

# AN INVESTIGATION ON THE EFFECT OF QUALITY MANAGEMENT PRACTICES ON THE PERFORMANCE OF PUBLIC PRIMARY SCHOOLS IN NAKURU MUNICIPALITY, KENYA

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## Abstract

*The study sought to determine the effect of Quality Management practices on performance in public primary schools within Nakuru Municipality, Kenya. The study used a census survey of all the 60 head teachers from all the 60 public primary schools in Nakuru Municipality. The study used structured questionnaires to gather data from school head teachers. Data was analyzed with help of the Statistical Package for Social Sciences (SPSS). Simple descriptive statistics mean, median, mode, percentages were used. Inferential statistics regression analysis technique was used to analyze data. Quality management practices (top management commitment, teamwork, continuous improvement, competitive benchmarking, training, reward and recognition and customer focus) were found to significantly influence performance among schools in the study area. This study recommended the need to strengthen these elements of quality management practices in order to realize meaningful performance increased levels of performance especially in KCPE mean score, enrolment and co-curricular activities.*

**Key words:** *Quality management practices, academic performance, enrolment, co-curricular activities.*

## 1.1 INTRODUCTION

Quality Management is generally described as a collective, interlinked system of quality management practices that is associated with organizational performance (Cua et al. 2001), and Kaynak (2003), underlined the importance of causal relations between quality management practices. Feigenbaum (1994) contend that “quality of education” is the key factor in “invisible” competition between countries since the quality of products and services is determined by the way that “managers, teachers, workers, engineers, and economists think, act, and make decisions about quality”. Education is being driven towards commercial competition imposed by economic forces (Seymour, 1992) hence there is need to introduce quality management practices to improve their performance.

The Ministry of Education in Kenya is responsible for centrally providing educational services in the country. The ministry’s vision is “to provide quality education for development” while its

mission is “to provide, promote and co-ordinate lifelong education, training and research for Kenya’s sustainable development” (Ministry of Education Strategic Plan 2006-2011, 2005). At independence in 1963, the Kenya government recognized education as a basic human right and a powerful tool for human resource and national development. Since then, policy documents have reiterated the importance of education in eliminating poverty, disease and ignorance (Ominde Report, 1964). Ministry of Education (2005) states that the government is fully committed to an education system that guarantees the right of every learner to quality and relevant education. Chapman and Carrier (1990) emphasized that particular attention should be given to the issues concerning educational quality and improvement strategies in the developing world. It is in this light that the Ministry of Education deemed it necessary to improve its inspection wing by restructuring it and changing its name from The Inspectorate in 2004 to the Directorate of Quality Assurance and Standards DQAS (Sessional Paper no.1, 2005). In the restructuring there was the creation of the Directorate of Quality Assurance and Standards at the National, provincial, district and divisional levels. At the provincial level there is the Provincial Quality Assurance Officers (PQASO) in charge of quality assurance in both primary and secondary schools. At the district level we have District Quality Assurance Officers (DQASO) in charge of quality assurance in both primary and secondary schools. At all levels the incumbent Directorate of Quality Assurance and Standards constitutes the Directorate of Quality Assurance and Standards for school quality and standards assessment.

At school level principals and deputy principals are the designated internal quality assurance officers and at departmental level the heads of departments are the designated quality assurance and standards officers (Sessional Paper no.1, 2005). School prefects are mandated to assist school administrators in carrying out duties and responsibilities that enhance quality of education in Kenya. These duties and responsibilities include supervision of curricular activities such as preps and co-curricular activities such as drama, music and subject based clubs (Secondary schools Heads manual, 1979). The functions of Quality Assurance and Standards Officers include having regular reporting on the general quality of education, identifying educational institutional needs for improvement, ensuring that quality teaching is taking place in the institutions, monitoring the performance of teachers and educational institutions in accordance with all round standard performance indicators, ensuring equitable distribution of teachers by working out the curriculum based establishment, carrying out regular assessment of all educational institutions, advising on the provision of proper and adequate facilities in educational institutions, ensuring that the appropriate curriculum is implemented in educational institutions, encouraging a collaborative and corporate approach to educational institutional management among the various stakeholders, and organizing and administering co curricular activities with a view to developing all round learners (Wasanga, 2007).

## **1.2 Statement of the Problem**

Quality Management practices are a collection of management practices that are associated with organizational performance. Studies have indicated that organizations that implement Quality Management practices have enhanced their performance. Organizations that focus on Quality Management practices involve and motivate employees to achieve quality output and focus on satisfying customers’ needs. The extent an organization implements Quality Management practices, performance is enhanced (Brah et al., 2002). Public primary schools in Kenya have instituted some Quality Management practices in their service provision. Despite the concerted efforts to implement the quality management practices, most of the primary schools in Nakuru Municipality have

continued to have dismal performance in academics. This study seeks to bridge the knowledge gap on the effect of Quality Management practices on performance in public primary schools within Nakuru Municipality.

### **1.3 Literature Review**

From various Quality Management models the eight quality management practices which are customer focus, leadership, personnel involvement, process approach, system approach to management, continuous improvement, factual approach to decision making, and mutually beneficial relationships with suppliers Lam et al (2002) . Before an organization can rip the benefit from Quality Management implementation, some Quality Management practices would have to be enshrined into the organization's culture.

#### **1.3.1 Top Management Commitment and Leadership**

The role of management commitment is well recognized as a primary requirement in standards such as ISO 9001 and ISO 14001. Quality Management requires effective change in organizational culture and this can only be made possible with the deep involvement/commitment of management to the organization's strategy of continuous improvement, open communication and cooperation throughout the organization. Quality Management implementation improves the organizational performance by influencing other Quality Management dimensions (Kaynak, 2003). According to Oakland (1993), to be successful in promoting business efficiency and effectiveness, Quality Management must start at the top with the chief executive. Cooper and Ellram (1993), identified leadership as being critical in effecting organizational change most especially in the areas of building effective relationship with suppliers and others involved in the process of value delivery. The commitment of leadership to the Quality Management strategy as shown in their daily disposition to work will go a long way in motivating employees to deliver quality services that exceeds the expectation of customers. Andriole (1994), noted that 'the implementation of Quality Management requires a clear long term leadership commitment'. To him, long term relationship with satisfied customers is an asset to the organization, thus, management must be committed to it. Andriole also stressed the importance of management in providing a 'customer focused support system' such as measurements, rewards and recognition for satisfying customers with the aim of building a positive relationship with customers.

#### **1.3.2 Customer Focus**

QM is an ideology which is focused on the satisfaction of customer's need. Thus, most organizations try as much as possible to meet or exceed customer's expectation in their daily activity and also their long term plan (Andriole, 1994). Quality Management requires organizations to develop a customer focused operational processes and at the same time committing the resources that position customers and meeting their expectation as an asset to the financial well being of the organization. Filippini and Forza (1998) explained that it is necessary for organization to maintain a close link with their customers in order to know their requirements and to measure how it has been successful in meeting up to customers' requirements. According to Muffatto and Panizzolo (1995), a high level of customer satisfaction is obtained solely by providing services or products whose features will satisfy customer's requirements or needs. The customer's needs and expectation serve to drive development of new service offerings. This is due to the fact that customers determine the quality level of service delivered (Jablonski, 1992) Oakland (1993), noted that organizations are made up of a series of internal suppliers and customers. To him, this forms the quality chain of the company and it implies that every employee is a potential customer and supplier in the course of

production. The process of production is structured in a way where each process have needs and expectation which must be fulfilled by others in the network of production. The effective fulfillment of these needs leads to the production of quality goods and services.

### **1.3.3 Continuous Improvement**

Continuous improvement means ‘a commitment to constant examination of the technical and administrative process in search of better methods’ (Fuentes-Fuentes et al, 2004). Turney and Anderson (1989) defined continuous improvement as the relentless pursuit of improvement in the delivery of value to customers. This was supported by Dean and Bowen (1994), who argued that customer satisfaction can be attained only through the relentless improvement of processes that create product or service. Quality management involves the design into the process of production, a system of continuous improvement. This contains regular cycles of planning, execution and evaluation (Muffatto and Panizzolo, 1995). According to Oakland (1993), ‘the focus on continuous improvement will lead to the formation of formidable team whose membership is determined by their work on the detailed knowledge of the process, and their ability to take improvement action’. Quality Management is concerned with the continuous improvement in all the process of production, from the levels of planning and decision making to the execution of work by the front line staff. The principle behind the idea of continuous improvement is basically the idea that mistakes can be avoided and defects can be prevented. According to Stahl (1995), “continuous improvement refers to the constant refinement and improvement of products, services and organizational system to yield improved value to customers”. He further explained that the continuous look for ways in improving quality of product or service in the absence of customers’ complain may prevent a future problem. The continuous improvement process aims to identify and eliminate the cause of a mistake in order to prevent its reoccurrence. Fuentes-Fuentes et al, (2004) explained that organizations operating in a dynamic environment are liable to carry up continuous improvement in its operation; they explained that the face of competition changes faster in this environment as a result of the changes in customers’ needs, competitors’ activities and service/product innovation.

### **1.3.4 Training**

Training helps in preparing employees towards managing the Quality Management ideology in the process of production. Training equips people with the necessary skills and techniques of quality improvement. It is argued to be a powerful building block of business in the achievement of its aims and objectives (Stahl, 1995). Through training, employees are able to identify improvement opportunities as it is directed at providing necessary skills and knowledge for all employees to be able to contribute to ongoing quality improvement process of production. Stahl (1995) argued that training and development programme should not be seen as a one time event but a life long process.

### **1.3.5 Team work**

A well structured team will aid the effective production of goods and services through the integration of activities involved in the process of production. Dale et al (1994) noted that team work is a key feature of involvement. To him, team work aids the commitment of the workforce to the organizational goals and objectives. The researchers believe it is essential to have a team made of people with right attitudinal disposition to working in groups so as to realize the gains of quality management. Team work is a way of stimulating positive work attitude, which includes loyalty to the organization and a focus on organizational goals. Martinez et al, (2000) noted that teamwork contributes to the generation of improvements that are proposed by employees. To them, the

proposed improvements have a way of changing the attitudes of employees that are resistance to change. Team work has a lot of benefits to an organization. Recommendations made by teams are more likely to be accepted and implemented where the team is highly formidable, unlike the individual suggestion which represents just an individual's opinion, A greater variety of complex problem will be tackled i.e. problems beyond the capability of an individual or department can be handled more efficiently through the pooling of resources together. Working in teams exposes a problem to a great variety of knowledge thus problems beyond functional departments can be solved more easily. Team work will boost workers morale and ownership through participation in problem solving and decision making (Oakland, 2005).

### **1.3.6 Reward and Recognition**

Recognition is defined as the public acknowledgment of superior performance of specific activities. Reward is defined as benefits, such as increased salary, bonuses and promotion, which are conferred for generally superior performance with respect to goals (Juran and Gryna, 1993). Public recognition is an important source of human motivation (Deming, 1986). It almost goes without saying that an important feature of any quality improvement program is the showing of due recognition for improved performance by any individual, section, department or division within the firm (Dale and Plunkett, 1990). To effectively support their quality effort, firms must implement an employee compensation system that strongly links quality and customer satisfaction with pay (Brown et al., 1994). Deming (1986) and Ishikawa (1985) identified one source of human motivation at work as social motivation, the energy that comes from cooperation with others on a shared task and the incentive provided by recognition from others. A large majority of firms implementing Quality Management modify their performance measurement and reward systems so that achievement of specific quality goals can be assessed and rewarded (Hackman and Wageman, 2003). Quality Management implementation relies increasingly on performance measurement and performance contingent rewards to motivate and control employees. According to the review results by Hackman and Wageman (2003), 85% of Quality Management firms have developed programs to reward individuals and teams for quality achievements. DuBrin (2005) stated that punishment is a behavior modification strategy. Punishment is the presentation of an undesirable consequence or the removal of a desirable consequence because of unacceptable behavior, and is regarded as negative motivator. DuBrin (2005) further proposed that a reward and recognition system should be equitable. Workers who achieve the same level of performance should receive comparable rewards. Similarly, workers who fail to obtain certain levels of performance should receive comparable punishment. In this regard, punishment is a special recognition and "reward" for employees who do not perform well. It is important to note that employees' recognition and rewards should be based on equity.

Effective recognition and reward activities can stimulate employee commitment to the firm. A firm's Quality Management initiative must be supported with a recognition and reward system that encourages and motivates employees to achieve the desired performance. Firms that are serious about achieving quality and customer satisfaction must integrate these aspects into their recognition and reward system. Ishikawa (1985) suggested that firm-wide gain-sharing or profit-sharing programs can appropriately be used to recognize and reward collective excellence. Excellent employee suggestions should be financially rewarded in order to encourage employee participation. The forms of recognition can be a praise letter, an oral praise, award ceremony, moral award, publicly presenting successful working experiences (Zhang, 2000). Mann and Kehoe (1994) suggested that working condition improvement be used to recognize employee quality improvement efforts. Cherrington (1995) stated that the forms of reward can be merit pay, piece-rate incentives,

team and group incentives, skill-based pay and pay-for-knowledge, suggestion system, profit sharing, salary increase, and bonus scheme.

### 1.3.7 Competitive Benchmarking

Benchmarking, one of the most important approaches to TQM, is widely used by many companies to help them become better in their field. The concept of Benchmarking is defined by the Society of Management Accountants of Canada as: 'A systematic and continuous measurement process; a process of continuously comparing and measuring an organization's business processes against business leaders anywhere in the world to gain information which will help the organization take action to improve its performance' (Parker & Harrison, 1995). The purpose of benchmarking is to provide a target for improving the performance of the organization in order to achieve superiority in the market place. Apart from benchmarking with the leaders in the industry, the company also needs to assess its competitors' performance. The aim is to discover best practices and adopt them in the company to achieve competitive advantages (Bank 1992). In the process, people must have the determination to learn from others because benchmarking involves finding gaps, problem solving, and continuous change. The link between benchmarking and TQM is improving performance based on industry best practice and should directly contribute to meeting customer requirements.

### 1.4 Methodology

This study was conducted through a census to investigate Quality Management practices and their effect on performance in public primary schools in Nakuru Municipality in Kenya. The study was conducted through a census of all the 60 head teachers of public primary schools within Nakuru Municipality in Kenya. Primary data was processed by use of descriptive statistics to establish frequencies, means and percentages. Inferential statistics was employed to determine the effect of QM practices on organizational performance in public primary schools. Specifically, multiple regression analysis was used to analyze the effect of the independent variable (quality management practices) and performance (dependent variable). The regression coefficient of determination ( $R^2$ ) was used to determine the significant factors at 95% confidence level ( $p < 0.05$ ). The multiple regression model used was:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \epsilon$$

Where:  $Y$  = Dependent variable (organization performance),  $\beta_0$  = constant,  $\beta_1$  = parameter associated with  $X_1$  (top management commitment),  $\beta_2$  = parameter associated with  $X_2$  (teamwork),  $\beta_3$  = parameter associated with  $X_3$  (continuous improvement),  $\beta_4$  = parameter associated with  $X_4$  (competitive benchmarking),  $\beta_5$  = parameter associated with  $X_5$  (training),  $\beta_6$  = parameter associated with  $X_6$  (reward and recognition),  $\beta_7$  = parameter associated with  $X_7$  (customer focus),  $\epsilon$  = error term (contains factors rather than  $X_1, X_2 \dots X_7$  that affect  $Y$ ).

### 1.5 Results

In order to determine the extent to which quality management practices affected performance in public primary schools, the study sought to evaluate the level of academic performance, level of enrolment and performance in co-curricular activities.

#### 1.5.1 Level of Academic Performance among Public Primary Schools

In this regard, the respondents were asked to indicate the KCPE mean scores for the years 2006-2010 and results of data analysis presented in Table 1.1:

**Table 1.1: KCPE Average Mean score for Period 2006-2010**

| KCPE Average Mean score |         |          |          |          |          |          |
|-------------------------|---------|----------|----------|----------|----------|----------|
|                         |         | 2006     | 2007     | 2008     | 2009     | 2010     |
|                         | Valid   | 57       | 57       | 58       | 58       | 59       |
|                         | Missing | 3        | 3        | 2        | 2        | 1        |
| Mean                    |         | 234.2900 | 230.9796 | 229.9405 | 233.1215 | 235.2503 |

Study findings indicate that the average mean score of schools dropped drastically for the years 2006, 2007 and 2008, respectively (that is 234.29; 230.97 and 229.94). The study also indicates academic performance improved steadily from 2008 to 2010. These findings indicate that academic performance generally dropped from 2006 to 2008 and later improved steadily from 2008-2010. With regard to extent to overall level of academic performance of public primary schools, study findings (Table 1.2) show that 50% of the schools reported “low performance”, 41% reported “moderate performance” and only 9% reported “high performance. It is evident that academic performance among the public primary schools was low to moderate.

**Table 1.2: Overall Academic Performance Index**

| Overall academic performance index | Percentage |
|------------------------------------|------------|
| High                               | 9.0        |
| Moderate                           | 41.0       |
| Low                                | 50.0       |
| Total                              | 100        |

### 1.5.2 Level of Enrolment among Public Primary Schools

In this regard, the respondents were asked to indicate the number of pupils enrolled for the years 2006-2010 and results of data analysis presented in Table 1.3:

**Table 1.3: Average Enrolments in Primary Schools for Period 2006-2010**

|      |         | Enrollment |        |        |        |        |
|------|---------|------------|--------|--------|--------|--------|
|      |         | 2006       | 2007   | 2008   | 2009   | 2010   |
| N    | Valid   | 60         | 60     | 60     | 60     | 60     |
|      | Missing | 0          | 0      | 0      | 0      | 0      |
| Mean |         | 817.65     | 840.93 | 821.10 | 880.05 | 885.40 |

Study findings indicate that the average enrolments of schools rose from 2006 (817.65) to 2007 (840.93), dropped in 2008 (821.10) before rising again in the years 2009 (880.05) to 2010 (885.40). These findings indicate that enrolment levels generally dropped in 2008 and generally rose steadily from 2009-2010. With regard to extent to overall level of enrolment in the public primary schools, study findings (Table 1.4) show that 48% of the schools reported “moderate enrolment”, 42% reported “low enrolment” and only 10% reported “high enrolment”. It is evident that enrolment level among the public primary schools was low to moderate.

**Table 1.4: Overall Enrolment Index**

| Overall Enrolment Index | Percentage |
|-------------------------|------------|
| High                    | 10.0       |
| Moderate                | 48.0       |
| Low                     | 42.0       |
| Total                   | 100        |

### 1.5.3 Level of Performance in Co-curricula Activities among Primary Schools

The study also sought to determine the level of performance in co-curricula activities. In this regard, study respondents were asked to indicate the level of performance in sports and Drama/Music. The results are presented in Table 1.5.

**Table 1.5: Level of Performance in Co-curricular Activities**

| Highest Level |  | Percentage Response (%) |               |
|---------------|--|-------------------------|---------------|
|               |  | Activity                |               |
|               |  | Sports                  | Drama & Music |
| Zonal         |  | 9.6                     | 5.8           |
| District      |  | 23.1                    | 34.6          |
| Provincial    |  | 51.9                    | 26.9          |
| National      |  | 15.4                    | 32.7          |
| <b>Total</b>  |  | <b>100.0</b>            | <b>100.0</b>  |

On the basis of study findings in sports 51.9% of the schools reached provincial level, 23.1% (district level), 15.4% (national) whereas 9.6% reached zonal level. With regard to performance in Drama/Music, 34.6% reached district level, 32.7% (National), 26.9% (Provincial) and 5.8% reached zonal level. It is evident that level of performance in co-curricular activities by public primary schools was generally moderate with a significant proportion of the schools attaining provincial and district levels in sports and drama/music. With regard to extent to overall level of performance in co-curricular activities in public primary schools, study findings (Table 1.6) show that 51.7% of the schools reported “moderate”, 25% reported “high” and 23.3% reported “low”. It is evident that performance in co-curricular activities in the public primary schools was generally moderate.

**Table 1.6: Overall Co-curricular Activity Index**

| Overall Co-curricular Activity Index | Percentage |
|--------------------------------------|------------|
| High                                 | 10.0       |
| Moderate                             | 48.0       |
| Low                                  | 42.0       |
| Total                                | 100        |

### 1.6 The Effect of Quality Management Practices on Performance of Public Primary Schools

The objective of this study sought to determine the effect of quality management practices on performance in public primary schools within Nakuru Municipality. To achieve this, the various

independent variables: top management commitment, teamwork, continuous improvement, competitive benchmarking, training, reward and recognition and customer focus were regressed on the overall performance (KCPE mean score, enrollment and co-curricular activities) at 95% confidence level.

### 1.6.1 Effect of Quality Management Practices on Academic Performance

On the basis of the level of significance (p-values) in Table 1.7, most of the elements of quality management practices namely; Top Management commitment ( $p = .045$ ,  $p < 0.05$ ), Teamwork ( $p = .047$ ,  $p < 0.05$ ), Continuous Improvement ( $p = .013$ ,  $p < 0.05$ ), Competitive Benchmarking ( $p = .026$ ,  $p < 0.05$ ), Reward and Recognition ( $p = .034$ ,  $p < 0.05$ ) were found to significantly influence academic performance in the schools. Nevertheless elements of quality management such as Training ( $p = .052$ ,  $p > 0.05$ ) and Customer focus ( $p = .065$ ,  $p > 0.05$ ) were not found to significantly influence academic performance in the schools.

**Table 1.7: Regression of Quality Management practices on Academic Performance**

| Model                                     | Un-standardized Coefficients |            | Standardized Coefficients | t     | Sig. (P-value) |
|---|------------------------------|------------|---------------------------|-------|----------------|
|   | B                            | Std. Error | Beta                      |       |                |
| (Constant)                                | 648.635                      | 297.848    |                           | 2.178 | .034           |
| Top Management commitment                 | 1.231                        | 9.012      | .023                      | .137  | .045           |
| Teamwork                                  | .685                         | 3.517      | .029                      | .195  | .047           |
| Continuous Improvement                    | 6.705                        | 11.272     | .115                      | .595  | .013           |
| Competitive Benchmarking                  | 4.564                        | 9.423      | .092                      | .484  | .026           |
| Training                                  | .429                         | 10.758     | .008                      | .040  | .052           |
| Reward & Recognition                      | 4.261                        | 11.496     | .095                      | .371  | .034           |
| Customer focus                            | .545                         | 5.293      | .017                      | .103  | .065           |
| a. Dependent Variable: Average Mean score |                              |            |                           |       |                |

Consequently, regression summary model (Table 1.8) confirms that the observed change in academic performance attributed to the elements of quality management practices (top management commitment, teamwork, continuous improvement, competitive benchmarking, training, reward and recognition and customer focus) was 60.84% ( $r^2 = 0.6084$ ). On the basis of the regression analysis, quality management practices significantly influences academic performance in the public primary schools in the study area. The regression model is thus expressed as;

$$\text{Academic Performance} = 648.635 + 1.231 (P=0.045) X_1 + 0.685 (P=0.047) X_2 + 6.705 (P=0.013) X_3 + 4.564 (P=0.026) X_4 + 0.429 (p = 0.026) X_5 + 4.261 (p = 0.034) X_6 + 0.545 (p = 0.065) X_7 + 297.848$$

The regression model shows that, an increase in Top Management commitment, Teamwork, Continuous improvement, Competitive Benchmarking, Training, Reward and Recognition and Customer focus have a positive impact on academic performance.

**Table 1.8: Regression Summary of Quality Management Practices on Academic Performance**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics |          |     |     |               |
|-------|-------------------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|---------------|
|       |                   |          |                   |                            | R Square Change   | F Change | df1 | df2 | Sig. F Change |
| 1     | .780 <sup>a</sup> | .6084    | .6072             | 149.48465                  | .079              | .600     | 7   | 49  | .002          |

a. Predictors: (Constant), Customer focus, Competitive Benchmarking, Teamwork, Training, Top Management commitment, Continuous Improvement, Reward and Recognition

### 1.6.2 Effect of Quality Management Practices on Enrolment in Primary Schools

According to the study findings (p-values) in Table 1.9, elements of quality management practices namely; Top Management commitment (p = .050, p<0.05), Continuous Improvement (p = .041, p<0.05), Competitive Benchmarking (p = .038, p<0.05), and Customer focus (p = .048, p<0.05) were found to significantly influence enrolment in the schools. On the other hand, Teamwork (p = .062, p>0.05), Training (p = .057, p>0.05) and Reward and Recognition (p = .079, p>0.05) did not significantly influence enrolment in the schools.

**Table 1.9: Regression of Quality Management Practices on Enrolment**

| Model                                  |                           | Un-standardized Coefficients |            | Standardized Coefficients | t      | Sig. (p-value) |
|--|---------------------------|------------------------------|------------|---------------------------|--------|----------------|
|  |                           | B                            | Std. Error | Beta                      |        |                |
| 1                                      | (Constant)                | 3180.900                     | 3748.427   |                           | .849   | .400           |
|  | Top Management commitment | 132.425                      | 113.951    | -.196                     | -1.162 | .050           |
|  | Teamwork                  | 25.033                       | 45.750     | -.080                     | -.547  | .041           |
|  | Continuous Improvement    | 16.153                       | 112.409    | -.023                     | -.144  | .016           |
|  | Competitive Benchmarking  | 107.184                      | 108.110    | .169                      | .991   | .038           |
|  | Training                  | 76.597                       | 137.162    | .115                      | .558   | .057           |
|  | Reward & Recognition      | 2.206                        | 149.707    | .004                      | .015   | .079           |
|  | Customer focus            | 66.139                       | 68.747     | .159                      | .962   | .048           |
| a. Dependent Variable: Total enrolment |                           |                              |            |                           |        |                |

Ultimately, regression summary model (Table 2.0) confirms that the observed change in enrolment levels attributed to the elements of quality management practices (top management commitment, teamwork, continuous improvement, competitive benchmarking, training, reward and recognition and customer focus) was 33.75% ( $r^2 = 0.3375$ ). On the basis of the regression analysis, quality management practices were found to significantly influence enrolment in the public primary schools in the study area. The regression model is thus expressed as;

$$\text{Enrolment} = 3180.900 + 132.425 (P=0.050) X_1 + 25.033 (P=0.041) X_2 + 16.153 (P=0.016) X_3 + 107.184 (P=0.038) X_4 + 76.597 (P = 0.057) X_5 + 2.206 (P= 0.079) X_6 + 66.139 (P= 0.048) X_7 + 3748.427$$

The regression model shows that, an increase in Top Management commitment, Teamwork, Continuous improvement, Competitive Benchmarking, Training, Reward and Recognition Customer focus have a positive impact on enrolment.

**Table 2.0: Regression Summary of Quality Management Practices on Enrolment**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics |          |     |     |               |
|-------|-------------------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|---------------|
|       |                   |          |                   |                            | R Square Change   | F Change | df1 | df2 | Sig. F Change |
| 1     | .581 <sup>a</sup> | .3375    | .3365             | 1960.339                   | .337              | .510     | 7   | 52  | .003          |

a. Predictors: (Constant), Customer focus, Competitive Benchmarking, Teamwork, Training, Top Management commitment, Continuous Improvement, Reward & Recognition.

### 1.6.3 Effect of Quality Management Practices on Co-curricular Activities

Based on the study findings, (p-values) in Table 2.0, elements of quality management practices namely; Top Management commitment ( $p = .035$ ,  $p > 0.05$ ), Teamwork ( $p = .029$ ,  $p > 0.05$ ), Competitive Benchmarking ( $p = .047$ ,  $p < 0.05$ ), Reward and Recognition ( $p = .002$ ,  $p < 0.05$ ) were found to significantly influence performance in co-curricular activities in the schools. However, quality management practices such as continuous improvement ( $p = .125$ ,  $p > 0.05$ ), Training ( $p = .122$ ,  $p > 0.05$ ) and customer focus ( $p = .081$ ,  $p > 0.05$ ) were not found to significantly influence performance in co-curricular activities in the schools.

**Table 2.0: Regression of Quality Management Practices on Co-curricular Activities**

| Model  |                           | Un-standardized Coefficients |            | Standardized Coefficients | T      | Sig. (p-value) |
|--|---------------------------|------------------------------|------------|---------------------------|--------|----------------|
|  |                           | B                            | Std. Error | Beta                      |        |                |
| 1  | (Constant)                | 3.745                        | 2.559      |                           | 1.463  | .149           |
|  | Top Management commitment | .076                         | .078       | .157                      | .976   | .035           |
|  | Teamwork                  | .040                         | .031       | .176                      | 1.267  | .029           |
|  | Continuous Improvement    | -.025                        | .077       | -.049                     | -.321  | .125           |
|  | Competitive Benchmarking  | .148                         | .074       | .325                      | 1.999  | .047           |
|  | Training                  | .061                         | .094       | .129                      | .654   | .122           |
|  | Reward & Recognition      | -.233                        | .102       | -.562                     | -2.279 | .002           |
|  | Customer focus            | .039                         | .047       | .132                      | .837   | .081           |
| a. Dependent Variable: Level of co-curricula performance |                           |                              |            |                           |        |                |

Consequently, regression summary model (Table 2.1) confirms that the observed change in co-curricular activity performance attributed to the elements of quality management practices (top management commitment, teamwork, continuous improvement, competitive benchmarking, training, reward and recognition and customer focus) was 72.5% ( $R^2 = 0.725$ ). On the basis of the regression analysis, quality management practices significantly influenced performance in co-curricular activities within the public primary schools in the study area. The regression model is thus expressed as;

$$\text{Co-curricular activities} = 3.745 + 0.076 (P=0.035) X_1 + 0.040 (P=0.029) X_2 - 0.025 (P=0.125) X_3 + 0.148 (P=0.047) X_4 + 0.061 (P=0.122) X_5 - 0.233 (P=0.002) X_6 + 0.039 (P=0.081) X_7 + 2.559$$

The regression model shows that, an increase in Top Management commitment, Teamwork, Competitive Benchmarking, Training and Customer focus have a positive impact on Co-curricular activities whereas increase in Continuous improvement and Reward and Recognition have a negative impact.

**Table 2.1: Regression Summary of Quality Management practices on Co-curricula Activities**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics |          |     |     |               |
|-------|-------------------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|---------------|
|       |                   |          |                   |                            | R Square Change   | F Change | df1 | df2 | Sig. F Change |
| 1     | .852 <sup>a</sup> | .725     | .723              | 1.33845                    | .725              | 1.262    | 7   | 52  | .004          |

a. Predictors: (Constant), Customer focus, Competitive Benchmarking, Teamwork, Training, Top Management commitment, Continuous Improvement, Reward & Recognition.

### 1.7 Discussion

The objective sought to determine the effect of quality management practices on performance in public primary schools in Nakuru Municipality. On the basis of the regression analyses, quality management practices such as top management commitment; teamwork; continuous improvement; competitive benchmarking; reward and recognition were found to significantly influence academic performance in the schools whereas training and Customer focus were not. Furthermore, regression analysis results indicate that top management commitment; continuous improvement; competitive benchmarking and customer focus were found to significantly influence enrolment in the schools while other practices such as teamwork; training as well as reward and recognition did not. Finally, study results revealed that top management commitment; teamwork; competitive benchmarking and reward and recognition were found to significantly influence performance in co-curricular activities in the schools whereas continuous improvement; training and customer focus were not.

On the basis of percentage effect of the quality management practices on performance, study findings revealed that performance in co-curricula activities (72.5%) was greatly impacted by the quality management practices followed by academic performance (60.84%) and enrolment (33.65%). The effective implementation of Quality Management practices will increase customer satisfaction with the service offerings (Omachonu and Ross, 1994). The core function of schools being to provide services, from the study academic performance is greatly impacted by Quality Management Practices. Quality enhances customer loyalty through satisfaction; this in turn can generate repeat business and lead to the attraction of new customers through positive word of mouth. The word of mouth communication will help in cost reduction. The improvement in quality will result in increased market share and profitability. Based on the study it reveals that enrolment in schools is impacted by the Quality Management Practices which has led to increased enrolment in public primary schools.

Public schools over the years have experienced changes which have complicated their management. These changes include; free primary tuition, breakthrough in technology and climatic changes. Although schools that fall under the public sector have less opportunity to develop Quality

Management practices as this is defined by a political process outside the control of school management, (Macmillan & Tampoe, 2000). This is revealed by the study findings in that Quality Management Practices impact on enrolment is only 33.65% despite increased enrolments in public primary schools due to political policies. This is because Public primary schools face challenges of inadequate resources needed in enrolling more learners.

### 1.8 Conclusions

The purpose of this study was to establish the effect of quality management practices on performance in public primary schools in Nakuru Municipality. On the effect of quality management practices on performance, the study concluded that the top quality management practices such as top management commitment; continuous improvement, competitive benchmarking and reward and recognition were found to significantly influence performance across the various aspects of performance under study such as academic performance, enrollment and co-curricula activities. On the other hand the study concludes that other elements of quality management practices such as teamwork, training and customer focus were effective to particular aspects of school performance. For instance teamwork influenced co-curricula activities, Training (academic performance), and customer focus (enrollment). Finally, study concludes that quality management practices significantly influenced performance among the schools in the study area.

### 1.9 Recommendations

This study recommends the need to strengthen the elements of quality management practices in order to realize meaningful performance among public primary schools in the study area. Consequently, this study recommends effective application of quality management practices among other strategies in order to achieve measurable improvement in the performance of the schools. There is need for stakeholders in the public primary schools to increasingly and effectively implement the identified quality management practices in order to realize increased levels of performance especially in KCPE mean score, enrolment and co-curricular activities.

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