

**RELATIONSHIP BETWEEN QUALITY MANAGEMENT SYSTEMS AND  
STUDENTS' SATISFACTION IN EGERTON UNIVERSITY, NJORO, KENYA**

**ALICE JERUIYOT KIPLAGAT**

**A Thesis Submitted to Graduate School in Partial Fulfilment of the Requirements for  
the Award of the Degree of Masters of Education in Education Management of Egerton  
University**

**EGERTON UNIVERSITY**

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## DECLARATION AND RECOMMENDATION

### Declaration

This thesis is my original work and has not been presented for the award of Diploma or conferment of a Degree in this or any other University.

Signed: \_\_\_\_\_

Date \_\_\_\_\_

Alice Jeruiyot Kiplagat

EM15/2836/10

### Recommendation

This thesis has been submitted for examination with our approval as University supervisors.

Signed: \_\_\_\_\_

Date \_\_\_\_\_

Prof. Joseph M. Wamutitu (PhD)

Department of Curriculum, Instruction and Educational Management

Egerton University

Signed: \_\_\_\_\_

Date \_\_\_\_\_

Dr. Patricia W. Wambugu (PhD)

Department of Curriculum, Instruction and Educational Management

Egerton University

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## **DEDICATION**

This thesis is dedicated to my husband, Robert, our children, Happiness, Victor and Grace and my parents, Mr. & Mrs K.A.Tuitoek who kept encouraging and supporting me during my studies.

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## ABSTRACT

Student Satisfaction (SS) is a key factor in the attraction and retention of customers in an institution of learning. Demand for quality products and services by students have become evident in institutions of higher learning in Kenya. Universities are investing a lot of resources and efforts to become more performing organisations by providing quality products and services to their customers and in particular students. Quality Management Systems (QMS) is one way of achieving this goal. QMS is a management approach that requires consideration of the University's operations, strategy, staff as well as students to provide quality services and hence meet students' satisfaction. The purpose of this study was to establish the relationship between QMS and students' satisfaction in Egerton University, Kenya. Specifically, the study sought to identify critical dimension of service quality that contributed most to students' satisfaction, established the relationship between QMS and students' satisfaction as well as establishing the relationship between QMS and students' satisfaction with respect to gender in Egerton University. *Ex post facto* research design was used in the study. The target population consisted of 13,260 undergraduate students while 2,730 third year students were accessible population drawn from Egerton University, Njoro Campus. Purposive sampling was used to select third year students who were considered to have settled in their campus life. Proportionate stratified sampling was used to select participants from six faculties of the University while simple random sampling was used to draw required number of respondents from each stratum (Faculty). A total of 241 students participated in the study. Student Service Quality Questionnaire (SSQQ) was used to collect the data. Construct, content and face validity of the instrument was ascertained by research experts from the Department of Curriculum, Instruction and Educational Management, Egerton University. Piloting of the study instruments was carried out on 30 third year students of Nakuru Town Campus, Egerton University. Cronbach's alpha coefficient was used to estimate reliability and was found to be 0.8866. Descriptive statistics including means, frequencies and percentages and Pearson Product Correlation ( $r$ ) were used to analyze data with the help of statistical packages for social sciences (SPSS). The results were considered significant at 0.05 level of confidence. The findings of the study showed that there was a significant relationship between QMS and students' satisfaction in Egerton University. The findings of the study may be used by Egerton University and other institutions of higher learning in improving their Quality Management Systems in order to provide quality services and enhance students' satisfaction.

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## **LIST OF ABBREVIATIONS AND ACRONYMS**

<b>BASE</b>	British Association for Supported Employment
<b>EU</b>	Egerton University
<b>FASS</b>	Faculty of Arts and Social Sciences
<b>FEDCOS</b>	Faculty of Education and Community Studies
<b>FERD</b>	Faculty of Environment and Resource Development
<b>FET</b>	Faculty of Engineering and Technology
<b>FOA</b>	Faculty of Agriculture
<b>FOS</b>	Faculty of Science
<b>GDP</b>	Gross Domestic Product
<b>GOK</b>	Government of Kenya
<b>ISO</b>	International Organization for Standardization
<b>KEBS</b>	Kenya Bureau of Standards
<b>NACOSTI</b>	National Commission for Science, Technology and Innovation
<b>SERVQUAL</b>	Service Quality
<b>SS</b>	Student Satisfaction
<b>SQ1</b>	Tangibles
<b>SQ2</b>	Reliability
<b>SQ3</b>	Responsiveness
<b>SQ4</b>	Assurance
<b>SQ5</b>	Empathy
<b>QMS</b>	Quality Management Systems
<b>QM</b>	Quality Management
<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organization

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 Background of the Study**

Universities are important for generation, preservation and dissemination of knowledge in order to contribute to socio-economic benefits of a country ( Onlagi & Fazli , 2015). As such, it is necessary that they assess quality of their services and establish methods for improving on quality. The concept of quality of education is associated with the achievement of agreed standards, as well as consistency between the objectives of the program and the competence of graduates (Hanna & Eugenia, 2010). Knowledge of how to satisfy students who are the primary customers of a University is important for its future success. This success depends on quality service which enables a University to attract and retain good quality students. The relationship between quality management systems and student satisfaction is therefore important because if it is understood may enable the right decisions to be made about service quality that leads to increased student satisfaction (Arokiasamy & Abdullah, 2012).

Quality Management Systems is a process which ensures that all activities necessary to design, develop and implement a product or service are effective and efficient with respect to the system and its performance Deming, 1986. Managerial philosophy of elements of Quality Management (QM) is varied; different terms like Strategic Quality Improvement, Total Quality Improvement and Total Quality Management are elements that demonstrate different emphasis based on particular aspects which are generally referred to as Quality Management Systems (Magutu, Mbeche, Onger & Ombati, 2010). QMS is the process which needs to permeate the entire organization in order to achieve effective results. QMS is a method used to enhance quality and productivity in organizations, the processes which should involve all departments, employees and customers such as students, staff, stakeholders and suppliers (Guchu & Mwanaongoro, 2012). QMS evolved from many different practices and processes, aimed at improvement of quality of goods and services that are produced in order to satisfy customer demands. The objective of QMS is to build an organization that performs services that are considered as quality by those who use them (ISO, 2008); where quality refers to the customers' perception of the degree to which the product or service meets their expectations. When quality services are provided the result is satisfied customers. Thus, when customers are satisfied, they are an asset to

an institution because they are retained and new ones are attracted to the institution because of its success (Ali & Shatri, 2010).

QMS has been implemented all over the world in different sectors of the economies. QMS which started partly in USA and partly in Japan in the 1950s led to an increased production of goods after the world war in these two economies, Karani and Bichangi, 2011. Research conducted by Quinn, Lemay, Larsen and Johnson (2009) in USA showed that implementation of QMS in institutions of higher learning resulted in improvement of quality services and performance of organizations. In addition, El-Sharef and El-Kilany (2011) revealed that implementation of QMS Universities in United Kingdom the resulted to students' satisfaction.

In the developing economies, there is wide implementation of QMS in the service and manufacturing sectors (Guchu & Mwanaongoro, 2012). For example, Hungarian Government introduced QMS in higher Education institutions in 1992 caused by the desire to reform Institutions of learning especially in the academic processes and improve on the quality of students, academic performance as well as teacher and Student Satisfaction. Implementation of QMS resulted in great achievement of higher education institutions in Hungary in terms of effectiveness and efficiency in use of resources which led to quality education (Csizmadia, 2006). Hutyra (2007) revealed that implementation of QMS in the Czech Republic resulted in competitive ability by the University and increased proactive behaviour of employees and more important students' satisfaction. Implementation of QMS in Malaysian Institutions of higher learning led to improvement in working relationships, increase in student enrolment and improved students' satisfaction (Sohail, Rajadurai & Rahman, 2003). Implementation of quality management at the University of the Orange Free State resulted in the maintenance of acceptable standards in Education, efficiency and accountability and to the provision of quality services (Strydom & Holtzhausen, 2001).

In Kenya, Karani and Bichangi (2011) found out that QMS and customer satisfaction (CS) are important factors for the success of any organization. Thus, implementation of QMS led to improvement of service delivery which led to customer satisfaction. Additionally, Magutu *et al.* (2010) showed that implementation of QMS in University of Nairobi resulted into improvement of quality of service delivery in the institution. Further, Guchu

and Mwanaongoro (2012) contented that implementation of QMS led to quality improvement, economic progress and customer satisfaction in the small and medium enterprises in Kenya.

Government of Kenya (GOK) aims at making Kenya a middle level industrialized country by the year 2030 and provide high quality life for all citizens. The Vision 2030 is based on three “pillars” of development namely economic, social and political (GOK 2007). The Economic pillars is concerned with economic development programmes and aims at achieving Gross Domestic Product (GDP) growth rate at 10% and improve prosperity of all citizens. The Social pillar aims at building a just and cohesive society with social equity and secure environment while the Political pillar aims at realizing a democratic political system founded on the rule of law, respect for human rights and freedom of every individual in the society. Quality Education, training and research is therefore be the best vehicle to achieve the goals of these pillars. Vision 2030 may not be achieved unless illiteracy is reduced by increasing access to education, improving quality and relevance of education that meets the labour requirements of the country. This by producing innovative and creative graduates at all levels of education while at the same time utilizing the scarce resources (UNESCO, 2005).

In Kenya, quality education is regarded as not mere passing of examinations and certification, but the development of analytical and creative potential of an individual including critical, spiritual and ethical values (GOK 1998). In addition, the Government has put in place the standard criteria for assessment of quality education. Saitoti (2003) and Sallis (2002) posited that the major determinants of quality education include curriculum content, relevant instructional materials and equipment, physical facilities, conducive learning environment, the quality of the teaching force as well as credible assessment and monitoring process. Additionally, Githua (2004) argues that quality in education includes selective entrance criteria for students, stringent staff recruitment procedures, performance related funding and evaluation of education process. For quality education to be realised, there should be effective Quality Management Systems in place.

Quality Management Systems (QMS) insists on quality education which is reflected in financial and other resources management as well as offering quality services to students

(ISO, 2000). The quality and adequacy of resources such as physical facilities, equipment, teaching and learning materials have bearing on quality of education. These determine how effective the curriculum is implemented. The quality of education cannot be achieved and sustained if the resources and facilities are not available in sufficient quantity and quality. According to Okumbe (2007), an educational institution should be able to use available resources efficiently in order to achieve the goals for which it was established. This is one aspect of organisational effectiveness. Thus, effective organizations provide quality products which are determined by the quality of inputs and output in the production function (Mullins, 2007). Effectiveness as such may be judged by the extent to which an organization achieves its goals, acquires the necessary material and human resources, provides warm organizational climate and meets the expectations of the society within which it was established (Krivobokova, 2009).

Quality Management Systems helps organizations to be effective in production and distribution of goods and services. There is need therefore for the Universities to participate in valuable research aimed at helping the country achieve the three pillars of development. As such, Universities in Kenya such as Egerton University have put into place Quality Management Systems (QMS) so as to provide quality services in order to satisfy the needs of its customers especially students.

Service Quality (SERVQUAL) is a multi-item scale developed to assess customer perception of service quality in service and retail business (Parasuraman, Berry & Zeithaml (1985). Long term customer relationships require that institutions measure and appropriately adjust the quality of their customer service since service quality is a major influence on customer satisfaction. SERVQUAL is based on the preposition that service quality can be measured as the gap between the service that a customer expects and the performance they perceive to have received.

According to Piskar (2007) Customer Satisfaction is a broad term which includes perceived evaluation of a product and service and customer focus by an organization. ISO, (2000) on education emphasizes the need to improve the relationship with students by monitoring their behavioural and internal processes and to diagnose where improvements are needed for continual monitoring of student satisfaction. Satisfied students are important to an organization because they are often ambassadors of the institution who

market it (Ali & Shatri, 2010). On the other hand, dissatisfied students bring about severe effects to the institution because they talk ill about the institution to many other potential clients (Krivobokova, 2009). Thus, satisfaction reduces cost in terms of marketing and exhibits loyalty to the institution (Wei & Ramalu, 2011).

In higher education, student satisfaction plays an important role in determining the success, efficiency and effectiveness of education system (Wei & Ramalu, 2011). This may imply that the higher the level of student satisfaction experienced, the better the ability the institution to groom their skill development, acquisition of knowledge and improvement of mental capacity (Muhammad & Malik, 2011). Thus, if an institution possesses education facilities with effective teaching and support staff, students are most likely to be satisfied, motivated, loyal and good in their academic performance (Rodie & Klein, 2000). ISO procedures indicate that the QMS leads to customer satisfaction due to provision of quality services and that success of QMS is highly dependent on management support. QMS is therefore an important component in the success of an organization such as Egerton University (Guchu & Mwanaongoro, 2012).

At Egerton University (EU) prior to the implementation of QMS, there was little coordination and uniformity in the processes and activities in the nine faculties, one institute and forty two non-teaching departments (EU, 2005). This may have led to lack of initiatives and inefficiencies due to lack of accountability, and hence poor students' satisfaction. As a means of arresting this, Egerton University Management introduced a new method of management aimed at making employees accountable and responsible towards making the institution's customer satisfied. Egerton University became certified in June 2010 after the Kenya Bureau of Standards (KEBS) was satisfied with its development and implementation of the procedures according to International Standards for Quality Management. Egerton University implemented QMS to facilitate coordination and to offer services with uniformity across all departments. Besides, it aimed at making employees accountable and responsible in providing services to customers including students. It was also thought that QMS would help Egerton staff to be empathetic and to show concern to customers especially students as well as offer timely and correct services to them. As a result of implementation of QMS, it was expected that the university would provide services which enhance students' satisfaction and result in continuous improvement. In this study, QMS was measured by tangibles such as the physical



facilities and equipment needed to provide services, responsiveness; ability to respond to students' request on time, reliability. Also the ability to deliver the desired service dependably, accurately and consistently, assurance; ability to convey trust and confidence to students towards the services provided and empathy; ability to show personalised care and attention to them. As such, there was need to examine the relationship between Quality Management Systems and Students' Satisfaction in Egerton University.

## **1.2 Statement of the Problem**

Quality Management Systems (QMS) originated partly from Japan and partly from USA after the World war the II in 1950s. The adoption of this system of management led to substantial production of quality goods in the two countries. Since then many countries of the world especially developed economies have adopted this method of management in order to improve their performance in the production and distribution of goods and services. It has also helped organizations to remain competitive in attraction and retention of customers. An organisation seeking to establish quality management can be guided by quality management principles underlying ISO 9000 series. Institutions of higher education in most countries have adopted QMS due to their desire to improve on academic processes to enhance the quality of academic performance as well as staff and student satisfaction. This plays an important role in determining the success, efficiency and effectiveness of the institutions. Egerton University implemented QMS in 2010 and has been committed to quality management as indicated by its quality policy statement of being a world class university for the advancement of humanity. The University desires to generate and disseminate knowledge and offer exemplary education that contributes to national and global development. The University is also committed to providing quality products and services that meet and exceed students' satisfaction, stakeholders' expectations, and to comply with statutory requirements. The University has put in a lot of resources towards Quality Management Systems aimed at helping them provide quality services to its customers especially students. In addition, Quality Assurance Department was established to monitor provision of quality services by the institution especially to students. However, it has not been clear whether or not that Quality Management Systems has helped Egerton University to offer quality services to its customers following persistent complaints by students. This study therefore examined the relationship between quality management systems and students' satisfaction in Egerton University, Njoro Campus.

### **1.3 Purpose of the Study**

The purpose of this study was to examine the relationship between quality management systems and students' satisfaction in Egerton University, Njoro, Kenya.

### **1.4 Objectives of the Study**

The following objectives guided this study:

- i. To identify critical dimension of service quality that contributes most to students' satisfaction in Egerton University.
- ii. To establish the relationship between QMS and students' satisfaction in Egerton University.
- iii. To establish the relationship between QMS and students' satisfaction with respect to gender in Egerton University.

### **1.5 Research Question**

Which was the critical dimension of service quality that contributes most to students' satisfaction in Egerton University?

### **1.6 Hypotheses of the Study**

The following hypothesis guided the study:

- Ho1: There is no statistically significant relationship between quality management systems and students' satisfaction in Egerton University.
- Ho2: There is no statistically significant difference between quality management systems and students' satisfaction with respect to gender in Egerton University.

### **1.7 Significance of the Study**

The research findings of this study may be useful to Educationists and Management of higher education as it highlights important factors affecting student satisfaction and hence take corrective measures. The findings may also enable the Management of Egerton University to identify the strengths and weaknesses of the present QMS approach and hence make necessary improvement to enhance students' satisfaction. It may also contribute to the body of knowledge on relationship between QMS and students' satisfaction which may be useful to other institutions of learning as well as research bodies.

### **1.8 Scope of the Study**

The study was conducted in Egerton University, Njoro Campus, focusing on students in their third year of study. A sample of 241 third year students drawn from all faculties participated in this study. The study focused on five dimensions of service quality as indicators of quality management systems namely; tangibles, reliability, responsiveness, assurance and empathy. It also addressed students' satisfaction which was established as the difference between students' perception on services offered and students' perception on services received.

### **1.9 Assumptions of the Study**

This study was based on the following assumptions:

- i. The respondents gave honest and unbiased information.
- ii. Egerton University employees are actively involved in Quality Management Systems approach.
- iii. That SERVQUAL dimension was appropriate in measuring students' satisfaction.
- iv. Third year students had settled at Egerton University and were a good source of information.

### **1.10 Limitations of the Study**

The following were the limitations of this study:

- i. Students came from diverse socio-economic environments and might have had different perceptions and expectations on service quality.
- ii. Since the majority of regular students were admitted through the Kenya Universities and Colleges Central Placement Services (KUCCPS) they may not have wished to join Egerton, their perceptions might have been different from those who had preferred to join Egerton University as their first choice.

### **1.11 Delimitation of the Study**

The following was delimitation of the study;

Students were considered as consumers of services rather than final products.

### 1.11 Definition of Terms

The following terms are used as defined in this study:

**Assurance:** Giving hope that something is true or will happen, in order to make them feel less (Hornby, 2011). In this study, assurance referred to the ability to elicit trust and confidence to students.

**Customer:** Is anyone who is affected by the product or service or by the process used to produce the product. Customers may be internal or external (ISO, 2008). In this study, customer meant a student who is affected by the services offered at Egerton University.

**Customers Satisfaction:** Is a state of affairs in which a customer feels that their expectations have been met by the product or service features (Krivobokova, 2009). In this study, customer satisfaction referred to students' feelings of pleasure resulting from comparing their perceived service in relation to their expectations.

**Empathy:** Is the ability to share another person's feelings and emotions as if they were your own (Hornby, 2011). In this study, empathy is defined as the caring and individualized attention provided to students by staff of Egerton University.

**Quality Management:** Refers to coordinated activities to direct and control an organization with regard to standards; it means the need that is stated implied or obligatory (ISO, 2008). In this study, it referred to coordinated activities to direct and control Egerton University according to predefined standards.

**Quality Management Systems:** Refers to the documented systems an organization puts in place to manage process that affect quality, where quality is meeting expectations and consistently deliver what an organization promised to do (ISO, 2008). In this study, QMS refers to a management process in which Egerton University puts into place structures that enhance delivery of quality services that meet students' expectations and their needs.

**Relationship:** Refers to the way in which two or more things are connected (Hornby, 2011). In this study, relationship referred to the way in which QMS is connected to service quality and students' satisfaction in Egerton University.

**Reliability of Service Delivery:** Is the ability to deliver the desired service dependably accurately and consistently (Sekaran & Bougie, 2010). In this study, it referred to Egerton University's ability to provide the service promised promptly and accurately.

**Responsiveness:** A responsive person is quick to react to show emotions such as pleasure and affection (Hornby, 2011). In this study, responsiveness entailed Egerton University

offering a service promptly and quickly, helping students and being available when they need assistance.

**Service:** Services are deeds, processes and performances provided by an organisation for another person or an entity (Zeithaml, 2009). In this study, service refers to deeds, processes and performances provided by Egerton University to students.

**Service Quality:** Is a measure of how well the service level delivered matches the expectations of customers, (Parasuraman *et. al* 1985). In this study, the service quality meant how well the service level delivered by EU matches the expectations of students in Egerton University. It was measured as students' expectations (E).

**Student:** Is a person who is seeking services of the teaching learning process (ISO, 2004). In this study, a student is a person who has met all the requirements as stated by the policy of Egerton University and participates in the learning process.

**Student Satisfaction:** Is a feeling of students when their needs and expectations are met by the institution (Krivobokova, 2009). In this study, it referred to the difference between students' expectations and students' perceptions of service quality in Egerton University. The gap score was taken to mean student satisfaction.

**Tangibles:** Refer to the physical environment in the service organization; they include physical facilities and equipment, staff appearance and dress code (Parasuraman *et. al* 1985). In this study, it referred to physical facilities, equipment and EU staff appearance.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter focuses on the studies which have been done by other researchers globally, regionally and in Kenya on Quality Management Systems and its relationship with service quality and Customer Satisfaction. This chapter also presents reviewed related literature on origin and meaning Quality Management Systems, Service Quality, Students' Satisfaction, Theoretical Framework and the Description of Conceptual Framework of the study.

#### **2.2 Origin, Meaning and Rationale of Quality Management Systems**

Quality Management Systems originated partly from Japan and partly from USA after the World war the II in 1950s (Karani & Bichangi, 2011). The adoption of this system of Management led to substantial production of quality goods in the two countries. Since then many countries of the world have adopted this method of management in order to improve their performance in the production and distribution of goods and services (Mosahab & Ramaya, 2010). It has also helped organizations to remain competitive in attraction and retention of customers (Piskar, 2007). Therefore an adoption of QMS practices allows organizations to compete globally and leads to improvement of quality and hence leads to customer satisfaction.

Quality Management Systems has been implemented all over the world in different sectors of the economies. QMS which started partly in USA and partly in Japan in the 1950s led to an increased production of goods after the world war in these two economies, Karani and Bichangi, 2011. Research conducted by Quinn, Lemay, Larsen and Johnson (2009) in USA showed that implementation of QMS in institutions of higher learning resulted in improvement of quality services and performance of organizations. Implementation of QMS in European Countries higher education in 1980s led to development of policies and standards which enhanced quality Education to all stakeholders including students, Amaral and Rosa (2011). In addition, El-Sharef and El-Kilany (2011) revealed that implementation of QMS Universities in United Kingdom the resulted to students' satisfaction.

Implementation of QMS resulted in great achievement of higher education institutions in Hungary in terms of effectiveness and efficiency in use of resources which led to quality education (Csizmadia, 2006). Hutyra (2007) revealed that implementation of QMS in the Czech Republic resulted in competitive ability by the University and increased proactive behaviour of employees and more important students' satisfaction. Implementation of QMS in Malaysian Institutions of higher learning led to improvement in working relationships, increase in student enrolment and improved students' satisfaction (Sohail, Rajadurai & Rahman, 2003). Implementation of quality management at the University of the Orange Free State resulted in the maintenance of acceptable standards in Education, efficiency and accountability and to the provision of quality services (Strydom & Holtzhausen, 2001). Additionally, Magutu *et al.* (2010) showed that implementation of QMS in University of Nairobi resulted into improvement of quality of service delivery in the institution.

Quality Management Systems refer to the documented systems an organization puts into place to manage process that affect quality, where quality is meeting expectations and consistently deliver what the organization intends to do (ISO, 2008). QMS is a management system with customer satisfaction as organizational goal. In addition, the approach involves documentation and control of organization's every day processes to ensure that all activities are carried out as planned (Ali & Shatri, 2010). Audits are carried out regularly to ensure that an organization does what it promises to do by ensuring compliance with the relevant regulatory requirements. Reviews to monitor and measure performance, identify and implement improvements to processes and systems within the organization, are also carried out (KEBS, 2006).

Quality Management systems as management approach of organizations is centred on quality, based on participation of all members and aim at long term success through continuous improvement (ISO, 2008). This is achieved through customer satisfaction by meeting the needs and expectations of customers in an efficient and effective manner (ISO, 2008). According to Piskar (2007), QMS refer to the policies, systems and processes designed to ensure maintenance and enhancement of quality within organization. In addition, Beverly, Dennis, William and Daniel (2008) explained that QMS involves improving the quality of institutional services and making the operations of

organizations more transparent and accountable and improving their performance which enhances customer satisfaction. Ali and Shatri (2010) posit that Quality Management makes academic standards explicit both in student demands and procedures at the Universities. Thus, this study sought to establish the relationship between Quality Management Systems and students' satisfaction in Egerton University.

### **2.3 Quality Management Systems and ISO 9001**

ISO 9001 series are International Organization for Standardization standards that define a systematic control of business activities to ensure that the needs and expectations of the customers are being met or exceeded (ISO, 2008). This is achieved through controlling processes in the organization that affect the quality of the products and services the organization supplies. ISO 9001 describe the standards for Quality Management Systems addressing the principles and processes surrounding the design, development and delivery of general product or service. Organizations including academic institutions can participate in a continuing certification process so as to demonstrate their compliance with the standard which includes requirements for continual (planned) improvement to Quality Management.

The first University to achieve ISO 9001 certification was the University of Wolverhampton in United Kingdom in 1984 (Storey, 1994). Since then there have been many other certified institutions of higher learning all over the world which include; in Canada, implementation QMS in an engineering department in a Canadian University led to enhanced acquisition of resources, improve service delivery, quality control and good communication (Karapetrovic & Willborn, 1999). In the United States of America, implementation of ISO 9001 was done in educational system to improve customer satisfaction and for efficiency (Miller, 2006). Walker (1997) described implementation of certification on University research in South Africa as having led to interaction with industries and results in confidence of employers, students and general public that quality education and research requirements were being met. However, studies by Edler (2003) showed that there are challenges like shared governance, faculty autonomy, differing customer needs and varied focuses across departments which make implementation of Quality Management Systems difficult. In addition, Elmuti and Kathawala (1999) indicated that ISO 9001 certification fails to improve customer satisfaction in the small and medium-sized service firms in the United States of America.



An organisation seeking to implement quality management can be guided by the quality management principles underlying ISO 9000 series. These principles are generic guidelines that can be adapted by an organisation in setting up an internal quality management system depending on the operations and the challenges facing that organisation. Accordingly ISO (2008) identified eight principles that an organisation can put into place, namely;

- i. Customer Focus:** Organizations depend on their customers and therefore should understand current and future customer needs, meet customer requirements and strive to exceed customer expectations. Key benefits of focusing on customer include; increased revenue and market share obtained through flexible and fast responses to market opportunities, increased effectiveness in the use of the organization's resources, enhanced customer satisfaction and improved customer loyalty leading to repeat business (Rosa, Claudia & Alberto, 2012).
  
- ii. Leadership:** Leaders establish unity of purpose and direction of the organization. They should create and maintain the internal environment in which people can become fully involved in achieving the organization's objectives. Key benefits include: staff will understand and be motivated towards the organization's goals and objectives, activities are evaluated, aligned and implemented in a unified way and minimizing miscommunication between levels of an organization (ISO, 2008).
  
- iii. Involvement of People:** Employees at all levels are the essence of an organization and their full involvement enables their abilities to be used for the organisation's benefit. Importance of involving people are: motivated, committed and involved people within the organization, innovation and creativity in furthering the organization's objective, people being accountable for their own performance and employees who are eager to participate in and contribute to continual improvement (ISO, 2008).
  
- iv. Process Approach:** A desired result is achieved more efficiently when activities and related resources are managed as a process. This helps an organisation to lower costs through effective use of resources, improved, consistent and predictable results, focused and prioritized activities lead to improvement of the organisation (Rosa, Claudia & Alberto, 2012).

- v. **System Approach to Management:** Process approach involves identifying, understanding and managing interrelated processes as a system contributes to the organization's effectiveness and efficiency in achieving its objectives. Importance of this approach include, integration and alignment of the processes that will best achieve the desired results, ability to focus effort on the key processes, providing confidence to interested parties as to the consistency, effectiveness and efficiency of the organization (Rosa, Claudia & Alberto, 2012).
  
- vi. **Continual Improvement:** Continual improvement of the organization's overall performance should be a permanent objective of the organization. Key benefits are performance advantage through improved organizational capabilities, alignment of improvement activities at all levels to an organization's strategic intent and flexibility to react quickly to opportunities (ISO, 2008).
  
- vii. **Factual Approach to Decision Making:** Effective decisions are based on the analysis of data and information. Key benefits are informed decisions, an increased ability to demonstrate the effectiveness of past decisions through reference to factual records, increased ability to review, challenge and change opinions and decisions (ISO, 2008).
  
- viii. **Mutually Beneficial Supplier Relationships:** An organization and its suppliers are interdependent and a mutually beneficial relationship enhances the ability of both to create value. Key benefits are increased ability to create value for both parties' flexibility and speed of joint responses to changing market or customer needs and expectations, optimization of costs and resources (Rosa, Claudia & Alberto, 2012).

According to the ISO 9000:2000 developing and implementing quality management comprehends several phases which include; determining the needs and expectations of customers and other interested parties; establishing quality policy and quality objectives, defining the processes and responsibilities needed to attain the quality objectives, determining and making available the resources needed to attain the objectives, establish the methods to measure each processes efficiency and efficacy, establishing the methods to measure each process efficiency and efficacy, applying these measures to determine

each process efficiency and efficacy, identify means to prevent non-conformities and eliminate its causes, establishing and applying a process to the continuous improvement of the organisation's quality management systems.

As such, this study investigated the relationship between QMS and students' satisfaction in Egerton University.

## 2.4 Quality Management Systems Processes

Quality Management Systems is a method used to enhance quality and productivity in organizations, the process which should involve all departments, employees and customers such as students, staff, stakeholders and suppliers (Guchu & Mwanaongoro, 2012). In addition, QMS refers to the documented systems an organization puts into place to manage process that affect quality. In this case quality is meeting expectations and consistently deliver what the organization intends to do (ISO, 2008). Quality Management Systems constitute four processes as illustrated in Figure 1.

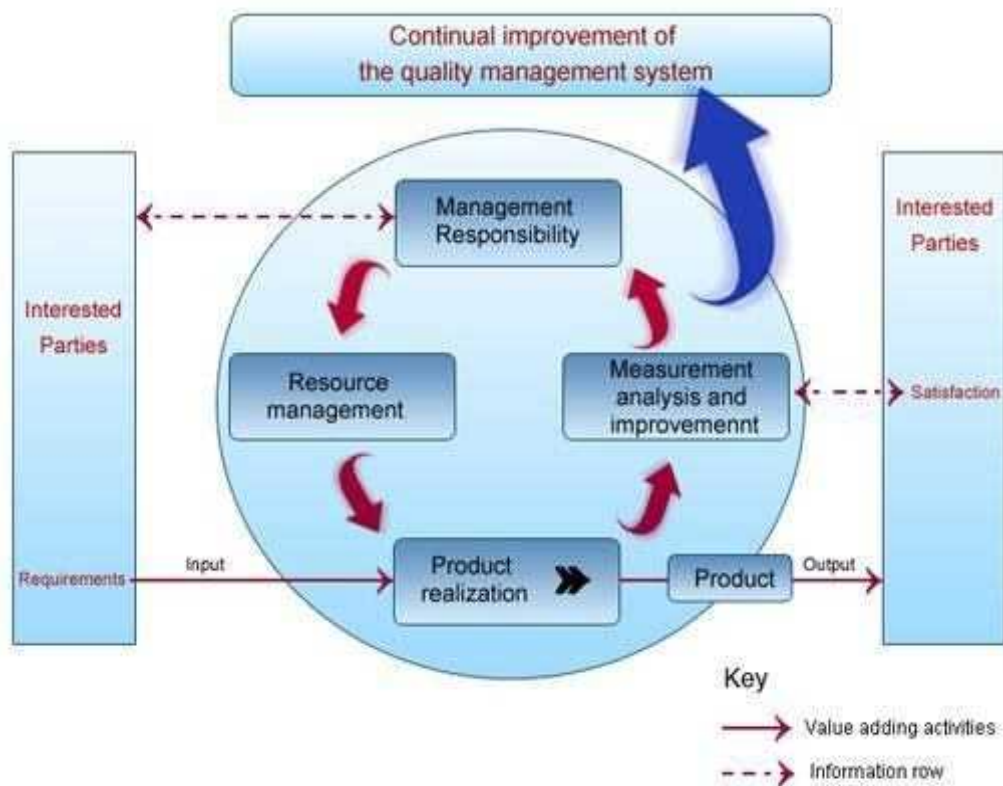


Figure 1: The processes of Quality Management Systems

- i. **Management responsibility processes** includes strategic decisions, determination of quality policy, quality objectives and other Management tasks. This is the first step in QMS where management should be actively involved in the process. Quality policy and objectives should be specified by management and be made clear to all levels of the organisation.
- ii. **Resource management processes** includes the determination and work allocation of human resources, infrastructural facilities and provision good work environment. This is done to facilitate production of quality products effectively and efficiently.
- iii. **Product realization processes** which describe the activities needed to produce the products and services to the internal and external customers. The organisation should produce products that are considered quality by customers.
- iv. **A measurement, analysis and improvement process** that ensures the product and quality management system meet the requirements and the system is continually improved. The organisation should seek feedback from both internal and external customers and use it to improve the process (Guchu & Mwanaongoro, 2012).

Once the management processes, resource management product realization and measurement, analysis and improvement process by the institution have been met by the institution, it is given certification by an accredited body (ISO, 2008). In the Kenya's case, the Kenya Bureau of Standards (KEBS) is the accredited body KEBS has the mandate of giving certification after auditing the institution to ensure that all requirements have been met and documented according to the International Standards. KEBS also does regular audits to ensure that an institution maintains ISO Standards and ensures continuous improvement in institutional processes (KEBS, 2006).

An appropriately established QMS enables the organization to achieve organizational objectives (Oakland, 2003). The main purpose of a QMS is to establish a framework of reference points to ensure that whenever a process is performed the same information, methods, skills and controls are used and applied in a consistent and efficient manner (KEBS, 2006). Thus, QMS helps to define clear requirements, communicate policies and procedures, monitor work performance and improve teamwork within an organization,

Dale, 2003. According to Guchu & Mwanaongoro (2012), QMS helps institutions to develop strategies for the effectiveness in the management of higher education with the aim of producing qualified manpower which help in the development of the economy. In addition, Hoyle (2007) found that implementation of QMS make organisations be focused in production of goods and services that satisfy the needs of a customer. This study investigated the relationship between QMS and students' satisfaction in Egerton University.

## **2.5 Theories Related to Quality Management Systems**

Quality Management Systems is a quality improvement body of methodologies that are customer-based and service oriented. QMS was first developed in Japan and partly in USA, and then spreading popularity to all parts of the world (Karani & Bichangi, 2011). However, while QMS may refer to a set of customer based practices that intend to improve quality and promote process improvement, there are several different theories guiding QMS practices (Mokamba, Gakure & Keraro, 2013). Amongst them are;

**Shikawa's Theory** developed by Kaoru Ishikawa in the late 1800s and was concerned with quality from a human standpoint (Mokamba, Gakure & Keraro, 2013). The theory explains how companies should handle their quality improvement projects. This should be based on seven basic tools for quality improvement, namely;

- i. Pareto analysis - helps to identify the big problems in a process
- ii. Cause and effect diagrams-Cause and effect diagrams help to get to the root cause of problems
- iii. Stratification- analyzes how the information that has been collected fits together
- iv. Check sheets-Check sheets look at how often a problem occurs
- v. Histograms - monitor variation
- vi. Scatter Charts-demonstrate relationships between a variety of factors
- vii. Process Control Charts-helps to determine what variations to focus upon

**Joseph Juran's Theory:** developed this theory in the early 1950s by Joseph Juran. The theory is also known as the "Quality Trilogy". Quality trilogy is made up of quality planning, quality improvement, and quality control, Juran, (1992). According to the theory, if a quality improvement project is to be successful, then all quality improvement actions must be carefully planned out and controlled. Juran believed there were ten steps

to quality improvement. These steps are: An awareness of the opportunities and needs for improvement must be created; improvement goals must be determined; organization is required for reaching the goals; training needs to be provided ;initialize projects; monitor progress; recognize performance; report on results; track achievement of improvements; and process is repeated. This theory emphasises on strong orientation towards meeting customers' needs (Mokamba, Gakure & Keraro, 2013).

**Deming's Theory:** developed between 1950s and 1990s by Edward Deming was an American national. Deming taught in America and Japan quality on quality Management. His theory of Total Quality Management identified fourteen points of management he identified, the system of profound knowledge, and the Shewart Cycle (Plan-Do-Check-Act). Deming was concerned with quality in relation to the total costs. He proposes that an organisation should balance between cost and quality. Deming's system suggests that knowledge consists of the following four points.

- i. System Appreciation -an understanding of the way that the company's processes and systems work.
- ii. Variation Knowledge –an understanding of the variation occurring and the causes of the variation.
- iii. Knowledge Theory-the understanding of what can be known
- iv. Psychology Knowledge -the understanding of human nature. By being aware of the different types of knowledge associated with an organization. Quality involves tweaking processes using knowledge (Mokamba, Gakure & Keraro, 2013).

The fourteen points of points of Deming's theory of total quality management are: create constancy of purpose, adopt the new philosophy, stop dependencies on mass inspections, don't award business based upon the price, aim for continuous production and service improvement, bring in cutting-edge on the job training, implement cutting-edge methods for leadership, abolish fear from the organisation, deconstruct departmental barriers, get rid of quantity-based work goals, get rid of quotas and standards, support pride of craftsmanship, ensure everyone is trained and educated, ensuring that the top management structure supports the previous thirteen points. Plan-Do-Check-Act (PDCA) is a cycle created for continuous improvement.

In the planning phase, objectives and actions are outlined. Then, an organisation carries out actions and implements the process improvements and it checks to ensure quality against the original. It also requires that an institution determines where changes need to occur for continued improvement before returning to the plan phase. The challenge for is to apply Deming's points to your companies, departments, and teams. Taken as a whole, the fourteen points and the seven deadly diseases is a guide to the importance of building quality into company processes and customer loyalty that would bring reducing variation, and fostering constant continuous change and improvement throughout organizations. Through intelligent change and innovation, the business will not only survive but thrive. Deming encourages that staff to learn from one another, and the system to provide a culture and environment for effective teamwork. It should also allow people to perform at their best by ensuring that they are not afraid to express ideas or concerns (Mokamba, Gakure & Keraro, 2013).

**Crosby's Theory:** developed by Philip Crosby, an American in the 1980s. He suggests that organisation money spent on quality is good investment because it will increase returns. Crosby based on four absolutes of quality management and his own list of fourteen steps to quality improvement. Crosby's four absolutes are: quality as the adherence to requirements, prevention as the best way to ensure quality, zero defects (mistakes) as the performance standard for quality and quality measured by the price of non-conformity. The fourteen steps to continuous quality improvement are: attain total commitment from management, form a quality improvement team, create metrics for each quality improvement activity, determine cost of quality and show how improvement will contribute to gains, train supervisors appropriately, encourage employees to fix defects and keep issues logs, create a zero-defects committee, ensure that employees and supervisors understand the steps to quality, demonstrate company's commitment by holding a zero defects day. Goals are set on timelines like 30, 60, or 90 day schedule, determine root causes of errors, remove errors from processes, create incentives programs for employees, create a quality council and hold regular meetings, repeat from step one to enhance quality achievement (Mokamba, Gakure & Keraro, 2013).

**European Foundation for Quality Management (EFQM):** The European Foundation Quality Management Framework is one of the most recent theories on quality developed by the European Foundation for Quality Management (EFQM) in 1988 by fourteen leading

European businesses for sustainable excellence in Europe. The theory is based upon nine criteria for guiding formulation and implementation of quality management, Davis (2004). These nine criteria consist of five enablers (criteria covering the basis of what a company does) and four results (criteria covering what a company achieves). The criteria lead into a model that refrains from prescribing any one methodology, but rather recognizes the diversity in quality management methodologies. The nine criteria as defined by the EFQM theory are:

- i. Leadership; leaders need to develop the mission, vision and values and are role models of a culture of excellence, involvement in ensuring the organization's management, develop systems implement and ensure continuous improvement, involvement with customers, partners and stakeholders and motivate, support and recognize the organization's employees.
- ii. Policy and strategy are based on; the present and future needs and expectations of stakeholders, information from performance measurement, research, learning and creativity related activities, policy and strategy are also; developed, reviewed and updated deployed through a framework of key processes communicated and implemented.
- iii. People are resources and should be planned, managed and improved, knowledge and competencies must be identified, developed and sustained, and they must be involved and empowered, must be in dialogue with the organization, must be rewarded, recognized and cared for.
- iv. Partnerships and resources external partnerships need to be managed as well as resources as finances, buildings, equipment, materials, technology, information and knowledge.
- v. Processes are systematically designed and managed improved, as needed, using innovation in order to fully satisfy and generate increasing value for customers and other stakeholders, products and services are designed and developed based on customer needs and expectations, they are produced, delivered and serviced, customer relationships are managed and enhanced.
- vi. Customer results there is need to consider perception measures and performance indicators from the customers.
- vii. Employee's results there is need to consider perception measures and performance indicators from the employees.



- viii. Society results there is need to consider perception measures and performance indicators from the community.
- ix. Key performance results organisation needs to evaluate performance outcomes against key performance indicators (BASE, 2010).

Thus, a company or an institution may use this model to formulate its quality management system. This study investigated the relationship between QMS and students' satisfaction in Egerton University.

## **2.6 Quality Management Systems in Egerton University**

Egerton University implemented QMS to enable it achieve the objective of becoming world class University and to satisfy needs of various stakeholders especially students by providing quality services. Egerton University is committed to quality management as is indicated by quality policy statement where it envisions being a world class university for the advancement of humanity. The University desires to generate and disseminate knowledge and offer exemplary education that contributes to national and global development. In addition, the University is committed to offer holistic and quality education through teaching, research and extension services by providing client driven programmes and services that are responsive to the core values of integrity, diligence and overall devotion to excellence. The University is also committed to provide quality products and services that meet and exceed customer satisfaction, stakeholders' expectations, and to comply with statutory requirements. Further, the University commits itself to continual improvement by monitoring and review quality performance and effective implementation of Quality Management Systems based on ISO 9001:2008 standards (EU, 2010).

Egerton University identified processes needed for QMS has indicated in the quality manual. The processes are viewed to be important in the provision of products and services to the customers. The processes may be reviewed from time to time to ensure continual improvement and customer satisfaction. Quality Management Document in Egerton University comprises quality manual, quality policy and quality objectives (EU, 2015a). Quality manual contains all the processes of quality management guiding all the

activities in the University. Quality manual contains mandatory procedures for all divisions which include procedure for control of documents, procedure for corrective action, procedure for control of records, procedure for non-conforming products, procedure for prevention action and procedure for preventive action. Quality manual also contains procedures for specific divisions based on their activities. Division of academic affair's quality manual contains forty six procedures guiding teaching and learning in the University; these procures include procedure for admission, procedure for teaching, procedure for examination and procedure for graduation among others. These procedures ensure that there is uniformity in all teaching departments. Division of administration and finance's quality manual contains thirty nine procedures guiding their activities. These procedures include those human resources, financial management, security and medical services among others while the research and extension contains five procedures guiding their activities. These procedures include procedure for dissemination of research findings, procedure for ethical review of research proposal, extension of outreach services, funding and management of research projects and procedure for industrial liaison.

Egerton University implemented QMS to facilitate coordination and to offer services with uniformity across all departments. Besides, it aimed at making employees accountable and responsible in providing services to customers including students. It was also thought that QMS would help Egerton staff to be empathetic and to show concern to customers especially students as well as offer timely and correct services to them. As a result of implementation of QMS in Egerton University, was expected that the university provided services which enhance students' satisfaction. Therefore, this study was to investigate the relationship between QMS and students' satisfaction in Egerton University.

Report on management review meetings indicated that implementation of QMS in Egerton University has led to improved administrative performance. It has helped the institution to provide an environment which facilitates learning; improvement of infrastructure for educational use and hence promotion of academic standards. In addition, ISO audits on continuous improvement have shown improvement in the teaching process including improved class attendance and availability of lecturers for consultation. Further, ISO certification has lead to improvement of work environment for staff (both teaching and administrative) resulting to continuous quality improvement due to the creation of performance standards, monitoring and evaluation. Students' feedbacks whether positive

or negative through survey carried out between March and July, 2015 have provided room for improvement of quality services (EU, 2015b).

## **2.7 Quality Management Systems (QMS) and Service Quality (SERVQUAL)**

One of the leading indicators of Quality Management Systems in higher education is quality services delivery. This is manifested by the satisfaction experienced by the students as they consume services offered by the University (Rasli, Ibrahim, Lim & Muhammad, 2011). Perceived service quality is service evaluation of a number of service encounters by customers. As a result, if an institution regularly provides service at a level that exceeds students' expectations, the service will be evaluated as being of high quality leading to customer satisfaction. In contrast, if the institution fails to meet student expectations the service will be judged as poor quality hence resulting on students' dissatisfaction. As such Universities, Egerton included are expected to increasingly pay more attention to service quality which may be achieved through the use of QMS. This is mainly due to Government of Kenya requirement and partly because of high competition in higher Education market place.

Service Quality enables educational institutions to attract and retain students as many options are open to them (Markovic, 2005). Searching for new ways of attracting, encouraging and maintaining relationships with students may be vital for Egerton University so as to have a competitive edge in future. Besides, providing quality services safeguards returns in terms of tuition fee among others. Therefore it is important for institutions such as Egerton University to monitor the quality of services offered in order to enhance the interests of stakeholders (students) through fulfilment of their real needs and wants that leads to their satisfaction (Zeshan, 2010).

SERVQUAL dimension has been tested and adapted by a great number of studies conducted in various sectors and countries and has yielded reliable results. Such studies were conducted in Hotels (Holjevac, Markoric & Raspor, 2010), industries (Hayoc, 2010), retail firms (Naik, Gantasala & Prabhakar, 2010) and in higher Education (Ali & Shastri, 2010). Azman, Muhammad and Balakrishnan (2009) adapted the instrument to measure the effects of service quality towards Customer Satisfaction of academic staff in a public institution. Their finding indicated that the dimension of service quality (SERVQUAL) successfully helped in establishing the influence of service quality and customer

satisfaction. Service quality is a measure of how well the service level delivered matches the expectations of customers (Mosahab *et al.*, 2010). Delivering quality service means conforming to customers' expectations on consistent basis. The five dimensions of SERVQUAL are;

- i. Tangibles refer to the physical environment in the service organization; they include physical facilities and equipment, staff appearance and dress code. It includes all those things which the customer could easily observe.
- ii. Reliability refers to the organization's ability to perform the promised service. For instance fulfilling the time limits kept and the service performed accurately.
- iii. Responsiveness entails to the organization performing service promptly and quickly, helping the customer and being available when the customer needs assistance.
- iv. Assurance covers the knowledge and the competence of staff and their ability to elicit trust and confidence to organizations' customers.
- v. Empathy is defined as caring individual attention the organization provides to its customer, Parasuraman *et al.* (1991). Characteristics of each of these dimensions are summarized in Table 1.

**Table 1:**  
**SERVQUAL Dimensions and their Characteristics**

Dimension of Quality	Characteristics
Tangibles (SQ1)	Physical facilities, equipment, personnel and written materials
Reliability (SQ2)	Meeting timelines, accuracy in processing information and requests by customers
Responsiveness (SQ3)	Availability of staff to provide service promptly and being helpful
Assurance (SQ4)	Employees knowledge and courtesy and their ability to inspire trust and confidence of a customer
Empathy (SQ5)	Caring, easy access, good communication, customer understanding and individualised attention

Source: After Parasuraman *et al.* (1991)

This relationship is referred to as SERVQUAL model and was developed by Parasuraman in 1988 (Parasuraman et.al 1988). SERVQUAL represents service quality as the difference between students' perception for a service offered and students' perception of the service received. The difference between expectations and perceptions is the gap which determines perception of service quality (Kumar, 2012).

The expectations of customers are subject to external factors which are under control of the organisation. The aim of QMS is to enable an institution to provide of quality services which lead to students 'satisfaction ISO (2008). Perceived service quality then represents students' satisfaction. This study focused on this gap; the difference between students' perception and students' expectations in Egerton University. Negative scores show that service quality is perceived poor and hence no students' satisfaction while positive gap shows that high service quality and hence students' satisfaction. According to this model students tend to evaluate perceived service quality negatively if they accumulate negative experiences over time and positively if they accumulate positive experiences. Service quality mainly is related to specific features of service during service encounters.

## **2.8 Students' Satisfaction and Quality of Services**

A customer (student) is a very important element in any organization since a customer is a determinant of the present and future success of the organization (Piskar, 2007, Karani & Bichangi, 2011). As such, students' needs and expectations must be satisfied for any learning institution to survive. This implies that the more the institution meets the needs and the desires of a student, the greater the economic benefits the organization (university) will realize. Students' satisfaction is therefore a measure of acceptable quality of services rendered by the institution. The institution must take into account both objective and subjective interpretations of the needs and expectations of the students. If students are satisfied with the products or services offered, then the institution has interpreted students' needs and expectations rightfully and provided services of acceptable quality.

Students' needs and expectations are constantly changing; awareness of new technology, legislation and competition on products or services creates new wants for them (Piskar, 2007). It is therefore vital for an organization to constantly improve quality so that satisfied students are retained and new ones are attracted. Quality is not about producing perfect good or service nor specific characteristic of an entity, but the extent to which

characteristic meets certain needs of students (KEBS, 2006). Thus, it is imperative that Egerton University provides quality services to students which enhance their satisfaction.

The main customer in higher education institution is generally considered to be a student.

Students are customers because;

- i. They are the end product in the Education process.
- ii. They are internal customer for delivery of course material in the teaching learning process and extension facilities.
- iii. They are labourers in the learning process.
- iv. They are internal customers for campus facilities (Ali & Shatri, 2009).

Thus, students being important customers of the University require greater degree of satisfaction. As such, the University management should participate in the continuous improvement of services provided to enhance students' satisfaction. Management should also facilitate more students' friendly practices which result into excellence of performance in terms of quality output (students). This satisfaction is also a measure of achievement of Quality Management Systems (ISO, 2008).

Students' satisfaction is understood as a sense of feeling when a student compares expectations with the actual quality of production of a product or service. This may imply that there is direct relationship between the quality of service provided and customer satisfaction accruing from such services (Krivobokova, 2009). ISO standards on the other hand require that students' satisfaction be a major component and necessary requirement for certification of Universities (ISO, 2008). The policy on certification also requires that quality products and services be offered to students to enhance their satisfaction. This imply that a university should have stated organizational policy as well as quality policy in order to enhance quality products that promote students' satisfaction, ISO, 2004.

Krivobokova (2009) noted that there is high positive relationship between customer satisfaction and the quality of products; positive evaluation of products and services that have been purchased help in retaining customers. Naik and Prabhakar (2010) found out that lack of satisfaction has a larger effect on the organization and that customers who receive poor services offered relay their dissatisfaction to others. Further, they argued that the cost of gaining a new customer is ten times greater than the cost of keeping a satisfied

customer. In addition, if the service is poor, the effects can last through years of repeated recollection and recounting the negative experience. This may imply that students should be monitored and managed just like any other physical asset by providing services which enhance their satisfaction. This study therefore investigated the relationship between QMS and students' satisfaction in Egerton University.

## **2.9 Students' Satisfaction and Gender**

Studies have been conducted on gender differences and students' satisfaction, for instance, O'Driscoll (2012) investigated the underlying factors that contributed to the satisfaction of hospitality management students in Ireland, the results indicated that academic support and communication were the main causes of satisfaction for male students, while academic support and welfare support were the main causes of satisfaction for female students. Similarly, in the United States of America, Young-Jones, Burt, Dixon & Hawthorne, (2013) carried out a study regarding expectations and experience with academic issues among university students and their results showed significant differences between male and female students. In addition, Brown (2000) conducted a study based on gender on African-American college students in United States and found that their satisfaction with their college varied between genders. Similarly, findings by Sanjai, Heather and Rana (2013) in study of students' satisfaction in Gulf Region found that the two genders displayed difference in the factors influencing their satisfaction.

However, the findings of Arokiasamy and Abdullah (2012) found no significant difference of opinions among males and females students regarding service quality and their satisfaction in a Malaysian University. Similarly, Kamaruddin and Mubin (2012) studied students' satisfaction based on service quality in teachers training institute in Malaysia and found no significant difference based on gender in all dimensions of service quality. Additionally, Ezeokoli and Ayodele (2014) did not find any statistical gender difference in service quality and satisfaction encountered by students in Babcock University in Nigeria. Further, Charlotte, Olanrewaju and Ige (2014) observed that there was no significant difference of students' perceptions based on gender in all dimensions in Nigerian Polytechnics.

## **2.10 Students' Satisfaction and Choice of University**

Studies conducted indicate relationship between choice of the university and students satisfaction. For example, studies carried out by Pan and Helen (2002) at the University of Athabasca University found out that students' are more satisfied when they are admitted to a University of their choice. Similarly, studies by You and Suk, (2015) among Physical Therapy Science students in South Korea found out that there was a correlation between choice of a university and students' satisfaction. Further, Agita (2010) study in the Vidzeme's University of Applied Sciences found out that students were intrinsically satisfied by studying in a University of their choice. In addition, Gitonga, Wangeri, Kigen and Orodho (2013) found out that majority of the students were satisfied with their choices of the Universities in Kenya.

## **2.11 Theoretical Framework**

Juran's theory of quality management emphasizes the need of service organization to possess features as promptness of delivery, courtesy to be extended, free from errors in invoices, and efficient service delivery, Juran, (1992). In addition, the theory posits that the organization should make their customers satisfied. In this theory, quality is defined as fitness for use; the stress being the balance between features of a product/service that is free from deficiencies and product/services designed to meet customers' needs, Mokamba, Gakure and Keraro, 2013. This theory therefore emphasis strong orientation towards meeting customers' needs and anyone affected by the product/service. Customer may be external or internal. External customers are people who deal with the product/service at a final stage while internal customers deal with the product/service during the developmental stage, Sallis, 1992. Juran advocates for three things namely;

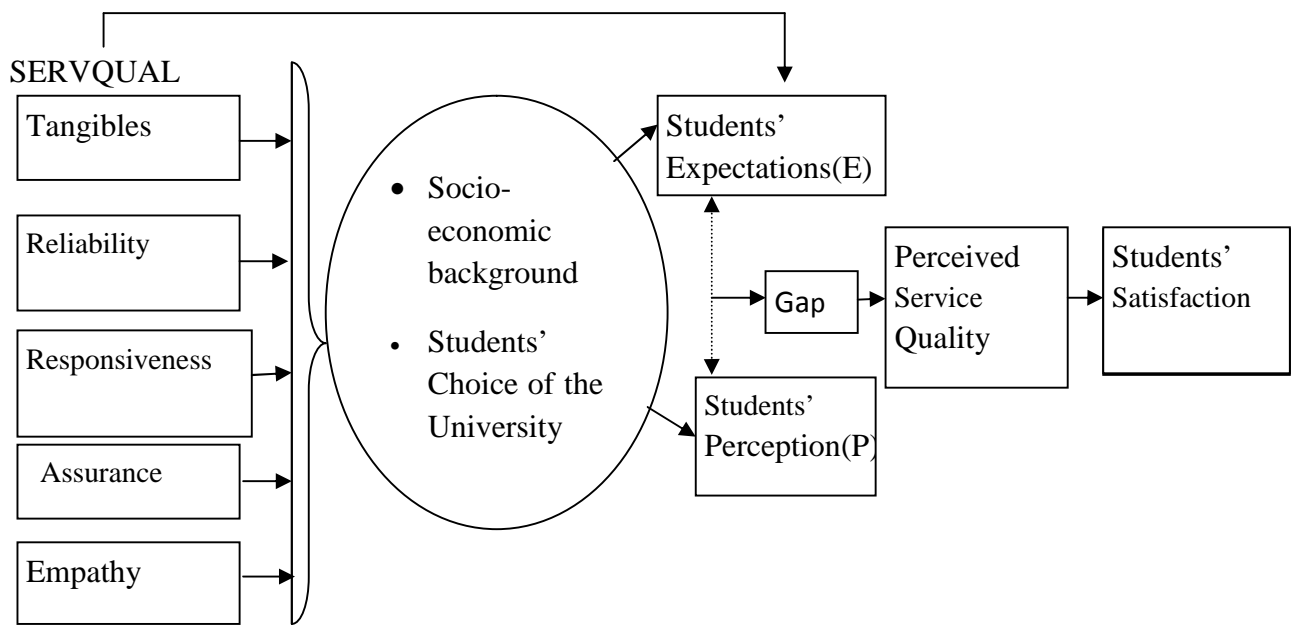
- i. On the quality planning the organization need to identify their customers, determine their needs and translate them into language the organizations understand and develop a product that can respond to those needs.
- ii. On quality improvement Juran advocates for the development of a process which is able to produce the product and optimize on the process
- iii. On quality control, his advice to organization is to prove that the process can produce the product under operating conditions with minimal inspection and transfer process to operations (Juran & Blanton, 1999).



In this study, students were internal customers who consume the service of teaching and learning provided by Egerton University to become graduates for human capital development in Kenya and the rest of the world. QMS enables EU to make improvements in scientific and technological developments, social changes and organisational changes. When improvements are made, the result would be acquisition, development and inculcation of values to students for the advancement of oneself and the society. In addition, physical and intellectual capacities of students are developed for the greater understanding of issues affecting the society. Further, the skills acquired transforms students into useful members of the society (Rasli et al., 2011). As such, it is important for the University to provide services to students which are of quality to enhance their satisfaction.

## **2.12 Conceptual Framework**

Conceptual framework explains the underlying process which was applied to guide this study. SERVQUAL model was suitable for measuring service quality and student satisfaction in this study using service quality dimensions which were adapted and modified. In this study, service quality and student satisfaction were believed to be related. The SERVQUAL approach integrated two constructs that of perceived service quality and students' satisfaction. Perceived service quality was an antecedent of students' satisfaction where perceived service quality refers to the difference between students' perceptions and expectations. SERVQUAL dimensions were taken as the indicators of Quality Management Systems hence treated as independent variables. These indicators were Tangibles, Responsiveness, Reliability, Assurance and Empathy.



**Independent Variables      Moderating Variables      Dependent Variables**

Figure 2: The Conceptual Framework showing the Relationship between QMS and SS in Egerton University. Njoro

In Figure 2, Students were asked to state their expectations of service offered by a university on one side and their perceptions of service quality offered by Egerton University on the other side on each of the dimensions. The difference between the expected and the perceived service scores were considered as the service quality forming students' satisfaction or dissatisfaction and which was regarded as the dependent variable.

The moderating variables were socio-economic background and students' choice of the University. The study believed that all students had similar needs having accepted to join EU. As such, moderating variables did not have much influence on the results. Thus, measurement of satisfaction began with the focus on students' expectations (E) of service quality before enrolment at EU in relation to their experiences (P) at the University. The difference (P – E) is a gap which formed perceived service quality. Positive score implies satisfaction while negative scores imply dissatisfaction.

## CHAPTER THREE

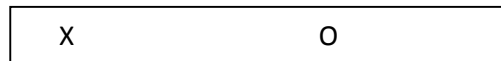
### RESEARCH METHODOLOGY

#### 3.1 Introduction

This chapter describes the research methodology used in this study. It includes research design, location of the study, the population of the study, sampling procedures and sample size. Instrumentation, data collection and analysis procedures are also described.

#### 3.2 Research Design

The study adopted *Ex-post facto* research design. Ex post facto research methodology is a type of research design which investigates possible cause-and-effect relationships by obtaining an existing condition or state of affairs and searching back in time for plausible casual factors (Cohen, Manion & Morrison, 2008). It is a situation in which the independent variable(s) have already occurred and in which case the researcher starts with the observation of a dependent variable(s). In addition, the design enabled the researcher to show direction and establish a measure of association of variables (Orodho, 2005). It comprises of two basic research designs, the correlation study and the criterion group study. The first type correlational design was adopted in this study. This is presented diagrammatically below:



Where X = independent variable

O = dependent variable.

This design was therefore suitable for the study since it enabled the researcher to establish the relationship between Quality Management Systems and students' satisfaction without influencing any of the variables.

#### 3.3 Location of the Study

This study was conducted in Egerton University, Njoro. The University is located in Nakuru County. It is located 180 kilometres North West of Nairobi and about 30 kilometres from Nakuru Town along Nakuru-Mau Narok road. The University is situated at an altitude of approximately 2,250 metres, with excellent climate, ideal for serious academic pursuit (EU, 2005). Egerton University has 42 departments in nine faculties with 3,181 staff members and about 17,360 students pursuing various diplomas,

undergraduate and post-graduate degree programmes. Eight out of nine faculties and one institute are located in Njoro Campus which forms the study location (EU, 2012). The University was purposively selected because of the implementation of quality management systems as well as increasing student enrolment.

### 3.4 Population of the Study

According to admission records at Egerton University, 2013, the institution had a student population of 17,360 out of which 13,260 studied in Njoro Campus. This formed the target population of the study. The accessible population were 2,730 third year students of 2011 class, drawn from the six main faculties in Njoro Campus. They were chosen because they have been at the University long enough to experience services rendered by the institution and hence considered as a reliable source of information. Table 2 presents their distribution by faculty.

**Table 2:**  
**Distribution of Students by Faculty in Njoro Campus**

<b>Faculty</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>
FEDCOS	2,677	2,711	5,388
FOA	2,060	1,045	3,105
FOS	934	460	1,394
FASS	954	716	1,670
FERD	535	410	945
FET	618	140	758
<b>Total</b>	<b>7,778</b>	<b>5,482</b>	<b>13,260</b>

Source: Admission Records at Egerton University (September, 2013)

### 3.5 Sampling Procedures and Sample Size

In this study, purposive sampling was used to select the year of study while proportionate stratified sampling was used to sample students from all faculties. Cohen, Manion and Marrison (2008) argued that purposive sampling is targeting people who can provide desired information because they conform to a criteria set by the researcher. In this study,

the researcher sampled third year students because they had been at the university for long time and assumed to have settled down in their university life as well as experiencing services rendered by EU. This placed them in a better position to comment authoritatively on service provision by EU. Proportionate stratified sampling provides greater precision that guards against unrepresentation and is less costly (Kothari, 2010). Students from six faculties of; Education and Community studies, Arts and Social Sciences, Agriculture, Science, Engineering and Technology as well as Environment and Resource Development participated in the study. This provided a total of six strata. The researcher then used simple random sampling to sample third year students from each stratum.

According to Gall, Walter and Joyce (2007), a good maximum sample size is usually around ten percent of the accessible population, as long as this does not exceed 1000. The study therefore used 10 percent of accessible population (Table 3).

**Table 3:  
Sample Size**

Faculty	Number of Students	Males		Females		Proportionate sample size
		N	n	N	n	
FEDCOS	900	440	44	460	46	90
FOS	450	280	28	170	17	45
FOA	500	305	31	195	19	50
FASS	440	234	23	206	21	44
FET	140	106	11	34	03	14
FERD	300	160	16	140	14	30
<b>TOTAL</b>	<b>2730</b>	<b>1525</b>	<b>153</b>	<b>1205</b>	<b>120</b>	<b>273</b>

From Table 3, out of a population of 2,730 students, 273 were randomly selected to participate in this study. They were selected proportionately from the six faculties. From each faculty, simple random sampling was used to select participants considering gender proportionately. The ratio of male to females was 3:2.

### **3.6 Instrumentation**

The study adopted and modified SERVQUAL dimensions to collect data on quality of services students experience as a result of implementation of QMS. SERVQUAL scale was developed by Parasuraman, Zeithaml and Berry (1985). The SERVQUAL indicators are Tangibles, Reliability, Responsiveness, Assurance and Empathy. SERVQUAL dimensions scale was operationalised to measure service quality and student satisfaction in the University. Parasuraman *et al.* (1991) clarify that service quality is a measure of how well the service delivered matches students' satisfaction. In addition, Seth, Deshmukh and Vrat (2005) regard the use of this instrument as appropriate for measuring service quality. The researcher adopted and modified the research tool to collect data on service quality and students' satisfaction in Egerton University. The questionnaire composed of two parts. Part A collected general demographic information from the respondent which enabled the researcher to get better understanding of the respondents and relate it with their perceived service quality in terms of gender and course of study. Part B contained 22 items measuring expectations of the students on one side and their perceptions on actual services experienced on the other side. Both the expected and perceived service was measured on 5 point likert scale. The scale rated level of agreement or disagreement from 1 for strongly disagree to 5 for strongly agree and vice versa for negative statements. The difference between expectations and perceptions was taken as indicator for the extent of students' satisfaction.

#### **3.6.1 Validity**

Validity is the accuracy and meaningfulness of inference, which are based on the research results; it refers to the degree to which results obtained from analysis of the data actually represent phenomena under the study (Fraenkel & Wallan, 2000; Mugenda & Mugenda, 2003). SERVQUAL has been proven through previous research studies to measure service quality. Further, the researcher with the assistance of supervisors and research experts from department of Curriculum, Instruction and Educational Management of Egerton University validated the questionnaire. The experts and supervisors looked at Content validity which involves inspection of items to ensure that content coverage was adequate and representative of research objectives; Face validity which means the instrument appearance was attractive; Construct validity which involves ascertaining whether the use of the instrument fits the theory which the questionnaire was designed and ensured correct

usage of language. The researcher used comments from research experts and supervisors and improved on the research instrument.

### **3.6.2 Reliability**

Reliability is a measure of the degree to which a research instrument yields consistent results after repeated trials (Kothari, 2010). A pilot study was carried out using a sample of 30 students drawn from Egerton University, Nakuru Town Campus. Pilot testing the instrument identified possible opportunities from which improvements were made before final instrument was prepared for data collection. According to Sekaran and Bougle (2010), Cronbachs' alpha for estimating reliability is adequate in testing internal consistency because likert scale was used. Cronbach's alpha coefficient was used to estimate reliability and a reliability coefficient of 0.8866 was obtained against 0.70 set before the study. Therefore, the instrument was adapted and used in this study.

### **3.7 Data Collection Procedures**

The researcher obtained an introductory letter from Egerton University, Graduate School. This facilitated acquisition of a research permit from the National Commission for Science, Technology and Innovation (NACOSTI). Official request to undertake the study and access the information from students was sought from Egerton University Administration and from Nakuru County Director Commissioner of Education. The researcher then identified respondents through sampling, briefed them about the intended study and supplied them with the questionnaire for data collection. In order to avoid the effects contamination of data, the data was collected at one point in time. After completing the questionnaires, the researcher collected them for data analysis.

### **3.8 Data Analysis**

The researcher systematically organised collected data and analysed data based on the objectives and hypotheses of the study. Data was analyzed using descriptive statistics such as means, percentages and frequencies. Pearson Product Moment Correlation was used to measure the relationship which was considered significant at 0.05. Analysis was carried out with the assistance of Statistical Packages for Social Sciences version 22.

## CHAPTER FOUR

### RESULTS AND DISCUSSION

#### 4.1 Introduction

This chapter presents the results of the study based on the objective and hypotheses. It discusses demographic characteristics of the respondents and critical dimension of service quality that contributes most to students' satisfaction. Further, relationship between quality management systems and students' satisfaction as well as the relationship between quality management systems and students' satisfaction with respect to gender are all discussed.

#### 4.2 Return Rate

A total of 273 questionnaires were distributed to the respondents and 241 were returned (Table 4).

**Table 4:**  
**Return Rate**

	Distributed questionnaires	Returned questionnaires	Return rate
Males	153	135	88.2
Females	120	106	88.3
Overall	273	241	88.3

From Table 4, it was observed that 88.2% and 88.3% of the returned questionnaires were from males and females respectively. The overall return rate was 88% which was above Punch (2003) recommendation of at least 80% for educational research. As such the questionnaires were accepted and used for this study.

#### 4.3 Demographic Characteristics of Respondents

Demographic characteristics of the respondents were analyzed in terms of their gender and choice of the university.



### 4.3.1 Gender Characteristic of the Respondents

The characteristics of the respondents were analysed with respect to their gender (Table 5).

**Table 5:**  
**Distribution of Respondents**

Gender	n	%
Males	135	56
Females	106	44
Total	241	100

From Table 5, it was noted that majority of the respondents (56%) were males while females were 44%. This observation is a reflection of the gender demographic characteristics of the students' population in Egerton University (Table 2).

### 4.3.2 Choice of the University

This section gives information regarding characteristics of the respondents in relation to their choice of Egerton University.

**Table 6:**  
**Choice of the University**

FACULTY	CHOICE					Total
	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	Others	
<b>FASS</b>	13	10	9	4	0	<b>36</b>
<b>FERD</b>	6	12	4	6	0	<b>28</b>
<b>FOS</b>	11	9	4	9	4	<b>37</b>
<b>FET</b>	6	5	0	3	0	<b>14</b>
<b>FOA</b>	28	14	3	1	1	<b>47</b>
<b>FEDCOS</b>	47	16	10	5	1	<b>80</b>
<b>Total</b>	111	66	30	28	6	<b>241</b>
<b>Percentage</b>	<b>46</b>	<b>27</b>	<b>13</b>	<b>12</b>	<b>2</b>	<b>100</b>

From Table 6 it was observed that 111 students had selected Egerton University as their first choice, representing 46% of the respondents. Sixty six of them selected it as a second choice representing 27%, while those who had selected it as their third and fourth choices were 30 and 28 representing 13% and 12% respectively. This finding supports Gibsons, Eric and Richard (2013) observations that students were more satisfied with services offered by the University they had made a decision to join in the first case. It also supports Agita (2010) finding in Vidzeme's University of Applied Sciences who found that students were intrinsically satisfied by studying in a University of their choice. Since majority of the students (73%) had selected Egerton University as either their first or second choice, it implied that they were satisfied being at Egerton University.

#### **4.4 Critical Dimension of Service Quality that Contributes most to Students' Satisfaction**

The study investigated critical dimension of service quality that contributed most to students' satisfaction in Egerton University as guided by the first objective of the study. In order to establish this, respondents were first asked to divide 100 points between the five dimensions of SERVQUAL (SQ1-SQ5) based on their perception of importance. The results are presented as importance weights (IW) (Table 7).

**Table 7:  
Importance Weights**

<b>SERVQUAL</b>	<b>Importance Weights</b>
<b>SQ1</b>	26.36
<b>SQ2</b>	20.71
<b>SQ3</b>	18.93
<b>SQ4</b>	20.56
<b>SQ5</b>	13.44
<b>Average</b>	<b>20%</b>

With reference to Table 7, students placed greater importance on Tangibles (SQ1- Physical facilities, equipment, personnel and written materials) at 26.36%, followed by reliability (SQ2 - Meeting timelines, accuracy in processing information and requests by students) at 20.71%. Thirdly in terms of importance was Assurance (SQ4 - Employees

knowledge and courtesy and their ability to inspire trust and confidence of a student) at 20.56%, while Responsiveness was fourth (SQ3- Availability of staff to provide service promptly and being helpful) at 18.93%. The least was regarded as Empathy (SQ5 - Caring, easy access, good communication, student understanding and individualised attention) at 13.44%. The difference between the most important and least importance dimension was 12.92. This may imply that Egerton University should strive to improve those dimensions scored below average of 20%.

The scores were further weighted to help clarify the significance of each of the dimension. This was carried out as follows; the gap score (P-E) was established by getting the difference for the average expectations scores (E) and average perception scores (P). The average importance score was used to weight the gap scores for each dimension (Table 8).

**Table 8:  
Gap Score**

<b>SERVQUAL</b>	<b>Statement</b>	<b>Expectations Score (E)</b>	<b>Statement</b>	<b>Perceptions Score (P)</b>	<b>Gap Score (P-E)</b>
<b>SQ1</b>	<b>E1</b>	4.30	<b>P1</b>	2.73	-1.570
	<b>E2</b>	4.19	<b>P2</b>	3.15	-1.042
	<b>E3</b>	3.93	<b>P3</b>	3.42	-0.514
	<b>E4</b>	3.99	<b>P4</b>	3.25	-0.742
	<b>Average</b>	<b>4.10</b>	<b>Average</b>	<b>3.14</b>	<b>-0.967</b>
<b>SQ2</b>	<b>E5</b>	3.90	<b>P5</b>	2.34	-1.558
	<b>E6</b>	3.83	<b>P6</b>	2.95	-0.878
	<b>E7</b>	3.76	<b>P7</b>	2.32	-1.448
	<b>E8</b>	3.81	<b>P8</b>	3.53	-0.280
	<b>E9</b>	3.77	<b>P9</b>	2.32	-1.455
	<b>Average</b>	<b>3.81</b>	<b>Average</b>	<b>2.69</b>	<b>-1.124</b>
<b>SQ3</b>	<b>E10</b>	3.97	<b>P10</b>	2.81	-1.161
	<b>E11</b>	3.88	<b>P11</b>	2.88	-0.997
	<b>E12</b>	4.06	<b>P12</b>	2.65	-1.414
	<b>E13</b>	3.74	<b>P13</b>	3.06	-0.681
	<b>Average</b>	<b>3.91</b>	<b>Average</b>	<b>2.85</b>	<b>-1.063</b>
<b>SQ4</b>	<b>E14</b>	4.01	<b>P14</b>	2.84	-1.170
	<b>E15</b>	4.31	<b>P15</b>	3.02	-1.294
	<b>E16</b>	3.89	<b>P16</b>	2.89	-0.995
	<b>E17</b>	4.09	<b>P17</b>	3.36	-0.730
	<b>Average</b>	<b>4.07</b>	<b>Average</b>	<b>3.03</b>	<b>-1.047</b>
<b>SQ5</b>	<b>E18</b>	3.63	<b>P18</b>	2.54	-1.098
	<b>E19</b>	4.08	<b>P19</b>	3.03	-1.051
	<b>E20</b>	3.76	<b>P20</b>	2.75	-1.013
	<b>E21</b>	3.92	<b>P21</b>	2.78	-1.142
	<b>E22</b>	3.85	<b>P22</b>	2.40	-1.454
	<b>Average</b>	<b>3.85</b>	<b>Average</b>	<b>2.70</b>	<b>-1.151</b>

From Table 8, all dimensions registered negative gap scores, the biggest being empathy with a score of -1.151, followed by reliability (-1.124), responsiveness (-1.063), tangibles

(-0.967) and assurance (-1.047). Negative gap scores may imply dissatisfaction with services being offered. Perhaps this pattern of findings may have been due to;

- Empathy: University staff may not be giving individualized attention to student, for instance early closure of University Library, resource centres and social amenities (sports) and also on public holidays as well as Sundays. Students as such may have felt not cared for adequately.
- Reliability: Students may have felt that they do not get timely services as promised and required such as release of academic transcripts, medical attention and allocation of rooms.
- Responsiveness: Students may have felt that a number of university staff was unwilling to pay attention to students needs especially after the official working hours. Students might have felt neglected and left as orphans.
- Tangibles: Students may have felt that some equipment and buildings were too old and required refurbishing. They are also not adequate and students are forced to work in large groups and as individuals they could not work independently.
- Assurance: Students may have felt that a number of university staff lack sufficient knowledge in handling their issues like retrieval of records while others were uncourteous.

There was therefore need to clarify the significance of the importance weights using gap scores. Weighted scores were established by multiplying the gap scores (P-E) by the importance weights (IW) (Table 9).

**Table 9:  
Weights of Dimensions**

<b>SERVQUAL</b>	<b>P-E</b>	<b>Importance Weight</b>	<b>Weighted Score</b>
<b>SQ1</b>	-0.967	26.36	-25.49
<b>SQ2</b>	-1.124	20.71	-23.28
<b>SQ3</b>	-1.063	18.93	-20.12
<b>SQ4</b>	-1.047	20.56	-21.53
<b>SQ5</b>	-1.151	13.44	-15.47
<b>Average</b>	<b>-1.070</b>	<b>20.00</b>	

Weighted scores are further illustrated in a pictorial way for better observation (Figure 3).

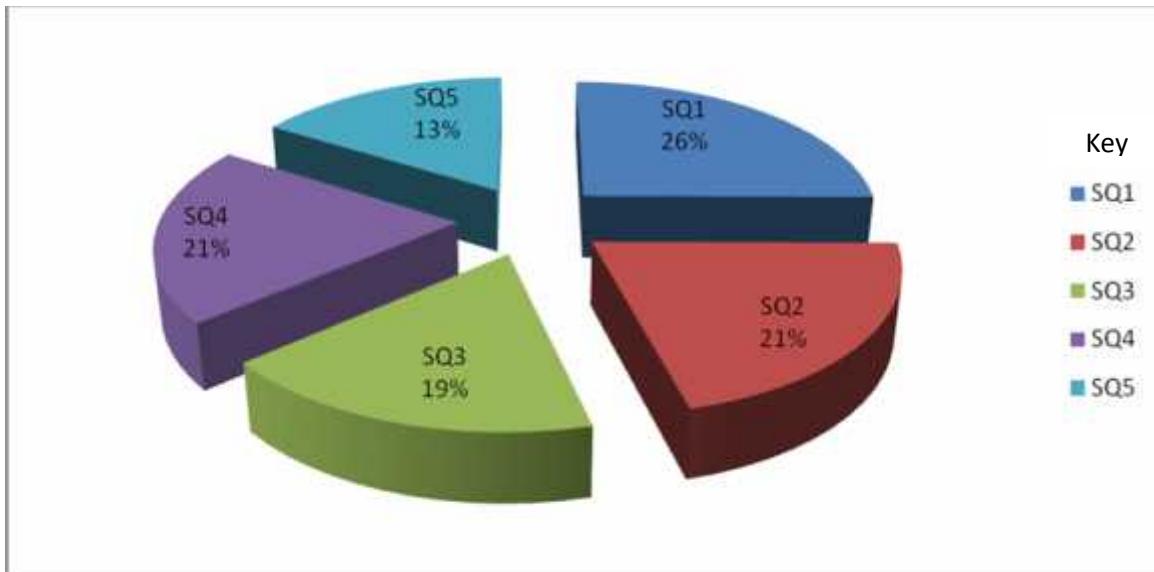


Figure 3: Percentage Representation of Weighted Dimensions

From Table 9 and Figure 3, it is observed that all the weighted scores were negative with tangibles scoring the highest (-25.49). This was followed by reliability (-23.28), assurance (-21.53) Responsiveness (-20.12) and empathy (-15.47). However it was observed in Table 7 that tangibles were the critical dimension of service quality that was contributing most to students' satisfaction in Egerton University while empathy was the least. This observation is in support of Victor, Iuliana and Consuela (2013) who in a study of service quality in public health care in Romania found that tangibles dimensions was most important dimension followed by responsiveness and reliability whereas empathy and assurance were least important. In addition, Charlotte, Olanrewaju and Ige, 2014 found out that tangibles was the most important dimension of service quality followed by reliability and responsiveness in a study carried out in Nigeria.

When the dimensions were weighted using score gaps, all of them were found to be negative. This observation agrees with Brendan (2014) observations that all scores on service quality in National University of Singapore were found to be negative. Similarly, results of studies by Ceril (2012) in a public University in Albania were found to be negative for all dimensions. In addition, the findings agreed with Dursun, Oskayba and Gökmen, (2013) who measured the quality of service of the distance education using SERVQUAL in the universities providing e-MBA education in Turkey and found that students' expectations were not met for all the five dimensions effecting service quality.

#### 4.5 Relationship between Quality Management Systems and Students' Satisfaction

To ascertain the relationship between Quality Management Systems (QMS) and students' satisfaction with service quality, the following hypothesis was tested at 0.05 level of significance.

H<sub>01</sub>: There is no significant relationship between Quality Management Systems and Students' satisfaction in Egerton University.

Pearson Product Correlation was used to determine the relationship between quality management systems and students' satisfaction. Pearson Correlation coefficient (r) is a measure of the strength of association between two variables. A significance of 0.05 indicates that 95% times out of 100%, the researcher can be sure that there is a significant correlation between two variables and there is only 5% chance that the relationship does not truly exist. The results are presented in Table 10.

**Table 10:**  
**Relationship between Quality Management Systems and Students' satisfaction in Egerton University**

SERVQUAL		SQ1	SQ2	SQ3	SQ4	SQ5
Tangibles (SQ1)	Pearson Correlation	1				
Reliability (SQ2)	Pearson Correlation	0.883	1			
Responsiveness (SQ3)	Pearson Correlation	0.864	0.813	1		
Assurance (SQ4)	Pearson Correlation	0.606	0.687	0.598	1	
Empathy (SQ5)	Pearson Correlation	0.767	0.665	0.688	0.561	1
Satisfaction	Pearson Correlation	0.990**	0.996**	0.996**	0.726**	0.704**

\*\* Correlation is significant at  $\alpha=0.05$ ,  $p=0.00$  (2tailed)

From Table 10, it was observed that the correlation coefficient between tangibles and students' satisfaction was 0.990 and was greater than 0.05, hence was significant. Similarly, correlation coefficient between reliability and students' satisfaction was 0.996 was greater than 0.05, hence was significant. Further, correlation coefficient between

responsiveness and students' satisfaction was 0.996 and was greater than 0.05 was also significant. In addition, correlation coefficient between assurance and students' satisfaction was 0.726 and was greater than 0.05 also significant. Finally, correlation coefficient between empathy and students' satisfaction was 0.704 and was greater than 0.05 was significant. In all the five dimensions there was a high positive correlation between service quality dimensions and students' satisfaction. This implies that there was a positive correlation between quality management systems and students' satisfaction in Egerton University. These results are in agreement with Abu, Rahman and Razak (2008) findings that all the five dimensions of SERVQUAL had a significant relationship with student satisfaction in a private higher education institution in Malaysia. Similarly, Nguyen (2012) found a positive relationship between SERVQUAL and student satisfaction in Vietnam National University. Further, the findings are in consistent with those of Arokiasamy and Abdullah (2012) who in their study on service quality and students' satisfaction at higher learning institutions in Malaysian University competitiveness found positive correlation between students' satisfaction and service quality. The findings are also in support of Ezeokoli and Ayodele (2014) observations that there was statistical significant relationship between service quality and students' satisfaction in Babcock University in Nigeria. As such the null hypothesis was rejected; hence there was a relationship between quality management systems and students' satisfaction in Egerton University.

#### **4.6 Relationship between Quality Management Systems and Students' Satisfaction with respect to Gender**

To ascertain the relationship between Quality Management Systems (QMS) and students' satisfaction with service quality with regard to gender the following hypothesis was tested at 0.05 significance level.

H<sub>0</sub>2: There is no statistically significant relationship between Quality Management Systems and students' satisfaction with respect to gender in Egerton University.



**Table 11:**  
**Relationship between Quality Management Systems and Students' satisfaction in Egerton University (Males)**

SERVQUAL		SQ1	SQ2	SQ3	SQ4	SQ5
Tangibles (SQ1)	Pearson Correlation	1				
Reliability (SQ2)	Pearson Correlation	0.766	1			
Responsiveness (SQ3)	Pearson Correlation	0.848	0.852	1		
Assurance (SQ4)	Pearson Correlation	0.699	0.686	0.786	1	
Empathy (SQ5)	Pearson Correlation	0.768	0.576	0.799	0.706	1
Satisfaction	Pearson Correlation	0.02*	0.997**	0.968**	0.699**	0.704**

\*\* Correlation is significant at  $\alpha=0.05$ ,  $p=0.00$  (2tailed)

\* Correlation is insignificant at  $\alpha=0.05$

From Table 11 indicate the relationship between various dimensions of service quality and student satisfaction with regard to males as follows; correlation coefficient between tangibles and students' satisfaction was 0.02 and was less than 0.05, hence insignificant. Correlation coefficient between reliability and students' satisfaction was 0.997 and was greater than 0.05, hence was significant. Similarly, correlation coefficient between responsiveness and students' satisfaction was 0.968 and was greater than 0.05, hence was significant. Further, correlation coefficient between assurance and students' satisfaction was 0.699 and was greater than 0.05, hence was significant. Finally, correlation coefficient between reliability and students' satisfaction was 0.704 and was greater than 0.05, hence was significant. There was insignificant correlation between tangibles and students' satisfaction. All the other dimensions revealed a high positive correlation between service quality dimensions and students' satisfaction reliability showed highest correlation (0.997) with students' satisfaction followed by responsiveness (0.968) empathy (0.704) and assurance (0.699) hence a relationship between quality management systems and students' satisfaction in Egerton University with regard to males.

**Table 12:**  
**Relationship between Quality Management Systems and Students' satisfaction in Egerton University (Females)**

SERVQUAL		SQ1	SQ2	SQ3	SQ4	SQ5
Tangibles (SQ1)	Pearson Correlation	1				
Reliability (SQ2)	Pearson Correlation	0.934	1			
Responsiveness (SQ3)	Pearson Correlation	0.974	0.940	1		
Assurance (SQ4)	Pearson Correlation	0.924	0.690	0.678	1	
Empathy (SQ5)	Pearson Correlation	0.603	0.697	0.676	0.756	1
Satisfaction	Pearson Correlation	0.940**	0.989**	0.976**	0.756**	0.767**

\*\* Correlation is significant at  $\alpha=0.05$ ,  $p=0.00$  (2tailed)

From Table 12, indicate the relationship between various dimensions of service quality and student satisfaction with regard to females as follows; it was observed that the correlation coefficient between tangibles and students' satisfaction was 0.940 and was greater than 0.05, hence was significant. Similarly, correlation coefficient between reliability and students' satisfaction was 0.989 and was greater than 0.05, hence was significant. Further, correlation coefficient between responsiveness and students' satisfaction was 0.976 and was greater than 0.05 was also significant. In addition, correlation coefficient between assurance and students' satisfaction was 0.756 and was greater than 0.05 hence significant. Finally, correlation coefficient between empathy and students' satisfaction was 0.767 and was greater than 0.05 was significant. In all the five dimensions there was a high positive correlation between service quality dimensions and students' satisfaction. All the other dimensions revealed a high positive correlation between service quality dimensions and students' satisfaction reliability showed highest correlation (0.989) with students' satisfaction followed by responsiveness (0.976), tangibles 0.940, empathy (0.767) and assurance (0.756) hence a relationship between

quality management systems and students' satisfaction in Egerton University with regard to females.

From the Table 11 and Table 12, the relationship between tangibles and students' satisfaction with respect to gender was found to be significant for female students and insignificant for male students. This may be due to the fact that females are more sensitive to aesthetic looks than male counterparts. On the other hand the relationship between reliability, responsiveness, assurance and empathy were found to be significant for both male students and females. It was also observed that reliability had the highest correlation in while empathy had the lowest correlation. This may imply that there are no gender differences with desire for quality services amongst students hence; the null hypothesis is accepted as there is no statistical difference between quality management systems and students' satisfaction with respect to gender in Egerton University.

The findings of this study concurs with those of Arokiasamy and Abdullah (2012) who did not find any significant difference of opinions among males and females students regarding service quality and their satisfaction in a Malaysian University. Similarly, Kamaruddin and Mubin (2012) studied student satisfaction based on service quality in teachers training institute in Malaysia and found no significant difference based on gender in all dimensions of service quality. Additionally, Ezeokoli and Ayodele (2014) did not find any statistical gender difference in service quality and satisfaction encountered by students in Babcock University in Nigeria. Further the findings are in agreement with Charlotte, Olanrewaju and Ige (2014) observations that there was no significant difference of students' perceptions based on gender in all dimensions in Nigerian Polytechnics. These similarities in results may be attributed to the use of customised research instrument (SERVQUAL).

## CHAPTER FIVE

### SUMMARY, CONCLUSION AND RECOMMENDATIONS

#### 5.1 Introduction

This chapter presents the summary of the study, its key findings, conclusions and recommendations based on results. Suggestions for further research are also proposed.

#### 5.2 Summary of the Findings of the Study

Higher education institutions in Kenya are facing pressure to improve quality of education. The present tenet for enhancing educational service quality is putting effort to continuous improvement, to focus on students' interests and to increase their level of satisfaction. Student satisfaction is often used to assess educational quality, where the ability to address strategic needs is of great importance. Quality in education can be said to be determined by the extent to which students' needs and expectations are satisfied. Quality of educational services in Egerton University may be viewed as a strategic issue for the achievement of social, technological and economic growth for the realization of the vision 2030.

The main purpose of this study was to examine the relationship between quality management systems and undergraduate students' satisfaction in Egerton University, Njoro, Kenya. The study measured the level of student satisfaction with services offered at the University by examining students' expectations and perceptions of service quality. Service quality (SERVQUAL) instrument was used in this study to assess the five service quality dimensions of tangibles, reliability, responsiveness, assurance and empathy.

The study observed that majority of the students (73%) had selected Egerton University as their first and second choices. It was also noted that majority of the respondents (56%) were males while females represented 44%.

The objective of the study were to identify critical dimension of service quality that contributes most to students' satisfaction in Egerton University, to establish the relationship between quality management systems and students' satisfaction in Egerton University, and to establish the relationship between QMS and students' satisfaction with respect to gender in Egerton University.

In all five dimensions of service quality Students placed greater importance on Tangibles (SQ1- Physical facilities, equipment, personnel and written materials) at 26.36%, followed by reliability (SQ2 - Meeting timelines, accuracy in processing information and requests by students) at 21.71%. Thirdly in terms of importance was Assurance (SQ4 - Employees knowledge and courtesy and their ability to inspire trust and confidence of a student) at 20.56%, while Responsiveness was fourth (SQ3- Availability of staff to provide service promptly and being helpful) at 18.93%. The least dimension was regarded as Empathy (SQ5 - Caring, easy access, good communication, student understanding and individualised attention) at 13.44%. The difference between the most important and least importance dimension was 12.92. Thus, Tangibles were found to be the critical dimension of service quality.

In all five dimensions of service quality, a gap was observed between undergraduate students' perceptions and expectations. All dimensions registered negative gap scores with average gap score of -1.070; the biggest being empathy with a score of -1.151, followed by reliability (-1.124), responsiveness (-1.063), tangibles (-0.967) and assurance (-1.047). Negative gap scores may imply dissatisfaction with services being offered by Egerton University.

In all the five dimensions there was a high positive correlation between service quality dimensions and students' satisfaction as follows; Tangibles (0.990), Reliability (0.996), Responsiveness (0.996), Assurance (0.726) and Empathy (0.704) which means there was a significant relationship between Quality Management Systems and Students' satisfaction in Egerton University, hence the null hypothesis was rejected.

Regarding the relationship between QMS and students' satisfaction with respect to gender in Egerton University, it was found out that the relationship between tangibles and students' satisfaction with respect to gender was significant for female students and insignificant for male students. The relationship in all other dimensions; reliability, responsiveness, assurance and empathy were found to be significant for both male and female students. Overall, there was no statistical difference between quality management systems and students' satisfaction with respect to gender in Egerton University, hence null hypothesis was accepted.

### **5.3 Conclusion of the Study**

The following conclusions are drawn from the study:

- i. The study found out that the critical dimension of service quality that contributed most to students' satisfaction was tangibility at an average of 26.30%. Students attach more value to it especially on the item of equipment with expectations.
- ii. There was a significant relationship between quality management systems and students' satisfaction in Egerton University. This signifies that by improving service quality, Egerton University may potentially improve the students' satisfaction, hence attract more students to study there.
- iii. There was no statistical difference between quality management systems and students' satisfaction with respect to gender in Egerton University, which may mean gender does not affect students' satisfaction.

### **5.4 Implications of the Study**

- i. QMS in Egerton University is still at infancy stage and may not have been communicated well to the implementers. Egerton University should endeavour to further strategies its efforts of creating quality culture that could help reduce ambiguity and to minimize the risk of not reaping the benefits that come along with QMS best practice. Students perceived tangibles as being the most critical dimension of service quality while empathy was the least. This may imply that EU need to improve service quality especially tangibles such as physical facilities and equipment.
- ii. Since all the dimensions had negative score gaps, it may imply that they were dissatisfied with the quality of services being offered. As such, Egerton University should address this urgently in order to reduce the gaps and enhance students' satisfaction. Further, it was observed that there was a significant relationship between quality management systems and students' satisfaction in Egerton University. This signifies that Egerton University needs to improve on service quality and hence students' satisfaction for attraction and retention of students.

- iii. The service quality dimensions identified in this study would provide comprehensive picture of the relationship between service quality dimensions as indicators of Quality Management Systems and student's satisfaction which would assist higher education institutions including Egerton University to develop suitable strategies aimed at building up institutional capacities to cope up with the market challenges and demands of stakeholders especially students.

### **5.5 Recommendations**

Based on the findings of the study, the researcher made the following recommendations:

- i. Students perceived tangibles as being the most critical dimension of service quality while empathy was the least. Egerton University should therefore improve tangibles such as physical facilities and equipment. It should also purchase modern and sufficient equipment and renovate old buildings.
- ii. The study found out that there was a significant relationship between quality management systems and students' satisfaction in Egerton University. This signifies that by improving service quality, the University may potentially improve the students' satisfaction. The University should therefore intensify training and sensitization of staff on provision of quality services. Further, it should continue with certification to reap its benefits such as being internationally recognized, giving confidence to its customers including students as well as enhancing production of quality manpower required for the achievements of Kenya's vision 2030.
- iii. There was no statistical difference between quality management systems and students' satisfaction with respect to gender in Egerton University. Thus, gender does not affect students' satisfaction. Consequently, the University should provide services and facilities equally to all students.

### **5.6 Suggestions for Further Research**

The following areas are suggested for further research.

- i. Relationship between Quality Management Systems and teaching staff satisfaction with Service Quality.

- ii. Use of SERVQUAL model to assess Instructional Management in Egerton University.
- iii. Perceptions on the University Senior Management on the effects of implementation of QMS.
- iv. A comparative study the differences in service quality and students' satisfaction between a Public Universities and a Private Universities.



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## APPENDIX I: THE SERVICE QUALITY QUESTIONNAIRE (SQQ)

### Dear Respondent

I am a Masters student at Egerton University currently conducting a research on *Relationship between Quality Management Systems (QMS) on Students' Satisfaction with Service Quality in Egerton University, Njoro, Kenya.*

You have been selected to assist in providing the required information for this study. You are required to fill this questionnaire. Please note that the information given will be treated with utmost confidentiality and will only be used for the purpose of the study.

Thank you

*Alicekiplagat*

**Alice Kiplagat**

### Section A: Background information (Please tick or answer appropriately).

1. Gender: Male ( ) Female ( )
2. Faculty of study-----
3. Course of study (specify) e.g. Bed (Arts), Bsc (FOST)-----
4. Egerton University was my choice number (tick where applicable)
  - i. 1<sup>st</sup> choice ( )
  - ii. 2<sup>nd</sup> choice ( )
  - iii. 3<sup>rd</sup> choice ( )
  - iv. 4<sup>th</sup> choice ( )
  - v. None of the above ( )

**SECTION B: SERVQUAL**

This section has two parts; Part (i) seeks information on your expectations of a University before joining Egerton University and Part (ii) Seeks information about your experiences at Egerton University.

**Part ( i ) : EXPECTATIONS (E)**

This survey deals with your opinions of Universities. Please show the extent to which you think Universities should posses the following features. The study is interested in a number that best shows your expectations about Universities.

**Key**

Please indicate the number that reflects your feelings on quality of services which should be offered by Universities in the space (E) provided.

SA-Strongly Agree	AG-Agree	NS-Not Sure	DA-Disagree	SD- Strongly Disagree
SD	DA	NS	AG	SA
1	2	3	4	5

**Tangibles**

E1. Universities will have modern looking equipment.

E2. The physical facilities at Universities will be visually appealing.

**Part ( ii): PERCEPTIONS(P)**

The following statements relate to your feelings about the Egerton University. Please show the extent to which you believe Egerton University has the feature described in the statement. Here, the study is interested in a number that shows your perceptions about quality of services offered in Egerton University.

**Key**

Please indicate the number that reflects your feelings about Quality of services in Egerton University in the space (P) provided.

SA-Strongly Agree	AG-Agree	NS-Not Sure	DA-Disagree	SD- Strongly Disagree
SD	DA	NS	A	SA
1	2	3	4	5

**Tangibles**

P1. Egerton University has modern looking equipment.

P2. Egerton University’s physical facilities are not visually appealing.

E3. Employees at Universities will be neat appearing.

P3. Egerton University employees are neat appearing.

E4. Materials associated with the service (such as pamphlets or statements) will be visually appealing at Universities.

P4. Materials associated with the service (such as pamphlets or statements) are not visually appealing at Egerton University

### **Reliability**

### **Reliability**

E5. When Universities promise to do something by a certain time, they do.

P5. When Egerton University promises to do something by a certain time, it does so.

E6. When a customer has a problem, Universities will show a sincere interest in solving it.

P6. When you have a problem, Egerton University staff does not show a sincere interest in solving it.

E7 Universities will perform the service right the first time.

P7. Egerton University do not perform the service right the first time.

E8. Universities will provide the service at the time they promise to do so.

P8. Egerton University does not provide its service at the time it promises to do so.

E9. Universities will insist on error free records

P9. Egerton University insists on error free records

### **Responsiveness**

E10. Employees of Universities will tell customers exactly when services will be performed.

E11. Employees of Universities will give prompt service to customers.

E12. Employees of Universities will always be willing to help customers.

E13. Employees of Universities will never be too busy to respond to customers' requests.

### **Responsiveness**

P10. Employees in Egerton University tell you exactly when services will be performed.

P11. Employees in Egerton University do not give you prompt service.

P12. Employees in Egerton University are always willing to help you.

P13. Employees in Egerton University are never too busy to respond to your request.

### **Assurance**

E14. The behaviour of employees in Universities will instil confidence in customers.

E15. Customers of Universities will feel safe in transactions.

E16. Employees of Universities will be consistently courteous with

### **Assurance**

P14. The behaviour of employees in Egerton University instils confidence in you.

P15. You feel safe in your transactions with Egerton University

P16. Employees in Egerton University are not consistently

customers.

courteous with you.

E17. Employees of Universities will have the knowledge to answer customers' questions.

P17. Employees in Egerton University do not have the knowledge to answer your questions.

**Empathy**

**Empathy**

E18. Universities will give customers individualized attention.

P18. Egerton University employees do not give you individual attention.

E19. Universities will have operating hours convenient to all their customers.

P19. Egerton University has operating hours convenient to all students.

E20. Universities will have employees who give customers personal attention.

P20. Egerton University has employees who give you personal attention.

E21. Universities will have their customer's best interests at heart.

P21. Egerton University has students' best interest at heart.

E22. The employees of Universities will understand the specific needs of their customers.

P22. The employees of Egerton University understand your specific needs.

### **SECTION C: SERVQUAL IMPORTANCE WEIGHTS**

Listed below are five features pertaining to Universities and the services Egerton University offers. The researcher would like to know how much each of these features is important to a student. Please allocate 100 points among the five features according to how important it is to you. Make sure the points add up to 100.

1. The appearance of the Universities physical facilities, equipment,  
personnel and communication materials \_\_\_\_\_ point
2. The Universities ability to perform the promised service  
dependably and accurately \_\_\_\_\_points
3. The Universities willingness to help customers and provide prompt  
service \_\_\_\_\_ points
4. The knowledge and courtesy of the Universities employees and their  
ability to convey trust and confidence \_\_\_\_\_ points
5. The caring, individual attention the Universities provides its students.  
\_\_\_\_\_ points

**Total: 100 points**

## APPENDIX II: RESEARCH AUTHORIZATION PERMIT



### NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,  
2241349, 310571, 2219420  
Fax: +254-20-318245, 318249  
Email: secretary@nacosti.go.ke  
Website: www.nacosti.go.ke  
When replying please quote

9<sup>th</sup> Floor, Utalii House  
Uhuru Highway  
P.O. Box 30623-00100  
NAIROBI-KENYA

Ref. No.

Date:

26<sup>th</sup> June, 2014

NACOSTI/P/14/2536/I791

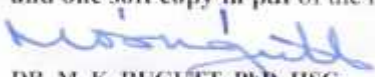
Alice Jeruiyot Kiplagat  
Egerton University  
P.O.Box 536  
EGERTON.

#### RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on "*Relationship between Quality Management Systems (QMS) and students' satisfaction with service quality in Egerton University, Kenya*," I am pleased to inform you that you have been authorized to undertake research in **Nakuru County** for a period ending **31<sup>st</sup> July, 2014**.

You are advised to report to the **Vice Chancellor, Egerton University, the County Commissioner and the County Director of Education, Nakuru County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.

  
DR. M. K. RUGUFF, **PhD, HSC.**  
Ag. SECRETARY/CEO

Copy to:

The Vice Chancellor  
Egerton University.


The County Commissioner  
The County Director of Education  
Nakuru County.

*National Commission for Science, Technology and Innovation is ISO 9001:2008 Certified*





## APPENDIX III: RESEARCH PERMIT

**THIS IS TO CERTIFY THAT:**  
**MISS: ALICE JERUIYOT KIPLAGAT**  
**OF EGERTON UNIVERSITY, 0-20115**  
**EGERTON, HAS BEEN PERMITTED TO CONDUCT**  
**research in Nakuru County**  
**on the topic: RELATIONSHIP BETWEEN**  
**QUALITY MANAGEMENT SYSTEMS**  
**(QMS) AND STUDENTS' SATISFACTION**  
**WITH SERVICE QUALITY IN EGERTON**  
**UNIVERSITY, KENYA**  
**for the period ending:**  
**31st July 2014.**

  
**Secretary**  
**National Commission for Science,**  
**Technology & Innovation**

**Permit No. : NACOSTI/P/14/2536/1791**  
**Date Of Issue : 26th June, 2014**  
**Fee Received : Ksh. 1,000**

CONDITIONS	
<ol style="list-style-type: none"> <li>1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit</li> <li>2. Government Officers will not be interviewed without prior appointment.</li> <li>3. No questionnaire will be used unless it has been approved.</li> <li>4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.</li> <li>5. You are required to submit at least two(2) hard copies and one(1) soft copy of your final report.</li> <li>6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice.</li> </ol>	 <b>REPUBLIC OF KENYA</b>  <b>National Commission for Science,</b> <b>Technology and Innovation</b> <b>RESEARCH CLEARANCE</b> <b>PERMIT</b>  <b>Serial No. A 1995</b> <b>CONDITIONS: see back page</b>