model that is the defined benefit model was quite risky to pension firms and did not offer the maximum return this caused them to switch to the defined contribution scheme, this is a complete manifestation of the modern portfolio theory. One of the main criticisms of the modern portfolio theory is that its basis is on historical data and not on current data. This short coming is covered by new theories that come to modify the modern portfolio theory, but generally its pros outshine its cons (Lydenber, 2009).

2.2.2 The Stakeholder Theory

The stakeholder theory was initially proposed by Freema (1994) and there has been an improvement on his propositions. The stakeholder theories mostly focus on the relationship between a business and people who have a stake that is its stakeholders. The stakeholders are suppliers, customers, employees and generally anyone who has a stake in the organization.

According to the stake holder theory generally everyone who has a stake in the organization the stakeholder tries their best to do what is best for them in order to achieve overall success in the organization. Freeman (2010) pioneered the stakeholder paradigm in his book A Stakeholder Approach. It generally articulated that a

company's core business is to make money for its stakeholders. The theory has two critical questions that is the purpose of the firm. It postulates that the company should have a shared value of what brings them together, this helps a firm to achieve outstanding performance and to achieve the market place financial metrics. The question places emphasis on what brings the people together as a brand (Freeman, 2010).

The second question focuses on the responsibility management shareholders have and it focuses on the kind of relationships the managers seek to make in order to promote the shareholders theory. The theory applies today especially in the context of pension firms. Mangers of pension firms are meant to act in a way that they maintain shareholder's interest. They should generally form good relationships or make good reforms that promote a good relationship between them and everyone who has a stake in the business. The pension schemes have found answers to the two fundamental questions that have been brought about by the stakeholder theory (Cavalcant, 2009).

This theory guides that determining determinants of financial performance is of key concern to a stakeholder and great financial performance would definitely make a stakeholder happy and satisfied. As postulated by the stakeholder theory, it assists in looking at the reforms from the angle of how they make money for the firm and how they fulfill the stakeholders' interests hence fulfilling the theory. Some of the main criticisms of the stakeholder theory include the thought that everything an organization does should be in the interest of stakeholders and yet the stakeholders are quite many hence it is hard to adequately fulfill all the interests of all stakeholders. It may be unrealistic for some organizations (Harrison, 2015)

2.2.3 Longevity Risk Theory

It is the outcome of one living past the amount provided for their lifetime income. It is generally the risk of an increase of life expectancy of pensioners or policy holders and hence can result of losses due to higher payout ratios than expected. This risk is mostly incurred by insurance and pension firms due to the nature of their benefits which are mostly for a long time. Antolin (2007), explains how the longevity risk can affect pension plans. In the research paper Antolin describes ways in which a pension firm tries to factor in the longevity risk in their benefit calculations which are normally done by an actuary. The paper also looks at the several policies that attempt to eliminate longevity risk. The paper also states that there is need to look for a model that can be able to forecast longevity and look at its possible outcomes. (Antolin, 2007)

Even though the paper pushes for a constant model it recognizes that pension firms have different structures hence a one shoe fits all strategy may be useful but not necessarily the best due to the different structures of pension firms. Due to this pension firms mostly use different methodologies and hence it is hard to use comparison and compare life expectancy among firms. There is a huge problem in tracking longevity risk and yet this could have a huge effect on a firm's financial performance. (Zugic & Richard, 2010). There are various innovations, pension reforms and regulatory measures that are being put in place to ensure that the longevity risk is well considered and taken care of as this can affect a lot of financial decisions. The theory depicts how the longevity risk could affect pension firms and is a basis of reforms like change in pension models and of some innovations, this is

because sometimes people live longer than they are anticipated to. Some of the criticism of the longevity theory is that it is hard to adequately determine one's life expectancy in order to fully curb the longevity risk, and the theory does not adequately address it (Antolin, 2007)

2.3 Determinants of Financial Performance

OECD, Harnessing the Future (2017) report on social security reforms that are happening in Africa shows that there was a great challenge in improving financial performance because of lack of good administration. In order to improve management of schemes and performance of pension schemes there needs to be reforms to ensure that organizations are organized in an effective manner. Pension schemes in Africa need good administration and this is enhanced through reforms.

Researchers generally look at the key determinants of performance and their effect and extent to which they determine financial performance. It is key that the study considers variables that are mostly connected with financial performance indicators. Monavvarian & Aghaei, (2010) defined determinants as factors that are essential for an organization to accomplish its mission. Below are some of the determinants of pension scheme performance that are critical:

2.3.1 Financial Innovation

Financial innovation is when one creates new financial ideas, it could be new products, and processes. It is generally any improvement in the financial sector. According to the OECD's 2017 Technology-and-Pensions study on global breakthroughs, pension innovations have the potential to revolutionize pension administration. Governments around the world are pushing for innovative ways to offer their services in a bid to increase value offering and to enhance pension

performance. Through pension innovations there is an attempt to make products that are attractive to the consumer and products that are consumer centric through increased value offering.

According to the Retirement Benefits Authority (2016) report, as much as RBA has encouraged innovation by pension stakeholders it has also pushed for various innovations on its own. Some of the innovations done by RBA include the starting of the individual pension plan to cater for unemployed persons who can still contribute to pensions. The individual pension plan targets the informal sector which is about 14.5 million Kenyans who are not registered to a pension scheme. The unemployed sector is allowed to contribute amounts as low as fifty shillings to cater for their retirement needs. One of the most recent innovation has been the setting up of the Post-Retirement Medical Fund but this cannot be assessed in this paper as it is new and there is not enough data on the same. This study shall focus on the launched individual pension scheme which is operational in all pension firms accredited by RBA. Its impact shall be measured by accessing the fund value of the individual pension firms which is declared annually in the pension firm financial statements.

2.3.2 Change in Pension Model

A pension model is a model that is used to calculate pension benefits. There are various pension models for various schemes. The defined benefit plan, the defined contribution plan, and the individual pension plan are the three types of pension plans. Various pension schemes have different calculation models that define them apart from each other and that enhance their profitability. The pension models are

calculated on the basis on age, actuarial assumptions, years of service and sex. (Hinrichs, 2018).

Fredman, (2016) argues that there are various reforms which are around the pension model in a bid to ensure that the pension model is profitable. These reforms are necessary as a pension model is key in any pension firm as it determines the pay-out ratio of firms and this could easily make or break a pension firms financial standing. The main reform has been the switch from defined benefit model to defined contribution model. This has had an effect on how much firms have to pay their pensioners as the previous defined benefit model was expensive. One can measure how change in pension model affects the financial performance through comparing the total lump sum paid out to pensioners over the years (Keyfitz & Caswell, 2005)

2.3.3 Density of Contributions

Boletín, (2018) states that density of contributions is the amount a pension firm receives as contribution from its pensioners. Over the years   the middle class and lower class is seen to have a low density of contributions due to the lack of laws that impose on them the mandate to contribute pension from all jobs they do. The density of pension contributions is a key factor that affects the pension benefits one receives. The Retirement Benefit Authority has sought to increase density contributions through various reforms like capping the retirement age and mainly through the NSSFAct 2013.It is seen that individuals with less contributions have less pension benefits due to low asset accumulation. (Nyakundi, 2009). Governments around the world have sought to increase pension contributions even by providing incentives to the public to contribute more to pension firms. RBA has been quite active in trying to set record improvements in the pension sector and the NSSF Act

2013 was a major milestone in this sector in increasing density of contributions (Ndungu, 2016).

The NSSF Act 2013 increased density of contributions by making it compulsory for the employed to contribute to pension. It also placed a minimum cap on the contribution as 6% and ensures that the employer remits contributions promptly. The act also ensured that contributions to pension schemes move with economic times. This has been one of the key regulatory reforms that has caused a shake up in the pension sector. (Wetzel & Banerji, 2014) state that pension reforms could be a key contributor to the financial viability of pension funds. The NSSF Act led to increased contributions and greater pension coverage through more members accessing pension firms. The density of contributions is assessed by looking at the fund contributions over the years. Fund contributions are found from the financial statement of pension scheme indicating how much the schemes have received in the year from their contributors. This amount is declared yearly.

2.3.4 Membership Age

Pension funds were generally set up as a form of social security for the older generation. This is because pension is meant to provide income after retirement at a time when an individual is not employed and is just surviving on saving from the youthful years. Through provision of pension, members cannot be financially impaired in their older years. (Bikker, & Dreu, 2009). The age of members directly affects the pension fund income over the years as it affects the amount one can accumulate over their useful life. The life expectancy also affects the pension payout especially in the defined benefit pension model where pension is paid in perpetuity. (Bodie, Detemple, & Rindisbacher, 2009).

2.4 Empirical Literature Review

Rono, Bitok, and Asamoah (2010) conducted research in 2010 to ascertain the effect of the RBA Act on pension fund investment returns in Kenya. Yearly returns on RBS have varied between 10% and 27% over the prior three years, with some years falling below the annual inflation rate. They concluded that Kenyan pension funds adhered to rules requiring them to maintain solvency equivalent to or higher than 80% of their assets under management. They observed that total weighted returns were low before the application of the RBA regulations, but that they were high following the implementation. They determined that the country's long-term performance had slowed and that it needed to establish an integrated regulatory framework that would combine the pension system in order to secure long-term funding and mobilize adequate money to fulfill the requirements of an ever-growing population.

Kwena, (2013) conducted a research on the reasons for low pension coverage and poor pension performance. The study was a census conducted on all pension firms in Kenya and used primary data as its data collection method. From the questionnaires assessed via a Likert scale and through descriptive statistics it was derived that low coverage and pension performance was due to lack of a compelling law to increase density of contributions. It was also deduced that innovations like the Mbao Pension plan sought to increase performance, coverage as well as density of contributions.

Oluoch (2013) conducted research on the factors affecting pension scheme performance in Kenya. The research sampled thirty pension systems in Kenya. The study focused on factors that might affect pension plan performance, such as age, assets, contributions, fund value, and returns. To ascertain the link between the variables, the researchers used regression analysis. The study concluded that pensioners' age has a substantial effect on pension scheme performance and that the other characteristics have a negligible effect on pension scheme performance.

Olukuru (2014) performed research to ascertain the effect of a pension model modification on the quantity of benefits provided to retirees. The study evaluated ten Kenyan pension systems, comparing the return on assets to the fund value both when utilizing a defined benefit scheme and after converting to a defined contribution scheme. The study postulates a significant difference between the two benefit calculation models and the specified contribution model, as demonstrated by the use of a multiple linear regression model and the Anova test to corroborate the findings. The 10 pension schemes examined in the report appear to benefit from improved financial performance.

Njoroge (2014) examined the factors affecting the financial performance of Kenyan pension institutions. The study examined a sample of forty pension plans in Kenya, paying special emphasis on the effect of firm size. The Anova analysis of variance was used to perform this study. According to the study's conclusions, the most critical performance metrics were market share, book assets, retained earnings, branch count, and employee count. According to the study's findings, market share and retained earnings have a strong positive correlation with pension plan financial success.

Kigen (2016) examined the financial performance of Kenyan retirement funds in terms of fund size. The survey was performed in a descriptive manner. The study's target population was the nation's 1232 registered pension plans. The sample size for the research was determined via purposive sampling, with a total of 93 registered pension plans participating. Secondary data was produced using information from annual income statements of pension plans kept by pension administrators, as well as

filed reports with the Reserve Bank of Australia. The data collection period is believed to have been between 2011 and 2015. A random effect model and correlation analysis were used to examine the data gathered. The research discovered that administration costs, investment fees, pension contributions, and cumulative fund assets all had a significant influence on the financial success of Kenyan pension systems. It has been demonstrated that the number of active members and the age at which they retire have a minimal influence on the financial viability of pension systems. The research discovered that pension contributions, costs, and cumulative fund assets all have a significant influence on the financial viability of pension plans.

Using data from Kenyan pension funds, Ndung'u (2016) examined the relationship between asset allocation and financial performance. The study used a descriptive survey method for this research. Secondary data was given by the RBA and investment managers. 1297 projects were investigated in Kenya, for a total of 1297 dollars. According to the statistics, there is a relationship between fund performance and asset class returns, with the strongest association between fund pefrmace and equity, fixed-income, and government securities returns. Additionally, asset allocation accounted for 89.5 percent of variability in profitability, with the remaining 10.5 percent attributable to other factors like managers' management style. A high degree of retirement income security will not be possible for most people. As part of his research on retirement benefit plans in Kenya, Owinyo (2017) examined their financial value and the elements that affected their financial achievement. The financial performance of Kenyan pension systems was studied in this study to ascertain the effect of total contribution on that performance. According to RBA,

there were 818 occupational pension plans in Kenya at the end of 2016, the year for which this analysis was conducted. The sample size of 261 registered occupational retirement benefit plans was determined through the use of a random sampling procedure. A secondary source of information was employed in the study, and inferential and descriptive statistics were used to evaluate it. It was determined from the flanging that overall contribution has a positive and statistically significant impact on the success of the firms.

If the pension is properly constructed, it should eliminate the pension longevity risk. Due to underperformance of pension plans, pensioners may be unable to enjoy a high level of retirement income security in the future, which is a grave concern. Ichingwa and Mbithi (2017) used data from Kenyan pension plans to investigate the influence of total contributions on financial performance. The sample size for 261 registered occupational retirement benefit plans was determined using a random sampling approach. The data for this study were obtained from a secondary source and analyzed using both inferential and descriptive statistics. The study discovered that total contribution has a positive influence on the financial performance of pension plan assets and liabilities.

Miriti, (2016) investigated the relationship between the retirement benefits authority reforms on investment guidelines and financial performance of pension schemes in Kenya. The reforms stated the percentage of different investments a firm can choose to invest in. The data used in the study was from the year 2008 to 2015. Through

systematic random sampling the study used 28 pension firms in Kenya and analyzed the data using multiple linear regression and Anova analysis of variance to determine the relationship between the two. The main independent variables in this study were cash and demand deposits, fixed deposits and time deposits, commercial paper and corporate bonds and they were measured against the return on investment which was the dependent variable. It was noted cash and demand deposits and fixed deposits had a positive impact on financial performance and reforms that encouraged these two investments were bound to bring good financial tidings. Fund managers should be vigilant in the assets they choose to invest in.

Ade, (2017) investigated the determinants of performance for pension firms in Nigeria. The study employed quantitative design . Through stratified random sampling and the Fishers formula the study used a sample of 51 pension firms in Nigeria. Secondary data was derived from audited statements of these pension firms. Through multiple linear regression the study revealed that contributors age, fund liquidity, fund design and fund performance have a positive effect on financial performance of pension firms in Nigeria.

Boletín, (2018) conducted research to determine the impact of contribution density on performance of pension firms. The study used secondary data from 89 pension firms in Tunisia. Through use of compiled administrative data from private pension firms, the study analyzed the contribution density per pension firm. Financial performance was assessed using the return on assets whereas contribution density was measured by the fund contributions declared yearly by pension firms. Using the Probit Model

and through analysis of ratios the study infers that pension firms that exhibit poor performance have less accumulated assets because of low contribution density. Most pension firms exhibited low contribution density because of lack of state laws to give the public the mandate to contribute pension from every single job that they do.

Matar and Eneizan (2018) conducted research to determine the elements impacting Jordanian pension businesses' financial performance. Secondary data was generated using information from the Amman stock exchange's yearly publication. For this study, a sample of (23) pension companies were constructed using the balance sheet and income statement of industrial enterprises. Regression analysis was done on the data in this study using the E-views software packages. The dependent variable is the return on assets of the business (ROA). As a result of the research, it was discovered that return on assets was positively correlated with liquidity, profitability, and revenue (ROA). Leverage, on the other hand, and the scale of the firm have a negative association with it. Furthermore, the regression analysis demonstrates that each variable has a statistically significant influence on financial performance.

Sunaryo, Santoni, Endri, and Harahap (2020) performed a case study in Indonesia to investigate the determinants of the capital adequacy ratio for pension funds. The objective was to determine the elements that affect the fund's adequacy ratio (RKD) for the 2009-2018 period, including the Return on Asset (ROA), Cash Conversion Rate (CCR), Central Board Revenue (CBR), Operating Expense Ratio (OER), Investment Expense Ratio (IER), and investment. The data were analyzed using the common effect panel data regression approach, with twenty distinct pension funds serving as the samples. While ROA, CCR, and investment all had a significant and

positive effect on RKD, CBR and OER had a significant but negative effect on RKD. According to the data, IER had no discernible effect on RKD.

Park ET ale (2021) investigated the reasons and management motives for employee ownership in pension plans. They assessed a pension database using Form 5500. The study performed the first in-depth assessment of the elements that influence employee ownership in retirement pension plans. They stated that businesses with a greater degree of idiosyncratic risk, poor governance and a higher marginal tax rate are more likely to offer employee ownership. This research gives important insights for investors, who should correctly grasp the effect of employees on a firm and carefully assess employee-owned firms based on a variety of criteria.

2.5 Summary of literature review and Knowledge gaps

In a bid to get more insight on the variables of this study, the study looked at the theoretical perspective which was anchored on three main theories: the modern portfolio theory, stakeholder theory and the longevity theory. These three theories justify why some reforms took place for example the modern portfolio theory justifies why reforms are made to minimizes risk and maximize returns, the stakeholder theory is a theory that justifies maximizing of stakeholders view and the longevity theory that justifies reforms made to curb the longevity risk .The literature review further discusses the three main variables that determine pension performance that is the change in pension model, density of contributions , financial innovation and focuses on membership age of contributors as a control variable .

The literature review also shows various studies that have sought to assess the expansive literature on pension funds though they have certain knowledge gaps. The

impact of RBA reforms has not been addressed through the three dimensions that this study seeks to address. Some of the methodologies used by the studies have great limitations. Some of the studies are also of a global context that can hardly be generalized for a developing country like Kenya. Studies cannot also be generalized from other firms as pension firms are unique in their own nature. Though there is expansive literature on pension performance studies do not fully focus on RBA reforms. It is also hard to draw inference from global studies as they do not fit in the Kenyan context, as Kenya is unique because it is a developing country.

2.6 Conceptual framework

The conceptual framework looks at the relationship between the dependent variable which is financial performance and the independent variable which is pension sector reforms. The pension sector reforms were broken down to the following sub entities; financial innovation, density of contributions and a change in pension model. The study was also incorporate one control variables which is membership age of contributors.

Financial performance is measured by the return on assets as this directly depicts the firm's financial health and performance. The independent variable pension reforms is broken down to increase in density of contribution, innovation and change of pension model. The three best explain the main dependent variable. Density of contribution mainly caused by the NSSF Act 2013 is measured by fund contributions. Fund Contributions are declared yearly by pension schemes as necessitated by RBA. Financial innovation is measured by fund value of the Individual pension plan per year which is also declared by all pension firms annually and change of pension

model is measured by the Total pension lump sum paid out to pensioners over the years. The control variable is membership age is assessed by Kenya's life expectancy.
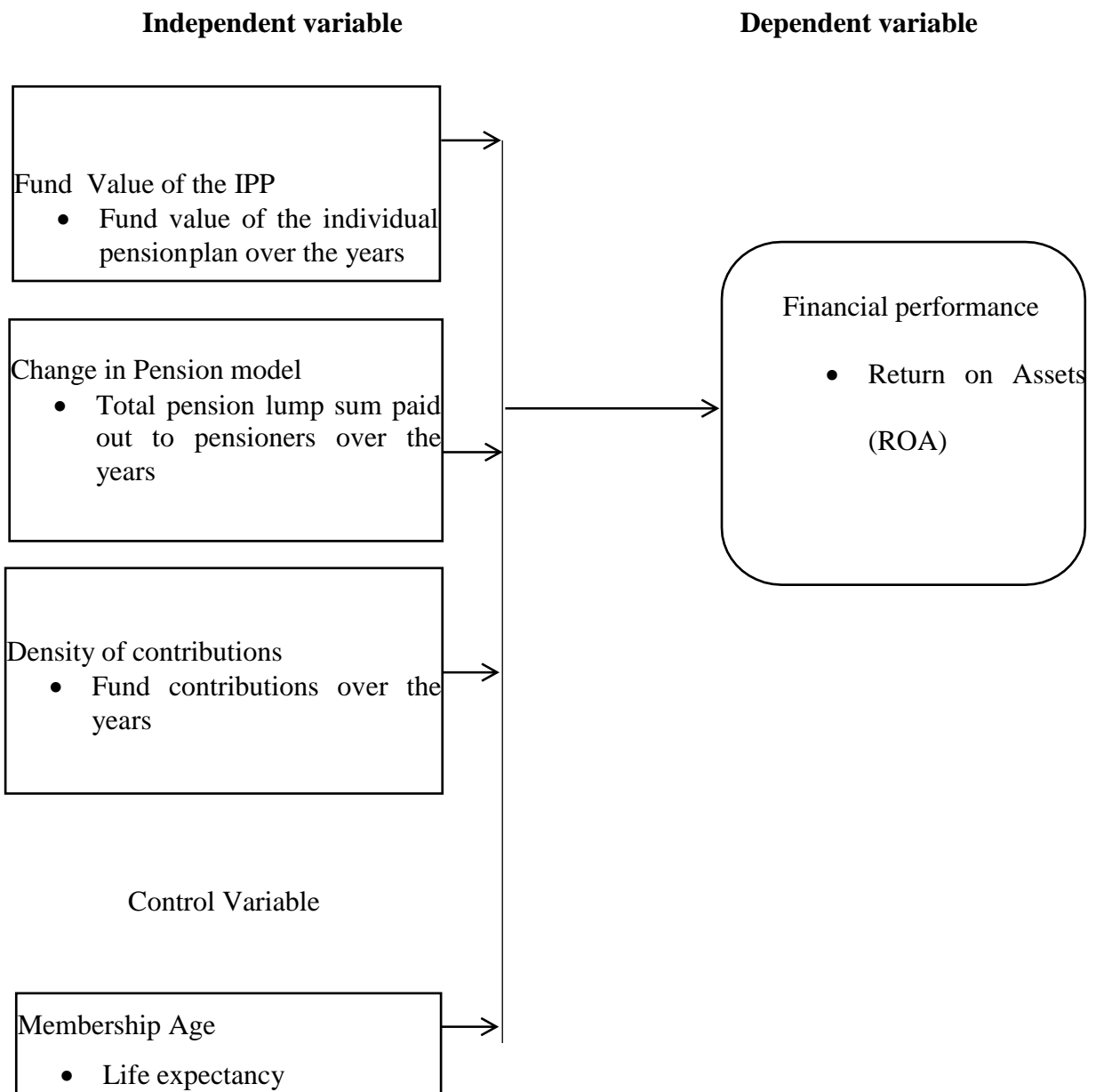
Independent variable   **Dependent variable**

Figure 2.1: Conceptual Framework   Source: Researcher (2021)

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter focused on the research techniques that were employed in this study. It examined the many modalities and approaches that have been utilized to acquire information. The chapter also provides justification for the research design. The target demographic, sample, data collecting procedures, and data analysis techniques that was employed are all discussed. It conducted an in-depth study of the reliability of the data as well as the sources of the data.

3.2 Research Design

According to Kothari and Garg (2014), a survey is a tool for obtaining data from a large number of individuals by focusing on a small sample. This study employed a descriptive research approach, which implies that we examined the subject objectively, without seeking to influence its behavior in any way. The study altered the independent variables, financial innovation, the pension model, and increased density of contributions, and then assessed the effect of these changes on the dependent variable, pension firm financial performance.

3.3 Target Population and Sample

According to Ngechu (2004), the target population is the population that can be used to draw an inference for the study. Scott and Deirdre (2009) stated that the entire population is the overall spectrum. The targeted population was 508 pension schemes that were registered before the RBA Act 2007 in order to create a comparison before and after regulation. This was a favorable population for the study as a trend could easily be drawn from the comparison. The study selected a sample that is unbiased and that was good enough to draw inference for the entire population based on

the descriptive study guidelines. The study used simple random sampling such that each member of the targeted population had an equal chance of selection. Simple random sampling was done through random draws from the entire population of the study. The random draws were computer generated by an excel function. This was to ensure unbiasedness of the sample. According to (Mugenda, 2003) descriptive studies require at least 10-30 per cent of the entire population for a sample, hence the 10% of the population of 508 pension schemes gave a sample of 50 pension schemes which was used for the study.

3.4 Data Collection

This is the process of getting information in order to answer research queries. The information is usually collected in a structured way. (Kothari R. C., 2020), postulates that a questionnaire is a way of collecting data where one is required to answer questions in the same way all through. The study used a questionnaire to collect data regarding the effect of reforms on pension firms and whether the managers felt that the reforms had a financial effect. The study also got data on the implementation of the financial reforms through the questionnaire. The questionnaire had two major sections: one asking the demographics, and the other asking the effect of reforms on financial performance with regards to two aspects; innovation and change of pension model . The questionnaire was administered to the 50 RBA registered pension firms for data collection. The target respondents for the questionnaire were middle line managers preferably from the finance department. The questionnaire was administered by the researcher through some telephone interviews with the managers on the questionnaire and some physical filling of the questionnaires. The time frame for the interview method was three days because all the pension firms had branches in

Nairobi hence ease of access was a great advantage. Financial data was secondary data for the year 2016-2020 and was collected through the audited financial statements over the last five years for the pension firms. The financial data was then filled in the data collection form for ease of analysis.

3.5 Reliability tests

Cooper and Schindler (2006) defined reliability as the degree to which a research instrument generates consistent results after multiple trials. Cronbach's alpha, a ratio that can identify the correlation average of test items or the internal consistency measure, can be used to quantify or estimate this. In the range of 0 to 1, the Cronbach's alpha coefficient is interpreted as follows: when it is extremely high, it implies that the items on the instrument have a significant correlation and are thus consistent. An alpha > 0.7 is a reliable indicator. As a result, an alpha value greater than 0.7 will be considered in this study.

3.6 Validity Tests

Validity is the level of precision of processed data in relation to the study's phenomenon. Validity, according to Mugenda & Mugenda (2003), is the precision with which the measurement instrument produces the data. Validity, according to Polit and Beck (2006), is how well sample items represent constructs of interest. Pretesting with five randomly chosen respondents established the questionnaire's face validity. Pretesting, according to Aaker et al. (2001), tries to assess if the instrument can supply the researcher with all of the expected data. Expert advice was incorporated into the study to improve its content validity.

In addition, the questionnaire was pilot tested by presenting it to seven schemes, 3 duly registered schemes, 2 retirement schemes and 2 individual pension schemes that will not be included in the study to see if respondents could answer the questions promptly. Duplicate, double-edged, or sensitive questions was cleaned up, categorized or removed. The construct validity of study variables was assessed using exploratory component analysis with Varimax rotation. Factor loadings of 0.5 and higher was considered acceptable.

3.7 Operationalization of Variables

Table 3.1: Operationalization of Variables

Variables	Measures	Source
Financial Performance	ROA=Net income Total Average Assets	Naghshbandi et al.(2016)
Density of contributions (Contributions from members)	Fund Contributions=Contributions received Value of fund	Wachira (2016)
Fund Value of the individual pension plan	(Total value of all the cash and securities) -(Total liabilities of the fund)	Cristea & Thalassinos, (2016)
Change in pensionmodel	Total lump sum paid out to pensioners over the years declared in pension statements	Holzmann, (2012.)
MembershipAge	Life expectancy	Oluoch, (2013)

3.8 Diagnostic Tests

Before estimating the multiple linear regression equations, which this study adopted, there is a need to ensure that the regression model assumptions are not violated. To

avoid arriving at biased, ineffective and inconsistent parameter estimates, the researcher conducted the following critical diagnostic tests: normality tests, multicollinearity tests and heteroscedasticity tests. The research employed Shapiro wilk statistics to determine whether the data was normally distributed by ensuring symmetry along the mean. Multicollinearity was quantified using a variance inflation factors (VIFs), with a ceiling of 0.8 for severe multicollinearity (Gujarati & Porter, 2003). The Breusch pagan test was used to measure heteroscedasticity which is absence of a consistent variance. This was done to avoid erroneous standard errors.

3.9 Data Analysis

Quantitative data techniques were used in this study. The quantitative data collected was analyzed using both descriptive and inferential statistics. Descriptive statistics involved percentage and frequency descriptions of the sub-constructs in each of the variables. Inferential statistics first involved correlational computations to ascertain association between predictor variables and the dependent variable. Secondly, hypothesis tests were conducted so as to either reject or not reject the null hypothesis. Lastly, model generation followed. This study then used a multipleregression model.

3.9.1 Multiple Regression Model

To determine the relationship between pension reforms and financial performance the study adopted a multiple linear regression model. As shown below.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Where:

Y= ROA (Return on Assets) at time tα = Constant

$\beta 1 - \beta 3$ = Beta coefficients

X1=Fund Value

X2= Total pension payout

X3= Fund Contributions

X4=Membership Age

ε = Error term

The independent variables were pension reforms measured through financial innovation, density of contributions and through change of pension model whereas the dependent variable was the pension firm's financial performance. The control variable is membership age. Density of contributions was through measure of fund contributions. Assessing innovation was done by measure of the fund value of the individual pension plan and assessing change of pension model through assessing total lump sum paid out to pensioners over the years. The control variable: membership age was measured by the life expectancy of Kenya.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter sought to analyze the data based on the objective of the study which was to determine the effect of RBA reforms on financial performance of pension firms in Kenya. The interpretation and discussion of the findings is also done in this section. Primary data was collected through questionnaires, where the response rate was 100% and the target respondents was middle line mangers mostly from the finance department. Secondary data was collected through audited financial statements for the last 5 years (2016-2020).

4.2   Demographic Information

The study sought to establish an overview of the respondents in order to understand their general attributes. The demographic information of the respondents included the current position in the company, the name of the pension firm and whether the respective firms are RBA compliant.

4.2.1 Pension Firm Information.

The respondents were asked to state whether their firms were RBA compliant and the respondents stated that 98% of the pension firms were RBA compliant.

All the pension firms were located in Nairobi.

4.2.2 Questionnaire response rate.

The questionnaire response rate was 100% and the respondents of the questionnaire were middle line managers from the finance department.

4.3 Descriptive Statistics

The study used descriptive statistics to describe the data of the variables adopted in this research. The maximum and minimum values are also indicated in the descriptive statistics.

Table 4.2: The effect of innovation on financial performance of pension funds

	N	Mean	Std. Deviation
Do pension innovations have a direct impact financially to pension firms	50	2.1800	.91896
Are the current innovations aligned with the strategic goals of your pension firm?	50	2.2000	.72843
Are there any setbacks caused by an innovation pushed by the regulator?	50	2.2000	.69985
Do the benefits of innovation outride its costs	50	2.2400	.77090
is there enhanced effectiveness with innovation with	50	3.6200	.83029

The study sought to establish the effect of innovation on financial performance of pension funds. To meet the objective, the respondents were asked to indicate their level of agreement on statements relating to the same. The respondents agreed that pension innovations had a direct impact financially to pension firms as shown by (μ =2.18) with a (σ = 0.919). They also agreed that the current innovations aligned with the strategic goals of their pension firms as shown by (μ =2.2) and (σ =0.728); there

were setbacks caused by an innovation pushed by the regulator as shown by (μ = 2.2) and (σ = 0.6999); and that the benefits of innovation outride its costs as shown by (μ =2.24) and (σ = 0.771). However, the respondents disagreed that there was enhanced effectiveness with innovation as shown by (μ =3.62) and (σ = 0.83). This is an indication that innovation influence Financial Performance of Pension Funds in Kenya. This is due to the low standard deviation statistics that supported the mean value. Hence the opinions didn't differ much for the responses.

Table 4.3: The Effect of Change in Pension Model on Financial Performance of Pension Funds

	N	Mean	Std. Deviation
Does the new pension model have an effect on your firm financially?	50	2.1600	.54810
Has the new pension model attracted more clients?	50	3.5600	.83690
Can you attribute the current financial performance to pension the pension model?	50	2.0600	.61974
Do the benefits of the new pension model outride the costs of regulation?	50	2.3000	.67763
Is there better benefit retention with the new pension model?	50	2.3000	1.44632

The study sought to establish the effect of change in pension model on financial performance of pension funds via a questionnaire. From the results, the respondents agreed that the new pension model had an effect on their firms financially as shown

by (μ =2.16) with a (σ =0.548). They also agreed that they could attribute the current financial performance to pension the pension model as shown by (μ =2.06) with a (σ =0.6197); the benefits of the new pension model outridden the costs of regulation as shown by (μ =2.3) with a (σ =0.678); and that there was better benefit retention with the new pension models as shown by (μ = 2.3) and (σ =1.446). However, the respondents disagreed that the new pension model attracted more clients as shown by mean of 3.56 and (σ =0.837). This indicates that change in pension model influenced financial performance of pension funds.

Table 4.4: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Return on Assets	50	.40	36.30	13.5560	8.34401
Fund Value from IPP (Individual	50	1417280.00	3509543.00	2336364.4599	652287.7582
Total Lump sum payout	50	340479.00	2575549.00	1367851.7200	656460.7008
Fund Contributions	50	405645.00	1193265.00	761208.2400	244307.4416
Kenya's life expectancy	50	50.00	60.00	54.9000	3.50073
Valid N (listwise)	50				

From the descriptive statistics, return on Assets showed a (μ =13.5560) and (σ = 8.34401). This shows that retirement benefit schemes in Kenya had a mean return on assets of 13.5%. The funds showed a minimum return on assets of 0.4 with a

maximum of 36.30. This shows that the retirement benefit schemes with the lowest

return on assets showed 0.4% with the one with the highest return on assets showing

36%. The fund value from IPP had a (μ = 2,336,364.5) and a (σ = 652,287.8). This

shows that the retirement benefit schemes had a mean fund value of approximately 2

million in the period between 2016 and 2020. Further, the mean total Lump sum

payout stood at 1,367,851.7 with a (σ = 656460.7). This shows that retirement benefit

schemes showed an average lumpsum amount of 1.4 million between 2016 and 2020.

The retirement benefit schemes showed a range between 340,479 and 2,575,549.

Fund Contributions for retirement benefit schemes averaged at 761208.2 with a (σ

=244307.4). This indicates that between 2016 and 2020, the mean fund contributions

in retirement benefit schemes were 761208. Between 2016 and 2020, the age showed

a (μ =54.9) years with a (σ =3.5) for the retirement benefit schemes.

4.4 Diagnostics

The researcher before estimating the multiple linear regression equations, which this

study will adopt, there is a need to ensure that the regression model assumptions are

not violated. To avoid arriving at biased, ineffective and inconsistent parameter

estimates, the researcher will conduct the following critical diagnostic tests:

Table 4.5: Normality Test

	Statistic	Statistic	df	Sig.
Return on Assets	.186	.916	50	.002
Fund Value from IPP	.132	.951	50	.039
Total Lump sum payout	.292	.836	50	.000
Fund Contributions	.127	.923	50	.003
Membership Age	.108	.958	50	.071

The study checked on the assumption of regression model relating to distribution of data. The regression assumes that the data is normally distributed. This was tested using Shapiro Wilk test as the data points exceeded 30. All the variables had p-values less than 0.05. This shows that the variable data does not follow a normal distribution.

Table 4.6: Heteroskedasticity

```
------- ANOVA TABLE  --------
                SS        df        MS        F          Sig
Model         9.303     4.000     2.326     1.173       .989
Residual     89.212    45.000     1.982  -999.000    -999.000

------- Breusch-Pagan and Koenker test statistics and sig-values --------
              LM        Sig
BP          4.651      .325
Koenker     4.722      .317
```

The researcher examined whether the error term was constant over time. This was done by testing the heteroscedasticity in the data using Breusch Pagan statistics. The findings showed that the Breusch Pagan statistics of (4.651) showed a significance value of 0.325. The error term was constant over time. Hence, there is no heteroscedasticity in our data.

Table 4.7: Multicollinearity

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Fund Value from IPP (Individual	.931	1.074
	Total Lump sum payout	.945	1.059
	Fund Contributions	.984	1.016
	Membership Age	.878	1.138

From the VIF values that sought to show the multicollinearity in the data, the findings showed that there was no relationship among the predictor variables. This is because the VIF values were less than 10 showing that variance was low. The tolerance values were also below 2 which supports this assertion. Hence, we conclude that our data has no multicollinearity issues.

4.5 Correlation analysis

Correlation analysis was done to establish the relationship between variables. From the findings, Fund Value from IPP showed a correlation coefficient (r = -.262) with a Sig. value of 0.014 against return on assets. Total Lump sum payout showed a (r =0.598) with a sig value of 0.000. Fund Contributions on the other hand showed a (r = 0.447) with a sig. value of 0.001 while Kenya's life expectancy showed a(r = -0.466) with a Sig. of 0.001. This shows that all the predictor variables showed a significant relationship with return on assets. They showed a weak relationship except for total lump sum payout which showed a strong relationship

Table 4.8: Correlation analysis

		Return on Assets	Fund Value from IPP	Total Lump sum payout	Fund Contributions	Kenya's life expectancy
Return on Assets	Pearson Correlation	1	.262	.598	.447	-.466
	Sig. (2-tailed)		.014	.000	.001	.001

	N	50	50	50	50	50
Fund Value from IPP (Individual	Pearson Correlation	-.262	1	.347	.259	-.066
	Sig. (2-tailed)	.014		.147	.069	.650
	N	50	50	50	50	50
Total Lump sum payout	Pearson Correlation	.598	.347	1	.339	-.341
	Sig. (2-tailed)	.000	.147		.162	.154
	N	50	50	50	50	50
Fund Contributions	Pearson Correlation	.447	.259	.339	1	-.314
	Sig. (2-tailed)	.001	.069	.162		.266
	N	50	50	50	50	50
Kenya's life expectancy	Pearson Correlation	-.466	-.066	-.341	-.314	1
	Sig. (2-tailed)	.001	.650	.154	.266	
	N	50	50	50	50	50

4.6 Regression Analysis

Through the use of SPSSS package the data was analyzed to determine the relationship between the dependent and independent variable and a multiple regression model was formed to that effect.

Table 4.9:Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.503[a]	.253	.187	7.52391

a. Predictors: (Constant), Kenya's life expectancy, Fund Contributions, Total Lump sum payout, Fund Value   from   IPP (Individual pension plan)

From the model summary, this research shows that the variables had a combined correlation coefficient of 0.503. This shows that RBA reforms and financial performance of pension firms in Kenya have a strong correlation. The findings showed an R squared of 0.253. This indicates that 25.3% of the financial performance of pension firms in Kenya can be attributed to RBA reforms. Other factors contribute the remaining financial performance of pension firms in Kenya.

Table 4.10:Anova

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	864.086	4	216.022	3.816	.009[a]
	Residual	2547.417	45	56.609		
	Total	3411.503	49			

a. Predictors: (Constant), Membership Age, Fund Contributions, Total Lump sum payout, Fund Value from IPP

b. Dependent Variable: Return on Assets

From the Anova model, the F-statistics showed a significance value of 0.009 which was less than the 5% significance level. Hence the model fits the data significantly. Further, the model showed calculated F-statistics higher than the critical value. This indicates that the model fits the data and the conclusions can be based on the outcomes of the regression model.

Table 4.11: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	70.633	17.828		3.962	.000
	Fund Value from IPP (Individual	-4.713	1.561	-.395	-3.020	.004
	Total Lump sum payout	.861	.259	.762	3.327	.002
	Fund Contributions	.374	.148	.270	2.536	.015
	Membership Age	-.887	.314	-.372	-2.824	.007
a. Dependent Variable: Return on Assets						

From the regression coefficient model the equation;

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

was fitted into;

Y = 70.633 -4.713(Fund Value) + 0.861(Total pension payout) + 0.374(Fund Contributions) -0.887(Membership Age) + ϵ

From the fitted model, the constant term was 70.633. This shows that financial performance of pension firms in Kenya would stand at 70.633 if the fund value, total lump sum pay-out, fund contributions and age remain constant. The model indicate that a unit increase in fund value would cause a reduction in financial performance of pension firms in Kenya by 4.713. Further, a unit increase in total lumpsum pay out would increase the financial performance of pension firms in Kenya by 0.861. A unit increase in total fund contributions would increase the financial performance of pension firms in Kenya by 0.374; while a unit increase in age would decrease the financial performance of pension firms in Kenya by 0.887. The four variables showed significant coefficients as the significance values were less than 5%. This shows that fund value, total lump sum pay-out, fund contributions and membership age affect financial performance of pension firms in Kenya.

4.7 Discussion of Findings

The findings from the questionnaire suggest that innovation influences financial Performance of Pension Funds in Kenya this is because all the questions on innovation except from one had low standard deviation statistics that supported the mean value. The respondents agreed to the following statements: that pension innovations had a direct impact financially to pension firms, current innovations aligned with the strategic goals of their pension firms, there were setbacks caused by an innovation pushed by the regulator and that the benefits of innovation outride its costs .However, the respondents disagreed that there was enhanced effectiveness with innovation

The findings from the questionnaire suggest that change in pension model influenced financial performance of pension funds this is because the respondents agreed on the following statements: that the new pension model had an effect on their firms , they could attribute the current financial performance to pension the pension model ,the benefits of the new pension model outridden the costs of regulation and that there was better benefit retention with the new pension models .However, the respondents disagreed that the new pension model attracted more clients .

The findings suggest from the regression analysis that this research shows that the variables had a strong correlation, because they exhibit a combined correlation coefficient of 0.503. This shows that RBA reforms and financial performance of pension firms in Kenya have a strong correlation .The findings suggest 25.3% of the financial performance of pension firms in Kenya can be attributed to RBA reforms. Other factors contribute the remaining financial performance of pension firms in Kenya. This findings are attributed to the R squared of 0.253.

 The coefficient of the fund value and age was negative. This indicates that an increase in fund value and age of contributors causes a reduction in performance of pension firms. The coefficient of total lumpsum payout variable and total fund contributions was positive. This indicated that an increase in total lumpsum payout and total fund contributions would cause an increase in financial performance. All the variables that is fund value, total lump sum pay-out, fund contributions and membership age affect financial performance of pension firms in Kenya this is because the findings exhibit significant coefficients as the significance values were less than 5%.

The findings from the correlation analysis suggest from the correlation analysis was all the predictor variables showed a significant relationship with return on assets. They showed a weak relationship except for total lump sum payout which showed a strong relationship. This is attributed to their correlation coefficients. Through diagnostic tests the study was able to establish that the regression model assumptions are not violated. The diagnostic tests conducted were test of normality, heteroscedasticity and multicollinearity tests.

The findings of this research agree with the theoretical explanation by (Antolin, 2007) on the longevity risk. This is seen through how age of contributors affects performance of pension firms negatively due to the chance that they will outlive their expected lifetime. The research also concurs with the modern portfolio theory (Markowitz , 1952) that postulates investors seek to maximize returns and this is seen in how fund contributions cause and increase in financial performance probably because of investments with minimum risk but high returns. The research also concurs with (Freeman, 2010),that postulates performance is dependent on stakeholders interest. Kenyan pensioners are seen to have more interest with the profitability of the firms.

This study indicates that fund value has a negative and significant effect on financial performance of pension funds. The results differ with Oluoch (2013) which postulates that fund value had an insignificant effect on financial performance. Further, a unit increase in total lumpsum pay out would increase the financial performance of pension firms in Kenya by 0.861 significant at 5% significance level. This shows that lump sum had a positive and significant effect on financial performance. The findings

also differ with those of (Kwena, 2013)who found that total lumpsum had an insignificant effect on financial performance.

The analysis postulates that a unit increase in total fund contributions would increase the financial performance of pension firms in Kenya by 0.374 significant at the 5%. This shows that fund contributions had a positive and significant effect on financial performance. The findings concur with the findings of Kigen (2016) that pension contributions had a significant effect on performance. The findings also concur with (Boletin, 2018) , (Ichingwa & Mbithi, 2017) and (Ade, 2017) that states an increase in fund contributions leads to an increase in financial performance of pension firms.The findings differ with those of Oluoch (2013) who found that fund contributions had an insignificant effect on financial performance.

The findings showed that a unit increase in membership age would decrease the financial performance of pension firms in Kenya by 0.887 with a significance value of less than 5%. This shows that membership age had a negative and significant effect on financial performance. The findings differed with those of Bikker and Dreu (2009) who found that age of members had a direct effect on financial performance .The findings concur with the findings of Oluoch (2013) who found that pensioners' age had a significant effect on the performance of pension scheme.

CHAPTER FIVE:

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary of the findings, conclusions, recommendations, and areas for further research. The summary, conclusions and recommendations were based on the objective of the research was determining the impact of retirement benefit authority reforms on financial performance of pension firms in Kenya

5.2 Summary

The study sought to determine the effect of innovation on financial performance of pension funds. From the findings, the respondents agreed that pension innovations had a direct impact financially to pension firms. They also agreed that the current innovations aligned with the strategic goals of their pension firms had benefits that outride its costs. However, the respondents disagreed that there was enhanced effectiveness with innovation.

The study sought to elaborate the effect of change in pension model on financial performance of pension funds. The findings showed that the respondents agreed that the new pension model had an effect on their firms financially. They also agreed that they could attribute the current financial performance to pension the pension model; the benefits of the new pension model outridden the costs of regulation; and that there was better benefit retention with the new pension models. However, the respondents disagreed that the new pension model attracted more clients.

From the regression analysis, fund value, total lump sum pay-out, fund contributions and age showed a strong relationship with financial performance. This was shown by a correlation coefficient of above 0.05. The findings also showed that fund value, total

lump sum pay-out, fund contributions and age were not the factors making the greatest contribution to financial performance of pension firms in Kenya. This is deduced because the analysis shows that this factors contributed a change of less than 50% to financial performance.

From the fitted regression model, increase in fund value would cause a reduction the financial performance of pension firms. The reduction was found to be significant as the value was below 0.05. Further, total lump sum pay out was found to cause an increase in financial performance of pension firms. The increase in financial performance was found to be significant. In addition, increase in total fund contributions would increase the financial performance of pension firms while increase in age would decrease the financial performance of pension firms. The variables showed significant effect on the financial performance of pension firms.

5.3 Conclusions

The study concludes that innovation influence financial performance of pension funds in Kenya. This means, increased innovation in the increases financial performance in pension firms. This came from the alignment of the current innovations to the strategic goals of their pension firms. This is also based on the fact that the benefits of innovation outridden the costs of innovation. Innovation has a net positive effect on financial performance of pension funds. This means that the more pension firms seek to implement innovations by the regulator and the more they invest in innovation, the higher the returns the firms receive.

The study postulates that change in pension model influenced financial performance of pension funds. The benefits of the new pension model outridden the costs of regulation which supported the conclusion that change in pension model has been

beneficial to performance of pension funds. The new pension models provided better benefit retention within the pension funds. This means that adoption of the defined contribution model as opposed to the defined benefit model is beneficial to pension firms.

Fund value had a negative and significant effect on financial performance of pension funds. However, lump sum had a positive and significant effect on financial performance; fund contributions had a positive and significant effect on financial performance; while membership age had a negative and significant effect on financial performance.Since fund value of IPP has a negative effect, it shows that the costs of running the IPP are high. The costs outride the benefits. The positive effect of fund contributions on performance of pension firms indicates that fund contributions are indeed used to create income for pension firms. Variability of age is seen to have a negative effect on performance of pension firms.

5.4 Recommendations

The study found that innovation improved financial performance of pension funds. This study recommends that pension firms increase the innovations within their firms. This would enable them to increase efficiency and reduce costs which would lead to improved return on assets. Innovations pushed by RBA should be implemented by pension firms as they seem to bring good financial tidings to pension firms.

The pension model change was found to increase the financial performance of the funds. This study recommends that the pension managers change to the defined contribution model to eradicate the costs and increase efficiency in the models. The defined contribution model is seen to have more reasonable payouts to the pensioners and is less costly to pension funds.

The study further found that RBA reform components of fund value, lump sum, fund contributions and age had an effect on financial performance of pension firms in Kenya. This study recommends more policies that keep supporting the investment of fund contributions because fund contributions are seen to have a positive effect on performance of pension firms. It is also recommended that the IPP fund should have less management costs in order for the fund value to stop having a negative effect on pension fund performance, It is also recommended that there should be different age bracket management as different age brackets have diverse appetites to risk.

5.5 Limitations of the Study

The research was limited to the variables and measures used in this study. This study sought to determine the effect of RBA reforms on financial performance of pension firms in Kenya. This shows that the study was limited to RBA reforms and financial performance. Other variables may not give similar results. The study also used fund value, total lump sum pay-out, fund contributions and age to measure the RBA reforms and their effect on financial performance. Return on assets was used to measure financial performance. This means that other measures of RBA reforms and financial performance may give differing results.

The study focused on pension firms in Kenya. This limits the study in terms of the focus, the performance of pension firms may be influenced differently by RBA reforms compared to other sectors. The study was done on all pension firms in Kenya and did not focus on firms in a specific locality. This means that the study was limited to the area and sector of study.

The study adopted quantitative methodologies and data. This means that the outcomes were based on numbers with no support from qualitative data. This means that the study was limited by the research methodology and the kind of data utilized in the research.

The study was based on the period between 2016 and 2020. This period may have different economic conditions and dynamics compared to other periods. The study also involved secondary data which is historical in nature. This indicates that a different research period and use of other data sources may not give the same findings.

5.6 Suggestions for Further Studies

The study was limited to the variables and measures used in this study. This was based on RBA reforms and financial performance. Similar studies can be done based on other factors influencing financial performance. This would enable the readers to understand other factors influencing financial performance of pension firms in Kenya. This research recommends other measures of RBA reforms and financial performance to establish whether the outcomes would be the same.

The study focused on pension firms in Kenya where the performance of pension firms may be influenced differently by RBA reforms compared to other sectors. Similar research is recommended based on other firms other than pension firms. This would enable the researcher to compare results on RBA reforms and financial performance.

The study adopted quantitative methodologies in the research. Hence, the study was limited by the research methodology and the kind of data utilized in the research. This study recommends that other researchers focus on RBA reforms and financial performance based on both quantitative and qualitative data. Other researcher may

also look at RBA reforms and financial performance based on mixed research methodologies.

The study was based on the period between 2016 and 2020. This research recommends future research on different periods other than 5 years. This may be done on 10 years, 5 years, or even 20 years. This would give more data points and allow a sufficient sample to give a clear picture on RBA reforms and financial performance among pension firms.

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APPENDICES

Appendix 1: List of Retirement Benefits Schemes

1. Amana Umbrella Pension Scheme

2. APA Life Umbrella Retirement Fund

3. British American Insurance Umbrella Retirement Fund

4. CFC Life Assurance Ltd Umbrella Fund

5. CIC Umbrella Retirement Benefits Scheme

6. CICAM Umbrella Retirement Fund

7. Co-op Trust Investment Retirement Benefits Scheme

8. County Pension Fund

9. Cytonn Umbrella Retirement Benefits Scheme

10. Enwealth Umbrella Fund

11. Fusion Umbrella Retirement Benefits Scheme

12. ICEALION Umbrella Retirement Benefits Scheme

13. ICEALION Guaranteed Personal Fund

14. Kenindia Umbrella Provident Fund

15. Kenya Orient Umbrella Pension Fund

16. Kivuli Umbrella Fund

17. Madison Umbrella Retirement Benefits Scheme

18. Minet Kenya Umbrella Retirement Fund

19. Mwavuli Pension Fund

20. Ngao Umbrella Pension Scheme

21. Octagon Umbrella Retirement Benefits Scheme

22. Old Mutual Umbrella Retirement Benefits Scheme

23. Sanlam Umbrella Retirement Fund

24. Pioneer Umbrella Retirement Fund

25. Suluhu Umbrella Scheme

26. Takaful Umbrella Fund

27. The Jubilee Insurance Umbrella Scheme

28. Amana Personal Pension Plan

29. Apollo Insurance Co. Ltd. Individual Pension Arrangement

30. Lapfund Pension Scheme

31. Blue MSMEs Jua Kali Individual Retirement Benefits Scheme (Mbao Pension Plan)

32. British American Personal Pension Plan

33. CFC Life Individual Pension Plan

34. Chancery Personal Pension Plan

35. CIC (Jipange Personal Pension Plan)

36. NCBA Individual Pension Plan

37. CPF Individual Pension Scheme

38. Cytonn Personal Retirement Benefits Scheme

39. Dry Associates Personal Provident Plan

40. Enwealth Diaspora & Expatriates Retirement Fund

41. Enwealth Personal Pension Scheme

42. Fahari Retirement Plan

43. GA Umbrella Fund

44. GA Life Personal Pension Plan

45. Gencap Individual Pension Plan

46. ICEA Lion Individual Retirement Benefits Scheme

47. Jubilee Insurance Company Ltd Personal Pension Plan

48. Mafao Fund

49. Mercantile Personal Provident Fund Scheme

50. Minet Individual Pension Plan

Appendix 2: Questionnaire

SECTION 1: General information

Name of your pension firm: …………………….

Current position in the company: ……………………

RBA COMPLIANCE

    1. Is your pension firm RBA compliant?

Yes   ☐   No   ☐

Please tick where appropriate

SECTION 2

Part A: The effect of innovation on financial performance of pension funds

In which year was the individual pension plan introduced in your company………..

	Strongly agree	Agree	Neutral	Disagree	Stronglydisagree
Do pension innovations have a direct impact financially to pension firms					
Are the current innovations aligned with the strategic goals of your pension firm?					
Are there any					

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
setbacks caused by an innovation pushed by the regulator?					
Do the benefits of innovation outride its costs					
Is there enhanced effectiveness with innovation					

Part B: The Effect of Change in Pension Model on Financial Performance of Pension Funds

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Does the new pension model have an effect on your firm financially?					
Has the new pension model attracted more clients?					

Can you attribute the current financial performance to pension the pension model?				
Do the benefits of the new pension model outride the costs of regulation?				
Is there better benefit retention with the new pension model?				

Appendix 3:Data Collection Form.

Variable	2016	2017	2018	2019	2020
Return on Assets					
Fund Value from IPP (Individual Pension Plan)					
Fund Contributions					
Total Lump sum payout					
Kenya's life expectancy					

Appendix 4: Statistical Outputs/Reports

Correlations

		Return on Assets	Fund Value from IPP (Individual	Total Lump sum payout	Fund Contributions	Kenya's life expectancy
Return on Assets	Pearson Correlation	1	.262	.598	.447	-.466
	Sig. (2-tailed)		.014	.000	.001	.001
	N	50	50	50	50	50
Fund Value from IPP (Individual	Pearson Correlation	-.262	1	.347	.259	-.066
	Sig. (2-tailed)	.014		.147	.069	.650
	N	50	50	50	50	50
Total Lump sum payout	Pearson Correlation	.598	.347	1	.339	-.341
	Sig. (2-tailed)	.000	.147		.162	.154
	N	50	50	50	50	50
Fund Contributions	Pearson Correlation	.447	.259	.339	1	-.314
	Sig. (2-tailed)	.001	.069	.162		.266
	N	50	50	50	50	50
Kenya's life expectancy	Pearson Correlation	-.466	-.066	-.341	-.314	1
	Sig. (2-tailed)	.001	.650	.154	.266	
	N	50	50	50	50	50

Run MATRIX

procedure:

written by Ahmad Daryanto

Original Regression model:

Dependent variable

 Y

R-square

   .478

OLS Output

	b	se	t	sig
constant	32.661	17.107	1.909	.063
X1	.000	.000	.359	.721
X2	.000	.000	3.425	.001
X3	.000	.000	1.787	.081
X4	-.607	.285	-2.127	.039

------- ANOVA TABLE --------

	SS	df	MS	F	Sig
Model	1631.647	4.000	407.912	10.313	.000
Residual	1779.856	45.000	39.552	-999.000	-999.000

===

Breusch-Pagan and Koenker test

==

The tests use the residuals from the above OLS

OLS output

	b	se	t	sig
constant	1.252	3.641	.344	.732
X1	.000	.000	1.172	.247
X2	.000	.000	.931	.357
X3	.000	.000	.322	.749
X4	-.032	.061	-.530	.599

R-square

.106

------- ANOVA TABLE --------

	SS	df	MS	F	Sig
Model	9.562	4.000	2.390	1.334	.000
Residual	80.607	45.000	1.791	-999.000	-999.000

------- Breusch-Pagan and Koenker test statistics and sig-values --------

	LM	Sig
BP	4.781	.311
Koenker	5.302	.258

Null hypothesis: heteroskedasticity not present (homoskedasticity)

if sig-value less than 0.05, reject the null hypothesis

Note: Breusch-Pagan test is a large sample test and assumes the residuals to be normally distributed

------ END MATRIX -----