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Abstract

Purpose: Management innovation is critical for developing and sustaining occupational pension schemes. AI, blockchain, and machine learning present possibilities to improve efficiency and financial resilience and to strengthen members' confidence. However, essential factors must be met fully for these innovations to thrive, including resistance to change, legal requirements, and technological factors. This review raises awareness of the need to nurture an innovative culture in pension fund management backed up by open policies and directed research. In that respect, adopting innovation will continue to be critical in dealing with these emergent issues and supporting the future viability of various communities worldwide. This study aimed to establish the influence of management innovativeness on the growth of occupational pension schemes in Nairobi City County, Kenya.

Methodology: This study used the Schumpeterian Innovation Theory. This study employed a hybrid research design that combined quantitative and qualitative methods. A longitudinal descriptive survey was used in this study. All 809 Nairobi City County occupational pension systems were targeted. In Nairobi City County, Kenya, this study sampled all the Kenya Retirement Benefits Authority occupational programs. 321 projects have fund values under 500 million Kenyan shillings, 275 between 500 million and 1 billion, 158 between 1 billion and 10 billion, and 55 over 10 billion. A biased stratified sampling procedure selected 267 of Nairobi City County's 809 pension schemes. One manager, preferably the Finance and Investments Manager, from each of Nairobi's 267.

Findings: The study concluded that management innovativeness significantly influences entrepreneurial culture and the growth of occupational pension schemes in Nairobi. Therefore, management innovativeness is a key determinant in supporting the growth of Occupational Pension Schemes in Kenya.

Unique Contribution to Theory, Practice and Policy: Based on the findings of this study, it is apparent that pension schemes need to adopt innovativeness in their business environment. The recommendation from the above study further reveals that only innovative pension schemes will be relevant in the market.

Keywords: *Pension Innovativeness, Pension Funds, Financial Performance*

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INTRODUCTION

International experience shows that management innovativeness plays a significant role in developing occupational pension schemes. In developed countries, the diversification of investments and the digital process have been identified as the main factors that improve financial performance. For instance, pension schemes in both Canada and Switzerland have recently adopted dynamic asset allocation strategies in their pension investment portfolios to attain long-run stability and even higher returns (Ren, 2022). In the same way, the Netherlands has shifted from a fully funded defined benefit pension to a collective defined contribution pension where financial solvency is maintained in equal measure to the pension benefits for members (Sorsa & van der Zwan, 2021). In developing countries, attempts to enhance pension enrolment have been effective when tried in new ways. In Kenya, predictive modelling has been applied to determine pension participation determinants, including income and bank. There is significant literature on the use of machine learning in predicting enrollment and directing appropriate interventions (Yego et al., 2023). These case studies demonstrate the need for solutions specific to the contexts in which they are applied.

In pension fund management, technology has emerged as one of the critical success factors for firms. Blockchain technology provides solutions to most of the problems affecting conventional pension schemes. This way, blockchain eliminates administrative costs and improves member trust by allowing secure, transparent, and automated transactions (Sarker & Datta, 2022). Mobile applications and digital platforms extend the convenience of pension contribution and withdrawal, giving pension members real-time access to their pension savings (Morrison et al., 2020). They also found that artificial intelligence and data analytics are the key enablers in today's pension schemes. Actuarial and statistical models and analyses help pension funds understand member and investment behavior, translating into intelligent decisions (Domeher et al., 2022). These technologies not only help to increase operational effectiveness but also increase members' satisfaction with customized services and products.

Entrepreneurship can occur globally as either an individual endeavor or as an institutional effort, referred to as "corporate entrepreneurship" (Guerrero et al., 2022). Corporate entrepreneurship is typically the cultivation of innovative ideas and opportunities within large or established enterprises, resulting in increased organizational profitability and improved competitive positioning or strategic renewal of an existing business (González-Tejero & Molina, 2022). In that framework, corporate entrepreneurship is centered on innovation. The two are interconnected and accountable for fostering strategic and advantageous risk-taking. Corporate entrepreneurship can profoundly shift competitive dynamics within an industry or generate entirely new industries through internal innovation (Asekame et al., 2021).

Organizations are presently involved in a competitive endeavor marked by significant transformations. The velocity of such transformation is diminished in intricate organizations. Due to their focus on stability, traditional companies are unable to satisfy the growing demands of the contemporary corporate environment. Consequently, the future is reserved for businesses that can rapidly adapt to environmental shifts and possess the requisite flexibility for making modifications (Malik et al., 2022). Innovation and continual improvement are ingrained in these firms, which consider organizational learning capability a fundamental concept. Such advancements in companies can be executed under the paradigm of organizational entrepreneurship. Crucially, entrepreneurial management and the efficient allocation of resources within entrepreneurial organizations guide employees' efforts toward product innovation, service enhancement, organizational development, and process improvement

necessary for achieving superior performance. Innovation, organizational performance, and sustainable growth are essential outcomes of entrepreneurial organizations (Maharati et al., 2014).

Problem Statement

The introduction of management innovativeness in occupational pension schemes comes with some challenges. Various challenges must be overcome; these include organizational resistance to change, regulatory issues, and technology. One of the challenges experienced in traditional pension schemes is a culture of resistance to change. This resistance is generally due to ignorance of new technologies and refusal to change from the usual ways of doing things. According to Blach (2020), there is a need to develop organizational capacity and culture for innovation to overcome this inertia. These challenges can be overcome through employee training and change management programs.

Although regulations are essential to enhance the pension funds' transparency and accountability, they may restrict the efforts to try a new approach. For instance, governance requirements in the UK have limited the possibility of pension schemes trying out new approaches to investing and new technologies (Clark, 2020). Innovators and policymakers must, therefore, look for ways of encouraging innovation while at the same time monitoring the market. Technology is still a significant issue, especially when it comes to infrastructure, especially in third-world countries. The absence of technology and skilled human capital are substantial factors limiting the application of digital technologies among pension schemes. For example, pension schemes in Ghana and Myanmar are challenged by several impediments to implementing fintech solutions because of the low level of technology (Khai et al., 2024). These deficits can only be filled with investments in technology and other capacity-building endeavors.

The constantly growing rate of innovations like AI, blockchain, and machine learning can significantly transform the management of occupational pension funds. These technologies are expected to improve operations, accountability, and decision-making. For instance, blockchain technology has the advantages of high transparency and security in transaction processes that can significantly decrease administrative expenses and reduce fraud cases (Sarker & Datta, 2022). Using blockchain, smart contracts can facilitate pension contributions and disbursement with minimal errors. Like it, AI and machine learning can help pension funds develop accurate forecasts about the behavior of members and, therefore, enhance the pension products' attractiveness (Domeher et al., 2022). However, as the following sections will demonstrate, there are still questions that need to be answered by these technologies, such as long-term financial sustainability and the impact on members' trust. Future research should explore these innovations' effects on member confidence, especially when people may not have much faith in technology because of illiteracy or insecurity about the internet (Morrison et al., 2020).

If a comparative analysis of different countries' experiences in the regulation of innovation was possible, it could provide important lessons for promoting innovation while preventing the emergence of financial instability. For example, the Canadian and the Netherlands regions have implemented flexible legal structures that support technological integration but also meet the legal requirements of fiduciary duties (Ren, 2022; Sorsa & van der Zwan, 2021). Hopefully, these best practices could help policymakers in other jurisdictions build regulatory frameworks that encourage innovation while maintaining transparency and accountability. On the other hand, where the legal infrastructure could be more prescriptive, as in the UK, there is a question

of how the rules of governance need to be relaxed to accommodate new technologies while still protecting investors (Clark, 2020).

The pre-Retirement Benefits Authority era in Kenya saw a retirement benefits sector with little effective regulation and supervision. The interests of retirement scheme members and their beneficiaries were not sufficiently protected. There was concern about the design and financial viability of certain schemes in the country unless appropriate remedial action was taken. There was poor administration and investment of scheme funds with particular concerns on concentrations of investment, particularly in property. In the majority of cases, this was inadvertent and unintentional, but without adequate controls and supervision, there was always a risk of mismanagement and outright misappropriation. Further disclosure and accountability were lacking. The NSSF had also been riddled with governance issues and concerns over its investments and payment of benefits. Not surprisingly, confidence in the sector was low. The primary motivation for reform and enactment of the retirement benefits legislation in Kenya in 1997 was thus to strengthen the governance, management and effectiveness of the NSSF and of the occupational pensions sector. The enactment of the Retirement Benefits Act ('RBA') (1997) and the establishment of the Retirement Benefits Authority ('the Authority') in 2000 marked the beginning of a regulated, organized and more responsible retirement benefits sector in Kenya (Raichura, 2008). The RBA has been able to come up with investment guidelines as per the table below;

No	Asset Class	Maximum % aggregate market value of Total Assets
1.	Cash and Demand Deposits	5%
2.	Fixed Deposits.	30%
3.	Listed Corporate Bonds, Mortgage Bonds and Fixed Income Instruments;	20%
4.	Commercial Paper.	10%
5.	Government Securities	90%
6.	Preference shares and ordinary shares	70%
7.	Unlisted shares and equity instruments	5%
8.	Offshore investments	15%
9.	Immovable property in Kenya.	30%
10.	Guaranteed Funds.	100%
11.	Derivatives contracts	5%
12.	Real Estate Investment	30%
13.	Private Equity & Venture Capital.	10%
14.	Debt instruments	10%
15.	Other Assets	10%

Source: RBA 2016

Hypothesis Testing

H₀: There is no significant difference between management innovativeness and the growth of occupational pension schemes in Nairobi City County.

LITERATURE REVIEW

Theoretical Framework

Schumpeterian Innovation Theory

Schumpeterian Innovation Theory informed the study. The Innovation Theory of Profit was proposed by Joseph A. Schumpeter, who believed that an entrepreneur could earn economic profits by introducing successful innovations in 1942 (Mehmood et al., 2019). The innovation theory of profit posits that the entrepreneur gains profit if their innovation successfully reduces the overall cost of production or increases the demand for their product. According to Schumpeter, "creative destruction" entails disrupting current market structures by introducing new products and/or services that cause resources to shift from existing enterprises to new ones, facilitating the latter's expansion. The Schumpeterian theory stresses the role of entrepreneurs as primary agents affecting creative destruction and emphasizes to the entrepreneurs the need to search purposefully for the sources of innovation, the changes and their symptoms that indicate opportunities for successful innovation, as well as their need to know and to apply the principles of successful innovation. Accordingly, Mehmood et al. (2019) refer to innovation as the instrument of entrepreneurs, the method by which entrepreneurs take advantage of change as a chance to offer a new product or service.

Schumpeter's innovation theory of entrepreneurship holds an entrepreneur as one having three major characteristics: innovation, foresight, and creativity. Entrepreneurship occurs when the entrepreneur creates a new product, introduces a new way to make a product, discovers a new market for a product, finds a new source of raw material, or finds a new way of making things in an organization. However, Schumpeter's innovation theory ignores the entrepreneur's risk-taking ability and organizational skills, placing undue importance on innovation. This theory applies to large-scale businesses, but economic conditions force small entrepreneurs to imitate rather than innovate (Raimi & Kah, 2022).

Schumpeter's theory assumes a perfectly competitive economy by entrepreneurs in a stationary equilibrium. In such a stationary state, there is a perfectly competitive equilibrium. No profits, no interest rates, no savings, no investments, and no involuntary unemployment. This equilibrium is characterized by the term "circular flow", which continues to repeat yearly. In the circular flow, the same products are produced every year in the same manner. According to Schumpeter, economic development is a spontaneous and discontinuous change in the channels of the circular flow, a disturbance of equilibrium, which forever alters and displaces the equilibrium state previously existing in development or in the carrying out of new combinations for which possibilities exist in the stationary state. New combinations come about as innovations (Takashi, 2021).

However, to break the circular flow, the Schumpeterian approach believes that innovation is paramount in the form of a new product by an entrepreneur to earn profit. Innovative entrepreneurs are financed by bank-credit expansion to break the circular flow. Once the innovation becomes successful and profitable, other entrepreneurs follow it. Innovations in one field may induce other innovations in related fields. The emergence of the motor car industry is a typical example of emulating this theory whereby innovation may stimulate a wave of new investments in the construction of highways, rubber tires, and other multiplier-effect products (Langroodi, 2021).

The Schumpeterian theory assigns the role of an innovator not to the capitalist but to the entrepreneur. The entrepreneur is not a man of ordinary managerial ability, but one who

introduces something entirely new. The entrepreneur is motivated by the desire to find a private commercial kingdom, the will to conquer and prove superiority, the joy of creating, getting things done, or simply exercising one's energy and ingenuity. To perform his economic condition, the entrepreneur requires two things: first, technical knowledge to produce new things; second, the power of disposal over the factors of production in the form of credit (Lala & Sinha, 2019). This theory is therefore relevant to this study in that it highlights two major variables within the independent variable: innovativeness and proactiveness.

Schumpeter theory highlights the role of the innovator as the prime mover of economic development. Innovations are only one of many factors causing cyclical fluctuations in a capitalistic economy. However, it is difficult to differentiate their innovative activity from their ordinary business activity. Innovative activities have become a matter of routine these days and there is no need for special agents like innovators to carry out such activities. Thus, Schumpeter has over-glorified the place of innovator in his model (Kleinknecht, 2016).

Empirical Review

Management Innovativeness on Growth of Occupational Pension Schemes

Innovation is a significant concept in pension fund management, and technology is the foundation of it. Blockchain technology, for instance, has transformed fund administration by supporting safe, transparent, automated, and subordinate transactions. Blockchain decreases the overhead costs and minimizes fraudulent occurrences, and due to these aspects, the blockchain has more advantages than the current systems (Sarker & Datta, 2022). In the same way, fintech solutions have impacted processes like fund tracking, member enrollment, and contribution management, making operations more efficient and effective for the customers (Morrison et al., 2020). AI and data analytics go further to build decision support within pension schemes. AI-based predictive models give information about the member's behavior, investment returns, and market trends to the fund managers so they can make intelligent decisions (Domeher et al., 2022). For instance, machine learning has been applied to determine the significant determinants of pension participation, including income status and financial literacy, and to influence the uptake of pension schemes (Yego et al., 2023).

In this context, regulatory environments are found to have a dual function of promoting and limiting innovation. The policies that encourage the use of financial services and technologies foster the right conditions for developing proper practices. For example, the Kenyan Retirement Benefits Act has prompted the development of sound risk management frameworks that improve the pension fund risk position (Ondieki, 2022). However, there is a risk that too many regulations hamper the ability of pension funds to try innovative solutions. For instance, in the UK, the governance rules have limited the possibilities of introducing technologies into pension fund management (Clark, 2020). There is always a tension between the need for regulation and innovation in a particular industry. Policies should not only be aimed at increasing transparency and accountability of pension funds but also at offering the possibilities for further development of new technologies and strategies that might interest pension funds. Balance is essential to creating an innovative culture within industry.

It is found that leadership and culture are central to innovation. Good leaders promote creativity and flexibility and make change the norm and innovation a welcome thing (Nadolna, 2020). This is especially so given that traditional practices mainly characterize pension schemes. Employers who invest in their subordinates can ensure that their staff are trained in the right way and can introduce new technologies and processes (Huang et al., 2022). Another factor

that was found to influence attitudes to innovation is organizational culture. Pension schemes can adopt the current best practices in other organizations by embracing change: An organization that embraces change will overcome any resistance and adopt the best culture of encouraging innovation in its operations. For instance, when organizations support cross-functional integration and communication, they are highly likely to achieve the implementation goals of innovative solutions (Lintukangas et al., 2019).

Leadership and culture are important to innovation. Effective leaders foster creativity and adaptability, establishing change as the standard and innovation as an embraced concept (Nadolna, 2020). This is particularly true when pension schemes are predominantly defined by established methods. Employers who invest in their subordinates can ensure that their personnel are taught in the proper way and are able to introduce new technologies and processes (Huang et al., 2022). Organizational culture was identified as another factor influencing attitudes toward innovation. Pension systems can implement contemporary best practices from other firms by embracing transformation: An organization that embraces change will surmount resistance and cultivate a culture that fosters innovation in its operations. For instance, when businesses enable cross-functional integration and collaboration, they are very likely to meet the implementation goals of innovative solutions (Lintukangas et al., 2019).

In the realm of entrepreneurial ventures, innovation is essential to existence. Innovation entails executing tasks in a distinct and superior manner, occurring more rapidly in growing enterprises that integrate new technologies at an earlier stage. Schumpeter was among the first scholars to highlight the significance of innovation, employing the phrase "creative destruction" to characterize the emergence of new commodities and services that disrupt the existing market and induce a reallocation of resources (Doanh et al., 2021). Hughes et al. (2018) define a company's innovation as its propensity to promote and pursue new ideas, originality, experimentation, and creative processes that may lead to the development of new products, services, or technological advancements (Bor, 2018).

Entrepreneurial activity in Kenya is a significant way to address the prevalent high levels of poverty and unemployment. The micro and small enterprises sector is the driving force that spurs economic growth, innovation, and job creation. In tandem with the rest of the world, Kenya is experiencing transformative shifts in population demographics, technological changes, fluctuating economies, and other dynamic forces (Ferreira & Coelho, 2020). Consequently, SMEs face tremendous competitive challenges and threats to survival. The role and importance of SMEs are widely appreciated and acknowledged, and the Kenyan government has increased emphasis on Small and Microentrepreneurship through innovativeness (Kivuitu & Karugu, 2020).

Innovation is the successful exploitation of new ideas and thus creates sustainability in a competitive and dynamic environment. Similarly, through Sustainability-oriented innovation, firms may contribute to more sustainable ventures. Sustainability-oriented innovation is differentiated in its types, from optimizing current activities to building new systems of interdependent collaborations in line with sustainable venture needs (Maier et al., 2020). Businesses are now entering the third decade of the 21st century (Diwanti et al., 2021). This will be an important period for business, sustainability, and innovation. Innovation for sustainability comes in handy and displays multiple levels of action needed to interconnect individual sustainable leadership and entrepreneurship to the other levels of organizational transformation and systems transitions toward Sustainable Development. Businesses are becoming problem-solvers, aiming to provide solutions to grand challenges and fostering ways

to adopt and build on Sustainable Development Goals. Innovation for Sustainability is not a secondary goal anymore; it is a core approach for creating value at multiple levels: products, services, business models, and system-level transitions (Bocken et al. 2019).

Entrepreneurship in governmental organizations and the public sector is more than just profit-making. Environmental organizations are currently engaged in a competitive activity characterized by dramatic structural changes (Tarabieh et al., 2020). The rate of such change is slower in complex organizations. With their emphasis on stability, traditional organizations can no longer meet the increasing needs of today's business world. Thus, the future belongs to organizations that can swiftly respond to environmental changes and have the essential flexibility in implementing structural changes. Innovation and continuous improvement have been institutional in such organizations, and they regard organizational learning capability as a principle. More importantly, entrepreneurial management and optimal utilization of resources in entrepreneurial organizations direct employees' attempts toward product innovation, services, organizational development, and improved processes required to reach higher performance (Diwanti et al., 2021). Such developments in organizations can be implemented within the framework of organizational entrepreneurship.

Information technology has been one of the most important drivers of economic and social value in the last 50 years, transforming organizations, markets, industries, societies, and the lives of individuals (Nair et al., 2019). Information technology has played a significant role in boosting institutions' entrepreneurship through the support of competitive strategies and the improvement of firm performance (Wessel et al., 2021). For many firms, the most common reasons for adopting information technology are to provide a means to enhance survival and growth, thus staying competitive and enhancing innovation abilities. Information technology can add value to an organization via functionality, usability, and information structure, which in turn affects the quality, efficiency, and innovations of the users. Adopting new information technology is also a means to enhance how people capture and distribute information, lower production and labor costs, add value to products and services, and increase the company's competitive advantage (Nair et al., 2019).

Technology acquired for production and technical tools and advancing communication technologies have revolutionized how organizations operate in current errors. Baumann et al., (2021) stated that strategy is concerned with positioning a business to maximize the value of the capabilities that distinguish it from its competitors. According to scholars, a firm must formulate a business strategy that incorporates cost leadership, differentiation or focus to achieve sustainable competitive advantage and long-term success in its industry (Johnson & Hackman, 2018). Removing competition from the study of entrepreneurial endeavors is like trying to explain evolution without wanting to consider the impact of the environment surrounding a particular species. In this analogy, competition policy determines who can eat in the business food chain (Samad, 2018).

Process efficiency is a recipe for customer satisfaction and can be experienced in various situations and connected to goods and services. It is a highly personal assessment that is greatly affected by customer expectations. Satisfaction is also based on the customer's experience of contact with the organization and personal outcomes. A satisfied customer is "one who receives significant added value" to the bottom line. In today's competitive business environment, entrepreneurs are more influenced by customer expectations, and meeting customer satisfaction demands is very important for them. Every organization must define customer satisfaction regarding their market. Customer satisfaction cannot be defined only as a standard

or product quality. Customer satisfaction is about relationships between the customer and the product or service and the product or service provider (Tarabieh et al., 2020).

Indicators of Growth in Occupational Pension Schemes

There are several ways to determine occupational pension scheme growth, such as membership, performance, and satisfaction. These give precise figures of the state of a pension scheme and the ability of the pension scheme to continue serving members in the long run. Membership growth is one of the critical success factors in determining the extent to which a pension scheme has penetrated society. For the countries of the Third World, the problem of low enrolment rates persists, and it is even more acute in the informal economy. For instance, income level, education, and social relations are essential in determining pension uptake. For example, Ngomba and Kitheka (n.d) studied the informal sector in Nairobi and showed that association links and financial literacy enhance pension enrolment. More focused and information-based campaigns are needed to counter these barriers and raise participation rates.

This research, therefore, seeks to establish the role of financial performance in pension schemes. The measures of solvency, investment income, and fund obligations are some of the most important indicators of financial stability. Dynamic asset allocation strategies have effectively managed the risk-return profile and helped pension schemes get better returns even in an economic downturn (Ren, 2022). Nevertheless, the selection of actuarial valuation methods directly affects the fund liabilities and the contribution rates. Mbatia (2024) pointed out that liability is not constant and depends on the actuarial methods used in financial forecasting. It is widely admitted that customer satisfaction is one of the critical factors for pension scheme development. Digital platforms that promote openness and ease have emerged as a preferred way of improving member engagement. For instance, a mobile application feature that enables members to monitor their contributions in real-time and obtain financial advice has enhanced customers' experiences (Sarker & Datta, 2022). Member retention is also a function of the perceived value of pension schemes, which can be improved by providing services and financial literacy (Ghadwan et al., 2023).

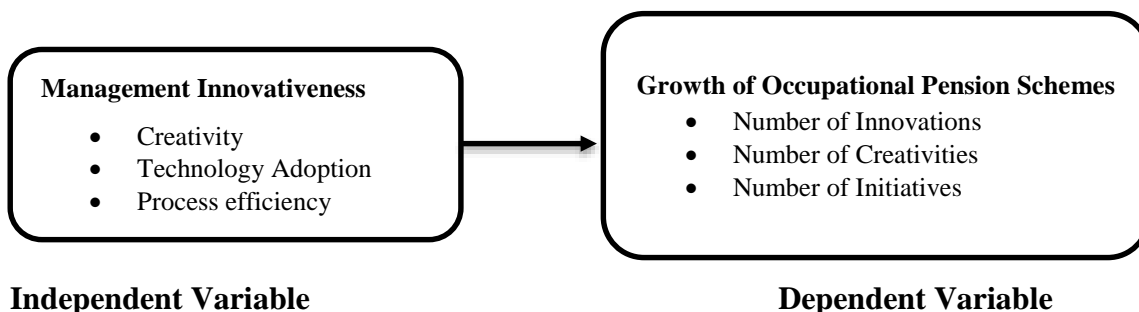
It is important to note that pension plans have the ability to create their own Investment Policy Statements (IPS) in order to provide trustees with guidance regarding the amount of money to invest in the asset option and to aid trustees in monitoring and evaluating the performance of the fund. Furthermore, investment policy statements frequently differ depending on the risk-return profile and expectations, which are primarily dictated by factors such as the demographics of the scheme and the economic outlook. A representation of how the retirement benefits schemes have invested their funds in the past is shown in the following table:

Table 1: Pension Fund Investment Strategy

Asset Class	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Government Securities	33.8 %	31.0 %	29.8 %	38.3 %	36.5 %	39.4 %	42.0 %	44.7 %	45.7 %	45.81 %	47.79 %
Quoted Equities	25.5 %	26.0 %	23.0 %	17.4 %	19.5 %	17.3 %	17.6 %	15.6 %	16.5 %	13.66 %	10.22 %
Immovable Property	17.2 %	17.0 %	18.5 %	19.5 %	21.0 %	19.7 %	18.5 %	18.0 %	16.5 %	15.76 %	14.46 %
Guaranteed Funds	10.3 %	11.0 %	12.2 %	14.2 %	13.2 %	14.4 %	15.5 %	16.5 %	16.8 %	18.99 %	19.19 %
Listed Corporate Bonds	4.4%	6.0%	5.9%	5.1%	3.9%	3.5%	1.4%	0.4%	0.4%	0.50%	0.44%
Fixed Deposits	4.9%	5.0%	6.8%	2.7%	3.0%	3.1%	3.0%	2.8%	1.8%	2.68%	3.97%
Offshore	2.2%	2.0%	0.9%	0.8%	1.2%	1.1%	0.5%	0.8%	1.3%	0.90%	1.36%
Cash	1.3%	1.0%	1.4%	1.4%	1.2%	1.1%	1.2%	0.9%	0.6%	1.07%	1.33%
Unquoted Equities	0.6%	0.0%	0.4%	0.4%	0.4%	0.3%	0.3%	0.2%	0.2%	0.32%	0.3%

Conceptual Framework

A conceptual framework is a representation, either written or visual, of an expected relationship between variables that are independent and variables that are dependent. Simply put, variables are the qualities or traits that are being investigated in this inquiry. One way to show what is anticipated to be studied through research is through the use of a conceptual framework. In this study, the illustration in Figure 1 displays the performance of small and medium-sized enterprises (SMEs) in manufacturing as the dependent variable, and entrepreneurial networking as the independent variable. It also specifies the relevant variables for the study and maps out how they relate to each other (Swaen, 2021).



Independent Variable

Dependent Variable

Figure 1: Conceptual Framework

METHODOLOGY

The chapter discusses the study's methodology. The target population, sampling frame, sample size, and sampling technique are also covered. The chapter also covers data-gathering methods, procedures, pilot tests, and analysis. This analysis covers all Nairobi Retirement Benefits

Authority occupational pension systems as of December 31, 2021. They sampled 1,379 Kenyan occupational pension systems (KRBA, 2021). This study examined 809 Nairobi-based plans. This analysis excluded the Civil Service Pension Scheme and NSSF. The two programs were seen as inflexible due to the government's direct influence, which requires National Assembly clearance for all corporate operations. Occupational Pension Schemes were chosen for this study because their structure allows for an entrepreneurial focus. Registered occupational pension plans in Nairobi City County, Kenya as of December 2021, grouped by fund values, were the unit of analysis, while their Finance Managers and Operations Managers were the unit of observation.

A regression model was used to show the relationship between the predictor and the dependent variable. In this study, the independent variable (X) was Management Innovativeness while the dependent variable (Y), was Growth of Occupational Pension Schemes in Nairobi City County. Considering that there is one variable under investigation, a simple regression model (Ordinary Least Square Method) was used to analyze the data. The regression analysis was done using the regression model below:

$$Y = \beta_0 + \beta_1 D_1 + u_i$$

Where **Y** is the entrepreneurial culture and growth of occupational pension schemes

D_i – Management innovativeness.

β₀ - Represents the constant

β₁ - Represents the intercept on the regression model and

u_i is the stochastic/disturbance or error term.

The t-test at 95% confidence level was used to determine the statistical significance of the constant terms, **β₀** and the coefficient terms, **β₁** to **β₅**. The P-value test also determined whether the regression parameters were statistically significant at a 95% confidence level. The coefficient of determination, **R²**, and adjusted **R²** were used to determine how much variation in the dependent variable, **Y**, is explained by variation in the regressor variables. The analysis was done using SPSS and Microsoft Excel. The ANOVA test was used to examine the strength of relationships between independent and dependent variables.

RESULTS AND DISCUSSIONS

Management Innovativeness and Growth of Pension Schemes

This question aimed to establish how the innovativeness of the management has influenced the growth of the respondents' pension scheme. Data collected was analyzed, and the findings were presented as shown.

Table 1: How Management Innovativeness has Influenced the Growth of Pension Schemes

	Frequency	Percent
Growth of membership and fund value	33	13.7
Enhanced product efficiency	58	24.2
Development of new products.	138	57.5
Enhanced customer satisfaction through the automation of products	64	26.8
Cost Control	21	8.8
Enhanced return due to diversification of investments	50	20.9
System re-engineering	20	8.3
Through diversification into alternative investments such as private equity, property	58	24.2
Active monitoring of the Fund managers' actions to confirm they are within the IPs and agreed strategy	57	23.8
Introduction of products such as Income Drawdown Fund, Orphan Trust Funds, and Retirees Medical Plans	57	23.8

Management innovativeness has influenced the growth of occupational pension schemes through the introduction of new products such as the Income Drawdown Fund, Orphan Trust Fund, and Retirees Medical Plan. Management has been able to enhance customer Satisfaction through the automation of products offered in the market therefore promoting product efficiency. Automation has been able to bring the service closer to customers at any time. Management innovativeness on the other hand has led to the growth of membership thereby increasing the fund value of the pension schemes. On the other hand, the study established that management innovativeness promotes the growth of occupational pension schemes through cost control and reduction. Reduction of cost reduces unnecessary expenditure thereby promoting investment through diversification into alternative investments such as private equity, and property. Through innovativeness, pension schemes can actively monitor the actions of fund managers to confirm if they are within the IPs and agreed strategy.

According to Maier et al. (2020), Innovation is the successful exploitation of new ideas and thus creates sustainability in a competitive and dynamic environment. Information technology has been one of the most important drivers of economic and social value in the last 50 years, transforming organizations, markets, industries, societies, and the lives of individuals (Nair et al., 2019). Information technology plays a significant role in boosting institutions' entrepreneurship through the support of competitive strategies and the improvement of firm performance (Wessel et al., 2021). For many firms, the most common reasons for adopting information technology are to provide a means to enhance survival and growth, thus staying competitive and enhancing innovation abilities. Information technology can add value to an organization via functionality, usability, and information structure, which in turn affect the quality, efficiency, and innovations of the users. Adopting new information technology is also a means to enhance how people capture and distribute information, lower production and labor costs, add value to products and services and increase the company's competitive advantage (Nair et al., 2019). Technology acquired for production and technical tools and advancing communication technologies have revolutionized how organizations operate in current times. Baumann et al. (2021) stated that strategy is concerned with positioning a business to maximize the value of the capabilities that distinguish it from its competitors.

Influence of Management Innovativeness on the Growth of Occupational Pension Schemes in Nairobi City County

This section presents the findings on the first objective of the study, which was to examine the Influence of management innovativeness on entrepreneurial culture and growth of occupational pension schemes in Nairobi City County. To achieve this objective, coefficient of determination (R^2), analysis of variance (ANOVA) as well as model coefficients were generated. The null hypothesis was stated as follows:

H_{01} : Management Innovativeness does not significantly influence entrepreneurial culture and growth of occupational pension schemes in Nairobi.

Table 2: Model Summary of R2 (Coefficient of determination) on Management innovativeness on the growth of occupational pension schemes in Nairobi.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.716 ^a	.513	.501	.35401

a. Predictors: (Constant), Management Innovativeness

The R-value shown above represents the correlation between management innovativeness and the performance of pension schemes. The study established a strong Pearson correlation coefficient of .716, which shows a strong positive association between the dependent and independent variables. R-square shows the total variation for the dependent variable that could be explained by management innovativeness as independent variables. The study establishes a value of .513. The total variation that could be explained by management innovativeness is 51.3%. Therefore, the model is effective enough to determine the relationship. The close association between the R-Square and the Adjusted R-Square implies the goodness of fitness. This implies that the model on the relationship between Management Innovativeness and its influence on entrepreneurial culture and the growth of occupational pension schemes in Nairobi is suitable for estimation at the bivariate level.

Table 3: ANOVA on Management Innovativeness

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.068	2	2.248	16.692	.011 ^b
	Residual	79.804	48	.126		
	Total	85.872	50			

a. Dependent Variable: Growth of Occupational Pension Schemes

b. Predictors: (Constant), Management Innovativeness

As shown in Table 3, F-Calculated (2, 48) = 16.692 which is greater than F-Critical (2, 48) = 3.19 2.431 at 5% significant level (2-tailed test) and p-Value = 0.010 < 0.05. We, therefore, reject the null hypothesis accept the alternative hypothesis, and conclude that Management Innovativeness significantly influences entrepreneurial culture and growth of occupational pension schemes in Nairobi.

Table 4: Coefficients on Management Innovativeness

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.877	.148		5.942	.000
	Management Innovativeness	.605	.074	.572	8.183	.000

a. *Dependent Variable: Growth of Occupational Pension Schemes*

The findings from Table 4 showed that the independent variable (Management Innovativeness) is constant; the growth of pension funds will remain at 0.877 units. At the same time, an increase in management innovativeness by one unit would lead to the growth of occupational pension schemes by 0.605 units with a p-value of $0.000 < 0.05$. A positive beta of 0.605 coefficient implies that management innovativeness has a direct and positive influence on the dependent variable (growth of occupational pension schemes). The model $Y = \beta_0 + \beta_1 X_1 + e$ is to be therefore estimated as:

$$Y = 0.877 + 0.605X_1$$

Where: Y = Growth of occupational pension schemes; and X_1 = Management Innovativeness

CONCLUSION AND RECOMMENDATIONS

Conclusion

The study sought to examine the management innovativeness on entrepreneurial culture and the growth of occupational pension schemes in Nairobi City County. The null hypothesis was stated as; *There is no significant difference between management innovativeness and growth of occupational pension schemes in Nairobi City County*. The study rejected the null hypothesis and concluded that management innovativeness significantly influences entrepreneurial culture and the growth of occupational pension schemes in Nairobi. Therefore, management innovativeness is a key determinant in supporting the growth of Occupational Pension Schemes in Kenya. Arising from the findings of this study, it is apparent that there is a need for pension schemes to adopt innovativeness in their business environment. It is also true that dynamism in industry has put more pressure not only on profit-making firms but also on pension schemes. The recommendation from the above study further reveals that only innovative pension schemes will be relevant in the market.

Recommendations

Ensuring pension coverage for marginalized groups remains a significant challenge, especially in countries with informal employment and growth. The pension systems in many LICs provide pension coverage mainly to the employees of the formal economy while leaving millions of employees in the informal economy without pension-saving instruments. Ngomba and Kitheka's (n.d.) study among the informal sector employees in Nairobi reveals that factors that enhance pension enrolments include education, financial literacy, and association memberships. Further research should be directed to understanding the best approaches for addressing the concerns of vulnerable groups. For instance, employment through mobile phones and e-wallets could extend inexpensive and effective methods of financial planning for retirement among the growing informal sector. Also, government-supported micro-savings funds might be further discussed as potential additional coverage of pension program dependents among low-paid employees.

New policy ideas are crucial in closing the gap between the authority and the practical application of policies. The authorities should create conditions under which pension funds could test new technologies while ensuring that sound barriers adequately protect members' interests. Tax incentives to promote investments in digital solutions are the policies that can help the pension sector proceed to the next level of innovation. However, the current global trends show that increased interactions between systemically important countries/localities and international organizations, as well as improved knowledge exchange in the field, may assist the current and newly emerging domestic regulators in achieving greater standardization of regulation and internationalization of innovative impulses.

Last but not least, future research should examine how demographic factors influence technological practices. Pension schemes are constantly under pressure to meet the demands of aging populations, longer life expectancies, and a changing workforce. Such applications include AI-driven models that could aid pension funds in predicting the outcomes regarding demographic changes and adjusting investment strategies according to the outcomes above. Further, exploring the effects of the gig economy offers essential information on engaging the arrangements in pension schemes, specifically for contractors and freelancers. In this way, future research can contribute towards maintaining occupational pension schemes' stability and accessibility in a growingly diverse international context.

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