MODERATING EFFECT OF REGULATION ON RELATIONSHIP BETWEEN INFORMATION TECHNOLOGY ON PERFORMANCE OF PENSION SCHEMES IN KENYA

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ABSTRACT

Funded pension systems have in the recent past 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% of the total income of retirees and controls wealth estimated at Ksh. 397 billion, the equivalent of 30% of the country’s GDP. Pension schemes in Kenya are associated with loss of billions on money every year and results to low economic development of the Kenyan economy hindering realization of achievement of Vision 2030. This study seeks to analyze the influence of information technology on performance of pension schemes in Kenya. The study will be guided by four independent variables that is, employee IT skills, IT policy, top management support and organization resources, regulation as a moderating variable and performance of pension schemes as the dependent variable. The research will use descriptive research design and the target population will constitute 680 staff from all the registered pension schemes in Kenya. A stratified sampling technique will be employed to divide the population into different strata i.e. top management, middle level management and low level management. The study will select a sample of 135 staff members.
The instrument of data collection will be a questionnaire which will be self-administered. A pilot study will be conducted to test validity and reliability of the questionnaire. Quantitative and qualitative techniques will be used to analyze data. The collected data will be processed using SPSS computer package, analyzed and presented using frequency tables, bar charts, and pie charts. The study will benefit several stakeholders among them the government of Kenya (regulator), the pension schemes management in that they will get to know the influence of information technology on performance of pension schemes in Kenya.

**Introduction**

Funded pension systems have in the recent past gained popularity since they contribute to the economic growth of countries worldwide through direct contribution to the GDP (Corbo and Schmidt-Hebbel, 2004), accumulation of savings (Rauh, 2006; EBRI, 2007), financial market development (Davis, 2005; Yermo, 2008), reducing old-age poverty (Kakwani, Sun and Hinz, 2006) and acting as consumers of financial services (Heijdra, Ligthart and Jency, 2006). The growth of funded pension systems has led to the increase in domestic savings in Africa.

Information technology (IT) plays a very key role in the growth and development of the economy in the developing countries (Crede & Mansell, 1998). According to the World Bank report of 2008, it was noted that adoption of IT is known to increase operational efficiency, provide access to new markets or services and create new opportunities for income generation (WB, 2008). There has been considerable improvements achieved in Africa with respect to certain aspects of IT, however there are still areas where improvement is needed in order for Africa as a whole to be able to take advantage of the benefits of IT (WB, 2008).

**Statement of the Problem**

World Bank (WB) report shows that the development of economy is significantly associated with pension schemes (WB, 2014). 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% rise of the asset value from the year 2010. According to the Central Bank of Kenya (CBK) financial stability report (2011), pension schemes control over KShs 510 billion worth of assets in Kenya. In Kenya, the pension system contributes to an estimated 68% of the total income of retirees (Kakwani et al, 2006) and
controls wealth estimated at Ksh. 397 billion, the equivalent of 30% of the country’s GDP (RBA, 2010). Reports from Republic of Kenya show that pension schemes in Kenya are associated with loss of billions on 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). Would the high collapse rate of pension schemes in Kenya be caused by lack of utilization of information technology?

Information technology is known to contribute to the growth of pension schemes in developed countries (Davis, 2005). Empirical Studies done on pension schemes include direct contribution to the GDP (Watson, 2007), accumulation of savings (Rauh, 2006), financial market development (Yermo, 2008), reducing old-age poverty (Kakwani, Sun and Hinz, 2006) and acting as consumers of financial services (Heijdra, Ligthart and Jency, 2006). Studies that have been conducted locally include improving the financial efficiency of pension funds in Kenya (Njuguna, 2011). It is in this light that the current study seeks to fill the existing research gap by studying the influence of information technology on performance of pension schemes in Kenya.

Objectives of the Study

The main objective of the study is to analyze the influence of information technology on performance of pension schemes in Kenya.

Specific Objectives

i. To assess the influence of employee IT skills on performance of pension schemes in Kenya.

ii. To find out whether IT policy affects performance of pension schemes in Kenya.

iii. To find out the effect of top management support on performance of pension schemes in Kenya.

iv. To find out the influence of organization resources on performance of pension schemes in Kenya.

v. To determine the moderating effect of regulation on performance of pension schemes in Kenya.

Literature Review
Employee IT skills

Fama and French (2010) have performed a study on U.S. mutual fund performance using bootstrap simulations, where they find that few managers have skill at all and even fewer are skilled enough to generate risk adjusted excess returns to cover the expenses of the investors. A study by Kosowski et al. (2006) also finds evidence that only an extensive minority of U.S. mutual fund managers is skilled. Cuthbertson et al. (2008) have performed one of few studies on UK mutual fund performance where luck and skill are distinguished through bootstrapping. The results from their study are largely in line with the American studies since the authors find existence of stock picking ability among a small number of the top performing funds.

IT Policy

Aineruhanga (2004) observes 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”. Tanzania’s IT Policy was approved by parliament in 2005 to provide Government guidance on IT issues. Aineruhanga found that a lack of an overall IT Policy and poor harmonization of initiatives had previously led to the random adoption of different systems and standards, unnecessary duplication of effort and waste of scarce national resources on the one hand, and lack of strategies for the utilization of IT as a driving force for national development on the other. The policy articulates ten main focus areas in harnessing IT: strategic IT leadership, IT infrastructure, IT industry, human capital, legal and regulatory framework, productive sectors, service sectors, public service, local content and universal access. While the ICT policy is well articulated, its implementation strategy is not (Aineruhanga, 2004).

Top management support

Information Technology infrastructure needs to be regarded as the integration of different components that interact with one another directly and indirectly for sustainability of an organization’s objectives (Markus, 2004). Orlikowski (2000) observed that an IT project must have top management support in place in order to have chances for success. By drawing on the rich body of literature on organizational and managerial aspects of IT, the crucial point of departure is to understand the use of IT as an emergent change process embedded in an
organizational and societal context (Kling, 2000). A study by Constantinides and Barrett (2006) found that in order to analyze the procession and emergent nature of IT adoption and use, the interrelationships between contextual elements, actors, frames of reference and the role of the IT itself need to be analyzed (Constantinides & Barrett, 2006).

Organizational resources
Carmichael and Palacios (2003) and IOPS (2007) suggest that pension schemes are about prudent management of the organizational resources that contribute to value addition. They also observed that consolidation of the pension industry in some countries may also be required to achieve economies of scale and reduce costs, which in turn would allow pension funds to dedicate more resources to strengthening their performance. They concluded that a lack of resources (including skills) and weak local engagement were found to be the most common challenges multinational corporations had in meeting their global pension governance goals.

Regulation
In Europe, Clark’s (2006) study on regulation of pension fund governance observed that pension fund management needs to be efficient because they have administrative responsibilities; they make decisions regarding entitlements and benefits and ensure that the long-term obligations are met in the context of risk and uncertainty. This suggests that pension funds are like other business organizations in that they have goals and objectives to be realized and so their efficiency can be accessed on the basis of their ability to achieve these objectives. Simple regression analyses were conducted to measure the relationship between pension regulations, governance and leadership. The results indicate that pension regulations are significantly positively related to pension governance ($r = 0.199, p < 0.01$) and leadership ($r = 0.240, p < 0.01$). These results show that pension regulations influence the way pension plans are governed and led. This result is supported by similar findings by Clark and Urwin (2009) who reported similar findings and concluded that the two variables are related due to their association with the optimal allocation of resources, staffing; framing of delegated responsibilities; showing sensitivity to pension plan mission statements, setting investment targets, attending to the culture of the organization; and issues of accountability and performance measurement.

Research gap
IT is known to increase operational efficiency, provide access to new markets or services and create new opportunities for income generation (WB, 2008). Based on the criticisms of the literature review identified above this research seeks to bridge the identified gaps by addressing them, this will be done by analyzing the influence of information technology on Kenyan pension schemes and why it is important for pension schemes to consider the critical factors. The research will bridge this gap through an in depth study on the independent variables.

**Methodology**

**Research Design**

The research will be 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).

**Target Population**

There are 136 pension schemes in Kenya. The respondents will be drawn from their various levels of employment, that is, the top, middle and low level management. The study population will be 1 top level manager, 2 middle level managers and 2 low level management staff to give a total of 680 staff from all the registered pension schemes in Kenya.

**Table 3. 1: Target population**

<table>
<thead>
<tr>
<th>Strata</th>
<th>Population</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top level management</td>
<td>136</td>
<td>20.00%</td>
</tr>
<tr>
<td>Middle level management</td>
<td>272</td>
<td>40.00%</td>
</tr>
<tr>
<td>Low level management</td>
<td>272</td>
<td>40.00%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>680</strong></td>
<td><strong>100.00%</strong></td>
</tr>
</tbody>
</table>

(Source: RBA, 2014)

**Sampling procedure and sample size**

Simple random sampling techniques will be applied in this study so that only four beaches will be selected for this study. In this study a representative sample of 20 % of the targeted population will be randomly selected. Stratified sampling will be used in selecting the respondents in order to give both male and female an equal opportunity of being selected for this study. According to
Borg and Gall (1996), 30% sample size of the entire population is an adequate representative sample that is sufficient for statistical analysis.
Table 3.2: Sample Frame

<table>
<thead>
<tr>
<th>Strata</th>
<th>Population</th>
<th>Sample ratio</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top level management</td>
<td>136</td>
<td>0.2</td>
<td>27</td>
</tr>
<tr>
<td>Middle level management</td>
<td>272</td>
<td>0.2</td>
<td>54</td>
</tr>
<tr>
<td>Low level management</td>
<td>272</td>
<td>0.2</td>
<td>54</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>680</strong></td>
<td><strong>0.2</strong></td>
<td><strong>135</strong></td>
</tr>
</tbody>
</table>

(Source: Study, 2014)

**Data Analysis and Presentation**

Data will be analyzed and presented using percentages and frequencies tables. The tools of analysis that will be used are the measures of central tendency and chi-square (Shuttleworth, 2008). Content analysis will be used to analyze the respondents’ views about the influence of information technology on performance of pension schemes in Kenya.

A regression model will be applied to assess the influence of information technology on performance of pension schemes in Kenya. The regression model is as follows:

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 \] (significant level 0.05) equation (i)

Where:
- \( Y \) = Performance of pension schemes
- \( \beta_0 \) = Constant (coefficient of intercept)
- \( \beta_1 \) = Beta coefficients
- \( X_1 \) = Employee IT skills
- \( X_2 \) = IT Policy
- \( X_3 \) = Top Management Support
- \( X_4 \) = Organization resources
- \( \beta_1, \beta_4 \) = regression coefficient of four variables

To test the moderating effect of regulation, moderated multiple regression (MMR) analysis which is an inferential procedure consisting of comparing two different least-squares regression equations (Aguinis, 2004; Aiken and West, 1991) will be utilized.
Summary
From the findings, we note that funded pension systems have in the recent past gained popularity since they contribute to the economic growth of countries worldwide through direct contribution to the GDP. The study also notes that pension schemes should focus on managerial competence, professional and business skills for public protection which leads to good value for public money and that luck and skill are distinguished through bootstrapping. It is also clear that the regulation of pension fund asset management should reflect the objective of the pension fund and serve as a secure source of income after the retirement of participants and that an IT project must have top management support in place in order to have chances for success. In light of this development, this study has illustrated the essence for evaluating information technology and therefore it is crucial to address the need for information technology so as to understand its influence on the performance of pension schemes in Kenya.

Conclusions
The study concludes that to a great extent, employee IT skills influence performance of pension schemes in Kenya and that professional competence is the routine and careful use of technical skills, communication, knowledge, values and reflection in daily application for the benefit of the individual and the public being served.

Additionally the study concludes that the IT policy influences performance of pension schemes in Kenya. Further on the level of agreement with the statements relating to IT policy influence on performance of pension schemes, the study concludes that a lack of an overall IT Policy and poor harmonization of initiatives had previously led to the random adoption of different systems and standards, unnecessary duplication of effort and waste of scarce national resources on the one hand, and lack of strategies for the utilization of IT as a driving force for national development on the other.

Finally the study concludes that organization resources influence performance of pension schemes in Kenya. The study also concludes that pension schemes are about prudent management of the organizational resources that contribute to value addition.
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