

# **Effect of Implementing Quality Management System on the Performance of Public Universities in Kenya: A Case of Maseno University, Kenya**

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## **Abstract**

The degree on which a set of inherent characteristics of employees fulfill an organizations' performance, is seen to be based on a number of management systems and styles adopted by the organization. One of such systems' currently being adopted by many organizations in Kenya is the Quality Management System (QMS), which is a government requirement for all public and state corporations. However the adoption of the QMS has raised mixed reactions from various stakeholders on whether its implementation affects the overall performance of the organization. The purpose of this study therefore was to determine the effect of implementing QMS on the performance of public universities in Kenya, a case of Maseno University. Specifically the study on based on; to establish the extent of QMS implementation in Maseno University, examine the effects of QMS implementation on students' enrolment, and establish the effect of QMS implementation on employee performance and to establish the level of infrastructural growth of Maseno University. The study adopted a case study design since it was desirable for in-depth analysis. The target population was 1283 non-teaching staff of Maseno University. A sample of 296 employees was obtained from the population using stratified random sampling. Primary data was then collected using questionnaires while secondary data obtained from records in relevant offices. Data collected was analyzed using correlation, regression analyses. The presentation of information was done in the form of tables. The study findings established that the QMS implementation had a strong positive impact on student enrolment with  $R^2$  of 0.615 and, infrastructural growth  $R^2$  of 0.398. The acquisition of a QMS appeared to have ignited an important role in service rendering capacity of the institution.

## **Keywords**

Quality Management Systems, QMS, Maseno University

## **1. Introduction**

Organizations that once adopted quality initiative for the simple sake of display are now realizing the importance of implementing a QMS in their organizations. The degree to which a set of inherent characteristics fulfills the organizations requirement (ISO 9000:2005.3.1.1) was attained by the use of programmes such as six sigma, TQM, and ISO 9000 of which are becoming very common, but it is seen that QMS tend to offer much value through quality improvement. Researchers have distinguished the quality analysis programmes and found out that all adopts the use of statistical and analytical tools, but the ISO9000 was seen to

be the most recognized international quality program. A number of researchers have investigated the experience of service organization with ISO9000 (Heras, Casadeus, and Dick, 2002).

The University College, the fore runner of Maseno University was established in 1990 as a constituent college of Moi University. It was by then the outcome of the government emergent policy of locating public universities away from major towns; however the timing was in direct response to the crisis of double intake arising out of the combined graduation of high school students of the old 7-4-

2-3 and the new 8-4-4.

The first cohort of students admitted at Maseno comprised 1500- level graduates, although the college had taken over the defect government training institution and Siriba Teachers College they were not only inadequate but were not also designed for university level programmes. Despite of the short comings, the university has made a significant stride towards creating and maintaining a functional environment in which academic and auxiliary activities takes place without any understanding any undesirable disruption (Maseno university chatter, 2013).

It was seen that the QMS had envisaged in ISO 9001-2008 standards is one of the tools that when implemented well, can bring out a radical change on an institutional performance. The adoption of the management system that ensures efficiency and effectiveness in operations is not only a choice but a mandate for the university; hence customer focus and responding to customer needs should be the university's bench mark.

Apart from being statutory government requirements for the adoption of the QMS, it also plays part in the strategic decision of an organization. Maseno University therefore has made conscious and firm choice to implement the QMS and continuously maintain it. It is seen that the university's top management, has put more effort to change and transform the institution for the better in every possible way, beginning with embracing ISO certification implementation and its maintenance.

Being a university of choice (Maseno University charter, 2013) it, internally with its employees, has to continuously improve its services, products, processes, methods, and work environment to ensure that each customer is receiving the highest quality service or product at the committed cost on time. Students being its parent customer to the institution, it is a high duty for Maseno university's management ensures that its employees are fully fledged with the implementation and maintenance of the QMS ISO9001 making sure that not only the organization attains its objectives, but also the employees needs are focused upon. In 2007 the University started working towards the QMS ISO certification attainment through Kenya Bureau of Standards (KEBS) and in July 2010 Maseno University went through stage one audit successfully, and from that it has been carrying out improvement upon areas that were lighted upon by the QMS audit body.

### 1.1. Problem Statement

Research has revealed that the strongest, most obvious and most valuable effect of QMS is clear and more apparent working procedures and responsibilities. Any ISO certified organization is said to have an effective quality system and achieves maximum customer satisfaction, employee motivation and minimum rejection (Adolfas, 2010). However a number of employers and employees have given mixed signals whether the adoption of QMS is really necessary. A review of literature relating to QMS implementation reveals little study on the effect of implementing QMS on the overall

performance of the organization, therefore the researcher focused on the effect of implementing QMS on the performance of public Universities' in Kenya.

### 1.2. Objectives of the Research

The general objective of the study was to analyze the effect of implementing QMS on the performance of public universities in Kenya.

The specific objectives will include:

- i. To establish the extent of QMS implementation.
- ii. To examine the effect of QMS implementation on students enrolment.
- iii. To establish the effect of QMS implementation on employee performance.
- iv. To establish the effect of QMS implementation on the infrastructural growth.

### 1.3. Justification of the Study

With the focus on the digital aspect of the government, there was need on emphasize of all manufacturing and service sectors to put in place proper systems that will act as a guide towards its goals. The service providers due to, stiff competition that they were facing had to re-visit their procedures to know where there was a hiccup and all new systems had to be documented for the benefits of both the existing and any new employee's in the organization. Therefore the University will be able to know its competitors strategy and be able to put in place quality assurance personal who will be able to make sure that the new systems in place are acceptable and can make the University stand even if the competition from other learning institutions tend to out shine it.

The findings of the study will be useful to other scholars by contributing to the existing body of knowledge on implementing QMS on the performance of service rendering organizations such as Kenyan Universities. It will also facilitate further research in the field of academic and the Kenyan informal sector as researchers may identify various gaps in the study.

### 1.4. Scope of the Study

The study was carried out at Maseno University, its branches and the Kisumu Hotel which, is the key Income Generating Activities of the institution. Maseno University was started off in 1990 as a constituent college of Moi University and become a full-fledged University 11 years later in February 2001. The University has since evolved into recognized institution within the region and beyond. Today, schools offering various degrees and diplomas in social, biological and physical sciences.

The radical increase of the university population, posed an advantageous area for data collection but due to limited funds and time, the researcher only focused on the nonteaching staff of the institution both in managerial and departmental base. The choice of Maseno University was because of the following reasons; it had a good mix of employees as it is

located near two counties with different ethnic groups.

## 2. Literature Review

### 2.1. QMS, Its Adoption, Monitoring and Maintenance

The ISO 9000 standard has undergone almost exponential growth since it was first launched in 1987. With more than 400,000 certified organizations around the world, which is two times more than in 1997 (International Organization for Standardization 2001), this standard has increasingly become a necessity for market access. Quality is the degree to which a set of inherent characteristics fulfilling an organizations requirements (ISO 9000 2005 clause 3.1.1). During the World War II in 1935-1945, there were quality problems in most of the British explosive industries hence a solution had to be invested, implemented and adopted so as to address the quality problems. It was seen that firms had to document their records that entailed their working procedures, then used during training of the new employees, and also guide the Organizations 'employees on the daily tasks.

The invention of BS 5750 management standards in 1987 specified not only on how to manufacture but how the manufacturing processes were to be managed. These standards were adopted by the government and it persuaded the International Standards of Organization to adopt it, and was named ISO 9000 series.

QMS has gained recognition all over the world. The number of certification to the QMS is said to have substantially increased in the last few years. It had been perceived that by the end of July 2010, ISO 9001 would have approached over 1022 certification across a wide range of organizations in the manufacturing, service and government industries and offices. In Kenya this is clearly witnessed as almost every firm, especially the higher learning institutions have adopted the certification of the new QMS and are boosting of it.

The adoption of a QMS has to be a strategic decision of an organization, hence its design and implementation is not a mandatory but a voluntary process supported by an organization's own strategic policies and plans. To benefit out of it, organizations have to take into account that the design and implementation of an organization's QMS is usually influenced by the organizations' strategy, size, geographical region and the structure it operates to (EN ISO 9001:2008,2008). Organizations can adopt and implement QMS in different ways with regard to its main objective keeping in mind the organizational influences as stipulated in the QMS.

Striving for the highest possible quality can be considered a world process. The organization extent of QMS and its new version ISO 9001:2000 (with the so-called process approach) has been done mostly in the area of production and production organizations, and less in the area of service. Implementation of QMS makes an important difference in the ways quality is perceived and measured (Dick *et al.*, 2002)

however critics have emerged stating that the picture after the implementation is usually not put into light. Employee involvement on the QMS implementations is said to have an impact on the success or failure of the QMS norms, in dependence of the degree of their involvement.

QMS being the most recent, and, along with high involvement organizations and the most comprehensive approach to employee performance, it is therefore achieved when the organization's goods and services exceed the customer's expectation. According to Cummings (2001), it is possible to achieve or implement QMS without involvement of the employees. However, employee involvement and participation in the change process increases the likelihood that it will become part of the organization's culture. When implemented successfully, QMS is also aligned closely with the overall business strategy and attempts to change the entire organization towards continuous quality improvement. Cummings (2001), major employee interventions are parallel structures, including cooperative union - management, projects and quality circles, high-involvement designs; and QMS. If each intervention represents an increase in the amount of power, information, knowledge and skill and rewards available to employees, it means that employee involvement is an inherent requirement for a successful and sustainable implementation of a QMS programme.

Employees' overall performance is seen to be triggered by their involvement in any kind of programme is said to encourage compliance and ownership. QMS is a process which requires a collective effort from everyone within the Organization. It is therefore crucial for employees to be involved in the early stages of the Programme. "Organizations' are faced with competitive demands for lower costs, higher performance and greater flexibility; as a result they are increasingly turning to employee involvement to enhance customer loyalty, productivity and growth of the organization. It is believed that this increased employee involvement can lead to quicker, more responsive decisions, continuous performance improvement, and greater employee flexibility, commitment and satisfaction. Organizations' use employee involvement as a broad term that covers empowerment, participative management, work design, industrial democracy and quick quality of work life, which covers the diverse approaches to gaining greater participation in relevant work workplaces decisions" (Cummings 2001:p172). QMS is the most recent, and, along with high involvement organizations, the most comprehensive approach to employee involvement. Quality is achieved when the organization's goods and services exceeding the customer's expectation. According to Cummings (2001), it is impossible to achieve or implement QMS without involvement of the employees. But, employee involvement and participation in the change process increases the likelihood that it will become part of the organization's culture. It is said that when implemented successfully, QMS also is aligned closely with the overall business strategy and attempts to change the entire organization towards continuous quality improvement

To curb the negative outback from the implementation of the QMS, the management should know that the human capital being the key tool in production and service industries has to be fully involved in the implementation stage through training. It is important for employees to feel recognized by the employer; hence the firm has to open up for employees' satisfaction kit that will allow free upward, downward and horizontal communication channels.

QMS has defined the continual improvement as happened through the use of quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions and management reviews. When ISO 9000 introduced the process approach in 2000, it became a big challenge for certified companies. Janas and Luczak (2002) surveyed 160 certified (ISO9001) German companies and asked if they shall face problems due to the new QMS requirements. The conclusion was that the companies indicated no problems because they had already fulfilled the new requirements, hence the new ISO 9001 requirements is a description of work in progress.

## 2.2. Tacit Knowledge on Quality Policy

Employee improvement is never an ending journey, but its centered on the concept of starting a each day as new with the principle that methods can always be improved (Oakland, 1990). For effectiveness, the improvement should always involve everyone from top managers to workers (Masaaki Imai). The model is said to recognize that management must seek to focus on its customers' needs if it is to survive and grow in business, for customers to be treated well so as to the employees who directly interact with them.

The adoption of a QMS is a strategic decision of an organization. The design and implementation of an organization QMS is influenced by its size and organization structure keeping in mind the products and services it renders (ISO 9000:2005). The QMS requirements that are specified in the international standards are seen to be complimentary to the requirements of product and can be used by either internal or external parties including certification bodies to assess the organizations' ability to meet its employee's statutory and regulatory requirements (ISO 9000:2005).

The success and problems found in the implementation and maintenance of the QMS in a service organizations, is that the top management, the employees, the reward system, the measurement of performance and communication has to be in a proper place irrespective of the continuous changes in the QMS itself. Since it is an organization's willingness to be ISO certified, the organization and its management should embrace a positive attitude towards the ISO certificate and also to its employees.

## 2.3. QMS Outside the Iron Cage

As Hackman and Wageman (1995) have pointed out, very few studies have demonstrated that organizations really fully implement the TQM programs to which they adhere. These programs are often based on rhetoric and language games

that are somewhat unrelated to the actual work practices. The goal of this managerial rhetoric is, above all, to show that an organization is adopting certain practices dictated by institutional pressure. When implementing a QMS program, many companies face unique problems resulting from their own specific external and internal environments (Ljungstrom and Klefsjo, 2002). Identifying the obstacles that hinder QMS implementation can be used to assist program and to develop effective strategic policies and related action programmes in guiding managers in performing self-audits of their current implementation of QMS planned to overcome the barriers. Dale (2000) found that the lack of success of QMS is not as a result of the concept but rather the way it had been introduced into an organization and used by managers; it is expected that many fundamental mistakes will be made by senior managers in addition to their advisers in issues related to communication, training, infrastructure, teams and projects, fundamental failure of management to stick to the basics (Dale, 2000).

## 3. Methodology

The study adopted a case study approach to determine the effect of QMS implementation on performance of public Universities in Kenya. A case study was preferred because it involves a careful and complete observation of social unit, a person, institution, family, cultural group or an entire community, and emphasizes depth rather than breath of study (Mugenda O. M., & Mugenda A. G., 1999). The design is desirable for an in-depth analysis that was required for this study. The study was carried out at Maseno University, its Campuses and the Kisumu Hotel which is the key IGA of the institution.

The population of the study was 1283 of the non-teaching staff of Maseno University, since they are available on daily basis and are the key custodians of major data required for the study. A sample size of 296 was arrived at from this population. Data was collected through administered semi-structured questionnaire.

All data collected was analyzed through Correlation and Regression analysis to establish the relationship between the variables in the study, by the help of;

$$y = a + bx + e_t$$

Where: X is the estimation of the independent variable. Y is the estimation of the dependent variable

## 4. Results and Discussions

### 4.1. Employee Involvement

From literature, employees' involvement in any kind of programme will encourage compliance and ownership. QMS is a process that only requires a collective effort from everyone within the stipulated organization, it is therefore crucial for employees to be involved in the early stages of the system programme. Most of organizations are faced with

competitive demands for lower costs, higher performance and greater flexibility. As a result they are increasingly turning to employees' involvement to enhance the participation, commitment and productivity of their members. Employee involvement to any programme can lead to a quicker and a more responsive decisions continuous performance improvement.

## 4.2. Management Involvement

Management commitment is the most crucial factor for the success of QMS and its lack is the most often cited pitfall. Without a positive commitment any strategy for change is likely to fail (Kanji, 1997). A key challenge for leaders is to effectively manage the relationship between the organization's Vision/ Mission statements/ Strategies, and Values. Together, the Mission and Vision statements give direction to an organization, and function as a compass or road map, leading to better performance (Kanji, 1997). To achieve these goals, top management is assumed to be actively involved in establishing and communicating the organization's vision, goals, plans, and values for its quality

program (Parzinger and Nath, 2000; Lau and Idris, 2001; Kanji, 1997; Baidoun, 2003). A successful organization requires more than just sound business strategy; it requires a quality culture to support the strategy. Therefore, top management needs to anticipate change and make plans to accommodate it (Kanji, 1997).

From the data collected the management was seen to actively participate in the study and the researcher was convinced that the institution is much aware of the QMS existence and it has impacted much since it was introduced especially in the following areas that the researcher focused upon. Organization effective operations, majority of the respondents were satisfied over the QMS implementation on Maseno University day to day activities.

Maseno University's being a higher learning institution is said to face stiff competition from the private learning institution. The introduction of the QMS is seen to have an impact over its performance. From the findings it is seen that majority of the respondents were neutral with 55% while 33% were satisfied with the fact that QMS has enhanced the university marketing.

*Table 4.1. Results of Bi-Variate Correlation Analysis.*

	Customer Focus	Process Approach to Management	Employee Production	Infrastructural Growth
Customer Focus	1	0.772	0.716	0.523
Significance (2-tailed)	.	0	0	0
N	212	212	212	212
Process Approach to Management	0.772	1	0.712	0.532
Significance (2-tailed)	0	.	0	0
N	212	212	212	212
Employee Production	0.716	0.712	1	0.614
Significance (2-tailed)	0	0	.	0
N	212	212	212	212
Infrastructural Growth	0.523	0.532	0.614	1
Significance (2-tailed)	0	0	0	212
N	212	212	212	

Source: survey Data, 2013

The use of Bi-Variate Pearson correlation was conducted at 2-tailed significance level as shown in table 4.1. A positive correlation was observed within each pair of variables of which; process approach to management, employee production and infrastructural growth had (0.772  $P>0.01$ ), (0.76  $P>0.01$ ) and 0.523,  $P>0.01$  at a 2-Tailed significance level. These correlations were high and positive. On infrastructural growth, the strongest correlation was observed between performance and customer focus at (0.614  $p<0.01$ ) and was followed by process approach to management at (0.532,  $p<0.01$ ). Finally the lowest correlation was observed between infrastructural growth and customer focus at (0.523,  $p<0.01$ ).

## 4.3. Effects of QMS Implementation on Employees Performance

It is all about the use of the right metrics in the right place in order to know the individuals attitude while managing performance that supports the firms strategic goals. To develop an effective performance measurement system the

metrics are linked to business strategy, the goals are established at departmental levels that are related to the overall organizational goal. Mechanism and processes are created and clearly defined to track progress and service delivery performance of an individual. The developed set of matrices is then focused on some key recommendations that help a firm identify ways of evaluating its day to day employees' performance. Basing on Patrick (2001) indicated that through QMS certification there is an increase in production.

Both the company and employees have experienced benefits that have accrued from the QMS certification. From this study it is evaluated that before certification, employee performance stood at 17.7%, but after certification the study gave out an increase of 3.2%.

The introduction of QMS in the organization, from the findings is seen to have a positive significance towards its performance. The study variables are seen to be sufficiently moderated by the level of education qualification and individual's awareness of the QMS standards. Relevant literatures on QMS implementations' was reviewed and

presented. The researcher used mixed methodology, stating that the impact of QMS implementation of the organization employees was then assessed revealing that the implementation of QMS had no impact and or does not improve the performance of the organization and its employees under the QMS umbrella.

From this study the researcher was convinced that when employees are involved in the QMS implementation process; their performance aspect improves as the researcher has identified out whether direct or indirect involvement. Most of the respondents in the data collection were said to have a working period of between 1-3 years making them able to give legitimate information for the data collected. It's said that those who had been in the organization for a period of more than three years, held the most appropriate information for the research.

The state of acceptance and refusal of Maseno University employees to the QMS implementation is a very important aspect to the success of the institution as it has major impacts on the degree of involvements and commitment of the employees. When employees do not accept or refuse the QMS implementation, a strong resistant will emerge up against the new system and the employees will try to put obstacles in order to hinder the successful QMS implementation, which may result in the failure or ineffective implementation of the system. From the statistical data collected, it showed that the respondents' attitude about the QMS benefits was positive. This result indicates that the respondents have believed on the QMS irrespective of the difficulties during and after the implementation process.

**4.4. Effects of QMS Implementation on Students Enrolment**

It is not surprising that issues related to customer focus and satisfaction receive the largest coverage in the QMS literature, given the major push toward customer satisfaction orientation in virtually all types of businesses. Garvin (1987), companies emphasizing different quality control and management approaches can be classified into four broad categories: inspection, Statistical Quality Control, quality assurance, and strategic quality management (Lau, Zhao *et al.*, 2004; Yeung, Cheng *et al.*, 2006). According to Garvin (1984), the first stage in pursuing QMs is an approach to Quality that emphasizes the involvement and commitment of every employee in an organization in order to provide quality products and services to the satisfaction of their customers

Quality is not only a measure of product quality and its technical aspects; it also concerns the processes in the company or organization that ultimately satisfy customers. Therefore, QMS is a means to streamline production but, most importantly, also to create satisfied and hopefully faithful customers. The customers are the judges of the company and it should be remembered that there are customers both inside and outside the company (Ljungstrom, M., and Klefsjo, B., 2003). Customer-focus is a central tenet of market orientation; it is a set of beliefs that puts the customer's interest first but does not exclude those of all

other stakeholders such as owners, managers, and employees, in order to develop a long-term profitability (Nwokah and Maclayton, 2006).

Maseno University being an institution of higher learning focuses on students as its main customers. From the research, the results on the regression analysis shows that the presence of QMS significantly determines the students' enrolment.

The results of the study indicate that the factors affecting the QMS implementation on performance; based on Maseno University productivity and infrastructural growth is in line with the people involvement and process approach to management. People involved being the employees in the implementation process is said to give hand towards perfection in the implementation procedures.

*Table 4.2. Regression Model.*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.721a	0.615	0.485	0.591

Predictors: (constant), customer focus, employee productivity, process approach to management and infrastructural growth  
 Dependent variable. Students' enrolment  
 Source: survey Data, 2013

The coefficient of determination (R square) for the model is 0.615 indicating that the implementation of QMS was important in explaining 61.5% of the infrastructural growth in Maseno University, and the other 38.5% of the students enrolments can be explained by other factors outside the model, this may include; government requirements and also the institution management policy.

The results of the regression analysis in table 4.2 were used to estimate the regression model as shown below;  $y = 1.1740 + 0.097X_1 + 0.112X_2 + 0.375X_3 + 0.078X_4$

Where:

X1 = Customer Focus

X2 = Employee Productivity

X3 = Process Approach to Management

X4 = Infrastructural Growth

**4.5. Infrastructural Growth**

The study findings indicated that the infrastructural growth had been improving since the certification stage. This can either be felt directly or indirectly by the customers.

*Table 4.3. Regression Model.*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.637a	0.398	0.383	0.656

Predictors: (constant), customer focus, employee productivity, process approach to management and infrastructural growth  
 Dependent variable. Productivity  
 Source: Survey Data, 2013

The results of the regression show that the implementation of QMS significantly determines infrastructural growth. The coefficient of determination (R square) for the model is 0.398 indicating that the implementation of QMS was important in

explaining 39.8% of the infrastructural growth in Maseno University, and the other 60.2% of the institutional infrastructural growth can be explained by other factors outside the model, this may include; global market competitions, government requirements and also the institution management policy. This study can be accepted because from the QMS principles, continual improvement Continual of the organization's overall performance should be a permanent objective of the organization. The estimated model between the relationship of QMS implementation and infrastructural growth shows that there is a positive relationship between the variables; a slight improvement on the QMS principles by a unit causes the involvement increases by 1.981units

The coefficient of determination (R square) for the model is 0.398 indicating that the implementation of QMS was important in explaining 39.8% of the infrastructural growth in Maseno University, and the other 60.2% of the institutional infrastructural growth can be explained by other factors outside the model, this may include; global market competitions, government requirements and also the institution management policy.

The results of the regression analysis in table 4.3 were used to estimate the regression model as shown below;  $y = 1.981 + 0.757X_1 + 0.783X_2 + 0.795X_3 + 0.018X_4$

Where:

X1 = Customer Focus

X2 = Employee Productivity

X3 = Process Approach to Management

X4 = Infrastructural Growth

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