



RESEARCH ARTICLE

INFLUENCE OF ISO 9001:2008 QUALITY MANAGEMENT SYSTEMS ON ACADEMIC STAFF'S SERVICE DELIVERY IN TEACHING IN PUBLIC UNIVERSITIES: AN ANALYTICAL STUDY

¹Zilpah Kageha Andiva and ^{2,*}Enose M.W. Simatwa

¹Department of Educational Management and Foundations, Maseno University

²Department of Education Policy and Management, Tom Mboya University College, A Constituent College of Maseno University

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ABSTRACT

The adoption of International Organization for Standardization (ISO) 9001:2008 Quality Management Systems in education has become a debated issue on whether or not the certification is appropriate for the Education sector. Some scholars consider its adoption as a strategic decision by educational institutions to ensure delivery of quality service therein while others do not. Complaints by some academic staff in public universities in Kenya on the impact of ISO 9001:2008 quality management systems on teaching casts doubt on their level of satisfaction with it based on non conformities. For instance between 2012 and 2015 one of the public universities recorded 340 non-conformities and another 360 which were higher than those recorded in other certified public universities. That is, the other certified public universities recorded below 270 non-conformities in teaching. The objective of this study therefore was to establish the influence of ISO 9001:2008 quality management system on academic staff's service delivery in teaching in public Universities in Kenya. The two public universities that had the highest non conformities were used as the site for the study. The study established that ISO 9001:2008 quality management systems had significant influence on teaching on academic staff's delivery in teaching such that for every one unit increase in ISO 9001:2008 quality management system conformity in teaching, improved service delivery in teaching .882 units. This means that when non conformities decline there is improvement in academic staff's service delivery in teaching in public universities. ISO 9001:2008 QMS was a significant predictor of academic staff's service delivery in teaching ($F(1,252) = 32.328, P < .05$). The study concluded that ISO 9001:2008 quality management system improved service delivery in teaching in public universities. The study recommended that public universities should strive to minimize non conformities for excellent service delivery. The findings of this study provides information to lecturers, Kenya Bureau of Standards and University management on the way forward in improving teaching in public Universities.

***Corresponding author:**

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INTRODUCTION

The ISO 9001:2008 quality management systems were created by the International Organization for Standardization (ISO) which is an international non-governmental organization based in Geneva Switzerland (Goetsch and Davis, 2002). The founding of International Organization for Standardization (ISO) was part of a global action to rationalize the thousands of conflicting standards of various nations that had been developed after World War II to promote standards in international trade, communication and manufacturing. The family of ISO 9000 standards is made up of four standards, which are: ISO 9000:2005, ISO 9001:2008, ISO 9004:2009 and ISO 9011:2002.

The work of preparing international standards is normally carried out through ISO Technical Committees (Mangula, 2013). Mangula (2013) asserted that adoption and subsequently certification of ISO 9001:2008 has revealed to be the proactive strategy to improve organization performance. The study (Mangula, 2013) found out that quality management systems (ISO 9001) when adopted improved organization performance in terms of quality and quantity (Vol). The study used descriptive survey design where the sample size was 40 respondents randomly selected.) International organization for the standardization has authorized a technical committee called TC 176, comprising of 113 members from different countries to be responsible for preparing, establishing, documenting and maintaining the ISO 9001:2008 standard document. The first

standard was published in 1987. From 1987 until today the standard has been revised three times. The latest one which is being used worldwide is the ISO 9001:2008 standard for the quality management system and the 2008 reflects the publishing year of the standard. An ISO 9000 registration means that an organization's quality management system meets the requirements of the standard as issued by the international organization for standardization. ISO 9000 introduces users to the eight quality management principles as well as the use of the process approach to achieve continual improvement. ISO 9001 is used when you are seeking to establish a quality management system that provides confidence in the organizations ability to provide products that fulfil customer needs and expectations. It is the standard in the ISO 9000 family against whose requirements the quality management system can be certified by an external body. The standard recognizes that the term "product" applies to services, processed material, hardware and software intended for the customer. There are five sections in the standard that specify activities that need to be considered when implementing the system i) overall requirements for the quality management system and documentation ii) management responsibility, focus, policy, planning and objectives, iii) resource management and allocation, iv) product realization and process management and v) measurement, monitoring, analysis and improvement (ISO, 9000).

The objectives of ISO 9000:2000 standards are the systematic pursuit of errors and other adverse outcomes, the reduction of variation and organization waste such as non-value added activities (Adolfas, 2008), provision of a quality framework without changing how the organization operates (ISO, 2009), improve competitive advantage, promote brand image and a useful tool of marketing (Singels, Ruel and Water, 2001), effective quality management that is focused on customer satisfaction and continual improvement of the system through objective evaluation (Hoyle, 2009). If properly implemented certification may be used as a practical step towards introduction of total quality management which is strongly emphasized by the new ISO 9000:2000 edition of the series (Kanji, 1998). One of the emerging philosophies in quality management concepts is Quality Management System applied to organizations, experimented and implemented in institutions of higher learning to provide high quality standards for both industry and education (Ruzevicius, 2007). There is a prevailing belief that higher education has entered a new environment in which quality plays an increasingly important role (Bergman, 1995). Felgenbaum (1994) believed 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. The increasing International recognition of economic, environmental and social importance of International standards are being reflected by the inclusion of standardization as a subject in higher education programmes. The late 1980's saw the introduction of industrial quality concepts such as total quality management in a few education and training institutes. In the early 1990s, some pioneers embraced ISO 9000 and since then there has been increasing evidence that the adoption of total quality management principles and methods including those embedded in the ISO 9000 requirements could be relevant and useful for education and training organizations (Berg, 1996). Education and training organizations seek ISO 9000 certification to improve or maintain the quality of their

education or training provision, promotion of a high quality image with high visibility and credibility, a way of responding to external factors such as customers, governments or funding bodies, a method for developing a full quality assurance system which covers the whole organization and the need to improve a number of specific activities of the organization. Freeman (1993) and Chesterton (1944) believed that the ISO 9000 series of quality standards is one way to upgrade the quality of the schools. Healy (1994) believed that the ISO 9000 series of quality standards clearly defines the scope, goal, responsibility, process system, implementation, supervision and evaluation to effectively establish the quality of the school systems. Sallis and Hingley (1991) pointed out that the implementation of ISO can improve tedious administration procedures at Universities a research gap which this study attempted to fill.

This was in view of the fact that many public universities have acquired ISO 9001:2008 quality management systems certified status (Table 1). Table 1 above indicates the year in which the fourteen (14) Public Universities were ISO 9001:2008 quality management system certified by KEBS and the complaints raised under different variables by the year 2015. It is noted that both E and F had a higher number of complaints raised by the teaching staff under the various variables such as examination processing procedures, curriculum review, teaching process, teaching facilities and processing of University Continuous Assessment tests as outlined above. The non conformities notes raised the issues of influence of ISO 9001:2008 quality management system on the specified variables that were focused on when certification was done. Thus it was necessary to investigate the variance accounted for by ISO 9001:2008 quality management systems so that improvement would be earmarked. This is because some studies posit that ISO 9001:2008 quality management system is not a real valuable tool of improvement on quality education while others assert that ISO 9001:2008 quality management system model is the driver of quality in educational organizations.

Research objective: The research objective was to establish the influence of ISO 9001:2008 on quality management systems on academic service delivery in teaching in public universities in Kenya.

Synthesis of literature on influence of iso 9001:2008 quality management systems on academic staffs' service delivery in teaching: According to Fernandez Chung (2009) quality agencies do not specify details on the minimum standards in teaching quality, as the focus is on the peripherals such as curriculum, minimum teacher qualifications and clarifications of all qualifications in higher education which have been benchmarked internationally. In higher education industry ISO 9001:2008 has been used as one of the indicators for providing quality education (Sohail, et al, 2013). Similarly Karapetrovic, et al (1998) postulated that the implementation of ISO 9000 quality systems has a positive impact on the programs provided by Universities. ISO 9001:2008 specifies the requirements for quality management system which an organization needs to demonstrate consistently in its ability to provide products (or services) that meet customer expectation at the same time adhere to statutory requirements. The objective is to enhance customer satisfaction through effective practice governed by a quality management system as well as assimilating processes for continual improvement of the

system. Various reasons at Universities require implementation of ISO 9001:2008 quality management system standard. These are required to enhance awareness in its employees with respect to document procedure and a proper format for carrying out different functions at various levels as well as to promote standardization in all departments and students satisfaction. Quality in Education enables the students to enhance their skills and abilities by implementing the knowledge through quality education. The students and teachers need to be treated differently by knowing their respective needs. Currently quality education is the critical factor for famous universities and develops an entirely different view of the university management. Institutions should develop multiple ways to satisfy themselves that staff involved with the teaching is qualified and competent (Sareh et al, 2014). There are basically two basic approaches to teaching which are the information transmission /teacher focused and the conceptual change /student focused. The information transmission /teacher focused teaching approach is the teacher centered approach with the intention of transmitting to the students information about the discipline. In this transmission, the focus is on facts and skills, but not on the relationships between them. The prior knowledge of students is not considered to be important and it is assumed that students do not need to be active in the teaching-learning process (Trigwell and Prosser, 2004).

The conceptual change/student focused teaching approach is a student centered approach to help students change their world views or conceptions of the phenomenon they are studying. Students are seen to have to construct their own knowledge and so the teacher has to focus on what the students are doing in the teaching-learning process. A Student focused strategy is assumed to be necessary because it is the students who have to reconstruct their knowledge to produce a new world view or conception. The teacher understands that he /she cannot transmit a new worldview conception to the students. The conceptual teaching strategy includes mastery of techniques including those associated with transmission, but this is an empty display if the students do not learn anything. (Trigwell and Prosser, 2004). In the classes where teachers describe their approach to teaching as having a focus on what they do and on transmitting knowledge, students are more likely to report that they adopt a surface approach to the learning of that subject. While in classes where students report adopting a deeper approaches to learning, teaching staff report adopting approaches to teaching that are more oriented toward students, encourage students to construct their own knowledge, involve the students and challenge the students conceptions and current ideas through questions, discussions and presentations. The teaching philosophy of the lecturer is to teach and help students to learn to maximize their potential and grow as global citizens who demonstrate forward looking in the way they think and do. The Lecturer believes in the student's infinite potential to learn and grow as useful citizens able to contribute towards the nations' development. This belief guides the lecturer by adopting the student-centered approaches to teaching (Trigwell and Prosser, 2004). According to the Commission for University Education (2014) a university should promote highest standard of teaching and learning. A University should institutionalize internal quality assurance mechanism. The Commission for University Education (2014) guidelines on quality of teaching includes: Availability of delivery modes and methods should be employed while promoting creativity and critical thinking in

learning, facilitate lifelong learning through provision of adult and continuing education, keep abreast with current trends in their discipline, latest technologies of teaching and learning, avail themselves for consultation, guidance and mentoring of students. Each university should have quality assurance policy, structures and budgetary provisions. A university should show evidence of promoting quality research and innovation by facilitating its staff to carry out research, having a mechanism of providing incentives to members of staff who undertake research, attract research funds, innovate and /patent and taking into account research activities when determining academic staff workload and documentation and dissemination of its research outputs (Commission for University Education, 2014).

The most commonly cited functions of teaching include enabling the learners to acquire knowledge, skills values and ideals. The functions of teaching in a university is to impart knowledge and skills and help students to develop attitudes, values and ideas. Teaching has an important role to clarify beliefs and attitudes held by people in the society which are not necessarily true. Teaching exposes students to learning experiences by putting them in situations that bring about learning such as learning laboratories, operation theatres, art studios or field trips. Teaching develops team spirit and socializes the students by participating in discussions, debates and group projects. Teaching builds confidence and emotional stability in students (Kiruhi, 2009). The procedure for teaching in the university is as shown in Table 2. The third Surveillance Audit report for one of the two universities used as the site for the study (2013) revealed that, sampled part time lecturers had not been paid which led to job dissatisfaction and there was no clear system to capture complaints from internal staff. The Auditors noted that top management commitment was lacking while some lecturers had not been inducted or trained on the requirements of ISO 9001:2008. Most departments in the two universities were understaffed leading to work overload and demotivation. The promotion of lecturers has been slow since most universities use research output as an important criterion. Because of their limited research, many young staff, overburdened with teaching, have fewer chances of being promoted, thus affecting their morale (Mohamendbhai, 2008). In circumstances that public universities are experiencing shortage in learning and teaching physical facilities it will lead to further deterioration of quality teaching and learning services offered in these universities. Attempt to meet the objectives of University education will turn into a mirage and exercise in futility. It will be mass production of University graduates who have certificates without matching academic, technical and psychological competencies. Therefore this study sought to establish the influence of ISO 9001:2008 quality management system on Academic staffs' service delivery in relation to teaching in public universities in Kenya.

Conceptual framework

While many businesses have benefited, many others have failed to achieve quality and competitive benefits through ISO 9001:2008 quality management systems implementation which means that not all companies and organizations are able to take advantage of the certification. For this reason it is important to take a closer look at the issues surrounding the implementation of ISO 9001:2008 and construct conceptual framework for its successful implementation (Ching and Jang, 2008).

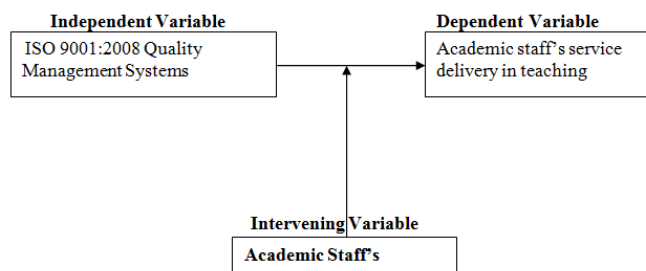


Figure 1. Conceptual framework showing the influence of ISO 9001:2008 Quality Management Systems on Academic Staff's Service delivery in Teaching in Public Universities in Kenya.

Therefore, this study adopted the following conceptual framework. As perceived in the review of the literature, the independent variable for the study was the influence of ISO 9001:2008 quality management systems. The dependent variable was academic staff's service delivery in relation to teaching process in public universities. The intervening variable was the academic staff's attitude. Academic staff's attitude moderate the influence of ISO 9001:2008 quality management systems on academic service delivery on teaching, such that when academic staff's attitude is positive the influence of ISO 9001:2008 quality management system will increase thus improving academic staff's service delivery in teaching. Conversely if the academic staff's attitude towards ISO 9001:2008 quality management systems is negative it will reduce the influence of ISO 9001:2008 quality management systems on academic service delivery in teaching.

MATERIALS AND MEHTODS

Descriptive and correlational research designs were adopted. Study population was 753 lecturers consisting of 420 lecturers from University E and 333 lecturers from university F and Fisher's formula was used to determine sample size of 254 teaching staff. Stratified random sampling was used to select 254 academic staff, that is, 142 from University E and 112 from University F and saturated sampling was used to select 2 management representatives. Questionnaire, interview schedule and document analysis guide were used to collect data. Validity of the instruments was determined by specialists in the field of educational administration by including their input. Cronbach's alpha was used to determine reliability of the instruments using 75(10%) of study population whereby a coefficient of .7 and above at a p-value of 0.05 was considered reliable. The instruments were reliable as their coefficients exceeded .7 at p-value of .05. Quantitative data was analyzed using frequency counts, means, percentages and regression analysis. Qualitative data was analyzed for content in emergent themes and sub-themes.

RESULTS

The research question responded to was: What is the influence of ISO 9001:2008 quality management systems on academic staff's service delivery in teaching in public universities? To respond to this question the null-hypothesis: ISO 9001:2008 has no influence on academic staff's service delivery in teaching in public universities in Kenya, was generated. In this respect the audited data on ISO 9001:2008 quality management system status in the public universities Table 3

and status of teaching service Table 2 were used in regression analysis to establish the influence. The areas of focus that were audited were; course outlines, allocation of workload, timetables, quality of course outlines, student attendance, staff class attendance, internship and lecture notes. Majority 142(55.91%) respondents provided evidence that showed that teaching non conformities in university teaching were low, 85(33.46%) as moderate while 27(10.63%) as very low. These results means that in all audited areas, the standards were not met for the academic years 2013/2014 to 2016/2017. The non-conformities in course outlines included absence of learning outcomes, core reference, text books, time allocation among others. Nevertheless, observation revealed that quite a number of lecturers strived to meet the targets. With regard to allocation of workload, there were no supporting documents, that is, departmental minutes. A few departments however had minutes to this effect. Documentation of student attendance of lectures and practicals were scanty, particularly for large classes of over 90 students. In some cases class representatives seemed not to care about the documentation. Nevertheless, for self sponsored students programmes, class attendance register were somewhat maintained. This was attributed to the fact that lecturers were paid in addition to normal salary provided they produced evidence for having taught these self sponsored students programmes, privately sponsored students were also eager to sign the attendance registers. Staff class attendance similarly seemed not to have been taken seriously as some documents did not bear signatures of course lecturers. Lecture notes were hardly documented except practical manuals. This was attributed to the fact that lecture notes were continually reviewed to tally with the regular curriculum reviews. Internship was well documented and non conformities were low. Status of teaching after certification of ISO 9001:2008 was established by use of rating scale and the results were as shown as shown in Table 3.

The areas of focus were course allocation, quantity and quality of instructional materials like text books, supervision of practical lessons, monitoring of lecture and practical attendance, research supports and workshops for improvement of academics and research skills, accessibility to timetables, availability of research grants, supervision of students on internship, engagement of the university in local and international linkages and partnerships, lecturing and lecture notes. Majority 122(48.03%) of the respondents indicated that the status of teaching was good after ISO 9001:2008 quality management systems certification, 79(31.10%) rated the teaching as average while 53(20.87%) as very good. This means that ISO 9001:2008 certification had impacted positively on academic staff's service delivery in teaching. To estimate the influence of ISO 9001:2008 quality management systems on teaching, academic staff's service delivery in teaching, regression analysis was computed and the results were as shown in Table 4. From Table 4, it can be observed that ISO 9001:2008 quality management systems accounted for 22% of the variation academic staff's teaching services as signified by Adjusted R square coefficient .220. This means that ISO 9001:2008 explained. Twenty two percent (22%) of the variance in teaching service while 78% was due to others factors that were not subject to this study. To determine whether ISO 9001:2008 quality management systems was a significant predictor, ANOVA was computed and the results were as in Table 5. From Table 5 it can be noted that ISO 9001:2008 quality management systems was a significant predictor of the status of teaching service in public universities

Table 1. Public Universities in Kenya: Non –conformities 2012 to 2015

SN	University	Year of ISO certification	Areas of focus and Non –Conformities.					Total
			Examination processing procedures	Curriculum review	Teaching process	Teaching facilities	Processing of University Continuous Assessment Tests	
1	A	20 th June 2012	1650	180	230	870	850	3780
2	B	29 th July 2009	1520	130	210	850	660	3370
3	C	30 th Oct 2014	1630	100	240	820	750	3540
4	D	8 th May 2012	1720	170	270	920	780	3860
5	E	1 st January 2011	2300	280	360	1100	1300	5340
6	F	26 th Sep 2013	2100	270	340	1200	1400	5310
7	G	20 th June 2012	1620	210	180	940	880	3830
8	H	4 th Dec 2009	1670	180	210	830	860	3750
9	I	5 th March 2012	1640	160	240	830	780	3650
10	J	25 th Nov 2014	1540	170	220	860	830	3620
11	K	15 th August 2012	1820	210	240	820	850	3940
12	L	6 th April 2009	1450	140	170	860	740	3360
13	M	16 th June 2010	1550	180	210	840	860	3640
14	N	2 nd Dec 2014	1730	220	230	870	870	3920

Source: KEBS (2015) Standards, Training, Testing and Certification of (14) ISO 9001:2008 Certified Public Universities in Kenya.

Note: The names of public universities have been concealed and assigned alphabetical letters (A to N) for ethical considerations.

Table 2. Procedure for Teaching in University

Action By	Activity
Chairperson of Department	Course Allocation :
Lecturer	<ul style="list-style-type: none"> Allocate courses in consultation with academic members of staff based on the lecturers area of specialization, at least one (1) one week before the beginning of the academic year/semester/term Request for part-time lecturers at least one (1)month before the beginning of each semester as per the procedure for appointment of part time staff Ensure that all course outlines are submitted one (1) one week before the start of the semester. Prepare reading and learning materials for their respective courses in line with the course content, prior to the beginning of the academic year/semester/term Give course outlines to students during the 1st week of each semester Lectures/Tutorials/Supervision of practical's and setting of exam Deliver lectures//tutorials/clinical and supervise group work, practical's, clinicals, fieldwork, farm, industrial attachment and demonstration Ensure that reading materials are forwarded to distance learning students in time. Give Continuous Assessments Tests and assignments in accordance with the university examination schedule Give continuous Assessment performance Records of every Continuous Assessments Test to chairperson of Department before the next Continuous Assessments Test is administered Set examinations for the respective courses within the 1st four weeks of the Semester. Return all marked Continuous Assessments Test scripts to the students before the next Continuous Assessment Test is Administered. Attendance Register Monitor students attendance of lectures, tutorials, practical's, clinical using Attendance Register and report to the Chairperson of Department any cases of irregular attendance Ensure students seek permission in case they have to, miss scheduled Continuous Assessments Tests by formal application

Source: Field Data, 2016

Table 3. Status of ISO 9001:2008 Quality Management Systems in Public Universities (2013/2014 to 2016/2017 academic year)

Level of Non conformity in Teaching	Frequency	Percentage
1.00 -1.44	27	10.63
1.45 -2.44	142	55.91
2.45 -3.44	85	33.46
3.45 -4.44	00	00
4.44 -5.00	00	00
Total	254	100

Interpretation of Mean Rating

Numeric strength

1.00 -1.44
1.45 -2.44
2.45 – 3.44
3.45 – 4.44
4.45 -5.00

Practical strength

Very Low non conformity
Low non conformity
Moderate non conformity
High non conformity
Very High non conformity

Table 3. Status of teaching after ISO 9001:2008 Certification (2011 University E and University F 2013) for Academic Years 2013 /2014 to 2016 /2017

Level of Teaching	Frequency	Percentage
1.00 -1.44	0	0
1.45 -2.44	0	0
2.45 -3.44	79	31.10
3.45 -4.44	122	48.03
4.44 -5.00	53	20.87
Total	254	100

Interpretation of Mean Rating

Numeric strength	Practical strength
1.00 -1.44	Poor
1.45 -2.44	Below Average
2.45 – 3.44	Average
3.45 – 4.44	Good
4.45 -5.00	Very good

Table 4. Influence of ISO 9001:2008 on Academic Staff's Service delivery in Teaching

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	.477 ^a	.227	.220	.57239	.227	32.328	1	110	.000

a.Predictors: (Constant) ISO 9001:2008 Quality Management Systems

Table 5. ANOVA of ISO 9001:2008 Quality Management Systems and academic staff's service delivery in teaching

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.592	1	10.592	32.328	.000 ^b
	Residual	36.039	252	.328		
	Total	46.630	253			

a)Dependent Variable: Academic Staff's Service delivery in Teaching

b)Predictors: (Constant) ISO 9001:2008 Quality Management Systems

Table 6. Coefficients: Linear Regression analysis of ISO 9001:2008 Quality Management Systems and academic staff's service delivery in Teaching

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
		1	(Constant)	5.200			.276	
	Non-Conformities in Teaching	-.882	.155	-.477	-5.686	.000	-1.190	-.575

a)Dependent Variable: Academic Staff's Service delivery in Teaching

Regression Equation = $Y = B_0 + B_1X_1 + \dots + \epsilon$

(F (1,252) = 32.328, p<.05). This means that ISO 9001:2008 significantly influenced the status of teaching services in public universities in Kenya. To determine the actual influence of ISO -9001:2008 quality management systems on the status of teaching services in public universities linear regression analysis was computed (Table 6).

From Table 6 it can be noted that, for every one unit increase in non conformities in service delivery in teaching reduced by .882 units as signified by the coefficient -.882. The regression equation is $Y = 5.2001 + -.882X_1$. Conversely for every one unit reduction in non conformities in teaching service, status of teaching improved by .882 units.

Example

When X_1 is rated at 3.2 and later reduces to 1.38, the predictions will be as follows:

$$\begin{aligned} \text{i) } Y &= 5.200 + (-.882 \times 3.2) \\ &= 5.200 - 2.8224 \\ &= 2.3776 \\ &= 2.38 \end{aligned}$$

This means that when the non conformities are 3.2 (rated as moderate) academic service delivery in teaching will be 2.38 (rated as below average).

$$\begin{aligned} \text{ii) } Y &= 5.200 + (-.882 \times 1.38) \\ &= 5.20 - 1.21716 \\ &= 3.98284 \\ &= 3.98 \end{aligned}$$

This means that when non-conformities is reduced to 1.38 (rated as very low) the academic staff's service delivery in teaching will improve to 3.98 (rated as good). Y is the dependent variable namely academic staff's service delivery in teaching.

The model can therefore be used in prediction of academic staff's service delivery in teaching in public universities.

DISCUSSION

Universities in Kenya have provided financial support for the implementation of international organization for standardization ISO 9001:2008, commonly known as ISO 9001:2008. This approach was adopted from Western or developed countries. For instance since the early 1990's a number of education and training institutions in Europe have obtained ISO 9001:2008 certificates (Heires, 2008). The investment has always been necessitated by the fact that ISO certification had implementation promotes the standards and quality of services and goods that institutions offer to their customers, and /or clients. The main objective of ISO certification is to increase credibility and trust of an organization. In essence ISO 9001:2008 quality management systems is focused on meeting customer expectations and delivering customer satisfaction. Basically what ISO 9001:2008 quality management systems helps, is to evaluate whether quality management system is appropriate and effective while informing identification and implementation of improvements. In fact continuous improvement assures customers benefit by receiving services and products that meet their requirements. Internally, universities benefit from increased satisfaction, morale, reduced operational costs and increased efficiency. Although ISO 9001:2008 will be obsolete in September 2018 and be replaced by ISO 9001:2015, its impact in organizations' improvement worldwide remains a major benefit, only upon which ISO 9001: 2015 will rest as a standard and help organizations to grow and meet their demands while providing customer satisfaction. With regard to influence of ISO 9001:2008 quality management systems on teaching service in universities the study established that indeed teaching was significantly influenced. The universities endeavoured to ensure that lecturers were allocated on average three courses.

Such workload was good enough as it allowed lecturers to effectively conduct their courses to the satisfaction of students who are the primary customers. Furthermore, lecturers were also satisfied as they were also able to play the two other roles, namely research and community service. Lecturers find it fulfilling when they provide the services to their customers in the three realms of operation. In fact generation of knowledge and development of skills to deal with emerging challenges, issues and problems is the preserve and priority for university lecturers. Provision of instructional materials as set out in the framework of quality management system after ISO 9001:2008 certification makes it easy and comfortable for both lecturers, students and support staff to operate and achieve the desired results. This is much more so because the persons involved are focused and there is mutual trust and confidence. In fact learning resource centres in educational institutions of this calibre are considered to be the heartbeat of the organizations. These materials encourage independent scholarship a quality that is desired at university level. The requirements that students be supervised and attendance of classes continually registered as provided for in the quality management system framework that should be met under the ISO 9001:2008, has enhanced customer satisfaction and credibility in public universities. This is because the required contact hours are met for the programs offered. Research support and workshops for improvement of academics' research skills has remained on

course courtesy of ISO 9001:2008 quality management systems. Universities prioritize research and is one of the must condition for upward mobility of staff. Without research there cannot be generation of knowledge, developing and sharpening of skills in the current world that is yearning for creativity and innovation. The tendency to adhere to course outlines and timetables, motivated by ISO 9001:2008 quality management systems ensures good coordination and reduction in operational costs with great benefit to customers. Thus only about 20% of the effort and resources is utilized with the outcome of 80% while guaranteeing quality in services and products. Ideally co-ordination is central to excellent performance of organizations. Efficiency and effectiveness of organizations is highly dependent on coordination as envisaged in ISO 9001:2008 quality management systems. With ISO 9001:2008 quality management systems in place universities have endeavoured to attract grants /funds, conducted internship with dignity and engaged local and international linkages and partnership within the professional demands. The partnerships and linkages are the pillars of universities that uphold their growth development and vibrancy. Thus the study established that ISO 9001:2008 quality management systems was a significant predictor of quality teaching services in public universities.

The findings of this study concur with those of Sohail, Rajadurai and Rahman (2003) who established that ISO 9001:2008 is used as one of the indicators for providing quality education. This is vital because universities are expected to demonstrate consistently in their ability to provide products that meet expectation of customers and at the same time adhere to statutory requirements. These findings also concur with those of Vusa (2016) in a study titled "ISO 9001:2008 quality management systems certification and service quality in Kenyan public universities: A case of the University of Nairobi." In this study Vusa (2016) established that there was a strong relationship between ISO 9001:2008 and service quality ($r = 0.871$). The adjusted R square was .696 which means that ISO 9001:2008 accounted for 69.6% of the variation in service quality. Vusa's (2016) study also established that ISO 9001:2008 was a significant predictor of service quality ($F(8,83) = 1.389, p < .05$). This means that the study established that indeed ISO 9001:2008 influenced service quality in the university. Martinez – Mediano and Diaz (2014) in their study "contributions of the quality management systems ISO 9001 in schools organizations and its results" in Spain with a focus on the influence of the quality management system ISO 9001 through indicators of efficiency, effectiveness, results and satisfaction established that improvement in quality of education, school organization and teacher training was associated with the use of quality management system ISO 9001 among other models. They assert that ISO 9001 quality management system promotes improvement in curriculum design and its implementation, and its results in students' achievement, customer satisfaction, that is teachers, students and families. They further emphasize that international studies have indicated that adopting ISO in schools has advantages such as improvement of teaching and learning standards, improvement in management processes and documentation, adoption of strategies of continuous improvement and fault prevention rather than correction among other things. (Supradith Na Ayudhya, 2001). Sang Hoon Bae (2007) found out that ISO provided a positive influence in school achievements through better functioning of essential operations thereof.

Aristizabal, Cardenas, Buitrago and Martin (2009) found out that ISO 9001 contributed to improvements on the formative processes that in turn, have a positive impact on student learning and teachers' satisfaction. In addition it improves the image of the organization and enhances systematization of managerial processes. In a Spanish educational context, just like in Kenyan universities context, Hnegun, Larek, Sola and Aramendi (2009) attribute success to the adoption ISO; quality management, improvement in institutional projects and teacher training as well as increment in the educational community satisfaction. Perez Juste (2005) adds that truly ISO are relevant as an effective way to develop quality educational projects and to improve the quality of educational institutions.

Conclusion

The ISO 9001:2008 quality management system has positively influenced teaching in universities through academic staff's service delivery namely; courses allocation, course outlines, time tables, students lessons attendance, lecture notes, staff lesson attendance and internship. This has helped universities to increase their credibility, visibility and trust. Thus there are marked improvement in teaching and learning standards, management processes and documentation and fault prevention rather than correction. ISO 9001:2008 quality management systems no doubt form a firm foundation for the ISO 9001:2015 quality management systems.

Recommendation

The gains made by adopting and implementing ISO 9001:2008 quality management systems should be improved upon while adopting the ISO 9001:2015 quality management systems. All universities whether private or public should seek ISO certification to improve their standards of teaching as the study model suggests through empirical evidence.

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