

# **INVESTIGATION OF PENSION FUND RISKS IN KENYA**

**30<sup>th</sup> April 2019**

## **Contributors**

**Amos G. Njuguna  
Elizabeth Kalunda  
George Achoki  
Carol Yogo  
Jennifer Nyakinya**



*Report prepared for;*

Retirement Benefits Authority,  
P.O. Box 57733 – 00200,  
Nairobi, Kenya.

Tel: **+254 (20) 2809000**

*By*

United States International University – Africa,  
P.O Box 14634-0800,  
Nairobi Kenya,  
Tel: +254-730-116442  
[amnjuguna@usiu.ac.ke](mailto:amnjuguna@usiu.ac.ke)



## ACKNOWLEDGEMENTS

This report is a result of partnership between the Retirement Benefits Authority (RBA) and the United States International University – Africa (USIU-A). We thank USIU-Africa under the leadership of Prof. Paul Tiyambe Zeleza, the Vice Chancellor. Special mention goes to RBA led by the Chief Executive Officer Mr. Nzomo Mutuku, MBS. We acknowledge support from the Chief Manager, Research and Strategy, Dr. Shem Ouma for providing overall vision of the project, the lead team members from RBA namely; the Manager Research and Strategy, Mr. Lazarus Keizi as well as the Senior Research Officer, Monica Were. Others at RBA who provided data and useful insights to the research included Mr. Ben Kipanga and Mr. Dennis Osoro. We also thank all the service providers of the retirement benefits industry, trustees and members of retirement benefit schemes who participated in the study. Not forgetting the USIU-Africa **Secretariat** for this Project that worked extremely hard to ensure all the logistics and data required was available, notably; Jennifer Nyakinya. Lastly, the commitment, consistent energy and expertise displayed by the 24 USIU-A students who participated in the data collection exercise ensured that the project was completed on time.

## **EXECUTIVE SUMMARY**

This study was commissioned to investigate the risks affecting retirement benefit schemes, determine how the identified risks affect retirement benefit schemes, craft a framework to identify and monitor the risks and make recommendations for improvement. The study used mixed methods that included Focus Group Discussions with service providers, document reviews, historical secondary data and primary data collected from trustees and members of retirement benefit schemes. Methods of analysis included content analysis, thematic reviews, descriptive statistics, correlation analysis, regression analysis, Analysis of Variances, visual binning and trend analysis.

Results of the data analyzed show that the main risks affecting retirement benefit schemes are market risk (mainly driven by inflation and interest rates) and concentration risk amongst the service providers (custodians, fund managers and administrators). The frequency of regulatory and legal changes in the retirement benefits industry was also found to be regular. However, Retirement Benefit Schemes did not report significant incidences of occurrence of operational solvency, governance, outsourcing, counterparty default and technological risks. There is concern however that 30% of the members and 6% of the trustees did not know if such risks exist in the retirement benefit schemes. Emerging risks were identified as; concentration of retirement benefits assets in government securities, RBA classification of local equities as including East Africa, contagion risks, changing work dynamics, access to retirement benefits before the retirement period (early retirement), high unemployment rates and failure to devise investment strategies that relate with the younger generation.

The results indicate that the market risk has potential to erode the value of retirement benefit assets across the entire industry while concentration of retirement benefit assets and schemes in the hands of a few service providers (fund managers, custodians and administrators) have potential to affect the retirement benefit schemes in the case of an event risk affecting a major service provider. Operational, solvency, governance, outsourcing, counterparty default and technological risks have not manifested themselves significantly in the retirement benefits industry.

The risk heat map prioritizes the risks as; Market risk, concentration risk of custodians, concentration risk of fund managers, interest rate risk, inaccurate records, concentration risk of administrators, inappropriate scheme rules, wrong decisions by trustees, failure of ICT systems, inability to submit contributions, inability to pay benefits, counterparty default risk, legal and regulatory, conflict of interest and administrators giving wrong advise.

Recommendations discussed include; enhancement of trustee training, strengthening control systems, using better technology, seeking the intervention of RBA and empowering trustees to identify and deal with errant service providers in accordance with the contracts, constant monitoring of service providers, development of clear implementation plans for proposed regulatory changes, provide a risk management toolkit for retirement benefit schemes and compel risk identification and reporting in the financial reports and clearly show the risk culture.

## TABLE OF CONTENTS

ACKNOWLEDGEMENTS .....	iii
EXECUTIVE SUMMARY .....	iv
TABLE OF CONTENTS .....	vi
LIST OF FIGURES .....	viii
LIST OF TABLES .....	ix
1. BACKGROUND OF THE PROBLEM.....	1
1.1 Statement of the Problem.....	2
1.2 Purpose of the Study .....	3
1.3 Specific Objectives .....	3
2 LITERATURE REVIEW .....	4
2.1 Theoretical Foundation of the Study.....	4
2.2 Risks faced by Retirement Benefit Schemes .....	5
2.3 How the identified risks affect the pension schemes .....	7
2.4 How pension funds can mitigate against the identified risks .....	9
2.5 Conceptual Framework on Risks in Retirement Benefits Sector, their effects, mitigation and Framework Development .....	10
3 METHODOLOGY .....	11
3.1 Research Design.....	11
3.2 Population .....	12
3.3 Sampling Design and Sample Size .....	13
3.4 Research Procedures .....	15
3.5 Data Analysis .....	15
4 FINDINGS .....	17
4.1 General Information.....	17
4.2 Risks faced by Retirement Benefit Schemes .....	25
4.3 Legal and Regulatory Risks .....	30
4.4 Emerging Risks in the Retirement Benefits Industry.....	36
4.5 Effect of the Identified Risks on the Retirement Benefit Schemes.....	38
4.6 Risk Mitigation Strategies in Place.....	42
4.7 Challenges Encountered in Risk Management .....	43
5 FRAMEWORK FOR IDENTIFICATION AND MONITORING OF RISKS IN THE RETIREMENT BENEFITS INDUSTRY .....	44
6 CONCLUSIONS AND RECOMMENDATIONS .....	46
6.1 Conclusions.....	46
6.2 Recommendations.....	48

6.3	Limitations and suggestions for further research .....	48
7	REFERENCES .....	49

## LIST OF FIGURES

Figure 1 Conceptual Framework.....	10
Figure 2: Gender. ....	18
Figure 3: Age in years.....	18
Figure 4: Years of Experience. ....	19
Figure 5: Highest level of education.....	20
Figure 6: Appointment of Trustee.....	21
Figure 7: Years of existence of the Schemes. ....	22
Figure 8: Type of the Scheme. ....	23
Figure 9: Category of the scheme .....	23
Figure 10: Risk analysis.....	24
Figure 11: Frequency of Risk Analysis.....	24
Figure 12: Historical Changes in Asset values and Inflation.....	25
Figure 13: Inappropriate Scheme Rules.....	29
Figure 14: Incidences of wrong decisions by Trustees .....	29
Figure 15: Incidences of ICT System Failure .....	30
Figure 16: Frequency of Changes in Regulations .....	30
Figure 17: Frequency of Schemes not being able to submit contributions on time .....	31
Figure 18: Incidences of Inability to pay retirement benefits on time .....	32
Figure 19: Frequency of Conflicts of interest between trustees and service providers.....	32
Figure 20: Fund manager giving wrong advice .....	33
Figure 21: Frequency of Administrators giving wrong advice .....	34
Figure 22: In accurate records (member statements, financial statements) .....	34
Figure 23: Incidences of Counter Party Risk .....	35
Figure 24: Incidences of Usage of the wrong technology.....	35
Figure 25: Incidences of Information being obtained illegally from the systems.....	36
Figure 26: Risk Prevention Measures .....	43



## LIST OF TABLES

Table 1: Estimation of Trustees in Occupational Retirement Benefit Schemes .....	12
Table 2: Sample Frame .....	13
Table 3: Sample Size Estimation .....	14
Table 4: Respondents and the data collection methods used. ....	14
Table 5: Distribution of Respondents. ....	17
Table 6: Number of Years as Retirement Benefit Scheme Members. ....	20
Table 7: Position at the Retirement Benefit Scheme. ....	21
Table 8: Latest value of the retirement benefit scheme in Kenya Shillings.....	22
Table 9: Proportion of Asset Values and Schemes held by Fund Managers at 31 December 2018 .....	26
Table 10: Proportion of Asset Values and Schemes held by Custodians at 31 December 2018 .....	27
Table 11: Number of Schemes under Administration at 31 December 2018 .....	28
Table 12: Effect of Operational Risks on Retirement Benefit Schemes .....	38
Table 13: Effect of Governance Risks on Retirement Benefit Schemes.....	39
Table 14: Effect of Outsourcing Risks on Retirement Benefit Schemes .....	40
Table 15: Effect of Counterparty Default Risks on Retirement Benefit Schemes .....	41
Table 16: Effect of Technological Risks on Retirement Benefit Schemes .....	42
Table 17: Risk Heat Map for Retirement Benefit Schemes .....	45
Table 18: Key.....	45

## **1. BACKGROUND OF THE PROBLEM**

The population of elderly people (over 60 years) in Africa was estimated to increase by 50% between 2000 and 2015 and by almost 5 times in 2050. Globally, the over 60s are forecasted to be almost 2 billion by 2050. The estimated increase in the elderly population is attributed to better medical care, technological advancements and general improvements in the standards of living. The increased life expectancy is projected to lead to increased poverty and dependency indices amongst the elderly population. Well-functioning pension funds have been found to alleviate old age poverty (Palacios & Pallares-Millares, 2000; Holzman & Hinz, 2001; Stewart & Yermo, 2009), spur economic growth and investments (OECD, 2006 ; Wyatt, 2007; Dovi, 2008) developed financial markets (Yermo, 2005; Davis, 2006 )and reduced the government spending on pensions.

Globally, pension systems have been threatened by volatilities in financial markets, which have significantly eroded the pension benefits payable on retirement (OECD, 2018) default from sponsors, governance mishaps, under developed financial markets, low contributions and high costs. Risk management has been singled out as an important element in the achievement of well function pension funds (Maurer, Mitchell, & Rogalla, 2008; Bikker & De Dreu, 2009) Applied to pension funds, risk implies any variable that prevents a pension fund from achieving its intended objectives of providing adequate retirement income (Mangiero, 2006; Yermo, 2007).

Pension fund risk management has become important due to the global demographic aging coupled with social security benefit cuts and the volatile stock market returns (Maurer et al, 2008). The major concern for pension fund stakeholders has been the variability of the value of pension fund investments which have always been based on the aberrant market values (Maurer et al, 2008). (Bikker & De Dreu, 2009) Concur that pension funds are instrumental in the transfer of risk from individuals to collectives and hence are better risk managers compared to individual investors since they have incentives to invest long run and bear the long-term risks. The collectivism of the pension fund members enables them to bear risk that would have been otherwise avoided thus making them more efficient (Bikker & De Dreu, 2009)

Pension fund risk further depend on the design of the fund that can assume either the defined benefit or defined contribution model depending on whether the employer guarantees the benefits payable on exit or the contributions payable (Bodie & Merton, 2005). In a nutshell, the employer bears the investment and longevity risk of a defined benefit scheme while the same risks are borne

by the members in a defined contribution scheme (Besley, 2003; Clark, 2004). In Kenya, the predominant design is the DC accounting for over 90% of the registered schemes. Most of the DB are in the public organizations, quasi-public enterprises and big private multinationals. The key problems affecting the DB are the restraints that they impose on job mobility (employers restrict pension withdrawal when the employee leaves employment), high costs of operation, many of them are non-contributory (only the employer contributes to the scheme), many of them were underfunded, high default risks from the employer and the failure to separate pension fund assets and liabilities with those of the sponsor. Given the choice therefore, most employers prefer the defined contribution model and consequently, most traditional defined benefit schemes are converting to defined contribution (Bodie & Merton, 2005) a situation that leaves vulnerable members with residuary risks of dynamic and complex markets. The dominance of defined contribution schemes is expected to prevail in the future hence the need to rethink the risk management practices of pension funds.

### **1.1 Statement of the Problem**

In 2017/18, global pension assets increased steadily. While this is remarkable, research shows that a downward shift in financial markets would have catastrophic effect. For instance, the global pension crisis experienced between 2007/08 and extended to 2010 eroded the contributions that pension funds make to the world economies (OECD, 2008). The crisis manifests in countries having inadequate funds to cater for the retirement income of the ageing population as a result of depressed financial markets. OECD (2008) estimated that in 2008, pension assets reduced by 8.5% in Germany, 16.9% in Netherlands, 17.4% in UK, 20.1% in Japan, 21.4% in Canada, 26.2% in the United States of America, 26.7% in Australia and 37.5% in Ireland. In Kenya, the losses were estimated at 35% (RBA, 2009). Effective pension fund risk management strategies are needed to ensure that pension fund assets are protected against externalities in the investment universe.

Pension funds are expected to increase the replacement rates (percentage of retirement income to pre-retirement income) (Sze, 2008; Mitchell & Philip, 2006; Kakes & Broeders, 2006; Bettendorfa & Heijdra, 2006). According to (OECD, 2008), the replacement rates induced by pension fund growth were 17% in South Africa, 101% in Netherlands, 82% in Spain, 80% in Austria, 67% in Korea, 49% in the Czech Republic, 44% in Canada, 49% in the United States of America, 36% in Mexico and 29% in the United Kingdom. Although no statistics are indicated, OECD expects the replacement rates in other African countries to be much lower than the selected countries. Pension funds should therefore manage their risk exposure to increase the replacement rates.

RBA reports indicate that pension assets in Kenya have increased significantly to Kshs. 1,166.6 billion in June 2018 compared to Kshs. 306 billion in 2009. This increment implies that the retirement benefits sector has grown and therefore requires a critical investigation of the emerging risks that arise as the industry grows. A 2016 study on governance of retirement benefit schemes commissioned by RBA found that retirement benefit schemes lack objective risk assessment and performance management frameworks (there was consensus by fund managers and confirmed by 79.6% of the trustees). Given the above background, it is important that research be carried out on the risk exposure of pension funds and devise strategies to manage such risks.

## **1.2 Purpose of the Study**

The study seeks to identify risks in the retirement benefits sector and develop a frame work that can be used to identify and mitigate those risks.

## **1.3 Specific Objectives**

The specific objectives to be pursued by the study include;

- 1.3.1 To determine risks facing the retirement benefit schemes in Kenya.
- 1.3.2 To establish the emerging risks that are likely to affect retirement benefit schemes in the future.
- 1.3.3 Determine how the identified risks affect the retirement benefit schemes
- 1.3.4 Develop a framework for identification and monitoring of risks in the retirement benefits industry.
- 1.3.5 Provide recommendations on how retirement benefit schemes can mitigate against the identified risks.

## **2 LITERATURE REVIEW**

### **2.1 Theoretical Foundation of the Study**

Scholars agree that the foundations of risk and its management in the Pension Sector are effectively addressed in the agency, systems theory and Portfolio diversification theories. These theories are discussed in sections 2.1.1, 2.1.2 and 2.1.3.

#### **2.1.1 Portfolio diversification**

Financial theory suggests that pension funds could achieve higher returns without an undue increase in risk through well-diversified asset allocation. Investors can seek out more diverse sources of return by investing in different types of instrument, in different sectors, or in assets issued by entities located in different countries or expressed in different currencies. If these investments are de-correlated from each other, and consequently react differently to market events, investors can reduce the overall risk of their portfolios.

#### **2.1.2 Agency theory**

Agency theory postulates the conflicts of interest stemming from separation of ownership and management in contexts where human beings are self-centered and fail to act in the best of the interests of others (Berle & Means, 1932) granted that the firm is a nexus of contracts (Jensen & Meckling, 1976). The nexus of contract can be effectively analyzed under the indirect agency theory as postulated by Njuguna (2016). In this context, identification, monitoring and mitigation of risks in the retirement benefits sector can be addressed through analyzing the conflicts arising out of the agency problem that may arise among the different agents-principals relationships that exist in the pension system.

#### **2.1.3 Systems theory view of pension funds**

A systems theory analyzes a phenomenon seen as a whole and not as simply the sum of elementary parts. The focus is on the interactions and on the relationships between parts in order to understand an entity's organization, functioning and outcomes (Mele, Pels, & Polese, 2010). Pension funds as organizations, can be viewed as open systems that collect and accumulate contributions from members and their sponsors, invest the contributions and hold the proceeds in stewardship for the benefit of the members upon retirement. Following this systems theory approach (inputs – conversion – outputs), efficiency in the present study is conceptualized as the pension fund's ability to maximize financial outputs (pension fund value and retirement benefits) from the scarce financial resources (contributions, investment funds, other inputs) available to it.

The systems approach is also evident in the OECD's (2004) description of efficiency. The latter defines efficiency as controlling spending, accomplishing more with lesser financial resources, commissioning long term investments to save financial resources in the long term and using budgets prudently. Emery and Trist (1960, as cited by Mele *et al*, 2010) address organizations as socio-technical systems, underlining the two main components of the firm seen as a system: a social component (people), and a technical component

(technology and machines). Concurring with the systems approach, pension fund efficiency in the present study is defined as the ability of a pension fund to maximize its financial outputs (retirement benefits and asset values), operate at minimal costs using available resources and technologies, pay retirement benefits on time and generally optimize gains to members.

## **2.2 Risks faced by Retirement Benefit Schemes**

### **2.2.1 Investment or market risk**

Investment or market risk fund refer to risk of losses due to adverse movements in interest rates and other market prices (IOPS, 2012) and it is a major challenge for any pension. The risk may also arise due to investment in unregulated/ unlisted products. ‘Concentration’ risk is also possible – i.e. risk that the pension fund’s portfolio is not adequately diversified and is too exposed to one asset or issuer. Investment risk is a major challenge for any pension fund and therefore should be a key element of their risk management systems.

Pension capital is a major component of savings for many individuals worldwide, and pension funds are some of the largest investors in the world, with considerable impact on stock markets (OECD, 2015c). The investment decisions of pension funds also impact the retirement income of large segments of the population (OECD, 2015a). Pension fund members can benefit from economies of scale in investment (Bikker& De Dreu, 2009) and (intergenerational) risk sharing (Bovenberg&Mehlkopf, 2014).

### **2.2.2 Operational Risk**

Operational risks refer to the risk of losses resulting from inadequate internal processes, people and systems, including IT systems (IOPS, 2012). IT risk - a subset of operational risk - is the risk arising from inadequate information technology and processing in terms of manageability, exclusivity, integrity, infrastructure, controllability and continuity. Technology is rapidly transforming the way that the pensions are operating, managed and services are delivered. Innovative applications of technology for financial services, or FinTech, are already being used to improve communication with consumers and their engagement with their pension plans. FinTech has great potential to help pension providers make their internal processes more efficient and improve their risk management.

### **2.2.3 Legal and regulatory risks**

Legal and regulatory risk refer to the likelihood of adverse consequences arising from the failure to comply with all relevant laws and regulations(IOPS, 2012). These include risk of changes in legislation and risks of complying with inappropriate or unclear regulation. However it has been noted that regulators have moved their focus from the prudential and misconduct issues affecting investment and retail banks, to other parts of the financial system, particularly asset managers(Schroders Annual Report and Accounts , 2017). There has been an increased regulatory focus on transparency of objectives, pricing, fees and other indirect

costs borne by end investors and clients and there is need to enhance regulation of distribution through digital channels and robo-advice.

#### **2.2.4 Governance risk**

OECD Guidelines for Pension Fund Governance pension plan's stipulates that the governance structure should have defined and separate operational and oversight responsibilities of the stakeholders (OECD, 2009). The guidelines further give details on identification of responsibilities; structure and roles of the governing body; accountability of the governing body; members' suitability; delegation or roles and use of expert advice; external auditor appointment actuaries and custodians. Governance mechanisms should be implemented by adopting Risk-based internal controls having well defined reporting channels between all the persons and entities and disclosure of relevant information to all parties involved.

#### **2.2.5 Financial Crime Risk**

A financial crime is a regulatory, reputational, or monetary act or attempt against financial services institutions, corporations, governments, or individuals by internal or external agents to steal, defraud, manipulate, or circumvent established rules(NICE Actimize, 2016). Financial crimes include activities ranging from fraud through to the active manipulation of the stock market, or laundering the proceeds of crime(Australian Criminal Intelligence Commission, 2018). Financial crimes cover a broad range of activities often combining licit and illicit financial transactions thus making it difficult to fully gauge the extent of these activities in the pension sector.

#### **2.2.6 Outsourcing Risk**

Pension boards that lack administrative functional competencies should outsource those functions subject within the legal regulations (Ambachtsheer, Capelle, & Lum, 2007). Outsourcing risk is the risk that engaging a third party to provide key services can adversely impact the institution's performance.

#### **2.2.7 Members Associated Risks**

Final pension benefits and pension benefits' risk depend on the asset allocation (OECD, 2015a). Asset allocations with more equities and less bonds have higher expected returns, but are riskier(Dimson, Nagel, & Quigley, 2003). The optimal asset allocation for an individual depends, among other things, on the individual's risk preferences. Research shows that individuals differ significantly in terms of how they trade off expected returns with risk in financial investments(Tversky & Kahneman, 1992). Therefore, members are likely to also differ in terms of the extent to which they trade off expected pension benefits and the riskiness of those benefits.

#### **2.2.8 Counter party Default Risk.**

Counterparty default risk is broadly the risk of loss from the failures of a counterparty to meet its obligations through failure to meet the terms of any contract with the institution or otherwise fail to perform as agreed,

including the possibility of restrictions on or impediments to the transfer of payments from abroad(IOPS, 2012).

### **2.2.9 Emerging risks**

#### **2.2.10 Artificial Intelligence and Block chain**

Artificial intelligence and particularly its robo-advisory will deeply impacts the pension industry's investment management and will do so increasingly. Robo-advisors are cheaper than their human counterparts, easier to access, and available to a larger number of people. According to a report from the OECD (2017a), robo-advisors deliver financial advice that is objective, consistent and transparent, thanks to the use of unbiased algorithms that cannot be swayed. This technology also provides a better affordability of, and accessibility to, a broader range of investments, in part due to better interfaces and customer experience. The distributed ledger technology (DLT) or block-chain, one of the most recent disruptive technologies applied to the pension industry. According to the OECD (2017a), DLT facilitate cheaper and safer transactions, and could have a couple of use cases in the pensions sector like portfolio, aid in compliance and its monitoring; and enable transactions on the dashboard, such as consolidating multiple pots. However the risks associated with these advances in technology need to be clearly known and mitigated.

Regulators need to ensure that existing regulation for financial advice is appropriately applied to robo-advisors, members need to be kept continually engaged in the the investment process and finally, mechanisms need to be in place to protect consumer's assets and mitigate potential systemic risk from these platforms(OECD, 2017a).

#### **2.2.11 Cyber Risks**

Pension schemes hold large amounts of personal data and assets which can make them a target for fraudsters and criminals (The Pensions Regulator, 2018). Trustees and scheme managers need to take steps to protect their members and assets against the cyber risks. The cyber risk can be broadly defined as the risk of loss, disruption or damage to a scheme or its members as a result of the failure of its information technology systems and processes. It includes risks to information (data security) as well as assets, and both internal risks (eg from staff) and external risks (eg hacking) (The Pensions Regulator, 2018).

### **2.3 How the identified risks affect the pension schemes**

The different risk identified affect pension schemes in different ways but ultimately they reduce the efficiency of the schemes by reducing their ability to meet their objectives. Investment risk leads to underfunding in DB plans and low balances in DC accounts(IOPS, 2012). Other implications are increased



cost, low asset values, low benefits and investments in risky assets and reduced participation of members in decision making. Operational cost and efficiency on the other hand if not well managed can lead to excess costs which reduce pension capital and thus members' final benefits (Alserda, 2017).

Pension fund legislation stipulates the following fiduciary obligations that trustees should comply with: communication with members; policies to ensure proper and accurate actuarial valuations; to ensure that contributions are received on time; the prudent investment of the pension fund's money; timely payment of accurate benefits in accordance with the terms of the fund and the law; and how to ensure that the pension fund is appropriately funded (Macharia, 2011). Consequences of noncompliance are delayed or no financial reports, penalties that erode members' final benefits, reputational risk and inaccurate members' records.

Governance Risk if not well addressed may lead to poor quality and an ineffective structure of board leading to operational weakness stemming from poorly defined responsibilities, weakness in composition and suitability of the board, inability to understand the advice of experts, conflicts of interest within boards. This eventually leads to loss of the funds' assets and poor growth of the fund resulting to inability to cater for the retirement needs of the population. Financial crime risks can result to increased exchange and interest rates volatility, reputation damage, loss of consumer confidence in businesses, negative effects on economic growth, reduced ability to attract foreign investment and increased costs of security and regulation (Australian Criminal Intelligence Commission, 2018).

Outsourcing risk if not managed effectively can lead (Berle & Means, 1932) to value leakage and adversely impact an organization's financial performance, operating model integrity and reputation (Wall Street Journal, 2014). Additional effects of outsourcing risk include loss of control, low-quality product, hidden costs, security and compliance breach (DAXX, 2018). Some of the risks associated with outsourcing are: Lack of control on the quality of the product/service provided by the members of pension scheme; Low level of attention to member's needs; No motivation to offer enhanced support to staff and sponsor (Franzen, 2010). Additionally, technological advances may lead to a greater degree of advice from and outsourcing to specialized providers, for example enhanced analytics companies. These companies may fall outside the scope of pensions' regulators, but a failure by them could have negative consequences for confidence in private pensions.

A research titled 'The value and risk of Defined Contribution Pension Schemes: International Evidence' (Cannon & Tonks, 2013) suggests that it is those who are on low incomes while working who will secure the lowest rate of replacement of that already low income, when they retire. The shift to defined contribution schemes will mean that poverty in working life will continue into retirement. In cases where members of a DC are passive due to limited financial literacy and select the default fund, the provider's choice of default

fund type will be a crucial determinant of their subsequent retirement income. However, default funds have been noted to be risky, with quite high (although still varying) allocations to equity.

Despite the benefits of technological advancement associated potential risks include aggravated financial exclusion for those who do not engage with digital communications; conversely, there is some concern that consumers will place too much trust in technological solutions and so the fall-out from any problems with FinTech will be particularly damaging; data privacy and security risks are heightened with the introduction of technologies that rely on the capture, storage and analysis of large quantities of data in order to provide improved services; FinTech providers that use cloud-based IT services may put data beyond the reach of regulators.

Pension fund, additionally, are exposed to technology and information security risk which relate to the risk that the ICT system may be inadequate or fail to adapt to changing requirements, systems could be penetrated by third parties or data is held insecurely among other risks (Schroders Annual Report and Accounts , 2017). The cyber risk is complex and evolving and requires dynamic responses due to the adverse impact it can cause (The Pensions Regulator, 2018).

## **2.4 How pension funds can mitigate against the identified risks**

Different risk management strategies have been developed as evidenced by the move to risk based supervision from non-risk to risk based approaches. Risk-based supervision (RBS) is a structured approach which focuses on the identification of potential risks faced by pension plans or funds and the assessment of the financial and operational factors in place to minimize and mitigate those risks(IOPS, 2012). CMA guidelines on the prevention of money laundering and terrorism financing in the capital markets recommends a risk based approach as a mitigation strategy(CMA, 2015).

This process then allows the supervisory authority to direct its resources towards the issues and institutions which pose the greatest threat. Risk-based supervision leads to development of internal controls that seek to prevent occurrence of risk as opposed to reconstruction after the occurrence of risk(Brunner, Hinz, & Rocha, 2008). Brunner et al. (2008) recommend risk based supervision of pension funds because it reduces the risk of underfunding, limits losses caused by adverse movements in asset (shares and bonds) prices, avoids risky investments and allocates efficiently the scarce supervisory resources. Risk based supervision thus results in improved products and lower operating costs for pension funds (Njuguna, 2010).

### **2.4.1 Framework for identification, mitigation and monitoring for the Authority to use in future**

Pension funds need to develop a risk management framework to ensure that the investment goals are achieved(Amana, 2006). Such a framework includes, portfolio diversification aimed at minimizing the

overall risk, active portfolio management, asset allocation, tactical asset allocation that ensures an acceptable risk tolerance strategy, research driven investment strategy that results to stock picking and the use of derivative securities to minimize portfolio volatility thus increasing the pension fund's returns(Amana, 2006).

Pension fund risk management involves five steps namely identification (threats and opportunities), evaluation, prioritization, treatment (accept, mitigate, exploit or avoid) and monitoring (Blake, 2007). According to Blake (2007)pension fund risk management is a structured process that should be handled with expertise to optimize pension benefits. The main goals of pension fund risk management are the minimization of pension costs and minimization of the chances of benefit cuts to beneficiaries(Blome, Fachinger, Franzen, Scheuenstuhl, & Yermo, 2007)

### 2.5 Conceptual Framework on Risks in Retirement Benefits Sector, their effects, mitigation and Framework Development

The theoretical and empirical reviews conducted in the literature review point out to the fact that there are risks in the retirement benefit sector whose impact should be identified and mitigation strategies designed. There is therefore need to develop appropriate strategies and framework for use in risk management.

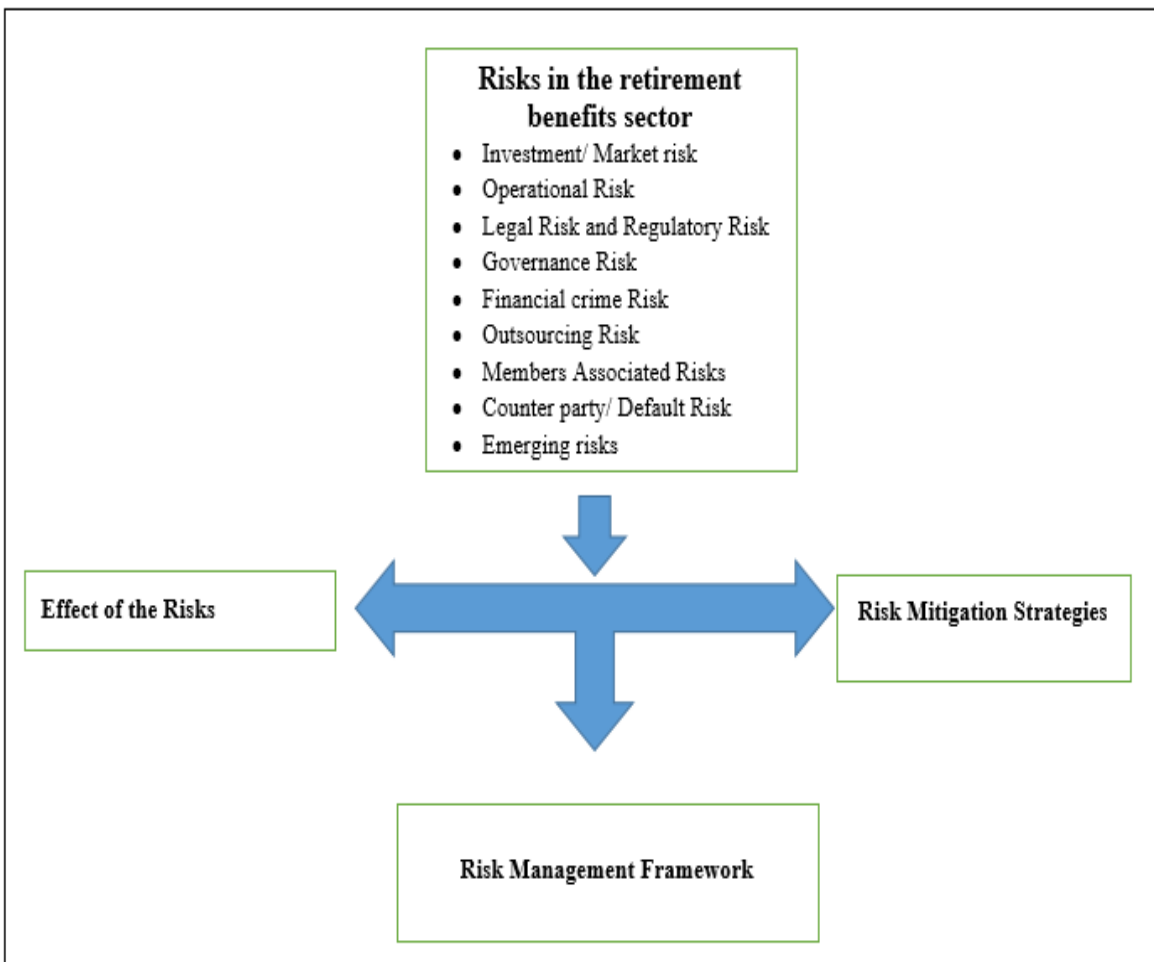


Figure 1 Conceptual Framework

### 3 METHODOLOGY

#### 3.1 Research Design

A mixed research design was applied by undertaking both quantitative and qualitative risk analysis of retirement benefit schemes. Using the information available from the review of previous studies on the suggested research objectives, draft data collection instruments (questionnaires and interview guides) with the main themes of the study were developed, discussed and validated with key informants in the retirement benefits industry (investment managers, administrators, RBA officials and auditors) by use of focus group discussions.

A descriptive survey design was then adopted where questionnaires were distributed to a wider group of respondents. Data collected from different categories of stakeholders was related and contrasted to enhance triangulation of the findings. The design was applied flexibly to answer each of the stated research questions.

#### ***Objective 1: To determine risks facing the retirement benefit schemes in Kenya***

A detailed literature review on the risks facing retirement benefit schemes was conducted and validated by a focus group discussion with the service providers and consequent survey with trustees and members. This was done to understand the frequency and impact of these risks and also inform the development of the risk heat map. For the market and concentration risks, secondary data was used to derive the meaning in the data.

#### ***Objective 2: To determine emerging risks facing the retirement benefit schemes in Kenya***

A detailed literature review on emerging risks facing retirement benefit schemes was conducted and validated by a focus group discussion with the service providers.

#### ***Objective 3: Determine how the identified risks affect the retirement benefit schemes***

To achieve this objective, detailed data collection instruments were developed to capture exactly how the identified risks affect the sampled retirement benefit schemes. The analysis was sufficient to explain;

- (a) If the risk profile differs on the basis of size of the scheme measured by asset values and number of members
- (b) If the risk profile differs on the basis of design (defined benefit or defined contribution)

#### ***Objective 4: Develop a framework for identification, mitigation and monitoring framework for the Authority to use in future***

The outputs from objectives 1, 2 and 3 were combined to give a risk heat map.

**Objective 5: Provide recommendations on how retirement benefit schemes can mitigate against the identified risks**

Recommendations for risk mitigation were first identified through detailed literature review and validated with service providers, trustees and members to the extent possible.

### **3.2 Population**

Different constituents (stakeholders) in the study formed the population of the study. These constituents are explained in sections 3.2.1 to 3.2.6 as adopted from RBA materials and previous researchers commissioned by RBA.

#### **3.2.1 Trustees of the Occupational Retirement Benefit Schemes**

According to the RBA regulations, every occupational retirement benefit scheme in Kenya is governed by a body of trustees, who are either appointed by the sponsor or the members. In defined contribution schemes the ratio of sponsor and member appointed trustees is 50:50 while in the defined benefit schemes, the ratio is one-third to two thirds in favor of the sponsor. Additionally, the number of trustees is fixed as 4-9 in a defined contribution scheme and 3-9 in a defined benefit scheme. The population of trustees in Kenyan retirement benefit schemes is estimated to be 8124 as indicate in table 1 below.

**Table 1: Estimation of Trustees in Occupational Retirement Benefit Schemes**

<b>Type of Scheme</b>	<b>Number of Schemes</b>	<b>Average Number of Trustees per Scheme</b>	<b>Total Number of Trustees</b>	<b>Sponsor Appointed</b>	<b>Member Appointed</b>
Defined Contribution with individual trustees 93%	1149	7	8,043	4,022	4,021
Defined Benefit with individual trustees 7%	81	6	486	324	162
Schemes with Corporate Trustees	70		70		
<b>Total</b>	<b>1300</b>		<b>8,599</b>	<b>4,346</b>	<b>4,183</b>

Note: The numbers are estimated using RBA generated data and studies. Proportions may change slightly on further advice of the research panel and RBA officials.

#### **3.2.2 Fund Managers**

RBA has licensed a total of 21 fund managers (RBA, 2018) who made up the population of the study.

#### **3.2.3 Administrators**

RBA (2018) has licensed a total of 31 administrators who made up the population of the study.

#### **3.2.4 Custodians**

RBA (2018) has licensed a total of 11 custodians who made up the population of the study.

### 3.2.5 Actuaries

RBA works with 11 actuaries, 7 are located in Kenya (RBA, 2018) who were involved in the study.

### 3.2.6 Members

According to the RBA documents, the occupational retirement, umbrella and individual retirement benefit schemes are 1300 (1242 occupational, 32 individual and umbrella 26). The members of these schemes formed another constituent of the population of the study.

## 3.3 Sampling Design and Sample Size

### 3.3.1 Sample Frame

Based on the different population, the sample frame work is presented in table 2:

**Table 2: Sample Frame**

<b>Description</b>	<b>Total</b>
Total number of occupational retirement schemes	1242
Total number of umbrella schemes	26
Total number of individual registered schemes	32
Average number of trustees per Scheme	7
Total number of trustees	8,599
Fund managers	21
Scheme administrators	31
Custodians	11
Actuaries	11
Total number of members	2.2 Million+

### 3.3.2 Sampling Technique and Sample Sizes

The survey used two sampling techniques: Census and Multi-stage sampling. Census was employed for fund managers (21), scheme administrators (31), custodians (11), and actuaries (11). Census is the best method as it will ensure equal representation of these clusters who are less than 50.

Multi-stage sampling was used in two fold; cluster sampling and random sampling of the schemes in each cluster. According to Saunders, Lewis and Thornhill (2016), cluster sampling can permit large sample size, can be used for dispersed clusters and relevant to cluster. The sample will also be drawn in such a way that it includes both defined contribution and defined benefit schemes. The consequent sample sizes for each category are included in table 3.

**Table 3: Sample Size Estimation**

<b>Description</b>	<b>Population</b>	<b>Sample Size</b>	<b>Respondents</b>
Occupational retirement schemes	1,242	431	Trustees and members
Total number of individual trustees	8,599	431	Trustees
<b>Service providers</b>			
Fund managers	20	21	Managers
Scheme administrators	29	31	Managers
Custodians	11	11	Managers
Actuaries	12	11	Managers
<b>Members</b>			
Occupational retirement schemes	2.2 million+	1,374	Members

**Note:**

1. Sample of Members is subject to margin of error of 5% and a 95% confidence level.
2. Sample of the occupational retirement schemes is subject to a margin of error of 5% and a 95% confidence level.
3. The respondents in the categories of members, sponsor appointed and member elected trustees will be randomly drawn from the participating schemes.

**3.3.3 Data Collection Methods**

Focused Group Discussion and Questionnaire are the two data collection methods to be used. All Fund managers, Scheme administrators, Custodians, and Actuaries were involved in focused group discussion. Questionnaires were administered to trustees, sponsors and members of the selected schemes. The tools elaborated on all the objectives: current risks and strategies to overcome the risks. Table 4 shows the sample sizes and the specific methods that were used for data collection.

**Table 4: Respondents and the data collection methods used.**

<b>Description</b>	<b>Sample Size</b>	<b>Data Collection Method</b>
Corporate trustees	50	Focus Group Discussions
Trustees of retirement benefit schemes	431	Questionnaires
<b>Service providers</b>		
Fund managers	21	Focus Group Discussions
Scheme administrators	31	Focus Group Discussions
Custodians	11	Focus Group Discussions
Actuaries	12	Focus Group Discussions
Members	1,374	Questionnaires

### **3.4 Research Procedures**

Upon approval of the proposal and signing the contract, USIU-A team met with the RBA team for deliberation and agreement on cluster of schemes, the number of members and procedure to be followed. USIU-A team delivered the inception report and RBA introduced the USIU-A team to their members in readiness for the study. Focused Group Discussions were done with the Fund managers, Scheme administrators, Custodians, and Actuaries. All the FGD were recorded, transcribed and prepared for analysis.

Data collection instruments were developed based on literature review and output from FGDs and pre-tested for validity and reliability before distribution to trustees and members. Based on clustered schemes and proportional distribution of members in each scheme (cluster to be agreed by the USIU-A team and RBA team), the final instruments were distributed to scheme members present at their work places. The distribution was through printed copies and e-questionnaires. After the collection, raw data was assembled, cleaned and prepared for analysis.

### **3.5 Data Analysis**

Data coding, entry and cleaning will be conducted before analysis in SPSS V22 for quantitative data and NVIVO V10 for qualitative data. Qualitative data was analyzed thematically. For quantitative data, descriptive and inferential statistics will be used; percentages, cross tabulation based on schemes, confirmatory factor analysis to reduce weak variables, and regression. The analysis approaches suitable for each objective are discussed below;

***Objective 1: To determine risks facing the retirement benefit schemes in Kenya that could lead to their inability to deliver the pension promise.***

- Content analysis
- Qualitative data was analysed by use of thematic reviews
- Frequency and impact of occurrence of the risk was done by use of descriptive statistics
- Assessment of market and concentration risks was done by use of correlation and regression analysis.

***Objective 2: To determine emerging risks facing the retirement benefit schemes***

- Content analysis
- Qualitative data was analysed by use of thematic reviews

***Objective 3: Determine how the identified risks affect the retirement benefit schemes***

- Descriptive statistics to calculate risk scores



- Analysis of Variances to determine how the risk scores affect retirement benefit schemes of different sizes, designs and service providers amongst other factors that will be identified.
- Regression analysis to develop a market risk prediction model

***Objective 4: Develop a framework for identification, mitigation and monitoring framework for the Authority to use in future.***

- Content analysis
- Thematic review of qualitative data

***Objective 5: Provide recommendations on how retirement benefit schemes can mitigate against the identified risks***

- Content analysis
- Thematic review of qualitative data
- Factor analysis to filter the most effective approaches to the management of the identified risks that will form the code of risk mitigation for retirement benefit schemes.

### **3.5.1 Ethics**

USIU-A is an accredited research university by the National Council of Science and Technology (NACOSTI). This accreditation commits the university to be ethical in conducting research by maintaining honesty, no plagiarism or fraud, and no abusing of the privileges bestowed on researchers. The university further assures all respondents who provide data; confidentially, privacy and anonymity in addition to voluntary and informed consent. Lastly, all persons who come across the findings are assured that all findings will not be withheld or distorted.

## 4 FINDINGS

### 4.1 General Information

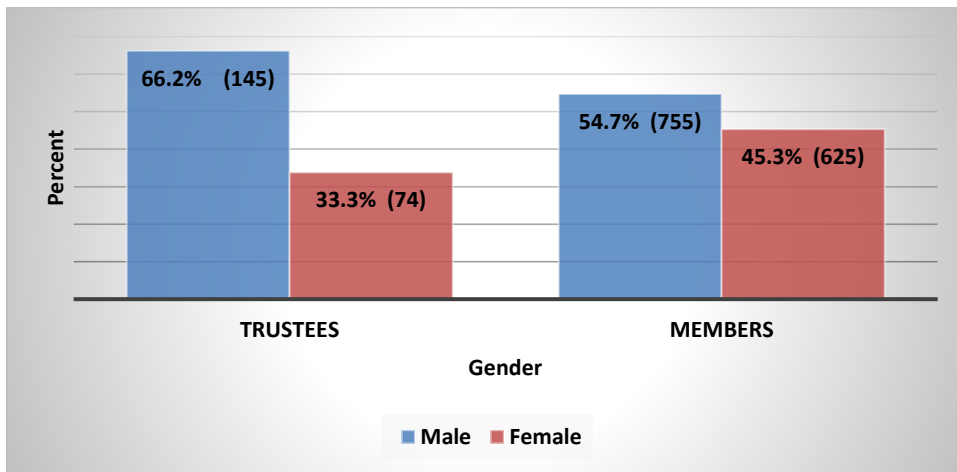
Data was collected from 218 retirement benefit schemes (response rate 61%) spread across 20 counties as indicated in table 5. The response rate for members was 100% (n=1403), trustees (52%) and service providers (67%).

**Table 5: Distribution of Respondents.**

County	No of schemes	Member		Trustee	
		Frequency	Percent	Frequency	Percent
1 Bomet	1	4	0.3	2	0.9
2 Bungoma	5	24	1.7	4	1.7
3 Embu	3	15	1.1	2	0.9
4 Kajiado	2	11	0.8	2	0.9
5 Kakamega	1	8	0.6	1	0.4
6 Kericho	4	15	1.1	4	4.0
7 Kiambu	12	63	4.5	10	4.4
8 Kilifi	3	24	1.7	3	1.3
9 Kisumu	4	25	1.8	4	1.7
10 Machakos	3	27	1.9	3	2.2
11 Meru	5	17	1.2	2	0.8
12 Mombasa	33	308	22.0	32	17.3
13 Nairobi	120	718	51.2	117	51.8
14 Nakuru	8	45	1.4	5	2.2
15 Narok	2	14	1.0	2	0.9
16 Nyeri	4	33	2.4	3	4.0
17 Siaya	1	8	0.6	1	0.4
18 TharakaNithi	1	7	0.5	1	0.4
19 UasinGishu	5	30	2.1	5	3.1
20 Vihiga	1	7	0.5	1	0.4
<b>Total</b>	<b>218</b>	<b>1403</b>	<b>100.0</b>	<b>219</b>	<b>100.0</b>

#### 4.1.1 Gender

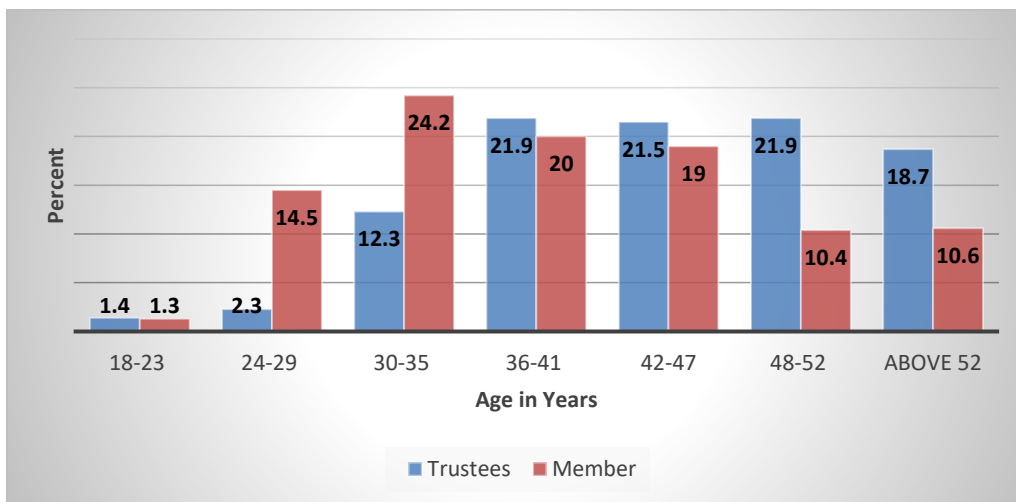
The composition of trustees was 33.8 % (n=74) female and 66.2 % (n=145) male while that of members were 45.3 % (n=625) female and 54.7 % (n=755) male as indicated in figure 2 .



**Figure 2: Gender.**

**4.1.2 Age**

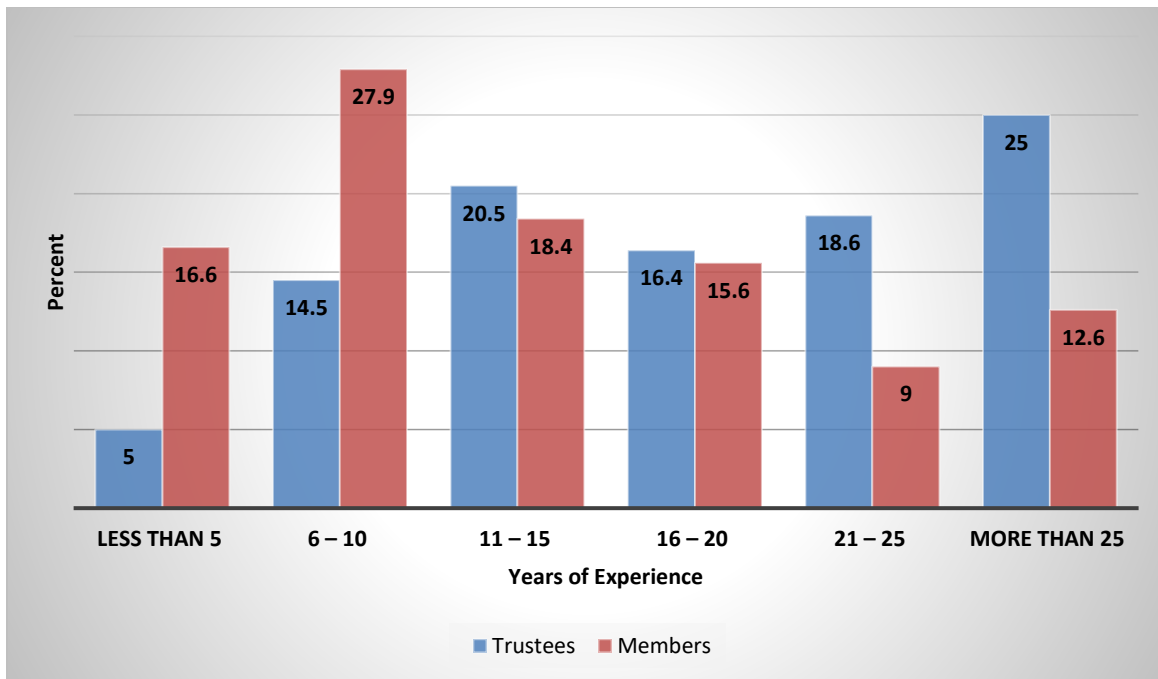
Most of the trustees 96.3% (n=197) were more than 30 years old compared to 84.2% of members in the same age bracket as shown in figure 3.



**Figure 3: Age in years**

**4.1.3 Years of Experience**

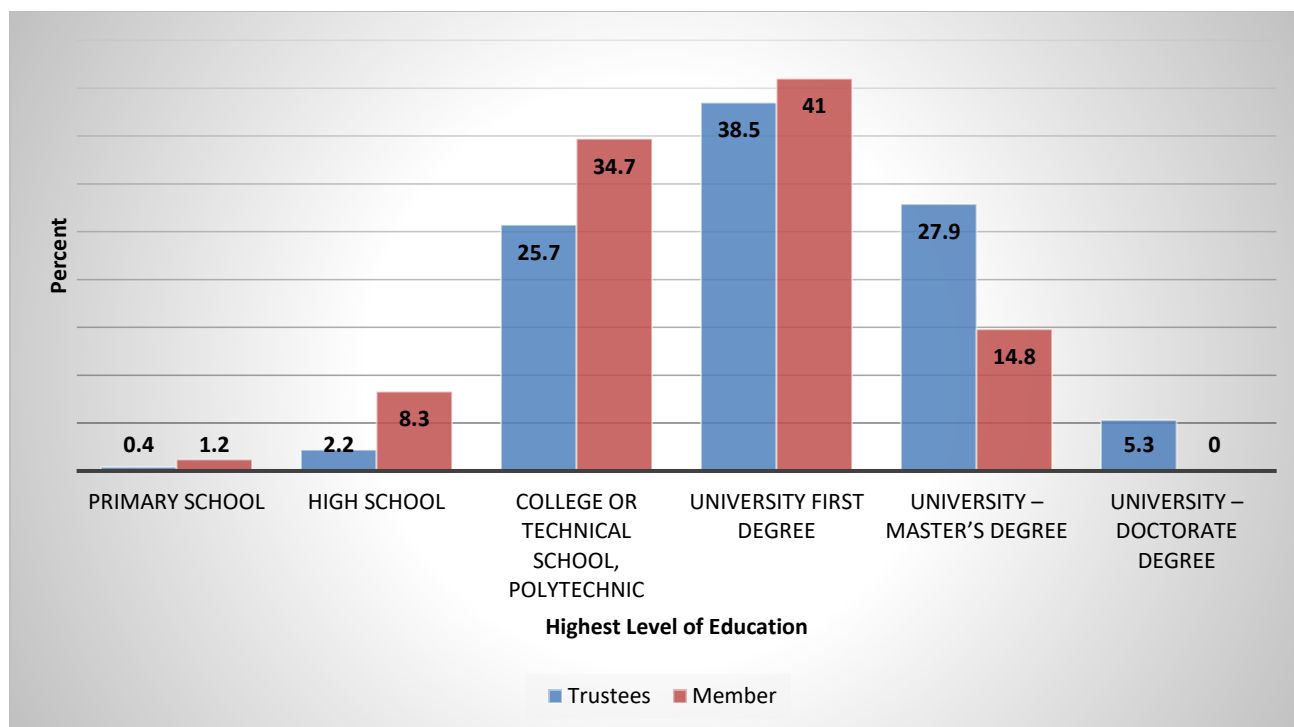
Ninety five percent (n=209) of the trustees had worked for more than 5 years while most of the members had worked for less than 21 years (78.5%, n=1092) as indicated in the figure 4.



*Figure 4: Years of Experience.*

#### 4.1.4 Highest Level of Education

Comparatively, trustees had higher level of education compared to members as 97.9% (n=220) of them had the highest education level beyond high school with 71.7 % ( n=162) of them holding university degrees compared to 55.8% (n=773) of the members who had university degrees as indicated in figure 5.



**Figure 5: Highest level of education**

#### 4.1.5 Duration of Membership

The analysis shows that trustees have more years of membership in their scheme than members as 89.7% (n=201) have been members of their schemes for more than 5 years. In contrast 73.4% (n=1014) of the members have been in their retirement benefit schemes for more than 5 years as indicated in table 6

**Table 6: Number of Years as Retirement Benefit Scheme Members.**

	Trustees		Member	
	Frequency	Percent	Frequency	Percent
Less than 5 years	23	10.3	367	26.6
6 – 10 years	58	25.9	399	28.9
11 – 15 years	46	20.5	243	17.6
16 – 20 years	39	17.4	176	12.7
21 – 25 years	30	13.4	89	6.4
More than 25 years	28	12.5	107	7.7
<b>Total</b>	<b>224</b>	<b>100</b>	<b>1381</b>	<b>100</b>

#### 4.1.6 Position at the Retirement Benefit Scheme

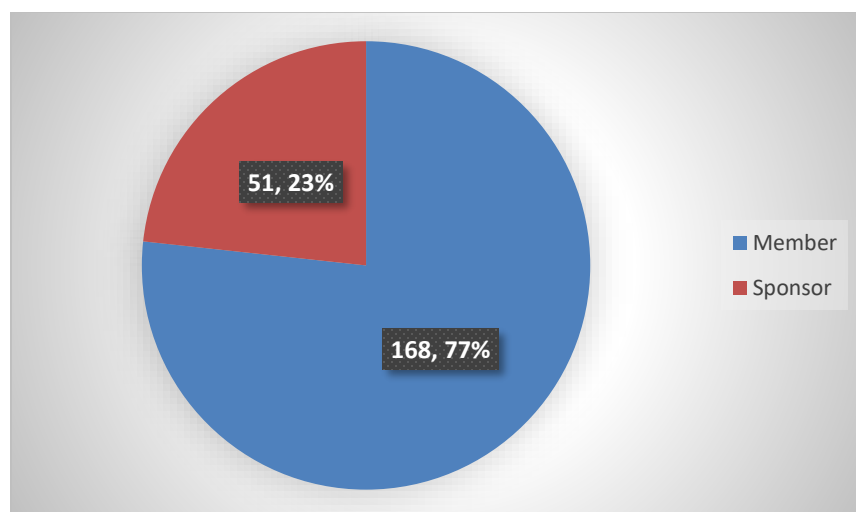
Majority of the members 92.8% (n=1285) are members who have never been trustees and only 7.2% (n=99) are the members who have been trustees as shown in the table 7 below.

**Table 7: Position at the Retirement Benefit Scheme.**

	Members	
	Frequency	Percent
Member and has never been a trustee.	1285	92.8
Member and current trustee as well.	62	4.5
Member and is a former trustee.	37	2.7
<b>Total</b>	<b>1384</b>	<b>100</b>

#### **4.1.7 Appointment of Trustees**

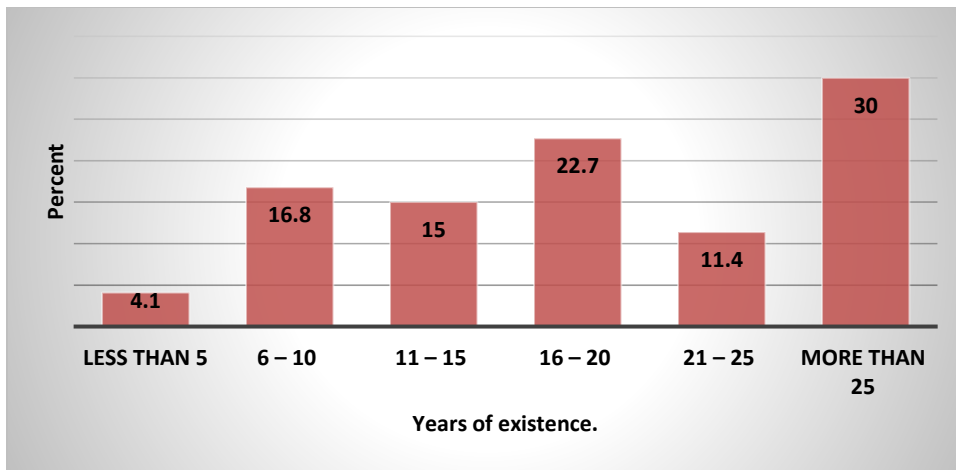
Seventy six percent of the trustees were appointed by members while 23.3% were appointed by the sponsors as depicted in figure 6



**Figure 6: Appointment of Trustee**

#### **4.1.8 Years of existence of the Schemes**

Ninety six percent of the schemes surveyed have existed for more than 5 years as shown in figure 7



*Figure 7: Years of existence of the Schemes.*

#### 4.1.9 The latest value of the retirement benefit scheme

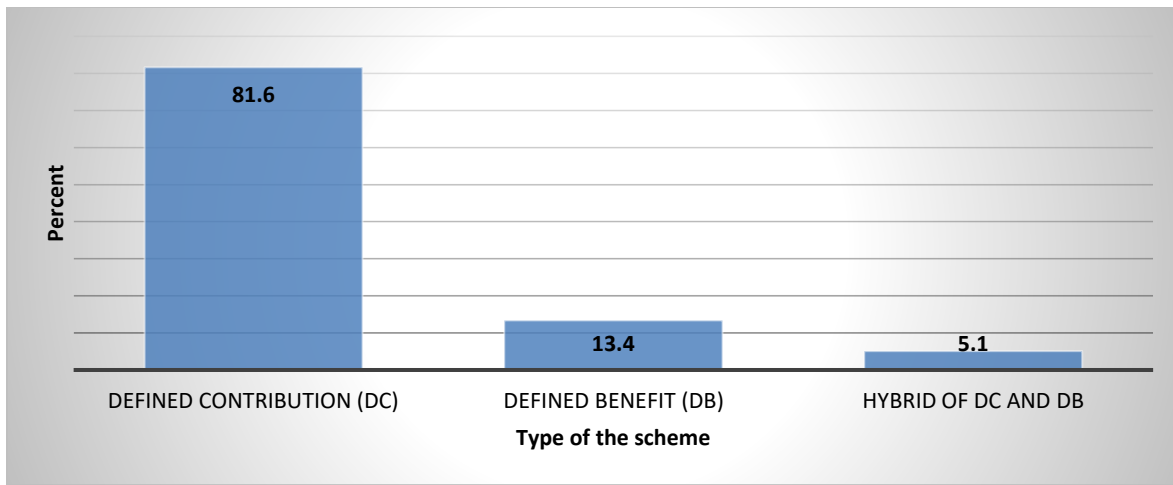
Fifty percent of the schemes (n=109) had asset values less than Ksh. 100 million; 37% are valued between 100 million and 700 million shillings while 12.9% are valued above 700 million shillings as shown in the table 8

**Table 8: Latest value of the retirement benefit scheme in Kenya Shillings**

	Frequency	Percent
Less than 100 million	109	50
101 million – 300 million	39	17.9
301 million – 500 million	18	8.3
500 million – 700 million	24	11
700 million – 1 billion	6	2.8
1.1 billion – 2 billion	5	2.3
Greater than 2 billion	17	7.8
<b>Total</b>	<b>218</b>	<b>100</b>

#### 4.1.10 Type of the Scheme

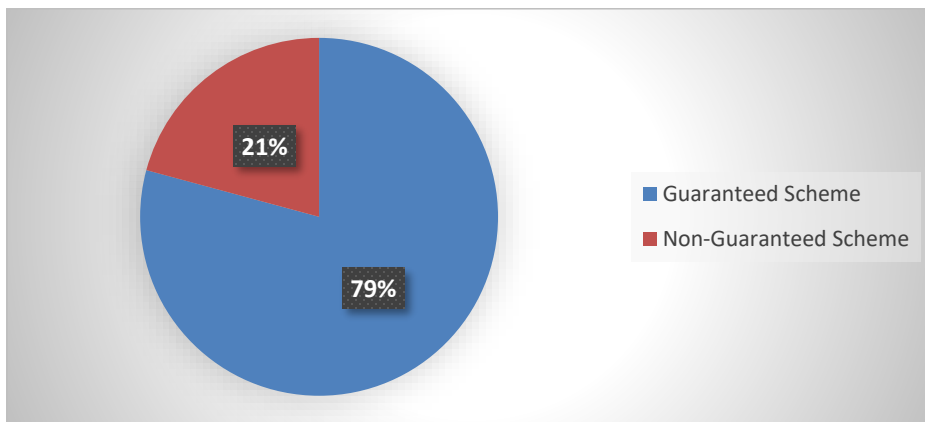
Further analysis shows that majority 81% (n=177) of the schemes are Defined Contribution (DC) schemes, 13.4% (n=29) are Defined Benefit (DB) and 5.1% (n=11) are Hybrid of DC and DB as indicated in figure 8.



**Figure 8: Type of the Scheme.**

**4.1.11 Category of the scheme**

The study shows that 79.2% (n=171) of the schemes are Guaranteed Schemes while 20.8% (n=45) are segregated schemes as indicated in figure 9

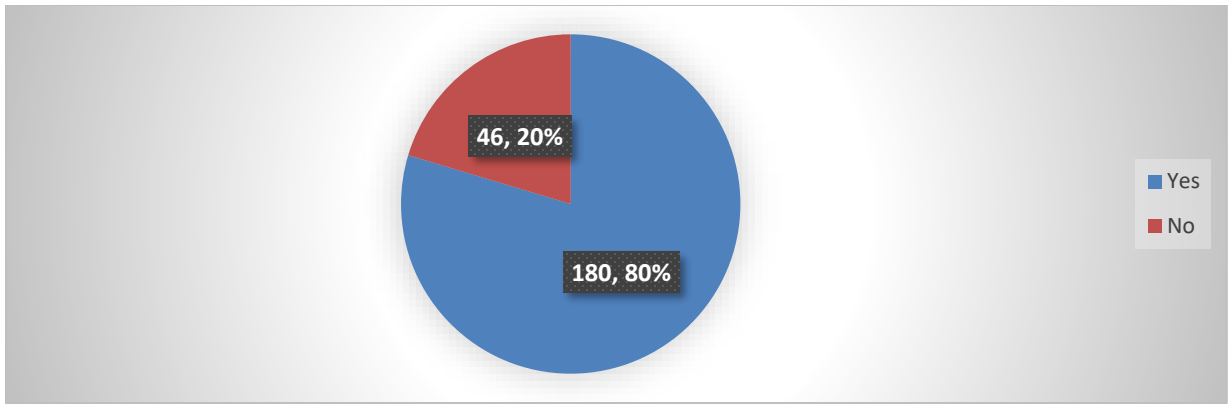


**Figure 9: Category of the scheme**

**4.1.12 Risk Analysis**

The trustees were asked if they analyze risks facing their schemes and 80% (n=180) answered in the affirmative as shown in figure 10.

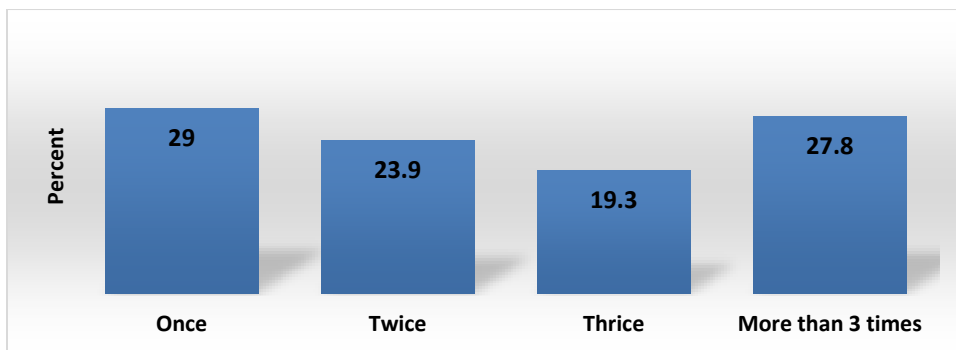




*Figure 10: Risk analysis.*

#### 4.1.13 Frequency of Risk analysis

The trustees who stated that they analyze risks facing their schemes were asked how often they carried out the exercise. Seventy one percent (n=125) stated that they do it more than once in a year while 29% (n= 51) do it annually. The responses are depicted in figure 11.



*Figure 11: Frequency of Risk Analysis*

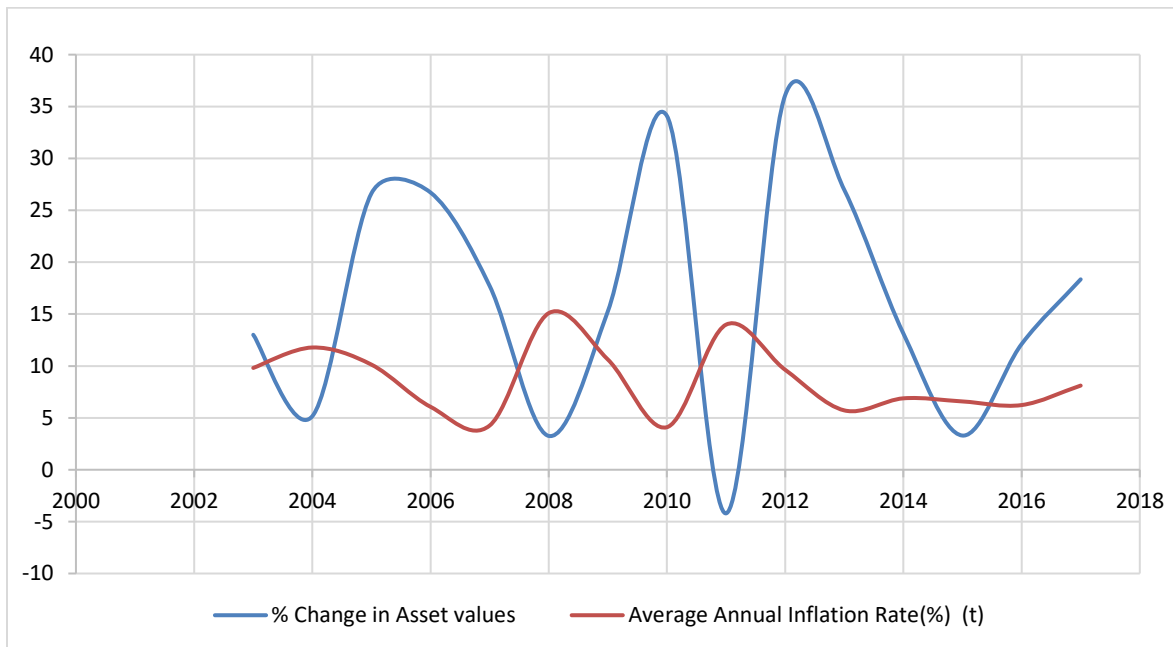
## 4.2 Risks faced by Retirement Benefit Schemes

The risks facing retirement benefit schemes were estimated first by considering the fluctuations in market values of assets over the years and secondly by self reporting from members and trustees on the frequency of occurrence of those risks.

### 4.2.1 Market Risk

Market risk was estimated by determining the percentage changes in market value of assets in the years 2003-2018 using the overall value of assets in the industry. Answer to members' open ended question indicated that majority of the members are not conversant with their investment policies and the areas or asset classes where their funds are invested.

Further analysis shows that the main determinant of market risk is the level of inflation (figure 12 depict the two variables). The results of Pearson correlation between the percentage change in asset values (2002-2018) and the Consumer Price Index for the same period disclosed significant negative correlation ( $p < 0.05$ ;  $r = -0.545$ ). A regression run on the same variables led to the conclusion that a percentage change in the annual inflation rate affects 29.8% of the change in asset values.



**Figure 12: Historical Changes in Asset values and Inflation**

The correlation between the changes in asset values and GDP, NSE 20 index and NASI were positive but not statistically significant. Lastly, a test of difference in means between the changes in asset values in different political regimes (2002-2007; 2008-2012 and 2013-2017) was conducted. The results show that the difference in average changes in asset values was not statistically significant.

## 4.2.2 Concentration Risk

Concentration risk was measured by reviewing the proportion of assets and schemes held by the fund managers and custodians and the proportion of schemes under administration by each administrator.

### 4.2.2.1 Concentration Risk - Fund Managers

Table 9 discloses that the proportion of assets under the management of the top 6 fund managers at 31 December 2018 was 69.7%. The average value of assets under management of a fund manager per scheme was Ksh. 792 million, while the average value of assets under the management of the top 6 fund managers' amount to Ksh. 2,157 million. However, the top 6 fund managers manage the assets of 29% of the schemes. This implies that large schemes are inclined to the top fund managers.

**Table 9: Proportion of Asset Values and Schemes held by Fund Managers at 31 December 2018**

<b>Fund Manager</b>	<b>No. of Schemes</b>	<b>Asset Values "Millions"</b>	<b>% of Assets</b>	<b>% of Schemes</b>	<b>Average value per scheme "millions"</b>
1	74	201,928	20.6%	6.0%	2,729
2	104	171,210	17.5%	8.4%	1,646
3	80	127,078	13.0%	6.5%	1,588
4	42	104,066	10.6%	3.4%	2,478
5	27	79,190	8.1%	2.2%	2,933
6	32	50,093	5.1%	2.6%	1,565
7	265	44,358	4.5%	21.4%	167
8	145	44,286	4.5%	11.7%	305
9	53	37,337	3.8%	4.3%	704
10	37	36,166	3.7%	3.0%	977
11	54	26,235	2.7%	4.4%	485
12	92	22,937	2.3%	7.4%	249
13	71	7,156	0.7%	5.7%	101
14	26	7,019	0.7%	2.1%	270
15	26	3,649	0.4%	2.1%	140
16	4	3,409	0.3%	0.3%	852
17	15	3,310	0.3%	1.2%	221
18	19	3,246	0.3%	1.5%	171
19	23	2,696	0.3%	1.9%	117
20	11	1,369	0.1%	0.9%	124
21	6	1,333	0.1%	0.5%	222
22	4	619	0.1%	0.3%	155
Others	26	1,372	0.1%	0.1%	484
	<b>1236</b>	<b>980,061</b>	<b>100.0%</b>	<b>100.0%</b>	<b>792</b>

#### 4.2.2.2 Concentration Risk – Custodians

Table 10 shows that the proportion of assets under custody of the top 4 custodians at 31 December 2018 was 94%. The average value of assets under custody per scheme was Ksh. 1,812 million, while the average value of assets under custody of the top 4 custodians amount to Ksh. 1,859 million. The top 4 custodians service 91.6% of the schemes. This implies that custody business is effectively controlled by 4 major players in terms of both the asset values and number of schemes serviced.

**Table 10: Proportion of Asset Values and Schemes held by Custodians at 31 December 2018**

	<b>No. of Schemes</b>	<b>Value of Assets “millions”</b>	<b>% Schemes</b>	<b>% Assets</b>	<b>Average value per scheme “millions”</b>
1	189	483,622	45.2%	63.8%	2,559
2	59	97,885	14.1%	12.9%	1,659
3	88	85,911	21.1%	11.3%	976
4	47	44,583	11.2%	5.9%	949
5	7	26,668	1.7%	3.5%	3,810
6	22	9,772	5.3%	1.3%	444
7	3	8,384	0.7%	1.1%	2,795
8	1	420	0.2%	0.1%	420
9	1	266	0.2%	0.0%	266
10	1	12	0.2%	0.0%	12
	<b>418</b>	<b>757,523</b>	<b>100%</b>	<b>100%</b>	<b>1,812</b>

#### 4.2.2.3 Concentration Risk – Administrators

Table 11 shows that the top 7 administrators offer services to 64% of the retirement benefit schemes. While the average number of schemes per administrator is 36, the top 7 players have an average of 109 schemes. This implies that pension administration business is effectively controlled by 7 major players in terms of both the asset values and number of schemes serviced.

**Table 11: Number of Schemes under Administration at 31 December 2018**

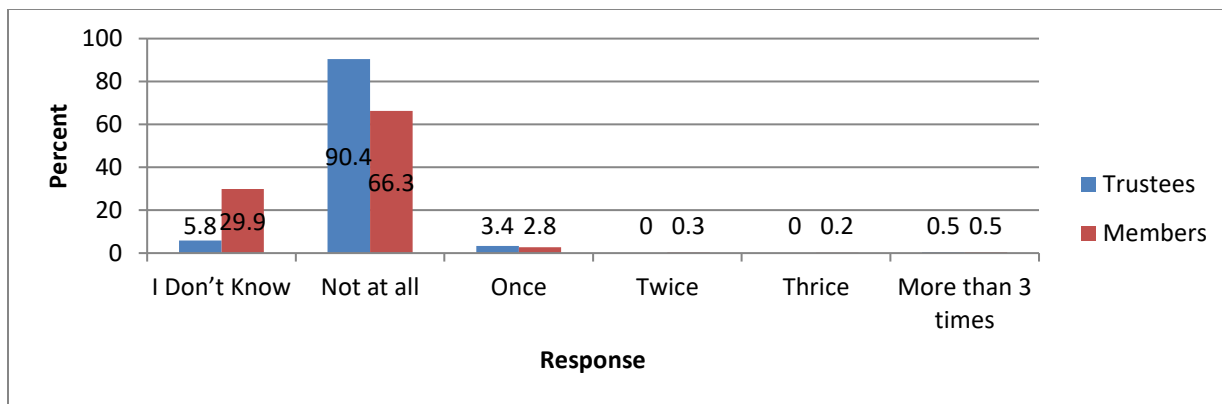
<b>Administrator</b>	<b>No. of Schemes</b>	<b>% Schemes</b>
1	153	14%
2	152	14%
3	133	12%
4	108	10%
5	90	8%
6	67	6%
7	65	6%
8	46	4%
9	46	4%
10	40	4%
11	38	3%
12	34	3%
13	24	2%
14	16	1%
15	15	1%
16	15	1%
17	15	1%
18	14	1%
19	14	1%
Others	40	4%
	1125	100%

### **4.2.3 Operational Risks**

Operational risks were sub categorized as; having rules or policies that made the scheme make wrong decisions, trustees making wrong decisions and having in appropriate ICT systems. Each of the sub-risk is discussed below.

#### **4.2.3.1 Inappropriate Scheme Rules**

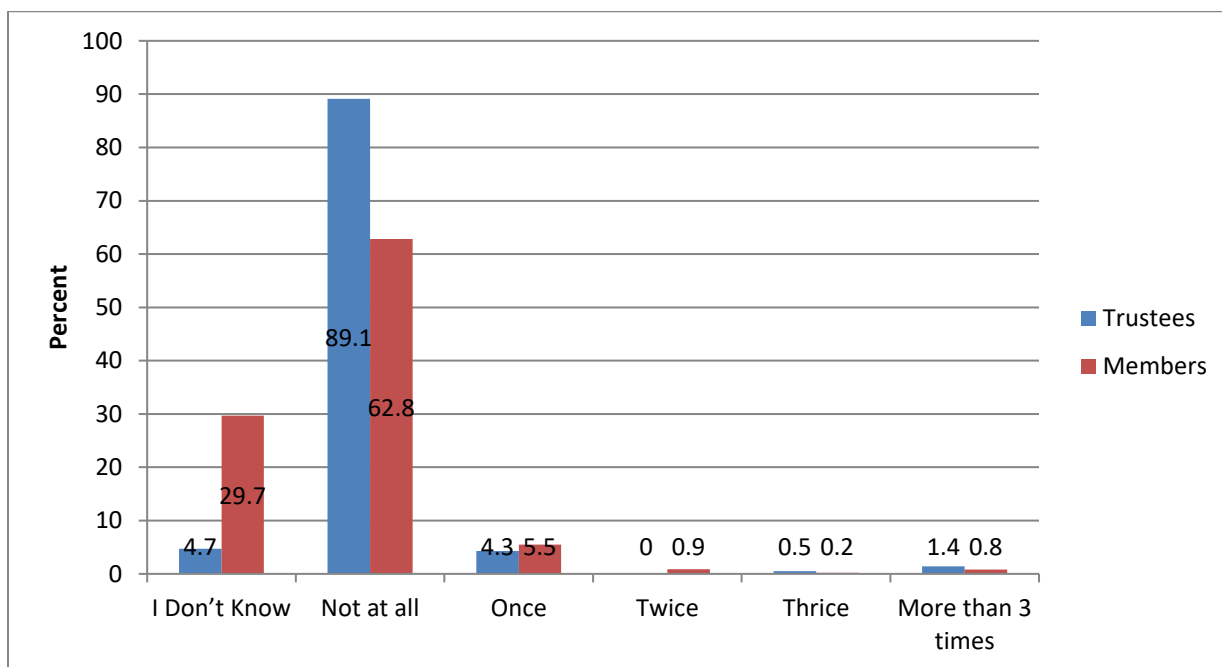
The trustees and members were asked to estimate the incidences where scheme rules made them make wrong decisions. Ninety percent of the trustees (n=188) and 66.3% (n=908) of the members indicated that they never had the risk as shown in the figure 13. However 5.8% of the trustees and 29.9% of the members do not know whether such incidences occurred.



**Figure 13: Inappropriate Scheme Rules**

**4.2.3.2 Wrong Decision by the Trustees**

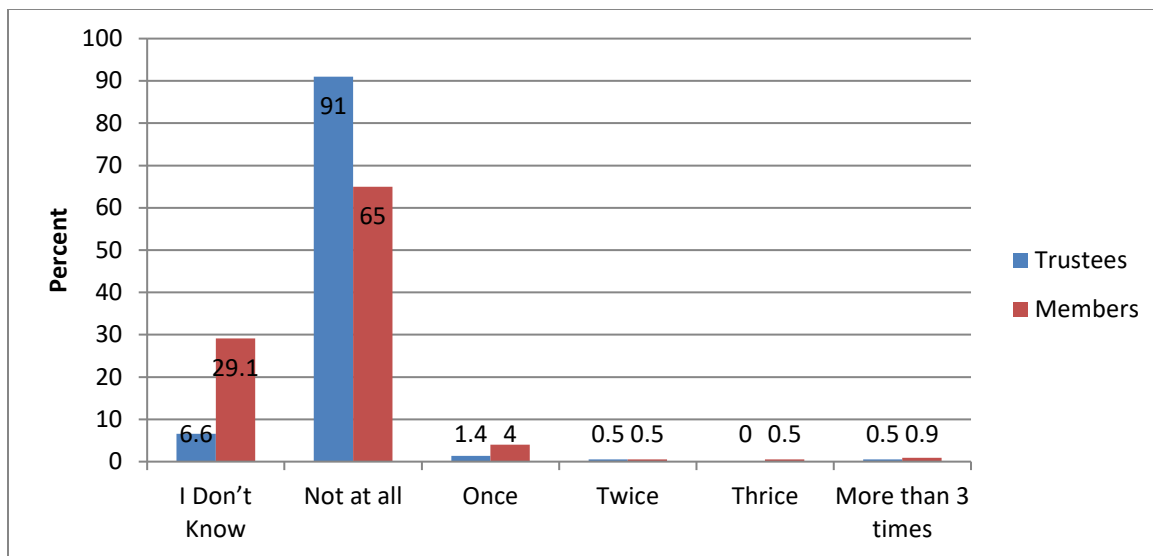
Eighty nine percent (n=188) of the trustees and 62.8% of members reported that wrong decisions by the trustees have not been made in the last one year. However 5.8% of the trustees and 29.9% of the members do not know whether wrongful decisions have been made as indicated in figure 14.



**Figure 14: Incidences of wrong decisions by Trustees**

**4.2.3.3 ICT System Failure**

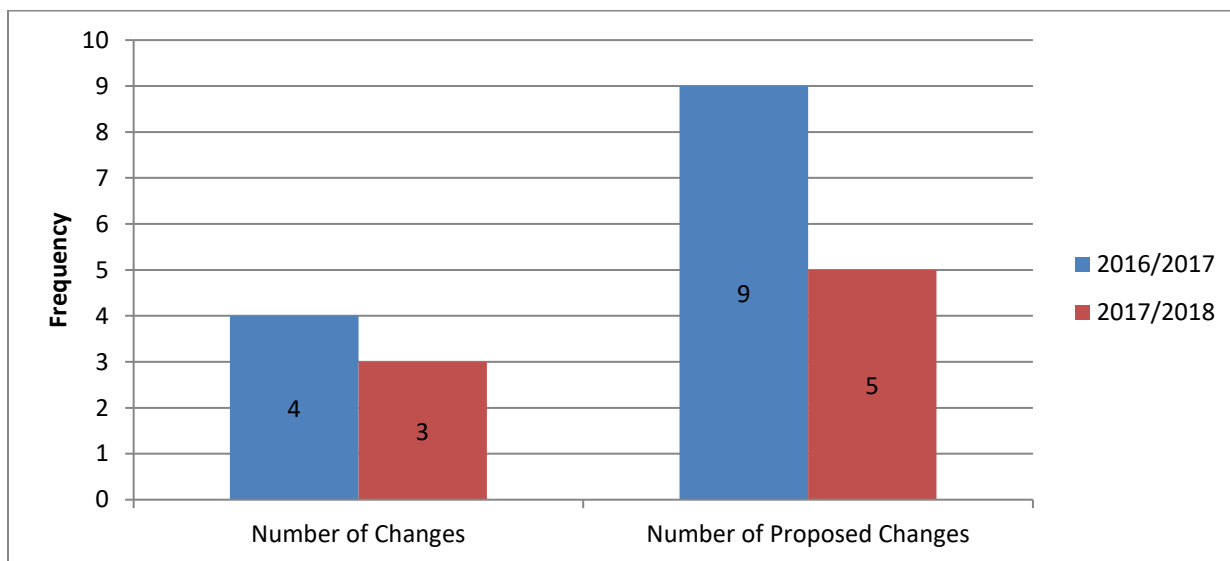
Ninety one percent (n=192) of the trustees and 65% (n=883) of members reported that they did not experience ICT systems failure. However 6.6% of the trustees and 29% of the members could not tell if the risk ever occurred as depicted in figure 15.



**Figure 15: Incidences of ICT System Failure**

### 4.3 Legal and Regulatory Risks

The frequency of occurrence of legal and regulatory risk was established first by conducting a document reviews on the number of times the laws have changed over the last two years. Figure 16 shows that in 2016/17 financial year 3 changes were made compared to 5 in the 2017/18 financial year. Proposed changes in 2016/17 were 3 compared to 5 in 2017/18.



**Figure 16: Frequency of Changes in Regulations**

It was reported that “.....trustees do not get the information on changes in law by RBA in time; sometimes the interpretation of the change is also difficult.” Service providers appreciated the proactive nature of RBA in reviewing regulations that work for the industry. However a service provider stated that “....there is inadequate collaboration between schemes, service providers and the regulators on implementation of industry regulations”. Another service provider was of the opinion that “.... there is lack of adequate and objective consultation between parties involved in the retirement benefits sector”. Discussants were of the

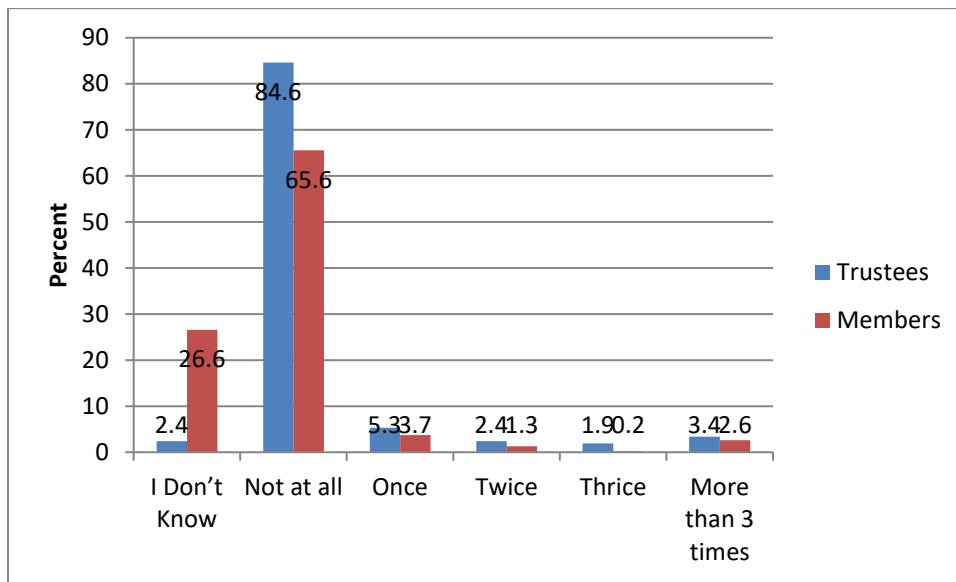
view that there lots of industry policies introduced which need to be implemented for the good of the industry. However some policies seem to favor the larger schemes compared to the smaller schemes.

The service providers disclosed the following regulatory gaps; lack of clear direction or policy from the regulator on guaranteed funds and absence of a legal framework to handle the emerging umbrella schemes leaving members at the risk of losing their money.

### 4.3.1 Solvency Risk

#### 4.3.1.1 Inability to Submit Contributions on Time

Eighty four percent of the trustees and 65.6% (n=894) of members stated that they have not experienced cases of the scheme being unable to timely submit contributions. About 3% of the trustees and 26.6% (n=362) of the members did not know if the risk occurred as indicated in figure 17.

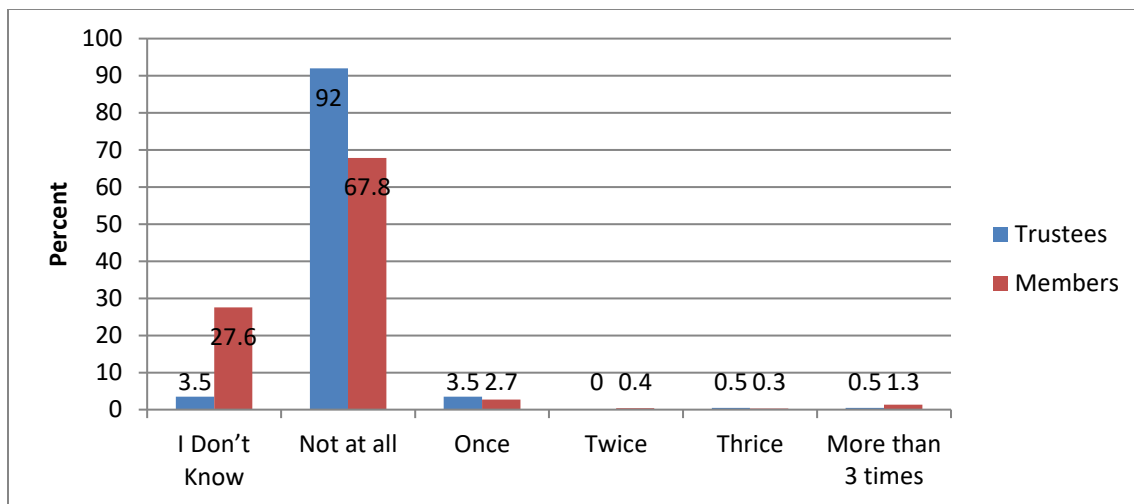


**Figure 17: Frequency of Schemes not being able to submit contributions on time**

#### 4.3.1.2 Inability to Pay Benefits on Time

Ninety two percent of the trustees and 67.8% (n=108) of members stated that they have never experienced scheme's inability to pay retirement benefits on time as indicated in figure 4.21. However, 27.6% of the members and 3.5% of the trustees do not know if the risk ever occurred as indicated in figure 18.

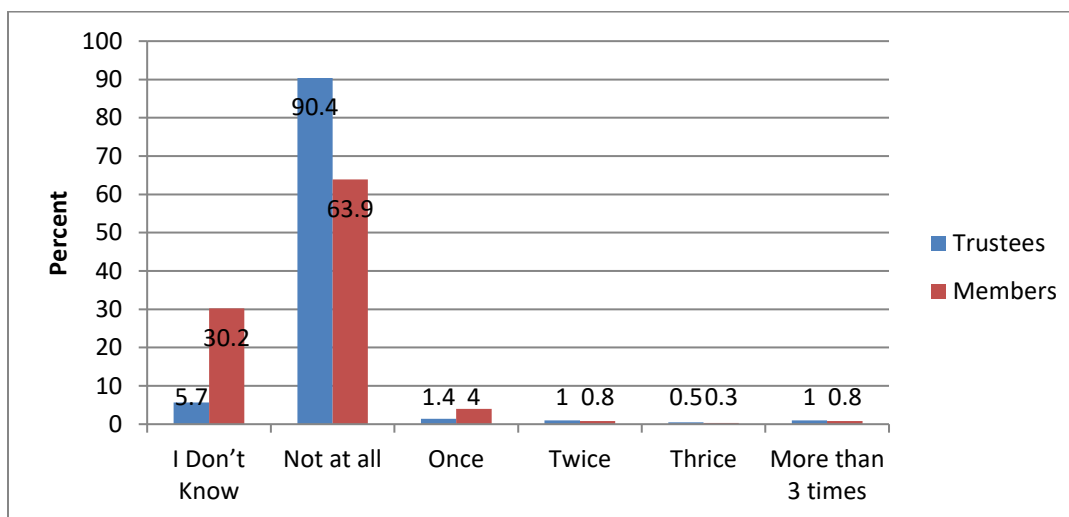




**Figure 18: Incidences of Inability to pay retirement benefits on time**

### 4.3.2 Governance Risk

Occurrence of governance risk was established by considering the frequencies of occurrence of conflicts of interest between trustees and service providers and also a discussion with service providers. Ninety percent of the trustees and 63.9% of the members indicated that they did not experience cases of conflict of interest between trustees and service providers. However, 30.2% of the members and 5.7% of the trustees do not know if the risk ever occurred as indicated in figure 19. From the service provider’s perspective, poor governance structure makes it difficult to find the party to hold accountable in case of funds loss. A respondent stated “....counter parties do not follow corporate governance (inter-regulatory governance)” suggesting the need to review the governance structures of the service providers.



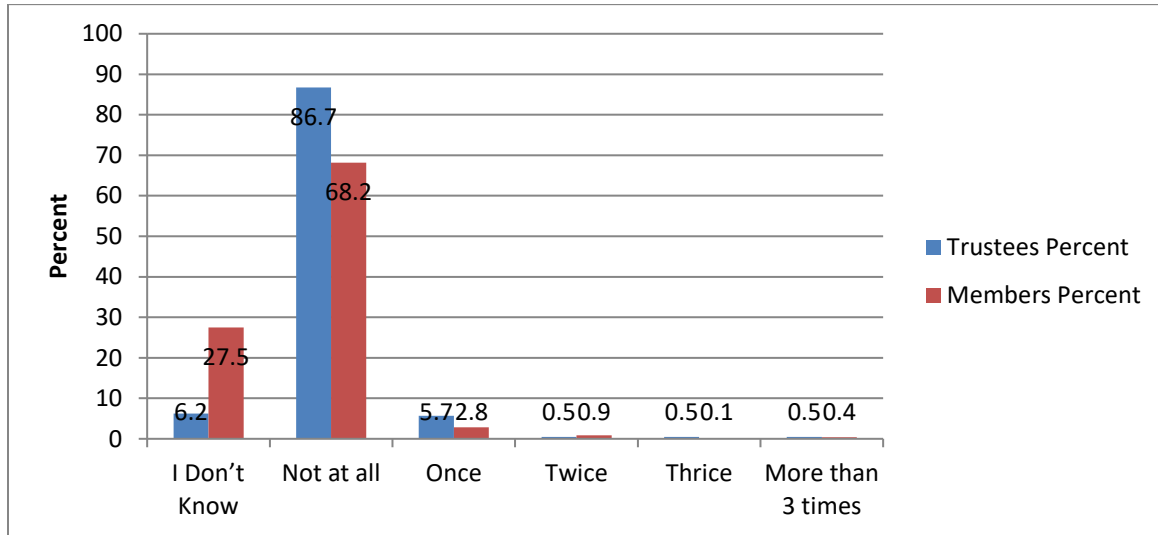
**Figure 19: Frequency of Conflicts of interest between trustees and service providers**

Service providers however expressed concern that trusteeship management was invaded with issues of integrity, trust, low levels of education or awareness to make decisions for the scheme.

### 4.3.3 Outsourcing Risk

#### 4.3.3.1 Fund manager giving wrong advice

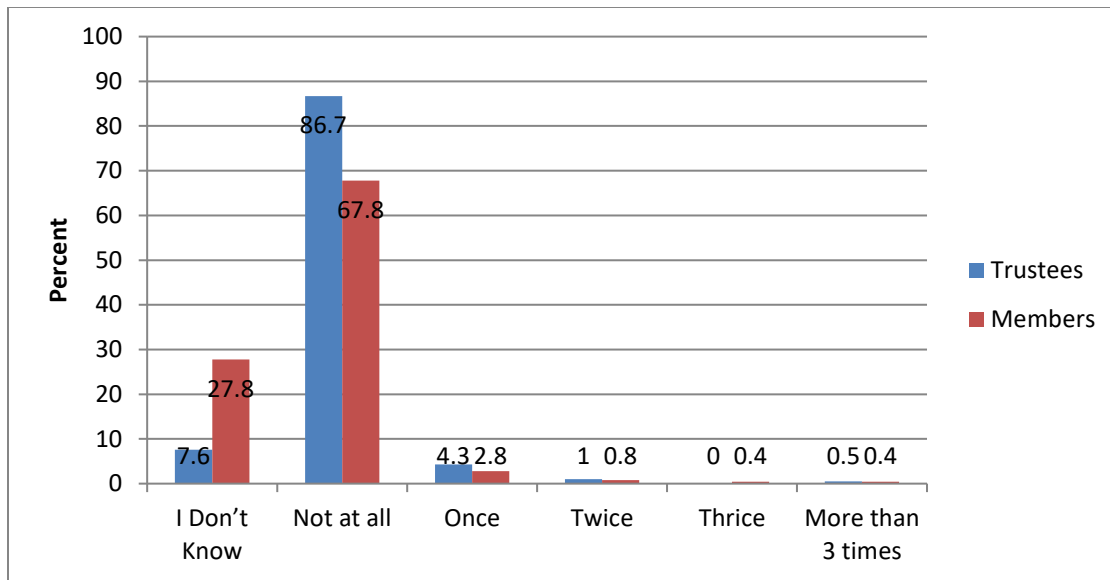
Most of the trustees (86.7%, n=183) and members (68.2%, n=925) stated that they did not experience instances of fund managers giving the wrong advise. Six percent of the trustees and 27.5% of the members could not tell if the risk occurred as indicated in figure 20. There was no significant difference between the responses given by respondents from guaranteed and segregated schemes.



*Figure 20: Fund manager giving wrong advice*

#### 4.3.3.2 Administrators giving wrong advice

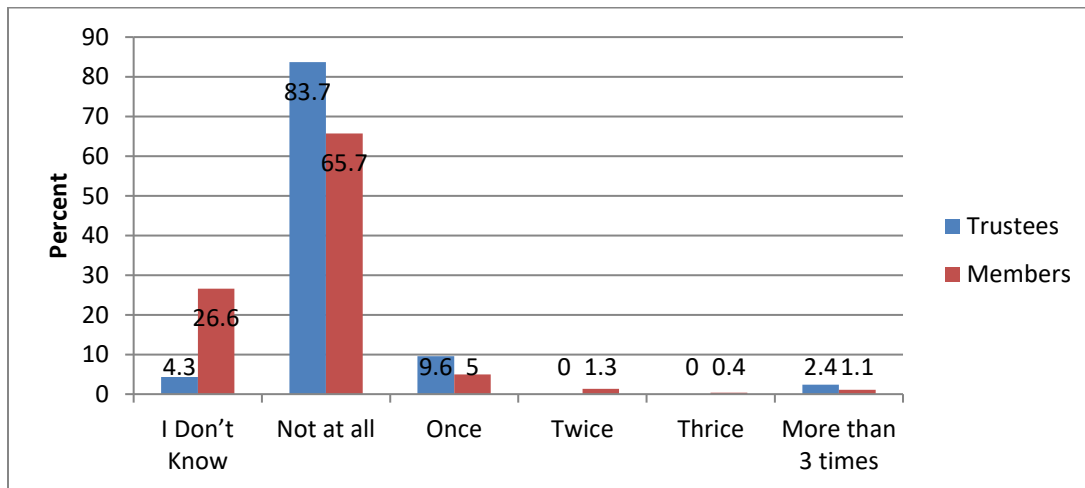
Further analysis showed that 86.7% (n=182) of the trustees and 67.8% (n=919) of the members did not experience cases of wrongful advice from administrators. Twenty eight percent of the members and 7.6% of the trustees did not know if the risk exists as indicated in figure 21. There was no significant difference between the responses given by respondents from guaranteed and segregated schemes.



**Figure 21: Frequency of Administrators giving wrong advice**

**4.3.3.3 Inaccurate records**

Majority of the trustees (83.7%) and members (65.7%) stated that they never experienced cases of inaccurate records (member statement and financial statements) in the schemes. However, 26.6% of the members and 4.3% of the trustees did not know the number of times inaccurate records has been experienced in the scheme as shown in the figure 22.



**Figure 22: In accurate records (member statements, financial statements)**

**4.3.4 Counter Party Default Risk**

To establish the counterparty default risk, trustees and members were asked to state the number of times they have experienced a case where someone who owed them money and failed to pay or the company they had invested closed. Eighty five percent of the trustees and 64.2% of the members stated that they have not experienced the risk as indicated in figure 23. Worth noting is that 31% of the members and 5.8% of the trustees do not know if the risk ever occurred. It was further

reported that mergers and acquisitions by sponsors pose anxiety to the members. Cases of default guarantee rates or decline in guarantee rates were also reported.

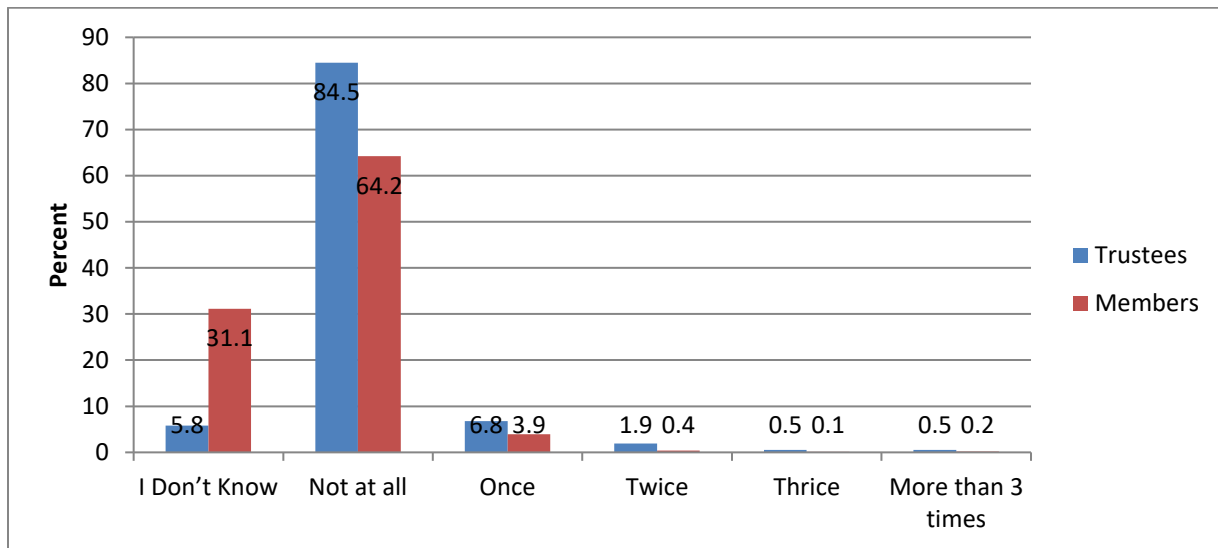


Figure 23: Incidences of Counter Party Risk

### 4.3.5 Technological Risks

#### 4.3.5.1 Use of the wrong technology

Ninety two percent (n=189) of the trustees and 68.2% (n=920) of the members reported that they have not experienced the risk. It is worth noting that 28.4% (n=383) of the members and 5.3% of the trustees don't know if the risk ever occurred as indicated in figure 24.

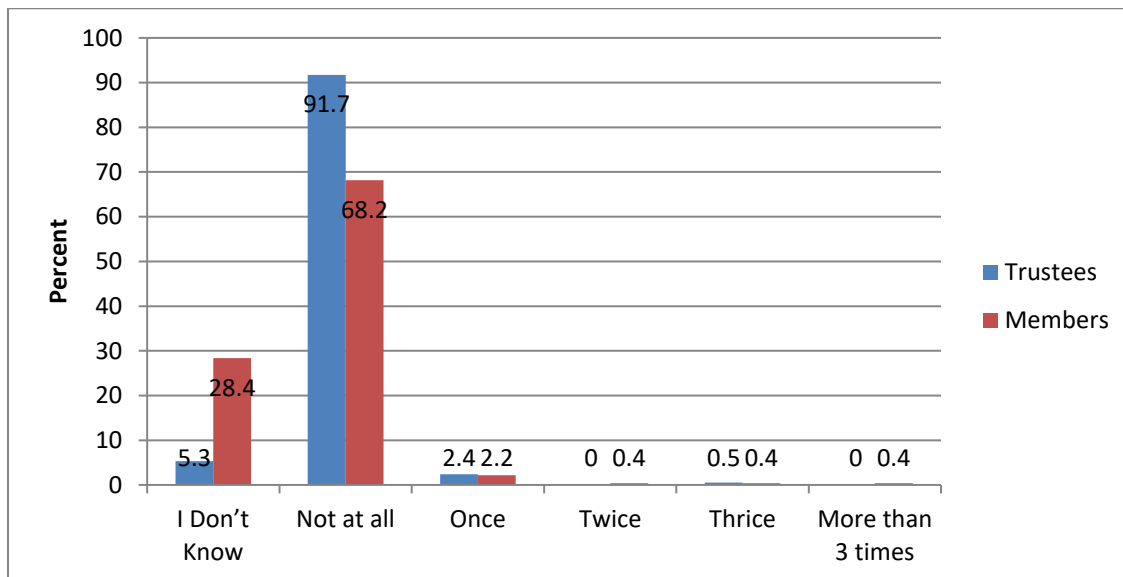
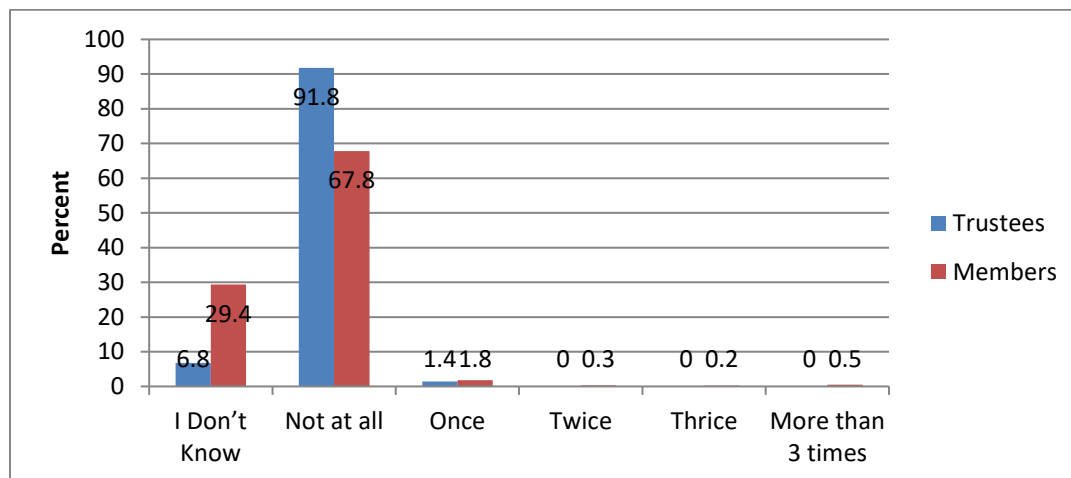


Figure 24: Incidences of Usage of the wrong technology

#### 4.3.5.2 Information being obtained illegally from the systems

Trustees and members were asked the number of times they have experienced the risk of information being obtained illegally from their systems. Ninety two percent(n=190) of the trustees

and 67.8% (n=915) of the members said indicated that they have not experienced the risk. Twenty nine percent (n=396) of the members and 6.8% of the trustees said that they don't know whether the scheme has experienced such a risk as shown in figure 25.



**Figure 25: Incidences of Information being obtained illegally from the systems**

Cyber Crimes was considered to pose a serious challenge on the IT systems in use by schemes leading to lose of funds and information and data privacy from the service provider's perspective.

#### **4.3.6 Other Risks facing Retirement Benefit Schemes**

The service providers through focus group discussions were asked to give the main risks facing retirement benefit schemes in Kenya. The main risks facings retirement benefit schemes in Kenya were *political risks* where fund managers were uncertain of the political dynamics of the country; *taxation policy*; that was reported to be punitive and that retirees lacked proper knowledge of the taxation policies with regards to their pension funds – a situation worsened by double taxation on the remittances as contributors while in employment and taxation on the accumulated pension funds when receiving the funds as retirees and *interest rate risks* since Kenya is on interest capping policy and the uncertainty of whether the policy will continue creates anxiety in the market.

#### **4.4 Emerging Risks in the Retirement Benefits Industry**

The respondents in the focus group discussions revealed that most of the assets in the retirement benefits industry are concentrated in government securities rather than being diversified into other high return assets. This was perceived as a high risk as some countries are beginning to default on their securities. Additionally, RBA classification of East Africa region is homogeneous and

disregards the differences in monetary and fiscal policies of the different countries in the region which in turn affect the investment strategies. This was considered a high impact risk.

The diminishing market boundaries can lead to contagion of global economic downturns to the local market. Financial markets interconnectedness was considered an emerging risk. The impact of this risk is considered to be high.

The current changes in the work place were also identified as emerging risks. Specifically, retrenchment as technology is replacing workers and mergers and acquisitions. A participant stated “.....*this poses a risk as there is loss of contribution.....this transition often means that payments be made to members thus forcing schemes to sell assets at a loss, which results to lesser benefits paid to members and also a dent on the scheme’s strategy.*”. Additionally, longevity of life due to lifestyle and development creates a huge risk when it comes to capital sustenance.

Other emerging risks include retirees accessing their retirement benefits before the intended retirement age of the employing organization, especially in individual provident funds hence resulting in early old age poverty. The level of unemployment is growing thus reducing the uptake of pension schemes which frustrate schemes in achieving good investment outcomes.

The investment policy statements (IPS) are not costumed to the huge population of millennial joining the market who are bit more aggressive their investment approach. This has disadvantaged the millennials as most IPS are designed for the conservative mid or almost retiring generation.

#### 4.5 Effect of the Identified Risks on the Retirement Benefit Schemes

Trustees and members were asked to state how the risks identified in section 4.3 have affected their schemes, the main pointers being ability to pay benefits to retiring members; low asset values, high costs; investment in risky assets; loss of assets, members protest by refusing to participate in decision making or attending meetings; fines by the RBA; erosion of reputation or having inaccurate member records and conflicts of interest.

##### 4.5.1 Operational Risks

Given that operational risks discussed in section 4.2.3 was not experienced by most schemes, most of the trustees and members did not find these risks as affecting their retirement benefit schemes significantly as indicated in table 12.

**Table 12: Effect of Operational Risks on Retirement Benefit Schemes**

		I don't Know (%)		Not at all (%)		Small extent (%)		Some extent (%)		Large extent (%)		Very large extent (%)		Total(N)	
		T	M	T	M	T	M	T	M	T	M	T	M	T	M
1	Ability to pay benefits to retiring members	3.9	29.1	89.8	67.2	3.4	1.9	1.0	.7	0.0	.1	1.9	.9	206	1349
2	Low asset values	6.4	29.4	80.7	63.9	9.9	4.2	2.0	1.0	0.0	.2	1.0	1.2	202	1345
3	High Costs	6.8	30.6	78.6	61.6	10.2	5.5	1.5	1.2	.5	.2	2.4	.9	206	1342
4	Investment risky assets	6.3	32.7	85.4	62.4	5.9	3.2	.5	.6	1.0	.1	1.0	1.1	205	1347
5	Asset Loss	5.9	31.7	89.2	64.2	3.4	3.1	.5	.4	0.0	.2	1.0	.5	204	1342
6	Members Not participating in decision making or attending meetings	6.3	26.9	87.8	66.6	4.4	3.4	.5	1.0	0.0	.2	1.0	1.9	205	1347
7	Fined by RBA	6.3	29.1	87.8	68.1	3.4	2.0	.5	.2	0.0	.3	2.0	.4	205	1349
8	Eroded reputation	6.8	27.3	89.8	69.8	2.4	1.9	0.0	.3	0.0	.1	1.0	.7	205	1343
9	Inaccurate member records	5.9	29.0	88.3	66.5	4.9	3.1	0.0	.6	0.0	.4	1.0	.4	205	1340
10	Conflicts of interest	6.3	29.9	89.3	65.7	2.4	3.1	.5	.4	0.0	.2	1.5	.7	205	1343

Key: T=trustees; M=Members

#### 4.5.2 Governance Risks

Given that governance risks discussed in section 4.2.6 was not experienced by most schemes, most of the trustees and members did not find these risks as affecting their retirement benefit schemes significantly as indicated in table 13.

**Table 13: Effect of Governance Risks on Retirement Benefit Schemes**

		I don't Know (%)		Not at all (%)		Small extent (%)		Some extent (%)		Large extent (%)		Very large extent (%)		Total(N)	
		T	M	T	M	T	M	T	M	T	M	T	M	T	M
1	Ability to pay benefits to retiring members	5.8	31.8	93.2	65.9	1.7	.5	0.0	.5	0.0	.1	.5	.2	206	1327
2	Low asset values	6.2	32.3	82.7	63.8	2.4	2.7	0.0	.6	0.0	.2	.4	.7	226	1324
3	High Costs	7.7	32.4	88.5	63.4	2.4	2.4	.5	.5	0.0	.2	1.0	.5	208	1313
4	Investment risky assets	6.8	33.4	88.8	63.8	1.7	2.4	1.0	.5	0.0	.1	1.0	.6	206	1326
5	Asset Loss	7.3	31.9	90.2	65.6	1.9	1.5	.5	.2	0.0	.2	.5	.3	205	1324
6	Members Not participating in decision making or attending meetings	4.9	28.5	90.6	66.3	2.3	3.0	.5	.8	0.0	.2	1.0	1.9	203	1326
7	Fined by RBA	6.3	30.7	92.7	66.8	1.7	.5	0.0	.2	0.0	.3	.5	.3	205	1321
8	Eroded reputation	4.4	30.0	93.2	67.7	1.6	1.5	0.0	.3	.5	.2	.5	.2	205	1324
9	Inaccurate member records	5.9	31.0	92.6	66.0	2.0	1.0	0.0	.4	0.0	.2	.5	.5	204	1322
10	Conflicts of interest	5.4	32.4	93.1	64.7	1.8	1.0	0.0	.4	0.0	.2	.5	.5	203	1324

#### 4.5.3 Outsourcing Risks

Given that operational risks discussed in section 4.2.7 was not experienced by most schemes, most of the trustees and members did not find these risks as affecting their retirement benefit schemes significantly as indicated in table 14.



**Table 14: Effect of Outsourcing Risks on Retirement Benefit Schemes**

		I don't Know (%)		Not at all (%)		Small extent (%)		Some extent (%)		Large extent (%)		Very large extent (%)		Total(N)	
		T	M	T	M	T	M	T	M	T	M	T	M	T	M
1	Ability to pay benefits to retiring members	4.9	31.7	90.7	64.9	2.0	1.6	1.0		0.0	1.0	1.5	.6	205	1339
2	Low asset values	6.9	31.9	85.8	62.6	6.9	3.9	.5		0.0	.4	0.0	.6	204	1334
3	High Costs	7.8	31.6	82.0	61.0	8.3	5.0	1.0		0.0	.6	1.0	1.1	206	1334
4	Investment risky assets	5.9	32.6	89.3	62.5	4.9	3.8	0.0		0.0	.4	0.0	.3	205	1334
5	Asset Loss	5.4	32.4	89.3	64.1	4.9	2.6	.5		0.0	.6	0.0	.2	205	1333
6	Members Not participating in decision making or attending meetings	4.9	29.1	91.3	65.7	3.9	2.8	0.0		0.0	.9	0.0	1.3	206	1337
7	Fined by RBA	5.4	31.2	90.7	66.4	3.9	1.6	0.0		0.0	.6	0.0	.1	205	1332
8	Eroded reputation	4.9	29.6	92.7	66.7	1.5	2.6	0.0		0.0	.3	1.0	.6	205	1332
9	Inaccurate member records	5.9	31.5	89.2	64.9	4.4	2.4	0.0		0.0	.5	.5	.6	204	1332
10	Conflicts of interest	7.8	33.0	90.2	63.0	1.0	2.7	.5		0.0	.5	.5	.7	205	1332

Key: T=trustees; M=Members

#### 4.5.4 Counterparty Default Risks

Given that operational risks discussed in section 4.2.8 was not experienced by most schemes, most of the trustees and members did not find these risks as affecting their retirement benefit schemes significantly as indicated in table 15.

**Table 15: Effect of Counterparty Default Risks on Retirement Benefit Schemes**

		I don't Know (%)		Not at all (%)		Small extent (%)		Some extent (%)		Large extent (%)		Very large extent (%)		Total(N)	
		T	M	T	M	T	M	T	M	T	M	T	M	T	M
1	Ability to pay benefits to retiring members	4.4	31.3	92.2	66.2	1.5	1.3	1.0	.6	0.0	.1	1.0	.5	205	1334
2	Low asset values	5.9	31.7	89.1	64.6	4.5	2.4	0.0	.7	0.0	.2	.5	.5	202	1329
3	High Costs	5.9	31.4	87.2	63.0	4.4	4.0	1.0	.8	0.0	.1	1.5	.6	203	1323
4	Investment risky assets.	5.9	33.5	88.6	62.4	4.0	2.7	.5	.6	0.0	.2	1.0	.5	202	1325
5	Asset Loss	5.9	32.2	90.6	63.9	3.0	2.9	0.0	.4	0.0	.3	.5	.3	203	1323
6	Members Not participating in decision making or attending meetings	5.0	28.5	90.6	66.0	3.0	2.9	.5	.8	0.0	.2	1.0	1.7	202	1328
7	Fined by RBA	5.9	30.3	92.1	66.8	1.0	2.2	.5	.4	0.0	.1	.5	.2	203	1326
8	Eroded reputation	5.4	28.4	91.1	68.5	2.0	2.2	0.0	.4	0.0	.3	1.5	.3	203	1325
9	Inaccurate member records	5.9	30.1	91.1	67.3	3.0	1.6	0.0	.5	0.0	.2	0.0	.4	203	1327
10	Conflicts of interest	6.4	31.0	90.6	64.7	.5	2.9	.5	.3	1.0	.2	1.0	.8	202	1324

Key: T=trustees; M=Members

#### 4.5.5 Technological Risks

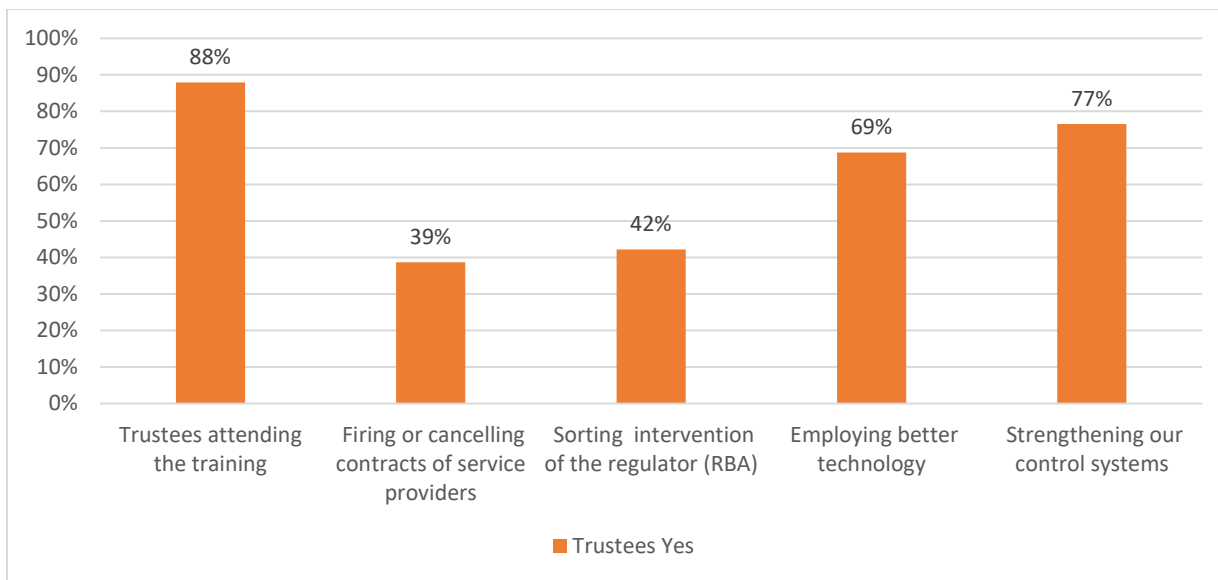
Given that operational risks discussed in section 4.2.9 was not experienced by most schemes, most of the trustees and members did not find these risks as affecting their retirement benefit schemes significantly as indicated in table 16.

**Table 16: Effect of Technological Risks on Retirement Benefit Schemes**

		I don't Know (%)		Not at all (%)		Small extent (%)		Some extent (%)		Large extent (%)		Very large extent (%)		Total(N)	
		T	M	T	M	T	M	T	M	T	M	T	M	T	M
1	Ability to pay benefits to retiring members	4.4	31.6	94.1	66.1	1.0	1.6	0.0	.5	0.0	.2	.5	.1	204	1320
2	Low asset values	5.9	32.5	92.6	63.9	1.0	2.7	0.0	.5	0.0	.1	.5	.4	203	1315
3	High Costs	5.9	32.3	90.6	63.8	2.5	2.4	.5	.8	0.0	.2	.5	.5	202	1319
4	Investment risky assets.	4.9	33.6	90.6	62.8	3.4	2.6	.5	.4	0.0	.2	.5	.5	203	1318
5	Asset Loss	5.0	33.7	93.6	64.2	1.0	1.4	.5	.4	0.0	.2	0.0	.1	202	1314
6	Members Not participating in decision making or attending meetings	4.5	29.4	92.5	66.3	2.0	2.7	.5	.5	0.0	.1	.5	1.1	201	1318
7	Fined by RBA	4.0	30.8	94.6	66.7	1.0	1.4	0.0	.6	0.0	.2	.5	.2	202	1317
8	Eroded reputation	4.0	29.6	94.1	67.5	2.0	2.2	0.0	.4	0.0	.2	0.0	.2	202	1316
9	Inaccurate member records	4.9	30.7	92.6	66.4	2.0	2.1	0.0	.3	0.0	.3	.5	.2	203	1319
10	Conflicts of interest	5.9	33.2	93.1	63.7	.5	1.7	.5	.5	0.0	.4	0.0	.5	203	1315

**4.6 Risk Mitigation Strategies in Place**

The risk mitigation strategies that are currently being applied by the trustees include; attendance to training, strengthening control systems, using better technology, seeking the intervention of RBA and cancelling contracts of service providers. These are depicted in figure 26.



**Figure 26: Risk Prevention Measures**

Service providers stated that the measures currently put in place by RBA such as restriction in asset classes, mandating meetings between trustees and service providers and enforcing governance in retirement benefit schemes are effective in preventing the occurrence of risks.

**4.7 Challenges Encountered in Risk Management**

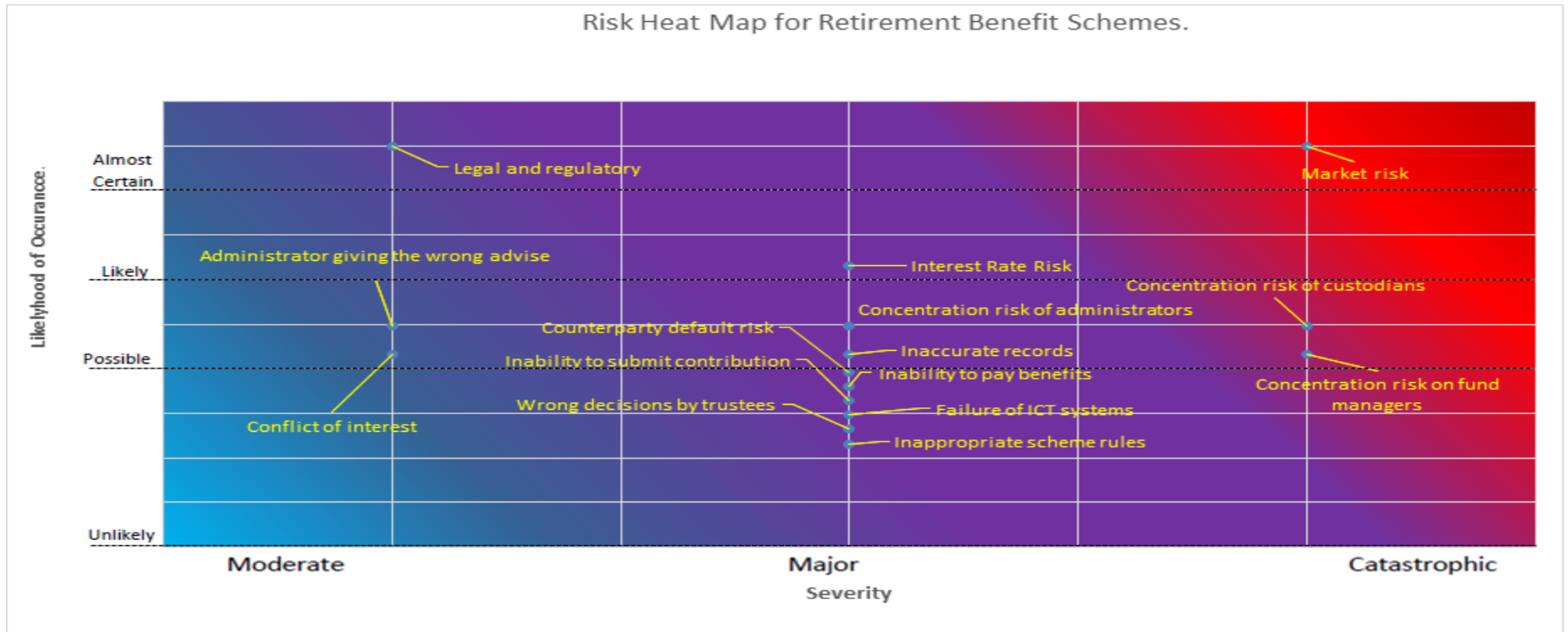
Member and trustees were asked to state the challenges faced in handling risks. Trustees stated the challenges as; high costsof acquisition and maintenance of new information technology systems,high cost of compliance,frequent changes in legislation which are not communicated on time, most of the services are outsourced and thus trustees are more reactive than proactive and not being familiar with the risk based supervision model used by RBA.

From the perspective of members, the concern was mainly on lack of capacity and datato “.....know that they are exposed to the risks”.

## **5 FRAMEWORK FOR IDENTIFICATION AND MONITORING OF RISKS IN THE RETIREMENT BENEFITS INDUSTRY**

A risk heat map for retirement benefit schemes was developed using the information given by the service providers, trustees and members. Insights from service providers were useful to determine the impact of the risks while those from members and trustees were useful to determine the frequency of occurrence and consequently the measure of probability of occurrence. Visual binning was used to classify the risks analyzed in figures 13 – 25. The risk heat map is provided in table 17.

**Table 17: Risk Heat Map for Retirement Benefit Schemes**



**Table 18: Key**

Unlikely	Not experienced by >90% of the schemes and collaborated by judgment of the service providers
Possible	Not experienced by 80-89% of the schemes and collaborated by judgment of the service providers
Almost certain	Occurs continuously and supported by secondary data and judgment by the service providers
Moderate	Occurrence of the risk would not significantly jeopardize the scheme assets
Major	Occurrence of the risk would significantly jeopardize the scheme assets
Catastrophic	Occurrence of the risk would affect a significant proportion of the retirement benefits industry

## **6 CONCLUSIONS AND RECOMMENDATIONS**

### **6.1 Conclusions**

The study has unearthed important findings that inform the recommendations for this study. The findings and consequent conclusions are discussed below;

#### **6.1.1 Risks facing the retirement benefit schemes in Kenya**

- The main risk facing the retirement benefit schemes is market risk, which manifests itself through fluctuations in market value of assets. This risk affects all the retirement benefit schemes and is mainly driven by inflation. Political cycles, performance of the Nairobi Securities Exchange and Kenya's economic growth did not have statistically significant effect on asset values of retirement benefit schemes; a fact that was attributed to the fact that most of the investments of retirement benefit schemes are held in government securities.
- Segregated schemes outsource their investment management functions to fund managers, administration duties to administrators and custodial duties to custodians. The study has shown that 70% (Ksh. 684 billion) of the assets of the retirement benefit schemes are managed by 20% (n=5) of the fund managers while 94% of the assets are under custody of 40% (n=4) of the custodians. Lastly, 64% of the retirement benefit schemes are served by 23% (n=7) administrators. This finding points to a higher outsourcing and concentration risk.
- The RBA acts proactively by suggesting and implementing changes to the Retirement Benefits law. Such changes are bound to occur on annual basis. It was pointed out that some service providers and trustees take time to understand and adjust to these changes.
- Retirement Benefit Schemes did not report significant incidences of occurrence of operational solvency, governance, outsourcing, counterparty default and technological risks. There is concern however that in all cases 30% of the members and 6% of the trustees stated that they did not know if such risks exist in the retirement benefit schemes.

#### **6.1.2 Emerging risks that are likely to affect retirement benefit schemes in the future**

Emerging risks, defined by the International Risk Governance Council (IRGC) as "new risks or familiar risks that become apparent in new or unfamiliar conditions" were identified. These risks are about unclear or changing framework conditions identified by the current study are;

- Concentration of retirement benefits assets in government securities that have lesser returns.
- RBA classification of local equities as including East Africa, yet East African countries are not homogenous in terms of their fiscal, monetary and other policies.
- Contagion risks, which arises as a result of economic shocks experienced in other countries
- Changing work dynamics that are leading to access to Mergers and Acquisitions and retrenchments.
- Access to retirement benefits before the retirement period (early retirement)

- Increasing unemployment and temporary unemployment which means that in the next one or two decades, number of members enrolled in occupational retirement benefit schemes could reduce.
- Presence of Investment Policy Statements that do not address the needs of the younger generation.

### **6.1.3 Effect of the identified risks on Retirement Benefit Schemes**

- Given the conclusions in section 6.1.1, the market risk is real and has potential to significantly erode the value of retirement benefit assets across the entire industry.
- The concentration of retirement benefit assets and schemes in the hands of a few service providers (fund managers, custodians and administrators) have potential to affect the retirement benefit schemes in the case of an event risk affecting a major service provider.
- So far operational, solvency, governance, outsourcing, counterparty default and technological risks have not manifested themselves significantly in the retirement benefits industry.

### **6.1.4 Develop a framework for identification and monitoring of risks in the retirement benefits industry.**

A frame work (risk heat map) was developed that can be used to identify and monitor the risks facing the retirement benefits industry. Using the framework, we can prioritize risks in the following order;

- (a) Market risk
- (b) Concentration risk of custodians
- (c) Concentration risk of fund managers
- (d) Interest Rate Risk
- (e) Inaccurate records
- (f) Concentration risk of administrators
- (g) Inappropriate scheme rules
- (h) Wrong decisions by trustees
- (i) Failure of ICT systems
- (j) Inability to submit contributions
- (k) Inability to pay benefits
- (l) Counterparty default risk
- (m) Legal and regulatory
- (n) Conflict of interest
- (o) Administrators giving wrong advise

The framework for risk management should be applied flexibly recognizing that emerging risks may appear on the map and some risks may change positions. It should be used to enhance the existing risk based supervision model.



## **6.2 Recommendations**

### **6.2.1 Suggestions for Improvements**

#### **6.2.1.1 Immediate Measures**

The immediate measures recommended are enforcement of the currently ongoing incentives as they are preventing occurrence of risks. These measures evidenced from the study are; trustee training, strengthening control systems, using better technology, seeking the intervention of RBA and empowering trustees to identify and deal with errant service providers in accordance with the contracts.

#### **6.2.1.2 Short Run Measures**

In the short run;

- Intensify safety of funds through constant monitoring of the service providers, in the era of conglomerates that perform backward and forward integrated services for retirement benefit schemes.
- Develop a clear implementation framework of implementation of changes in various regulations.
- Develop training manuals for members and trustees devoted to risk management. These manuals could be provided as an online toolkit with case studies and other materials.

#### **6.2.1.3 Long Run Measures**

In the long run;

- Compel risk identification and reporting in the financial reports and clearly show the risk culture, stress tests, Asset Liability Match as well as the portfolio concentration. This should then be followed by an intensive risk discussion.

## **6.3 Limitations and suggestions for further research**

This study focussed on risks within the retirement benefit schemes. Given that market risk and concentration risk are the main risks affecting the retirement benefit schemes, it is recommended that Organization Capacity Assessment be conducted on all the service providers to ensure that the retirement benefit assets are safe.

## 7 REFERENCES

- Alserda, G. A. (2017 ). Choices in Pension Management. *Unpublished PhD Thesis, Erasmus University Rotterdam*.
- Amana. (2006). Investment of Pension Fund Assets in Kenya. Available:.
- Ambachtsheer, K., Capelle, R., & Lum, H. (2007). The State Of Global Pension Fund Governance Today: Board Competency Still A Problem.
- Australian Criminal Intelligence Commission. (2018). *Financial crimes*. Retrieved from <https://www.acic.gov.au/about-crime/crime-types>
- Berle, A. A., & Means, G. (1932). *The Modern Corporation and Private Property*. New York: Macmillan.
- Besley, T. &. (2003). Pension fund governance and choice between defined benefit and defined contribution plans. Center for Economic Policy Research. Discussion Paper 3955.
- Bettendorfa, L., & Heijdra, B. (2006. ). Population ageing and pension reform in a small open economy with non-traded goods. *Journal of Economic Dynamics and Control*. (30):2389-2424.
- Bikker, J., & De Dreu, J. (2009). Operating costs of pension funds: The impact of scale, governance and plan design. *Journal of Pension Economics and Finance*, 63–89.
- Blake, D. (2007, February 15). Pension Liability Risks: Manage or Sell. International Monetary Fund and De Nederlandsche Bank.
- Blome, S., Fachinger, K., Franzen, D., Scheuenstuhl, G., & Yermo, a. (2007). Pension Fund Regulation and Risk Management: Results from an ALM Optimisation Exercise.
- Bodie, Z., & Merton, R. (2005). Design of Financial Systems: Towards a Synthesis of Function and Structure. Harvard University. Working Paper.
- Brunner, G., Hinz, R., & Rocha, R. (2008). Risk Based Supervision of Pension Funds: A Review of International Experience and Preliminary Assessment of the First Outcomes. *World Bank. Policy Research Working Paper 4491*.
- Cannon, E., & Tonks, I. (2013). The value and risk of Defined Contribution Pension Schemes: International Evidence. *Journal of Risk and Insurance*, 95-119.
- Clark, G. (2004). Pension fund governance: expertise and organizational form. *Journal of Pension Economics and Finance*. (3):233–53.
- CMA. (2015). *The Capital Markets Act (Cap. 485a) Guidelines On The Prevention Of Money Laundering And Terrorism Financing In The Capital Markets*. Government of Kenya.
- Davis, E. P. (2006. ). How will Ageing Affect the Structure of Financial Markets?G20 Workshop on Demography and Financial Markets. Sydney. July.
- DAXX. (2018). *How to Mitigate Risk in Outsourcing*, . Retrieved from <https://www.daxx.com/blog/offshore-team/4-it-outsourcing-risks-and-how-to-mitigate-them>

- Dimson, E., Nagel, S., & Quigley, G. (2003). Capturing the Value Premium in the United Kingdom. *Financial Analysts Journal*, 59, 35-45.
- Dovi, E. (2008). Boosting Domestic Savings in Africa. Rom Africa Renewal.
- Holzman, & Hinz. (2001). Pension systems and reform conceptual framework.
- IOPS. (2012). Toolkit for Risk-Based Pensions Supervision. *International Organisation of Pension Supervisors*.
- IOPS. (2012). [www.iopsweb.org/rbstoolkit](http://www.iopsweb.org/rbstoolkit).
- Jensen, M., & Meckling, W. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*, 305-360.
- Kakes, J., & Broeders, D. (2006). The Sustainability of the Dutch Pension System. De Nederlandsche Bank. Occasional Papers.
- Macharia, J. M. (2011). Risk Management Strategies And Returns By Pension Funds In Kenya.
- Mangiero, S. (2006). Pension Risk Management: Necessary and Desirable. *Journal of Compensation and Benefits*. March – April pp. 7-11.
- Maurer, R., Mitchell, & Rogalla, R. (2008). Reforming German Civil Servant Pensions: Funding Policy, Investment Strategy, and Intertemporal Risk Budgeting. Pension Research Council. PRC WP2008-09.
- Maurer, R., Mitchell, O., & Rogalla, R. (2008.). Reforming German Civil Servant Pensions: Funding Policy, Investment Strategy, and Intertemporal Risk.
- Mele, C., Pels, J., & Polese, F. (2010). A Brief Review of Systems Theories and Their Managerial Applications. *Service Science*, 126-135.
- Mitchell, O., & Philip, J. (2006. ). Social Security Replacement Rates for Alternative Earnings Benchmark. *Benefits Quarterly*. 4th Quarter. pp.37-47.
- NICE Actimize. (2016). Understanding & Managing Financial Crime Risk. NICE Actimize.
- OECD. (2015c). Pensions at a Glance 2015: OECD and G20 indicators. Technical report, . *OECD Publishing, Paris*.
- OECD . (2017). Technology and Pensions: The potential for FinTech to transform the way pensions operate and how governments are supporting its development.
- OECD. (2015a). Pension funds in figures pension funds' assets in 2014 top usd 25 trillion in OECD countries. Technical report, . *OECD Publishing*.
- OECD. (2017a). *Robo-Advice for Pensions*. OECD.
- OECD. (2006. ). OECD Guidelines of Pension Fund Asset Management. OECD Publishing. .
- OECD.. (2018). Technology and Pensions: The potential for FinTech to transform the way pensions operate and how governments are supporting its development.
- OECD... (2008b.). OECD – IOPS Guidelines on the licensing of pension entities.
- Palacios, & Pallares-Millares, M. (2000). *Internacional Patterns of Pension Provision. Pension Primer Paper. World Bank*.

- Saunders, M., Lewis, P., & Thornhill, A. (2016). *Research methods for business students*.
- Schroders Annual Report and Accounts . (2017). *Risk management culture focused on integrity and good conduct*. Schroders.
- Stewart, F., & Yermo, J. (2009). "Pension Fund Governance: Challenges and Potential Solutions", OECD Working Papers on Insurance and Private Pensions, No. 18, OECD publishing.
- Sze, M. (2008). Funding of Private Funds: Technical Assistance for Policy Reforms. World Bank.
- The Pensions Regulator. (2018). Cyber Security Principles for Pension Schemes Guidance for Trustees.
- Tversky, A., & Kahneman, D. (1992). Advances in Prospect Theory: Cumulative Representation of Uncertainty. *Journal of Risk and Uncertainty*, 5(4), 297-323.
- Wall Street Journal. (2014). *Risk & Compliance Journal*. Retrieved from <https://deloitte.wsj.com/riskandcompliance/2014/03/03/managing-early-stage-outsourcing-risks/>
- Wyatt, W. (2007). Best-Practice Investment Management: Lessons for Asset Owners from the Oxford-Watson Wyatt Project on Governance.
- Yermo. (2007). Reforming the Valuation and Funding of Pension Promises: Are Occupational Pension Plans Safer? OECD Publishing.
- Yermo, J. (2005). The Contribution of Pension Funds to Capital market Development in Chile. OECD Publishing.