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## Influence of Quality Management System Practices on Performance of Private Universities in Kenya

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### **Abstract:**

*Service quality is a key antecedent to customer satisfaction and that quality service is considered as an essential strategy for success and survival in today's competition (Wirtz, 2008). Internal Quality Assurance emphasizes the development of each institution's statements of expected outcomes and its own means of gathering evidence of their achievement. The main objective of the study was to analyze the influence of quality management system practices on performance of selected private universities in Kenya. The study adopted system theory, total quality management theory, balance Score Card theory and Strategic Clock Model as the main theories and models of the study. The study targeted 18 Chartered Private Universities in Kenya. People to be targeted will be 245 Deans and Employees Working in Quality Assurance Departments of the 18 Chartered Private Universities in Kenya and 170 third and fourth year students in the 17 Chartered Universities. Further, the study will apply sampling formula by Yamane (1967) to arrive at the 153 Deans and Employees Working in Quality Assurance Departments a sample size appropriate for the study. The number of students was arrived at through cluster sampling. Both the students and university employees will be subjected to questionnaires and interview guides. Descriptive statistics was used to analyze the data collected. Closed questions will be analyzed through the help of the Statistical Package for Social Sciences (SPSS) computer software by assigning numbers to responses for analysis of qualitative data, as it is efficient. Open ended questions were analyzed through percentages, frequencies, tables and bar graphs. The inferential statistical method used in the study was simple linear regression and multiple regression analyses. The study established that quality management system influenced performance of private universities in Kenya.*

**Keywords:** *University performance, quality management system, quality management feedback, total quality management, international standard organization*

### **1. Introduction**

Service quality is a key antecedent to customer satisfaction and that quality service is considered as an essential strategy for success and survival in today's competition (Wirtz, 2008). Yap (2012) empirical findings suggested that almost half of the satisfaction experienced by customers is from perceived service quality, such as recent consumption experience of associated service like customer service. Oghenekohwo (2007) & Iyunade (2007) argued that for private universities to sustain competitiveness and profitability, they need to focus on attracting new students and also retaining old ones. This is why quality has become a significant concern for universities in different countries as they have become interested in improving the quality of their products and services. This entails setting new goals, using mechanisms such as government policies, quality control, quality assurance and its management (Harvey, 2005). Meeting these kinds of goal requires several types of planned approach, including quality planning, dedicated towards satisfying the users (Stensaker, 2011).

Quality Assurance procedures can be divided into two namely, internal quality assurance and external quality assurance. Many authors have attempted to give a definition and function of each type of quality assurance procedure. Internal Quality Assurance (IQA): According to Ogula (2009), each university is responsible for internal quality assurance and should establish a quality assurance policy and internal quality control and improvement procedures.

#### *1.1. Internal Quality Management System*

Total quality management in higher education has been an important agenda in many countries for the last several years. Quality management is a necessary strategy for the development of the higher education because it develops the human resources and professionals for future. According to Ali (2010), World Bank recently revealed, after a

study in 190 countries, that higher education produces quality professionals. Therefore, higher education is an investment to improve the quality of life. There is a clear link between the education and economy.

Each institution could define and implement a quality assurance system according to its specific mission, goals and institutional culture (Santos 2011). Recent research (Cardoso, Rosa, and Videira 2015) found that, despite the freedom institutions had to implement self-tailored internal quality assurance systems; these are highly similar in Portuguese institutions, with much the same structural and managerial components. The implementation was undertaken based on some non-prescriptive guidelines from the Agency.

Additionally, scholar's in private institutions were more positive about the consequences of internal quality assurance on teaching and learning than their counterparts in the public sector. This finding should be interpreted in the light of what is known about the private sector in Portugal, which invested less in teaching staff qualifications and the quality of programmes during its expansion. The study also proposed three hypotheses, namely that: (i) the existence of formal systems of quality assurance, (ii) the involvement of teaching staff in the development of internal quality assurance and (iii) the use of information to improve teaching and learning (Orlando, 2017).

The study findings established that top management commitment was statistically significant. Top management are key in determining how the organization's resources are allocated in order to realize performance. It is the role of the top management to define the vision, mission and goals that promote quality culture and establish a set of shared values, leading to improved performance. The findings also revealed that organizational capability partially mediated the relationship between quality management practices and performance. This implies that organizational capability plays a role in influencing performance. Therefore, the study concludes that employee empowerment, systems integration and quality culture need to be non-substitutable and inimitable for improved performance (Wanyoike, 2016).

Kaziliunas (2010) study noted that success factors for quality management systems include continuous improvement of processes, top management, people and systems, reward systems, team, motivational factors and education and training. The study findings deduced that there is a relationship between the values and requirements stated above, thus underpinning the quality management practices standard and organizations' strategic dimensions. The study concluded that education and training of employees is another way of providing employees with the knowledge and skills to meet their overall work and personal objective. If carried out consistently and reinforced in the workplace by real-time updating, education and training, it can form a solid base for continuous improvement.

### *1.2. Private University Performance*

The starting point for the ranking of universities and higher education institutions is normally regarded as the early 1980s, when the U.S. News and World Report magazine published a ranking of American universities. The fact is, however, that the ranking of higher education institutions may be observed much earlier than this. Such institutions were already being classified in 1870 in the United States, and various rankings were subsequently performed sporadically throughout the 20th century (Shah & Swaminathan, 2008).

The first media ranking of universities and higher education institutions was published by the Chicago Tribune in 1957. However, the U.S. News and World Report's rankings in 1983 and the Fiske Guide to Colleges in 1982 marked the start of considerably more extensive ranking activities in the higher education sector (Shah & Swaminathan, 2007). Ranking includes vetting the relative performance of academic programme or higher education institutions against a set of objective criteria such as research output by the institution, number of students and perceptions from employers. The purpose of this process is to help students make informed decisions regarding their educational future by providing comparable information on the quality of higher education institutions (American Society of Quality, 2013). A tertiary institution is only as good as the quality of its teaching staff; they are the heart of the institution producing its graduates, its research products, and its service to the institution, community, and nation (Hayward, 2006). Although institutions for higher education, training and learning in Kenya produce a considerable proportion of labour force they remain poorly ranked. Universities are considered to be centers of excellence in education, training and learning.

The poor situation of teaching staff compounded with their low payments, does not allow them to get committed to providing quality performance. Crude methods of teaching that lecturers use in resource limited environments negatively impacts lecturers' output, quality of research and publication (UNESCO, 2008). In an open academic environment, the web presence reflects the higher education institutions as a whole. Not only the organization, structure, history or values are included, but the Web is key for all the missions of the university.

Ranking systems of universities exists around the world and still capture further interest and attention of the people for quality assurance and improvement purposes. Internationally both institutions and programme ranking is done by concerned quality assurance agencies as well as the press (Liu & Cheng, 2005). Webometrics ranks institutions of higher learning in the world annually based on openness, impact, presence and excellence. Webometrics research is based on correct, comprehensive, deep evaluation of the university global performance (World Bank, 2009).

### *1.3. Statement of the Problem*

Quality education in Kenyan universities is the responsibility of all university managers. Individual universities are under obligation to develop their own internal quality assurance policies and strategies based on the CUE guidelines to make them offer quality education services and become competitive locally and internationally (CUE, 2014). The commission established the quality guidelines in an attempt to address many questions raised about the standard of university education in Kenya. It is expected that the introduction of the CUE guidelines on standards and internal quality assurance practices, as well as adoption of competitive strategies should improve performance of a university (Ogula, 2002). The demand for university education in Kenya has significantly increased and continues to swell. Many qualified

students continue to look for opportunities to pursue university education. This scenario has been considered a revenue stream and a business opportunity to entrepreneurs in private higher education. This has led to establishment of several private universities in the country. In the midst of the focus on revenue generation by private universities, internal quality assurance practices and specific focus on competitive strategies may have been ignored. This is affirmed by the latest Webometrics worldwide ranking of 2017 that indicates that Strathmore University currently is the best performing private university in Kenya, and is ranked position 6 in Kenya, 162 in Africa and a distant position 4824 in the world. This is an indicator of underperformance. It is not clear, going by the paltry studies on this area, whether internal quality assurance practices as stipulated by CUE guidelines and standards or competitive strategies adopted by the chartered private universities in Kenya influences its performance. Therefore, the current study rides on this academic paucity to interrogate the influence of internal quality assurance practices on performance of private universities in Kenya which is the main objective of the study. The study hypothesises that quality management system practices do not influence performance of private universities in Kenya.

## 2. Conceptual Framework

A conceptual framework is a logically developed, described and elaborated network of interrelationships among variables integral in the dynamics of a situation being investigated (Mugenda & Mugenda, 2003). The study adopted a conceptual framework whose aim is to show how dependent variables are related to the independent variables to keep the research work focused on the objectives of the study. The independent variables are quality management system practices, whereas the dependent variable is university performance measured by relevant programmes, student's graduation rate, students job absorption, patented research, student's enrollment and ranking in Webmatic. The aim of the study is to establish whether internal quality assurance practices adopted have influenced private university performance.

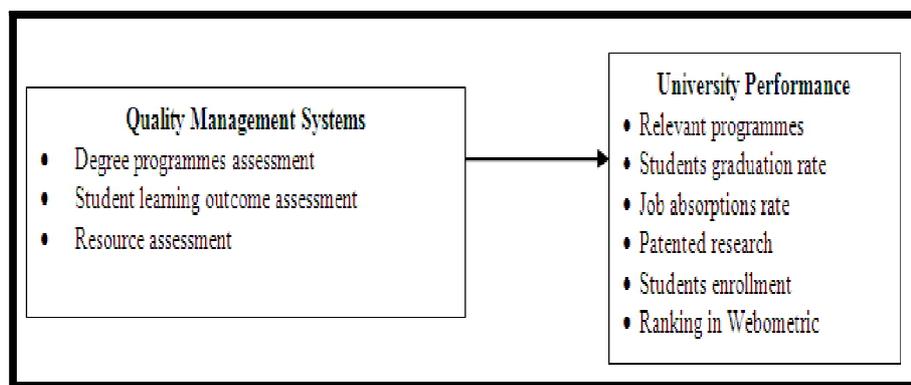


Figure 1: Conceptual Framework

## 3. Research Design

The study adopted a descriptive survey research design. Descriptive study is concerned with finding out who, what, where and how of the variables of the concerned research. According to Orodho (2002), descriptive survey design as claimed by Luck & Rubin (1992) allows the researcher to gather the information, summarize, present and interpret for the purpose of clarification. The target population for this study comprised of 248 employees working in the Directorate of Quality Assurance in the participating universities, the deans of faculties and schools who gave information on IQA policy content and competitive strategies adopted.

The study models were as follows;

$$Y = \beta_0 + \beta_1 X_1 + \epsilon$$

Where,

Y = Performance

X<sub>1</sub> = Quality management systems

ε = Random or error term

## 4. Findings and Discussions

### 4.1. Descriptive Statistics on QMS and University Performance

QMS	SA (%)	A (%)	N (%)	D (%)	SD (%)
Programme assessment	1	2	1	63	33
Learning assessment	3	9	2	29	57
Resource assessment	4	7	6	41	42
Staff assessment	2	1	3	61	33
Procedure assessment	1	2	8	62	27
Independent QA	2	8	3	34	53
Collaboration	26	64	2	4	4
QA linked to university purpose	28	53	4	7	8
QA for innovation & development	28	38	25	3	6
IQA linked to university culture	19	46	16	11	2
Employees training on IQA	10	11	22	22	35
Programmes innovation	2	1	4	53	40
University carries out QMI	3	9	4	29	55
Benchmarking	4	5	8	55	28
Trainings for improved delivery	2	1	3	51	43

Table 1: Descriptive Statistics on Universities QMS

Source: Field Data (2018)

The results on the descriptive statistics of quality management systems in private universities in Kenya are presented in table 4.8. The results revealed that majority of respondents 96% disagreed that the University carried out degree programmes assessment every five years after end of cohort compared to 3% who agreed and 1% which was neutral. Findings on learning assessment revealed that majority of respondents 86% disagreed that the University carried out students learning outcome assessment on a semester / yearly basis compared to 12% who agreed and 2% who were neutral. Majority of respondents 83% disagreed that the University carries out resource assessment every financial year / academic year compared to 11% who agreed and 6% who were not sure.

Further findings on university staff assessment established that majority of respondents 94% disagreed that the University carried out staff qualification and delivery assessment every financial year / academic year compared to 3% who agreed and were not sure respectively. This finding is supported by the fact that QMS has a significant moderating influence on administrative systems and that this has a direct positive impact on the performance of the Kenyan public universities. This means that all public universities require embracing the culture of sound QMS processes in the developing of vision and mission statements to strategically guide the operations of the universities towards greater heights in performance that will rival public universities. The functions require strong monitoring systems that will ensure that strategic objectives of the universities are realized; there is need to develop sound mechanisms of communicating all university matters to all stakeholders; and that all staff (both teaching and non-teaching staff) are adequately involved in the development, implementation and maintenance of all QMS and Administrative systems that will ensure high performance of the universities (Mokamba, 2015). Majority of respondents 89% disagreed that the University carried out internal procedure assessment every financial year / academic year compared to 3% who agreed and 8% who were not sure.

Findings on independent quality assurance established that majority of respondents 87% disagreed that the University has established interdependent quality assurance units / teams compared to 10% who agreed and 3% who were not sure. Further findings on Collaboration with other QA institutions established that majority of respondents 90% agreed that the university Collaborated with other quality assurance bodies such as CUE, ISO compared to 8% who disagreed and 2% who were neutral.

Concerning QA linked to university purpose, the study established that majority of respondents 81% agreed that the universities linked quality to overall purpose compared to 15% who disagreed and 4% who were neutral. This finding is supported by the fact that Each institution could define and implement a quality assurance system according to its specific mission, goals and institutional culture (Santos 2011). The findings on linking QA to university purpose is further supported by the fact that top management are key in determining how the organization's resources are allocated in order to realize performance. It is the role of the top management to define the vision, mission and goals that promote quality culture and establish a set of shared values, leading to improved performance. The findings also revealed that organizational capability partially mediated the relationship between quality management practices and performance. This implies that organizational capability plays a role in influencing performance. Therefore, the study concludes that employee empowerment, systems integration and quality culture need to be non-substitutable and inimitable for improved performance (Wanyoike, 2016). Findings on top management commitment is supported by Mono and Kasongo (2011) carried out a study in 2011 in Zambia. They found out that top management commitment and availability of resources were some of the factors that lead to successful implementation of TQM in Zambian tourist sector. Locally, Karani and Bichanga (2012) found out that effective management leads to improved performance hence a need to put more emphasis on all TQM principles. Something worth noting is that all the above studies focused more on TQM

implementation and relationship of TQM practices and any one of the market strategies. Other scholars such as Maina (2012) concluded that, total quality brings forth competitive advantage. Awino, Maina Ogutu and Kerubo (2012) also observed that total quality has a strong and positive impact on competitive advantage. In the Kenyan context, it is discovered that the level of implementation of total quality is low. However, those implementing total quality are getting benefits similar to those in developed countries. However, there are contradictions in studies conducted in developing countries (Karani & Bichanga, 2012). Further findings on QA for innovation revealed that majority of respondent 66% agreed that universities' Quality Assurance policy was linked to vision and mission of the university compared to 25% who were neutral and 11% who disagreed. Majority of respondents 65% agreed that the University employs quality assurance policy for Innovation and development projects.

Further findings on IQA linked to university culture revealed that majority of respondents 65% agreed that the University organizational culture is linked to IQA policy compared to 16% who were neutral and 13% who disagreed. This finding is supported by the fact that, scholar's in private institutions were more positive about the consequences of internal quality assurance on teaching and learning than their counterparts in the public sector. This finding should be interpreted in the light of what is known about the private sector in Portugal, which invested less in teaching staff qualifications and the quality of programmes during its expansion. The study also proposed three hypotheses, namely that: (i) the existence of formal systems of quality assurance, (ii) the involvement of teaching staff in the development of internal quality assurance and (iii) the use of information to improve teaching and learning (Orlando, 2017). Findings on IQA training reveal that slightly more than half of respondents 57% disagreed that the University carried out employees training on Internal Quality Control every financial / academic year compared to 22% who agreed and were neutral respectively.

Findings on programme innovation reveal that majority of respondents' 93% disagreed that the University carries out programmes innovation compared to 3% who agreed and 4% who were neutral. Further findings on QMI reveal that majority of respondents 64% disagreed that the University carried out Quality Measurement Improvement compared to 12% who agreed and 13% who were neutral. This finding is supported by the fact that an organisation can base their QMS on the ISO 9000 series, with all the requirements on the system pinpointed in the ISO 9001 standard (ISO, 2014). The ISO 9001 standard could on the other hand be used for guidance on the QMS audits. The purpose of quality audits is to make sure that the processes in the organisation are constructed and followed to deliver the contracted value to the customer (Wealleans, 2000). Each performed audit leads to some audit findings that either indicate conformity or nonconformity with audit criteria. The finding on quality audit is further supported by the fact that Internal auditing handles quality issues well. Hirth (2008) also indicates that an organisation with good internal audits, which embrace leading practices, meet expectations and fulfils the strategic goals set by management, generally has better control than other organisations. Other Scholar's points out that this does not mean that it is enough with good internal audits; it will only increase the chance of better controls. Besides already stated benefits, auditing is still superior with respect to identification of overall systematic failures, reliability and consistency of result because of the more holistic approach (Karapetrovic & Willborn, 2002). The findings on QMS is further supported by The QMS commitment includes several tasks, such as addressing quality standards and governmental requirements and to ensure that each department fulfills these requirements. The QMS also support and push the organization to meet applicable quality assurance (QA) requirements stipulated by government, sub-contractors and customers. All changes applied to the QMS are reviewed, evaluated and approved by the General Management (GM) (Brassart, 2013). The constant strives to enhanced quality is important to develop the company and its products or services. Further findings on QMS is supported by Kaziliunas (2010) study noted that success factors for quality management systems include continuous improvement of processes, top management, people and systems, reward systems, team, motivational factors and education and training. The study findings deduced that there is a relationship between the values and requirements stated above, thus underpinning the quality management practices standard and organizations' strategic dimensions. The study concluded that education and training of employees is another way of providing employees with the knowledge and skills to meet their overall work and personal objective. If carried out consistently and reinforced in the workplace by real-time updating, education and training, it can form a solid base for continuous improvement. Findings on benchmarking reveals that majority of respondents 83% disagreed that the University carried out Benchmarking with international bodies and other universities compared to 8% who agreed and 9% who were neutral. Finally, majority of respondents 93% disagreed that the universities carries out training to improve delivery of services and academic programs compared to 3% who agreed and were neutral respectively.

Findings on QMS in universities is supported by Mokamba (2015) carried out a study on influence of quality management system on the relationship between internal factors and performance of Kenyan Public Universities. The study established that QMS has a significant moderating influence on funding mobilization systems and that this has a direct positive impact on the performance of the Kenyan public universities.

This means, therefore, that for Kenyan public universities to realize the dreams of a majority of Kenyans as envisaged in the country's vision 2030 and the Kenyan Constitution of 2010, there is need to inculcate the Quality Management System which has been known to provide guidance in producing good results. Funding mobilization plans must not be seen as the work of the top management alone; otherwise implementation of the Quality Management System and realization of enhanced performance will be futile. Involving everyone in the implementation diversification of funding strategies, and the use of QMS as a vehicle will avoid process owners from reacting to change and instead be proactive in the process. As a result of being pro- active, stakeholders will be motivated in working towards the improvement of the university as well as provide strong incentives to employees and management to achieve universities' state vision and mission (Mokamba, 2015).

Other scholar whose study supports findings on QMS in university is a study conducted by Sayeda, Rajendran and Lokachari (2010) explored the adoption of quality management practices in engineering educational institutions (EEIs) in India from management's perspective. The study adopted a descriptive research design and used questionnaires as instruments for data collection based on a literature review of research in quality management and based on the responses of the pilot survey among senior faculty/management staff. The psychometric properties of this instrument examined using tests of reliability and validity. Correlation and multiple regression analyses were used to analyze the impact of total quality management (TQM) dimensions on institutional performance effectiveness. The findings of this study highlighted 27 critical factors/dimensions of quality management which influenced the relationships between QMS dimensions and institutional performance.

These critical factors/dimensions of quality management included, top management's commitment to institutional processes, strategic planning and execution, support infrastructure (external and internal services), core infrastructure (facilities and layout), Human resources excellence (faculty and staff focus), student academic development (programme development), Research and development, continuous improvement, exposure (networking) and other factors. Among the conclusions of this study was the fact that institutional performance should be based on five key elements namely; institutional reputation and image, infrastructure quality, faculty excellence, research and industry exposure, and stakeholder (internal and external) satisfaction.

Performance Indicator	SA (%)	A (%)	N (%)	D (%)	SD (%)
Relevant programmes	60	25	0	9	6
Graduation rate	29	43	16	9	3
Absorption job market	32	57	2	4	5
Patented research and innovation	40	52	1	4	3
Enrollment rate	60	35	0	3	2
Webometric ranking	47	41	2	3	7
Service quality index	48	39	3	6	4

Table 2: Descriptive Statistics for Private Universities Performance Indicators  
Source: Field Data (2018)

Table 4.13 presents the results of the descriptive statistics for private universities performance indicators. Concerning relevance of the programmes in private universities in Kenya, the study established that majority of respondents 85% agreed that the programmes offered by private universities in Kenya were relevant to job market compared to 15% who disagreed. Findings on graduation rate reveal that majority of respondents 72% agreed that students' graduation rate is high in the private universities compared to 16% who were neutral and 15% who disagreed. Findings on absorption in the job market reveals that majority of respondents 89% agreed that student's absorption to job market was assured compared to 9% who disagreed and 2% who were neutral. Further findings on patented research and innovation reveal that majority of respondents 92% agreed that patented research and innovations are many in private universities in Kenya compared to 7% who disagreed and 1% who were neutral. Findings on enrollment rate reveal that majority of respondents 95% agreed that there was an increase enrollment in diverse programmes in private universities in Kenya compared to 5% who disagreed. Findings on Webometric Ranking reveal that majority of respondents 88% agreed that private universities in Kenya were well ranked in the webometric ranking compared to 10% who disagreed and 2% who were neutral. Last, findings concerning service quality index reveal that majority of respondents 87% agreed that private universities in Kenya were highly ranked in service quality index compared to 10% who disagreed and 3% who were neutral.

This finding reveals that performance index of the private universities in Kenya was favorable. This was evident with high performance in the following areas; programmes offered by private universities in Kenya were relevant to job market. Students' graduation rate is high in the private universities and their absorption to job market is assured leading to higher reenrollment rate, favourable ranking in Webometric Ranking and also high service performance index.

Findings on Webometric Ranking is supported by the fact that Universities being institution for generating and dissemination of knowledge for socio-economic and technological development of a country can be measured in terms of knowledge generated and disseminated worldwide. Such a complex performance measurement is done by third parties like Webometrics and published in the world wide web (Harvey, 2010).

Findings on ranking of university patents and innovation is supported by the fact that the phenomenon of university rankings has influenced deeply all university systems, even those that were not conceived at first to establish a competitive framework. Therefore, in order to analyze the success or failure of different countries in their research policy, university systems should be assessed as a whole, and not considering each university as an individual and autonomous unit. Such approach was applied by Docampo (2011) using the Shanghai Ranking in order to analyze the university systems of the countries represented.

Although when ranked nationally, private universities may be fairly ranked but globally poorly ranked. This is supported by the fact that to be a world-class university in the agricultural science, achieving top 100 of global rankings on agro-subject areas (top 20) and top 100 of global rankings for universities (top 500) is necessary (Liu, 2015). Although

institutions of higher education, training and learning in Kenya produce a considerable proportion of labour force they remain poorly ranked internationally. Ranking systems of universities exists around the world.

#### 4.2. Test of Predictor Variable $X_1 = \text{Quality Management Systems}$

This section presents regression results of predictor variable  $X_1 = \text{Quality Management Systems}$  with university performance. The analyzed variables of the dependent variable were; programmes relevance, students graduation rate, students absorption to job market, patented research and innovations, increase in enrollment, webometric ranking and service quality index whereas the analyzed variables for the predictor variable  $X_1 = \text{Quality Management Systems}$  include; degree programme assessment, students outcome assessment, resource assessment, Staff qualification and delivery assessment, internal procedure assessment, established interdependent quality assurance units, collaborate with other quality assurance bodies, linkage quality assurance to university purpose, Linked to vision and mission of the university, quality assurance for innovation, organizational culture linkage to IQA policy, training on internal quality, programme innovation, quality measurement improvement, benchmarking with international bodies and training to improve quality.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.533 <sup>a</sup>	.284	.167	.52033

Table 3: Model Summary

The R value was 0.533 with the  $R^2$  was 0.284, which indicated an average degree of correlation. The  $R^2$  value indicates 28.4% was the R Squared, indicating that that the data collected was closely fitted to the regression line between the independent and dependent variables.

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	7.204	11	.655	2.419	.013 <sup>b</sup>
	Residual	18.140	67	.271		
	Total	25.344	78			

Table 4: ANOVA

Predictors: degree programme assessment, students' outcome assessment, resource assessment, Staff qualification and delivery assessment, established interdependent quality assurance units, collaborate with other quality assurance bodies, linkage quality assurance to university purpose, Linked to vision and mission of the university, quality assurance for innovation and organizational culture linkage to IQA policy.

Table 4.13 indicated that the regression model predicted the outcome variable significantly with  $p=0.013$ , which was less than 0.05, and indicated that; overall, the model statistically and significantly predicted the outcome variable.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.524	.880		4.007	.000
	Degree programmes assessment	.142	.132	.173	1.080	.284
	Learning outcome assessment	-.320	.163	-.423	-1.966	.053
	Resource assessment	.282	.131	.402	2.146	.035
	Delivery assessment	-.068	.095	-.089	-.715	.477
	Internal procedure assessment	.012	.085	.021	.144	.886
	Interdependent quality units	-.099	.059	-.229	-1.660	.102
	Collaborate with other bodies	.070	.144	.089	.489	.626
	Linking quality to overall purpose	-.511	.156	-.768	-3.275	.002
	Linked to vision and mission	.030	.117	.037	.259	.797
	Quality policy for Innovation	.320	.139	.438	2.307	.024
	Culture linked to IQA policy	.307	.129	.378	2.388	.020

Table 5: Full Regression Model for QMS

The first hypothesis of the study  $H_{01}$  was stated as quality management system practices does not influence performance of private universities in Kenya. The study established insignificant relationship between the university carries out degree programmes assessment every five years after end of cohort with university performance,  $r=0.142$ ,  $p=0.284 > 0.05$  indicating that caring out degree programmes assessment every five years after end of cohort did not influence private universities performance in Kenya. Further findings on learning outcome assessment established insignificant relationship between the university carrying out students learning outcome assessment on a semester / yearly basis and university performance,  $r=-0.320$ ,  $p=0.053 > 0.05$  indicating that university carrying out students learning outcome assessment on a semester / yearly basis did not influence private university performance in Kenya. Concerning resource assessment, the study established significant relationship between the university carrying out resource assessment every financial year/ academic year and university performance,  $r=0.282$ ,  $p=0.35 < 0.05$ . Findings on delivery

assessment established insignificant relationship between universities carrying out staff qualification and delivery assessment every financial year / academic year and university performance  $r=-0.068$ ,  $p=0.477>0.05$  indicating that universities carrying out staff qualification and delivery assessment every financial year / academic year did not influence private university performance in Kenya.

Further findings on internal procedure assessment established insignificant relationship with performance  $r=0.012$ ,  $p=0.886>0.05$  indicating that internal procedure assessment did not influence university performance in Kenya. Findings on establishment independent quality unit established insignificant relationship with university performance  $r=-0.099$ ,  $p=0.102>0.05$  indicating that establishment of independent quality unit did not influence university performance. Concerning collaboration with other bodies, the study established insignificant relationship with performance,  $r=0.070$ ,  $p=0.626>0.05$  indicating that collaboration with other bodies did not influence university performance. Findings on linkages to overall university purpose established significant but inverse relationship with university performance  $r=-0.511$ ,  $p=0.02$  indicating that linkages to overall university purpose inversely influenced university performance but linkage with university vision and mission had insignificant relationship with performance.

Findings on quality policy for innovation established significant relationship between the universities employing quality assurance policy for Innovation for development projects and university performance,  $r=0.320$ ,  $p=0.024<0.05$  indicating that universities employing quality assurance policy for innovation for development projects positively influenced private university performance in Kenya. Finally, findings on university culture linked to IQA policy established significant relationship between universities organizational culture linked to IQA policy and university performance,  $r=0.307$ ,  $p=0.020<0.05$  indicating that universities organizational culture linked to IQA policy influenced private universities performance in Kenya.

This finding is supported by the fact that QMS has a significant moderating influence on administrative systems and that this has a direct positive impact on the performance of the Kenyan public universities. This means that all public universities require embracing the culture of sound QMS processes in the developing of vision and mission statements to strategically guide the operations of the universities towards greater heights in performance that will rival public universities. The functions require strong monitoring systems that will ensure that strategic objectives of the universities are realized; there is need to develop sound mechanisms of communicating all university matters to all stakeholders; and that all staff (both teaching and non-teaching staff) are adequately involved in the development, implementation and maintenance of all QMS and Administrative systems that will ensure high performance of the universities (Mokamba, 2015).

Other support to the finding is that QMS has a significant moderating influence on infrastructure systems and that this has a direct positive impact on the performance of the Kenyan public universities. This means that all public universities require to embrace the culture of sound QMS processes in developing; well established and equipped libraries for information and knowledge; laboratories and workshop centers for carrying out innovative experiments; adequate and well furnished lecture halls to meet the needs of all the students; adequate accommodation facilities to cater for all the students and thus motivate them to concentrate of their studies; clear communication guidelines between students, leadership, lecturers and support staff to enhance cohesion and a common approach to critical university matters; and pay greater attention to inculcating QMS in all their infrastructural systems and processes. Adopting these conclusions will significantly enhance performance of the Kenyan public universities (Mokamba, 2015).

QMS has a significant moderating influence on Admission systems and that this has a direct positive impact on the performance of the Kenyan public universities. This means that all public universities require embracing the culture of sound QMS processes in all their admission and enrollment processes. In particular, the Kenyan public universities require to ensure that; there are well established, documented and communicated clear enrollment and admission guidelines and ensure all training programmes offered are dully approved by a legally recognized and accredited government authority. To compete favourably in the dynamic world, universities should ensure that there is continual diversification of their training programmes in order to attract many students at the same time meet the growing industry demands. The universities need to establish, document and communicate clear outlines for admission for all the programmes offered; and also develop good record management systems as part of QMS and the improvement of performance (Mokamba, 2015).

This study established that QMS had a significant moderating effect on each of the individual internal factors. This study thus concludes that QMS make a direct and significant impact on the performance of Kenyan public universities. Thus, every effort needs to be made to implement effective QMS systems at functional levels, Admission, administrative processes, funding, infrastructure, research and other functional; areas to be influenced by QMS as a vehicle to good performance. QMS is not an option in the effective management of universities (Mokamba, 2015).

A study conducted by Sayeda, Rajendran and Lokachari (2010) explored the adoption of quality management practices in engineering educational institutions (EIs) in India from management's perspective also supports the findings. The study adopted a descriptive research design and used questionnaires as instruments for data collection based on a literature review of research in quality management and based on the responses of the pilot survey among senior faculty/management staff. The psychometric properties of this instrument examined using tests of reliability and validity. Correlation and multiple regression analyses were used to analyze the impact of total quality management (TQM) dimensions on institutional performance effectiveness. The findings of this study highlighted 27 critical factors/dimensions of quality management which influenced the relationships between QMS dimensions and institutional performance.

The Hypothesis that  $H_{01}$ : Quality management system practices does not influence performance of private universities in Kenya was therefore rejected and alternate hypothesis that  $H_{A1}$ : Quality management system practices

influences performance of private universities in Kenya was accepted. This was because of the established significant relationship between; university resource assessment, linking quality to overall purpose, universities employing quality assurance policy for innovation for development projects and universities organizational culture linked to IQA policy which influenced private universities performance in Kenya.

## 5. Conclusions and Recommendations

The first hypothesis  $H_{01}$ : Quality management system practices does not influence performance of private universities in Kenya was therefore rejected and alternate hypothesis that  $H_{A1}$ : Quality management system practices influences performance of private universities in Kenya was accepted. This was because of the established significant relationship between; university resource assessment, linking quality to overall purpose, universities employing quality assurance policy for innovation for development projects and universities organizational culture linked to IQA policy which influenced private universities performance in Kenya.

First, the study recommends that that private universities in Kenya need to strengthen the quality assurance policy by re-organizing independence of internal quality systems to achieve checks and balances of university operations. Without such systems it is not easy to gauge universities performance and make the universities fail to achieve its objectives. Secondly, feedback mechanisms of quality assurance reports also need to be enhanced especially developing efficient communication channels and publishing quality audit reports for improvement of university performance. Third, private universities need to enhance their differentiation strategies in order to remain competitive. Programmes should be differentiated; processes also need to be differentiated to make the universities outstanding. Fourth the universities need carry out more collaborations with international universities and research institutions in order to learn and make their campuses centre of academic excellence.

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