INFORMATION TECHNOLOGY POLICY AND PERFORMANCE OF OCCUPATIONAL PENSION SCHEMES IN KENYA

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Abstract: Funded pension systems have gained popularity since they contribute to the economic growth of countries worldwide through direct contribution to the GDP. In Kenya, the pension system contributes to an estimated 68 percent of the total income of retirees and controls wealth estimated at Ksh. 397 billion, the equivalent of 30 percent of the country's GDP. Evidence suggests that pension schemes in Kenya are associated with loss of billions of money every year and results to low economic development of the Kenyan economy hindering realization of achievement of Vision 2030. This study sought to establish the relationship between information technology and performance of occupational pension schemes in Kenya. The study was guided by one specific objectives IT policy and performance of pension schemes as the dependent variable. The study was guided by the theory of unified theory of acceptance and use of technology**.** The study used descriptive research design and the target population constituted 1,216 registered occupational pension schemes in Kenya. **Stratified sampling technique was employed** which involved dividing the population into different strata which included: defined benefits and defined contributions. The study selected a sample of 192 respondents. Simple random sampling was also employed. The instrument of data collection was a questionnaire which was self-administered. A pilot study was conducted to test validity of the questionnaire and the Cronbach's alpha was utilized in testing its reliability. A regression model was used to analyze the objectives and a moderated multiple regressions (which is an inferential procedure consisting of comparing two different least-squares regression equations) was used to test the moderating effect of government regulation while content analysis was used to analyze qualitative data. The collected data was presented using frequency tables, bar charts, and pie charts. The study will benefit several stake holders among them the government of Kenya (regulator), the pension schemes management on the influence of information technology on performance of pension schemes in Kenya. The study findings showed that IT policy had significant influence on the performance of occupational pension schemes in Kenya. The study concluded that IT human capital policy; IT universal internet access policy and Harmonization of IT policy initiatives and IT guideline policy influence IT policy on the performance of pension schemes in Kenya. The study recommends that IT leadership support; Level of involvement in information requirement analysis should be enhanced since both influence top management IT support on the performance of pension schemes in Kenya.

Keywords: IT policy, Occupational pension schemes, Defined Benefits Scheme, Defined Contribution Scheme, liberalization, Technology.

1. INTRODUCTION

Liberation technology is any form of information and communication technology (ICT) that can expand political, social, and economic freedom. In the contemporary era, it means essentially the modern, interrelated forms of digital ICT—the computer, the Internet, the mobile phone, and countless innovative applications for them, including "new social media" such as Facebook and Twitter. Digital ICT has some exciting advantages over earlier technologies. The Internet's decentralized character and ability (along with mobile-phone networks) to reach large numbers of people very quickly, are well suited to grassroots organizing. In sharp contrast to radio and television, the new ICTs are two-way and even multiway forms of communication. With tools such as Twitter (a social-networking and micro blogging service allowing its users to send and read messages with up to 140 characters), a user can instantly reach hundreds or even thousands of "followers." Users are thus not just passive recipients but journalists, commentators, videographers, entertainers, and organizers. Although most of this use is not political, the technology can empower those who wish to become political and to challenge

authorities an rule.

Governments have always encouraged pension schemes within the UK through various tax incentives. Alongside the development of state pension policy, tax incentives have been particularly generous to savings ear-marked for retirement (Gough, 2006). The UK pension system is very complicated due to numerous reforms over the last quarter of a century; a simple method of clarification is to divide it into three tiers. The first tier is mandatory, flat rate and publicly funded on a pay-as-you-go basis. There is also a significant and growing amount of means-tested benefits available to low income pensioners. The second tier is also mandatory to employees although individuals are faced with a large degree of choice over the type of pension that they can accumulate. The state second tier pension is financed on a pay-as-you-go basis as are the vast majority of pension schemes. Private sector pension schemes, personal pensions and stakeholder pensions are financed on a funded basis. The third tier consists entirely of voluntary private savings, all of which operate on an individual basis (Gough, 2006).

In the United States (US), the pension landscape is in a state of transition and the population is exposed to retirement. Old age poverty rates are increasing in the 21st Century. The Institute for Pension Supervisors (2008a) estimates the old age poverty rates at 30.6 percent in Ireland, 26.9 percent in Australia, 23.6 percent in USA, 22 percent in Japan, 10.3 percent in UK, 9.9 percent in German, 8.8 percent in France and 56 percent in Kenya with other African countries recording much higher rates. Research shows that old age poverty arises because 85 percent of the World's population over 65 has no retirement benefit at all (Stewart & Hughes 2008). In the Sub-Saharan Africa, less than 10 percent of the population has a contributory pension arrangement to help them save for their retirement (Palacios & Pallares-Miralles 2000). Pension fund arrangements should therefore be encouraged to enable the general population to save for retirement and consequently reduce the old-age poverty levels. In Latin American countries pension reforms contributed to the growth of capital markets and resulted in these economies opening their markets to trade and foreign investments and reducing their national budget deficits (Andrade, Farrell & Lund 2007).

A pension scheme is a scheme or arrangement under which persons are entitled to members or eligible persons are entitled to receive payments upon retirement, death or termination of services (McGill, Brown, Haley & Schieber, 2005). According to National Council for Law Reporting (NCLR), the provision and management of retirement benefits for public service employees (PSPS) in Kenya is governed under the pensions Act enacted in 1942 to provide for the grant and regulating of pensions, gratuities and other allowances in respect of the public service of officers under the Government of Kenya (RoK, 2010). The PSPS is not funded and operates on a defined benefits pay as you go basis. The scheme provides a pension of 2.5 percent of final basic salary for each year of service on retirement from service on retirement from service at 55. Unreduced pensions are payable on retirement at or after 50 with the parent Ministry's consent or earlier on ill health retirement (RoK, 2010).

The pension fund industry is a significant source of capital in the Kenyan financial markets (Omondi, 2008). According to Omondi, pension funds invested a sum of Kshs 223 billion in the Kenyan financial sector in 2007 of which Kshs 77 billion (22 percent of the outstanding domestic debt) was invested in government securities. Pension funds are thus significant institutional investors and must therefore be managed efficiently. **The pension industry in Kenya grew at 4.4 per cent to stand at Kshs 470.6 billion ($5.54 billion) as at June 2011, with Kshs113.5 billion held by NSSF, Kshs326.9 billion ($3.85 billion) by fund managers and Kshs30.2 billion ($355.3 million) in property investments not controlled by fund managers.** As at December 2011, however, pension managers lost Kshs 17 billion ($200 million), the first drop since industry regulator Retirements Benefits Authority was started in 2002. The contraction was as a result of the drop in the value of pensions assets from Kshs 420 billion ($4.941 billion) in December 2010 to Kshs 403 ($4,741 billion) in December 2011. The drop was caused by the lowered earnings of equity investments at the Nairobi Securities Exchange and the steep rise in interest rates which devalued government securities held by fund managers (Soft Kenya, 2012).

Statement of the Problem

According to World Bank, the development of an economy is significantly associated with pension schemes (*World Bank 2012b*). Statistics from Global Pensions Assets (GPA) study (2013), pension assets value for 13 leading pension markets in the world at the end of the year 2011 were 27,509 billion US dollars representing a 3.9 percent rise of the asset value from the year 2010. According to the 2014 Economic Survey, pension schemes

controlled over KShs 510 billion worth of assets in 2011, the industry assets grew by 15.5 percent from Kshs548.7 billion in December 2012 to Kshs633.5 billion as at June 2013 (RoK, 2014).

In Kenya, the pension system contributes to an estimated 68 percent of the total income of retirees (Kakwani, Sun & Hinz, 2006) and controls wealth estimated at Ksh. 397 billion, the equivalent of 30 percent of the country's GDP (RoK, 2010). Reports from Republic of Kenya show that pension schemes in Kenya are associated with loss of billions of money every year (RoK, 2014). Further reports show that the loss associated to pension schemes results to low economic development of the Kenyan economy hindering realization of achievement of Vision 2030 (RoK, 2014). Clark (2006) observed that pension regulations influence the way pension plans are governed and led.

Pension funds are subject to various regulations, although the structure of such regulations differs across countries (Paganch & Warr, 2007). Market failure explains why national authorities seek to regulate pension fund industry (Davis 2005). This is because market failure is an economic phenomenon where the free market mechanism cannot solve the economic problems in an efficient manner, thereby justifying the step-in of the government (Hu, 2005). According to Aiyabei (2013), in the year 2011, fourteen pension schemes were wound up and another six were put under interim administration as at June 2011. The risks in the pensions industry in Kenya are on the rise as evidenced by the suing of the heads of Kenya Railway Retirement Benefits scheme for misappropriating pension scheme funds and appointment of an interim administrator who put the trustees of Pyrethrum Board of Kenya pension trustees to account for the inability to pay retirees benefits (RoK, 2012).

The use of information technologies in public administration has gained notable space within the processes of public sector reform (Aineruhanga, 2004). IT provides an attractive strategy to reorganize internal government tasks, routines and processes and to make them more efficient, responsive as well as accountable to citizens. Lack of technical efficiency, legality and honesty, robustness and (forced) cooperation which are operationalised into technology bring discourse in technologically induced programs (Bonina, 2012) and performance of pension funds. Information technology is known to contribute to the growth of pension schemes in developed countries (Davis, 2005). The use of IT is a pre-requisite for the operation of pension schemes and also to make a positive impact in the global economy but the provision of computers and its accessories alone would not ensure its effective usage if the staff are not well skilled to appreciate and efficiently use them (Kpeto-Kumadie, 2010). Moreover, an IT policy is a critical element for the efficiency and effectiveness of internal administration within pension schemes and to re-locate these services to locations closer to the citizens (Laudon & Laudon, 2006). Most developing countries are characterized by low top management support in embracing IT in the public sector while allocation of resources to IT are not enough to carry out their tasks effectively (Acheampong, 2006).

Empirical Studies done on pension schemes include direct contribution to the GDP (Watson, 2007), accumulation of savings (Rauh, 2006 EBRI, 2007), financial market development (Yermo, 2008) and acting as consumers of financial services (Heijdra,Ligthart & Jency, 2006). Studies that have been conducted locally include: strategies to improve pension fund efficiency in Kenya (Njuguna, 2010); reducing old-age poverty and Social Pensions in Kenya (Kakwani *et al*, 2006); Determinants of Pension Governance (Njuguna, 2011) and supervision of pensions (Odundo, 2008). None of the above studies has focused on the relationship between information technology and performance of pension schemes. It is in this light that the current study sought to fill the existing research gap by studying the relationship between information technology and performance of occupational pension schemes in Kenya.

General objective of the Study

To determine whether IT policy affects performance of occupational pension schemes in Kenya.

Research Hypothesis

$H1_0$: IT policy affects performance of occupational pension schemes in Kenya
$H1_1$: IT policy does not affect performance of occupational pension schemes in Kenya

Research Questions

i. Does IT policy affect performance of occupational pension schemes in Kenya

Justification of the Study

The study will contribute to the management of pension schemes in Kenya and the rest of the business firms in Kenya who will access this information, since the study will effectively analyze the very critical area of the business. The benefit of this study will be that the management of pension schemes will get to understand the Moderating effect of Government Regulation on the relationship between information technology and performance of pension schemes in Kenya.

Limitations of the study

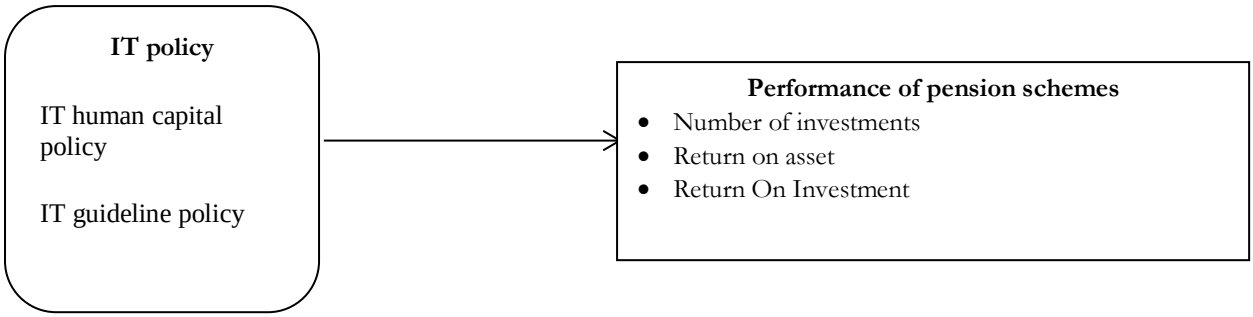
The study was limited by lack of information coming from the various pension schemes' staff for fear of information confidentiality not being honored by the researcher. This was mitigated by the researcher obtaining permission from the specific relevant pension scheme authorities. The researcher also obtained a letter of introduction from Kenyatta University graduate school. This aided in assuring the respondents that the information obtained will be purely for academic research purposes and was treated with utmost confidentiality. The study was faced with other anticipated obstacles which included and not limited to; access to accurate information due to respondents' divided attention to questionnaires and the desire to safeguard the reputation of the organisation thus hindering information dispatch. This was overcome by the researcher having a small briefing with the respondents on the magnitude and importance of the data to be collected.

Scope of the Study

The study was conducted on all the pension schemes in Kenya. The study focused on the relationship between information technology and performance of occupational pension schemes in Kenya. The study had a target population of 1,216 occupational pension schemes with a sample size of 192 respondents. The study targeted occupational pension schemes because they face a unique risk since they are voluntary creations of the employers and thus can also be closed by employers' if the performance of the scheme cannot be tenable.

Conceptual Framework

Conceptual framework is a concise description of the phenomenon under study accompanied by a graphical or visual depiction of the major variables of the study (Mugenda & Mugenda, 2008). According to Young (2009), conceptual framework is a diagrammatical representation that shows the relationship between dependent variable and independent variables. The most important thing about the conceptual framework is that it is primarily a conception or model of what is to be studied. The function of the conceptual framework is to assess and refine goals, develop realistic and relevant research questions, select appropriate methods, and identify potential validity threats to the conclusions. It also helps in justifying the research (Young, 2009).



Independent Variables **v** **Dependent Variable**

Figure 2: 1 Conceptual Framework of the Relationship between IT and Performance of Occupational Pension Scheme

Empirical Review

IT policy

Information technology policies ensure that everyone's use of an Institution's information technology resources supports its public service and administrative mission in the best possible way**.** IT policy can be defined in terms of IT human capital policy, IT guideline policy, IT harmonization policy and IT universal access policy. IT is one of the important resources for increasing the economic growth. It causes companies to use their input resources as much as possible in an effective way. According to the role of IT in organizations, an IT policy as a facilitator and enabler is valuable for companies to increase the impact of IT on overall performance of organizations.

Performance of pension schemes

In this study, performance of pension schemes can be defined and measured in terms of the number of investments, return on assets and return on investment. It is the dependent variable which is dependent on the four independent variables and moderated by regulation (moderating variable.

2. METHODOLOGY

Research Design

The research was conducted through a descriptive research design. This type of research describes what exists and may help to uncover new facts and meaning. The purpose of descriptive research is to observe, describe and document aspects of a situation as it naturally occurs (Polit & Hungler, 1999).

Descriptive research studies are a form of qualitative research, and can help discover new meaning and to provide new knowledge when there is very little known about a topic (Dempsey & Dempsey, 2000). The purpose of a descriptive research project is to provide a picture of situations as they naturally happen (Burns & Grove, 1993). Although no description is free of interpretation, basic or fundamental qualitative description entails a kind of interpretation that is low-inference, and the description in qualitative descriptive studies entails the presentation of the facts of the case in everyday language (Sandelowski, 2000).

One of the unique components of qualitative research is the small number of participants in the study. However, while the number of participants may be fewer than is found in quantitative studies, the depth of questioning and the richness of the data that qualitative research uncovers cannot compare to quantitative research (Sandelowski, 2000).

Population Frame

The population of this study comprises the pension schemes registered by the Kenyan Retirement Benefits Authority, which are one thousand three hundred and eight (1,308) consisting of 1,216 occupational pension schemes, 64 individual retirement schemes and 23 operating with interim registered schemes (KRBA, 2013). This study's target population is the 1,216 occupational pension schemes registered with the Kenya Retirement Benefits Authority as at December 2013. According to Cox (2010) target population is the entire set of units for which the study data was used to make inferences.

Sampling Technique

The stratum from the list was categorized based on two pension scheme designs, Defined contributions scheme and defined benefits schemes. Altogether there are 1, 216 occupational pension schemes in the sampling frame; defined benefits schemes (101) and defined contribution schemes (1,115). These two designs are the strata in the random. The sample size appropriate for this study is 192 respondents.

The respondents for this study were the pension scheme officers. The respondents were selected using simple random sampling (SRS). In determining the number of respondents from each category (defined benefits and

defined contribution schemes), stratification was done to ensure that the sample selected has the desired representation from the occupational pension schemes. The stratified sample of respondents per pension scheme for each staff category was further determined randomly as indicated in table 3.1 below

Table 1: Occupational Pension Schemes by Staff

Occupational pension schemes	Total	Trustees	Administrators	Pension scheme officers
Defined Benefits	55	5	20	30
Defined Contributions	127	5	25	97
Total	**192**	**20**	45	127

Data Source: (Study, 2014)

Data Collection Instruments and Procedure

Data was collected through self-administered questionnaires. Primary data was collected through administering of questionnaires. Questionnaires with closed-ended and open ended questions were used in this study. The questionnaire was divided into sections that addressed the objectives of the study. Mugenda and Mugenda (2003) observe that administering questionnaires is a popular method for data collection in most disciplines because of the relative ease and cost effectiveness with which they are constructed and administered to large samples. Secondary data was collected from the Director of Pensions – National Treasury and the Kenya National Bureau of Statistics.

Research instrument is any device a researcher uses to collect data. Instrumentation involves the selection or design of the instruments and also setting conditions under which the instruments was administered. A research instrument must be valid, reliable and objective (Mugenda & Mugenda 2003).

The data was collected using semi-structured questionnaires as the principal data collection instrument. The first part (section A) of the questionnaire was addressed the respondent's general information while section B was addressed the study objectives. This was given to the individual who have a direct bearing of the study and in order to satisfy the proponent's goal that is to get and measure the opinions, polls and attitude of the respondents of the study. The questionnaire was tested for their reliability and validity (Borg & Gall, 1996).

Data Analysis and Presentation

Before processing the response data, the completed questionnaires was edited for completeness and consistency and then coded. The descriptive statistical tools using SPSS was used to analyze data. The findings were presented in tables as percentages, means and other measures of central tendencies.

Frequency distribution table was informative to summarize the data from respondents, percentages and other diagrams such as bar charts, histogram, grouped frequency distributions and pie charts were used during the analysis. The organised data was interpreted on account of concurrence and standard deviation to objectives using assistance of computer packages especially SPSS and Microsoft Excel to communicate research findings. The regression model to be used in the study takes the form below:

$Y = \beta_0 + \beta_1 X_1 + \varepsilon$ (equation (i)

Where;

Y= the dependent variable (Performance of pension schemes)
β_0 = Constant Term

β_0, β_1– Are constants regression coefficients representing the condition of the independent variables to the dependent variables.

X_1 – IT policy

ε = (Extraneous) Error term explaining the variability of growth as a result of other factors not accounted for.

3. Discussion and Conclusion

$H2_0$: IT policy does not affect performance of occupational pension schemes in Kenya
$H2_1$: IT policy affects performance of occupational pension schemes in Kenya

The study rejects the null hypothesis and concludes that IT policy affects performance of occupational pension schemes in Kenya. The study was further evidenced by Unstandardized Coefficients of the model which has an intercept of 2.684 and a slope of 0.245. Therefore, this is an indication that IT policy has a positive gradient on performance of pension schemes in Kenya as depicted by linear regression. The findings are backed by Aineruhanga (2004) who observes that IT policy as a planning tool can help in reducing waste by identifying the pre-requisites conditions for successful IT implementation thereby improving performance. Further Kakes *et. al* (2006) in their study on the sustainability of Dutch pension system found that IT guideline policy has a positive correlation to the performance of pension schemes. Therefore, it can be concluded that IT policy has a positive influence in the performance of occupational pension schemes in Kenya.

Further the study found out that to a great extent IT human capital policy and IT universal internet access policy influence IT policy on the performance of pension schemes in Kenya. Additionally, respondents indicated to a moderate extent that Harmonization of IT policy initiatives and IT guideline policy influence IT policy on the performance of pension schemes in Kenya.

Liberation technology is also "accountability technology," in that it provides efficient and powerful tools for transparency and monitoring. Digital cameras combined with sites such as YouTube create new possibilities for exposing and challenging abuses of power.

Linear regression model of performance of pension schemes in Kenya/IT Policy

To establish the relationship between the IT policy and performance of occupational pension scheme, linear regression analysis model was computed as shown in Table 4.9. The coefficient of determination (R^2) shows that when IT policy alone is considered as a predictor of performance of occupational pension scheme in Kenya. IT policy contributes 78.1 percent of the variation in the performance of the pension scheme.

Table 2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.884[a]	.781	.780	1.05533

a. Predictors: (a Constant), IT Policy
Source: Survey Data, 2014

Table 4.10 shows the Unstandardized Coefficients of the model which has an intercept of 2.684 and a slope of 0. 245.Therefore, this is an indication that IT policy has a positive gradient on performance of pension schemes in

Kenya as depicted by linear regression

$Y= 2.684 + 0.245X_1$

The unstandardized coefficient of 0.245 reveals a positive relationship between IT policy and performance of occupational pension schemes in Kenya.With a β value of 0.245 the model implies that a change in IT policy by 0.245 results to a unit change in the performance of occupational pension scheme. The findings are backed by Aineruhanga (2004) who observes that IT policy as a planning tool can help in reducing waste by identifying the pre-requisites conditions for successful IT implementation thereby improving performance. Further Kakes *et. al* (2006) in their study on the sustainability of Dutch pension system found that IT guideline policy has a positive correlation to the performance of pension schemes. Therefore, it can be concluded that IT policy has a positive influence in the performance of occupational pension schemes in Kenya.

Conclusion

The study conquers with findings by Markus (2004) who informs that IT policy and harmonisation initiative with different systems and standards are positively correlated to performance. The findings of the study are further evidenced by Venkatesh et. *al* (2003) who revealed that it policies such as IT human capital policy, IT guideline policy have a direct relationship to performance. Therefore, it can be concluded that IT policy is a key factor on performance of occupational pension schemes in Kenya.

The crux of this study was to analyze the relationship between information technology and performance of occupational pension schemes in Kenya. The study concluded that employee database IT storage; retrieval knowledge; employee IT system management skills influence effective performance; Frequency of employee IT training; Employee network management skills all have a positive relationship with employee IT skills on the performance of occupational pension schemes in Kenya.

The study also concluded that IT human capital policy; IT universal internet access policy and Harmonization of IT policy initiatives and IT guideline policy influence IT policy on the performance of occupational pension schemes in Kenya.

Further the study concluded that IT leadership support and Level of involvement in information requirement analysis influence top management IT support on the performance of occupational pension schemes in Kenya and that Improved information allow managers to make decisions more effectively and that top management commitment to IT issues also influence top management IT support on the performance of occupational pension schemes in Kenya.

Finally, the study concluded that IT helps in mitigation of risks, reduces frauds, enhances company assets and that Level of IT investment costs influence organization IT resources on the performance of occupational pension schemes in Kenya.

Recommendation

The study recommended that IT leadership support; Level of involvement in information requirement analysis should be enhanced since both influence top management IT support on the performance of pension schemes in Kenya.

Areas for further study

The study was done to analyze the moderating effect of government regulation on the relationship between information technology and performance of occupational pension schemes in Kenya. Further study should be carried out on challenges affecting implementation of pension schemes reforms. Also, a study should be carried out on the effect of the new rules in the statutory contributions and their relationship with the performance of pension schemes in Kenya.

The study further recommended that planning as a tool can help in reducing waste by identifying the pre-requisites conditions for successful IT implementation rather than "rushing into a complex e-Government strategy without having first finalized a national IT policy".

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