Relationship between Performance Measurement Practices and Managerial Roles in Public Secondary Schools

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Abstract
The current focus on performance measurement practices in the public sector has been significantly influenced by new public management paradigm shift which places heavy emphasis on managing for results. This is an emerging issue especially in public secondary schools. Therefore the purpose of this study was to establish the relationship between performance measurement practices and managerial roles in public secondary schools. Its objectives were to (a) nature of relationship between performance measurement practices and managerial role (b) establish the best measures of performance measurement practices (c) To establish if the performance measurement model fit data well. The study population consisted of 200 secondary school managers The sample was 180 managers after using 20 for pilot study. Data was collected using both open and closed questionnaire. The open and closed questionnaire was constructed by the researcher and validated by three experts in research methods from Maseno University. School managers stated that consolidation and continuity roles had strong positive correlation with competitiveness. There was a high reliability of measures therefore yielding constant result. Determinant measures were better indicators of performance measurement practices than result measures and the model fitted the data well. The study recommends that there is need to break from bureaucratic in efficiency and be ready to implement comprehensive management of information system to minimize the cost of operation and maximize revenue achievement. This study would contribute towards broadening knowledge on various education sector stakeholders towards embracing performance measurement practices which are result based.

Keywords: performance, measurement, practice, managerial roles, public secondary schools

INTRODUCTION
School managers can use performance measurement as part of management strategy to evaluate, control, mentor, motivate, budget, promote, celebrate direct, plan, learn and improve their learning institutions. This is because performance measurement generate critical information such as information about inputs, activities, output, outcome and impact (Behn & Robert, 2003, Caroll et al, 2002 and Halachmi et al, 2005). The reason why performance measurement would be of critical use to school managers was that, it assists the school managers to set goals, develop objectives which are legitimate, equitable, adoptable, customer focused, all inclusive, consistent, applicable, stable, measurable, numerical, profitable, specific and time bound. It also assists in stock taking to be able to measure capacity in terms of knowledge skills and infrastructure. This is because performance measurement is pegged on unsentimental assessment of tools at hand. Performance indicators or measures were developed as standards for assessment? It is the generic term encompassing the quantity basis by which the objectives were established and gauged (Dewaal, 2007 & Cole, 2004. It was also the use of quantitative measures of capacities process and outcomes to develop information about critical aspects of activities, including their effect on the public. It was about analyzing the success of a program and the effects of comparing data on what actually happened and what was planned (Kathrine, 1997).

We need performance indicators for control, self assessment, continuous improvement and management assessment. According to Beatham et al, (2006) business performance is measured in financial terms, profit and turnover. These financial measures of performance have been the sole measures of a company’s success. However recent research findings in performance management is advocating for emphasis on both financial and non-financial dimensions such as competitiveness, service quality, customer satisfaction, school flexibility, resource utilization and technology. Neely (1998) argues that manager’s measure performance for two main reasons. Either they want to know where they are and what they have to do to improve; or they want to influence their subordinates’ behaviours. Beatham et al (2006) concluded that performance measurement is only part of the business improvement process.
Unless action is taken based on the results attained then the measures are meaningless, costing money to obtain and not adding value to the business, Bourne et al., (2000). Performance measurement therefore, must be part of a system, which reviews performance, decides on actions and changes the way in which the business operates.

Education sector stakeholder pressures challenge managers to achieve competence in their managerial performance. Competent managerial qualities are needed to determine strategic directions for an school to take and to creatively solve business problems, Scheule and Sneed, (2001). According to Wynne and Stringer (1997) competencies are the bond that binds an school together, taking a holistic look at the people, purpose, processes and performance. They also enable schools to understand and better measure performance. Therefore it is equally important to examine the linkage between managerial roles and performance measurement. A study by Atkinson and Brander-Brown (2001) found that managers place greater emphasis on financial performance though other dimensions are recognized as the means of delivering long – term financial success. The work of Drucker (1996) suggests that financial measures are prominent, but not dominant, in school general manager’s decision – making. To implement such measures, managers need to apply leadership competencies in different situations. Furthermore, managerial roles may influence the choice of performance indicators.

Therefore, this study attempted to investigate the linkage between managerial roles and performance measurement in the Kenyan education sectors. Although it is evident from the generic management literature that performance measurement is a contextually defined phenomenon, there is a limited number of detailed studies into key performance indicators in service businesses in general and the education sector industry in particular. In addition, most of the studies (Brander Brown & Harris, 1998; Brander-Brown & McDonnell, 1995; Atkinson & Brander-Brown, 2001; Drucker, 1996) have focused their attention on learning institutions themselves while paying little attention to the school managers who are the determinants of school performance and the ultimate users of the performance measurement information. Moreover, there was need to identify key performance indicators used by school managers in developing countries like Kenya. This is important because most of the schools in developing countries tend to copy and implement performance management tools developed in Western countries as observed by some researchers (De Walo, 2001). In addition, most of the studies (Lippit., 2003; Albanese 1989; Adhola., 1995; Apiyo, 2003) previously undertook to investigate the determinants of choice of performance measures have not attempted to find out the relationship between managerial roles and performance measurement practices.

In addition, most of the studies previously undertaken have not attempted to find out the relationship between managerial roles and performance measurement. Therefore, the current study addressed the above gaps. First, it identified the key performance indicators used in the Kenyan education sector based on the results and determinants model by Fitzgerald et al., (1991). Secondly, the study attempted to find out the competencies that managers in the education sector apply to achieve desirable school performance. In spite of numerous educational research studies conducted from various perspectives on management competencies, school manager’s perception on important management competencies for education graduates has received little attention. In the western countries, educational scholars have examined education manager’s skills and capabilities, attempting to understand the expectations held by sector professionals. While in Kenyan education sector, limited, empirical studies have been done to assess perception of educational managers regarding the requisite competencies for entry-level positions in education sector industry. Therefore, the current study addressed this gap, utilizing a generic competency model directly linked to effective schools developed by Quinn et al., (1996).

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Therefore, the current study addressed the above gaps. First, it identified the key performance indicators used in the Education sector based on the results and determinant model by Fitzgerald et al. (1991). Secondly, the study attempted to find out the competencies that managers in the education sector industry apply to achieve desirable school performance. In spite of numerous educational research studies (Tait, 1993; Baum, 1991; Aray. 1990; Cole, 2003) conducted from various perspectives on management, competencies
specifically linked to managerial roles have received little attention. In the western countries, education sector scholars have examined school managers’ skills and capabilities, attempting to understand the expectations held by industrial professionals (Tait, 1993; Baum, 1991; Aray., 1990; and Drucker, 1996). In the Kenya education sector, limited empirical evidence has been completed to assess perception of education sector managers regarding the requisite generic competencies. This research was inspired by the desire to establish the relationship between performance measurement practices and managerial role and those emerging from a review of relevant literature. The purpose of this study was to establish the relationship between performance measurement practices and the managerial role; and its objectives were to establish to (a). Establish nature of relationship between performance measurement practices and managerial role (b) establish the best measure of performance measurement practices and (c) to establish if the performance measurement practices fit data well

METHODOLOGY
Research Design
The researcher used both descriptive and correlational research designs to gather the primary data. Gall et al (1996) showed that correlation research design is majorly used to predict scores of one variable from the predictor variable. It was possible to predict the output (performance) from the level of education and years of experience of the secondary school managers. The justification for the use of multiple regression analysis is that it assisted in measuring the influence of other factors. This research design was further chosen because the data was collected quickly and inexpensively compared to the other research designs relational research design can be generalized to the entire population of education managers in Kenya. In addition the characteristics of variables to be measured had not changed much due to the short period of data collection. Therefore this involved administering a questionnaire once to a sample of education managers in Kenya yielding data on the measured characteristics, such as demographics, key performance indicators used in the education sector and their perception on important management competencies, as they existed at the time of the survey. The study was conducted in the secondary schools in Siaya District

Population
The population of the study was composed of 200 secondary school managers in Siaya District. All school managers were critical in measuring school performance as they used diverse managerial roles to achieve the desired level of school performance. In addition they utilized different key performance indicators to measure school performance Frankfort (2008).

Sample and Sampling Procedure
A saturated sampling was used to arrive at 180 school secondary school managers were chosen to give information. 20 managers who represent 10% of the schools were randomly selected without replacement from the overall school classification list for purposes of pilot study. Simple random sampling is a one – stage probability sampling procedure in which members of a population are selected one at a time, without a chance of being selected again until the desired sample size is obtained. Simple random sampling was considered adequate as each school had a chance of being selected. A sample is a subset of population of individuals, objects, and events chosen to participate in a research study (Kerlinger, 1983) and Cohen and Manion (1994). Secondary schools were considered appropriate because they have clear and similar school structures hence the results could be generalized without much error, as the population was relatively homogenous. Therefore the findings from the sample can be generalized to the population from which the sample is drawn. This way the researcher was confident that the sample accurately represented the population of study, particularly on the dimensions on which the sample was selected. Simple random sampling had the advantage of canceling out biases and providing a statistical means for estimating sampling errors. (Frankfort, 2008)

Data Collection Instrument
In this study, a questionnaire was employed in data collection that captured information on secondary school managers’ relationship between performance measurement practices and managerial role. Lead (1980) argues that a questionnaire is preferred in data collection because it is easy to administer to a good number of respondents, who respond in private settings. The Questionnaire is a way of getting data about persons by asking them rather than watching them behave (Bryman 2001). Both closed and open-ended questions were used. Using open-ended questions is that there is a wide range of answers available to the respondents, which may not be fully anticipated by the researcher. It is equally important to note that closed questions restrict the limits within which respondents may respond.

VALIDITY AND RELIABILITY OF THE INSTRUMENT
Reliability
Reliability refers to the consistency with which an instrument produces stable scores of comparable results (Cohen & Manion, 1994). Pilot study is a stage in development of the questionnaire to assist with the determination of the effectiveness of the instrument (Behn, 2001). Pilot study was used to
refine the questionnaire design and identify errors, which may only be apparent to the population concerned, for example meaning of words. The pilot study involved 20 secondary schools and a reliability of coefficient of 0.7 was established. Reliability coefficient Cronbach’s alpha values of 0.7 were considered criteria for internal consistency.

Validity
Validity of an instrument is based on how an instrument fulfils the function it is supposed to perform (Kerlinger, 1983 & Bryman 2001). To ensure that the instrument used in the research were valid, the face validity was carried and the advice of the research specialists from the faculty of education was sought. Different scholars in Maseno University were consulted and modifications made on the questionnaire on the basis of their advice.

DATA COLLECTION PROCEDURE
After getting permission from Maseno University School of Graduate Studies and issued with research permission letter from the National Council of Science and Technology to carry out the research, the researcher made a familiarization tour to the Siaya District Education Office to enlist their corporation and brief them on the intended research. The date for visiting the schools was then fixed with the concurrence of the District Education Office. From Siaya District Education office the researcher obtained the list of secondary schools within the region of the study. Among the 200 secondary schools, 20 schools were randomly selected and set aside for the pilot study. In each of the remaining 160 secondary schools, the school manager was purposively selected for data collection. Open and closed questionnaires were used to solicit information from the 160 selected secondary school managers. The closed and open questionnaire was used to obtain information on the education background of the school managers, competencies, performance indicators being used and performance measurement system used in their respective secondary schools.

DATA ANALYSIS PROCEDURE
Data analysis was done in two levels, namely: descriptive statistics and inferential statistics. Descriptive statistics included means, standard deviations, medians, frequencies, and percentages and were used to investigate how the individual set of observed variables measured leadership competencies and related with those that measure performance dimensions. Inferential statistics were further applied in two levels: use of Pearson Product moment (rho) to establish the degree of relationship between the two variables namely, that is management role and performance measurement. Structural equation modeling was used to investigate the linkage role. Finally, structural equation modeling using statistical package for Social Science software was used to test a series of equations at once while adjusting for personal characteristics and school characteristics. Structural equation modeling was used to: (i) Test a set of regression equations indicating the relationship between measurement practice and managerial. This was possible since salient variables of the two models being used in the study had already been subjected to confirmatory factor analysis by other researchers (Quinn et al, 1996 & Fitzgerald et al, 1991).

Actual measures of performance indicators from each performance dimension was summed and integrated to give a measure of each performance dimension. Similarly a product of level of importance and level of application of salient management competencies was calculated to get actual measure of each management competency. Actual measure of management competencies from each leadership role was summed up and integrated to a measure of each leadership (ii) Test if the model is a good fit for the data that is obtained, (Agak, 1995). The data was presented in tables and figures using descriptive statistics cross tabulation and comparison of management categories. The results were displayed comparatively in tables of individual variables, indicating the importance /unimportance, levels of significant disagreements and standard deviations.

RESULT AND DISCUSSION
The Relationship between Managerial Roles and Performance Measurement Practices in Public Secondary Schools
Pearson’s correlation coefficient was used to estimate the strengths of associations between observed variables of measuring managerial roles and performance measurement practices. Significant correlations are listed in table 1. Structural equation modeling using AMOS 19 software was performed to determine the nature of the linkage.

Correlation between Managerial Roles and Performance Measurement Practices Variables
The data showed that there was a strong positive relationship between managerial roles and performance measurement practices. This linear relationship therefore indicates that as effective performance of managerial roles increases, managers are likely to opt for better performance measurement practices as indicated in table 8. All the managerial roles: adoption and change maximization of output, consolidation and continuity and human relations positively correlate with both results and determinants measures. However, there is a strong relationship with determinant measures compared to result measures. This implies that the respondents are likely to make decisions on the determinant measures such as resource utilization and service quality so as to improve organization performance.
solidation and continuity, it was weak. Also, consolidation and continuity roles will majorly be intended to measure the above performance dimensions. This was due to managers who intend to maximize output will concentrate on measurement of innovation, resource utilization and service quality dimensions. Human relations role has a strong relationship with all other performance dimensions apart from supplier performance. This is because the supplier performance dimension is outside the manager’s control. School Managers who tend to exhibit human relations role would tend to measure most of the performance dimensions. It is worth noting that it was positively related to community/environmental performance dimensions. This was due to managers desire to measure the impact of their social responsibility practices to the external stakeholders and larger society. Adaptation and change was positively related to financial performance, resource utilization, innovation and community service/environmental perspective. School managers who were pursuing adaptation and change tended to measure financial performance and at the same time measure the determinants of organizational performance. Surprisingly, flexibility and supplier performance did co-relate with several managerial roles and where there was a relationship, it was weak as indicated in table 8 above.

Table 1: Correlations of managerial roles and performance measurement practices variables

<table>
<thead>
<tr>
<th>N 160</th>
<th>X1 =Maximization of output roles</th>
<th>X2 =Consolidation and continuity roles</th>
<th>X3 =Human commitment roles</th>
<th>X4 =Adaptation and change roles</th>
<th>X5 =Performance Measurement Dimensions</th>
<th>X6 =Results measures</th>
<th>X7 =Competitiveness</th>
<th>X8 =Financial performance</th>
<th>X9 =Quality of service (Syllabus Completion)</th>
<th>X10 =Flexibility</th>
<th>X11 =Resource utilization</th>
<th>X12 =Innovation</th>
<th>X13 =Supplier performance</th>
<th>X14 =Community/environmental perspective</th>
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<tr>
<td>X1</td>
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<td>X3</td>
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<td>X5</td>
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<td>X6</td>
<td>0.68** 0.72** 0.67** 0.71** 0.75** 1.00</td>
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<td>X7</td>
<td>0.42** 0.65** 0.54** 0.47** 0.96** 0.66** 1.00</td>
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<td>X8</td>
<td>0.51** 0.73** 0.59** 0.52** 0.96** 0.83** 0.86** 1.00</td>
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<td>X9</td>
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<td>X11</td>
<td>0.71** 0.76** 0.62** 0.65** 0.53** 0.82** 0.44** 0.60** 0.65** 0.39** 1.00</td>
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<td>X13</td>
<td>0.23 0.44** 0.15 0.30 0.64** 0.63** 0.54** 0.72** 0.58** 0.19 0.35** 0.62** 1.00</td>
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<tr>
<td>X14</td>
<td>0.11 0.41** 0.53** 0.55** 0.67** 0.76** 0.64** 0.70** 0.53** 0.20 0.38** 0.66** 0.49** 1.00</td>
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**Correlation is significant at the 0.01 level (2-tailed)**

Manageral Roles Outcome

- **X1**: Maximization of output roles
- **X2**: Consolidation and continuity roles
- **X3**: Human commitment roles
- **X4**: Adaptation and change roles
- **X5**: Performance Measurement Dimensions
- **X6**: Results measures
- **X7**: Competitiveness
- **X8**: Financial performance
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- **X10**: Flexibility
- **X11**: Resource utilization
- **X12**: Innovation
- **X13**: Supplier performance
- **X14**: Community/environmental perspective

Besides, consolidation and continuity roles had the strongest positive correlation with both determinant measures and results measured compared to other roles. This means that managers who exhibit strong consolidation and continuity roles will majorly be concerned with performance measurement practices of a school. They will continuously measure performance of the school and place strong emphasis on both results and determinant measures. This is due to the orientation of the two roles on the CVF. They fall under internal and stability orientation of the CVF.

From table 8, it was clear that human relations roles were also positively related with both results and determinants measures because managers recognize the importance of human resources as a major determinant of the future organizational performance. Also they can easily influence the human resources to improve performance compared to other organizational resources. Table 2 indicates that in comparison to other roles, consolidation and continuity role has a strong positive relationship with competitiveness, financial performance and resource utilization and innovation performance dimensions. This suggests that managers who intend to achieve consolidation and continuity outcomes will intend to measure the above performance dimensions. This underscores the fact that these managers would measure both financial and non financial performance of the organization as indicated in the data. Maximization of output has the strongest relationship with service quality innovation and resource utilization performance dimensions. This suggests that school managers who intend to maximize output will concentrate on measurement of innovation, resource utilization and service quality dimensions. Human relations role has a strong relationship with all other performance dimensions apart from supplier performance. This is because the supplier performance dimension is outside the manager’s control. School Managers who tend to exhibit human relations role would tend to measure most of the performance dimensions. It is worth noting that it was positively related to community/environmental performance dimensions. This was due to managers desire to measure the impact of their social responsibility practices to the external stakeholders and larger society. Adaptation and change was positively related to financial performance, resource utilization, innovation and community service/environmental perspective. School managers who were pursuing adaptation and change tended to measure financial performance and at the same time measure the determinants of organizational performance. Surprisingly, flexibility and supplier performance did co-relate with several managerial roles and where there was a relationship, it was weak as indicated in table 8 above.

Confirmatory factor Analysis and Structural Equation Modeling

To assess the measurement model, four analyses were conducted. First, confirmatory factor Analysis (CFA) was conducted using AMOS 19 to empirically investigate the suitability of the proposed model to the data. After running the CFA using Amos 19, the overall fit of the model was not acceptable, with χ² of 53.24 (df = 8, p=0.00), Relative Chi Square (χ²/df) ratio of 1.452, CFI of 0.87, NFI of 0.85 and TLI of 0.75. All above measures of model fit indicated that the model was not a good fit for the data hence it was rejected.
Chi Square = 52.245 (8 df) p= 0.00

SEM allowed the researcher to re-specify the model based on the modification indices provided. Relevant modification indices are presented in Table 9. It can be noted from Table 8 that measurement error terms of the observed variables are correlated. Correlated error terms of observed variables is one of the assumptions of SEM. Based on the theory governing managerial roles and performance measurement, Er 1 and Er 2 were correlated because maximization of output and consolidation and continuity roles both fall under control on CVF (refer to Figure 1). Er 3 and Er 4, are correlated since human commitment and adaptation and change fall under flexibility on the CVF. Er 2 and Er 6 as well as Er 4 and Er 5 are correlated due to the external orientation respectively. Amos 19 was run again and the resultant model is displayed in Figure IV.

Table 2 Modification indices for covariance

<table>
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<tr>
<th>M.I.</th>
<th>Par Change</th>
<th>Chi Square = 52.245 (8 df) p= 0.00</th>
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<tbody>
<tr>
<td>Er 1 &lt; Er 2</td>
<td>11.676</td>
<td>.055</td>
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<tr>
<td>Er 4 &lt; Er 3</td>
<td>8.702</td>
<td>.051</td>
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<tr>
<td>Er 6 &lt; Er 2</td>
<td>14.900</td>
<td>.068</td>
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<tr>
<td>Er 5 &lt; Er 4</td>
<td>5.475</td>
<td>.041</td>
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Key
Er1 & 2 Maximization of output
Er3 & 4 Flexibility
Er2 Er3 Er4 Er5 Er6 Correlated based on external output
Modified CFA Model
Standardized Estimates
Figure iii. Managerial Roles vs Performance Measurement Practices Modified CFA Model
The above model indicates that the overall fit of the CFA model was acceptable, with \( x^2 = 5.81 \) (df=4, \( p=0.21 \)). Relative chi-square (\( x^2/df \)) ratio of 1.45, and the comparative fit index (CFI) of 0.99. In order to test for unidimensionality, CFA was conducted on measurement models for each of the two variables namely school performance measures and managerial roles. In relation to this study, the CFI indices for the two latent variables were above the 0.90 level which indicated evidence of unidimensionality. From table 10 the values of composite reality, variance extract, and cronbach’s greatly exceeded the minimum acceptable values which are, 0.7, 0.5, 0.7, respectively, indicating the reliability measures and therefore yielded very consistent results. Squared multiple correlation (\( R^2 \)) for each measurement item, composite reliability, and variance extracted for each factor were used in this study to test the construct reliability. The first run of the modified measurement model showed that the R2 for all measurement items was greater than 0.5 as shown in table 10 indicating a good reliability level. Evidence on convergent validity was obtained as the measurement items represented their factors significantly; the critical ratio of every item exceeded the 1.96 value as indicated in Table 11 to test for discriminant validity the average variance extracted and squared correlations were used. The analysis, the average variance extracted for each pair of variable was greater than the square correlation for the same pair as shown in able 10 and 11 respectively.

Table 3: Variance extracted, composite reliability and Alpha values for the constructs

<table>
<thead>
<tr>
<th>Construct</th>
<th>Variance Extracted</th>
<th>Composite Reliability</th>
<th>Cronbach’s Alpha</th>
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<td>Results Measures</td>
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<td>Determinants</td>
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<td></td>
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<tr>
<td>Measures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consolidation and continuity</td>
<td></td>
<td>0.82</td>
<td></td>
</tr>
<tr>
<td>Adoption and change</td>
<td></td>
<td>0.90</td>
<td></td>
</tr>
<tr>
<td>Human commitment</td>
<td>0.91</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximization of output</td>
<td>0.91</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managerial Roles</td>
<td>0.52</td>
<td>0.81</td>
<td>0.93</td>
</tr>
<tr>
<td>Performance Measurement practices</td>
<td></td>
<td>0.63</td>
<td>0.77</td>
</tr>
</tbody>
</table>

From the Table 5 it can be said that determinant measures are better indicators of performance measurement practices than result measures. Performance measurement practices seem to explain more variance in determinant measures. This means that determinant measures are good indicators of performance measurement practices.

Table 5: Standardized Regression Weight and square Multiple Correlations for measurement model.

<table>
<thead>
<tr>
<th>Observed Endogenous variable</th>
<th>Latent Exogenous variable</th>
<th>Beta</th>
<th>C.R</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximization of output</td>
<td>Managerial Roles</td>
<td>0.83</td>
<td>6.57</td>
<td>68</td>
</tr>
<tr>
<td>Consolidation and continuity</td>
<td>Managerial Roles</td>
<td>10.80</td>
<td>79</td>
<td></td>
</tr>
<tr>
<td>Human commitment</td>
<td>Managerial Roles</td>
<td>7.03</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>Adaptation and change</td>
<td>Managerial Roles</td>
<td>6.57</td>
<td>67</td>
<td></td>
</tr>
<tr>
<td>Results measures</td>
<td>Performance measurement practices</td>
<td>7.10</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>Determinant measures</td>
<td>Performance measurement practices</td>
<td>7.10</td>
<td>92</td>
<td></td>
</tr>
</tbody>
</table>

***** Correlation is significant at the 0.001 level

Goodness of Fit Tests

After assessing the measurement model, the structural model was specified as given in Figure V below. After analysis the overall fit indices for the proposed structural model (refer to Figure V). were \( x^2=5(\text{df}=4,p=0.21),x^2/\text{df} \) ratio of 1.45, the CFI of 0.99, Normed fit index (NFI) of 0.98, Tucker-Lewis Index (TLI) of 0.98 and Root Mean Square of error Approximation (RMSEA) of 0.08. These values indicated that the model fits the data reasonably well as discussed in section 2.64 (refer to section 2.64). The managerial role in order of ranking has been discussed as below.

Consolidation and Continuity Roles and Performance Dimension Measures

The result indicates that consolidation and continuity had a strong positive relationship with competitiveness, financial performance, and service quality resource utilization and innovation dimensions. This is consistence with the previous studies of Denison and Lippit (2003) and Quinn(1996). School managers who intend to achieve consolidation and continuity outcome will tend to measure the above performance dimensions. This underscores the fact that school managers will measure both financial and non financial performance of the organizations indicated in the result. In times when the organization requires consolidation and continuity, the school manager must demonstrate an internal focus and seek stability. Managers in this environment seek certainty and predictability. School managers in their roles will tend to emphasize defining responsibility, measurement, documentation and record keeping where effectiveness is measured in terms of stability and continuity. Key characteristics include clearly defined hierarchies,
decisions governed by well defined rules and efficient work flows.

**Human Relation Roles and Performance Dimensions Measures**

Human relations roles have been previously positively linked to firm performance (Malinga, 2004; Leithwood et al., 1998; Leight et al., 2002). In the current study, human relations roles had a stronger relationship with all other performance dimension measures apart from suppliers performance. This is due to the fact that the supplier performance dimension is outside the manager’s control. It is worth nothing that human relations role was the only managerial role positively related to community/environment performance dimension. This is due to the school managers desire to measure the impact of their social responsibility effort to the external stakeholders and larger society. Therefore school managers who tend to exhibit stronger human relations roles will tend to measure most of the performance dimensions. According to Quinn et al. (1996) and Lambert, 2003 the aim of human relations roles is to build commitment, cohesion and moral amongst workers in recognition that individuals have different capabilities and personalities. The key emphasis of a school manager is on participative decision making, conflict resolution and consensus building. The main target is to sustain high moral that is based on friendly, almost family-like relations and employee support in personal and work issues. They recognize that good relations are a result of equal opportunities, participation and involvement.

**Maximization of Output Roles and Performance Dimensions Measures**

The study found out that the maximization of output had the strongest relationship with service quality, innovation and resource utilization. This is consistent with previous studies (Leight et al., 2002; Lippit, 2003; Lambert, 2003). This implies that school managers who intend to maximize output will concentrate on measurement of innovation, resource utilization and service quality dimensions. According to Quinn et al. (1996), under maximization of output roles, school managers are motivated by desire to complete the task at hand, to motivate staff, set goals and objectives and to clarify roles. Managerial decisions are driven by considerations of the ‘bottom line’. The environment is characterized by control and external focus. To attain this, managers emphasizes planning, goal-setting, achievement of measurable goals and target, productivity measurement and competitiveness. The managers’ role is being a strategic leader by aligning its policies with schools strategy.

**Adaptation and Change Roles and Performance Dimension Measures**

The result indicates that adaptation and change was positively related to financial performance, resource utilization, innovation and community service/environmental perspective. Adaptation and change roles have been positively linked to firm performance in other studies (Leight et al., 2002; Lippit, 2003; Lambert, 2003). This implies that school managers who are pursuing adaptation and change will tend to measure financial performance and at the same time measure the determinants of organizational performance. Quinn et al. (1996) conceptualize that adaptation and change outcomes demand a manager who is flexible and has an external focus. It represents an environment of expansion, adaptation and change. Employees are motivated by a common vision, the excitement of the change and risk taking. The manager encourages innovative initiatives and development of novel services by the staff. The dominant culture fosters utilization of staff ideas, creativity, entrepreneurship and risk taking and aims at creating a vision of the organization’s future. The school managers’ responsibility is to follow environmental changes to be able to adapt to them by continuous improvement, acquisition of new resources and adoption of new processes and methods. Surprisingly, flexibility and supplier performance dimensions did not correlate with several managerial roles and where there was a relationship, it was weak.

**Managerial Roles and Result and Determinants Measures**

The result showed that there is a strong positive relationship between managerial roles with both result and determinant measures. This linear relationship therefore indicates that as effective performance of managerial roles increases, school managers are likely to opt for better organizational performance measures. Although all the managerial roles, adaptation and change, maximization of output, consolidation and continuity and human relations positively correlates with determinant measure compared to results measures. As Neely et al. (2000) suggest, the results realized are a function of past business performance with regard to specific determinants-that is, drivers. Besides consolidation and continuity roles had the strongest positive correlation with both determinant measures and result measures. This meant that school managers who exhibit strong consolidation and continuity roles (monitor and coordinator) they would majorly be concerned with performance measurement practices of a school. This implies that the respondents were likely to make decision on the determinant measures such as resource utilization and service quality so as to improve institutional performance. They would continuously measure performance of the organization and place stronger emphasis on both
result and determinants measures. This was due to the orientation of the CVF. Human relations are also positively related with both results and determinant measures. This was due to the orientation of roles, that was, it falls under internal and stability orientation of the CVF. Human relations were also positively related with both results and determinant measures because managers recognize the importance of Human Resource as a major determinant of future organizational performance. Also they could easily influence the human resources to improve performance compared to other school resources. To summarize the relationship between managerial roles variables and performance dimension measures, it could be said that these results are consistent with the findings of Koontz, (2005). They argued that school managers are on the whole however; do not exhibit behavioral complexity; that is they did not move between the eight operational roles with equal facility or assurance. There appeared to be a bias toward adopting certain roles while allowing others to languish, even though they might be required. Although there was general agreement that the key drivers of performance were internally and externally based, views on the impact they have and how they should be managed vary in the literature. Management can be seen as a way of controlling school outcomes and is comprised of monitoring, measurement and review activities (Emmanuel et al., 1990).

Managerial Roles and Performance Measurement Practices

The study adopted a different view of the managerial roles. It did not attempt to measure the level of use or importance of specific roles in the sample, but rather focused on managerial roles, by measuring its general contribution to the overall performance measurement practices in the public secondary school. The results indicated that managerial roles can significantly predict performance measurement practices in the public secondary schools. Managerial roles explain a great variance in performance measurement practices. The modern corporate environment has initiated many changes in all organizational functions that have inevitably affected the performance of managerial roles, making stake-holders interested in the way in which school managerial roles contribute to the organization success and performance. Neely (1998) argues that the managers for two main reasons. Either they wanted to know where they were and what they have to improve; or they wanted to influence their subordinate behaviors. Bourne et al., (2000) argue that unless action is taken based on the results attained, then the measures are meaningless, costing money to obtain and not adding value to business. Performance measurement therefore, must be part of a system, which reviews performance, decides on action and changes the way the school operates. School pressures challenged managers to achieve competence in their managerial performance. Competent managerial qualities are needed to determine the social directions an organization takes and to creatively solve business problems (Scheule & Sneed, 2001). According to Wynne and Stringer (1997) Competencies are the bonds that binds school together, taking a holistic look at the people, purpose, processes and performance. They also enable the organization to understand and better measure performance. Therefore managerial roles such as maximization of output, consolidation and continuity, human relations and adoption and change influences performance measurement practices of school managers. To implement performance measures, managers need to apply managerial roles in their stations. This study sheds light on the widely held view that managerial roles and management competencies influence the performance measurement practices in the education sector. By examining how managerial roles influence the choice performance measures by school managers, the results provide some insight into the prediction associated with managerial roles.

Kimbrough, (1990) claimed that measuring school performance is one of the school manager’s tasks, managerial roles can influence how the school managers go around measuring performance. Managers play these roles in varying degrees depending on their level in the hierarchy and the nature of their position. Since managerial roles are not static, same managers apply different roles in different situations to achieve different outcomes. The findings confirmed what the literature had speculated but provide little empirical evidence. It is assumed that managers with ability to achieve high performance in all four managerial roles would have a better impact on overall firm performance compared to those with low orientation in any four managerial roles. Earlier studies on the CVF have confirmed that focus on all managerial roles lead to better performance (Quinn et al., 1996). Competing values framework (CVF) have been used in numerous settings to explain the various roles the managers need to display if they are to be effective. (Kaplan, 2000). Therefore, the findings of this study extend the application of competing values framework, by Quinn et that had not been applied in performance measurement subfield, yet several authors argue that the model can be used to improve school performance. It is clear from the diagrammatic representation of the model and its description that the CVF should not be regarded as something that is static. The presence of so many contradictory behaviors imply a dynamic tension, and Quinn intended the mode (refer to figure 1) to be an explication of a very active process involving managers moving from quadrant to another very quickly, perhaps on an incident-by incident basis or hour by hour. The concept emphasizes that public
Secondary school managers must be able to demonstra a diverse range of behaviors in response to rapidly changing circumstances. Chi-square=5.81(4rf)p=.214

Managerial roles were significantly related to the performance measurement practices. The standardized beta value of 0.80 for managerial roles confirmed the positive relationship between managerial roles and performance measurement practices. The t-statistics for Managerial roles (t=6.36) indicates that the relationship is significant (p<.0001). The R^2 was 0.64, indicating that the predictor variable (managerial roles) explains about 64 percent of the variation in performance measurement practices. This study found a linkage between the managerial roles and performance measurement practices. The Main objective was to investigate the linkage between managerial roles and performance measurement practices in the public secondary school. The study found a positive relationship between the managerial roles and performance measures practices. The result indicated that managerial roles can significantly predict performance measure practices in the public secondary school. Managerial roles explain a great variance in performance measurement practices. Furthermore, there was positive correlation between managerial roles variables and different performance dimensions such as competitiveness, financial performance, service quality, resource utilization, supplier performance, flexibility and community/environment perspective.

CONCLUSION
The objectives of the study were to: (a) Nature of relationship between performance measurement practice and managerial role (b) Establish the best measure of performance measurement practices and (c) to establish if the performance measurements practices fit data well. The conclusions were made as follows. i) The consolidation and continuity roles had a strong positive correlation with competitiveness (financial performance, resource utilization and innovative performance dimension). ii) There was high level reliability of measures therefore yielding constant result iii) Determinant measures were better indicators of performance measurement practices than the result measures iv) The model fitted the data well

IMPLICATION
The findings of the study have important implication for enhancing the relationship between performance measurement practice and managerial roles. This need urgent attention by educators. Stakeholders in the education sector need to be sensitized on broader goals of education and especially the importance of relating performance measurement practices and managerial roles. There is need to break from bureaucratic inefficiencies and to be ready to implement comprehensive management of information system to minimize the cost of operation and maximize revenue achievement.

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