ORGANIZATIONAL STRUCTURE, PERFORMANCE CONTRACTING SYSTEM AND ORGANIZATIONAL PERFORMANCE IN GOVERNMENT MINISTRIES IN KENYA

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ABSTRACT

This paper presents results of the influence of organizational structure on the relationship between Performance Contracting (PC) system and organizational performance in government ministries in Kenya. Descriptive survey design and correlational research designs were used in a mixed methods research approach. Quantitative data was collected through a questionnaire while qualitative data was collected through an interview guide. Research instruments were pilot tested for validity through content related method and reliability through test-retest criterion. A sample size of 310 respondents was selected by use of Sekaran's (2003) sampling size criterion from a population of 103,010 employees in government ministries through multi-stage sampling technique. Arithmetic mean and standard deviation were used for analyzing descriptive data while Pearson Product Moment Correlation (r) and Stepwise Regression (R2) analysis were used for analyzing inferential data. F-tests were used to test the hypotheses in the study. Tests of statistical assumptions were carried out before data analysis to avoid invalidation of statistical analysis. With R2 = 0.057, F(2,177) = 5.315 at p = 0.006 < 0.05, the null hypothesis was rejected and it was concluded that the strength of the relationship between PC system and organizational performance does not depend on organizational structure. Organizational structure, therefore, does not moderate the relationship between PC system and organizational performance in government ministries in Kenya. It is recommended that PC system should be synchronized across government ministries through an integrated M&E system to enhance performance.

Key Words: Organizational Structure, Performance Contracting System, Organizational Performance

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1. Background to the Study

While Cheung (1997) argues that performance management systems were introduced in public sectors to enhance performance, previous studies examined have not attempted to investigate the moderating role played by organizational structure on the relationship between performance management systems and organizational performance. The performance management system adopted in the public sector in Kenya is Performance Contracts (PCs). Performance Contracts were introduced in the public sector in Kenya in 2003 as tools for monitoring and evaluating performance to hold officials in public service accountable for delegated authority. The PC system in Kenya compares relatively with Performance Agreements (PAs) in the U.S.A. (NIMES, 2009). Although the concept of Public Sector Reforms (PSR) through PCs, can be traced to France in the 1970s, Batley and George (2004) indicate that the idea of PSR was experimented in the United Kingdom. By 1995, PCs had been experimented in more than 50 countries (Ghosh, 1997). As of June 1994, the World Bank documented 565 PCs adopted in 32 developing countries and 103,000 PCs in China alone (Cheung, 1997).

Literature reviewed indicates that the PC System and organizational structure individually influence organizational performance in government ministries in Kenya. The variables in the effectiveness of a PC system were shown to be PC targets, PC tools and PC implementer participation. The indicators of organizational structure were identified as the mandate, size and model of a given government ministry. The focus in this paper was the moderating role played by organizational structure on the relationship between PC system and organizational performance in government ministries in Kenya. This was informed by the fact that, while literature reviewed indicates that organizational structure influences organizational performance, no previous literature reviewed investigated the role of organizational structure in the implementation of PC system in government ministries in Kenya.

The purpose of this paper is the influence of organizational structure on the relationship between Performance Contracting system and organizational performance in government ministries in Kenya. The research objective of this paper was to establish the extent to which organizational structure influences

the relationship between Performance Contracting system and organizational performance in government ministries in Kenya. The research question in this paper is: To what extent does organizational structure influence the relationship between Performance Contracting system and organizational performance in government ministries in Kenya? The hypothesis that was formulated and tested was:

- **H_o:** The strength of the relationship between Performance Contracting system and organizational performance does not depend on organizational structure.
- **H**_A: The strength of the relationship between Performance Contracting system and organizational performance depends on organizational structure.

2. Literature Review

This study was grounded on Results Theory. This is because Performance Contracts are monitoring and evaluation (M&E) tools designed for measuring results as indicated by Hatry (2006). While undertaking a critical evaluation of the PC system in Kenya, Nuguti (2009) agreed with Hatry (2006) that the PC system in Kenya is an M&E system. In addition, Nuguti (2009) indicates that the tools that were designed in the PC system in Kenya complied in many aspects with the M&E system proposed by Kusek and Rist (2004). This study was, therefore, grounded on Results Theory since the M&E system proposed by Kusek and Rist (2004) was founded on Results Theory. Further, Dobbin (2012) portrays Results Theory as a participatory management approach which is the principle under which PC systems were founded. Derived from Results Theory, Eltville Results Model illustrates attainment of results in three levels whereby attainment of third level results (outputs) leads to attainment of second level results (objectives) which in turn lead to the ultimate project result (project goal) (Balogun, 2008).

Several studies have been undertaken on the influence of organizational structure on organizational performance. For instance, while studying on the association between strategy, structure and environmental uncertainty, and the design and the use of performance measurements systems, Maurice (2011) administered questionnaires to randomly selected respondents from 200 Canadian manufacturing organizations. The research design was mixed mode. Organizational strategy,

structure, environmental uncertainty and deployment of innovative performance measurement systems were found to influence organizational performance in the study. Although in this study Maurice (2011) considered multiple determinants of organizational performance, the current study identified the moderating role of organizational structure on organizational performance as a gap in knowledge.

In a separate study, Quingmin et al. (2012) investigated the relationship between organizational structure and performance by setting up a conceptual and structural equation model through a questionnaire survey and a sample of 90 Austrian and 71 Chinese companies. Data was analyzed through partial least squares and the results tested by bootstrap methods. Results from that study identifies learning and innovation as moderating factors influencing the relationship between organizational structure and organizational performance. The current study, however, suggested that the study by Quingmin et al. (2012) could have been enriched though mixed methods research approach and the influence of the performance management system on performance investigated.

In the study on the influence of organizational structure on entrepreneurial orientation and performance by Levent and Mehmet (2004), decision-making process of an international hotel group was investigated. Interviews, observations and document analysis were used as the data collection techniques. Results from the study by Levent and Mehmet (2004) indicates that a centralized decision making organizational structure demotivated employees and negatively influenced organizational performance. Although the study was qualitative in design, it was proposed in the current study that the determinants of organizational performance could be expanded to include employees' skills and attitudes.

3. Research Methodology

Descriptive survey design and correlational research design were used. The choice of these two research designs was informed by the descriptive and inferential data analysis required in this study. While descriptive survey helped the researcher to describe phenomena, correlational research design helped the researcher to identify predictive relationships by using correlations and stepwise regression modelling. Mixed mode research approach was used. By use of mixed

mode research approach, qualitative and quantitative data analysis were carried out simultaneously in a cross-sectional manner. This means that descriptive, inferential and qualitative data analysis were carried out in the study with the research freedom to make use of both descriptive and inferential data analysis techniques as advanced by pragmatism research paradigm, the philosophy that guided this study.

The research population was 103,010 public service employees in the 18 Government Ministries in Kenya (GOK, 2013) who are employed on permanent terms basis and are involved in performance contracts. Multi-stage sampling technique was used because the research context comprised government ministries which are large and complex organizations in respect to departmentalization. Huber (2004) argues that multi-stage sampling technique would be the most preferred sampling technique for large organizations with various departments in research situations whereby it is desired every sub-population to be presented in the sample.

At the first stage of the sampling procedure, 50% of the government ministries were selected. In selecting 50% of thegovernment ministries, the 18 ministries were arranged alphabetically and every even number ministry was selected for study. The 9 selected ministries formed the research sub-population. At the second stage of the sampling procedure, departments (research categories) were randomly selected for study from the ministries (sub-populations). For ministries with less than 30 departments, only one department was selected at random. For ministries with more than 30 departments, 2 departments were selected at random. In total, therefore, 10 departments were selected.

At the third and last stage of the sampling procedure, individual respondents were randomly sampled from the selected 10 departments. This is because by selecting respondents from each strata (research category) in the research population, the sample was more representative. For acquisition of the qualitative data, the ten departmental heads for the selected departments were interviewed. The sample size was 310 respondents. Three hundred (300) of the respondents were selected from ordinary employees while 10 of the respondents were the heads of the selected departments. In the determination of the sample size, Sekaran's (2003) criterion on selection of sample size was considered.

Secondary data was used to acquire information on the performances of the ministries of government. This information was obtained from previous evaluation reports carried out as well as the performance contracting documents. Raw data was gathered directly from the respondents and was used to analyze the relationships that were being investigated in the study. To obtain sufficient information, triangulation of research instruments was done. The research instruments that were used in this study for data collection were a self-administered structured questionnaire and an interview guide. A self-administered structured questionnaire was used to collect the quantitative strands while the interview guide was used to collect the qualitative strands of the research.

Reliability of research instruments was done through test-retest method using Cronbach. In the pilot test, the composite Cronbach's α (Alpha) Reliability Coefficient for the research instrument was 0.705222. This method involved administering the same test twice to the same group after a time interval of two weeks between the first and the second administration of the research instruments. The test re-test criterion was selected because the respondents were expected to understand the significance of the research and were therefore expected to willingly fill the questionnaires for the second time. In addition, ministries of government in Kenya, being public entities, were easily accessible and hence the practicality of re-testing the research instruments.

While collecting data from heads of the selected departments from the 9 ministries of government under study, interviews were conducted by the researcher. Data collection from the ordinary employees in government ministries was done with the aid of nine research assistants trained in research, each assigned one ministry to enhance the rate of return of questionnaires.

Mixed methods data analysis techniques were employed in this study incorporating both descriptive and inferential data analysis. Non-parametric data was analyzed descriptively by use of measures of central tendency and measures of dispersion as the tools of data analysis. The arithmetic mean was the measure of central tendency statistical tool that was used for data analysis while the standard deviation was the measure of dispersion statistical tool of data analysis that was used. In data analysis, measures of central tendency are used when the set of data

values are finite and the data is expected to cluster around some central value (Weisberg, 1992).

To analyze the influence of the moderating variable on the relationship between the independent variable and the dependent variable, Stepwise Regression (R²) analysis was used. Larry (2013) indicates that Stepwise Regression (R²) involves mathematical modeling whereby the predictor variables are deliberately chosen without necessary being backed by theory. Although literature has been cited in this study on the influence of organizational performance on the dependent variable, no previous literature has been identified that directly indicates the influence of the moderating variable on the relationship between the main predictor variable and the dependent variable. Since the influence of the moderating variable on the relationship between the main predictor variable and the dependent variable was deliberately chosen in this study, then the requirement for the use of Stepwise Regression (R²) for parametric data analysis was satisfied. The regression model that guided the inferential analysis in this study was:

Organizational Performance = f (PC System, Organizational Structure)

$$y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_{14} X_1 X_4 + \beta_{24} X_2 X_4 + \beta_{34} X_3 X_4 + \varepsilon$$
 to be send

Although various tests are used to test hypotheses for Stepwise Regression (R^2), Moriya (2008) argues that in practice, F-Tests are the most commonly used to test confidence intervals and hypotheses. If for a given sample, F(r) is the Fisher transformation of r, and n is the sample size, then F(r) approximately follows a normal distribution given the assumption that the sample pairs are independent and identically distributed and follow a bivariate normal distribution. Thus an approximate r-value can be obtained from a normal probability table. For a large enough sample where n>30 as was the case in this study, then F-values can be obtained using Fisher transformation and the hypotheses tested normally by use of F-Tests (Moriya, 2008). In stepwise regression modelling, if the moderating variable under consideration was excluded from the final regression model, H_0 was accepted. Where H_0 was rejected, R^2 values were considered in determination of the strength of the relationship.

4. Findings

Out of the 300 questionnaires that were administered, 184 questionnaires were duly filled and returned and therefore regarded as the responsive instruments and formed the basis for data analysis. This formed a response rate of 61.3%. Forty two percent (42.1%) of the respondents were females while 57.9% were males and they were normally distributed in respect to government ministries, age group, level of education and tenure of service in public service. Kolmogorov-Smirnov test statistic (KS-test) and Shapiro-Wilk test (SW-test) were carried out toascertain that the research data was collected from a normal population.

Existence of singularity and multicollinearity between predictor variables were also checked before undertaking regression analysis through correlations and residual tables generated by SPSS by analyzing the tolerance values under collinearity to ensure that the linear assumptions were not violated. Scatter diagrams were plotted prior to undertaking correlation analysis among the independent variables to check existence of homoscedasticity while existence of heteroscedasticity was checked through the correlation and residual tables generated by SPSS that were used to test for existence of collinearity.

Type I error was minimized by using a confidence level of 95% implying that the standard variate was 1.96 and the sample proportion (p) was less than or equal to 0.05 while Type II error was minimized by taking a large enough sample of 310 respondents. The weighting criteria of responses of Likert-type data assumed an equidistance of 0.8 whereby Strongly Disagree (SD) 1 < SD < 1.8; Disagree (D) 1.8 < D < 2.6; Neutral (N) 2.6 < N < 3.4; Agree (A) 3.4 < A < 4.2; and Strongly Agree (SA) 4.2 < SA < 5.0.

Theoretical literature linked organizational structure with organizational performance. Empirical review indicated that organizational structure moderates the relationship between PC system and organizational performance. Ten items were developed to measure the extent of this relationship. In the descriptive analysis, the composite mean score for these items was 3.7286 while the composite standard deviation was 0.53194. This result indicates that respondents agreed that organizational structure positively influenced the relationship between the PC system and organizational performance.

To analyze inferential data, stepwise multiple regression was used. The regression results for the moderating influence of organizational structure on the relationship between PC system and organizational performance were as presented in Table 1.

Table 1: Regression results for the influence of organizational structure on the relationship between PC system and organizational performance

			Adjusted			Predictor Variables
Model	r	\mathbb{R}^2	\mathbb{R}^2	F	Beta	
1	.184ª	.034	.028	6.250	2.696 .129	Constant term PC Tools
2	.238 ^b	.057	.046	5.315	2.970 .209 145	Constant term PC tools PC targets

Model 1 significant at p = 0.013 < 0.05; F(1,178) = 6.250

Model 2 Significant at p = 0.006 < 0.05; F(2,177) = 5.315

Since the components of PC system were PC targets, PC tools and implementer participation; stepwise multiple regression was performed to determine the best linear combination of PC targets, PC tools, PC implementer participation and organizational structure for predicting organizational performance. At the first step in stepwise regression modelling; PC targets; PC implementer participation; and organizational structure were excluded leaving PC tools as the only predictor variable of organizational performance. Since F(1,178) = 6.250 at p = 0.013 < 0.05 level of significance, it was 98.7% confidently concluded that PC tools predicted organizational performance (y) when PC targets, PC Tools, PC implementer participation and organizational structure were combined in regression modelling. The R^2 values of the model indicated that PC tools explained 3.4% of organizational performance.

By substituting the beta values as well as the constant term, model 1 emanating from step one in regression modelling was as follows:

$$y = 2.696 + 0.129X_2 + \varepsilon$$

Based on the beta values of model 1 at the first step in regression modelling, PC tools (X_2) contributed to 12.9% of the model.

At the second and final step of stepwise regression modelling; implementer participation and organizational structure were excluded in stepwise modelling leaving PC targets and PC tools as the predictor variables of organizational performance. Since F(2,177) = 5.315 at p = 0.006 < 0.05 level of significance; it was 99.4% confidently concluded that the combination of PC targets (X_1) and PC tools (X_2) influenced organizational performance (y) when organizational structure and PC system were combined in determination of organizational performance. Since in this study the minimum required confidence interval for predicting influence on the dependent variable was 95% (p = 0.05), then a regression model existed for this relationship. The R^2 values of the model indicated that the combination of PC targets and PC tools explained 5.7% of organizational performance.

By substituting the beta values as well as the constant term, model 2 emanating from the second step in regression modelling was as follows:

$$y = 2.970 - 0.145X_1 + 0.209X_2 + \varepsilon$$

Based on the beta values of model 2, it was concluded that PC tools (X_2) positively contributed 20.9% of the model while PC targets negatively contributed 14.5% of the regression model. That organizational structure was excluded in stepwise regression modelling indicated that organizational structure did not moderate the relationship between PC system and organizational performance. The null hypothesis was, therefore, accepted and it was concluded that the strength of the relationship between performance contracting system and organizational performance did not depend on organizational structure.

The final model emerging from stepwise regression, therefore, excluded the moderating influence of organizational structure on the relationship between performance contracting system and organizational performance. This implied that with efficient PC tools (reliable, valid and simple to use), organizational performance would still be realized irrespective of the organizational structure. Setting targets on the other hand would produce undesired results in respect to organizational performance.

Respondents interviewed indicated that both the tools used as well as the evaluation criteria in government ministries should be contextualized since organizational

mandates varied. Respondents indicated that ministries whose core mandate was infrastructural, for example, the Ministry of Transport and Infrastructure, appealed more to the public since projects executed by such ministries were visible. However, quantifying the performance of ministries that were service oriented, for example, the National Treasury, was more complex to the average citizen. This scenario was, therefore, seen by respondents to necessitate for contextualized performance measurement in government ministries.

It was also indicated in interviews conducted in this study that inter-departmental delays in execution of activities negatively influenced the performance of other team members and this had an impact on the overall organizational performance. Respondents further indicated that the organizational size, departmentalization and bureaucracies in government ministries made it difficult for all employees to undertake joint team building sessions that would enhance inter-departmental coordination and a desired organizational culture that supports performance.

5. Discussions of Findings

To assess the moderating influence of organizational structure on the relationship between Performance Contracting system and organizational performance in government ministries in Kenya was partially informed by the fact that Sector Performance Standards (SPS) indicated that the PC system is applied uniformly across the entire public sector irrespective of organizational structures (GOK, 2010). Hypothesis in this study stated that the strength of the relationship between Performance Contracting system and organizational performance depends on organizational structure was tested to verify the relationship. Findings indicated that organizational structure in respect to size, mandate and model of the organization did not influence the relationship between the PC system and organizational performance in government ministries in Kenya.

These findings concur with the Bureaucratic Theory examined in respect to These findings concur with the Bureaucratic Theory examined in respect to management of large entities like governments (Bruun, 2007; Korotayev, 2006; Radkau and Patrick, 2009). Although Kenneth and Kenneth (2005) argues that employees in large organizations hide in the system, findings concurred with Radkau

and Patrick (2009) that the important factor in organizational performance in bureaucratic organizations is enacting an effective performance system. Further, Kusek and Rist (2004) indicate that an effective performance monitoring and evaluation system would eliminate lack of defined roles in an organization and lack of performance accountability by employees.

Results also indicated that an effective PC system was found to lead to organizational performance irrespective of organizational structure. Of importance, then, for government ministries, is to ensure that the PC tools used are relevant to a specific ministry since the validity, reliability and simplicity of PC tools were shown to be the main determinants of organizational performance.

Although respondents indicated that organizational structures of government ministries in Kenya support performance, interviews conducted indicated that performance evaluation oriented meetings were habitually done at higher levels of management. Periodical meetings being convened irregularly across board indicates inadequate efficiency attributed to organizational structure. Qingmin et al. (2012) argue that ability by staff members to know each other in an organization and frequency of meetings indicate the extent to which an organization's structure is conducive for performance.

Respondents interviewed also indicate that government ministries were rarely involved in corporate social responsibilities. Interviews conducted indicate that involvement in corporate social responsibilities was largely viewed as an obligation of the private sector rather than the public sector. Since Hatry (2006) indicates that public entities benchmarked the concept of performance contracts from performance measurement systems implemented in the private sector, the public sector, therefore, should embrace performance measurement best practice in organizations, which includes, involvement in corporate social responsibilities.

Performance measurement, therefore, should be achieved at the stage of identification of performance indicators. Respondents also indicated that the PC system in government ministries, despite being a performance measurement system, was not supported by an integrated information management system as is the case with the Integrated Finance Management Information System (IFMIS) used for management of public funds. There is, therefore, need to develop and

implement an integrated performance monitoring and evaluation system in government ministries in Kenya.

6. Conclusion

This study concludes that the strength of the relationship between PC system and organizational performance does not depend on organizational structure. Organizational structure is a factor of organizational performance and the implementation of the PC system in government ministries in Kenya should be independent of organizational structure. It is further concluded that for government ministries in Kenya to enhance organizational performance, the tools used in the PC system should be simple, reliable and valid for enhanced performance.

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