EFFECT OF ORGANIZATION CULTURE ON THE RELATIONSHIP BETWEEN QUALITY MANAGEMENT SYSTEM ADOPTION AND PERFORMANCE OF PUBLIC UNIVERSITIES IN KENYA

BY

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DECLARATION

Declaration by the Student

I certify that this Report has not been presented for the award of degree to any other University.

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DEDICATION

I dedicate this thesis to my father Amos Gulali, and my dear mother Naomi Akunda; my wife Lucy Wariara, My lovely daughters, Nancy and Sasha'Arlyne, my brothers; Nahashon, Henry, Zephaniah, Algah, Andrew, Charles, Robert and my sisters Esther, Jael, Dorcas and Susan

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ABSTRACT

Globally, the capacity of Higher Education institutions to serve as drivers to economic competitiveness has been negatively impacted due to the exponential growth and numerous constraints which interfere with their quality. In Kenya, HEI in their attempt to cater for the 28% increase in student number, 6% government capitation cut and 14.3% of the 28 week, academic year time waste between the period 2014 and 2015 has come with many challenges caused by overcrowding, crumbling infrastructure, inadequate human capital with a 1:500 lecturers to student ratio and financial resources and declining quality of the professional courses on offer, has raised concerns about quality of public university education. This study sought to analyze the effect of organization culture on the relationship between QMS adoption and organization performance of public universities in Kenya. The objectives were to: establish the relationship between QMS adoption and organization Performance; determine the influence of organization culture on organization performance and to analyze the moderating effects of organization culture on QMS adoption and organization performance on public universities in Kenya. The study was guided by structural contingency theory and equity theory. The population of the study included 215 top management personnel of 11 public universities certified by Kenya Bureau of Standards. The study employed a census survey with response at 94.41%. Pre-validated questionnaires had reliability alpha of $\alpha = 0.917$ organization culture, $\alpha = 0.815$ Quality Management System adoption and $\alpha = 0.93$ organization performance internal consistency. Results revealed R^2 .421 p=.001 indicating that QMS adoption accounted for 42.1% change in organization performance and has a strong significant contribution to organizational performance; R^2 .646 p=.001 indicating that Organization culture accounted for 64.6% variance in organization performance and has a strong effect on organizational performance. Further, the moderation perspective revealed organization culture (β=.492 p=0.030) moderated the relationship significantly implying the interactive effect of organization culture improved organization Performance by 0.7% (ΔR^2 .007 p=0.030). The study concluded that organization culture increases the effect of QMS adoption on organization performance. The study recommends the need for universities to invest more on individual believes that can enhance organization performance through improving and maintaining QMS based on the existing organization culture. The study significance is that it has informed policy makers and academia's on issues relating to organization culture and QMS adoption that can make higher education institutions attain peak performance.

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LIST OF ABBREVIATION

DVC	Deputy Vice Chancellor
F O	Finance Officer
GMP	Good Manufacturing Practice
HEI	Higher Education Institution
ISO	International Standards of Organization
JKUAT	Jomo Kenyatta University of Agriculture and Technology
JOOUST	Jaramogi Oginga Odinga University of Science and Technology
MMUST	Masinde Muliro University of Science and Technology
MUST	Meru University of Science and Technology
QMS	Quality Management System
SEKU	South Eastern Kenya University
TQM	Total Quality Management
TS	Technical Specificity
UNESCO	United Nation Educational, Scientific and Cultural Organization
UON	University of Nairobi
V C	Vice Chancellor

DEFINITION OF KEY TERMS

Accreditation: Certification or recognition that is given to an institution for meeting minimum standards set by an external accreditation agency or professional body of which the study will base on Kenya bureau of standards. Standards vary according to institutional mission and goals.

Corporate structure design: Organization of different departments or business units within a company that contributes to the company's overall mission and goals

Dynamism: Any of the various theories, doctrines, or philosophical systems that attempt to explains the phenomena of the universe in terms of some immanent force or energy

Higher education institutions: all post-secondary educations leading to the award of certificates, diplomas, and degrees

Organization culture: shared values and beliefs over time which produces behavioral norms that are adopted in solving problems

Organization strategy: Sum of actions organization wants to take to achieve its long-term goals

Organization Structure: a hierarchical arrangement of line of authority, communications, rights and duties of an organization

Performance: The ability of an organization to achieve its objectives

Product Risk: This is the risk of the product, failing to fulfill its stipulated function, and its effect overall assembly

Public University: A university that is predominantly funded by public means through a national or sub national government, as opposed to private universities.

QMS: A set of co-ordinate activities to direct and control an organisation in order to continually improve the effectiveness and efficiency of its performance.

Quality Education: Education that provides all learners with capabilities they require to become economically productive, develop sustainable livelihoods, contribute to peaceful and democratic societies and enhance individual well-being.

Quality Effectiveness: the capability of producing a desired result (intended or expected outcome, or produces a deep, vivid impression)

Quality Efficiency: ability to accomplish an activity within the least waste of time and effort, And with a minimum expenditure of time and effort:

Quality: The degree to which a set of characteristics fulfills stipulated requirements

Strategic Planning and Management: Activities used to set priorities, focus, energy and resources

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CHAPTER ONE

INTRODUCTION

This chapter provides an overview of the background of the study introducing the main concepts; Quality Management System, performance and organization culture. It also highlights the context of the study, which are public universities in Kenya. It in addition contains the statement of the problem, objectives of the study, research hypotheses, scope of the study, justification of the study and the conceptual framework adapted for the study.

1.1 Background of the study

Globally, Quality Management System (QMS) has become an accepted technique to ensure performance and survival in the modern economies. Gado (2012), Ustuner and Coskun (2004), in order to facilitate and influence the quality issues globally, the International Organization for Standardization (ISO) was first published in 1987 and was subsequently revised in 1994, 2000, 2008 and 2015 to fit in an organization. Adoption of QMS represents the basic precondition of a firm's success and entrance into the global market (Hoyle, 2009). Organization quality in form of quality management system (QMS) well embedded in business organizations and industry context, (Deming 1986, Green 1994), its adoption is a voluntary process supported by organization's own strategy, motivations, policies and goals. Organization adoption of QMS should be a strategic decision Casadesus (2005), Piskar (2007) and Adolphas (2010), however the risk of doing things right is high, hence the organization management systems based on international standards and guidelines have to be carefully positioned since it depends on several factors like specific objectives; supplied products, and processes used.

Kenya, Quality Management System has been adopted on a voluntarily basis by both public and private institutions in order to improve their competitive advantage. Quality being an important factor in most organizations, global competition demands ensures high standard of organization quality performance (Gado, 2012). Bhattacharyya & Sanghamitra (2010), organizational performance as a measure of how well organizations are managed and the value they deliver to customers and other stakeholders, is the ability of an organization to achieve its objectives and is

based on an organization objectives that are varied according to the sectors or businesses they represent but they have certain commonalities (Laihonen, 2013) and can be measured through performance efficiency and performance effectiveness (Grilinches, 1987).

In the development of any nation, education plays a critical role that leads to the overall development of a country's economy (Ali *et al.*, 2010) and cannot be underestimated. However, the global demand in education has led to the development of both private and public owned (Mathooko, 2013), and is no longer a luxury but an essential for survival. As global competition intensifies due to changes in the industry structure and the emergence of new technologies, education policy-makers in developing countries continue to express concern about the poor state of higher education. Given the historical development of higher education institutions in Africa, the universities have been at the centre of higher education challenges (Chang'ach 2014).

As a developing country and the increase in demand of education in Kenya, Higher education has faced a significant and persistent pressure towards expansion in recent years and this trend has led to significant economic and academic challenges for both higher education institutions and the government. Mathooko (2013) and Otieno (2010) the historical experience of the development of the University system in Kenya bears resemblance to the situations faced in most developing countries with regard to the basic orientation reflecting the influence of the colonial forces, and were established as part of a countries education systems on the premise of supplying labor to maintain existing industrial facilities developed during the colonial period (Chang'ach 2014). However, Higher education stakeholders are constantly questioning the value of the products the higher education institutions in Kenya are presenting to the market and why foreign universities remain attractive.

Alsubait (2014), Higher education institutions in African countries play a more significant role in national development than they do in other parts of the world, as they are often the only institutions with some capacity to undertake research and to generate the knowledge required for development, and has led to the development of both public owned and privately owned institutions. However, Private institutions for a long time irrespective of their levels of status and according to their accreditation stages, and has pegged a great threat to the public institutions (Alsubait, 2014). Form their studies, Otieno (2010) and Mathooko (2013) as Kenyan

Universities seek to offset declining state dollar and incessant increase in students there has been an incredible increase in University branches and constituent colleges. With the introduction of double entry system (2011), student enrolment in these institutions stood at 539,749 (2015) with public universities accounting for 461,820 students while 77,929 students in private Universities, putting pressure on the government to create jobs for graduates whose number stood at 62,000 in 2002 depicting a 28% increase in student number in the period 2014/2015.

Higher education in Kenya has been facing significant and persistent pressures towards expansion in recent years and this trend has led to significant economic and academic challenges for both higher education institutions and the government. Moreover, several factors have contributed to raising public concern over quality of education, leading to the emergence of quality measurement and improvement devices such as performance indicators, accreditation, programmes, institutional assessment and quality audits. From his study Mathooko (2013), Public universities were subjected to quality assurance overseen by the Commission for University Education (CUE) aimed at streamlining and improving the management of university affairs.

With increasing market competition and limited funding opportunities, Universities have to adopt a business like strategies to cope with the changing world economy (Arjomandi, 2009). With respect to this (Arjomandi, 2009), believed that Universities be considered as business entities Universities are in a competitive environment with limited funding and resources while they have to generate extra cost to curb its deficit. Unlike other organization, Universities need to be productive, as Universities have to attract students to fulfill both their goals and funding needs. Simmons and White (1999), organizations adopt QMS to differentiate themselves from the competition and to improve their image. Moreover, Dia (2000) study found out that Quality assurance had become a powerful strategic weapon in international competition and trade. This was in support to Simmons and white (2013), studies since he stated that improved quality reduces waste and increases productivity. Further improvement in quality and productivity enables firms to increase their market share and to charge higher prices for their products, which in turn results to higher profitability hence strengthening their competitive position.

The world of education is experiencing rapid changes and will probably face even greater changes in the future (Otieno 2010, Dia, 2000 and Mathooko 2013), at the same time Higher education stakeholders are constantly questioning the value of the products the higher education institutions in Kenya are presenting to the market and why foreign universities still remain attractive. The same issues could be identified in other African states. On his report dated 2015, President Uhuru Kenyatta agreed that there was a need to allocate more resources to public universities to enhance research and innovation. However, Commission of University Education report dated 2015 stipulated that most universities in Kenya have not evolved to address the challenges of the current job markets and have failed to provide contemporary quality programmes to take advantage of emerging technology opportunities, irrespective of the Ksh. 19,814.28 deficit and 6% cut findings towards higher education to US$ 588 million compared to the US$ 627.2 million allotted in 2014/15.

As governments in most parts of the world have considered their agenda for higher education over the last decades, issues of quality assurance and quality enhancement have been a major focus of attention in Kenyan public Universities as student fee is low and cannot sustain quality education and they tend to offer duplicate courses both to regular and self sponsored students that, when debated, they are not fully qualified to offer (Abagi, 2007). In support, Kilemi *et al*. (2007) study stated that 14.3% of 28 weeks per academic year are wasted in the Universities, since the adoption of the semester system and the shuttling character of some lecturers between campuses of the same institution and or other universities. This has triggered a major exodus of students to foreign destinations, in search of quality education due to inefficiency in time utilization and use of poor methods of content coverage such as only focusing on areas that they intend to examine at the end of the semester in the Universities

Based on the notion of quality management system, well embedded in the business organizations and industry context, and transferred to the higher education institution sector where it was developed and adapted though having complex systems (Deming 1986, Gado, 2012), is a powerful strategy in international competition and trade enables firms to increase their market share and profitability (Dobrzański and Roszak, 2007 and Mizikaci, 2006). Tigineh (2006), quality competitiveness and development in sub-Saharan Africa has enhanced growth of service

and manufacturing institutions. In support, Boiral and Roy (2007) the business impact of Quality Management System certification makes it reasonable to assume that Quality Management System benefits improve an organization effectiveness, and that positive effects of certification relates to management willingness to make Quality Management System a genuine tool for improving quality practices. However, Grant, Mergen and Widrck (2004), Yilmaz (2010), Blackmore (2004) Stensaker (2008), due to the complexity nature of higher education based on its diverse stakeholders, tend to impose different views on the organization effectiveness based on Quality Management System and are obliged to comply with regulatory requirements for transparency in governance and financial management, as well as (Makawiti 2011, Gaither and Maassen 1998, Ford, 2006).

Regarding the demand for increased quality, several authors have introduced quality management principles into various aspects of organization performance based on efficiency and effectiveness. Njeru (2016); Zhang (2006); Kamau (2015); Sayyed (2012); Moturi & Mbithi (2015); Ochieng, Muturi, & Njihia (2015); Joanna (2014) conducted studies on organization effectiveness and quality management system, and revealed both positive and negative results. Karani, & Bichanga (2012); Kimani, and Bichanga (2013); Thuo, (2013); Thiagaragan, Zairi and Dale, (2001); Yeung , Lee and Chan (2003), studies on organization Efficiency and QMS, both revealed a positive and negative correlations basing on organization performance. Drawing on the development of notions of efficiency and effectiveness in HE reviewed in an earlier section, Joumady and Ris (2005); Garry (2002); Zhang (2000) established cost and outcome performance as complementary dimensions in the operations of HEI. From their study, the definitions of cost and outcome efficiency, is on first degree, higher degree and research and were based on one or two organization effectiveness variable. Moreover, the assessment of the organization performance of an individual university has rather a centralized character as its results have an implication on the policy of the funding bodies basing on the different systems adopted by several organizations, and anchored on one or two organization effectiveness variable.

It is clear that the studies have not explored Quality Management System adoption and organization Performance of public universities in Kenya. None of the study concentrated into all elements of organization Performance. Further contradictions in these past studies revealed that

it remains unknown of organization Performance based on performance efficiency and performance effectiveness in higher learning institutions. Therefore, this study seeks to establish the relationship between Quality Management System adoption and organization Performance of public universities in Kenya. This study not only focused on this gap but also ensured that organization performance was anchored on corporate structure design, Organization strategy, Industry moral and goodwill as performance efficiency variables and job satisfaction, customer satisfaction, organization growth and expansion as performance effectiveness indicators.

Increasing globalization requires more interaction among individuals from a diverse culture perspective. Maximization and capitalization of diversity in a work environment has become an important issue for management in the developing countries. According to Deal and Peterson (2009), the culture of any organization is a significant factor in its success or failure. Deal and Peterson (2009), defines organization culture as a pattern of basic assumptions invented, discovered, or developed by a given group as it learns to cope with its problems of external adoption and internal integration that has worked well enough to be considered valid to an organization. From the literature, the relationship between organization culture, quality management system and organization performance has not been the subject of much attention among higher education institutions in Kenya. Some important areas are under explored in the relationship between organization culture and organization performance, while others on the quality management system adoption and organization performance. Moreover, the subject has been primarily investigated in the context-developed countries while inadequate attention has been given to developing countries.

From the study methodology, the key to understanding the company culture is to realize the lack of clear communication and culture differs in organization. Organizational culture is the adhesive holding companies together in a country, is characterized by stability processes, collectivity and predictability, and is a source of recreation, of new opportunities as well as of conflicts and of dynamics. Recent studies on organization culture Aluko, (2003), Allard (2010) and Fakhar, Iqbal and Gulzar (2013), translate organization culture with respect to culture on employee participation, openness to communication, risk taking and innovation, customer service orientation and reward system as its attributes; Wahjudi.*et.al* (2016) study anchored organization culture on individualism, uncertainty avoidance power distance, masculinity and long term

orientation; Allard (2010), employee longevity; Naranjo *et. al*, (2016) adhocracy culture and clan culture. This contradictions reveal that it remains unknown of organization culture based on individual values, assumptions, values and artifacts influence organization performance. Moreover, studies by Tsai (2011); ul Mujeeb and Ahmad (2011); Aluko (2003); Gulzar (2013); Allard (2010); Fakhar, Iqbal and Gulzar, (201)3; Naranjo *et. al*, (2016); Agwu, 2014 and Further Zhu. *et al* 2016) found a positive relation on organization culture and organization performance. while in other studies, the impact was positive but weak (Acar and Acar, 2012; Allard, 2010 and Mohammad, 2006) yet another set of studies has found that no relationship exists (Nikpour, 2017; Allard, 2010; Lapiņa, Kairiša, and Aramina, 2015 and Wahjudi.*et.al* 2016) methodological reasons may account for these contradictions.

In the developing countries, organization culture is often unnoticed, yet it is the cornerstone to execute the strategy to reach the goal of the organizations in significant manner. Liker and Hoseus (2008) states that it is not necessary for people to think in exactly the same way, but it is important that there be shared core values and that everyone agrees about how to carry out work. Aluko, (2003), ul Mujeeb and Ahmad. (2011), Gulzar (2013), Wahjudi *et al.* (2016), Tsai. (2011) Taiwan Naranjo *et al.*, (2016) studies on organization culture were carried out on health and manufacturing organizations in Nigeria, Thailand and Indonesia. There is no known information about the effects of organization culture on Higher education institutions. Therefore, this study seeks to establish the influence of organization culture on organization performance in public universities in Kenya.

Quality is a widely used concept that becomes one of the important agendas in most organizations. This is specifically for them to compete and face with the challenging forces of globalization. Global competition requires organizations across borders to initiate efforts in order to ensure their products and services achieve the highest quality standard. Most empirical works agree that an adoption of a quality management model by organization could be considered as a potential source of competitive advantage and value generating. Anecdotal evidence suggests that organizations can achieve internal benefits such as quality or productivity improvements, or that certification can help firms maintain or increase their market share, or both. Others argue that the standard is too generic to cause performance improvement, but as a signal of good

management. The use of a moderator can either positively or negatively influence organization performance.

Mahmood, Qadeer & Ahmed (2014), Prajogo and Sohal (2003), Sanders Jones and Linderman (2014) Studied were similar in the sense that a moderation study was carried out in a survey research design on manufacturing firms. The findings of these studies revealed a positive and statistical significant moderation effects. In support Wanyoike, R W. (2016), study anchored on Quality improvement theory and institutional theory revealed a moderate mediation effect on the relationship between Quality Management System and organization performance. Further, Hussain and Younis (2015), Din, S., Abd-Hamid, Z., & Bryde, D. J. (2011) studies on Quality Management System and organization performance revealed a positive moderation effect. However, Roldán *et.al* (2017) study revealed a negative moderation effect on quality management on open innovation performance. Iqbal *et.al* (2012) study findings revealed a mix reaction in that there was a strong and positive association between TQM practice and quality performance, innovation performance and organization performance and culture of support had a moderating role in the relationship between TQM practice and organization performance. These studies though revealed a positive, negative and mixed reaction on quality management system and performance; they focused on service institutions, used a survey research design on service industries in the developed countries and were limited to ICT telecommunication and Health institutions. Quality Management System as new culture in the existing organization culture can have influence in performance. There is no known information on how Organization culture as a moderator influences Quality Management System adoption on performance in service institutions especially in developing countries Higher Education institutions. Based on Quality Management System and performance, as study variables organization culture, was adopted as a moderator variable this was due to the Increase in globalization, more interaction among individuals from a diverse culture perspective are needed for organization competitive advantage. Moreover, the maximization and capitalization of diversity in a work environment has become an important issue for management in developing countries and the culture of any organization is a significant factor in its success or failure. The role of organization culture as a moderator variable can have an effect of performance, as it is the glue that that combines the

non-human resources to that of human resources in the organization to establish teamwork and excellent performance and needed an investigation in the higher learning institutions.

1.2Statement of the Problem

In the 21st century, universities in all around the world are facing new challenges. The shift from the elite higher education paradigm to mass higher education deem to be the main sources of the change forces for the newly emerged challenges, and do have an undue influence over the university inputs, operations, functions, processes, and outcomes. African universities have not been left very far behind as they have undergone a major transition from public to a greater emphasis on more private funding and have reinvented themselves as business enterprises. As such, governments in most parts of the world have considered their agenda for higher education issues of quality assurance and quality enhancement have been a major focus of attention. In order for an organization to attain a high product and service output, it has to fast react as per the changes in the market so as it may offer quality products and services at minimal cost. In Kenya, Quality Management System majorly adopted by public organizations has led to increasing scrutiny from its stakeholders, since public institutions are plagued with difficulties and obliged to comply with regulatory requirements towards quality assurance irrespective of its application effects. Previous studies conducted on QMS, show that there are strategies between quality management and organization performance and due to the emergence of new forms of organizations; traditional definition and approach of quality do not fit within the new information age and new definition of quality need to be adopted. Attaining quality goals depends critically upon a firm's ability to define in specific performance terms what it means by quality and then measure performance variables objectively. However, it is clear that studies have not explored Quality Management System adoption and organization Performance of public universities in Kenya. None of the study concentrated into all elements of organization Performance. Further contradictions in these past studies revealed that it remains unknown of organization Performance based on efficiency and effectiveness in higher learning institutions. Each organization employees tend to have a distinct culture from another. The introduction of QMS as well known is kind of a new cultural aspect being injected in an organization that has diverse culture. Recent studies carried out on organization culture indicate that there is a definite relationship between culture and quality and in order to support the necessary elements of such a QMS, an appropriate culture is necessary. The role of a moderating

variable like organization culture such as artifacts, individual beliefs, assumptions as opposed to mediation effect may have an influence on Quality Management System adoption and organization performance of higher learning institution, since a moderation effect entails the interaction effect of the study independent and moderating variable. Moreover, there is no study on, moderating effect of organization culture on quality management system adoption and organization performance. The study sought to determine the effects of organization culture on the relationship between Quality Management System adoption and performance of public Universities in Kenya. The specific objectives of the study were to: establish the relationship between Quality Management System adoption and organization, determine the influence of organization culture on organization performance and to analyze the moderating effect of organization culture on the relationship between Quality Management System adoption and organization performance.

1.3 Research Objectives

This study investigated the effect of organization culture on the relationship between Quality Management System adoption and performance of public universities in Kenya.

The study specific objectives were:

i. Establish the relationship between Quality Management System adoption and organization Performance of public universities in Kenya

ii. Determine the influence of organization culture on organization performance on public universities in Kenya

iii. Analyze the moderating effect of organization culture on the relationship between Quality Management System adoption and organization performance on public universities in Kenya

1.4 Research Hypotheses

H_{01}: There is no significant relationship between Quality Management System adoption and organization Performance of public universities in Kenya

H_{02}: There is no significant influence of organization culture on organization performance of public universities in Kenya

H_{03}: Organization culture does not have significant moderating effects on the relationship between Quality Management System adoption, and organization performance on public universities in Kenya

1.5 Justification of the Study

Quality Management System a concept of Quality Management processes and activities, set at a particular scale if followed, judicially the products and services of the institutional organization gives an effective improvement in Quality Management. Moreover, quality standard has gained a wide acceptance and certainly has become a key passport to doing business in many organizations both public and private. However, as these standards become a customer requirement for some organizations, management may be tempted to implement it superficially with minimum disruption to the organization and regardless of internal benefits or implications of certification. Apparently, the current approaches to adopting and implementing QMS by institutions in Kenya is being illogical. Institutions practicing QMS are few due to the introduction of standardization of Quality instructions by the certifying bodies, which is a new idea implying that the current organizations operations needs to be re-examined and employ modification in accordance to the organization environment.

This study is expected to contribute to the current body of knowledge in Higher Education Institutions sector in terms of the Quality Management System adoption, Organization culture on Organization performance. In Kenya, Higher Education Institutions are required to meet a set of criteria set by an external body. Quality assurance is concerned about quality improvement and enhancement; accreditation is mainly concerned about efficiency goals and the process of quality assurance. The management of Higher Education Institutions may therefore, benefit from the findings of this study since it will enable them recognize the effects of organization culture on Quality Management System adoption on performance, consequently their commitment on the adherence to organization culture irrespective of the adoption of new culture in form of Quality Management System.

Gaither (1998), Hanlon (2007), a key tendency in quality management is toward quality enhancement, and improvement, not just meeting standards and measurements set by an external body. This study may as well trigger general awareness to scholars in relation to adherence to quality management system and performance. Organizations that have adopted QMS, may be encouraged to either improve or drop the quality management system standards for the betterment of the organization global image

1.6 Scope of the Study

The adoption of quality management systems in Kenya took its roots through the private sector as early as1950s, which needed to set standards of operations that are in tandem with other similar organizations in the world. The adoption of quality management systems in Kenya public service dates back in July 1974 after the establishment of Kenya Bureau of Standards (KEBS), whose Board of Directors known as the National Standards Council (NSC), subsequently established as the policy-making body for supervising and controlling the administration and financial management of the Bureau. The Kenyan public organizations including public universities are required to adopt QMS through certification to the ISO standards currently documented under 9001:2015 series. Kenya Bureau of Standards certifies public organizations as a means of adding value to products and services offered by certified firms. Apart from Kenya Bureau of Standards, other certifying bodies certify organizations with QMS standards are; Bureau VERITAS, United Kingdom Accreditation Service (UKAIS), CVA International and Societe Generale de surveillance (SGS) among others but the focus on this study concentrated on public universities certified by Kenya Bureau of Standards.

This study focused on Public Universities in Kenya who attained QMS certification through Kenya Bureau of Standards. These comprised 11 Public Universities irrespective of their geographical location. The study respondents comprised on Vice Chancellors, Deputy Vice Chancellors, finance officers, University Registrar, Deans of various schools and the Librarian. This study examined the effect of organization culture on the relationship between Quality Management System adoption and performance of public universities in Kenya.

Table 1.1 List of Public Universities Certified under Kenya Bureau of Standards.

UNIVERSITY NAME	QMS No.
Egerton University	QMS/111
Jaramogi Oginga Odinga University of Science and Technology	QMS/179
Jomo Kenyatta University of Agriculture and Technology	QMS/096
Maasai Mara University	QMS/253
Masinde Muliro University of Science and Technology	QMS/188
Meru University of Science and Technology	QMS/ 217
Moi University	QMS/099
South Eastern Kenya University	QMS/260
University of Kabianga	QMS/189
University of Nairobi	QMS/064
Maseno University	QMS/113

Source: KEBS website 2015

1.7 Conceptual Framework

Guided by the theory of structural contingency of Jay Gaibraith (1973), the study was modeled on the conceptual framework (figure 1).

The dependent variable in this study was organization performance. Performance in an organization is the organizations' ability to achieve its objectives. However, organization performance has been conceptualized, and measured in several ways. Laihonen (2009), organization performance is based on an organization objectives that are varied according to the sectors or businesses they represent but they have certain commonalities, and often performance measure for an organization can be based on financial and operational. Moreover, to measure

performance in a service organization, Grilinches (1987) study, states that organization performance measured by organization efficiency and organization effectiveness.

The independent variable for this study is Quality Management System adoption. A quality management system (QMS) is a set of co-ordinated activities to direct and control an organisation in order to continually improve its performance. Further, Deming (1986), Green (1994), note that quality in form of quality management system will ensure that organizations' customers consistently meet their needs and expectations and the organization's requirements both internally and externally are met and at an optimum cost with efficient use of the available resources. A QMS enables an organisation to achieve the goals and objectives set out in its policy and strategy. It provides consistency and satisfaction in terms of methods, materials, equipment, etc, and interacts with all activities of the organisation, beginning with the identification of customer requirements and ending with their satisfaction, at every transaction interface. These activities interact and affected by being in the system, with a focus on Strategic Planning and Management, Changing relationship with Customers and stakeholders, Organization Structure, Organization Change, Teamwork, Motivation and Job design and Management and Leadership

Increasing globalization requires more interaction among individuals from a diverse culture perspective. Maximization and capitalization of diversity in a work environment has become an important issue for management in the developing countries. Since managing diversity has remained a significant organizational challenge, managers have to learn on the prevailing managerial skills needed for an effective quality management system. Schein (2010), study on organizational culture stresses that many companies have failed with their quality initiatives and that one possible reason for failures is the lack of understanding of the role of organizational culture. Organizational culture is the glue that combines the nonhuman resources to the human resources in the organization to establish teamwork and excellent performance. (Schein, 2010) noted that Organizational culture may spring from different sources, mainly from artifacts, individual values, assumptions as well as the new beliefs of new members and managers

The conceptual framework brings out a hypothesized relationship where QMS adoption parameters work together to affect performance which will be measured through effectiveness

and efficiency. Organization culture as a moderator variable with its parameters work together to affect organization performance, further as from the definition of a moderator, if a moderator is added into a model it may have an influence on the variables relationship.

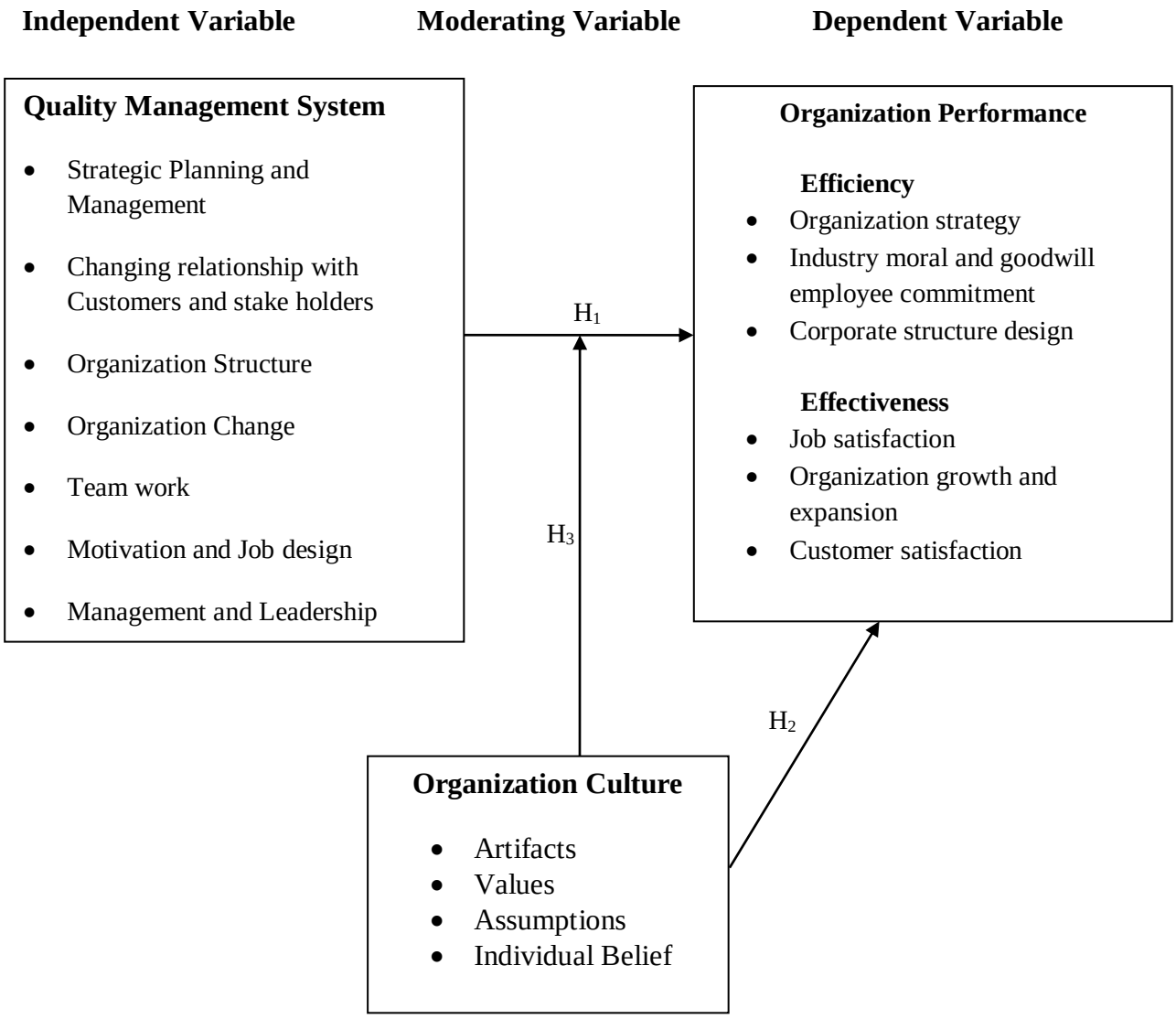


Figure 1.1 Effect of organization culture on the relationship between QMS adoption and performance on public universities in Kenya.

Source: adapted from Mathooko (2013), karani, and Bichanga (2012)

CHAPTER TWO

LITERATURE REVIEW

This chapter deals with the subsections that present an integrated review of literature related to the study objectives. The first section gives the theoretical aspect based on the study objectives leading to the study gap.

2.1 Theoretical review

A theory is a set of interrelated constructs, definitions and propositions that presents a systematic view of phenomena by specifying relations among variables with the purpose of explaining and predicting the phenomena. Based on the study objectives, institutions shape their own practices in relation to the system and the professional level to some extent, but not completely, several theories could be adopted to answer the comparative bridge that public institutions have to use for their survival: curriculum theory, equity theory and structural contingency theory.

2.1.1 Curriculum Theory

Curriculum is a sub-system of education along with others as instructions, evaluation and administration devoted to examining and shaping education curricula. Johnson (1967), as a subsystem of education, curriculum has to have a unique attributes and functions that distinguish it from the other subsystems. The term curriculum has been used as; a synonym for curriculum system that is part of the organization framework of a school or a school system within which all curriculums are made and as an area of professional study. One feature that characterizes curriculum change is the increased incidence of planning and preparation in curriculum development. Hoyle (1969), most of the curriculum changes we saw before that was of a kind best described as unplanned drift.

Curriculum theory of curricula development theory is a set of related statements that gives meaning to a school's curriculum by pointing up the existing relationship among its elements and by directing its development, its use and evaluation. This theory entails both historical analysis of curriculum and the ways of viewing the current curriculum and policy decisions. The subject

matter of Curriculum theory may be the events associated with decisions about a Curriculum, Curriculum design and Curriculum evaluation (Johnson, 1967). Curriculum theory is subject to the same rules of behavior as any theorist in the behavioral science; consequently, Curriculum theorist is obligated to engage in the most commonly accepted work practices of all that entails; establishment of descriptive and prescriptive definitions for technical terms, classification of the existing and new knowledge, inferential and predictive research and sub theory development.

2.1.2 Equity Theory

Equity theory of streamlining process is concerned with the individuals' perception and how they are treated as compared to others in the same organization environment. Developed by John Stacey Adams in 1963, Equity theory speculates that organization employees seek to maintain equity between the input they bring in work and the outcome they receive from their employers. This theory assumes that people's motivation in an organization is based on the desire to be treated equally and fairly. When the output/input ratio is viewed as equivalent then equity is perceived as attained, there is not much motivation to change the situation. When inputs are less like amount of work or time spent working, but the output of pay is higher there is a perceived inequity in the situation. Inequities occur when an organization output and input ratio is not equivalent to the comparison person. Inequities motivate the employee to try to achieve equality. When an employee feels, there is inequality they can do many things to reduce their inequity. They can increase or decrease their inputs or outputs, leave, distort their own or the others input or outcomes, or just change the comparison person.

Equity theory is based on two assumptions; Individuals make contributions: for which they expect certain outcomes employee inputs may include such things as the persons past training and experience, special knowledge and personal characteristics. Employee outcomes may include; pay recognition, promotion, prestige and fringe benefits. The second assumptions of Equity theory is, individuals decides whether or not a particular exchange is satisfactory by comparing an employee's inputs and outcomes to those of others, in the form of a ratio. Equity theory exists when an individual concludes that his/her own outcome ratio is equal to that of other people.

2.1.3 Structural Contingency Theory

Structural contingency theory developed by Jay Gaibraith (1973). This theory is guided by the general hypothesis that organization whose internal features best match the demand of their environment will achieve the best adaptation. Lawrence and Lorsch further coined contingency theory in 1967 who argued that the amount of uncertainty and rate of change in an environment influences the development of internal features in an organization. An organization environment predicts the efficiency and whatever the organization has to meet for its survival from which in turn makes the organization management adopt a strategy for the organization, which in part reflects the organization macro environment and microenvironment (Ajayi, 2001).

Following Structural contingency theory, no single organization structure works for all organizations (Donaldson, 1996). Moreover, the optimal structure of an organization differs according to situational or contingency factors like strategy, size and technology (Mitzberg, 1981).

From their literature's, (Parsons, 1961, Parsons, T. and Smelser, 2005, Mitzberg 1981, Donaldson 1996 and Ajayi, 2001), structural contingency theory deals with how a static state of fit between structure and contingency causes' high performance and its writings are within a functionalist tradition of social science that sees organizations as adapting to their changing environments

Unlike Curriculum Theory and Equity Theory, structural contingency theory is more preferable since it argues that an individual organization adapt to its environment and the qualitative changes in an organizations structure and framework gives an organization a better realization of its objectives . Moreover, an organization macro and microenvironment predicts the efficiency or whatever the organization has to meet for its survival from which in turn makes the organization management adopt a strategy for the organization. Based on the study objectives, the study adopted structural contingency theory since it not only highlights the significance of effective and appropriate alignment between people, organizational structure but organization culture and the necessary changes that foster a drastic step toward the desired future state with better usefulness. Moreover, Equity theory was also preferred to the study is that it is a motivational

theory that describes the relationship between the employees' perception of how fairly he is being treated and how hard he is motivated to work. The quality of products and services depends heavily on employee commitment, process planning, and organization strategy and job satisfaction, and if properly deployed it is more likely that Equity theory will bring success to quality initiative.

2.1.4 Organization adoption of Quality management system

The implementation of a quality management system, and its subsequent certification, is a voluntary process, supported by an organization's own strategy, motivations, policies and goals. To obtain more benefits from QMS certification, organizations may take into consideration that the design and implementation of an organization's QMS is influenced by the organization strategy, size, structure and its organizational environment (EN ISO 9001:2008, 2008). Moreover, although QMS has become common knowledge in organizations and the standard is widely adopted in different industries and sectors, organizations use QMS certification as a source of competitive advantage since Quality Management System certified organizations implement the standard in very different ways.

QMS has undergone several amendments to suit the changing global environment. The latest version of ISO 9000 QMS standards indicates that the standard is constituted by seven principles (EN ISO 9000:2005, 2005). Thus, it is very possible that certified organizations may not implement these principles to a similar extent and may exhibit varying patterns of implementation by paying extra attention to some principles that are in line with their corporate strategies (Lee. *et al*., 2009). In connection to this as QMS being one of an organization most important factor towards global competition, organization managers have to study the issues on developing QMS and an appropriate implementation strategy.

QMS is a theory, practice and philosophy, and many theorists and practitioners are contributing toward its growth. However, it is a First World concept and is less suited to the Third World due to cultural differences and that it should be adapted as a function of the national culture (Katz *et al*. 1998). Quality Management System is still considered as in its early stage of development" (Dale, B., Wu, P., Zairi, M., Williams, A. and van der Wiele, T. 2001, Gulali, 2015) and is

viewed as a programme that consists of a set of powerful interventions aimed at improving the capacity of an organization to compete successfully on the basis of cost, dependability, flexibility and it is further viewed as a key element of an organizational competitiveness (Surani, 2001).

According to Madu and Kuei (1995), Quality Management System describes a situation where all business functions are involved in a process of continuous quality improvement. This implies that the development and implementation of Quality Management Systems in any organization will improve the quality of services delivery

The ISO series of Quality Management System has been widely adopted by most organizations as a Quality Management System for improving competitiveness around the world, but with mixed success (Kuo *et al*., 2009). Despite the numerical successful factor that is born from Quality Management System, a considerable deal of criticism of the certification exists, as it is not a risk-free undertaking. Quality Management System certification inform of ISO standard series, does not guarantee improved performance due to high explicit and implicit costs associated with its implementation (Van der Wiele *et al*., 2005) making the management go back to its drawing board strategically determine its necessity. Lately, various studies have confirmed that QMS ISO certification is too expensive, time consuming, resource-consuming, formalized and impersonal and that the implementation costs are greater than the benefits derived (Bhuiyan and Alam, 2005; Casadesus and Karapetrovic, 2005).

2.1.5 Organization Performance

2.1.5.1 Organization Efficiency

Organizational efficiency is the relative efficiency by which an organization carries out its mission, and is a measure of the internal mechanisms of value creation in the conversion of inputs into tangible outputs Mouzas (2006). Tommaso and Geraint (2009) Efficiency is a constant theme that emerges from the need to remain competitive in a fast changing commercial environment. The increase pressure to achieve greater operational efficiency in HE, has made HEI at least outsource some generic services such as cleaning, security student accommodation and sports facilities. In the public sector, product efficiency has been on the agenda for some time because of intensive government reforms over the last decade and continuing financial

pressure. One way in which institutions might differ in efficiency is in terms of the rate at which students are converted into graduates. This is likely to differ across institutions owing difference in the rate of non-completion and the standard time period of the degree programme.

Increased efficiency is central to performance improvement and main goal towards an organizational change effort. Globally, organization efficiency has been considered more directly as part of the value for money drive and pursued using a range of mechanisms and approaches Rodriguez (2014). Law (2000) organization efficiency is measured using different approaches concerning data and methodological framework, and Sometimes indexes and however, these approaches are rather measurements of productivity. Based on the study, organization efficiency will be measured based on organization strategy, subordinate goals, development of organization employee skills, motivation of employee's commitment, corporate structure design and development of corporate and employee style

2.1.5.2 Organization Effectiveness

In an organization set up, the drive towards effectiveness has to be tempered by the amount of expenses incurred in the process. Organization effectiveness is defined and measured in a variety of ways. Zheng (2010) and Forbes (1998) organization effectiveness is termed as the ability of an organization to acquire and exploit resources to sustain the organization's own survival and functioning. Worrell *et al.,* (2001) provides the definition of the word "effective" as being successful or achieving the required and wanted results. From this, the meaning of effectiveness is made clear in a way that there is no special index for determination of effectiveness.

Paul, Dutta and Saha (2016) Organization effectiveness is about the ability of the organization to meet its set goals and objectives. Organizations vary with respect to their functions, size, structure and circumstances in which they operate. Every organization has a pre-determined goals and objectives that drive it. An organization is considered effective only when it meets its stipulated goals and objectives. Organization effectiveness calls for creating sustainable growth and development of an organization by taking care of its stakeholders.

In Higher Education Organizations, Worrell *et al.,* (2001), Paul, Dutta and Saha (2016) and Zheng (2010), organization effectiveness is about each individual doing everything that they

know how to do and doing it well. Effectiveness is a complex phenomenon as it largely depends on the strategies that an organization adopts for individual development. Moreover, Organization effectiveness is used in indication of goal attainment, growth, profitability, and productivity and employee satisfaction. A highly effective organization exhibits strength across its five organization areas; leadership, decisions making process, people and work process and culture.

2.2 Empirical Literature review

2.2.1 Quality Management System Adoption and Organization Performance

Njeru (2016), Assessed the relationship between total quality management and employee performance in public universities in Kenya. The study had four objectives: To examine the relationship between training and employee performance in Kirinyaga university college, to determine the relationship between quality management system and employee performance in Kirinyaga university college. to establish the relationship between employee participation and employee performance in Kirinyaga University college and to evaluate the relationship between Leadership and employee performance in Kirinyaga University College. Data for all objectives were collected by a way of interview schedules and questionnaires. The study found out that Quality Management Systems contributes more to increase Employee Performance. However, the study was limited to employee training, quality management systems, employee participation, leadership, and only one public University in Kenya. The research design used was a case study research design approach and Stratified random sampling technique was used to select the sample. The use of stratified random sampling can be subjective since the researcher has to identify every member of a population being studied and classify each of them into one, and only one, subpopulation and this can be disadvantageous when a researcher can't confidently classify every member of the population into a subgroup and overlapping can be an issue if there are subjects that fall into multiple subgroups. Further, the study only focused on one variable that influences TQM implementation and the study scope entailed one public University hence giving discrepancies on the study findings. The current study will be based on quality management system five principles; quality policy, Process planning, continual improvement, Investment in material and human resource and organization streamlining process, use census survey on public universities in Kenya.

From his study, Kasongo (2010) on factors that lead to a successful TQM implementation, a case study on the Zambian tourism industry, investigated the following variables, quality practices of top management, employee involvement in quality management system, customer focus, process and data quality management, and quality tools and techniques implementation. According to the study findings, these factors significantly affect the company's performance with respect to their internal procedures, customers, market share and the natural and social environment.

Gulali *et al.* (2015) using an explanatory cross sectional survey research design carried out a case study on the effect of implementing QMS on the performance of Kenyan Universities a case of Maseno University. The study was anchored on four objectives: establish the extent of QMS implementation, examine the effect of QMS implementation on students' enrolment, and establish the effect of QMS implementation on employee performance and to establish the effect of QMS implementation on the infrastructural growth. The study population was the non-teaching personal of public University. The study findings revealed that QMS implementation had a positive impact student enrolment and, infrastructural growth of an organization. This study was limited to one public university and on non- teaching personal. The current study will be based on the top management of 11 QMS certified public universities in Kenya, and organization performance will be anchored on effectiveness and efficiency.

Zhang (2006), conducted a study on the implementation of total quality management, an empirical study of Chinese firms, where he analyzed the following variables on TQM implementation, leadership, supplier management, vision and plan statement, evaluation, process control and improvement, product design, quality system improvement, employee participation, recognition and reward, education, training and customer focus, where employee participation and training had a stronger relationship on implementation of total quality management programs in the manufacturing sector in China. Although this study focused on all TQM variables and employee participation as one variable in organization efficiency, yet it ignored Industrial Moral and goodwill and also organization time. Moreover, the study was conducted in China Manufacturing sector.

Faisal *et.al* (2013) investigated the relationship between total quality management (TQM) practices and Quality performance in Indian service companies. The study was anchored on six

Hypotheses: Quality culture for TQM practices is positively correlated with quality performance, Human resource management for TQM practices is positively correlated with quality performance, and Strategic planning for TQM practices is positively correlated with quality performance and Employee encouragement for TQM practices is positively correlated with quality performance, Product and service design for TQM practices is positively correlated with quality performance and Communication for TQM practices is positively correlated with quality performance. Using a self-administered instrument, a stratified sampling procedure was utilized. The findings revealed that TQM practices were partially correlated with quality performance and that quality culture was perceived as the dominant TQM practice in quality performance. Moreover, other practices such as quality systems, training and education, teamwork, and benchmarking showed a positive relationship with quality performance. The study was limited by including only four industries in the selection of service companies, making a possibly biased selection that may not be adequate to generalize the results for the entire Indian service companies.

Anchored on Motivation-hygiene theory (Two-factor theory) by Fredrick Herzberg and Abraham Maslow's Hierarchy of Needs Theory, Kamau (2015) developed a detailed study on the relationship between human resource management and staff retention in public hospitals in Kenya, a focus on Gatundu District Hospital. The study sought to determine the relationship between reward practice and staff retention and relationship between employee training and staff retention through the use of reward practices, training and health and safety practice to boost employee performance and aid in attraction, motivation and staff retention. The study revealed that a unit increase in employee Reward Practices led to increase in the staff retention, and a unit increase of employee training lead to an increase in staff retention moreover, a unit increase in health and safety leads to an increase in staff retention. Further, the study findings revealed that employee training contributes to efficiency of service in hospital. This study does not give an insight that Quality Management System can affect performance efficiency in an organization and also only focused on one aspect of performance.

While studying on the influence of employees' involvement in performance assessment system on employees' creativity of sales and engineering departments of Ebtekar manufacturer Sayyed

(2012) undertook an empirical survey and analyzed data by descriptive analytical methods. A sample size of 97 employees was selected by simple random. In the study by Sayyed (2012), questionnaires were used for data collection and structural equation modeling was used for data analysis. The results of the study by Sayyed (2012) showed that all effects were adopted with the theoretical framework. Therefore, the variable of employees' involvement in performance assessment system positively influences the employees' abilities and skills to create creativity on efficiency of performance.

Garry (2002) in a study on measuring public sector efficiency, a study at the Economic Department at Australia University, compared the initial and subsequent performance of economics departments. The analysis applied survey data to a non-parametric data envelopment analysis model. Model results suggest that while overall performance has improved substantially, further productivity improvements are required for new universities to achieve best practice. Moreover, the problems associated with measuring financial performance and programme effectiveness in government, productivity measurements are regarded as performance indicators. Garry (2002) study only focused on one department at the Australian University of which its findings cannot be used to represent Universities in general and more so in Kenya.

Moturi & Mbithi (2015), study presented the experience and impact of implementing the ISO 9001: 2008 Standard at the University of Nairobi, in relation to effectiveness on service delivery, operational performance, automation, implementation challenges and related emerging issues. The paper adopted a case study design approach based on qualitative analysis of internal audit reports, internal surveys and feedback, surveillance audits conducted by the certifying body, and rankings by external bodies, over a period of seven years. Significant achievements have been realized with regard to institutionalization of quality into the university processes, work environment, documentation and record management, customer satisfaction, infrastructure and facilities, use of ICT as a prime mover of performance improvement, and ranking of the university. Opportunities for improvement as well as critical success factors are presented.

Ochieng, Muturi & Njihia (2015), the purpose of this paper was to establish the effect of ISO 9001 implementation on the performance of organizations in Kenya. It specifically targeted organizations listed on the Nairobi Securities Exchange (NSE), which is the leading securities

exchange in East Africa. The survey made use of web content analysis to collect data from these organizations' web sites. Data were collected on net profit, turnover and net assets over a four-year period (2010-2013). The research used statistical data analysis to investigate the association between ISO 9001 implementation and performance. Results of the survey reveal that ISO 9001 certification influenced return on net assets of the organizations 0.05 ($p< 0.01$) statistics analysis of significance of variation, thereby influencing their performance. There was significant differences in net asset value among organizations with ISO 9001 certification and those that did not possess the certification. On profit and revenue, there were no significant differences between the ISO 9001 certified and non-certified organizations.

Joanna (2014), evaluation and explanation of efficiency in higher education in Europe and the U.S. That study found that efficiency is correlated to features, which are prevalent in the UK system, such as evaluation by stakeholders and/or independent agencies, and high levels of autonomy in the areas of recruitment and human resources strategy. The UK scored highest on both of these measures.

Karani, & Bichanga (2012) conducted a descriptive case study research on Kenya Wild Life Service to establish the Effects of Total Quality Management implementation on business performance in service institutions. The study in which 60 top management, middle and junior from the different departments based at the KWS head quarters were involved adopted a descriptive survey design. The study focused on three objectives: determine the TQM principles used in KWS, obtain the effects of TQM implementation on organizational business performance and to determine challenges in the implementation of TQM practices at KWS. The study findings indicated that effective management leads to improved performance, and there is need to put more emphasis on all TQM principle to ensure more organization business performance, tools in process approach need to be fully employed in implementation of TQM. Further the study emphasized on organization need to focus more on already established factors like management response to customer' complaints, service delivery to customers and organization communication and balancing the needs and expectation of interested parties which have an impact on customer satisfaction.

Kimani and Bichanga (2013) sought to the effectiveness of ISO certification on service delivery in public universities in Kenya. The study sought to identify the effectiveness of ISO 9001:2008 on service delivery in ISO certified public universities in Kenya and establish the effects of adaptability to changing market need, teaching facilities improvement, curricular development and streamlining of processes as a result of ISO certification. The findings of this study indicated that streamlining of processes as a result of ISO certification influences the public universities' service delivery most, followed by curricular development, teaching facilities improvement and adaptability to changing market needs. This study was limited to a sample of 200 students who are the primary customers to institutions of Higher Learning. The current study will adopt a census survey on top management personal of public institutions that are believed to be the driving force towards performance in an organization.

Thuo (2013) developed a descriptive survey to establish how the performance of service organizations is influenced by the adoption of ISO 9001 standards. The study sought to: establish whether there are significant differences in operational performance between internally motivated firms and externally motivated firms to certify with ISO 9001.the study adopted a census survey on 53 service organizations with target respondents being operations managers, quality managers and implementers of ISO 9001. The findings of this study revealed that implementation of ISO 9001 are beneficial in terms of improving the operational performance. The study was limited on the basis that it was cross-sectional in nature and the snapshot views may not explicitly show the relationship between adoption of ISO 9001 and operational performance. Furthermore perceptual measures of performance and implementation were used which may have resulted to biases or ineffective calibration as a result of the respondents' dispensations. Furthermore, the adoption of the ISO 9001 standard was considered on service organizations that have adopted it on the basis of one auditing agency.

Falola, Osibanjo (2014) study on evaluating the effectiveness of health safety and environment management system training programmes, in Tehran 9th district municipality. The study adopted a random sampling data on 72 respondents. The study results showed that holding training programs was effective in increasing the knowledge, changing attitude and enhancing the skills of the staff.

Thiagaragan Zairi Dale, (2001), in an empirical study of TQM implementation in the Malaysian industrial context, The study focus was to identify quality factors for effective TQM implementation, which are critical for TQM to flourish in Malaysian industries, and to understand the dynamics of TQM implementation in a Malaysian context, based on understanding how the current knowledge of TQM implementation is developed, investigation of TQM implementation experiences in Malaysian organisations, identification of the key quality factors for effective TQM implementation in Malaysian organisations and analysis of how the key quality factors are deployed. From the study, the construction of the TQM implementation framework is primarily based on findings representing the experiences of TQM organisations, the vast majority which are two to three years into the implementation. It has been shown that the core used to construct the framework are general sable and is presented more as a guide for organisations contemplating a TQM initiative.

According to Yeung, Lee and Chan (2003) While ISO 9000 certification is increasingly becoming 'a passport for businesses in the marketplace, its effectiveness in enhancing an organization's performance is highly controversial. In recent years, some researchers have argued that the effectiveness of ISO 9000 is highly dependent on management's attitudes to and understanding of the standard. Yeung, Lee and Chan (2003) empirical study on gaining ISO certification and the 'attitudes to implementation' and 'confidence of understanding the standard' among senior management affect the development of a quality management system (QMS) and subsequently organizational performance. The study findings were although senior management's confidence in their understanding of the standard and quality management is the most influential factor for the development of their QMS and to the induction of changes in systems, it does not improve organizational performance. On the other hand, organizations that believe the ISO 9000 should be adopted for operational objectives and serve as a system foundation for operations achieve the best organizational performance.

Regarding the demand for increased quality, several authors have introduced quality management principles into various aspects of organization performance based on efficiency and effectiveness. Njeru (2016); Zhang (2006); Kamau (2015); Sayyed (2012); Moturi & Mbithi (2015); Ochieng, Muturi, & Njihia (2015); Joanna (2014) conducted studies on organization

effectiveness and quality management system, and revealed both positive and negative results. Karani, & Bichanga (2012); Kimani, and Bichanga (2013); Thuo, (2013); Thiagaragan, Zairi and Dale, (2001); Yeung , Lee and Chan (2003), studies on organization Efficiency and QMS, both revealed a positive and negative correlations basing on organization performance. Drawing on the development of notions of efficiency and effectiveness in HE reviewed in an earlier section, Joumady and Ris (2005); Garry (2002); Zhang (2000) established cost and outcome performance as complementary dimensions in the operations of HEI. From their study, the definitions of cost and outcome efficiency, is on first degree, higher degree and research and were based on one or two organization effectiveness variable. Moreover, the assessment of the organization performance of an individual university has rather a centralized character as its results have an implication on the policy of the funding bodies basing on the different systems adopted by several organizations, and anchored on one or two organization effectiveness variable. No study focused on the relationship only based between quality management system and organization performance. This study will not only focus on this gap but ensured that organization performance was anchored on: corporate structure design, Organization strategy, Industry moral and goodwill as performance efficiency variables and job satisfaction, customer satisfaction, organization growth and expansion as performance effectiveness indicators.

2.2.2 Organization Culture and Organization Performance

Aluko, (2003) studied multidimensional impact of culture on organizational performance in selected textile firm from Lagos, Asaba and Kano in Nigeria, in which 630 respondents were selected using multiple sampling techniques. The main finding of the study was that irrespective of their cultural backgrounds, workers in the textile industry appeared to have imbibed the industrial way of life. Further, the results of the analysis of the cultural variables showed a high level of commitment to work, low level of labor turnover and absenteeism, positive beliefs about work, positive work values, attitudes, and norms in all the firms studied. But these positive attributes of the cultural variables did not translate directly to high level of organizational performance in these mills because some other variables were at work. This study was a relatively small one, as it did not focus on the way in which cultural values influence work behavior and how this in turn determines organizational performance.

ul Mujeeb and Ahmad. (2011), in their study on the impact of Organizational Culture on Performance Management Practices in Pakistan found out a positive relationship between elements of organization culture and performance management at a confidence level of 0.99. This study adopted exploratory research design, on a population of 60 COMSATS institute of information technology in Pakistan. In addition, from the correlation analysis of organization culture traits, management practice revealed a positive significance with involvement 0.736, consistency 0.837, adaptability 0.767 and mission 0.815 ($r > 0.01$)

Nikpour, (2017) based his research on the mediating role of employee's organizational commitment on organizational culture and organizational performance, used a survey study design on 190 employees in education office of Kerman province. The study focused on involvement, consistence, adaptability and mission as organization culture attributes and efficiency, effectiveness, productivity, quality and innovation as organization performance attributes. He found out that organization culture had a positive impact on employee organization commitment and organization performance. The study analysis pointed that organization culture beyond its direct impact on organization performance indirectly influence organization performance through employees organization commitment. Moreover, the indirect impact had a correlation value of 0.7 higher than the direct impact of 0.68 hence organization commitment had a mediator impact on the relationship between organization culture and organization performance.

A quantitative survey based on non-experimental research by Allard (2010), indicated a significant negative relationship between employee, organization culture and organization performance with $r = -0.52$ $p<0.001$. Further, the study revealed that employee longevity with an organization, moderated the relationship between employee organization culture and organization performance with $p = -15$ and $p = 0.12$. Fakhar, Iqbal and Gulzar (2013) also adopted a survey method to determine the impact of organizational culture on employees' job performance in Software Houses in Pakistan, on a sample of 110 employees. The study adopted descriptive statistics, correlation and regression analysis. The study concluded that organization culture has a significant positive impact on employee job performance with an adjusted R^2 of 0.716. Pearson correlation between organization culture and employee performance was 0.415

which is a positive value and having a moderate effect because the value is between 0.3 to 0.7. Allard (2010) and Fakhar, Iqbal and Gulzar (2013) study based organization culture on employee participation, openness to communication, risk taking and innovation, customer service orientation and reward system as its attributes.

In an empirical study carried out in Indonesia to explain the relationship between organizational culture and firm performance. Wahjudi.*et.al* (2016) postulated that organization culture only explains 20% of a firm's performance while other factors such as total quality management, total productive maintenance, supply chain, management practice business strategy and public policy. Moreover, from the 20% only individualism and uncertainty avoidance significantly impact firm's performance unlike power distance, masculinity and long term orientation in Indonesian manufacturing firms. Shi, Veenstra & Lee-Chin. (2017) also conducted a study on the moderating effect of cultural values on the relationship between corporate social performance and corporate financial performance. The study data set covered 3,574 firms from 37 different countries. This study revealed that the interactions between corporal social performance and individualism, power distance, masculinity and indulgence have a negative effect on corporal financial performance while the interaction between corporal social performance and long-term orientation has a positive effect on corporal financial performance. This study finding highlights the importance of cultural values in influencing the valuation of an organization.

Using a cross sectional survey method, Tsai, (2011) analyzed 300 hospital nurses in Taiwan and found out that organization culture was significant positive correlated with leadership behavior and job satisfaction with r = 0.55 and r = 0.47 respectively. Allard, (2010) also used a cross sectional survey method from 250 organizations in examining the relationship between organizational culture and performance. From his study organization culture was an independent variable with innovation, leadership, decision making and communication as its attributes. The study revealed that organization culture and employee performance, were positively related but weak with a correlation coefficient of 0.245 at a significant level 0.05 (1-tailed test)

In a survey study conducted by Acar and Acar (2012) on the effects of organizational culture and innovativeness on business performance in healthcare industry, a survey design on 332 employees of 65 private hospitals revealed a positive effect of innovation and organization

culture on business performance. Mohammad. (2006) also carried out a survey study on elicit responses from hospital managers and employees and found out that the success of TQM in hospitals with organic organizational structure and medium organizational culture was higher than mechanistic and bureaucratic hospitals with weak organizational culture. Further, Zhu. *et al* (2016) conducted a survey126 juvenile product sector firms and revealed that the underlying assumption of organization safety first affects the espoused values and artifacts of organizational culture

Agwu (2014) investigated organizational Culture and Employees Performance in the National Agency for Food and Drugs Administration and Control, Nigeria. From this study organization, culture was based on shared values, beliefs and norms. A descriptive research design was adopted on 420 employees. The study revealed that there is a strong significant relationship between organization culture and increased employee productivity.

Lapiņa, Kairiša, & Aramina. (2015) carried out a study on the role of organizational culture in the quality management of university. This study was based on scientific publications review using logical and comparative analysis method. Interestingly, the findings of the study revealed that organizational culture makes ground for quality management and is directly connected to development. Further, Naranjo *et. al,* (2016) carried out a study on links between organizational culture, innovation, and performance in Spanish companies**,** and was based on more than fifteen employees located in southeast Spain. The empirical findings of the study revealed that the organization culture affects performance and firms' innovation basing on adhocracy culture and clan culture.

Studies by Aluko,(2003), Allard, (2010) and Shi, Veenstra & Lee-Chin. (2017) revealed a negative significance on the interaction between organization cultures on performance. Further, studies survey studies by ul Mujeeb and Ahmad. (2011), Nikpour (2017), Tsai (2011), Acar and Acar (2012) and Mohammad. (2006) revealed a positive significance on organization culture and employee performance, corporate financial performance and corporal social performance respectively. From the above studies, there is a clear finding that organization culture has both a positive or negative impact on performance; however, these studies were carried out service institutions such as hospital ICT institution and national funds agencies in Nigeria, Pakistan and

Indonesia public and private institutions. The current study will be based on Kenyan public Universities.

From their studies, Nikpour (2017), Allard (2010) and Wahjudi.*et.al* (2016) focused on organization culture basing on different aspects in that; Nikpour (2017), based his study on involvement, consistence, adaptability and mission as organization culture attributes, Allard (2010) focused on employee participation, openness to communication, risk taking and innovation, customer service orientation and reward system as its attributes while Wahjudi.*et.al* (2016) focused on individualism, uncertainty avoidance power distance, masculinity and long term orientation. Moreover, Agwu (2014) on his study shared values beliefs and norms were used as organization culture attributes, which will be in line with the current study though it only focused on three cultural attributes while the current study will adopt artifacts as its fourth attribute.

2.2.3 Organization Culture, Quality Management System Adoption and Organization Performance

Mahmood, Qadeer & Ahmed (2014) basing their study on 396 textile manufacturing firms which are members of All Pakistan Textile Mills Association, observed that two of the four dimensions of TQM: continuous improvement and employee involvement had positive and significant impact on organizational performance with, whereas the other two dimensions; customer focus and top management support had insignificant relation with organizational performance. Mahmood, Qadeer & Ahmed (2014) study also found out that continuous improvement significantly and positively affect organizational performance and the relationship of employee involvement with organizational performance is also positive and statistically significant. The study concluded that in order for an organization transform quality certifications into performance enhancement, changes be monitored with several times of data.

In a survey in Australian industries, a structural equation modeling technique was adopted on 174 managers, Prajogo and Sohal (2003) found that TQM significantly and positively relate to both product quality and product innovation performance, although it appeared that the magnitude of the relationship was greater against product quality. In addition, significant causal

relationship between quality performance and innovation performance were found suggesting that achievement of one aspect of performance could impact the other. Kontoghiorghes (2016) study used structural equation modeling technique on a sample of 897 automotive supply chain employees of a full service supply chain management company operating in the south western United States. The study revealed that strategically aligned and ethical high performance, organization culture has a strong effect on talent attraction and retention. Prajogo and Sohal (2003) and Kontoghiorghes (2016) study therefore concentrated on the use of structural equation modeling technique neither did the study explore how the factors moderated the organization performance being employed by TQM in automobile industry.

Wanyoike, R W. (2016), conducted a study to establish the effect of quality management practices on performance of manufacturing firms in Kenya. A census survey was adopted on 60 manufacturing firms in Kenya. Anchored on Quality improvement theory and Institutional theory, the study focused on two objectives; assess the moderating effect of the operating environment on the relationship between quality management practices and performance and to establish the mediating effect of organizational capability on the relationship between quality management practices and performance. The study revealed that organizational capability partially mediated the relationship between quality management practices and performance. Further, the study results on the moderated effects of operating environment and performance showed a positive and statistically significant relationship thus implying that the operating environment has a moderating effect on the relationship between quality management practices and performance. The study adopted a cross-sectional survey approach.

Sanders Jones and Linderman (2014) also carried a survey on 239 manufacturing firms. From their study, performance was measured by efficiency and innovation. The study revealed that, the influence of process design on efficiency and innovation, performance is not dependent on competitive intensity. However, the impact of process improvement and process control on efficiency and innovation performance is in some instance moderated by competitive intensity. Moreover, Hussain and Younis (2015) carried out a survey on synergic impact of leadership in cultivating the organizational performance outcomes of quality management practices in Pakistan. Using multiple regression model, the study revealed that there was a Partial moderation

between organizational performance and construct of quality management practices. Hussain and Younis (2015) and Linderman (2014) studies were anchored on survey study design. Moreover, Hussain and Younis (2015) study focused on pharmaceutical firms in Pakistan while Linderman (2014) focused on manufacturing firms. The current study will be anchored on descriptive survey on public Universities in Kenya.

A survey study by Din, S., Abd-Hamid, Z., & Bryde, D. J. (2011), explored the relationship between an ISO 9000 certified quality management system (QMS) and elements of performance in construction project environments. The study explored three elements of performance: project management practices, financial management practices and Project Success. The study indicated that ISO 9000 certification had a positive moderating effect on the casual relationship between project management Practices and Project Success. Based on the survey results a Project Management Performance Assessment for Construction model is developed, which extends the Project Management Performance Assessment to include performance enablers linked to financial management activities. The survey was limited to the construction sector in Malaysia.

Roldán *et.al* (2017) basing on their research on moderating role of an inter-organizational IT infrastructure and the complementarily of learning styles among an organization committed to quality improvement and its supply network from 270 managers of European firms. The study revealed negative effects of quality management on open innovation performance. However this could be overcome by complementing the organization's learning style with that of its open innovation partner, particularly, its supply network, and, most importantly, obtaining information technologies compatible with those of its supply network members.

Demirbag *et.al.* (2006) basing their research on financial performance observed that there was a significant relationship between the TQM practices and internal and external failure and firm performance. Customer focus and participation are important predictors for internal failure. The study also found out that Customer focus and quality system moderates the relationship between TQM implementation and organization performance. Moreover, customer focus and quality system found to be important predictors for external organization failure while some of the internal and external failure elements are particularly strong predictors of firm performance.

Changiz , Mohsen (2015) conducted a survey study on the moderating effect of motivations on the relationship between obtaining ISO 9001 certification and organizational performance using a structural equation model. The study was anchored on three objectives: investigate if ISO 9001 certified companies in an Iranian province (Kermanshah) perform better than non-certified ISO 9001, what is the main motivation of the manufacturing companies of Kermanshah province on obtaining ISO 9001 certification and if ISO 9001 certified companies with high scores of internal motivations, show better levels of performance in comparison with certified companies obtaining low scores of internal motivations. This study revealed that the motivations, especially the internal motivations have a great effect on the performance of the surveyed companies which leads companies toward building competitive capabilities which eventually appears in their performance. The study results demonstrate that ISO 9001 certified companies show better organizational performance than non-certified ISO 9001 companies and internal motivations moderates an organization in obtaining ISO 9001 certificate and performance. This study was restricted to only a single region and manufacturing and the data collected was cross-sectional. Moreover, the study findings revealed that the large organizations have better knowledge management capabilities compared to the medium organizations

A survey study by Iqbal, T. *et al* (2012), on the effect of TQM practices on the performance of the telecom sector of Pakistan. The study found that innovation performance had a Partial mediating impact between TQM and organization performance, whereas, quality practice mediation impact was not established. Moreover, culture of support had a moderating role in the relationship between TQM practices and the organization performance. This study was only limited to the telecom industry of Pakistan and the study sample size was limited due to time.

Mahmood, Qadeer & Ahmed (2014), Prajogo and Sohal (2003), Sanders Jones and Linderman (2014) Studied were similar in the sense that a moderation study was carried out in a survey research design on manufacturing firms. The findings of these studies revealed a positive and statistical significant moderation effects. In support Wanyoike, R W. (2016), study anchored on Quality improvement theory and institutional theory revealed a moderate mediation effect on the relationship between Quality Management System and organization performance. Further, Hussain and Younis (2015), Din, S., Abd-Hamid, Z., & Bryde, D. J. (2011) studies on Quality

Management System and organization performance revealed a positive moderation effect. However, Roldán *et.al* (2017) study revealed a negative moderation effect. These studies, though focused on service institutions, used a survey research design on service industries in the developed countries and were limited to ICT telecommunication and Health institutions. Quality Management System as new culture in the existing organization culture can have influence in performance. Based on Quality Management System and performance, as study variables organization culture, was adopted as a moderator variable this was due to the Increase in globalization, more interaction among individuals from a diverse culture perspective are needed for organization competitive advantage. Moreover, the maximization and capitalization of diversity in a work environment has become an important issue for management in developing countries and the culture of any organization is a significant factor in its success or failure. The role of organization culture as a moderator variable can have an effect of performance, as it is the glue that that combines the non-human resources to that of human resources in the organization to establish teamwork and excellent performance and needed an investigation in the higher learning institutions.

2.3 Summary of Literature Gaps

The foregoing review of literature has attempted to present a comprehensive coverage of Quality Management System adoption on service and manufacturing industries and its consequences on performance. The literature has revealed that organizations do adopt Quality Management System with a motive of improvement both internal and external of its operating environment, and that organizations that do focus on quality as a competitive weapon may have an improved quality results in increased productivity and profitability as well as strengthens the firm's competitive position in both local and international market. Further, guided by statutes and policies such as effectiveness and efficiency, and anchored on structural contingency theory, Public universities in Kenya are faced with staff disillusionment. Previous studies from the reviewed literature have focused on different aspects of Quality Management System and organization performance and have anchored their argument on one aspect of performance. As a new culture in an organization that has an existing culture, studies that have focused on the relationship between Quality Management System and organization culture have given mixed

results as some of the studies anchor organization culture on one or two of its attributes. Moreover, the use of organization culture as a moderating variable is deemed to have an impact on Quality Management System adoption and performance of an organization, since the aspect of culture and ethnicity has been a core driver towards this turnover, and it's argued that rather than trying to inspect the quality of products and services after they have been completed, quality management system instills a philosophy of doing the job correctly the first time. It all sounds simple, but implementing the process may require an organizational culture that is often alien and intimidating. Quality management system can be said to be of certain norms compared to the existing organizations' norms. Bringing a new culture into a system without taking keen interest on already existing organization culture can lead to a blow or success on an organization. Hence little is known on how organization culture moderates Quality Management System on performance of an organization.

CHAPTER THREE

METHODOLOGY

This chapter describes the methods and procedures used to address the research problem relating to the questionable link on QMS impact on organization productivity. It also outlines the study design, population area, sampling technique, data collection procedure, data collection and data analysis. This chapter also describes the ethical issues considered in the study.

3.1 Research Design

Research design is an arrangement of conditions for collecting and analysis of data in a manner that aims to combine relevance to the research purpose (Kothari, 2004). Research design starts with the selection of the study based on the research methodology; identify the objectives and the research questions. From the literature, the study asserts that in order to meet the research objectives, a quantitative approach be emphasized since there exists an aspect of similarity between the social and natural phenomenon.

The study adopted a correlation design. Correlation research design aims to ascertain if there are significant associations between study variables (Kothari, 2004). Moreover, due to the study population size, census survey will be adopted. According to Nachmias and Nachmias (2008), Cooper and Schindler (2001) and Mugenda and Mugenda (2003) a survey is most appropriate where the aim of the study is to determine the existence and the extent of a research problem and also involve the aspect of asking a large group of respondent questions about a particular issue.

3.2 Study Area

This study was conducted on public universities in Kenya as per the commission of University education report 2015 (appendix 1). Kenya is located on the East Africa region. It is divided into almost two equal parts by the Equator and lies between 4.5^0 N and 4.5^0 S latitude and 34^o W and 42^o E. Kenya has an area of 584,000Km^2, and is divided into 47 counties. There are 48 universities in Kenya from which 22 are public owned 12 with letter of interim authority and14 private chattered. QMS adoption in Kenya has had a great support by most of organizations due

to its advantages. The focus on this study concentrated on public universities certified by Kenya Bureau of Standards (appendix 2).

3.3 Target Population

The population of the study comprised 11 public universities in Kenya who attained QMS certification through KEBS. A target population is that group of people from whom the study was designed and generalizations of the findings are made from (Kothari, 2004).

The study unit of analysis entailed organization management personal in the 11public universities. This did not include the other subsidiaries either operating under the principal University umbrella or name. The target population of this study constituted only the respondents from the 11 QMS certified universities and comprised of 215 management Personnel (appendix3).

3.4 Sampling frame

A census survey approach was adopted on the 11 QMS certified public universities in Kenya. According to Kothari (2004), census survey enhances validity of the study providing a true measure of the population with no sampling error availing detailed information about small sub groups within the population and providing benchmark data for future studies.

From the study target population, a sample frame was obtained from the 215 management Personnel was based on 11 vice chancellors, 38 deputy vice chancellors, 11 finance officers, 25 registrars, 106 deans and 11 librarians (appendix 3).This enabled and ensured that members in the target population get equal and independent chances of being included in the sample.

3.5 Data type and data collection

3.5.1 Source of data and data collection procedure

Primary data were used for this study and was collected using questionnaires from senior and top managers. To avoid misinterpretation of the questions by the respondent, the researcher with the help of a team of research assistants who were locally trained, were used to administer the

questionnaire. Questionnaires were much preferred by the study since it can be used to gather data in a short span of time and within minimum expense. (Meller, 2001) Unlike interviews, Questionnaires can be administered to a large number of respondents at different geographic location in a short time period yet guarantees high response rate with a diversity of information on the same (Grinnell, 2001).

3.5.2 Reliability test for data collection instrument

Reliability refers to the extent to which an experiment, test or any measuring procedures yields the same results when subjected to several trials (Orodho, 2003 Oso and Onen, 2009). Since it is difficult to administer the instrument to census survey respondents twice while dealing with the top management, the study adopted Cronbach's coefficient Alpha, as it is the commonly used as a measure of internal consistency. Cronbach's coefficient alpha reliability of 0.7 was deemed the instrument reliable as indicated by Churchill, (1979). However, this threshold can be flexible and 0.6 levels is also adequate when additional items are added in the block or in the questions measuring the same latent variable have a high reliability scores (Hair. e*t. al 2006*).

From the study, the research instrument was tested on a pilot group of 45 respondents from the area under investigation that included two universities out of the Elleven but was not included in the final results analysis. The results of analysis established a Cronbach's coefficient Alpha of organization culture indicating 0.917, Quality Management System adoption 0.815 and organization performance 0.938 all of which were well above the recommended threshold of 0.7 Hair *et al* (2006). Further, any inconsistencies, inadequacies and weaknesses of the research instruments identified during the pilot study were corrected with the assistance of strategic management experts.

Table 3. 1 Cronbach's Alpha Reliability Test Results for Organization Culture, Quality Management System adoption and Organization Performance

Reliability test results for the instruments	Cronbach's Alpha	Number of items
organization culture	.917	23
Quality Management System adoption	.815	7
organization performance	.938	30

Source: Pilot Survey Data (2016)

3.5.3 Validity test for data collection instrument

Study validity is defined by the degree to which results obtained from analysis of data actually represents the phenomenon under study (Mugenda and Mugenda 2003, Amin, 2005, Oso and Omen, 2009). To enhance the validity of the research instrument, two basic types of validity have been proposed: content validity (assessed through literature survey) and construct validity (through analyst assessment entailing experts in strategic management field)

3.5.3.1 Content Validity

The study content validity was achieved by subjecting a pool of questions underlying dimensions of Quality Management System to experts drawn from the academic field and practicing professional in the discipline of Strategic management and Quality Management System Champions. The experts helped and assisted in looking at the relevance of the study issues and ensured accurate information. Content validity can be accessed through literature survey / searches (Oso and Omen 2009) to ensure items are based on the domain of the study concept. The experts provided guidance and advice; they expressed their agreement and disagreement with the use of different items on a likert scale of 5 points. The comprehensive literature review and proofreading done helped in incorporating relevant issues in the study. These issues helped the researcher in gathering and collecting relevant data from the various categories of respondents. In addition, all the study constructs were standardized quantitative measures, which were not based on the respondents' perception but rather their knowledge of the phenomenon under the study. The results yielded a high degree of agreement on the predicted measures as per

the literature. This results yielded seven items for Quality Management System Adoption, thirty items for Organization Performance and twenty three items for Organization Culture. The experts revised the questions and response options until all evaluators concurred that each question and each response option fairly reflected accurately the requisite underlying dimensions for each construct. More so, the pretest respondents disclosed that the content of each construct was well represented by the measurement of the items employed.

3.5.3.2 Construct Validity

Construct validity refers to the degree to which the items on an instrument relate to the relevant theoretical construct Amin, Khaled& Fadl-Allah, (2010). For construct validity, the model parameters were compared with those previously used in other studies such as Otieno (2010), Dobrzański and Roszak, (2007) and Mizikaci, (2006) to determine the extent to which it agrees with what Mathooko (2013), karani, and Bichanga (2012) and what the theory say measures of this construct should behave. This yielded positive result, justifying the application of the tool in examining the effect of organization culture the relationship between Quality Management System adoption and organization performance. The construct validity of organization culture, which was operationalised by, Artifacts, Values, Assumptions and Individual Belief, did not pose major challenges since the variables were measure using parameters consistent with those of leading scholars Aluko, (2003), Allard (2010) and Fakhar, Iqbal and Gulzar (2013)

3.6 Data Analysis

Qualitative data was analyzed using descriptive statistics such as means, frequency counts and percentages. Further inferential statistics, Chi-square test at 95% confidence interval was used to compare the difference between categories frequencies when data is categorical and drawn from a population with a homogenous distribution (Oso and Onen, 2009). To achieve the study objectives the study measured the degree of association. Therefore, the relationships will be used to give the study multivariate analysis where the three variables are associated with the dependent variable. The study decision rule was based on the calculated p-value.

3.6.1 The Proposed Conceptual Model specification for the study objective.

Due to the intrinsic weakness in a study correlation results and the difficulty in the determination of causality Ruane (2005), there is therefore need to exercise caution when interpreting correlation results, since correlation, results could not reveal other measured or unmeasured variables affecting the study results.

In an attempt to overcome this serious shortcoming and in order to test a null hypothesis for the first and second objective, a multiple regression analysis between the study variables was run (Aiken and West, 1991). Therefore, the coefficient of determination, R^2 was relied on to overcome the problem of determining causality as it indicates the amount of variability between the study variables that is explained by the others.

For the first objective, the study sought to establish the relationship between Quality Management System adoptions on organization performance. Quality Management System adoption was measured in terms of Strategic Planning and Management, Changing relationship with Customers and stakeholders, Organization Structure, Organization Change, Teamwork, Motivation and Job design, Management and Leadership. Organization performance was measured in terms of: organization efficiency and organization effectiveness. This was expressed in the following equation.

Model 3.1

$$Y_i = \beta_0 + \beta_1 X_i + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + \beta_5 X_{5i} + \beta_6 X_{6i} + \beta_7 X_{7i} + e \ldots\ldots \text{Equation 3.1}$$

Where:

β_0	coefficient estimate of intercept
$\beta_{i\ (i= 1,2,3\ldots.8)}$	regression coefficient to be estimated
$_i$	Number of respondents under consideration
X_i	Strategic Planning and Management

X_{2i} Changing relationship with Customers and stakeholders

X_{3i} Organization Structure

X_{4i} Organization Change

X_{5i} Teamwork

X_{6i} Motivation and Job design

X_{7i} Management and Leadership

Y_i coefficient of a single organization performance indicator (Organization efficiency, Organization effectiveness)

e error term/ residual factor not explained by the X variables analyzed.

(Adapted from Aiken and West, 1991).

For the second objective, the study sought to determine the influence of organization culture on Organization performance. Organization culture was measured in terms of Artifacts, Values, Assumptions and Individual Belief. On the other hand, Organization performance was measured in terms of organization efficiency and organization effectiveness. This was expressed in the following equation.

$$Y_i = \beta_0 + \beta_1 Z_i + \beta_2 Z_{2i} + \beta_3 Z_{3i} + \beta_4 Z_{4i} + e \quad \text{..... Equation 3.2}$$

Where:

β_0 coefficient estimate of intercept

$\beta_{i\ (i= 1,2,3....8)}$ regression coefficient to be estimated

i Number of respondents under consideration

Z_i Artifacts

Z_{2i} Values

Z_{3i} Assumptions

Z_{4i} Individual Belief

Y_i coefficient of a single organization performance indicator (Organization efficiency, Organization effectiveness)

e error term/ residual factor not explained by the X variables analyzed.

(Adapted from Aiken and West, 1991).

3.6.2 Model specification for the moderating variable.

For the third objective, the study sought to analyze the moderating effect of Organization Culture on the relationship between Quality Management System adoption and organization performance. The simple rule is that the components of any product must always be included when testing the moderator effect (Cohen, 1978). According to (Cohen, 1978), the model for moderator analysis is not additive as in the case of other regression models, and the product represents the interaction only when its components have been partialed out. For this reason, interpreting the coefficients in the model based on un-standardized coefficients rather than the standardized coefficients (Whisman and Mc Clelland, 2005).

The study adopted a moderator analysis to determine the relationship between explanatory variables; Organization culture and Quality Management System adoption and; the dependent variable organization performance.

Model 3.2

Additive model: $Y_i = \beta_0 + \beta_1 X_i + \beta_2 Z_i + e$ …… Equation 3.3

Where Z_i is a moderator variable Organization culture

This model introduces Organization culture as a moderator in order to establish its contribution in organization performance.

Model 3.3

Moderator model: $Y_i = b_0 + b_1Xi + b_2Zi + b_3ZiX_i + e$……. Equation 3.3

Moderator model: $Y_i = (b_0 + b_2Zi) + (b_1 + b_3Zi)\ X_i$……. Equation 3.4

Where ZiX_i, is the cross product of the interaction term (organization culture and Quality Management System adoption)

This model encompasses the dependent and independent, the potential moderating variable and the cross product interaction term of the dependent variable and potential moderating variable.

Source: Adapted from Aiken and West, 1991)

Where

Y Dependent variable (Organization Performance)

X Independent variable (Quality Management System adoption)

Z Moderator variable (organization culture)

XZ interaction term (organization culture and Quality Management System adoption)

β_0 Standardized Y intercept in the additive model (model without the interaction term)

β_1 Standardized coefficient of X in the additive model

β_2 Standardized coefficient of X in the additive model

b_1 Un-Standardized coefficient of X in the moderator model (Main effect of X on Y if Z is zero or simple effect of X on Y if Z is above zero)

b_2 Un-Standardized coefficient of Z in the moderator model (Simple effect of Z on Y)

b_3 Un-Standardized coefficient of XZ in the moderator model (The interaction measures for moderation)

e is the residual in the equation which is assumed to be identically and independently distributed with zero mean and constant variance

$(b_0 + b_2 Zi)$ The Y intercept of the moderator model

$(b_1 + b_3 Zi)$ The slope of Y to X for different values of Z

Equation 3.4 represents the linier functional form with $(b_0 + b_2 Zi)$ representing the intercept and $(b_1 + b_3 Zi)$ representing the slope of Y_i to X_i, therefore at different values Z, Y_i to X_i slope is expected to have different values. The moderator coefficients were expressed as *b* because their interpretation is supposed to be based on un-standardized values.

3.7 Diagnostic Tests for Assumptions in the Regression Model

3.7.1 Collinearity Diagnostics

Multicollinearity and Singularity; Multicollinearity refers to the relationship among the independent variables. It exists when the independent variables are highly correlated (r=.9 and above). Singularity occurs when one independent variable is a combination of other independent variables such as when both subscale scores and the total scores of a scale are included. To test for Multicollinearity, several tests are proposed. These include checking the correlations in the correlation matrix during analysis and using SPSS regression procedure for collinearity diagnostics when the Multicollinearity is not evident in the correlation matrix. The results are usually presented in the coefficients Table. Two values are therefore given to denote whether there is Multicollinearity or not. These include Tolerance and Variance Inflation Factor (VIF). Tolerance is an indicator of how much of the variability of a specified independent is not explained by the other independent variables in the model and calculated using the formula $1\text{-}R^2$ for each variable. If this value is very small such as less than 0.1, then it indicates the presence of Multicollinearity. The other value is the VIF, which is the inverse of tolerance. Simply obtained by (1 divided by Tolerance). A VIF value of above 10 would indicate Multicollinearity.

Table 3. 2 Collinearity Diagnostics Table

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.204	.144		1.416	.159		
	Mean Quality Management System Adoption	.313	.035	.377	8.951	.000	.821	1.217
	Mean Organizational Culture	.611	.040	.646	15.339	.000	.821	1.217

a. Dependent Variable: Mean Organizational Performance

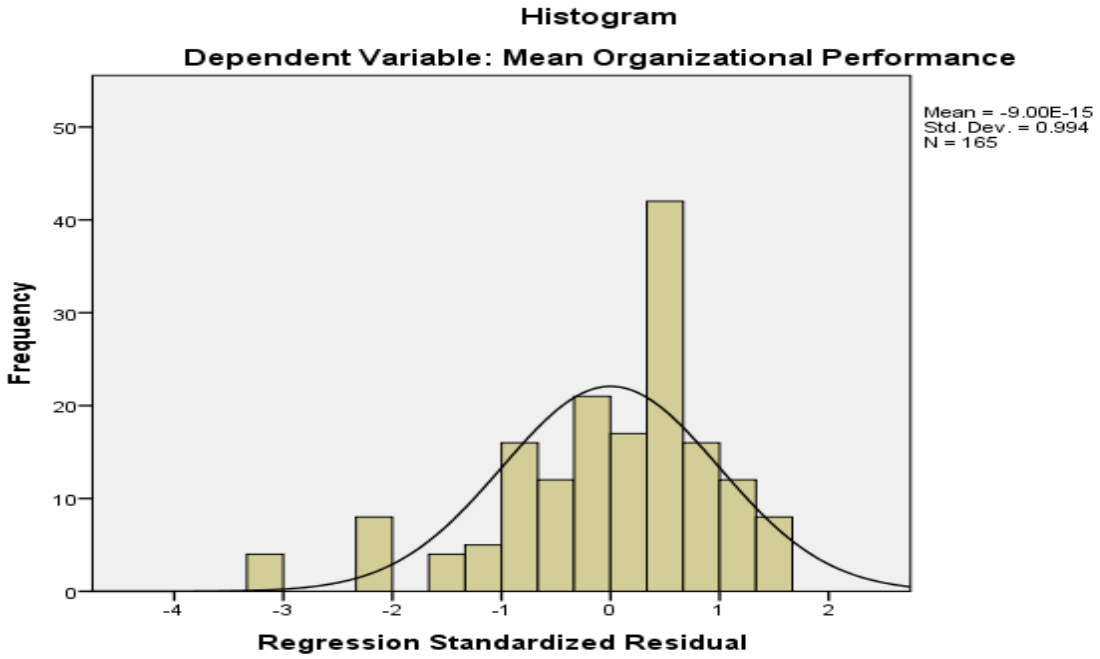
Source: *Research data 2017*

From the results, the tolerance values for the independent variables are above 0.1 and the variance inflation factors are below 10. For instance, the tolerance value for management system adoption is 0.821 which is less than 1 while the variance inflation factor is 1.217. Similarly, the tolerance value for organizational performance is the same as that of Quality Management System adoption, including the variance inflation factor. This implies that there was no presence of Multicollinearity in the data and therefore fit for standard multiple regression model.

3.7.2 Normality

Normality is used to describe a symmetrical, bell-shaped curve, which has the greatest frequency of scores in the middle, with smaller frequencies towards the extremes (Gravetter & Wallnau, 2000). Normality can be assessed to some extent by obtaining skewness and kurtosis values (as described in the previous section). This was assessed using normality plots presented in figure 3.1 that follows

Figure 3. 1Normality



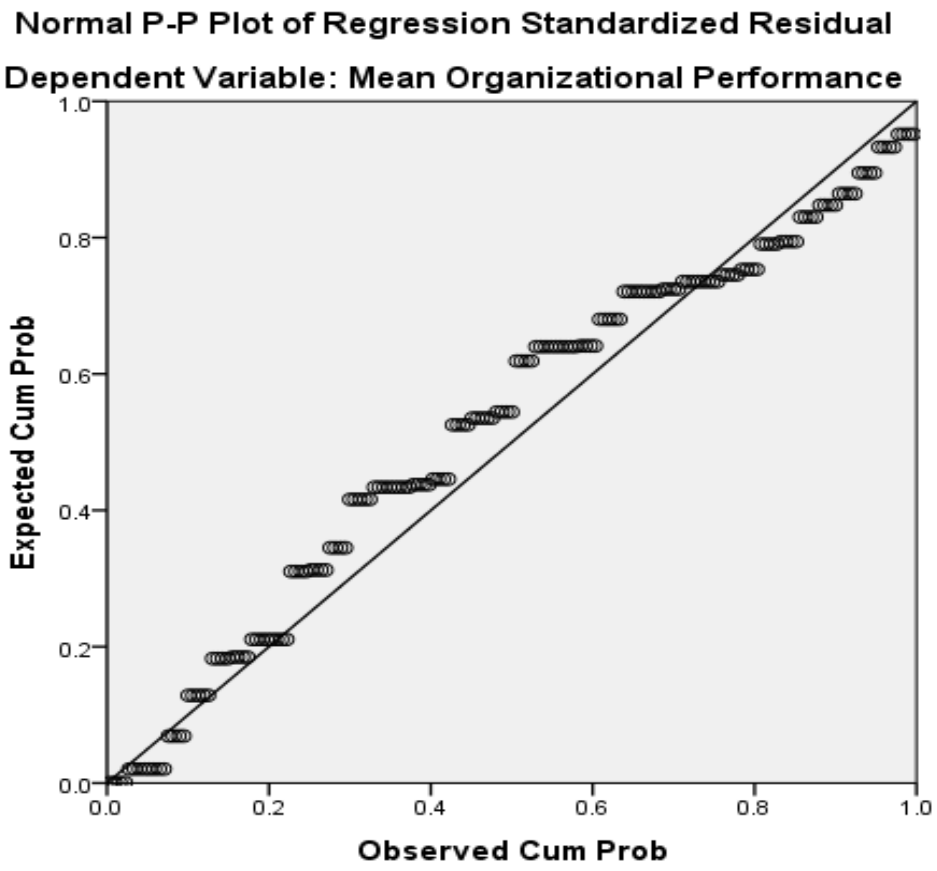
Source: *Research data 2017*

The chart in figure 2 indicates that histogram is aligned with the longest bars in the middle. The normal probability plot also indicates that the data is bell shaped with the kurtosis high picked about the mean. The skewness is also normality distributed about the mean thus indicating that the data was normality distributed thus meeting the assumption of normality and therefore fit for multiple standard regression model.

3.7.3 Linearity

The relationship between the two variables should be linear. This means that when you look at a scatter plot of scores you should see a straight line (roughly), not a curve. It is assumed that the relationship between the variables is linear. It is certainly not practical to check scatter plots of all variables with all other variables. Tabachnick and Fidell (2007) suggest a 'spot check' of some combination of variables.

Figure 3. 2 Linearity



Source: *Research data 2017*

Unless there is clear evidence of a curvilinear relationship, you are probably safe to proceed, provided you have an adequate sample size and ratio of cases to variables. This was assessed using the linearity plots. The data indicates that there is a ciga shaped distribution of the scatters along a linear line. This implies that the data or the relationship between the independent and dependent variables was linear. This qualified the data for standard multiple regression analysis.

3.7.4 Homoscedasticity

Homoscedasticity is a condition that is characterized by variance, which does not differ greatly between distributions Tabachnick and Fidell (2007), Homoscedasticity requires that the

dependent variable should exhibit equal level of variance across a range of predictor variables. If the assumption does not hold then the accuracy of the r coefficient may be untenable.

For Homoscedasticity, the variance of the residuals about predicted dependent variable scores was the same for all predicted scores. This presents information about cases that have standardized residual values above 3.0 or below –3.0. We would expect only 1 per cent of cases to fall outside this range. In this sample we have found no case. To check whether this strange case is having any undue influence on the results for our model as a whole, we can check the value for **Cook's Distance** given towards the bottom of the **Residuals Statistics** table 3.3.

Table 3. 3 Residual Statistics Table

Residuals Statistics[a]					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.2409	4.4887	3.4539	.52650	165
Std. Predicted Value	-2.304	1.965	.000	1.000	165
Standard Error of Predicted Value	.023	.069	.038	.011	165
Adjusted Predicted Value	2.2433	4.4813	3.4540	.52634	165
Residual	-.93218	.48871	.00000	.29240	165
Std. Residual	-3.169	1.661	.000	.994	165
Stud. Residual	-3.199	1.675	.000	1.003	165
Deleted Residual	-.94996	.49705	-.00011	.29772	165
Stud. Deleted Residual	-3.294	1.685	-.003	1.013	165
Mahal. Distance	.030	8.023	1.988	1.708	165
Cook's Distance	.000	.065	.006	.011	165
Centered Leverage Value	.000	.049	.012	.010	165

a. Dependent Variable: Mean Organizational Performance

Source: *Research data 2017*

According to Tabachnick and Fidell (2007), cases with values larger than 1 are a potential problem. The maximum value for Cook's Distance is .065, suggesting no major problems.

3.8 Data Presentation

The study findings were presented in forms of tables.

3.9 Research Ethics

The research sought an approval to collect data from the 11 Public before its commencement. This ensured that the research undertaking gets the requisite protection and all the anonymity and confidentiality concerned. An introduction letter was drafted to each institution to seek for authority to collect data from its employees. A reassurance was given to the various organizations that the conditions would be observed and complied with as expected. These were formalized through signing of a confidentiality statement by the researcher. The informed consent signed participants should also assume them of the parameters of confidentiality of the information supplied by them. Any limits of confidentiality should be clearly specified (Terre, Blanche and Durrheim 1999). The essential purpose of ethical research was to protect the welfare and the rights of research participants, although there are many additional ethical considerations that were to be addressed in the planning and implementation of research work. Obtaining consent from participants is not merely the signing of a consent form; consent should be voluntary and informed. This required that participants receive full, non-technical and clear explanation of the tasks expected of them so that they can make an informed choice to participate voluntary in the research" (Terre Blanche and Durrheim 1999).

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter reports the findings of data analysis and interpretations with respect to the stated objectives gaps and the research problem. The chapter has been sub-divided into sections and sub-sections. The first section presents the results on demographic characteristics of the respondents and the characteristics of the institutions. The next section presents the analysis of the research questions relating to the study per objectives beginning with relationship between Quality Management System adoption on organization Performance, effect of organization culture on organization performance and the moderating effect of organization culture on Quality Management System adoption and organization performance on public universities in Kenya. The quantitative data was analyzed using descriptive and inferential statistics. The descriptive statistics was used to describe and summarize the data inform of tables, frequencies and percentages. The inferential statistics was used to make inferences and draw conclusions, and was mainly used to establish the relationship between the key elements; organization culture, Quality Management System and performance in public Universities in Kenya.

4.1.1 Response Return Rate

The study target population was 215 out of which 45 were used for piloting, and were administered to the university management to participate in the study. From this total, data was recovered from 210 respondents, or questionnaires, out of which 7 did not have adequately, fill the questionnaires and were dropped. The final response was 203 questionnaires, which gives a response return of 94.41 percent, from which 38 had been used for piloting.

4.1.2 Demographic Characteristics

In regards to the basic characteristics of the study respondents, the study sought the name of the university, gender of the respondents, level of education, time taken to adopt QMS certification, and consultant firms hired for ISO certification. The findings are presented as shown in Table 4 using frequency counts, percentages, means and standard deviations.

Table 1: Corporate Structure Design

Corporate Structure Design	NAA(1) f(%)	LiE(2) f(%)	ME(3) f(%)	LE(4) f(%)	VLE(5) f(%)	M	SD
The university has well established and equipped library	16(9.7)	0(0.0)	46(27.9)	79(47.9)	24(14.5)	3.58	1.06
The university has developed and equipped laboratory and workshop centers for carrying innovative experiments	12(7.3)	25(15.2)	46(27.9)	66(40.0)	16(9.7)	3.30	1.07
Lecture halls are adequate and well furnished to meet the needs of all students	16(9.7)	34(20.6)	79(47.9)	24(14.5)	12(7.3)	2.90	1.01
The University has adequate accommodation facilities to cater for all students	16(9.7)	29(17.6)	80(48.5)	28(17.0)	12(7.3)	2.94	1.02
The university adopted QMs in order to improve its infrastructure systems	4((2.4)	32(19.4)	58(35.2)	67(40.6)	4(2.4)	3.20	.87
There are clear communication guidelines between students, leadership, lecturers and support staff	0(0.0)	32(19.4)	47(28.5)	62(37.6)	24(14.5)	3.47	.97

KEY: NAA-Not at All, LE-Large Extent, ME-Moderate Extent, VLE-Very Large Extent, M-Mean, SD-Standard Deviation. LiE-Little Extent

Source: *Research data 2017*

The findings in on demographic characteristics are shown in Table 4.1. The results indicates that majority of the public university respondents were from Egerton university and JKUAT at 22(12.9%) each. The least number of respondents came from Maasai Mara University, 12(7.1%) Majority, 114(69.1%) of the sampled managers were male respondents, while minority, 51(30.9%) were female respondents. From the findings, majority, 107(64.8%) of the respondents' level of education was a Doctorate of Philosophy degree, while the minority had a Masters degree, 58(35.2%). It also emerged from majority, 90(54.5%) of the respondents that universities took 6-12 months time in order to adopt a QMS certificate, while 59(35.8%) indicated that the time could be above 12 months. However, 16(9.7%) of the respondents indicated that this could take less than 6 months. Averagely, (M=2.25, SD=.62), the findings revealed that QMS certificate adoption period was 6-12 months. Finally, majority, 125(75.8%) of the respondents indicated that ISO consultant firms were hired, whereas 40(24.2%) of the respondents indicated that these firms were not hired.

4.2 Descriptive Statistics on Organization Performance

The first task in the achievement of the objectives of the study was to seek the rating of the respondents on the dependent variable, which is the organizational performance. Organizational performance was measured on a five point likert scale using various subscales for the two classified forms. These include the efficiency and effectiveness of the performance.

4.2.1 Organizational strategy of Organization Performance Efficiency

The first construct under efficiency of the organizational performance, is the organizational strategy. Respondents were asked to share their views on the extent to what various statements applied to their University. They were required to use a scale of 1-5, where 1 = Not at all, 2= Little extent, 3 = Moderate extent, 4 = To a large extent and 5 = A very large extent. The findings were analyzed using descriptive statistics, mainly, frequency counts, percentages, means and standard deviations. Table 4.2 presents the findings.

Table 4. 2 Organization Strategy

Organizational Strategy	NAA(1) f(%)	LiE(2) f(%)	ME(3) f(%)	LE(4) f(%)	VLE(5) f(%)	M	SD
The university has well developed vision, mission and quality objectives	0(0.0)	0(0.0)	8(4.8)	29(17.6)	128(77.6)	4.72	.55
Everybody is involved in developing the university vision, missions and quality objectives	0(0.0)	9(5.5)	61(37.0)	65(39.4)	30(18.2)	3.69	.82
The university has developed a tool for monitoring achievement of set objectives	8(4.8)	25(15.2)	34(20.6)	58(35.2)	40(24.2)	3.59	1.15
The university has established good communication systems for all matters	0(0.0)	42(25.5)	42(25.5)	57(34.5)	24(14.5)	3.39	1.02
The university has adopted QMs in order to improve its management systems	0(0.0)	12(7.3)	70(42.4)	63(38.2)	20(12.1)	3.54	.80

KEY: NAA-Not at All, LE-Large Extent, ME-Moderate Extent, VLE-Very Large Extent. LiE-Least Extent

Source: *Research data 2017*

The findings in Table 4.2 indicate the organizational performance in terms of the efficiency of organizational strategy. The universities have a well developed vision, mission and quality objectives. This is evident as agreed by majority of the respondents, 128(77.6%) who reported a very large extent and 29(17.6%) reporting large extent. The mode of the feedback was 5, while the mean was 4.72, with a standard deviation below 1, (0.55). The cumulative frequency and percentage of the sample respondents that perceived the performance factor as large and very

large was 95.2% with median and 50th percentiles of 4.72. This implies that universities are well organized in terms of vision, mission and quality objectives. However, slightly different from this was the involvement of university stakeholders in developing the vision, mission and quality objectives. Even though majority, 65(39.4%) indicated large extent of stakeholder involvement in this mission, 61(37.0%) of the respondents reported moderate extent while only 30(18.2%) reported very large extent. The mean was 3.69 while the standard deviation was 0.82. The mode on this response was 4 while the median and 50th percentile was 3.67. This implies that majority of the stakeholders are involved in developing the university vision, missions and quality objectives.

It is further clear from majority, 58(35.2%) of the respondents who indicated to a large extent and 40(24.2%) who indicated to a very large extent that the universities have developed tools for monitoring achievement of set objectives. This was supported by a mean of 3.59, even though the standard deviation of 1.15 showed large variations on the response, slightly greater than 1. The median and 50th percentile were 3.71, implying that majority 59.4% as calculated on cumulative percentage showed a large extent and very large extent. The findings also indicates that the university has established good communication systems for all matters as indicated by majority, 57(34.5%) of the respondents who indicated to large extend and also supported by 24(14.5%) indicating that it was to a very large extent, cumulatively accounting to 81(49.0%), whereas 42(25.5%) reported a moderate extent. The mean on this statement was 3.39, slightly lower than the rest of the statements while the standard deviation was 1.02, also indicating notable variation of the responses on the statement. The median and 50th percentile were 3.40 while the mode of response was 4, implying that most common response indicated that the establishment of the communication systems for all matters was to a large extent. Finally, majority, 70(42.4%) of the respondents indicated that the university has adopted QMs in order to improve its management systems to a moderate extent. Another 63(38.2%) of the respondents indicated to a large extent while 20(12.1%) indicated to a very large extent. The mean on this statement was 3.54 while the standard deviation was 0.80. An analysis of the median and 50th percentile revealed values of 2.52 for both while the mode of response was 3 implying that it was rated to be moderate extent.

The overall mean on efficiency of organizational structure was 3.79 which implies that the organizational structure is efficient while the standard deviation was 0.61 implying that there was no variations among the statements response on the efficiency of the organizational structure in terms of performance. Table 4.3 indicates the mode, median, percentile and skewness of the responses on the efficiency of organizational structure response.

Table 4. 3 Descriptive Statistics on Organizational Strategy

Organizational Strategy	**median**	**mode**	**skewsness**	**percentiles**			**CP**
				25^{th}	50^{th}	75^{th}	%
The university has well developed vision, mission and quality objectives	4.76	5	-1.87	4.23	4.76		77.3
Everybody is involved in developing the university vision, missions and quality objectives	3.67	4	0.03	3.02	3.67	4.43	57.1
The university has developed a tool for monitoring achievement of set objectives	3.71	4	-.53	2.71	3.71	4.5	59.6
The university has established good communication systems for all matters	3.40	4	-.006	2.49	3.40	4.29	49.8
The university has adopted QMs in order to improve its management systems	3.52	3	.136	2.84	3.52	4.24	49.8

KEY: CP-Cumulative Percentage, 25^{th} , 50^{th} , 75^{th} are the percentiles.

Source: *Research data 2017*

The findings in Table 4.3 indicate that the most widely practiced organizational strategy is the development of the mission, vision and quality of objectives with a cumulative percentage of 77.3% and highest median as compared to the other items. The least form of organizational performance as an efficient strategy were communication systems and adoption of QMs at cumulative percentages of 49.8% even though adoption of QMs had a slightly higher median of 3.52, with the lowest mode of 3. The overall indication of these findings is that the universities have an efficient organizational structure.

4.2.2 Corporate structure Design of Organization Performance efficiency

The second subscale under efficiency of organizational performance was the corporate structure design. Respondents were asked to give their opinions on a five point likert scale. Six items were developed under the corporate structure design construct, to measure the organizational performance. The scale used is a scale of 1-5, where 1 = Not at all, 2= Little extent, 3 = Moderate extent, 4 = To a large extent and 5 = A very large extent. The findings were analyzed using descriptive statistics, mainly, frequency counts, percentages, means and standard deviations. Table 4.4 presents the findings.

Table 1: Job satisfaction

Job satisfaction	NAA(1) f(%)	LiE(2) f(%)	ME(3) f(%)	LE(4) f(%)	VLE(5) f(%)	M	SD
Employee are well trained on quality matters to enhance efficiency	8(4.8)	4(2.4)	72(43.6)	65(39.4)	16(9.7)	3.47	.89
Company products are delivered to customers on time	4(2.4)	30(18.2)	71(43.0)	36(21.8)	24(14.5)	3.29	1.00
There is maximum use of physical facilities	4(2.4)	9(5.5)	96(58.2)	20(12.1)	36(21.8)	3.46	.97
High quality administrative systems are in place to support the efficiency of the firm		12(7.3)	58(35.2)	71(43.0)	24(14.5)	3.65	.82
The University undertakes market based research annually on quality issues.	16(9.7)	34(20.6)	41(24.8)	50(30.3)	24(14.5)	3.20	1.20
The University collects, analysis and disseminates information for market decision making by management	21(12.7)	21(12.7)	56(33.9)	55(33.3)	12(7.3)	3.10	1.11

KEY: NAA-Not at All, LiE- Little Extent, LE-Large Extent, ME-Moderate Extent, VLE-Very Large Extent, M-Mean, SD-Standard Deviation.

Source: *Research data 2017*

The findings in Table 4.4, indicates the performance measures in terms of corporate structure design. From the findings, majority, 79(47.9%) of the respondents indicated that the university has a well established and equipped library to a large extent and 24(14.5%) reported that it was to a very large extent. The mean and standard deviation on this response were 3.58 and 1.06 respectively; with the mean supporting the majority response while the standard deviation indicating some variations in the response. The findings also indicates that the university has developed and equipped laboratory and workshop centers for carrying innovative experiments to a large extent (M=3.30, SD=1.07), as also indicated by majority, 66(40.0%) of the respondents who reported large extent and 16(9.7%) reporting very large extent. However, majority, 79(47.9%) reported that lecture halls are adequate and well furnished to meet the needs of all students to a moderate extent (M=2.90, SD=1.01) and also, majority of the respondents, 80(48.5%) reported that the university has adequate accommodation facilities to cater for all students to a moderate extent (M=2.94, SD=1.02). Concerning the improvement of infrastructure, the findings indicates that the university has adopted Quality Management systems in order to improve its infrastructure systems to a moderate extent, (M=3.20, SD=.87). This was also supported by majority, 67(40.6%) of the respondents view who indicated that it was to a large extent. Finally, the findings revealed a large extent of clear communication guidelines between students, leadership, lecturers and support staff (M=3.47, SD=.97), with majority, 62(37.6%) of the respondents reporting large extent.

Further analysis of the responses using median, mode, skewness and percentiles was also carried out. The findings are presented as shown in Table 4.5 below.

Table 4. 5 Descriptive statistics on Corporate Structure Design

Corporate Structure Design				Percentiles			CP
	Median	Mode	Variance	25	50	75	
The university has well established and equipped library	3.70	4	1.13	3.04	3.70	4.44	63.1
The university has developed and equipped laboratory and workshop centers for carrying innovative experiments	3.41	4	1.15	2.46	3.41	4.20	50.2
Lecture halls are adequate and well furnished to meet the needs of all students	2.89	3	1.0	2.15	2.89	3.67	22.2
The University has adequate accommodation facilities to cater for all students	2.95	3	1.04	2.19	2.95	3.72	24.6
The university adopted QMs in order to improve its infrastructure systems	3.27	4	0.75	2.46	3.27	3.93	42.9
There are clear communication guidelines between students, leadership, lecturers and support staff	3.49	4	0.94	2.63	3.49	4.32	52.2

Source: *Research data 2017*

From the findings in Table 4.5, it is clear that as compared to other items, establish and equipment of library was practiced to a large extent by the universities, as indicated by a cumulative 63.1% of the respondents. The 50th percentile and the median were both 3.70 while the mode of response was 4, which indicates high extent. It was clear from the findings that there are clear communication guidelines between students, leadership, lecturers and support staff as indicated by cumulative percentage of 52.2%, with a mode of 4, median and 50th percentile of

3.49 for both. The third rated item was the fact that the university has developed and equipped laboratory and workshop centers for carrying innovative experiments, with a cumulative percentage of 50.2%, mode of 4, median and 50^{th} percentiles of 3.41 for both. The rest of the items had their cumulative percentage below 50% even though they reflected a moderate extent of performance on corporate structure design by the universities.

4.2.3 Employee Commitment of Organization Performance Efficiency

The third aspect on university performance under efficiency was employee commitment. High employee commitment could deem the university as good performer while low commitment would imply that in terms of efficiency, the university is a non performer. Employee commitment constructs were therefore rated on a scale of 1-5 so as to measure its extent. Respondents were therefore tasked with giving their opinions on a scale of 1-5, where 1 = Not at all, 2= little extent, 3 = Moderate extent, 4 = To a large extent and 5 = A very large extent. Average response or mean and standard deviation were also computed alongside frequency counts and percentages and presented as shown in Table 4.6.

Table 4. 6 Employee commitment

Employee commitment	NAA(1) f(%)	LiE(2) f(%)	ME(3) f(%)	LE(4) f(%)	VLE(5) f(%)	M	STD
The management involves employees on decision making on all quality matters	29(17.6)	17(10.3)	46(27.9)	57(34.5)	16(9.7)	3.09	1.23
The university offers employees opportunity for career growth through training and development	17(10.3)	25(15.2)	50(30.3)	53(32.1)	20(12.1)	3.21	1.14
There is improved information flow between top management and employees within the company	13(7.9)	21(12.7)	70(42.4)	53(32.1)	8(4.8)	3.14	.96

KEY: NAA-Not at All, LiE-Little Extent, LE-Large Extent, ME-Moderate Extent, VLE-Very Large Extent, M-Mean, SD-Standard Deviation.

Source: *Research data 2017*

The findings in Table 4.6 indicates that the management involves employees on decision making on all quality matters as reported by majority, 57(34.5%) of the respondents who reported a large extent and 16(9.7%) who reported a very large extent. From the mean response, the findings imply that there was a moderate extent of involvement of employees on decision making on all quality matters (M=3.09, SD=1.23). It also emerged from majority, 53(32.1%) of the respondents that universities offer employees opportunity, for career growth through training and development to a large extent and supported by 20(12.1%) who indicated that it was to a very large extent. The mean response however implies that the university offers employees opportunity for career growth through training and development to a moderate extent (M=3.21,

SD=1.14). Finally, the findings indicates that there is moderately improved information flow between top management and employees within the company as revealed by 70(42.4%), which was supported by a mean indicating moderate efficiency on performance (M=3.14, SD=.96) on this aspect.

Further findings on employee commitment in universities were also reported using medians, percentiles and cumulative percentages as indicated in Table 4.7.

Table 4. 7 Descriptive Statistics on Employee commitment

	Median	Mode	Variance	Percentiles			CP
Employee commitment				**25**	**50**	**75**	
The management involves employees on decision making on all quality matters	3.27	4.00	1.53	2.13	3.27	4.10	44.8
The universities offers employees opportunity for career growth through training and development	3.30	4.00	1.31	2.32	3.30	4.15	44.3
There is improved information flow between top management and employees within the company	3.22	3.00	.925	2.40	3.22	3.89	36.9

Source: *Research data 2017*

From the findings in Table 4.7, cumulatively a larger percentage, 44.8% indicated that the management involves employees on decision making on all quality matters, with a median and 50th percentile of 3.27 and a mode of 4 responses which indicated that it was to a large extent. It is also clear from a cumulative percentage of 44.3% that the universities offer employees opportunity for career growth through training and development. This was also supported by a median and 50th percentile of 3.3 and a mode of 4. Finally, the findings indicate that there is moderate improvement of information flow between top management and employees within the

company as indicated by a mode of 3, median and 50th percentile of 3.22. These findings imply that employees are committed in the universities.

4.2.4 Organizational Growth of Organization Performance Effectiveness

Performance was also measured in terms of effectiveness in organizational growth and expansion satisfaction and customer satisfaction. Organizational growth and expansion was measured using three items all rated on a five point likert scale of 1-5, where 1 = Not at all, 2= little extent, 3 = Moderate extent, 4 = To a large extent and 5 = A very large extent. The findings were analyzed using descriptive statistics, mainly, frequency counts, percentages, means and standard deviations. Table 4.8 presents the findings.

Table 4. 8 Organization Growth and Expansion

Organization Growth and Expansion	**NAA(1) f(%)**	**LiE(2) f(%)**	**ME(3) f(%)**	**LE(4) f(%)**	**VLE(5) f(%)**	**M**	**SD**
The university has expanded its programmes into other new geographical regions/markets to improving its funding	4(2.4)	16(9.7)	25(15.2)	88(53.3)	32(19.4)	3.77	.95
The university invests in other business opportunities (not related to Academics) as a means to supplement its income	12(7.3)	21(12.7)	33(20.0)	66(40.0)	33(20.0)	3.52	1.16
Government is the main source of funding to the university	4(2.4)	4(2.4)	32(19.4)	53(32.1)	72(43.6)	4.11	.97

KEY: NAA-Not at All, LiE- Little Extent, LE-Large Extent, ME-Moderate Extent, VLE-Very Large Extent, M-Mean, SD-Standard Deviation.

Source: *Research data 2017*

The findings in Table 4.8 indicates that majority, 72(43.6%) indicated to a very large extent that government was the main source of funding to the universities. This implies that universities

mainly received their funds from the government (M=4.11, SD=.97). Majority, 88(53.3%) of the respondents also indicated to a large extent that the university, has expanded its programmes into other new geographical regions/markets to improving its funding (M=3.77, SD=.95). It was also clear from the findings that the university invests in other business opportunities (not related to Academics) as a means to supplement its income, as revealed by a majority of the respondents, 66(40.0%) who indicated to a large extent. A notable mean and standard deviations were also achieved (M=3.52, SD=1.16).

4.2.5 Job Satisfaction of Organization Performance Effectiveness

The second construct under organizational effectiveness as a measure of performance was job satisfaction. This subscale has 6 items to exhaustively measure job satisfaction on a five point likert scale of 1-5, where 1 = Not at all, 2= little extent, 3 = Moderate extent, 4 = To a large extent and 5 = A very large extent. The findings are presented in Table 4.9 using frequency counts, percentages, means and standard deviations.

Table 4. 1 Job satisfaction

Job satisfaction	NAA(1) f(%)	LiE(2) f(%)	ME(3) f(%)	LE(4) f(%)	VLE(5) f(%)	M	SD
Employee are well trained on quality matters to enhance efficiency	8(4.8)	4(2.4)	72(43.6)	65(39.4)	16(9.7)	3.47	.89
Company products are delivered to customers on time	4(2.4)	30(18.2)	71(43.0)	36(21.8)	24(14.5)	3.29	1.00
There is maximum use of physical facilities	4(2.4)	9(5.5)	96(58.2)	20(12.1)	36(21.8)	3.46	.97
High quality administrative systems are in place to support the efficiency of the firm		12(7.3)	58(35.2)	71(43.0)	24(14.5)	3.65	.82
The University undertakes market based research annually on quality issues.	16(9.7)	34(20.6)	41(24.8)	50(30.3)	24(14.5)	3.20	1.20
The University collects, analysis and disseminates information for market decision making by management	21(12.7)	21(12.7)	56(33.9)	55(33.3)	12(7.3)	3.10	1.11

KEY: NAA-Not at All, LiE- Little Extent, LE-Large Extent, ME-Moderate Extent, VLE-Very Large Extent, M-Mean, SD-Standard Deviation.

Source: *Research data 2017*

The findings in Table 4.9 indicate the respondent's views on job satisfaction as a measure of performance. From the findings, majority 72(43.6%) of the respondents indicated a moderate extent of training employees on quality matters to enhance efficiency (M=3.47, SD=.89). It is also clear from the majority, 71(43.0%) of the respondents that there is a moderate extent of delivery of company products to customers on time (M=3.29, SD=1.0). As such, there is moderately (M=3.46, SD=.97) as indicated by majority 96(58.2%) of the respondents, maximum use of physical facilities in the universities. However, the findings from majority, 71(43.0%) of the respondents indicated to a large extent that high quality administrative systems are in place to support the efficiency of the firm (M=3.65, SD=.82). The findings from the majority of the respondents, 50(30.3%) further indicates to a large extent that the University undertakes market based research annually on quality issues even though the mean response ranged in moderate category (M=3.20, SD=1.20). Finally, the findings as revealed by majority, 56(33.9%) of the respondents indicates that there is a moderate extent of collecting, analyzing and disseminating information for market decision making by management (M=3.10, SD=1.11)

4.2.6 Customer Satisfaction of Organization Performance Effectiveness

Customer satisfaction was also sought to measure the organizational performance under effectiveness. Respondents were also asked to share their opinions of the extent to which they perceived that customer satisfaction was achieved. This construct consisted of 7 items all measuring customer satisfaction on a five point likert scale of 1-5, where 1 = Not at all, 2= little extent, 3 = Moderate extent, 4 = To a large extent and 5 = A very large extent. Frequency counts, percentages, means and standard deviations were the main tools of analysis on the measurement of this construct. The findings are presented as shown in Table 4.10.

Table 4. 1 Customer Satisfaction

Customer Satisfaction	NAA(1) f(%)	LiE(2) f(%)	ME(3) f(%)	LE(4) f(%)	VLE(5) f(%)	M	SD
The University has mechanism for customer complaints handling.	9(5.5)	9(5.5)	37(22.4)	70(42.4)	40(24.2)	3.76	1.03
The University has customer complaints procedure where customers are attended to.		22(13.3)	63(38.2)	52(31.5)	28(17.0)	3.53	.92
The University has consistent tracking of complaints and procedures for all cases of complaints.	12(7.3)	34(20.6)	50(30.3)	41(24.8)	28(17.0)	3.24	1.17
The university is committed to customer retention by ensuring quality service offered	0(0.0)	40(24.2)	60(36.4)	49(29.7)	16(9.7)	3.25	.93
Customer needs and expectations are communicated throughout the University.	12(7.3)	17(10.3)	96(58.2)	32(19.4)	8(4.8)	3.04	.88
There is improved customer loyalty leading to repeat business	0(0.0)	37(22.4)	45(27.3)	75(45.5)	8(4.8)	3.32	.87
The University stresses the simportance on obtaining feedback on its quality control systems from customers	4(2.4)	8(4.8)	57(34.5)	70(42.4)	26(15.8)	3.63	.88

KEY: NAA-Not at All, LiE- Little Extent, LE-Large Extent, ME-Moderate Extent, VLE-Very Large Extent, M-Mean, SD-Standard Deviation.

Source: *Research data 2017*

As in most organizations, the findings indicate that universities have mechanisms for customer complaint handling. This is evidenced from the results in Table 4.10 that shows that majority 70(42.2%) revealed a large extent of this practice with a mean and standard deviation as well (M=3.76, SD=1.03). It is also clear from the findings that moderately, as indicated by majority of the respondents, 63(38.2%) the university has customer complaint procedure where customers are attended to (M=3.53, SD=.92). Furthermore, the findings indicates that the University has consistent tracking of complaints and procedures for all cases of complaints, even though to a moderate extent as indicated by majority, 50(30.3%) with a mean (M=3.24, SD=1.17) affirming the practice. There is also a commitment to customer retention by ensuring quality services offer by the universities, even though to a moderate extent (M=3.25, SD=.93) as revealed by majority, 60(36.4%) of the respondents. This practice' rate is almost same as the communication of customer needs and expectations throughout the university to a moderate extent (M=3.04, SD=.88), as also indicated by majority 96(58.2%) of the respondents. The findings further revealed that there is improved customer loyalty leading to repeat business, in the case that majority, 75(45.5%) of the respondents indicated a large extent even though the practice was moderately (M=3.32, SD=.87) carried out. Finally, the findings revealed that the Universities stress the importance of obtaining feedback on its quality control systems from customers. A practice that was considered to be on a large extent by majority, 70(42.4%) of the respondents whereas averagely scaling down to be moderate (M=3.63, SD=.88), thus well practiced.

4.3 Quality Management System adoption

Before achieving the study objectives, the study sought to determine the extent of Quality Management System adoption among the universities. Respondents were asked to share their opinions on various items under the Quality Management System Adoption (Quality Management System Adoption) subscale. The items mainly addressed the a few aspects that were deemed to be the composition of the subscale. These were frequency of review of the Strategic Planning and Management, Changing relationship with Customers and stakeholders, Organization Structure, Organization Change, Teamwork, Motivation and Job design and Management and Leadership. This composite variable consisted of 7 items all measuring QMS on a five point likert scale of 1-5, where 1 = Not at all, 2= little extent, 3 = Moderate extent, 4 =

To a large extent and 5 = A very large extent. Frequency counts, percentages, means and standard deviations were the main tools of analysis on the measurement of this construct. The findings are presented as shown in Table 4.11.

Table 4. 1 Quality Management System Adoption

Quality Management System Adoption	NAA f(%)	LiE f(%)	ME f(%)	LE f(%)	VLE f(%)	M	SD
Quality planning activities are delegated to the "quality control" department and are the cornerstone of the Organization goals.	0(0.0)	38(23.0)	8(4.8)	63(38.2)	56(33.9)	3.84	1.13
Everyone inside the Organization is a customer of an internal or external supplier, and a supplier of an external or internal customer	0(0.0)	21(12.7)	59(35.8)	41(24.8)	44(26.7)	3.66	1.01
The organization as a system of interdependent processes is linked laterally over time through a network of collaborating (internal and external) suppliers and customers.	4(2.4)	12(7.3)	72(43.6)	37(22.4)	40(24.2)	3.59	1.01
The environment in which the organization interacts is changing constantly	12(7.3)	21(12.7)	40(24.2)	64(38.8)	28(17.0)	3.44	1.13
Organization departments work together toward system optimization through teamwork.	4(2.4)	29(17.6)	59(35.8)	65(39.4)	8(4.8)	3.27	.89
Organization views people as the enterprise's true competitive edge	4(2.4)	21(12.7)	46(27.9)	50(30.3)	26(26.7)	3.66	1.08
People are motivated to make meaningful contributions to what they believe is an important and noble cause, of value to the enterprise and society.	12(7.3)	12(7.3)	32(19.4)	77(46.7)	32(19.4)	3.63	1.10

KEY: NAA-Not at All, LiE-Little Extent, LE-Large Extent, ME-Moderate Extent, VLE-Very Large Extent, M-Mean, SD-Standard Deviation.

Source: *Research data 2017*

The findings on the extent of adoption of Quality Management System are presented as shown in Table 4.11. From the findings, majority, 63(38.2%), of the respondents indicated to a large extent that Quality planning activities are delegated to the "quality control" department and are the cornerstone of the Organization goals. A mean and standard deviation were also obtained indicating a moderate extent of this practice (M=3.84, SD=1.13). The findings however, indicates that everyone inside the Organization was a customer of an internal or external supplier, and a supplier of an external or internal customer was to a moderate extent, (M=3.66, SD=1.01) as also supported by majority, 59(35.8%) of the respondents. Furthermore, from the findings, majority 72(43.6%) indicated to a moderate extent that the organization as a system of interdependent processes is linked laterally over time through a network of collaborating (internal and external) suppliers and customers., therefore the practice was carried out to a moderate extent (M=3.59, SD=1.01). Clearly, the findings on the environment in which the organization interacts is changing constantly had a moderate extent (M=3.44, SD1.13) even though majority, 66(38.8%) of the respondents indicated that the practice was to a large extent. The findings further indicates that to a large extent as revealed by majority, 65(39.4%), organization departments work together toward system optimization through teamwork (M=3.27, SD=.89). Furthermore, there are moderately (M=3.66, SD=1.08) organization views people as the enterprise's true competitive edge, even though majority, 50(30.3%) indicated that it was to a large extent. Finally, the findings revealed that to a large extent, as indicated by majority, 77(46.7%) of the respondents, people are motivated to make meaningful contributions to what they believe is an important and noble cause, of value to the enterprise and society. A practice that was to a moderate extent (M=3.63, SD=1.10), which was considered a good practice of QMS adoption in the universities.

4.3.1 Summary on the Measures of Organizational Performance and Quality Management System adoption

A summary statistics on the means and standard deviations of the Quality management systems adoption and organizational performance were presented as shown in Table 4.12 that follows.

Table 4. 12 Summary on the Measures of Organizational Performance and Quality Management System adoption

Variables of the Study	M	SD
Mean Quality Management System Adoption	3.58	.72
Organizational Performance (Efficiency; Organization strategy)	3.79	.61
Organizational Performance (Efficiency; Corporate Structure Design)	3.23	.68
Organizational Performance (Efficiency; Employee Commitment)	3.15	.97
Organizational Performance (Effectiveness; Organization growth and expansion)	3.80	.74
Organizational Performance (Effectiveness; Job Satisfaction)	3.36	.81
Organizational Performance (Effectiveness; Customer Satisfaction)	3.40	.68
Mean Organizational Performance (Efficiency)	3.39	.64
Mean Organizational Performance (Effectiveness)	3.52	.62
Mean Organizational Performance	3.45	.60

Source: *Research data 2017*

The findings in Table 4.12 indicate an overview of the summary measures of the organizational performance and Quality Management System adoption using means and standard deviations. From the findings, it's clear that the measures range between 3.15 and 3.80. For organizational performance, the highest measure was under effectiveness, specifically growth and expansion (M=3.80, SD=.74). Customer satisfaction was the second after organizational growth and development (M=3.40, SD=.68) while job satisfaction was the least (M=3.36, SD=.81). The overall mean under organizational effectiveness was also high, (M=3.52, SD=.62), implying that the universities performed well under organization effectiveness. This compared with quality management system adoption (M=3.58, SD=.72), is slightly low resulting to a deviation of 0.06, which is very small deviation.

The second construct under organizational performance was the efficiency. The findings indicates that the highest score was under organizational strategy (M=3.79, SD=.61). The was followed by corporate structure design (M=3.23, SD=.68) and finally employee commitment (M=3.15, SD=.97). The overall mean under organizational efficiency was slightly lower (M=3.39, SD=.64) than quality management system adoption (M=3.58, SD=.72). This results in

a deviation of 0.35. This deviation is larger than that obtained between organizational effectiveness and Quality Management System Adoption.

A final comparison between the constructs of organizational performance and Quality Management System Adoption shows that Quality Management System Adoption was high (M=3.52, SD=.72) as compared to the overall mean on organizational performance (M=3.45, SD=.60). This implies that the universities exhibited a good performance, even though not yet attained the required level to qualify into very high performance. Quality Management System adoption on the other hand is also highly practiced and could attain the required level.

4.4 Relationship between Quality Management System Adoption and Organizational Performance subscales.

4.4.1 Correlation analysis between Quality Management System Adoption and Organizational Performance subscales.

The first objective of the study was mainly to establish the relationship between Quality Management System adoption and organizational performance among the universities. To achieve this, the obtained scores of the three categories of the organizational performance were correlated with Quality Management System Adoption using bivariate correlations, specifically, Pearson Product moment correlation. Table 4.13 indicates the findings between the six subscales of performance and the independent variable (Quality Management System Adoption).

Table 4. 13 Correlation between Quality Management System Adoption and Organizational Performance subscales.

	Variables	1	2	3	4	5	6	7
1	Quality Management System Adoption	1	.694**	.504**	.598**	.392**	.407**	.542**
2	Organization strategy		1	.589**	.607**	.381**	.622**	.557**
3	Corporate Structure Design			1	.545**	.409**	.614**	.708**
4	Employee Commitment				1	.505**	.616**	.657**
5	Growth and expansion					1	.577**	.515**
6	Job Satisfaction						1	.595**
7	Customer Satisfaction							1

**. Correlation is significant at the 0.01 level (2-tailed).

Source: *Research data 2017*

The findings in Table 4.13 indicates that there was a strong positive correlation between quality management system adoption and organizational strategy (r=.694, p<.05). Quality Management System Adoption and corporate structure design revealed moderate positive correlation (r=.504, p<.05), as was the case with the Quality Management System Adoption and employee commitment (r=.598, p<.05), and Quality Management System Adoption and customer satisfaction (r=.542, p<.05). Quality Management System Adoption and job satisfaction also revealed a moderate positive significant correlation (r=.407, p<.05). However, there was a low positive significant correlation between Quality Management System Adoption and organizational growth and expansion (r=.392, p<.05). These findings imply that Quality Management System adoption was positively associated with every aspect of organization performance and therefore the more the universities improve their Quality Management System Adoption the better the performance. For organizational strategy, the relationship is stronger than the others implying that performance is heavily dependent on the organizational strategies of the universities.

A breakdown of the correlation between Quality Management System Adoption and the two categories of performance was also carried out. The categories were mainly organization performance efficiency and effectiveness. The scores of Quality Management System Adoption

were therefore correlated with those of the two variables of organizational performance. The findings are presented as shown in Table 4.14 that follows.

Table 4. 14 Correlation between organizational efficiency, effectiveness and Organization Performance

		Mean Quality Management System Adoption	Mean Organizational Performance Efficiency	Mean Organizational Performance Effectiveness
Mean Quality Management System Adoption	Pearson Correlation	1	.700**	.526**
	Sig. (2-tailed)		.000	.000
	N	165	165	165
Mean Organizational Performance Efficiency	Pearson Correlation	.700**	1	.791**
	Sig. (2-tailed)	.000		.000
	N	165	165	165
Mean Organizational Performance Effectiveness	Pearson Correlation	.526**	.791**	1
	Sig. (2-tailed)	.000	.000	
	N	165	165	165

**. Correlation is significant at the 0.01 level (2-tailed).

Source: *Research data 2017*

The findings in Table 4.14 indicates that there was a strong positive significant correlation between Quality Management System Adoption and organizational performance efficiency ($r=.700$, $p<.05$). Effectiveness of organizational performance however did have a moderate positive significant correlation with Quality Management System Adoption ($r=.526$, $p<.05$). These findings imply that efficiency of organizational performance was highly associated with Quality Management System Adoption as compared to effectiveness. Nevertheless, as each aspect of organizational performance improves with improvement in Quality Management System Adoption of the universities.

In order to attain the overall correlation between the organizational performance and Quality Management System Adoption, a mean of all the scores of organizational performance was correlated

with the Quality Management System Adoption score. The findings are presented as shown in Table 4.15 that follows.

Table 4. 15 Correlation between Quality Management System Adoption and Organization Performance

		Mean Quality Management System Adoption	Mean Organizational Performance
Mean Quality Management System Adoption	Pearson Correlation	1	.649**
	Sig. (2-tailed)		.000
	N	165	165
Mean Organizational Performance	Pearson Correlation	.649**	1
	Sig. (2-tailed)	.000	
	N	165	165

**. Correlation is significant at the 0.01 level (2-tailed).

Source: *Research data 2017*

From the results in Table 4.15, it is clear that Quality Management System Adoption had a strong positive significant correlation with organizational performance ($r=.649$, $p<.05$). This implies that as Quality Management System Adoption increases, there is an increase in organizational performance. It can therefore be deduced from these findings that there is a strong positive significant association between organizational performance and Quality Management System Adoption.

Further insight on the correlations revealed quite interesting results. As an approach to get the percentage variance that Quality Management System adoption explained over each of the construct of the organizational performance, the correlation values were squared. Starting with the correlation between Quality Management System adoption and organizational strategy, the value (.694**) was squared to obtain a value of 0.481636, which when rounded off to two decimal places, results to 0.48. This value was then multiplied by 100% to achieve the percentage variance in organizational strategy explained by Quality Management System adoption as 48%. The rest of the variances in organizational performance explained by Quality Management System adoption were not

very far from the first one. Quality Management System adoption explained 25% for corporate structure design, 35% for employee commitment, 15% for growth and development, 16% for job satisfaction and 29% for customer satisfaction. When the organizational performance was classified under effectiveness and efficiency, Quality Management System adoption was found to account for 49% organizational performance efficiency and 27% for organizational performance effectiveness. An overall variance in organizational performance explained by Quality Management System adoption was 42 percent. It can be concluded that organizational performance is strongly correlated to Quality Management System adoption and therefore the two variables are strongly associated. Therefore, Quality Management System adoption may influence organizational performance.

4.4.2 Regression Analysis on the Relationship between Quality Management System Adoption on Organizational Performance

For Objective one, Regression analysis was carried out in order to determine the percentage change in organizational performance accounted for by Mean Quality Management System Adoption. This was done in order to ascertain magnitude of the effect the correlation between the two variables was able to account for. Therefore, the mean scores of the organizational performance were regressed against the mean scores of the Quality Management System adoption. The summary model findings are presented as shown in Table 4.16 that follows using coefficient results.

Table 4. 16 Summary Model on the Relationship between Quality Management System Adoption on Organizational Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.649[a]	.421	.418	.46053	.421	146.210	1	201	.000

a. Predictors: (Constant), Mean Quality Management System Adoption

Source: *Research data 2017*

From the findings presented in Table 4.16, the results indicate that there was a positive multiple correlation between quality management system adoption and organizational performance

(R=.649). Analysis of the R^2 value indicates that quality management system adoption accounted for 42.1% change in organizational performance (R^2 =.418) while after shrinkage, the true population estimate percentage accounted for by quality management system adoption was 41.8 percent. The findings were found to be significant and not by chance as indicated by the F ration value ($F_{(1,201)}$ =146.210, p=.000). Further results on the unique contribution of Quality Management System Adoption on organizational performance results were presented as shown in Table 4.17.

Table 4. 17 Summary Model Results on the relationship between of Quality Management System Adoption on Organizational Performance

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.530	.163		9.406	.000
	Mean Quality Management System Adoption	.537	.044	.649	12.092	.000

a. Dependent Variable: Mean Organizational Performance

Source: *Research data 2017*

The findings in Table 4.17 indicates that Quality Management System Adoption has a unique significant contribution on organizational performance (β=.649, p=.000). This implies that there is a high positive magnitude of effect of Quality Management System Adoption on organizational performance such that as the Quality Management System Adoption improves, there is an improvement in organizational performance.

The study sought to determine relationship between Quality Management System adoption and organization Performance of public universities in Kenya. As observed by Njeru (2016) employee training, quality management systems, employee participation and leadership in Kirinyaga University, that Quality Management Systems contributes more to increase Employee Performance and there was a positive relationship on the study variables. However, the study only focused on one public University. This is in support to the study findings as Quality Management System adoption was positively associated with every aspect of organization

performance from which employee performance was tested as one of the organization performance attributes.

The study findings indicate that as Quality Management System Adoption increases, there is an increase in organizational performance. It can therefore be deduced that there is a strong positive significant association between organizational performance and Quality Management System Adoption. This findings supports those by Kasongo (2010) who indicated that quality management system, customer focus, process and data quality management, quality tools and techniques implementation significantly affect the company's performance. The study findings also supports those by Gulali *et al.* (2013), Zhang (2006), and Faisal *et.al* (2013) who asserts that QMS implementation impacts student enrolment and, infrastructural growth of an organization moreover, TQM practices are partially correlated with quality performance and that quality culture was perceived as the dominant TQM practice in quality performance.

This study findings are also in line with, Moturi & Mbithi (2015), Sayyed (2012), Falola, Osibanjo (2014) study results indicate that by Increasing employee involvement in performance assessment system, perception of employee and organization efficiency will increase too. On the other hand the presence of Quality Management System Adoption and corporate structure design revealed moderate positive correlation with Quality Management System Adoption and employee commitment. This is in support to Kamau (2015) study that revealed that a unit increase of employee training lead to an increase in staff retention moreover, a unit increase in health and safety leads to an increase in staff retention, Ochieng, Muturi & Njihia (2015)., Moturi & Mbithi (2015) who explains the difference on organizations that have adopted QMS and those that have not adopted QMS.

Further, The findings of this study are in support to Kimani and Bichanga (2013), Karani, & Bichanga (2012), who found out that streamlining of processes as a result of ISO certification influences the service delivery of an organization, and that the most important factors that guided the implementation efforts for Quality Management System are external coordination and internal integration as these are the most important for both internally and externally motivated organizations. The findings were also in support to Thuo (2013) study who observed that organizations are particularly keen to coordinate with the critical stakeholders in their

environment when they are implementing the standard but the daily adherence to the application of the quality management system (ISO 9001) seems somewhat weak, and Thiagaragan Zairi Dale, (2001), Yeung, Lee and Chan (2003) construction of the TQM implementation framework is primarily based on findings representing the experiences of TQM organisations management and its employees.

4.5 organization culture

The second objective of the study was to determine the influence of organizational culture on organizational performance of public universities. The first step towards achieving this objective was to measure the organizational culture and later on determine its effect on organizational performance. Organizational culture was categorized into four categories. This include the organizational values, artifacts, individual belies and assumptions. The first variable was the organizational values. All the constructs under organizational culture measured on a five point likert scale of 1-5, where 1 = Not at all, 2= little extent, 3 = Moderate extent, 4 = To a large extent and 5 = A very large extent. Frequency counts, percentages, means and standard deviations were the main tools of analysis on the measurement of this construct. The findings are presented as shown in Table 4.18.

4.5.1 Values of Organization Culture

Table 4. 1 Values

Values	NAA(1) f(%)	LiE(2) f(%)	ME(3) f(%)	LE(4) f(%)	VLE(5) f(%)	M	SD
The vision, mission and values of this University are very clear, focused and easily conceptualized	9(5.5)	0(0.0)	24(14.5)	61(37.0)	71(43.0)	4.13	1.00
All employees adhere strictly to the organization policies and procedures	0(0.0)	16(9.7)	50(30.3)	55(33.3)	44(26.7)	3.77	.95
The adherence to policies have reduced cases of uncounted for water, service hours and revenue collection efficiency	4(2.4)	8(4.8)	46(27.9)	86(52.1)	21(12.7)	3.67	.85
Our institution "s service charter is clearly written and focused on improving service delivery	0(0.0)	13(7.9)	36(21.8)	51(30.9)	65(39.4)	4.02	.95
The staff at the front office record contacts of customers and kept well for ease of accessibility	4(2.4)	12(7.3)	57(34.5)	67(40.6)	25(15.2)	3.57	.91
Managers are consistent and fair in administering work policies	8(4.8)	28(17.0)	34(20.6)	70(42.4)	25(15.2)	3.44	1.09

KEY: NAA-Not at All, LiE-Little Extent, LE-Large Extent, ME-Moderate Extent, VLE-Very Large Extent, M-Mean, SD-Standard Deviation.
Source: **Data 2017**

The findings in table 4.18 indicate the extent of the organization's culture rating by the respondents. The university has very clear, focused and easily conceptualized vision, mission and values. This is well illustrated as supported by the majority of the respondents 71(43.0%) who reported to a very large extent and 61(37.0%) who reported to a large extent. The mode of the findings was 5, rating very large extent whereas the mean was 4.13 with a standard deviation of 1.00. This gives a clear implication to a very large extent that the organization has a very clear, focused and easily conceptualized vision, mission and values though with notable variations in the responses shown by a standard deviation of 1.00. Supporting this is the employees adherence to the organization's policies and procedures with the majority 55(33.3%) reporting a large extent and 44(26.7) reporting a very large extent. The mode of the findings was 4 which rated very large extent with a mean of 3.77 and standard deviation of 0.95. This indicates clearly that employees adhere strictly to the organization's policies and procedures.

In addition to that it is clear from the majority 86(52.1%) who indicated to a large extent and 46(27.9%) to a moderate extent and being supported to a very large extent by only 21(12.7%) that the adherence to policies has reduced cases of uncounted for water, service hours and efficiency in revenue collection. Having a mean of 3.67 and a standard deviation of 0.85 supports the finding. The findings also indicate that to a very large extent with 65(39.4%) stakeholders and to a large extent with 51(30.9) stakeholders as well as to a moderate extent with 36(21.8%) stakeholders that the institution has a clearly written charter that focuses on improving service delivery. This is supported by a mean of 4.02 with a standard deviation of 0.95.

In terms of record keeping of customers contacts for easy accessibility by the front office staff, majority of the respondents 67(40.6%) support to a large extent with 57(34.5%) of the respondents supporting to a moderate extent and 25(15.2%) of the respondents supporting to a very large extent that the staff at the front office records and keeps the contacts of customers very well for easy accessibility. This is supported by a mean of 3.57 and a standard deviation 0.91. Lastly, the findings also indicate to a large extent with 70(42.4%) respondents and to a moderate extent with 34(20.6%) of the respondents supporting that managers are consistent and fair in administering work policies. In addition to that 28(17.0%) of the respondents support to a

little extent with 25(15.2%) of the respondents supporting to a very large extent the same idea that managers are consistent and fair in administering work policies. This idea is evenly rated as indicated by a mean of 3.44 with notable variations in the responses shown by a standard deviation of 1.09, slightly above 1.00.

In summary, the most widely practiced value in the organization's culture is the clarity, focus and ease in conceptualization of the vision, mission and values with the highest mean of 4.13and a standard deviation of 1.00. The least value practiced in the organization's culture as well as the evenly rated value is the managers' consistency and fairness in administering work policies. It has the least mean of 3.44 with a standard deviation of 1.09 that shows notable variations in the responses. In general, the organization has a well-organized structure in terms of its cultural values

4.5.2 Organizational Artifacts

Another task in achieving the objectives of the study was to rate the views of respondents in the organization concerning an independent variable, i.e. organizational artifacts. This was done on a five scale rating using subscales to identify how the artifacts, being subset of the organization's culture contribute to the structure and hence performance of the organization. The respondents were asked to give their views concerning how they perceived certain statements about their organization. The rates of 1-5 scale was used where 1=Not at all, 2=little extent, 3=moderate extent, 4= to a large extent and 5=to a very large extent. The findings were then analyzed using descriptive statistics mainly means and standard deviations. Tables 4.19 below present the various findings about artifacts.

Table 4. 1 Measure of Organization Culture, Artifacts

Artifacts	NAA(1) f(%)	LiE(2) f(%)	ME(3) f(%)	LE(4) f(%)	VLE(5) f(%)	M	SD
Employees put on identification badge always at work	4(2.4)	32(19.4)	32(19.4)	68(41.2)	29(17.6)	3.50	1.06
Employees are rewarded for their good performance	33(20.0)	41(24.8)	41(24.8)	38(23.0)	12(7.3)	2.73	1.22
Our Organization embraces modern technology in communicating with clients e.g. sending students results and fees status via email or sms	20(12.1)	4(2.4)	75(45.5)	46(27.9)	20(12.1)	3.25	1.10
Embracing Modern technology by our organization has improved our revenue collection through school fees	20(12.1)	8(4.8)	45(27.3)	80(48.5)	12(7.3)	3.33	1.10
Our organization prepares and gives free publications to clients on the University's achievements every year	25(15.2)	12(7.3)	50(30.3)	54(32.7)	24(14.5)	3.25	1.23
The publications of company achievements lead to better performance by our company	12(7.3)	12(7.3)	62(37.6)	50(30.3)	29(17.6)	3.43	1.09
Visitors to our organization are treated well	13(7.9)	0(0.0)	53(32.1)	75(45.5)	24(14.5)	3.60	.99

KEY: NAA-Not at All, LE-Large Extent, LiE-Little Extent, ME-Moderate Extent, VLE-Very Large Extent, M-Mean, SD-Standard Deviation.

Source: *Research data 2017*

From the findings in table 4.19, there is clear evidence that the employees in the organization always put on identification budges. This is supported to a large extent by 68(41.2%) and to a very large extent by 29(17.6%) of the respondents. A mean of 3.50 also supports the idea that the employees always put on identification budges at work though with varied opinions, views and responses shown by a standard deviation of 1.06 which is slightly above 1.00. However, there are different opinions concerning rewarding employees who perform well. This is supported by 41(24.8%) of the respondents to a little extent and moderate extent. This is also supported by 38(23.0%) of the respondents to large extent. These findings are supported by a mean of 2.73 which clearly indicate that to a moderate extent ,the employees put on identification budges while at work, however with notable variations in the responses indicated by the standard deviation of 1.22 that is slightly above 1.00.

Furthermore, there is a clear evidence that the organization embraces modern technology in communicating with clients e.g. sending student results and fee status via email or sms as can be seen by the findings from 75(45.5%) of the respondents supporting the idea to a moderate extent and 46(27.9%) of the respondents supporting the idea to a large extent. A mean of 3.25 clearly support the idea that the organization embraces modern technology in communicating with clients, however with notable variations as indicated by a standard deviation of 1.10. These variations are also clear as seen by tie in the number and percentage of respondents 25(12.3%) who support the idea to a very large extent and those who say Not at all. Having embraced modern technology in the organization has improved revenue collection through school fees. This is so clear as it is supported by 80(48.5%) of the respondents to a large extent and 45(27.3%) of the respondents to a moderate extent. The mean of 3.33 with a standard deviation of 1.10 supports the idea.

In addition to that, it is clear from the majority 54(32.7%) of the respondents who to a large extent and 50(30.3%) of the respondents who to a moderate extent that the organization prepares and gives free publications to clients on the university achievements every year. The mean of 3.25 supports the statement, however there are varied opinions indicated by a standard deviation of 1.23. The findings also indicate that the publications of the company achievements lead to better performance by the company. This is evident from the findings of 62(37.6%) respondents who support the idea to a moderate extent and 50(30.3%) of the respondents who support the

idea to large extent. This is supported by a mean 3.43 with a standard deviation of 1.09 that indicates notable variations in the responses as it is slightly above 1.00

Lastly, in relation to the kind of treatment given to the visitor, and organization, majority of the respondents 75(45.5%) support to a large extent while 53(32.1%) of the respondents support to a moderate extent that visitors to the organization are treated well. A mean of 3.60 with a standard deviation of 0.99 support the idea that visitors are treated well at the organization.

In summary, the most considered artifact in the organization's culture is the reception and treatment of visitors at the organization, having a mean of 3.60 with a standard deviation of 0.99 showing little or unnoticed variations in the respondents' responses. However, the least considered artifact in the organization's culture is rewarding of employees based on their performance, with a mean of 2.73 with a standard deviation of 1.22 showing notable variations in the responses. However, generally, the organization has a well-organized structure in terms of its cultural artifacts.

4.5.3 Individual beliefs

The second last subscale considered under organizational culture was the individual beliefs. The study sought respondents views on individual believe, which entailed empowerment aids, respect, innovation and team work. The study adopted a five point likert scale of 1-5 scale was used where 1=Not at all, 2=little extent, 3=moderate extent, 4= to a large extent and 5=to a very large extent. The results are presented as shown in Table xx using frequency counts, percentages, means and standard deviations. The higher the mean, i.e, a mean of 2.5 and above the more the organizations practice these values, likewise, the lower the mean, the less perceptive these values emerge. Tables 4.20 below present the various findings about Individual Beliefs.

Table 4. 20 Measure of Organization Culture, Individual Beliefs

Individual Beliefs	NAA(1) f(%)	LiE(2) f(%)	ME(3) f(%)	LE(4) f(%)	VLE(5) f(%)	M	SD
Empowerment aids in training and discovering potential future leaders.	13(7.9)	4(2.4)	59(35.8)	65(39.4)	24(14.5)	3.52	1.02
All employees should share the same stand in decision making process.	13(7.9)	12(7.3)	46(27.9)	58(35.2)	36(21.8)	3.57	1.13
Employees respect each other's needs when making decisions in the university.	13(7.9)	0(0.0)	83(50.3)	53(32.1)	16(9.7)	3.37	.93
Innovation creates both risks and opportunity for the university.	13(7.9)	8(4.8)	51(30.9)	61(37.0)	32(19.4)	3.57	1.08
Employees value team work to individualism.	17(10.3)	12(7.3)	42(25.5)	57(34.5)	37(22.4)	3.53	1.20

KEY: NAA-Not at All, LE-Large Extent, LiE-Little Extent, ME-Moderate Extent, VLE-Very Large Extent, M-Mean, SD-Standard Deviation.

Source: *Research data 2017*

The findings in Table 4.20 indicates that highly practiced individual beliefs in the public universities were sharing of the same standards in decision making by employees (M=3.57, SD=1.13) and innovation to create both risks and opportunity for the university (M=3.57, SD=1.08). Concerning the sharing of the same standard of decision making by employees, the findings by majority, 58(35.2%) of the respondents revealed that it was practiced to a large extent. Majority, 61(37.0%) of the respondents also indicated that innovation to create both risks and opportunities for the university was practiced to a large extent. The findings also indicates that the extent to which employees valued team work to individualism was large extent (M=3.53,

SD=1.20) with majority, 57(34.5%) of the respondents indicating that it was to a large extent. Empowerment aids in training and discovering potential future leaders also emerged to be high (M=3.52, SD=1.02), with majority 57(34.5%) indicating a large extent. Finally, the findings revealed that employees' respect to each other's needs when making decisions in the university was moderately practiced (M=3.37, SD=.93), also supported by majority of the respondents, 83(50.3%) who indicated a moderate extend.

4.5.4 Organizational assumptions

The final subscale under organizational culture considered was the organizational assumptions. The study also sought to measure the respondents views on the extent to which the organization practiced its belies based on the employee assumptions. The constructs theoretically aligned to organizational assumptions were, reward of individual performance by the universities, reward of team performance, acknowledgement of individual employee credentials and strength, chance to express self and punctuality at meetings. The constructs were measured on a five point likert scale of 1-5 scale was used where 1=Not at all, 2=little extent, 3=moderate extent, 4= to a large extent and 5=to a very large extent. The findings are presented using frequency counts, percentages, means and standard deviations as shown in Table 4.21 that follows.

Table 4. 21 Measure of Organization Culture, Assumptions

Assumptions	NAA(1) f(%)	LiE(2) f(%)	ME(3) f(%)	LE(4) f(%)	VLE(5) f(%)	M	STD
The University rewards individual performance.	17(10.3)	21(12.7)	49(29.7)	66(40.0)	12(7.3)	3.22	1.08
The University rewards team performance.	17(10.3)	25(15.2)	45(27.3)	62(37.6)	16(9.7)	3.22	1.12
The University acknowledges individual employees credentials and strengths.	9(5.5)	28(17.0)	29(17.6)	71(43.0)	28(17.0)	3.50	1.11
I am not given a chance to air my feelings.	16(9.7)	44(26.7)	56(33.9)	24(14.5)	25(15.2)	2.97	1.18
I am required to be punctual in all meetings	8(4.8)	8(4.8)	29(17.6)	62(37.6)	58(35.2)	3.92	1.08

KEY: NAA-Not at All, LiE-Little Extent, LE-Large Extent, ME-Moderate Extent, VLE-Very Large Extent, M-Mean, SD-Standard Deviation

Source: *Research data 2017*

From the findings in Table 4.21, it emerged that the most sought after organizational culture trait under assumption was punctuality at meetings which was high, (M=3.92, SD=1.08), with majority, 62(37.6%) of the respondents indicating that it was practiced to a large extent and 58(35.2%) indicating that it was to a very large extent. Acknowledgement of the individual employees credentials and strength by the universities emerged to be the second highest (M=3.50, SD=1.11) with majority, 71(43.0%) of the respondents indicating that it was practiced to a large extent. The findings also revealed that the levels of reward to individual and team performance by the universities were moderate (M=3.22, SD=1.08) and (M=3.22, SD=1.12) respectively. However, majority of the respondents, 66(40.0%) response on reward on individual

performance indicated that it was to a large extent and supported by 12(7.3%) indicating a very large extent. For the reward of team performance, majority, 62(37.6%) indicated large extent while 16(9.6%) indicated a very large extent.

The second towards achieving the objective of the study was coming up with the summary statistics on the four variables of the organizational structure. The means were meant to later on correlate with organizational performance in order to establish some associations. The summary statistics on organizational culture are presented in Table 4.22 for comparison with those of organizational performance.

Table 4. 22 Summary Statistics on Organizational Culture

Organizational Culture	M	SD
Organization Culture Values	3.77	.63
Organization Culture Artifacts	3.30	.83
Organization Culture Individual Belief	3.51	.90
Organization Culture Assumptions	3.37	.79
Overall Mean Organizational Culture	3.49	.63

Source: *Research data 2017*

The findings in Table 4.22 indicates that the overall mean for the organizational culture was highly rated (M=3.77, SD=.63) as compared to the other variables. Individual beliefs emerged the second, (M=3.51, SD=.90) while assumptions (M=3.37, SD=.79) emerged the third. The least rated form of organizational culture was artifacts (M=3.30, SD=.83) which was almost moderately practiced even though still high. The overall mean of the organizational culture was high (M=3.49, SD=.63). These findings imply that organizational culture in the public universities clearly manifests to a large extent.

4.6 Correlation between organizational Culture and Organizational Performance

The second Objective of the study was to establish the relationship between organizational culture and performance. Pearson product moment correlation was used in coming up with the correlation between the organizational culture variables and performance. First, the four

variables of the organizational culture were correlated with organizational performance and the results presented as shown in Table 4.23 that follows.

Table 4. 23 Correlation between organizational Culture and Organizational Performance

	Variables	1	2	3	4	5
1	Organizational Performance	1	.778**	.765**	.562**	.504**
2	Values		1	.766**	.518**	.465**
3	Artifacts			1	.484**	.500**
4	Individual Belief				1	.431**
5	Assumptions					1

**. Correlation is significant at the 0.01 level (2-tailed).

Source: *Research data 2017*

The findings in Table 4.23 indicates that there is a strong positive significant correlation between organizational values and organizational performance (r=.778, p<.05). It is also clear from the findings that organizational artifacts positively and strongly correlate with organizational performance, (r=.765, p<.05) a correlation that is significant. However, organizational individual beliefs and assumptions had moderate positive significant correlations with organizational performance (r=.562, p<.05) and (r=.504, p<.05) respectively.

Further correlation was carried out between the overall mean scores of the four forms of organizational culture and organizational performance. This was intended to establish the overall strength and magnitude of the correlation between organizational culture as a whole and organizational performance. The findings are presented as shown in Table 4.24 that follows.

Table 4. 24 Overall Correlations between Organizational Culture and Organizational Performance

		Organizational Performance	Organizational Culture
Organizational Performance	Pearson Correlation	1	.804**
	Sig. (2-tailed)		.000
	N	165	165
Organizational Culture	Pearson Correlation	.804**	1
	Sig. (2-tailed)	.000	
	N	165	165

**. Correlation is significant at the 0.01 level (2-tailed).

Source: *Research data 2017*

The findings in Table 4.24 indicates that there is a strong positive significant correlation between organizational culture and organizational performance (r=.804, p<.05). This implies that there is a strong relationship between organizational culture and organizational performance. Therefore organizational performance is associated with organizational culture such that the better the organizational culture, the better the organizational performance.

As the last step, the study finally sought the effect of organizational culture on organizational performance of the public universities. The study hypothesis read that "$\mathbf{H_{02}}$: There is no significant relationship between organization culture on organization performance of public universities in Kenya" while the objective of the study was to determine the effect of the organizational culture on organizational performance of public universities. Standard multiple linear regression model was carried out. Organizational performance was regressed against the four forms of organizational culture, which were; assumptions, individual beliefs, artifacts, and values. The model summary results are presented as shown in Table 4.25 that follows.

Table 4. 25 Summary Model Results on the Effect of Organizational Culture on Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.837[a]	.700	.694	.33402	.700	115.508	4	198	.000

a. Predictors: (Constant), Assumptions, Individual Belief, Artifacts, Values

Source: *Research data 2017*

The findings in Table 4.25 indicates that there was a positive significant multiple correlation between the four forms of organizational culture and organizational performance (R=.837). It is also clear from the model that organizational culture accounts for 70.0% variance in organizational performance (R^2 =.700, p=.000). An adjusted R^2 value further indicates that organizational culture accounts for 69.4% after shrinkage, or controlling for overestimation or under estimation of the estimate values (Adjusted R^2 value=.694). These findings were significant, or not by chance (F(4, 198)=115.508), but as a results of fitting the model. It can thus be deduced from the findings that organizational culture explains a bigger percentage of the organizational performance in public universities. It was thus necessary to establish the effect of each of the forms of organizational culture on organizational performance. The findings are presented as shown in Table 4.26 that follows.

Table 4. 26 Effect of Organizational Culture on Performance (Using Model Coefficients)

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.644	.151		4.268	.000
	Values	.375	.060	.394	6.257	.000
	Artifacts	.253	.046	.347	5.519	.000
	Individual Belief	.103	.031	.155	3.283	.001
	Assumptions	.061	.035	.080	1.719	.087

a. Dependent Variable: Mean Organizational Performance

Source: *Research data 2017*

The findings in Table 4.26 indicate the effects or the contributions of each of the forms of the organizational culture on organizational performance. The model coefficients clearly indicates that organizational values had the highest unique contribution to the organizational performance (β=.394, p=.000). This was the variable with the highest significant effect as compared to the other variables. The second variable that uniquely contributed to the organizational performance was the organizational artifacts (β=.347, p=.000). The third variable with the least significant unique contribution to performance was individual beliefs (β=.155, p=.001). However, organizational assumption did not have a significant contribution to organizational performance in this model. This could be due to the overlapping effect of the other variables. It can also be said that the compared contribution of the variables could have rendered the organizational cultures to being non significant due to the less role it plays in the universities organizational culture. Before reaching a conclusion, the overall mean scores of organizational performance were also regressed against the overall mean scores of organizational culture using a simple linear regression model. In this case, all the forms of organizational culture were summarized

into single means scores. The scores for the findings for the summary model results are presented as shown in Table 4.27 that follows.

Table 4. 27 Summary Model Results on the Effect of Organizational Culture on Organizational Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.804[a]	.646	.645	.35989	.646	367.542	1	201	.000

a. Predictors: (Constant), Mean Organizational Culture

Source: *Research data 2017*

The findings in Table 4.27 indicates that there was a high positive correlation between organizational culture and performance (R=.804). Organizational culture also accounted for 64.6% change or variance in organizational performance (R^2 =.646) and 64.5% after adjusting for over estimation of the model results (adjusted R^2 =.646). The findings were significantly as a result of fitting the model (F(1, 201)=367.54, p=.000. The findings thus indicates that organizational culture explains a large significant change in organizational performance. Finally, the model sought the effect of organizational culture on organizational performance using the model coefficient results whose results are presented as sown in Table 4.28 that follows.

Table 4. 28 Effect of Organizational Culture on Organizational Performance

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.790	.141		5.585	.000
	Organizational Culture	.764	.040	.804	19.171	.000

a. Dependent Variable: Mean Organizational Performance

Source: *Research data 2017*

The findings in Table 4.28 indicates that organizational culture has a unique positive and significant contribution to performance (β=.804, p=.000). This implies that organizational culture has a strong effect on organizational performance. Further insight from the results indicated in Table 4.30 was also deduced. Organizational culture standardized beta values indicate the number of standard deviations that scores in the organizational performance variable would change if there was a one standard deviation unit change in the organizational culture. From these findings, if we could increase organizational culture by one standard deviation (which is 0.63 , from the Descriptive Statistics table), then the organizational performance scores would be likely to increase by 0.804 standard deviation units.

If we multiplied this value by .63 (the standard deviation of organizational culture scores), we would get .804××63 = .5065. When this value is multiplied by 100%, it implies that putting more effort on organizational culture leads to a 50% increase in organizational performance. Thus organizational culture could lead to over half the increase in organizational performance.

The findings are in line with ul Mujeeb and Ahmad 2011; Nikpour, 2017 who indicated that organization culture had a positive impact on employee organization commitment and organization performance. Therefore, it is anticipated that there is a strong positive significant correlation between organizational culture and organizational performance. The findings are also in support to Tsai, (2011); Agwu (2014) who similarly find a positive significance relationship between organizational culture and performance basing on values, beliefs and norms. They therefore concluded that organization culture had an influence on performance.

On the contrary, the findings of this study differs with those of Aluko, (2003) whose study revealed that cultural variables showed a high level of commitment to work, low level of labor turnover and absenteeism, positive beliefs about work, positive work values, attitudes, and norms in all the firms studied. But these positive attributes did not translate directly to high level of organizational performance in these mills because some other variables were at work, which was also in support to Wahjudi.*et.al* (2016), Shi, Veenstra & Lee-Chin. (2017) study that revealed, organization culture only explains 20% of a firm's performance, and some of the variables used to measure culture had a negative effect on performance. From there findings, which were significant, or not by chance, but as a results it can thus be deduced from the findings that

organizational culture explains a bigger percentage of the organizational performance in an organization.

4.7 Moderating Effect of Organization Culture on the Relationship between Quality Management System Adoption and Organizational Performance

The final objective of the study was to establish the moderating effect of organization culture on Quality Management System adoption and organization performance on public universities in Kenya. The study hypothesis stated, "Organization culture does not have a significant moderating effect on the relationship between Quality Management System adoption and organization performance on public universities in Kenya". Three steps were taken to achieve the objective. First, an interaction term was computed. The interaction term was between the independent variable (Quality Management System adoption) and the moderator variable (organizational culture). An overview of the descriptive statistics measuring the means and standard deviations of the three variables to e included in the model was then presented. These include, the dependent variable (organizational performance), the independent variable (quality management system adoption) and finally the interaction between Quality Management System Adoption and organizational culture. The results are presented as shown in Table 4.29.

Table 4. 29 Overview of Quality Management System Adoption, Organizational Performance and Interaction Term

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Mean Organizational Performance	165	2.01	4.73	3.45	.60
Mean Organizational Culture	165	1.73	4.60	3.49	.63
interaction term	165	5.42	21.69	12.71	4.06
Valid N (list wise)	165				

Source: *Research data 2017*

From the findings in Table 4.29, the overall sample response remained 165. The minimum and maximum means for the organizational performance and organizational culture were 2.01-4.73 and 1.73-4.60 respectively. For the organizational culture, the mean range was 5.42-21.69. The actual mean for organizational performance was high (M=3.45, SD=.60), that for organizational culture slightly higher (M=3.49, SD=.63) while that of the interaction term was much high (M=12.71, SD=4.06) since it was attained after multiplying the mean scores of the dependent and independent variables.

For objective three, testing the null hypothesis was stated as H_o: β_i =0 There are no significant moderating effects of organization culture on Quality Management System adoption and organization performance on public universities in Kenya. This hypothesis was tested and actualized by use of Multiple Regression Analysis (MRA). The study tested the interaction between quality management system adoption and organizational culture. This procedure involved hierarchical regression which entailed entering the mean composite quality management system adoption and mean organizational culture in step 1, and then entering the interaction variable (which is the cross product between quality management system adoption and Quality organizational culture) in step 2. In order to reduce threats of multi-collinearity by reducing the size of any high correlation of service quality and quality management practices with the new interaction, standardized values were used for the interaction variable

Table 4. 30 Model Coefficients the moderating effect of organization culture on the relationship between Quality Management System adoption and organization performance on public universities in Kenya

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.800	.156		5.138	.000
	Mean Organizational Culture	.761	.044	.805	17.310	.000
2	(Constant)	1.241	.139		8.915	.000
	Mean Organizational Culture	.330	.062	.348	5.312	.000
	interaction term	.084	.010	.565	8.608	.000
3	(Constant)	-.400	.763		-.524	.601
	Mean Organizational Culture	.782	.216	.826	3.623	.000
	interaction term	.050	.062	-.336	-.806	.421
	Mean Quality Management System Adoption	.492	.225	.593	2.186	.030

a. Dependent Variable: Mean Organizational Performance

The Table 4.30 shows the standardized (β) and un-standardized (β) coefficients for quality management system adoption and organizational culture with and without the interaction term. The un-standardized coefficient were used while reporting coefficient for moderation as they represent simple effects rather than the main effects that are exposed in the additive regression model (Whisman and McClelland, 2005). Without the interaction term β results for Organizational Culture had a strong significant contribution to organizational performance (β=.805, t(201)=5.138, p=.000). In the second Model 2, both Organizational Culture and the

interaction term had a significant contribution to the model with (β=.348, p=.000) for organizational culture and (β=.565, p=.000) for the interaction term respectively. The final model that consisted of the three variables, revealed that Organizational Culture had an effect, (β=.826, p=.000), while interaction term did not have a significant effect, but Organizational Culture moderated the relationship between Quality Management System Adoption and organizational performance resulting to an effect of (β=.593, p=.030).

When interaction terms was introduced for management system adoption, organizational culture (moderator) and interaction term, the β coefficient are 0.492, 0.782, and 0.050 respectively. As a result, the hypothesized moderation model was confirmed to be;

$$\hat{Y} = -.0400 + 0.492X + 0.782Z + 0.050XZ \ldots\ldots\ldots\ldots\ldots\ldots \text{Equation 1}$$

In the model, the intercept and the XY slope influenced by Z (the moderate variable) intercepts and slopes of line $\hat{Y}$ X. The un-standardized co-efficient of the moderator model b_3 is 0.05. This means that for each unit increase in Z, the slope relating X to *Y* increases by 0.50 units. This further means that, as Quality management system adoption levels increases by one unit, the organizational performance levels increases by 0.05.

Table 4. 31 Model Summary on the moderating effect of organization culture on the relationship between Quality Management System adoption and organization performance on public universities in Kenya

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	.805[a]	.648	.646	.35857	.648	299.645	1	163	.000
2	.871[b]	.758	.755	.29793	.111	74.099	1	162	.000
3	.875[c]	.765	.761	.29452	.007	4.777	1	161	.030

a. Predictors: (Constant), Mean Organizational Culture
b. Predictors: (Constant), Mean Organizational Culture, interaction term
c. Predictors: (Constant), Mean Organizational Culture, interaction term, Mean Quality Management System Adoption

Source: *Spss Data 2017*

A hierarchical multiple regression models were used to carry out the moderation analysis using these three variables. In the first step, organizational performance was regressed against

organizational culture variables so as to control for it, simply by entering the organizational culture variable in the model at first. In the second step, the interaction term was entered in the model, and finally, quality management system adoption.

The findings in Table 4.31 indicate the moderation results from the three models. In the first model, the moderator variable (organizational culture) indicated a strong positive correlation with the organizational performance (R=.805). The R square value indicated that Organizational Culture accounted for 64.8% change in the organizational performance, (R square =.648) while the adjusted R square value after the shrinkage revealed a slightly lower value, 64.6% due to the true population measure (Adjusted R square =.646). These results were significant, implying the overall model 1 was statistically significant and the results were not by chance but strictly due to clear model fit (F(1, 201)=146.210, p=.000).). In Model 2, the findings indicates that both moderator variable and interaction term accounted for 75.8% significant change in organizational performance (R square =.758, p=.000, F(1, 162)=74.099). Finally, in Model 3, Quality Management System Adoption accounted for a significant 0.7% change in organizational performance (R square change =.007, p=.030, F(1,161)=4.777). This implies that organizational culture moderated the relationship between Quality Management System Adoption and organizational performance positively.

Anchored on structural contingency theory and the study conceptual framework, which highlights that organizations have failed with their quality initiatives and that one possible reason is lack of understanding of the role of Quality Management System on performance. An introduction of a moderator into a model between the independent and dependent variables would influence the effect of the relationship. Iqbal, T. *et al* (2012), organization culture is that glue that combines the non-human resources to that of human resources in the organization to establish team work and excellent performance. From this study finding, Quality Management System adoption has a strong significant contribution to organizational performance. Moreover, on the introduction of organization culture, Quality Management System adoption was reduced to a negative unique contribution, which implies that a change in the organizational culture could lead to a reduction in the organizational performance.

These findings are in consistent with the results of Wanyoike, R W. (2016), Iqbal, T. *et al* (2012) Demirbag *et.al.* (2006) study, an introduction of a new variable leads to significantly large positive moderation effect. Further the findings are corroborated by Hussain and Younis (2015) who established that, introduction of continuous improvement on leadership and performance leads to a partial moderation between organizational performance and construct of quality management practices. However, studies Sanders Jones and Linderman (2014), Demirbag *et.al.* (2006) though there was a moderation effect on introduction of a new variable, the moderation impact is partial due to external organization failure and other Quality Management System Variables.

The study findings contradicts that of Roldán *et.al* (2017), whose study revealed a negative effects of quality management on open innovation performance. However this could be overcome by complementing the organization's learning style with that of its open innovation partner, particularly, its supply network, and, most importantly, obtaining information technologies compatible with those of its supply network members.

From the study findings, it is evident that Organization culture significantly and positively moderates the relationship between QMS adoption and organization performance. On this basis H_3 which predicts that there is no significant moderating effects of organization culture on QMS adoption and organization performance on public universities in Kenya is rejected. The implication of the results of this objective is that culture should be adhered to when introducing any new system to be able to identify any challenges and opportunities available for appropriate action.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents summary and conclusions drawn from the previous chapters in particular the research findings, which will enable the readers to generate a clear picture of the research outcomes in the study on effect of organization culture on the relationship between QMS adoption and organization performance of public universities in Kenya

Moreover, this chapter also attempts to provide some important recommendation based on the conclusions on each research objectives and suggests areas for further research. These recommendations will be very helpful to policy makers on Quality Assurance and academicians.

5.1 Summary of Findings

The first objective of the study sought to establish the relationship between Quality Management System adoption and organization Performance of public universities in Kenya. Analysis revealed that Quality Management System adoption has a unique contribution to organization performance. Further, for the two forms of organizational performance, Quality Management System Adoption and organizational efficiency contributed more on organization performance as compared to effectiveness and Quality Management System Adoption.

The second objective of the study sought to determine the Influence of organizational culture on organizational performance. The findings from results revealed that organization culture had a unique positive significant contribution to organization performance and that Organization culture accounted for 64% change or variance in organization performance.

The third objective of the study sought to establish the moderating effects of organization culture on Quality Management System adoption and organization performance on public universities in Kenya. The null hypothesis (*Ho*) stated that there are no significant moderating effects of organization culture on Quality Management System adoption and organization performance on public universities in Kenya. This hypothesis was tested and actualized by use of Moderated Regression Analysis (MRA) based on the interaction between quality management system

adoption and organizational culture using a hierarchical regression from which the Model includes quality management system adoption as the independent variable, organizational culture as the moderator and the interaction effect was significant. When compared with the reduced Model, which only includes predictor variable and moderators, the addition of the interaction terms in the full model significantly, increase the $R^{2.}$ Therefore, in the final model the overall percentage change in organizational performance accounted for, by quality management system adoption, the moderator term and the interaction term are more than the original R^2 value without the interaction term from 0.758 to 0.765 and was statistical significant. Implying that organizational culture completely moderates the relationship between quality management system adoption and organizational performance rendering it significant.

5.2 Conclusions of the study

Following the findings of this study, the following conclusions were made in respect of organization culture, quality management system adoption and performance of public universities in Kenya.

The study first hypotheses: there was no significant relationship between organization performance and Quality Management System adoption. From the findings, it is clear that there was a strong positive correlation between Quality Management System adoption and Organizational Performance. QMS adoption is strongly related to performance and therefore as the Quality management system adoption increases, the performance of the public universities increases. It is thus clear that there is an alignment between the two strategic issues in most of the public universities in Kenya, opposing this hypothesis. However, an alternative hypothesis was adopted since there was a positive significant correlation between the two variables. Therefore, universities performance in the measured aspects thrives due to the continuous improvement and adoption of the quality management systems.

From the second Hypothesis, there is no significant Influence of organizational cultures on organizational performance. Organizational culture is paramount to the organizational performance in public universities in Kenya. This is because as the culture of the universities changes to be positive, there is consequent improvement in organizational performance.

Organizational culture thus has a strong positive effect on organizational performance and therefore a strong determinant of organizational performance of the universities. One of the most important aspects that determine the organizational performance is the organizational values, which directly translates the performance to an improvement hence this objective was rejected. An alternative hypothesis was therefore, adopted to indicate that organizational culture had an influence on organizational performance.

Objective three was to establish if organization culture moderates the relationship between Quality Management System adoption and organization performance. The findings of this objective indicated that organizational culture had a moderating effect on this relationship. It therefore came out that even as the Quality Management System adoption improves the performance of the organizations, which are the public universities, organizational culture has a role to play. The introduction of the organizational culture alters the Quality Management System adoption such that good values enhance better performance under the QMS. The finding provides evidence for invalidating the earlier stated null hypothesis that "there are no significant moderating effects of organization culture on Quality Management System adoption and organization performance on public universities in Kenya. Based on the above evidence, the study concludes that organization culture increases the effect of Quality Management System adoption on organizational performance in public universities.

5.3 Recommendations of the Study

The study conclusions on the first objective indicated that there is a strong relationship between Quality Management System adoption and organizational performance. The study therefore recommends the universities to maintain quality management systems, or improve them to ensure that they are institutions that offer quality services. The results will be good performance, which can render them unique or in a position to fulfill the scientific requirements internationally.

Based on the second objective, Organizational culture can be improved in the public universities. Since organizational values had improved the organizational performance, universities should improve their values to maintain their standards. However, other forms of the organizational

culture must be improved, such forms as artifacts, individual beliefs and assumptions. In this regard, universities should work on ensuring that there are positive beliefs that can enhance the organizational performance to being the best.

Based on the third objective, it is recommended that Universities should prioritize on activities with regard to the implementation of Quality Management System practices, but at the same time improve on Organization culture with much focus on organizational cultural assumptions.

5.4 Limitations of the study

While this research makes significant contributions to the body of knowledge on Quality Management System on performance, it is necessary to evaluate the results in the context of the study methodological limitations. The term limitation as used in the context of this study implies limiting conditions or restrictive weaknesses encountered in the conduct of the research. A number of limitations were identified in the conduct of this study research.

The study was limited to Public universities certified through KEBS. However, for a countries economic growth both public owned and privately owned Universities as part of Higher Education Institutions takes stake on the country's GDP. Moreover, the study only focused on top management personal of Public Universities certified under KEBS, which cannot give a clear picture of the entire organization employee's perception on QMS adoption and on organizations that are certified through other bodies such as Bureau VERITAS, United Kingdom Accreditation Service (UKAIS), CVA International and Societe Generale de surveillance (SGS).

The other limitation, in the determination of the level of performance, there are often many variables that influence organization performance with respect to size and nature. In this study, only two aspects were looked into, and although the results showed some positivity, the coefficient of the constant suggest that despite the two variables considered, there are some variables that were left which the study did not incorporate.

5.5 Suggestions for further research

From the limitations above, the study establishes the foundations for numerous future conceptual and empirical research efforts. There is need to replicate the same study to all Higher Education Institutions irrespective of ownership and mode in which the institutions acquired it Quality Management System certification. Such areas may be privately chattered institutions, institutions with letters of interim, and whose QMS certifying body are Bureau VERITAS, United Kingdom Accreditation Service (UKAIS), CVA International and Societe Generale de surveillance (SGS).

Since organization performance is a function of many factors, further research should consider incorporating other factors and combine both primary and secondary data to check interrelationship between the study variables.

REFERENCES

Aarts, F. M., & Vos, E. (2001). The impact of ISO registration on New Zealand firms' performance: a financial perspective. *The TQM magazine*, *13*(3), 180-191.

Abbasi, A. S., Aqeel, A. M. B., & Awan, A. N. (2012). The Effectiveness of Leadership, Performance and Employee Involvement for Producing Competitive Advantage with a TQM Orientation: a Conceptual Framework. *Mediterranean Journal of Social Sciences*, *3*(4), 83-90.

Abdullah, M. M. B., Ahmad, Z. A., & Ismail, A. (2009). The importance of soft factors for quality improvement: case study of electrical and electronics firms in Malaysia. *International Journal of Business and Management*, *3*(12), 60.

Acar, A. Z., & Acar, P. (2012). The effects of organizational culture and innovativeness on business performance in healthcare industry. *Procedia-Social and Behavioral Sciences*, *58*, 683-692.

Acharya, U. H., & Ray, S. (2000). ISO 9000 certification in Indian industries: a survey. *Total Quality Management*, *11*(3), 261-266.

Adam, N., Zosky, D. L., & Unrau, Y. A. (2004). Improving the research climate in social work curricula: Clarifying learning expectations across BSW and MSW research courses. *Journal of Teaching in Social Work*, *24*(3-4), 1-18.

Agwu, M. O. (2014). Organizational Culture and Employees Performance in the National Agency for Food and Drugs Administration and Control (Nafdac), Nigeria. *Global Journal of Management And Business Research*, *14*(2).

Ahire, S. L. (1996). An empirical investigation of quality management in small firms. *Production and Inventory Management Journal*, *37*(2), 44.

Ahire, S. L., Golhar, D. Y., & Waller, M. A. (1996). Development and validation of TQM implementation constructs. *Decision sciences*, *27*(1), 23-56.

Ahire, S. L., Landeros, R., & Golhar, D. Y. (1995). Total quality management: a literature review and an agenda for future research. *Production and Operations Management*, *4*(3), 277-306.

Aiken, L. S., West, S. G., & Reno, R. R. (1991). *Multiple regression: Testing and interpreting interactions*. Sage.

Ajayi, O. C., Akinnifesi, F. K., Sileshi, G., Chakeredza, S., & Matakala, P. (2007). Economic framework for integrating environmental stewardship into food security strategies in low-income countries: case of agroforestry in southern African region. *African journal of environmental science and technology*, *1*(4), 59-67.

Ali, A. S., & Rahmat, I. (2010). The performance measurement of construction projects managed by ISO-certified contractors in Malaysia. *Journal of Retail & Leisure Property*, *9*(1), 25-35.

Ali, M. (1997). An empirical study of total quality management in the Middle East: a proposed model for implementation. University of Bradford. *Unpublished PhD thesis*.

Allard, I. N. (2010). *Examining the relationship between organizational culture and performance: Moderators of culture gap* (Doctoral dissertation, North-central University).

Almeida, D., Junior, J. M., & Costa, A. F. B. (2014, January). Critical Fators to Quality Management System Implementation: relevant literature review 1992-2012. In *IIE Annual Conference. Proceedings* (p. 1113). Institute of Industrial Engineers-Publisher.

Aluko, M.A.O. (2003) 'The impact of culture on organizational performance in selected textile firms in Nigeria', Nordic Journal of African Studies, Vol. 12, No. 2, pp.164–179.

Alwadood, Z., Noor, N. M., & Kamarudin, M. F. (2011, September). Performance measure of academic departments using data envelopment analysis. In *Business, Engineering and Industrial Applications (ISBEIA), 2011 IEEE Symposium on* (pp. 395-399). IEEE.

Amin, M. E. (2005). *Social science research: Conception, methodology and analysis*. Makerere University.

Arunmozhi, S., Suguna, K., & Raghunath, P. N. (2015). International Journal of Engineering Sciences & Management. *Int. J. of Engg. Sci. & Mgmt.(IJESM)*, *5*(1), 31-36.

Aziz, R. A., & Morita, H. (2016). National culture, organisational culture, total quality management implementation, and performance: an empirical investigation. *International Journal of Productivity and Quality Management*, *19*(2), 139-159.

Bamford, D. R., & Greatbanks, R. W. (2005). The use of quality management tools and techniques: a study of application in everyday situations. *International Journal of Quality & Reliability Management*, *22*(4), 376-392.

Bateson, J & Hoffman, K. 2000. Managing Service Marketing. Boston: Dryden press

Beattie, K. R. (1999). Implementing ISO 9000: A study of its benefits among Australian organizations. *Total quality management*, *10*(1), 95-106.

Bhattacharyya S. & Sanghamitra J.P.A., (2010),"Measuring organizational performance and organizational excellence of SMEs – Part 2: an empirical study on SMEs in India", Measuring Business Excellence, Vol. 14 Iss 3 pp. 42 – 52

Bhuiyan, N., & Alam, N. (2005). An investigation into issues related to the latest version of ISO 9000. *Total quality management and business excellence*, *16*(2), 199-213.

Blackmore*, J. (2004). Quality assurance rather than quality improvement in higher education?. *British journal of sociology of education*, *25*(3), 383-394.

Blanche, M. T., Durrheim, K., & Painter, D. (2006). *Research in practice: Applied methods for the social sciences*. Juta and Company Ltd.

Boiral, O. (2007). Corporate greening through ISO 14001: a rational myth?. *Organization Science*, *18*(1), 127-146.

Boiral, O. (2012). ISO certificates as organizational degrees? Beyond the rational myths of the certification process. *Organization Studies*, *33*(5-6), 633-654.

Buch, K., & Rivers, D. (2002). Sustaining a quality initiative. *Strategic Direction*, *18*(4), 15-17.

Carey, C. E., Newman, P. M., & McDonough, L. M. (2004). Global leadership capability an asia-pacific perspective. *Performance Improvement*, *43*(8), 13-18.

Casadesús, M., & Karapetrovic, S. (2005). An empirical study of the benefits and costs of ISO 9001: 2000 compared to ISO 9001/2/3: 1994. *Total Quality Management & Business Excellence*, *16*(1), 105-120.

Chang'ach, J. K. (2014). Postmodernism as a Social Science Methodology&58; Comments on Haugerud's Representation of Kenya. *Asia Pacific Journal of Multidisciplinary Research*, *2*(3), 70-75.

Changiz Valmohammadi, Mohsen Kalantari, (2015) "The moderating effect of motivations on the relationship between obtaining ISO 9001 certification and organizational performance", The TQM Journal, Vol. 27 Issue: 5, pp.503-518,

Cheung, S. O., Wong, P. S., & Lam, A. L. (2012). An investigation of the relationship between organizational culture and the performance of construction organizations. *Journal of Business Economics and Management*, *13*(4), 688-704.

Chrisman, J. J., Chua, J. H., & Sharma, P. (2005). Trends and directions in the development of a strategic management theory of the family firm. *Entrepreneurship theory and practice*, *29*(5), 555-576.

Cinar, Y. (2016). Research and Teaching Efficiencies of Turkish Universities with Heterogeneity Considerations: Application of Multi-Activity DEA and DEA by Sequential Exclusion of Alternatives Methods. *arXiv preprint arXiv:1701.07318*.

Cloete, N., Bailey, T., & Pillay, P. (2011). *Universities and economic development in Africa*. African Minds.

Collins, P. D., & Hull, F. (1986). Technology and span of control: Woodward revisited. *Journal of Management Studies*, *23*(2), 143-164.

Corbett, L. M., & Rastrick, K. N. (2000). Quality performance and organizational culture: A New Zealand study. *International Journal of Quality & Reliability Management*, *17*(1), 14-26.

Cox, T., & Beale, R. L. (1997). *Developing competency to manage diversity: Readings, cases & activities*. Berrett-Koehler Publishers.

Curkovic, S., Vickery, S. K., & Droge, C. (1999). Quality and business performance: An empirical study of first-tier automotive suppliers. *QUALITY CONTROL AND APPLIED STATISTICS*, *44*, 411-412.

Deal, T. E., & Peterson, K. D. (2006). *Shaping school culture*. John Wiley & Sons.

Deming, W. E. (1986). Out of the crisis, Massachusetts Institute of Technology. *Center for advanced engineering study, Cambridge, MA*, *510*.

Deming, W. E. (1993). The new economics. Massachusetts Institute of Technology. *Center for Advanced Engineering Study. Cambridge, MA. 240p*.

Dia, M. (1996). *Africa's management in the 1990s and beyond: Reconciling indigenous and transplanted institutions*. World Bank Publications.

Din, S., Abd-Hamid, Z., & Bryde, D. J. (2011). ISO 9000 certification and construction project performance: The Malaysian experience. *International Journal of Project Management*, *29*(8), 1044-1056.

Dodge, H. F., & Romig, H. G. (1941). Single sampling and double sampling inspection tables. *Bell Labs Technical Journal*, *20*(1), 1-61.

Donaldson, L. (1999). The normal science of structural contingency theory. *Studying Organizations: Theory and Method. Thousand Oaks, Calif: Sage*, 51-70.

El-Khawas, E. (1998). Quality Assurance in Higher Education: Recent Progress; Challenges Ahead.

Ely, R. J., & Thomas, D. A. (2001). Cultural diversity at work: The effects of diversity perspectives on work group processes and outcomes. *Administrative science quarterly*, *46*(2), 229-273.

Everett, C. L. (2002). Penn State's Commitment to quality improvement. *Quality progress*, *35*(1), 44.

Faisal Talib, Zillur Rahman, M.N. Qureshi, (2013) "An empirical investigation of relationship between total quality management practices and quality performance in Indian service companies", International Journal of Quality & Reliability Management, Vol. 30 Issue: 3, pp.280-318,

Fakhar, S., Iqbal, I., & Gulzar, M. (2014). Impact of Organizational Culture on Employees Job Performance: An Empirical Study of Software Houses in Pakistan Journal of Business Studies Quarterly, 5(2).

Falola, H. O., Osibanjo, A. O., & Ojo, S. I. (2014). Effectiveness of Training and Development on Employees' performance And Organisation Competitiveness In The Nigerian Banking Industry. *Bulletin of the Transilvania University of Brasov. Economic Sciences. Series V*, *7*(1), 161.

Feng, M., Terziovski, M., & Samson, D. (2007). Relationship of ISO 9001: 2000 quality system certification with operational and business performance: A survey in Australia and New Zealand-based manufacturing and service companies. *Journal of manufacturing technology management*, *19*(1), 22-37.

Fesharaki, M. S. H., Fesharaki, S. H. H., & Allameh, S. M. (2012). The Influence of Employees' Involvement in Performance Assessment System on Employees' Creativity. *International Journal of Academic Research in Business and Social Sciences*, *2*(11), 310.

Flynn, B. B., Schroeder, R. G., & Sakakibara, S. (1994). A framework for quality management research and an associated measurement instrument. *Journal of Operations management*, *11*(4), 339-366.

Galunic, D. C., & Eisenhardt, K. M. (2001). Architectural innovation and modular corporate forms. *Academy of Management journal*, *44*(6), 1229-1249.

Garvin, D. A. (1987). Competing on the 8 dimensions of quality. *Harvard business review, 65*(6), 101-109.

Georgios, T., Stilianos-Eustratios, V., Zacharoula, A., Nikolaos, K., & Papaioannou, E. (2014). The aspects of internet-based management, marketing, consumer's purchasing behavior and social media towards food sustainability. *RIVISTA DI STUDISULLA SOSTENIBILITA'*.

Gore Jr, E. W. (1999). Organizational culture, TQM, and business process reengineering: An empirical comparison. *Team performance management: an international journal*, *5*(5), 164-170.

Gotzamani, K. D., & Tsiotras, G. D. (2002). The true motives behind ISO 9000 certification: their effect on the overall certification benefits and long term contribution towards TQM. *International Journal of Quality & Reliability Management*, *19*(2), 151-169.

Gotzamani, K. D., Tsiotras, G. D., Nicolaou, M., Nicolaides, A., & Hadjiadamou, V. (2007). The contribution to excellence of ISO 9001: the case of certified organisations in Cyprus. *The TQM Magazine*, *19*(5), 388-402.

Grandzol, J. R., & Gershon, M. (1998). Which TQM practices really matter: An empirical investigation. *Quality Control and Applied Statistics*, *43*, 57-60.

Gravetter, F. J. Wallnau.(2000). *Statistics for the behavioral sciences*, *6*.

Gravetter, F. J., & Wallnau, L. B. (2000). Statistics for the Behavioral Sciences, 5th.Ed. Belmont, CA: Wadsworth.

Gulali Indiya Donald, Odoyo Collins Otieno, John Mark Obura, Beatrice Abong'o, Charles Ondoro. Effect ofImplementing Quality Management System on the Performance of Public Universities in Kenya: A Case of Maseno University, Kenya. American Journal of Business, Economics and Management.Vol. 3, No. 3, 2015, pp. 145-151.

Guler, I., Guillén, M. F., & Macpherson, J. M. (2002). Global competition, institutions, and the diffusion of organizational practices: The international spread of ISO 9000 quality certificates. *Administrative science quarterly*, *47*(2), 207-232.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). Multivariate data analysis 6th ed. *Uppersaddle River: Pearson Prentice Hall*.

Handzic, M. (Ed.). (2007). *Socio-Technical Knowledge Management: Studies and Initiatives: Studies and Initiatives*. IGI Global.

Haque, M. S. (2001). The diminishing publicness of public service under the current mode of governance. *Public administration review*, *61*(1), 65-82.

Heras, I., Casadesús, M., & Dick, G. P. (2002). ISO 9000 certification and the bottom line: a comparative study of the profitability of Basque region companies. *Managerial Auditing Journal*, *17*(1/2), 72-78.

Heras, I., Dick, G. P., & Casadesus, M. (2002). ISO 9000 registration's impact on sales and profitability: a longitudinal analysis of performance before and after accreditation. *International Journal of Quality & Reliability Management*, *19*(6), 774-791.

Ho, S. K. (1994). Is the ISO 9000 series for total quality management?. *International Journal of Quality & Reliability Management*, *11*(9), 74-89.

Holm, T. (2014). Enabling change in universities: Enhancing education for sustainable development with tools for quality assurance.

Hoseus, M., & Liker, J. K. (2008). Toyota culture: the heart and soul of the Toyota way. *New York: Print Matters Inc*.

Hoyle, D. (2009). *ISO 9000 Quality Systems Handbook: Using the standards as a framework for business improvement*. Routledge.

Hoyle, R. B. (2006). *Pattern formation: an introduction to methods*. Cambridge University Press.

Idris, M. A., Aziz, N. F. A., & Zailee, S. (2012). The adoption of management systems standards & best practices in Malaysia (current and future trend). *Nang Yan Business Journal*, *1*(1), 105-112.

Idris, M. A., McEwan, W., & Belavendram, N. (1996). The adoption of ISO 9000 and total quality management in Malaysia. *The TQM Magazine*, *8*(5), 65-68.

Injac, N. (2002). Mala enciklopedija kvalitete II. dio–Informacije, dokumentacija, auditi. *Drugo prerađeno izdanje, Oskar, Zagreb*.

Iqbal, T., Khan, B. A., Nadeem Talib, D., & Khan, N. (2012). TQM and organization performance: The mediation and moderation fit. *Life Science Journal*, *9*(4), 1571-1582.

Irani, Z., Beskese, A., & Love, P. E. D. (2004). Total quality management and corporate culture: constructs of organisational excellence. *Technovation*, *24*(8), 643-650.

Iyer, A. V., Saranga, H., & Seshadri, S. (2011). Effect of QMS and TQM on productivity before and after: empirical evidence from the Indian auto component industry.

Iyer, A., Saranga, H., & Seshadri, S. (2013). Effect of quality management systems and total quality management on productivity before and after: empirical evidence from the Indian auto component industry. *Production and Operations Management*, *22*(2), 283-301.

Jones, R., Arndt, G., & Kustin, R. (1997). ISO 9000 among Australian companies: impact of time and reasons for seeking certification on perceptions of benefits received. *International Journal of Quality & Reliability Management*, *14*(7), 650-660.

Juran, J. M. (2003). *Juran on leadership for quality*. Simon and Schuster.

Juran, J., & Gryna, F. M. (1988). Juran1s Quality Control Handbook. *NY: McGraw-Hill*.

Kamau, J. K. (2015). Relationship Between Human Resource Management Practices And Staff Retention in Public Hospitals in Kenya: A Case Study of Gatundu District Hospital. *Strategic Journal of Business & Change Management*, *2*(2).

Kaplan, R. S., & Norton, D. P. (2005). The balanced scorecard: measures that drive performance. *Harvard business review*, *83*(7), 172.

Kapucu, N., & Özerdem, A. (2011). *Managing emergencies and crises*. Jones & Bartlett Publishers.

Karani, S. R., & Bichanga, W. O. (2012). Effects of Total Quality Management implementation on business performance in service institutions: A case of Kenya Wildlife Services. *International Journal of Research Studies in Management,1*(1), 59-76.

Karathanos, P. (1998). Crafting corporate meaning. *Management Decision*, *36*(2), 123- 132.

Kasim, M. M., Kashim, R., & Rahim, R. A. (2016). Development of a Two-dimensional Productivity Measurement Model for Higher Learning Institutions. *International Review of Management and Marketing*, *6*(7S).

Katz, J. P., Krumwiede, D. W., & Wass de Czege, M. (1998). Total quality management in the global marketplace: the impact of national culture on TQM implementation. *International Journal of Management*, *15*, 349-356.

Kelada, J. N. (1996). *Integrating reengineering with total quality*. ASQ Quality Press.

Khaminwa, A. N., & Nyambura, S. K. (2006). *Violence in Kenya's public universities: reversing the tide, building a culture of peace and dialogue*. Nairobi Peace Initiative-Africa.

Kimani, A. W., & Bichanga, W. O. (2013). Effectiveness of ISO 9001: 2008 Certification On Service Delivery Of Public Universities In Kenya.

Kothari, C. R. (2004). *Research methodology: Methods and techniques*. New Age International.

Laihonen A.J.H. (2013),"Overcoming the specific performance measurement challenges of knowledge-intensive organizations", International Journal of Productivity and Performance Management, Vol. 62 Iss 4 pp. 350 – 363

Lakhe, R. R., & Mohanty, R. P. (1994). Total quality management: concepts, evolution and acceptability in developing economies. *International Journal of Quality & Reliability Management*, *11*(9), 9-33.

Lapiņa, I., Kairiša, I., & Aramina, D. (2015). Role of Organizational Culture in the Quality Management of University. *Procedia-Social and Behavioral Sciences*, *213*, 770-774.

Lazibat, T., & Baković, T. (2012). *Poznavanje robe i upravljanje kvalitetom*. Ekonomski fakultet.

Levy, D. C. (2010). East Asian private higher education: Reality and policy. *World Bank Report*.

Lewis, D. R., Hendel, D. D., & Kallsen, L. (2007). Performance indicators as a foundation of institutional autonomy: Implications for higher education institutions in Europe. *Tertiary Education and Management*, *13*(3), 203-226.

Lumadi, M. W. (2011). Managing diversity at higher education and training institutions: A daunting task. *Journal of Diversity Management (JDM)*, *3*(4), 1-10.

Mahmood, W. Y. W., Mohammed, A. H., Misnan, M. S., Yusof, Z. M., & Bakri, A. (2006). Development of quality culture in the construction industry.

Makawiti, D. W. (2011). Perception of Academic Staff in Kenyan Public Universities towards Application of Performance Appraisal Results in Training and Promotion decisions.

Manning, T. T. (2003). Leadership across cultures: Attachment style influences. *Journal of Leadership & Organizational Studies*, *9*(3), 20-30.

Marimon Viadiu, F., Casadesús Fa, M., & Heras Saizarbitoria, I. (2006). ISO 9000 and ISO 14000 standards: an international diffusion model. *International Journal of Operations & Production Management*, *26*(2), 141-165.

Markovits-Somogyi, R. (2012). Complex technological and economic efficiency assessment methods in freight transport and logistics with special emphasis on data envelopment analysis.

Mathooko, F. M. (2013). *Response strategies adopted by public universities in Kenya to environmental and managerial challenges* (Doctoral dissertation, University of Nairobi,).

Maull, R., Brown, P., & Cliffe, R. (2001). Organisational culture and quality improvement. *International Journal of Operations & Production Management*, *21*(3), 302-326.

Merton, R. K. (1968). *Social theory and social structure*. Simon and Schuster.

Michalska-Ćwiek, J. (2009). The quality management system in education-implementation and certification. *Journal of Achievements in Materials and Manufacturing Engineering*, *37*(2), 743-750.

Misztal, I., Tsuruta, S., Aguilar, I., Legarra, A., VanRaden, P. M., & Lawlor, T. J. (2013). Methods to approximate reliabilities in single-step genomic evaluation. *Journal of dairy science*, *96*(1), 647-654.

Mohammad Mosadegh Rad, A. (2006). The impact of organizational culture on the successful implementation of total quality management. *The TQM Magazine*, *18*(6), 606-625.

Moturi, C., & Mbithi, P. M. (2015). ISO 9001: 2008 implementation and impact on the University of Nairobi: a case study. *The TQM Journal*, *27*(6), 752-760.

Movahedi, M., Teimourpour, M., & Teimourpour, N. (2013). A study on effect of performing quality management system on organizational productivity. *Management Science Letters*, *3*(4), 1063-1072.

Muturi, D., Ochieng, J., & Njihia, S. (2015). Impact of ISO 9001 Implementation on Organizational Performance in Kenya. *Keny inistitute of management*, 1-6.

Nahm, A. Y., Vonderembse, M. A., & Koufteros, X. A. (2003). The impact of organizational structure on time-based manufacturing and plant performance. *Journal of operations management*, *21*(3), 281-306.

Nahm, A. Y., Vonderembse, M. A., & Koufteros, X. A. (2004). The impact of organizational culture on time-based manufacturing and performance. *Decision Sciences*, *35*(4), 579-607.

Naor, M., Goldstein, S. M., Linderman, K. W., & Schroeder, R. G. (2008). The role of culture as driver of quality management and performance: infrastructure versus core quality practices. *Decision Sciences*, *39*(4), 671-702.

Naranjo-Valencia, J. C., Jiménez-Jiménez, D., & Sanz-Valle, R. (2016). Studying the links between organizational culture, innovation, and performance in Spanish companies. *Revista Latinoamericana de Psicología*, *48*(1), 30-41.

Nikpour, A. (2017). The impact of organizational culture on organizational performance: The mediating role of employee's organizational commitment. *International Journal of Organizational Leadership*, *6*(1), 65.

Njeru, M. N. (2016). Relationship between Total Quality Management and Employee Performance in Public Universities In Kenya: A Case Study of Kirinyaga University College. *Strategic Journal of Business & Change Management*, *3*(2).

Nyaigotti-Chacha, C. (2004). Reforming Higher Education in Kenya.

Nyasani, J. A. (2015). *The impact of International Standards Organization 9001: 2008 standards certification on the performance of public universities in Kenya* (Doctoral dissertation, University of Nairobi).

Okoro, E. A., & Washington, M. C. (2012). Workforce diversity and organizational communication: Analysis of human capital performance and productivity. *Journal of Diversity Management (Online)*, *7*(1), 57.

Olsen, J. E., & Martins, L. L. (2012). Understanding organizational diversity management programs: A theoretical framework and directions for future research. *Journal of Organizational Behavior*, *33*(8), 1168-1187.

Orlitzky, M., & Benjamin, J. D. (2003). The effects of sex composition on small-group performance in a business school case competition. *Academy of Management Learning & Education*, *2*(2), 128-138.

Otieno, K. O. (2010). Teaching/learning resources and academic performance in mathematics in secondary schools in Bondo District of Kenya. *Asian Social Science*, *6*(12), 126.

Ouchi, W. G. (1981). Theory Z: How American Business can meet the Japanese Challenge (Addison-Wessley, Reading, Mass.). *Google Scholar*.

Paul, M., Dutta, A., & Saha, P. (2016, April). Improving Organizational Effectiveness through Workplace Spirituality a41144nd Organizational Citizenship Behaviour: A Conceptual Review. In *Globsyn Management Conference 2015* (Vol. 1, p. 79). Allied Publishers.

Pheng, L. S., & Teo, J. A. (2004). Implementing total quality management in construction firms. *Journal of management in Engineering*, *20*(1), 8-15.

Piskar, F. (2007). The impact of the quality management system ISO 9000 on customer satisfaction of Slovenian companies. *Managing Global Transitions*, *5*(1), 45.

Prewitt, J., Weil, R., & McClure, A. (2011). Developing leadership in global and multi-cultural organizations. *International Journal of Business and Social Science*, *2*(13).

Pun, K. F. (2001). Cultural influences on total quality management adoption in Chinese enterprises: An empirical study. *Total quality management*, *12*(3), 323-342.

Rahman, H. A., Rahim, F. M., & Mahyuddin, N. (2006, September). Implementing a Quality Management System for Built Environment Programs–University of Malaya's Experience. In *Second Annual Built Environment Education Conference (BEECON 2006). Recruitment and Retention: The Way Forward, London* (pp. 12-13).

Ramirez, C., & Loney, T. (1993). Baldrige Award winners identify the essential activities of a successful quality process. *Quality Digest*, *5*.

Rany, S., Zain, A. N. M., & Jamil, H. (2012). Cambodia's higher education development in historical perspectives (1863-2012). *International Journal of Learning and Development*, *2*(2), 224-241.

Rao, S. S., Raghunathan, T. S., & Solis, L. E. (1997). A comparative study of quality practices and results in India, China and Mexico. *Journal of Quality Management*, *2*(2), 235-250.

Rao, S. S., Solis, L. E., & Raghunathan, T. S. (1999). A framework for international quality management research: development and validation of a measurement instrument. *Total Quality Management*, *10*(7), 1047-1075.

Ravichandran, T., & Rai, A. (2000). Quality management in systems development: an organizational system perspective. *MIS quarterly*, 381-415.

Rodriguez, F. (2014). Trend analysis and organizational efficiency. In *40 Annual Meeting of Spanish Nuclear Society, Oct 1-3, 2014, Valencia, Spain*.

Ruane, J. M. (2005). *Essentials of research methods: A guide to social science research*. Blackwell publishing.

Saad, R., & Asaad, M. N. M. (2015). Does organizational culture moderate the relationship between ISO 9000 soft factors and organizational performance?. *The Journal of Developing Areas*, *49*(3), 379-394.

Sampaio, P., Saraiva, P., & Monteiro, A. (2012). ISO 9001 certification pay-off: myth versus reality. *International Journal of Quality & Reliability Management*, *29*(8), 891-914.

Sandholm, L. (1999). Trendy versus effective quality strategies. *The TQM Magazine*, *11*(6), 437-444.

Saraph, J. V., Benson, P. G., & Schroeder, R. G. (1989). An instrument for measuring the critical factors of quality management. *Decision sciences*, *20*(4), 810-829.

Schein, E. H. (1984). Coming to a new awareness of organizational culture. *Sloan management review*, *25*(2), 3-16.

Schein, E. H. (1984). Culture as an environmental context for careers. *Journal of Organizational Behavior*, *5*(1), 71-81.

Schein, E. H. (2010). *Organizational culture and leadership* (Vol. 2). John Wiley & Sons.

Shahzad, F., Iqbal, Z., & Gulzar, M. (2013). Impact of organizational culture on employees job performance: An empirical study of software houses in Pakistan. *Journal of Business Studies Quarterly*, *5*(2), 56.

Shi, W., Veenstra, K., & Lee-Chin, M. (2017). The moderating effect of cultural values on the relationship between corporate social performance and corporate financial performance.

Sifuna, D. N. (1998). The governance of Kenyan public universities. *Research in Post-Compulsory Education*, *3*(2), 175-212.

Sila, I. (2007). Examining the effects of contextual factors on TQM and performance through the lens of organizational theories: An empirical study. *Journal of Operations management*, *25*(1), 83-109.

Sila, I., & Ebrahimpour, M. (2003). Examination and comparison of the critical factors of total quality management (TQM) across countries. *International journal of production research*, *41*(2), 235-268.

Sila, I., & Ebrahimpour, M. (2005). Critical linkages among TQM factors and business results. *International journal of operations & production management*, *25*(11), 1123-1155.

Simmons, B. L., & White, M. A. (1999). The relationship between ISO 9000 and business performance: does registration really matter?. *Journal of Managerial Issues*, 330-343.

Srikanthan, G., & Dalrymple, J. (2005). Implementation of a holistic model for quality in higher education. *Quality in Higher Education*, *11*(1), 69-81.

Stensaker, B. R. (2008). Outcomes of quality assurance: A discussion of knowledge, methodology and validity. *Quality in Higher Education*, *14*(1), 3-13.

Tabachnick, B. G., & Fidell, L. S. (2007). Using multivariate statistics, 5th. *Needham Height, MA: Allyn & Bacon*.

Tabachnick, B.G., Fidell, L.S. (2001). Using Multivariate Statistics, 4th edition. (New York: Harper Collins College Publishers).

Tee, S. W., Bowen, P. L., Rohde, F. H., & Doyle, P. (2005). An empirical investigation of factors influencing organisations to improve data quality in their information systems.

Terre Blanche, M., & Durrheim, K. (1999). Social constructionist methods. *Research in practice: Applied methods for the social sciences*, 147-172.

Thiagaragan, T., Zairi, M., & Dale, B. G. (2001). A proposed model of TQM implementation based on an empirical study of Malaysian industry. *International Journal of Quality & Reliability Management*, *18*(3), 289-306.

Thiagarajan, T. (1996). An empirical study of total quality management (TQM) in Malaysia: a proposed framework of generic application. *Unpublished PhD Thesis, University of Bradford*.

Thuo, C. M. (2013). *Adoption of ISO 9001 Quality Management Standard and Operational Performance of Service Organizations in Kenya* (Doctoral dissertation, University of Nairobi).

Too, C., & Chumba, S. (2016). Use of Quality Management Systems to Improve Instructional Management Practices in Tertiary Educational Institutions in Kenya. *Africa Journal of Technical and Vocational Education and Training*, *1*(1), 157-167.

Tsai, Y. (2011). Relationship between organizational culture, leadership behavior and job satisfaction. *BMC health services research*, *11*(1), 98.

ul Mujeeb, E., & Ahmad, M. S. (2011). Impact of organizational culture on performance management practices in Pakistan. *International Management Review, 7*(2), 52.

Üstüner, Y., & Coşkun, S. (2004). Quality management in the Turkish public sector: a survey. *Public administration and development*, *24*(2), 157-171.

Valmohammadi, C., & Kalantari, M. (2015). The moderating effect of motivations on the relationship between obtaining ISO 9001 certification and organizational performance. *The TQM Journal*, *27*(5), 503-518.

van der Wiele, T., van Iwaarden, J., Williams, R., & Dale, B. (2005). Perceptions about the ISO 9000 (2000) quality system standard revision and its value: the Dutch experience. *International Journal of Quality & Reliability Management*, *22*(2), 101-119.

Wahjudi, D., Singgih, M. L., Suwignjo, P., & Baihaqi, I. (2016). The relationship between organisational culture and firm performance: an empirical study on Indonesian manufacturing firms. *International Journal of Productivity and Quality Management*, *18*(1), 1-18.

Walgenbach, P. (2001). The production of distrust by means of producing trust. *Organization Studies, 22*(4), 693-714.

Wanyoike, R. W. (2016). *Quality management practices and firm performance among manufacturing firms in Kenya* (Doctoral dissertation, Kenyatta University).

Wanyoike, R. W. (2016). Quality management practices and firm performance among manufacturing firms in Kenya (Doctoral dissertation, Kenyatta University).

Welsh, J. F., & Dey, S. (2002). Quality measurement and quality assurance in higher education. *Quality Assurance in Education*, *10*(1), 17-25.

Wiewiora, A., Trigunarsyah, B., Murphy, G., & Coffey, V. (2013). Organizational culture and willingness to share knowledge: A competing values perspective in Australian context. *International Journal of Project Management, 31*(8), 1163-1174.

Woodward, J. (1980). *Industrial organization: Theory and practice*. Oxford; New York: Oxford University Press.

Yeung, A. C. L., Lee, T. S., & Chan, L. Y. (2003). Senior management perspectives and ISO 9000 effectiveness: an empirical research. *International Journal of Production Research, 41*(3), 545-569.

Yilmaz, Y. (2010). Higher education institutions in Thailand and Malaysia–can they deliver. *World Bank, NY, USA*.

Yong, K. T., & Pheng, L. S. (2008). Organizational culture and TQM implementation in construction firms in Singapore. *Construction Management and Economics, 26*(3), 237-248.

Zairi, M., & Youssef, M. A. (1995). Benchmarking critical factors for TQM: Part I: Theory and foundations. *Benchmarking for Quality Management & Technology*, *2*(1), 5-20.

Zhang, Z., Waszink, A. B., & Wijngaard, J. (2000). An instrument for measuring TQM implementation for Chinese manufacturing companies. *International Journal of Quality & Reliability Management*, *17*(7), 730-755.

Zhu, A. Y., von Zedtwitz, M., Assimakopoulos, D., & Fernandes, K. (2016). The impact of organizational culture on Concurrent Engineering, Design-for-Safety, and product safety performance. *International Journal of Production Economics*, *176*, 69-81.

Zu, X., Robbins, T. L., & Fredendall, L. D. (2010). Mapping the critical links between organizational culture and TQM/Six Sigma practices. *International journal of production economics*, *123*(1), 86-106.

APPENDICES

Appendix i: Public Universities Certified with KEBS

UNIVERSITY NAME	QMS No.
Egerton University	QMS/111
Jaramogi Oginga Odinga University of Science and Technology	QMS/179
Jomo Kenyatta University of Agriculture and Technology	QMS/096
Maasai Mara University	QMS/253
Masinde Muliro University of Science and Technology	QMS/188
Meru University of Science and Technology	QMS/ 217
Moi University	QMS/099
South Eastern Kenya University	QMS/260
University of Kabianga	QMS/189
University of Nairobi	QMS/064
Maseno University	QMS/113

Source: KEBS website, 2015

Appendix ii Study Population

UNIVERSITY	VC	DVC	F.O	REGISTRAR	DEANS	LIBRARIAN
Egerton University	1	3	1	2	14	1
JOUST	1	3	1	2	13	1
JKUAT	1	4	1	2	12	1
Maasai Mara University	1	2	1	2	5	1
MMUST	1	3	1	2	12	1
MUST	1	3	1	2	6	1
Moi University	1	3	1	2	10	1
SEKU	1	4	1	3	11	1
University of Kabianga	1	3	1	3	6	1
UON	1	4	1	3	13	1
Maseno University	1	3	1	2	14	1
TOTAL	**11**	**38**	**11**	**25**	**119**	**11**

Table 2.2 **Sampling Frame**

Source: Various university web sites 2015

Appendix iii Map Of Kenya

Source; Google map 2014

Appendix iv Research Questionnaire

This questionnaire is designed to obtain information for the moderating effect of organization culture on quality management system adoption and organization performance in public universities in Kenya for academic purpose only.

The accuracy of the responses you provide will be very crucial for the success of this thesis. Kindly respond to questions in all sections with utmost good faith.

Demographic Information

Tick ( ) where appropriate

1. Name of the University ……

2. What is your highest level of education?

Masters degree	( )
Doctoral of Philosophy degree	( )

3. Indicate the time taken to adopt QMS certification?

Below 6 Months	( )
6 - 12 Months	( )
Above 12 months	( )

4. Firms hired consultant for ISO certification

Yes	( )
No	( )

5. Quality Management System Adoption

To what extent do the following statements apply to your University? Please tick as appropriate in a corresponding box? Use a scale of 1-5, where 1 = Not at all, 2= Little extent, 3 = Moderate extent, 4 = To a large extent and 5 = A very large extent

		5	4	3	2	1
i	Quality planning activities are delegated to the "quality control" department and are the cornerstone of the Organization goals.					
ii	Everyone inside the Organization is a customer of an internal or external supplier, and a supplier of an external or internal customer					
iii	The organization as a system of interdependent processes is linked laterally over time through a network of collaborating (internal and external) suppliers and customers.					
iv	The environment in which the organization interacts is changing constantly					
v	Organization departments work together toward system optimization through teamwork.					
vi	Organization views people as the enterprise's true competitive edge					
vii	People are motivated to make meaningful contributions to what they believe is an important and noble cause, of value to the enterprise and society					

6. Organization Performance

To what extent do the following statements apply to your University? Please tick as appropriate in a corresponding box? Use a scale of 1-5, where 1 = Not at all, 2= Little extent, 3 = Moderate extent, 4 = To a large extent and 5 = A very large extent

(Efficiency)

Organization strategy

		5	4	3	2	1
i	The university has well developed vision, mission and quality objectives					
ii	Everybody is involved in developing the university vision, missions and quality objectives					
iii	The university has developed a tool for monitoring achievement of set objectives					
iv	The university has established good communication systems for all matters					
v	The university has adopted QMs in order to improve its management systems					

Corporate structure design

		5	4	3	2	1
i	The university has well established and equipped library					
ii	The university has developed and equipped laboratory and workshop centers for carrying innovative experiments					
iii	Lecture halls are adequate and well furnished to meet the needs of all students					
iv	The University has adequate accommodation facilities to cater for all students					

v	The university adopted QMs in order to improve its infrastructure systems					
vi	There are clear communication guidelines between students, leadership, lecturers and support staff					

Employee commitment

		5	4	3	2	1
i	The management involves employees on decision making on all quality matters					
ii	The company offers employees opportunity for career growth through training and development					
iii	There is improved information flow between top management and employees within the company					

Organization performance (Effectiveness)

Organization growth and expansion

		5	4	3	2	1
i	The university has expanded its programmes into other new geographical regions/markets to improving its funding					
ii	The university invests in other business opportunities (not related to Academics) as a means to supplement its income					
iii	Government is the main source of funding to the university					

Job satisfaction

		5	4	3	2	1
i	Employee are well trained on quality matters to enhance efficiency					
ii	Company products are delivered to customers on time					
iii	There is maximum use of physical facilities					
iv	High quality administrative systems are in place to support the efficiency of the firm					
v	The University undertakes market based research annually on quality issues.					
vi	The University collects, analysis and disseminates information for market decision making by management					

Customer satisfaction

		5	4	3	2	1
i	The University has mechanism for customer complaints handling.					
ii	The University has customer complaints procedure where customers are attended to.					
iii	The University has consistent tracking of complaints and procedures for all cases of complaints.					
iv	The university is committed to customer retention by ensuring quality service offered					
v	Customer needs and expectations are communicated throughout the University.					

vi	There is improved customer loyalty leading to repeat business					
vii	The University stresses the importance on obtaining feedback on its quality control systems from customers					

6. Organization Culture

To what extent do the following statements apply to your University? Please tick as appropriate in a corresponding box? Use a scale of 1-5, where 1 = Not at all, 2= Little extent, 3 = Moderate extent, 4 = To a large extent and 5 = A very large extent

Values

		5	4	3	2	1
i	The vision, mission and values of this University are very clear, focused and easily conceptualized					
ii	All employees adhere strictly to the organization policies and procedures					
iii	The adherence to policies have reduced cases of student unrest due to missing marks and insecurity					
iv	Our institution ‟s service charter is clearly written and focused on improving service delivery					
v	The staff at the front office record contacts of customers and kept well for ease of accessibility					
vi	Managers are consistent and fair in administering work policies					

Artifacts

		5	4	3	2	1
i	Employees put on identification badge always at work					
ii	Employees are rewarded for their good performance					
iii	Our Organization embraces modern technology in communicating with clients e.g. sending students results and fees status via email or sms					
iv	Embracing Modern technology by our organization has improved our revenue collection through school fees					
v	Our organization prepares and gives free publications to clients on the University's achievements every year					
vi	The publications of company achievements lead to better performance by our company					
vii	Visitors to our organization are treated well					

Individual Belief

		5	4	3	2	1
i	Empowerment aids in training and discovering potential future leaders.					
ii	All employees should share the same stand in decision making process.					
iii	Employees respect each other's needs when making decisions in the university.					
iv	Innovation creates both risks and opportunity for the university.					
v	Employees value team work to individualism.					

Assumptions

		5	4	3	2	1
i	The University rewards individual performance.					
ii	The University rewards team performance.					
iii	The University acknowledges individual employees credentials and strengths.					
iv	I am not given a chance to air my feelings.					
v	I am required to be punctual in all meetings					