

**BENEFITS AND CHALLENGES OF IMPLEMENTATION OF ISO  
9001:2008 CERTIFICATION AT KENYA MEDICAL TRAINING  
COLLEGE**

**BY**

**OLUOCH KELLY JACK**

**A Research project submitted in partial fulfillment for the award of a  
Degree in Master of Business Administration, School of Business, and  
University of Nairobi**

**October, 2010.**

## DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted for a degree in this or any other University for examination

Sign: \_\_\_\_\_

Date \_\_\_\_\_

OLUOCH KELLY JACK

D61/70703/2008

This project has been presented to for examination with my approval as the appointed supervisor and moderator.

Sign \_\_\_\_\_

Date \_\_\_\_\_

DR. KITIABI

University of Nairobi

Department of Business Administration

## **DEDICATION**

This research project is specially dedicated to my parents and the entire family members for their love, encouragement and support throughout my studies.

## **ACKNOWLEDGEMENT**

I want to thank my God, who gave me the physical, mental and emotional capacity to do this work. Secondary, I also would like to express my sincere gratitude to a number of people who have made it possible for me to complete this project, they are, Dr. Kitiabi for her efforts in guiding me through the research project, the KMTC administration for permitting me to do the research at the institution, my parents Mr. John S. Kelly and Mrs. Rose Kelly for their support and encouragement. I also wish to thank my brothers and sisters for encouraging me during the process of doing the research.

## **ABSTRACT**

The aim of this research is to identify the benefits and challenges of ISO certification at Kenya Medical Training College. The research objectives are to identify the benefits and challenge of ISO certification and to ascertain the use of ISO 9001 certification in realizing the strategic plan through a literature review and empirical study.

Existing literature describes the relevant studies on benefits and challenges of ISO 9001 certification in the service sector, but very little has been written on ISO certification in the service sector, but very little has been written on ISO certification benefits and challenges in mid level colleges in Kenya. The research for this study attempts to address this deficiency.

Qualitative data collection methods were used in the investigation. A questionnaire has been used as a research tool. Questionnaires were distributed to the selected constituent colleges of KMTC, filled by college management representatives and collected for analysis and interpretation in line with the aims of the study. The results of the study revealed that most respondents agreed that ISO 9001 certification was beneficial to the college though there were few challenges in the implementation.

It was recommended for future studies that a broader study be done on the same context to cover more respondents. It was also recommended that a study be done on views of students on the effects of certification. More studies also need to be done on the effects ISO 9001 certification on financial performance of higher education institutions.

## TABLE OF CONTENTS

DECLARATION .....	ii
DEDICATION .....	iii
ACKNOWLEDGEMENT .....	iv
ABSTRACT .....	v
<b>CHAPTER ONE: INTRODUCTION .....</b>	<b>1</b>
1.1 Background of study .....	1
1.1.1 Concept of Quality .....	1
1.1.2 Overview of ISO 9001:2008 .....	2
1.1.3 Principles of ISO 9001:2008 .....	3
1.1.5 Quality management in higher education. ....	4
1.1.6 Adoption of ISO 9001 at KMTC .....	6
1.2 Statement of the problem .....	8
1.3 Research objectives .....	10
1.4 Importance of the study .....	10
<b>CHAPTER TWO: LITERATURE REVIEW .....</b>	<b>11</b>
2.1 Introduction .....	11
2.2. Quality Management systems in Higher Education .....	11
2.3 Top management commitment .....	13
2.4 Process quality management .....	14
2.5 Employee involvement .....	15
2.6 Benefits and challenges of ISO certification .....	16
2.7 The link between support activities and the core function of an academic institution .....	21
<b>CHAPTER THREE: RESEARCH METHODOLOGY .....</b>	<b>23</b>
3.1 Research design .....	23
3.2 Study Population .....	23
3.3 Data collection instruments .....	23
3.4 Data analysis .....	25

<b>CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSION .....</b>	<b>26</b>
4.1: Introduction.....	26
4.2: profile studied colleges .....	26
4.3 Relevance of ISO certification to the strategic plan .....	26
4.4 Perceived benefits of ISO Certification. ....	28
4.5 Perceived challenges of implementation of ISO certification .....	29
4.6 Discussion.....	30
<b>CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS .....</b>	<b>32</b>
5.1 Introduction.....	32
5.2 Conclusion .....	32
5.3 Recommendations.....	32
5.4 Limitations of the study .....	33
5.5 Suggestions for further research .....	33
<b>REFERENCES.....</b>	<b>34</b>
<b>APPENDICES .....</b>	<b>47</b>
APPENDIX 1: LETTER OF INTRODUCTION .....	47
APPENDIX 2: QUESTIONNIARE .....	47
APPENDIX 2: QUESTIONNIARE .....	48
QUESTIONNAIRE FOR THE COLLEGE MANAGEMENT REPRESENTATIVE .....	48
PART II: BENEFITS AND CHALLENGES OF IMPLEMENTATION OF ISO 9001 ..	49
SECTION B: CHALLENGES IN ISO 9001 CERTIFICATION.....	50

## **CHAPTER ONE: INTRODUCTION**

### **1.1 Background of study**

Competition in the education sector and increased regulatory demands has led to education institutions to seek strategies of gaining competitive advantage. One way of doing so is to be innovative. Institutions therefore have to develop products that add value, are not easily imitable and are customer focused (Kimani, 2008). Quality in this sector is important and is a major focal point. Quality has to be managed to ensure consistency and continuous improvement (Brookes and Becket,2009). The organizations have to set standards and compare their actual performance against set standards. Standards are important in both local and international trade because incongruent standards can be barriers to trade, giving some organizations advantages in certain areas of the world. Standards provide clear identifiable references that are recognized internationally and encourage fair competition in free-market economies. Standards facilitate trade through enhanced product quality and reliability, greater interoperability and compatibility, greater ease of maintenance and reduced cost (Barrier, 1994).

International standards organization (ISO) plays an important role in developing standards for both quality management and environmental management. ISO is a voluntary organization whose members are recognized standard authorities, each one representing one country. The bulk of the work of ISO is done by the 2700 technical committees, subcommittees and working groups. Each committee and subcommittee is headed by a Secretariat from one of the member organizations. 176 and 207 which are concerned with the ISO 9000 and ISO 14000 standards respectively (ISO, 2000b).

#### **1.1.1 Concept of Quality**

The word “quality” has been derived from the Latin word *qualis*, meaning, “what kind of”.With a wide variety of meanings and connotations attached to it, quality is a difficult and elusive term to define, having thus been referred to as a “slippery concept” (Pfeffer and Coote, 1991). It is slippery because it has a wide variety of meanings. The word implies different things to different people. It has, thus, been defined with different perspectives and orientations, according to the person, the measures applied and the



context within which it is considered. Amid the wide gamut of such definitions, there seems to be no consensus definition, but they all deal either with the product or the services producing these products/services. From the perspective of the consumers or users, the product or service based definition is more useful. From the perspective of the organization providing goods/services, the process-perspective is more useful (Sangeeta and Banwe, 2004).

Goetsch and Davies (2002) discuss the concept of service quality in relation to the application of ISO 9001:2000 and they define the characteristics of service quality as Facilities, capacity, number of personnel and quantity of materials. In terms of time, Waiting time, delivery time and process times of administrative tasks. It could also include Hygiene, safety, reliability and security of customers. Responsiveness, accessibility, courtesy, comfort, and aesthetics of environment, competence, dependability, accuracy, completeness, credibility and effective communication of learners are also important aspects of quality.

### **1.1.2 Overview of ISO 9001:2008**

ISO 9001:2000 has been developed by the International Organization for Standardization (ISO) and is the accepted international standard for quality (ISO, 2000a). The implementation of the ISO quality standard ISO 9001:2000 is influenced by the objectives, the services provided, the processes employed and the structure and size of the organisation. This process approach is used to enhance customer satisfaction by meeting customer requirements (ISO, 2000a). Such an approach emphasizes the importance of understanding and meeting requirements, the need to consider processes in terms of added value, obtaining results of process performance and effectiveness, processes based on objective measurement with continual improvement.

The model in appendix 1.0 shows a process-based quality management system and illustrates process linkages to all relevant activities. Interested parties, including customers and other stakeholders, play a major role in defining input requirements. Monitoring the satisfaction of interested parties requires the evaluation of information relating to the perceptions of interested parties on whether or not the organisation has met their requirements (ISO,2000b).

### **1.1.3 Principles of ISO 9001:2008**

The ISO (2000b) states that the ISO 9001:2000 code of practice has eight quality management principles. The first principle is leadership which establishes the direction, unity of purpose and supportive work environment within an organisation. The internal environment must be maintained so that people can become fully involved in achieving the organisation's objectives. The second principle is customer focus which states that organizations should understand the current and future needs and expectations of the customers and strive to exceed customer expectations.

The Process approach principle states that a desired result is achieved more efficiently when activities and related resources are managed as a process. The fourth principle, the Systems approach to management principle deals with identifying, understanding and managing interrelated processes contributing to the organization's effectiveness and efficiency in achieving its objectives. Involvement of people ensures that all employees at all levels are able to use their abilities fully for the institution's benefit.

Factual approach to decision making principle acknowledges that sound decisions should be based on the analysis of factual data and information. The seventh principle, mutually beneficial supplier relationships enhances the ability of both the organisation and its suppliers to create value. Synergy can be found in mutually beneficial supplier relationships. Finally, the principle of continuous improvement states that there should be a permanent institutional objective recognizing and acting on the fact that no process is so good that further improvement is impossible.

Goetsch and Davies (2002) state that ISO 9001:2000 has eight clauses; the major five clauses are the quality management system clause used to develop a system of documentation that enables an organisation to be led and managed in a systematic and visible manner. Management responsibility clause states that top management commitment is essential for developing and maintaining an effective and efficient quality management system that achieves benefits for interested parties and increases customer satisfaction. The documentation system has to undergo periodic review to ensure ongoing maintenance of the system.

Resource management clause states that top management has the responsibility of ensuring that the resources required to meet the objectives of the organisation are provided. These resources include people, infrastructure, work environment, information, suppliers and partners, natural resources and financial resources.

The Product and service realisation clause involves the effective and efficient operation of realisation and support processes, as well as outsourcing activities. This requires the identification of the inputs, processes and outputs necessary to fulfill the customer's needs. Measurement, analysis and improvement clause contains the system of audits, corrective actions, monitoring and measurement, as well as continuous improvement, that allows for decisions based on factual information or data.

#### **1.1.5 Quality management in higher education.**

Higher education environments across the globe are frequently described as turbulent and dynamic. Both global and national forces are driving change within and across individual countries and their higher education institutions. These changes have served to put the issue of quality management firmly on the agendas of national governments, institutions, academic departments and individual programmes of study. Despite the progress that has been made through research and debate, there is still no universal consensus on how best to manage quality within Higher Education. One of the key reasons for this is the recognition that quality is a complex and multi-faceted construct, particularly in Higher Education environments (Cheng and Tam, 1997; Becket and Brookes, 2006). As a result, the measurement and management of quality has created a number of challenges. This, in turn, has led to the adoption of a variety of quality management practices within different countries and their Higher Education Institutions, many of which draw upon existing industry.

Issues of quality in higher learning institutions have been widely discussed in the early nineties. The most controversial highlights were regarding the delivery of quality in education (Elmuti, Kathawala, & Manippallil, 1996). Movement in developing suitable standards for the educational industry was started in 1992, when the International Organization for Standardization (ISO) issued a standard known as ISO 9004-2. A more prevailing effort was signified by the establishment of the ISO 9000 quality management

systems within the higher learning institutions. The latest version of ISO series, which is the ISO 9001: 2008, places greater emphasis on measurement of customer satisfaction and strong consideration on conformity of relevant statutory as well as legal requirements with regard to educational environment. All these constitute important aspects of service quality provided by any college (Peters, 1999; Johnson & Golomski, 1999). There are several clear advantages to ISO registration, they include, building a quality system and providing a foundation for a management system, Facilitating trade through assurances of contract performance, providing international recognition and engendering global uniformity, eliminating or diminishing customer audits or surveys, enhancing credibility and improving documentation and traceability activities, and it leads to an organized, written collection of fundamental practices.

The adoption of ISO-certification by higher learning institutions hopes to attract not only local students but also international students, particularly those from the East African region. Generally, the implementation of quality assurance in learning institution is intuitively customer-oriented and market driven (Peters, 1999). The attraction of students is because the ISO-certification may create customers' expectation, provide them with confidence and recognition towards the services provided and ultimately fulfill their satisfaction (Singels, Ruel, Van de Water, 2000; Omer Faruk Unal, 1996). Since, the product in higher education is not visible and tangible as in the case of manufactured goods, its quality must be gauged by the customers.

Based on the Customer Satisfaction Theory, the customers' perceptions towards the services and goods provided can be used as a yard stick to measure their satisfactions (Hassan & Kerr ,2003; Klaus, 1985). In other words, students' satisfactions towards the services quality of their colleges can be determined by their perception towards the quality of the teaching staff, learning processes, support system, resources, and its operation management (Hill, Lomas, & MacGregor, 2003; Peters, 1999).From the perspective of teaching staff, Hill, Lomas, and MacGregor (2003)found that students appreciate lecturers who are able to deliver their lectures effectively, qualified in their respective fields, show enthusiasm in teaching, provide appropriate feedbacks in assignments, easy to be with and help them to learn. They also prefer learning processes

which are flexible, autonomous, informative, and relevant to the 'real world'. In addition, students perceive that colleges support systems, such as orientation, counseling, co-curriculum activities, and professional academic consultation as vital factor in services quality.

Adequate and state-of-the-art library resources and IT-facilities may also determine students' perceptions and satisfactions towards a particular college. On the other hand, students also place emphasis on colleges' efficiency, accuracy, and response rate in operation management (Peters, 1999). For these reasons, ISO-certified colleges will try to fulfill their customers' satisfaction by placing emphasis on the above mentioned aspects. This implies that students in colleges which are complied with the ISO-standards may have more positive perceptions towards the services quality of their colleges compared to students in non-ISO certified colleges.

#### **1.1.6 Adoption of ISO 9001 at KMTC**

Kenya Medical Training College is a Semi Autonomous Governmental Authority (SAGA) established by an act of parliament in 1992. It is a parastatal under the ministry of medical services. The key responsibility of the institution is to train multidisciplinary health professionals. It is therefore the major source of human resource to the ministry of both medical services and Public health. The preparation for ISO certification started in 2006 culminating into acquisition of the certification status in July, 2009.

The college has twenty eight constituent colleges. It is governed by a board of management who determines the strategic direction and formulates policies. The managing director is in-charge of effecting the directions given by the board of management. Each constituent college is headed by a principal. The colleges offer variety of courses. The courses are run in a department headed by a department head. Apart from the academic departments, support departments exist namely transport, Finance, security, Accommodation and maintenance. The adoption of ISO 9001 certification was streamlined with the vision of the institution which is to be the leading institution in the training and development of competent health professionals in the region. The mission of the institution is to provide quality training and development of competent multidisciplinary health professionals. The college core values are responsible corporate

citizenship, integrity and ethics, student recognition, responsiveness, professionalism, innovation, teamwork and Quality.

KMTC is a relatively large college with over 14000 students. The college has a strategic commitment to quality as reflected in its corporate goal “To be the leading institution in the training and development of competent health professionals in the region is at the forefront of medical and professional education and real-world research, through continuous improvement and with all staff committed to quality management processes” (KMTC Strategic Plan 2006-2011). This commitment is reflected in various ways throughout the governance, management and resourcing of the organisation.

KMTC has a range of quality improvement initiatives in place, which encompass existing ISO certification of various parts of the organisation. The institution focused in particular on the development of a quality management system for the teaching and learning processes and the associated functions that support teaching and learning. While this is part of a continuum of longer-term quality management improvement initiatives, it is distinctive in that it addresses a college-wide corporate activity from a process perspective rather than a more traditional structural emphasis e.g. by division/faculty/group etc. The specific implementation of the ISO system took three years. Implementation of the system consisted of four steps; initial preparation of a draft system with the help of Kenya Bureau of standards, with reference to the ISO Standard, verification of the system by consultation with the process owners and users, internal reviews to confirm that the system was being followed and relevant records were in place, and development of an intranet site to provide access to the system and manage the documentation.

The initial development of a schematic outline of the components of the quality management system for teaching and learning was undertaken in consultation with department heads and a cross-section of staff. The approach selected was to focus on the essential processes of teaching and learning and directly related supporting processes. Each component in the system was represented with an underlying flow chart describing key inputs, process steps and outputs. This was further supported by a table that identified each step of the process and key information about documentation, management

responsibilities and planned improvements. This concise format provided a brief, clear description of responsibilities and documents at a generic level whilst allowing for local initiatives that are crucial to the diversity and creativity of the academic environment.

A process of internal audit was established to maintain and continually improve the overall system. The validation of the system documentation led to the development of recording mechanisms that could be used by staff to record the level of adherence to the system. Further internal audits generated additional information about the strengths and weaknesses of the system. These two sets of information were used as the basis for refining the internal auditing system and to develop agreed improvement plans in consultation with the relevant staff.

In addition to the presentations and workshops, it was necessary to have a cost-effective way of communicating the Quality Management System for teaching and learning across the institution. Booklets were utilized initially but distribution and control of these was neither feasible nor cost effective in the longer term. With the acceptance of the World Wide Web in the institution and the need to have the documentation controlled, it was decided to publish the system on an intranet site. There were several specifications for the site. It had to be easily accessible to the users, with logical and consistent navigation and linked to related existing sites, while being able to be controlled for the purposes of ISO certification.

A document management policy was introduced to the institution and implemented at all levels. It applies to all documentation created and distributed for information and action in managing KMTC. It requires that all management documentation at KMTC (whether paper or electronic) is to include within the document a record of the document name and its status, authority, currency, location and full pagination. This formalization of good practice was a significant supporting factor in certification of the system.

## **1.2 Statement of the problem**

The proliferation of private colleges offering health related courses has heightened competition for students between KMTC and these colleges. The institution has had to adopt sound strategies in order to remain a market leader in provision of health related

courses. There has also been increased pressure by the government and parent ministry for the institution to raise its performance and be self sufficient in terms of funding. These developments have put pressure on the institution to acquire a strategy that both raises performance and ensuring it is capable of collecting funds and using them efficiently. To do this, the institution has had to ensure it attracts and maintains its customers for revenue flow. It has also had to raise its public image as an institution where quality is key to operations.

The decision to obtain ISO 9000 certification is based on a variety of reasons both at the strategic as well tactical level .At the strategic level, ISO implementation decisions are based on parameters such as obtaining international acceptance for the services, maximizing customer satisfaction, reducing lead times and demonstrating management commitment towards quality. At the tactical level, the decision to implement ISO is based on factors such as contractual requirements of the customer, pre requirement to do business in a specific nation or business segment. Implementation of ISO 9000, if done properly, is a sound business strategy and has a significant impact on the bottom line. In addition to improving service quality, it helps in lowering costs in terms of reduced wastage, more efficient process and reduced lead time.

Previous research in the area of ISO certification in Kenya has been done in relation to petroleum industry (Nyambura, 2007). Atieno (2007) studied the perception of employees of ISO 9001:2000. Thiongo (2007) performed a study on the implementation of quality and environmental management systems as an integral management system in Kenya's companies. Gatimu (2008) did a study on the strategic benefits and challenges faced by manufacturing firms in the adoption of ISO 9000 quality management systems in Kenya. Kimani (2008) studied the role of ISO 9001 certification in developing competitive advantage for Kenyan organizations.Tanui (2008) did a survey of quality management practices in pharmaceutical companies in Kenya.

Research in the area of ISO certification in higher education in Kenya has been done by Nyaoga (2007) who studied the quality management practices in University of Nairobi. He concluded that ISO certification raises quality of services and that there are challenges



that still face implementation. His study was confined to University of Nairobi and the findings of benefits and challenges may not apply to KMTC. The University of Nairobi as a context is large compared to KMTC. No study has been done on the strategic application of ISO 9001 certification in mid-level colleges in Kenya. One of these colleges is the Kenya medical training college which is a semi autonomous governmental authority.

This study therefore intends to ascertain whether KMTC has met its strategic objectives by acquiring the ISO certification status. That is, is certification of strategic importance, what benefits does it derive from certification, are there challenges in its endeavor to maintain a certified status?

### **1.3 Research objectives**

The objective of the study is to ascertain the extent of strategic application of ISO certification.

The study intends to:

- i. Identify the benefits KMTC has obtained by being ISO certified.
- ii. Identify the challenges it faces in its endeavor to sustain its certification status
- iii. Ascertain the use of ISO 9001 certification in realizing strategic plan

### **1.4 Importance of the study**

The study will help Kenya medical training college identify the challenges it faces in maintaining its certified status and also maximize on the benefits of certification since obtaining the certification is easy but maintaining it is often difficult and needs efforts. The study will also assist the government evaluate the value of certification should midlevel colleges decide to get certified. This study is also important in widening the tenets of knowledge. It will assist researchers who want to study the subject of ISO certification.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

This chapter examines various studies done on the field of ISO certification. It gives a critical view of the aspects of ISO, benefits and challenges of ISO certification in various settings. It will also address the gaps in the studies that prompt the study of ISO certification at KMTC.

### **2.2. Quality Management systems in Higher Education**

There are several definitions of quality. Crosby (1979) defines “quality” as conformance to customer requirements, whereas Juran and Gryna (1980) defines quality as fitness for purpose and this is more strategic in nature in that it refers to the mission of the organisation. According to Juran and Gryna (1980), quality means fitness for use. The end user does not always know the specifications of the product or service involved and therefore judges it on its fitness for use. The fitness of use of the institution is articulated in the mission, goals and objectives in response to the local, national and international contexts. For example, a learning programme or activity is of high quality if it is demonstrably relevant, desirable or feasible for those who are intended to benefit from it. Quality is about adding value to individual, local and national capability. In some cases the higher education institution can determine its own purpose, free of external requirements. In other cases there are certain non-negotiable national development requirements according to which it must determine its mission.

Defining quality in higher education has proved to be a challenging task. Cheng and Tam (1997) suggest that “education quality is a rather vague and controversial concept” and Pounder (1999) argues that quality is a “notoriously ambiguous term”. As a result of the difficulty in defining quality, the measurement of quality has also proved to be contentious.

There have been various attempts to draw on industry models such as the quality dimensions of Gronroos, Garvin and Parasuraman (Owlia and Aspinwall, 1996), SERVQUAL (Aldridge and Rowley, 1998), importance performance analysis (Ford et al., 1999) and the balanced scorecard (Cullen et al., 2003) to develop quality assessment

models for higher education. Internationally, the tool most frequently drawn upon (Cruickshank, 2003), however is that of total quality management(TQM), defined as "... a management approach of an organization, centered on quality, based on the participation of all its members and aiming at long run success through customer satisfaction and benefits to all members of the organization and to society"( Wiklund and Edvardsson, 2003,p.67).

The rationale for adoption is that Quality Management has the potential to encompass the quality perspectives of both external and internal stakeholders in an integrated manner and thereby enable a comprehensive approach to quality management that will assure quality as well as facilitate change and innovation. However, there have been a number of limitations identified in the wholesale adoption of Quality Management in higher education. Roffe (1998) suggested that while there are a small number of quality indicators in industry, these are more numerous and complex in higher education and are therefore more difficult to assess. It has even been purported that the practice of Quality Management in higher education is deteriorating into managerialism because of the disparity between Quality Management techniques and educational processes, as well as the lack of shared vision within institutions or educational fields (Srikanthan and Dalrymple, 2003). As a result of this debate, Hewitt and Clayton (1999) recommend that a model of educational quality that is different from, but capable of being related to commercial models is beginning to emerge.

Srikanthan and Dalrymple (2003) suggested that "a fresh view is necessary of quality in higher education". A starting point for this process is arguably a comprehensive assessment of current practices to determine the extent to which different meanings of quality and different stakeholder perspectives are taken into account. Drawing on relevant literature from both education and industry, a new framework for a quality audit tool has therefore been developed in order to assess current quality management approaches within higher education.

According to Lewis and Smith (1994) the perception of "quality of education" by many academics is increasingly becoming a problem for many outside the system. Unhappy customers and low employee morale are also mentioned as major challenges in

universities (Coate, 1993). Engelkemeyer (1993) categorized the shortcomings of present higher education systems as poor teaching, anachronistic programmes, incoherent curricula, excessive price, and growing and inefficient administrative bureaucracies. Quality Management is seen by many as having enormous potential to respond to the challenges". It can be applied as a means for improving student/ staff morale, increasing productivity, and delivering higher quality services to both internal and external customers (Coate, 1993). Difficulties in defining customer requirements, while there is a variety of stakeholders (e.g. students, parents, employers, faculty members, government, and general society) having different interests, adds to the complexity. This characteristic of a higher education system, however, cannot overshadow the need for an operational definition of quality, one that provides a way for improvement. An important point which can be observed is the presence of a strong link between quality and market issues; higher quality can be gained through attracting more capable students and hiring higher quality staff, as well as absorbing more industrial grants which are all market related. This proposes the possible adoption of commercially based approaches such as QM in a public sector like higher education.

Although higher education is able to adopt many of the principles of QM, it is reasonable to expect some problems when applying them to a different organizational structure to that of the commercial environment. The concern is that there will be a direct relationship between the conception of higher education being taken, the definition of quality being used and the performance indicators chosen to measure quality (Tam, 2001).

### **2.3 Top management commitment**

Leadership needs to formulate organizational visions, objectives, or more simply, the desired end state of the organisation. Afterwards, visions and objectives can be organised into an operational plan through policy and strategy. In relation to quality management implementation, policy is a guide for integrating quality management principles into planning processes, while strategy is a way to communicate and socialise the objective in order to make the plan effective throughout the organisation. In terms of the elements of quality management content, policy and strategy cover issues of people, resources and process (Irianto, 2005).

The category of policy strategy includes; elements of both plan development and plan implementation. In terms of plan development, factors include the use of assessment data, the engagement of internal and external stakeholders, and the degree to which two way communication and coordination is used. For plan implementation, important elements include the way in which action steps are synchronized and completed, and the way in which progress is measured (Ruben, 2001). Strategic quality planning fall in the core category as a company needs to have sound strategy objectives and action plans. Subcategories are strategy development process, strategic objectives, action plan development, and deployment and performance projection (Irianto, 2005).

In the preparation of vision and mission statement and in setting goals and objectives of KMTC, involvement and commitment of top management and the Government agencies has been most essential. By conducting SWOT (Strength, Weakness, Opportunities and Threat) analysis by the management strategic planning and performance management has been achieved.

#### **2.4 Process quality management**

Inferior quality process will result in higher rework rate which will lead to more resource consumed to produce quality products (Ahire & Dreyfus, 2000). The goal of process management is to reduce

process variation by building quality into the production process (Flynn et al., 1995; Handfield et al., 1999). The effects of reducing process variation will increase the quality of outputs as well as decreasing the occurrences of unnecessary costs such as rework costs and waste costs by finding and correcting quality problems immediately (Ahire & Dreyfus, 2000; Forza & Flippini, 1998). Thus, the effectiveness of process management implementation has been cited as one of the major dimensions of integrated quality efforts.

The empirical results of Kaynak (2003) show that product/service management had significantly positive effects on process quality management and business performance, which in turn influenced operating business performance. Thus, the authors hypothesize

that design management may have positive impact on process management and operating efficiency.

In Process quality management perspective, the managing process is described as an arrangement of the necessary elements for creating quality (in all respects), and as a means to allocate and coordinate constituent activities of typical processes of quality management. The related processes are systematically designed, managed, and innovatively improved. Accordingly, Benner and Tushman (2003) mentioned the critical importance of measuring, improving and synchronising the improved processes quality.

## **2.5 Employee involvement**

Cheng and Tummala (1998) looked at the level of participation of the employees in the certification exercise. They argued and also adduced empirical evidence that wider participation generated positive evaluations of the outcome or value of certification. Jasni and Hazman (2003) posited that employee involvement in the development of the quality system and the documentation creates commitment towards the certification. Additionally, employee inputs ensure that the documented procedures are not just elegant but practical and productive. It reduces the tendency toward a mimetic and/or a coercive approach to implementing ISO 9000 both of which are not the most fruitful ways of benefiting from ISO 9000 in the long term (Boiral, 2003). Newton (2000), for instance discovered that the frontline staff who were not quite involved in the policy making, have powers to decode the policy.

Extending Lipsky's (1980) work on street level bureaucrats to the frontline staff on educational institutions, Newton (2000) observed that academics can and will define and reconstruct policies including quality policies in the manner fitting their concepts and priorities of quality despite the edicts emanating from the managers. Participation takes on a special significance in education as in other pure services sector. The role of employees, their emotions, their extra organizational behaviours, has very direct and strong impact on the bottom line of the organisations.

In pure services, the employee morale and emotions leave immediate and sometimes indelible mark on the customer experience. How employees' sentiments about ISO 9001

especially if they are negative, affect the quality certification has been under-researched. Moreland (1998) in his study of three new universities in UK, observed that academics were not widely involved in the implementation. Academic managers were reluctant to involve all the staff and also their unions. Limited participation was considered necessary to avoid the distraction of negotiation and conflict resolution. But staff involvement in quality initiative has been underscored by Deming and Crosby as key to TQM which ISO 9000 has somewhat addressed in the 2000 issue of the standard (Hazman, 2005).

## **2.6 Benefits and challenges of ISO certification**

Beattle (2003) examined the issue of ISO 9000 certification and its perceived benefits for Singapore based companies. Using an empirical approach, the paper sort to ascertain if certification had indeed improved the performance for listed and non-listed companies. The results from a survey of 146 firms suggested that while certification led to better overall financial performance, non-listed certified firms experienced better documentation procedures, higher perceived quality of products or services, and more effective communication among employees than listed certified firms. Some problems encountered in certification included the failures to establish adequate monitoring programs, to follow set procedures and to carry out appropriate management reviews of the new system as well as unclear authorization.

Chow-Chua, Goh and Wan (2000) studied the ISO certification on improvement of business performance and found that there was no proven link between quality certification (ISO 9000) and improved business performance. However, it was clear from the research reviewed on business performance factors, that better quality does have a consistent, positive relationship with business performance. Combining these findings led to the inference that quality certification to ISO 9000 standards is not consistently associated with having a quality assurance system that delivers improved process control, or better quality. They concluded that the National Accreditation Registrars needed to reflect on the standards of proof that they currently use to support claims for business performance improvement from the application of the ISO 9000 standards.

Heras, Dick and Casadesus (2000) using a longitudinal methodology study found that although the performance of certified companies is superior to that of 400 non-certified

firms, there is no evidence of improved performance after registration in the 400 certified firms studied. They concluded from these findings, that the superior performance of certified firms was due to firms with superior performance having a greater propensity to pursue ISO 9000 registration. They illustrated the potential dangers in inferring that ISO 9000 certification leads to superior business performance. Certification is a major investment yet the findings showed that inflated expectations of performance improvement after ISO 9000 accreditation may be unfounded.

An empirical analysis of financial impact of ISO 9000 certification in USA by Corbett, Montes, David and Kirsch (2001) found that the prescriptions contained in ISO 9000 lead to superior performance. Firms may use the certification procedure as an opportunity for process improvement. In the latter view, it is the firm's own efforts that lead to superior performance, not the standard in itself, but these efforts are triggered and guided by the ISO 9000 certification process. One firm may have the potential to be more successful than another, but this potential is turned into reality as a result of ISO 9000. Firms that do have the potential to be successful may need an external trigger to unlock that potential; ISO 9000 appears to.

Quazi, Wing Hong and Chan (2002) studied the impact of ISO certification on quality management practices in Singapore. The result revealed that the ISO certification does not affect quality management practices and quality results of firms in Singapore. Further analyses indicated that some organizational characteristics, such as size and industry, have relationships with certain constructs of quality management practices.

Najmi and Kehoe (2000) studied the role of performance management systems in promoting quality development beyond ISO 9000 and found that many companies who had obtained certification to ISO 9000 eventually observed a diminishing business benefit and required further stimulus to their quality management efforts. This further progression beyond the requirements of ISO 9000 required a rigorous measurement of performance to ensure that the selected direction is appropriate. The research indicated that the lack of an appropriate performance measurement system is a barrier to post-ISO 9000 quality development.



Yeung, Lee and Chan (2003) studied the senior management perspective and ISO effectiveness and found that although senior management's confidence in their understanding of the standard and quality management is the most influential factor for the development of their QMS and to the induction of changes in systems, it does not improve organizational performance. On the other hand, organizations that believe the ISO 9000 should be adopted for operational objectives and serve as a system foundation for operations achieve the best organizational performance. The research suggests that ineffectiveness of the ISO 9000 is largely due to incorrect management objectives and expectations from the standard.

Certification to ISO 9001 is objective evidence that the organisation has a QMS compliant to the standard. The importance of certification, lies not in the physical certificate, but in the fact that the organisation has a working QMS that is compliant to ISO9001 (Geiger et al., 1997). Possibly the most well known of the benefits associated with Quality Management systems is that certification allows an organisation to compete worldwide. Organisations need standards to do business (Amponsah, DeCouette, Dew, Pogue & Wilson, 2008). The authors also contend that small organisations can use certification to prove that they are in control of their own business processes. They should be considered as serious competitors (Amponsah et al., 2008).

Chow-Chua et al. (2002), agree that there is consensus amongst academics that in addition to access to international markets, there is an increase in productivity. The authors proceed to state that certification also guarantees that procedures are consistent and that there is a mindset of control and command present in the organisation (Chow-Chua et al., 2002). A further benefit for certified organisations is better financial performance (Chow-Chua et al., 2002). The authors add that certification allows for better-defined internal processes, improved profitability and ultimately leads to increased competitiveness (Chow-Chua et al., 2002).

Barrier (1994), notes that although certification does not guarantee that the product of the organisation is of high quality, it at least indicates that they have documented their system and is operating it. Geiger et al. (1997), points to the importance of a strong quality inspection programme, and mention that according to the feedback from a series

of interviews with top organisations, certification to ISO9001 is important, although not essential.

According to Lee (2004), small companies introducing low-cost elements of a QMS such as rearranging processes, developing quality programs and getting employees involved, can culminate in many benefits. These benefits are getting top management involved, changing their thinking and attitude, educating employees and winning support. From the above the obvious analogy can be drawn that there are benefits to be gained by developing and implementing a quality management system that complies with ISO9001.

It is also evident that should an organisation not have a QMS, there is no mechanism for the customer to be certain that good management is being practiced. The lack of a QMS may indicate potential risks in the very areas the benefits are realized, and include , Diminished capability to do business internationally (Amponsah et al.,2008), Productivity and financial performance could be substandard; procedures and processes poorly described, and control impaired (Chow-Chua et al., 2002), Any procedures there that may be, may not be operated within (Barrier, 1994), quality inspection may be weak, non-existent (Geiger et al., 1997),There could well be no employee support, or management involvement (Lee, 2004).

While the benefits of ISO9001 seem to be well established, there are issues which hold that compliance thereto, is not a panacea to solve an organisation's problems, nor does it serve as a guarantee of a quality product.

Smith (2005), in a paper exploring the vulnerabilities and crisis management within organisations, argues that the very processes and procedures that are supposed to guard against failure, could lock an organisation into falling into error traps. In a debate about the effectiveness of ISO9001, a working team pointed out that the standard has simply failed to guarantee improvement in quality, or increased profitability (Heffner, Larson, Lowder & Stites, 2008). In addition, it stifles customization, inhibits the ability to adapt quickly to changes in the professional fields. ISO's very focus on standardization is counterproductive it suppresses flexibility (Heffner et al., 2008).

Lewis et al. (2005), also concede that despite improvements to ISO, the standard does not guarantee excellence. Versan (2006) goes further by stating that the consumer's confidence in the ISO standard is falling. The author adds that in assessing the implementation of the ISO standards, ISO/TC 176 had found that many organisations are simply adopting the quality management system to obtain the certificate. Car manufacturers are using the more sector-specific ISO/TS 16949, and softening their approach to insist on ISO9001 certification as entry barrier for fledgling business. A partnership approach seems to be favored with the purpose of developing the supplier.

There is a general perception that ISO9001 is expensive to implement and to run, especially for small businesses (Taylor, 1994). Furthermore, not only is it recognized that small firms have implementation problems, but that the engineering sector does not view the standard to be of much benefit or value (Taylor, 1994). Bryde and Slocock (1998), report that there is a common complaint that the certification route is inappropriate and expensive to small companies. In fact, there is a great deal of resentment towards certification, and this could be related to the reasons why organisations feel bound to seek certification, and the negative expectation regarding the costs as compared to the benefits (Bryde & Slocock, 1998). Barrier (1994), agrees that for the smallest firms, the expected costs are inhibitive.

Business performance excellence can help organizations to accomplish their competitive advantage by continuously enhancing the value of the organization's products and services to customers and by improving organizational performance and capabilities. The core values of business performance criteria are customer-driven, quality, leadership, continuous improvement and learning, employee participation and development, fast response, design quality and prevention, long-range view of the future, management by fact, partnership, company responsibility and citizenship, and business result focus (Stephen, 2000; Parast, 2006).

The relationship between excellence in business performance and quality, profitability, and market share has been studied in-depth by the strategic planning Institute of Cambridge Massachusetts. One factor mean-quality-drives market share. When superior quality and large market share are both present, profitability is virtually guaranteed.

There is no doubt that quality and profitability are strongly related. Whether the profit measure is return on sales or return on investment, business which offers superior product and services outperform those with inferior business quality performance management. The rewards of higher quality performance excellence are positive, substantial, and pervasive. Findings indicate that attaining quality superiority produces the following organization benefits; Greater customer loyalty, market share improvement, higher stock prices, reduced service calls, higher prices and greater productivity (Linda, 2005).

### **2.7 The link between support activities and the core function of an academic institution**

The Porter Model (Porter, 1985) in figure 2.2 includes two types of activities: support and primary activities. In the literature, the term “activity” is used interchangeably with the term “process”. The primary, value-adding activities referred to in the Porter Model include those involved in production, marketing and sales, and after-sales service. These processes make up what is referred to as a value chain (Porter, 1985). The equivalent of these processes in higher education is teaching and learning, community service and research (CHE, 2004b). The support activities referred to include those activities that provide overall infrastructure, human resources, and technology and procurement functions to support the primary activities. This also applies to the higher education context.

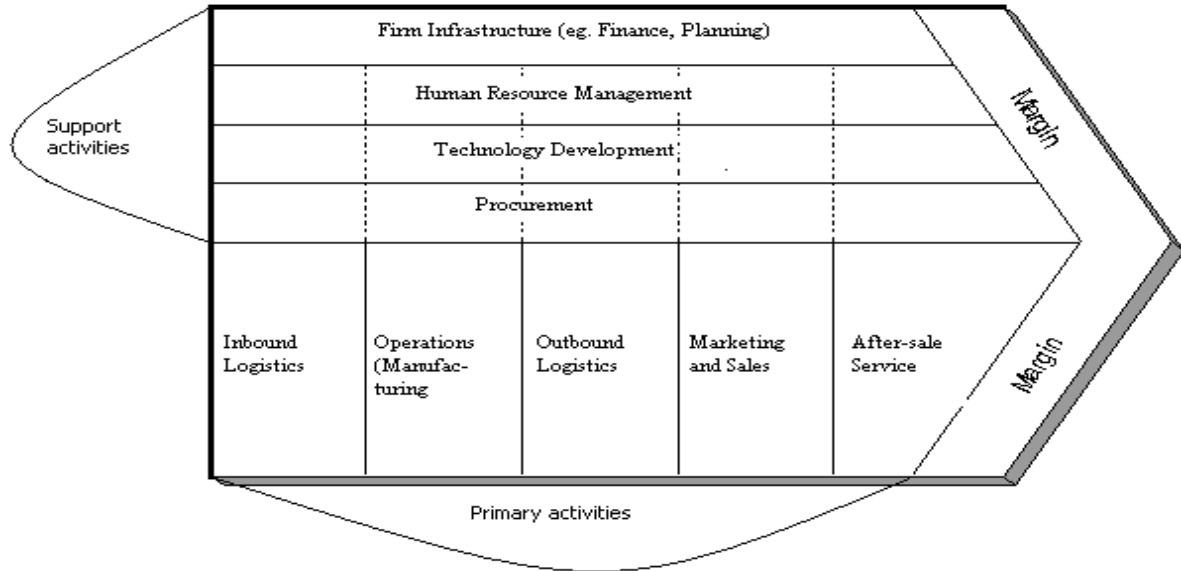


Figure 2.0: Porter Model

Source: Porter, 1985 pg 195

The Porter Model (Porter, 1985) can be applied in higher education, with the primary activities, ranging from inbound logistics to after-sales service, being equated to teaching and learning, research and community service. These are the core functions of such an institution. There is a clear relationship between support activities such as Information Communication Technology, Human Resources, Finance and Infrastructure and the core activities of a higher education institution.

Relating to continuous improvement, Seymour (1992) highlighted the importance of processes and the necessity for a never-ending improvement strategy using the plan -do-check-act (PDCA) cycle. Tribus (1993) expressed the “process over the product principle” for the classroom stating that for improving students’ achievements, the teaching process and not the examinations should be addressed. Harris (1992) defined the stages in a PDCA cycle developed for course improvement as designing courses to actually meet students’ needs (plan), teaching courses (do), assessing how students use learning and surveying students’ opinions (check), and modifying according to assessment findings (act).

## **CHAPTER THREE: RESEARCH METHODOLOGY**

This section defines research methods, research instruments and research tools. It also Presents the instruments and tools selected for this study. The research plan and design was developed in the context of the study.

### **3.1 Research design**

A qualitative descriptive survey study was used in this research. Qualitative research investigates subjective data, and focuses on the experiential state of the participants and their perceptions of a situation (Strauss and Corbin, 1990). The objective of qualitative methods is to collect data and information and gain a better understanding of the research topic. The data gathered may be unstructured, at least in their raw form, but will tend to be detailed, and hence rich in content and scope (Fellows, 1997).

One of the disadvantages of the qualitative method is that it is unable to support empirical judgments; the study may therefore not support completely the empirically held notions. However it can be employed to draw analytical conclusions (Maxwell, 1996). The advantage of this method is that it provides a greater range of insight, which improves the overall validity of the results.

### **3.2 Study Population**

In this study, a method of random sampling was embraced in selection of the sample. Cohen et al. (2005) provides an overview of random sampling in which they state that a sample is drawn from a wider population in a way that seeks to be representative of such a population. A list of all 28 KMTCs was drawn as a sampling frame and using a sample space of two, 14 institutions was selected using systematic sampling.

### **3.3 Data collection instruments**

The researcher used questionnaires as tools of data collection. There was one questionnaire. One questionnaire was filled by the college management representative, who is in charge of ISO implementation. The questionnaires was semi-structured each sectioned in terms of background characteristics of the institution & relevance of ISO to

strategic plan and benefits of ISO certification & challenges of ISO implementation respectively. The questionnaires will be self administered.

The decision to self administer questionnaires during this study was largely influenced by the views expressed by Burns (2000) that if the dichotomous questions are inappropriate, additional alternatives can be added. One of the disadvantages applicable to the study, that is, the respondent's motivation for answering the questionnaire, was overcome by the researcher making personal follow-up telephone calls to all the respondents after they have received the questionnaire.

Likert scale shall mainly be used in structuring the expected responses in the questionnaire. According to Hill (1995) the Likert scale is commonly found in many types of attitude-measuring research. This scale is easy to complete but does have a considerable disadvantage when bold statements are used to bias respondents' answers. The researcher will alleviate this by not using leading questions.

Mouton (2001) states that the Likert scale is an attempt to improve the levels of measurement of social research through the use of standardized response categories, such as "strongly agree", "agree", "neutral" "disagree" and "strongly disagree". Neutral will be used to mean a respondent is unable distinguish the status of pre and post ISO certification. An adapted Likert scale ranging from "strongly agree" to "strongly disagree" (from 1 to 5), will be used for this study, assessing the response to each item in the questionnaire. In designing this questionnaire, literature review is used.

The researcher carried out a pilot study to appraise the questionnaire soundness of the items and to estimate time required to answer the items to assure the validity. The pilot study covered some of the members of the management team at KMTC Machakos not covered in the sampled population. The responses from the pilot study were analyzed to ascertain whether they can meet the objectives of the study and the necessary adjustments will be made to the questions.

The researchers then proceeded to the selected colleges, issue the questionnaires to be filled by the principals and college management representatives. The filled questionnaires were collected for analysis.

### **3.4 Data analysis**

The questionnaires were coded and data entered into SPSS for cleaning, analysis and interpretation in line with the aim of the study, namely strategic application of ISO9001 certification at KMTC: benefits and challenges

The data in form of proportions, frequencies and means was presented in terms of charts, tables and graphs. Analysis was done using appropriate models and cross tabulations. The results were interpreted in comparison with past studies then the researcher made conclusions and recommendations.



## CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSION

### 4.1: Introduction

In this chapter, the findings of the study are analyzed detailed analysis is done in accordance with the research objectives of identifying the benefits, challenges and relevance of certification to the college strategic plan. Data was summarized and presented in form of tables, proportions and mean.

### 4.2: profile studied colleges

The study was done by sampling a target of 14 colleges. Out of these, 14 responded to the questionnaire, representing 71% of respondents. The respondents were the college management representatives. There was an average of six departments in the colleges. Each college had an average of 28 lecturers and 68 non teaching staff.

Table 4.1 Background characteristics of KMTC colleges studied

Characteristics	Mean	Number (N)
Number of KMTCs	-	10
Departments	6	59
Lecturers	28	280
Non teaching staff	68	676

Source: Research data.

### 4.3 Relevance of ISO certification to the strategic plan

The respondents were asked to rate the extent to which certification aided in realizing the strategic plan. A likert scale of 1 to 5 was used to measure their response. Findings of the study was, the respondents agreed that ISO certification enabled the achievement of the institution's strategic plan(87.4 %). Respondents, to a great extent agreed that the certification was relevant to the vision and mission( Mean of 1.4 and 1.5 respectively).certification was also seen to enhance quality training to a great extent(mean =1.3).This is in line with studies done by Irianto(2005), that strategic quality

planning should be in line with strategic objectives, work processes and performance projections.

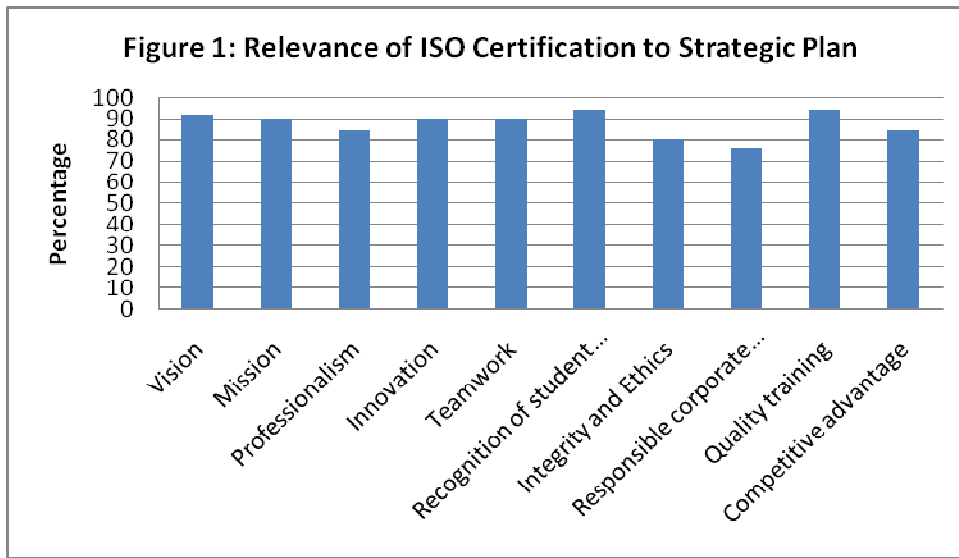
Compared to other items of the strategic plan, responsible corporate citizenship recorded the lowest relevance followed by integrity and ethics. Relevance of ISO certification to Professionalism and competitive advantage were ranked equal ( mean = 1.8).ISO Certification was observed to be of great importance in achieving the goal of quality training.

**Table 4.2: Relevance of ISO to Strategic Plan**

<b>Strategic plan dimension</b>	<b>Average score</b>	<b>Approximated % Score</b>
Vision	1.4	92
Mission	1.5	90
Professionalism	1.8	84
Innovation	1.5	90
Teamwork	1.5	90
Recognition of student needs	1.3	94
Integrity and Ethics	2	80
Responsible corporate citizenship	2.2	76
Quality training	1.3	94
Competitive advantage	1.8	84
<b>Total</b>	<b>1.63</b>	<b>87.4</b>

Source: Research data

The extent to which ISO certification was relevant to strategic plan and core values have been depicted by the chart below. From the chart, quality training and recognition of student needs seem to be areas of great emphasis of certification. Professionalism, ethics and responsible corporate citizenship were graded low in terms of ISO certification’s role in achieving them.



Source: Research data.

#### **4.4 Perceived benefits of ISO Certification.**

The respondents were asked to rank the benefits associated with ISO certification. A likert scale of 1 to 5 was used to indicate the extent to which respondents agreed with the benefits of certification.

Respondents agreed that certification enhanced quality inspection, improved customer satisfaction, and improved communication within and outside the organisation. It was observed that respondents were in strong agreement that certification improved to a large extent (Mean= 1.2) the institution's approval both locally and internationally. The role of ISO certification in improving the processes is paramount. According to the respondents, ISO certification helped improve documentation and their traceability (Mean=1.2). The respondents however agree to a lesser extent that certification improves customer satisfaction and confidence on the services provided. No additional benefits were provided by the respondents on the questionnaire.

**Table4.3: Benefits of ISO 9001 Certification**

<b>Benefit</b>	<b>Average Score</b>	<b>Approximated %</b>
Leads to organised written collection of fundamental practices	1.4	92
Improves documentation and traceability	1.2	96
Improves customer's confidence on services	1.3	74
Facilitates Performance Contracting	1.6	68
Improves Institution's Competitiveness both locally and regionally	1.2	96
Facilitates people involvement in Processes	1.4	92
Enhances quality inspection	1.6	68
Improves customer satisfaction	1.6	68
Improves communication within and out of the institution	1.8	87
Improves local and international approval of institution's processes	1.7	86

Source: Research data

#### **4.5 Perceived challenges of implementation of ISO certification**

The respondents were asked to indicate the extent to which they agreed with statements concerning challenges of ISO certification. A likert scale of 1 to 5 was used to measure the extent of challenges. Table 4.5 shows the respondent's ranking of the challenges experienced by implementing QMS at KMTC. The predominant challenges consisted of internal audits being done in a biased manner and some work processes not being complemented by the QMS processes.

The respondents disagreed with the statement that top management did not support implementation efforts and that needs assessment was not done prior to implementation (Mean=4.8) This is in agreement with the study that top management involvement is essential in realizing objectives of ISO certification (Irianto,2005).

Respondents indicated that the level of employee involvement on certification was good hence it was not seen as a major challenge to certification. The findings are in agreement with Cheng and Tummala(1998) who found that widespread participation by employees generated proactive evaluation of outcomes or value of certification. Staff involvement has also been underscored by Deming and Crosby as elaborated by Hasmann (2005).

Top management not being involved in supporting implementation and needs assessment not being done were seen by respondents as the least challenges. The major challenges were found to be biased internal audits and work processes not being complemented by certification ( mean of 3.8 and 3.4 respectively)

**Table 4.4: Challenges in ISO 9001 certification implementation**

<b>Challenge</b>	<b>Average Score</b>	<b>Approximated %</b>
Top management does not support implementation of ISO certification	4.6	8
The staff do not understand existing processes and procedures	4.1	18
There is no clear communication about objectives and rationale behind ISO 9001 implementation efforts	4.1	18
There is lack of regular review and follow-up of implementation	4.2	16
Bulky documentation replaces people involvement in implementation	4.1	18
Internal audits are done in a biased atmosphere	3.8	24
Needs assessment was not done before implementation of ISO 9001 was effected	4.8	4
Work processes are not complemented by ISO certification	3.4	28
The registrar,KEBS, does not understand the business of KMTTC	4.1	18
There is lack of employees involvement in the implementation efforts	4.5	10

Source: research data.

#### **4.6 Discussion**

The study objective was to ascertain the benefits and challenges of ISO 9001 certification at KMTTC. The response rate stood at 71 %.The researcher found that there was an average of 6 departments and 28 lecturers at the colleges studied. The non teaching staff was an average of 68.Non teaching staff includes accountants, cooks, security, librarians and cleaners. The support staffs were found to be three times the number of lecturers.

On the relevance of ISO certification to the strategic plan, respondents were satisfied that certification was in line with the strategic plan and helped achieve the institution's objectives and core values. Strategic plan is important in determining the long term goals of the institution of being a regional leader in providing training to mid level health professionals. The finding is supported by the facts that respondents agree that top management is key in realizing objectives of implementation. The findings contradict with the observation by Yeung, Lee and Chan (2003) that top management involvement does not improve performance. Respondents agree that ISO certification leads to quality training. The respondents also agree that certification leads to greater performance (mean=1.8).the finding is in agreement with the study by Amponsah, Decoutte, Dew, Pogue and Wilson (2008) that ISO certification allowed an organisation to compete globally.

On the benefits derived from ISO certification, the researcher found out that all the benefits were scored with a mean of 1, meaning that certification was advantageous on the highlighted areas of customer satisfaction, documentation, international accreditation, quality training and quality inspection.

Findings on challenges facing implementation showed that respondents scored biased internal audit and work processes not complementing ISO certification higher in terms of challenges compared to other variables. Top management involvement and prior needs assessment were seen as minimal challenges to ISO implementation. Challenges of staff not understanding the processes, objectives not being communicated, bulky documentation and KEBS involvement were rated same .The major challenge was that the work processes were not being complemented by quality procedures. This could be because the institution has not been certified for long and hence the lack of synchrony in some processes with ISO certification. The challenges were not seen as major in the implementation efforts.

## **CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS**

### **5.1 Introduction**

In this chapter, summary of the findings and conclusions based on the objectives of the study, namely, the relevance of certification to strategic plan, benefits and challenges of certification will be discussed.

### **5.2 Conclusion**

From the finding of the study, the researcher concludes that ISO certification is relevant to the organization's strategic plan because it assists in achievement of the college's objectives. The certification also enables the organisation to compete favorably both locally and regionally. Certification also enables the organisation to derive benefits like improved documentation, competitiveness, performance contracting, enhanced quality inspection and improved customer satisfaction.

The study found that the benefits outweigh the challenges as most challenges were minor. The major challenges according to the respondents was uncomplementing work processes and biased internal audits. The benefits could be termed as improved internal work processes.

### **5.3 Recommendations**

In order to raise the competitive advantage both globally and locally, quality as an aspect of the organisation should be embraced by all employees. Realisation that customers usually have a choice obliges the organisation to provide quality in all the processes. Since the core function of KMTC is training, the researcher recommends that the number of lecturers be raised to support quality training. The researcher further recommends that the institution integrate its corporate social responsibility with quality procedure. The management should also ensure that certification enhances professional practices. Finally, the researcher recommends that the management should focus on strengthening internal audits and that work processes should be complemented by the quality procedure.

#### **5.4 Limitations of the study**

Some colleges did not respond to the questionnaires sent to them. The researcher had to contend with some respondents taking too long to complete the questionnaire and send back. Most respondents however eventually filled the questionnaires.

The data collection instrument was a questionnaire. In-depth analysis could not be realized compared to if interview was used. Some respondents also seemed not to understand well the QMS processes. Being just two years after certification, benefits and challenges could not be very well articulated.

#### **5.5 Suggestions for further research**

The study should be expanded to include the CEO and the college principals since these people are in key policy making and resource allocation positions in the organization. Study on customer perception on ISO certified organisations compared to non certified organisations should be done to evaluate the worth of certified organisations in the view of the customer.

Since one major challenge of the study is that some work processes are not complemented by ISO certification, a study should be done on the effects of ISO certification on work processes. Further studies should be done on the effects of ISO certification on financial performance of public institutions.



## REFERENCES

Aldridge, S., Rowley, J. (1998). "Measuring customer satisfaction in higher education",

*Quality Assurance in Education*, Vol. 6 No.1/4, pp.197-204

Ahire, S.L., and Golhar, D.Y.(2000). Development and validation of TQM

implementation Constructs, *Decision sciences*,27,1,23-56

Amponsah, C., DeCouette, A., Dew, D., Pogue, E. and Wilson, C.( 2008). *ISO*

*9000: An Effective Quality System*. Retrieved on 10<sup>th</sup>, June,2010.Available at

:[http://www.asq.org/learn-about quality/iso-9000/overview/is it worth it?](http://www.asq.org/learn-about-quality/iso-9000/overview/is-it-worth-it?)

Atieno M. (2007) *The perception of employees on ISO 9000:2000 certification in Kenyan*

*Companies*.An unpublished business project,School of Business,University of

Nairobi

Barrier, M. (1994). *Quality standards the world agrees on - small businesses can*

*Meet ISO 9000standards*.Retrieved on 15<sup>th</sup>, june,2010, from [http//www.find](http://www.find)

articles

Beattle R. (2003). Implementing ISO 9000: A study of its benefits among Australian

Organizations.*TQM and business excellence*,Vol 10,Issue1,P95-106

- Becket, N. and Brookes, M. (2006) .Evaluating Quality Management in University Departments, *Quality assurance in Education*, 14(2), 123-142.
- Benner, M.J., and M.L. Tushman (2003). Exploitation, Exploration, and Process Management: The productivity dilemma Revisited,*Academy of management review*,28(2),Pp238- 256.
- Bryde, D.J. & Slocock, B. (1998). Quality management systems certification: A survey. *International journal of Quality & Reliability management*,15(5),1998:467-480
- Boiral, O. (2003). ISO 9000: Outside the iron cage. *Organisation Science*, 14(6), 720–737.
- Burns, R.B. 2000. *Introduction to research methods*. London: Sage.
- Charles J. Cobertt, Maria J. Montes-Sancho, David A Kirsch(2001).*Financial impact of ISO Certification in USA:An empirical analysis*.
- Council on Higher Education (CHE). (2004b). *Criteria for institutional audits*. Pretoria: CHE.
- Cheng, Y and Tam, W (1997) Multi-Models of Quality in Education, *Quality Assurance in Education*, 5(1), 22 - 31.

Cheng, S. P., & Tummala, V. M. R. (1998). An employee involvement strategy for  
ISO 9000

Registration and maintenance :A case study of Hong Kong and China companies.

*International journal of quality and reliability Management,15(8/9),860-891*

Coate, E (1993). “*The introduction of total quality management at Oregon State  
University*”, Community college.

Cohen, L., Manion, L. and Morrison, K. (2005). *Research methods in education*. Fifth \  
edition London. Routledge Falmer.

Chow-chua,Mark Goh,Tan Wan(2000).Does ISO 9000 certification improve business  
Performance? *International Journal of Quality & Reliability Management,*

Chow-Chua, C., Goh, M. & Wan, T.B. (2002). Does ISO 9000 certification improve  
business performance? *International Journal of Quality & Reliability  
Management, 20(8), :936-953*

Crosby, P.B. (1979). *Quality is free*. New York: Mentor

- Cruickshank, M. (2003). "Total quality management in the higher education sector: a literature review from an international and Australian perspective", *TQM & Business Excellence*, Vol. 14 No.10, pp.1159-67.
- Cullen, J., Joyce, J., Hassall, T., Broadbent, M. (2003). "Quality in higher education: from monitoring to management", *Quality Assurance in Higher Education*, Vol. 11 No.1, pp.30-4.
- Elmuti, D., Kathawala, Y. & Manipallil, M. (1996). Are Total Quality Management Programs in Higher Education Worth the Efforts. *International Journal of Quality and Reliability Management*, 13(6),30.
- Engelkemeyer, S.W., (1993). "TQM in higher education", *The Centre for Quality Management Journal*, Vol. 2 No. 1, pp. 28-33.
- Fellows, R.F.( 1997). *Research methods for construction*. Oxford: Blackwell Science.
- Forza, C., & Filippin, R. (1998). TQM impact on quality performance and customer satisfaction: A causal model," *International journal of production economics* ,Vol 55,p 1-20

Ford, J.B., Joseph, M., Joseph, B. (1999). "Importance-performance analysis as a strategic tool for service marketers: the case of service quality perceptions of business students in New Zealand and the USA", *The Journal of Services Marketing*, Vol. 13 No.2, pp.171-86.

Fynes, B., & Lincon, C. V. (2002). The Moderating Effect of Buyer-Supplier Relationships on Quality Practices and Performance, *International Journal of Operations and Production Management*, 22(6), pp.589-613.

Gatimu G.(2008). Strategic benefits and challenges faced by manufacturing firms in the adoption of ISO 9000.quality management systems in Kenya Unpublished MBA Research Project University of Nairobi.

Geiger, C., Honeyman, J. & Dooley, F. (1997). *Supply chain management:implications for small and rural suppliers and manufacturers*.Retrievedon 12<sup>th</sup>,June,2010 from: <http://www.mountain-plains.org>

Goetsch, D. and Davies, S. (2002). *Understanding and implementing ISO 9000:2000*. New Jersey:Prentice Hall

Handfield, R., Jayaram, J. & Ghosh, S. (1999) .An empirical examination of quality tool deployment patterns and their impact on performance, *International Journal of Production Research*, 37, pp. 1403-1426.

- Hassan A. Quazi, Chong Wing Hong, Chan Tuck (2002). Impact of certification on quality management practices; A comparative study. *Journal of TQM and Business excellence*, Vol 13, Issue 1 Pg 53-67.
- Heffner, C., Larson, S., Lowder, B. & Stites, P. (2008). *ISO 9000: An Ineffective Quality System*. Retrieved on 16<sup>th</sup> June, 2010 Available from: <http://www.asq.org/learn-aboutquality/iso-9000/overview/is-it-worth-it/iso-9000-ineffective>.
- Heras I, Gavin P.M Dick, Marti Casadesus (2000). Longitudinal analysis of performance before and after accreditation. *International journal of quality and reliability management*. Pg. 774-791, Vol 19
- Hassan, M., & Kerr, R. M. (2003). The Relationship Between Total Quality Management Practices and Organizational Performance in Service Organization. *The TQM Magazines*, 15, 4, 286-291.
- Hazman, S. A. (2005). Are ISO 9000 certified organisations learning organisation? Proceedings of the International Conference on Workplace Issues and Challenges, Faculty of Office Management Technology, Universiti Teknologi MARA
- Hill, Y., Lomas, L., & Macgregor, J. (2003). Students' Perceptions of Quality in Higher Education. *Quality Assurance in Education*, 11, 1, 15-20.

- International Standards Organization (ISO). 2000a. *Code of practice: quality management systems requirements. ISO 9001:2000*. Geneva: ISO.
- International Standards Organization (ISO). 2000b. *Quality management systems: guidelines for performance improvements. ISO 9004:2000*. Geneva: ISO.
- International Standards Organization (ISO). 2000c. *quality management systems: fundamentals and vocabulary*. Geneva: ISO.
- Irianto. D. (2005). *Quality Management Implementation : A Multiple Case Study in Indonesian Manufacturing Firms*, University of Twente, The Netherlands.
- Jasni, A. L., & Hazman, S. A. (2002). ISO 9000 implementation and perceived organizational outcome: The case of a service organization. *Asian Academy of Management Journal*, 8(2), 91–107.
- Johnson, C.F. & Golomski, W. A. J. (1999). Quality concepts in education. *The TQM Magazine*, 11(6), 467-473.
- Juran, J.M. and Gryna, F.M. (1980). *Quality planning analysis*. Second edition. New York: McGraw-Hill.

- Kimani M (2008). The role of ISO certification in developing competitive advantage for organisations, Unpublished MBA Research Project University of Nairobi.
- Klaus, P. (1985). Quality Epiphenomenon: The Conceptual Understanding of Quality in Face-to-Face Service Encounters in Czepiel, J., Solomon, M. R., and Surprenant, C. F. (Eds). *The Service Encounter*, Lexington Books: Lexington.
- Lee, C.Y. (2004). TQM in small manufacturers: an exploratory study in China. *International Journal of Quality & Reliability Management*, 21(2), 2004:175-197
- Leedy, P.D. (1993). *Practical research planning and design*. New York: Macmillan.
- Leedy, P.D. (1997). *Practical research planning and design*. Ohio: Prentice Hall.
- Lewis, R.G. and Smith, D.H., (1994). *Total Quality in Higher Education*, St Lucie Press, FL.
- Lewis, G.L., Pun, K.F. & Lalla, T.R.M. (2005). Empirical investigation of the hard and soft criteria of TQM in ISO 9001 certified small and medium-sized enterprises. *International Journal of Quality & Reliability Management*, 23(8), 2006:964-985
- Linda, A.S.. (2005). Dissertation PhD : Performance appraisal within public safety, Boca Raton University Florida, USA



- Lipsky, M. (1980). *Street level bureaucracy: Dilemmas of the individual in public service*. Beverly Hills: Sage Publications
- Maxwell, J.A. (1996). *Qualitative research design: an interactive approach*. California: Sage.
- Melville, S. and Goddard, W. (1996). *Research methodology*. Kenwyn: Juta.
- Moreland, N. (1998). Quality and ISO 9000 in educational organisations. *Total Quality Management*, 6(2/3), 311–321.
- Maureen B, Nina B. ,(2009). Quality Management in Higher Education: A Review of International Issues and Practice, *The International Journal for Quality and Standards*, may, 2009 issue
- Namji M , Dennis F. Kehoe (2000) .The role of performance measurement systems in promoting quality development beyond ISO 9000. *TQM and Business excellence journal*, Vol 13, Issue 1, Vol 2, pg.159-172.
- Newton, J. (2000). Feeding the beast or improving quality? Academics' perceptions of quality assurance and quality. *Quality in Higher Education*, 6(2), 153–163

Nyambura H.(2007).Post ISO implementation review in petroleum firms. Unpublished  
MBA Research Project University of Nairobi.

Omer Faruk unal (1996). *Application of Total Quality Management in Higher  
Educational Institution*.WorldWideWeb:<http://www.qafqaz.edu.az/journal/>  
Application.

Owlia, M.S., Aspinwall (1996), "A framework for the dimensions of quality in higher  
education", *Quality Assurance in Education*, Vol. 4 No.2, pp.12-20.

Peter, J. (1999). Educational Accreditation through IS09000. *Quality Assurance in  
Education*, 7, 2, 85-89.

Parast, M.M. (2006). Dissertation PhD: The effect of Quality Management Practices on  
operational and business result in the petroleum industry in Iran, University  
ofNebraska, USA.

Pfeffer, N., Coote, A. (1991). *Is Quality Good For You?A Critical review of Quality  
Assurance in the Welfare Services*, Institute of Public Policy Research, London

Porter, M.E. (1985). *Competitive advantage: creating and sustaining superior  
performance*. New York: Free Press.

Pounder, J. (1999). Institutional Performance in Higher Education: is quality a relevant concept? *Quality Assurance in Education*, 7(3), 56-163.

Roffe, I.M. (1998). Conceptual problems of continuous quality improvement and innovation in higher education, *Quality Assurance in Education*, Vol. 6 No.2,pp.74-82

Ruben, B. D. (2004). *Pursuing excellence in higher education: Eight fundamental challenges*. San Francisco: Jossey-Bass.

Sangeeta Sahney and D.K. Banwe, (2004).“Conceptualizing total quality management in higher education” *The TQM Magazine*, Volume 16 Number 2pp. 145-159  
Emerald Group Publishing Limited ISSN 0954-478X

Sarantakos, S.( 1993). *Social research*. Australia: Macmillan

Singles, J., Ruel, G., & Van de water, H. (2000). IS09000 Series Certification and Performance. *International Journal of Quality & Reliability Management*, 18,1,62-74.

Smith, D. (2005). Business (not) as usual: crisis management, service recovery and the vulnerability of organisations. *Journal of Services Marketing*, 19(5),2005:309–320

Srikanthan, G., Dalrymple, J. (2003). "Developing alternative perspectives for quality in higher \education", *International Journal of Education Management*, Vol. 17 No.3, pp.126-36.

Stephens, P.R. (2000). Dissertation PhD, *Small business and high performance management practices*, University Cincinnati, USA.

Strauss, A. and Corbin, J. (1990). *Basics of qualitative research: grounded theory procedures and techniques*. California: Sage.

Suhaiza Zailani, Junaimah Jauhar & Rosly Othman (2004). A comparison between ISO-Certified and Non ISO-Certified Colleges on Service Quality in Higher Education: Students' Perception, *6th Annual Hawaii International Conference on Business*

Taylor, W.A., (1994). Organizational differences in ISO 9000 implementation practices. *International Journal of Quality & Reliability Management*, 12(7),1995:10-27

Tam, M. (2001). "Measuring quality and performance in higher education", *Quality in Higher Education*, Vol. 7 No.1, pp.47-54.

Tanui (2008). Quality management practices in Pharmaceutical firms in Kenya. Unpublished MBA Research Project University of Nairobi.

Thiongo (2007). Implementation of quality and environmental management systems as an integral part of Kenya's companies. Unpublished MBA Research Project University of Nairobi.

Tribus, M., (1993). SQuality management in education, *Journal of Quality and Participation*, Vol. 16 No. 1, , pp. 12-21. IJQRM 14,5


Versan, V. (2006). *ISO 9001: It's Role in ISO 9000:2008 Standards*. Available from: <http://search.unece.org>

Wiklund, H., Klefsjö, B., Wiklund, P.S.,Edvardsson, B. (2003). "Innovation and TQM in Swedish higher education institutions possibilities and pittingfalls", *The TQM Magazine*,Vol. 15 No.2, pp.99-107

Yeung L, Lee T, Chan Y (2003).Senior management perspective and ISO effectiveness, an empirical research. *International journal for production research*. Vol 41,Issue 3,Pg 545-569.

## APPENDICES

### APPENDIX 1: LETTER OF INTRODUCTION

  
**UNIVERSITY OF NAIROBI**  
**SCHOOL OF BUSINESS**  
**MBA PROGRAM - LOWER KABETE CAMPUS**

---

Telephone: 020-2059162  
Telegrams: "Varsity", Nairobi  
Telex: 22095 Varsity

P.O. Box 30197  
Nairobi, Kenya

---

DATE 08/10/2008

**TO WHOM IT MAY CONCERN**

The bearer of this letter OLUOCH KELLY JACK


Registration No: DG1/70703/2008

is a Master of Business Administration (MBA) student of the University of Nairobi.

He/she is required to submit as part of his/her coursework assessment a research project report on a management problem. We would like the students to do their projects on real problems affecting firms in Kenya. We would, therefore, appreciate if you assist him/her by allowing him/her to collect data in your organization for the research.

The results of the report will be used solely for academic purposes and a copy of the same will be availed to the interviewed organizations on request.

Thank you.

  
**DR. W.N. IRAKI**  
CO-ORDINATOR, MBA PROGRAM

**UNIVERSITY OF NAIROBI**  
**SCHOOL OF BUSINESS**  
**MBA OFFICE**  
**P. O. Box 30197**  
**NAIROBI**

## APPENDIX 2: QUESTIONNAIRE

### QUESTIONNAIRE FOR THE COLLEGE MANAGEMENT REPRESENTATIVE

#### SECTION A: Background Characteristics of the Institution

1. Name of the college.....
2. Number of departments.....
3. Number of lecturers.....
4. Number of non teaching staff.....

#### SECTION B: RELEVANCE OF ISO CERTIFICATION TO STRATEGIC PLAN

Indicate your response by showing the extent to which you agree with the following statements.

Key:

- |                |   |                   |   |
|----------------|---|-------------------|---|
| Strongly agree | 1 | Disagree          | 4 |
| Agree          | 2 | Strongly disagree | 5 |
| Neutral        | 3 |                   |   |

To what extent do you agree with the role of ISO 9001 certification in achieving the following? For option 4 and 5 kindly explain why?

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1.Vision					
2.Mission					
3.Proffesionalism					
4.Innovation					
5.Team work					
6.Recognition of student needs					
7.Integrity and ethics					
8.Responsible corporate citizenship					
9.quality training					
10.Competitive advantage					

**PART II: BENEFITS AND CHALLENGES OF IMPLEMENTATION OF ISO 9001**

**SECTION A: BENEFITS OF ISO 9001 CERTIFICATION**

Compared to pre-ISO certification, indicate the extent to which you agree with the following statements concerning benefits of implementation of post ISO 9001 certification For option 4 and 5 kindly explain why?

Key:

Strongly agree	1	Disagree	4
Agree	2	Strongly disagree	5
Neutral	3		

STATEMENT	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1.Certification leads to organised written collection of fundamental practices					
2.certification improves documentation and traceability					
3.certification improves customer’s confidence on services					
4.certification facilitates performance contracting					
5.certification improves institution’s competitiveness both locally and regionally					
6.Certification facilitates people involvement in processes					
7. Certification enhances quality inspection.					
8. Certification has improved customer satisfaction.					
9.Certification has improved communication within and out of the institution					
10. Certification has improved local and international approval of institution’s processes.					

Others, specify.....



**SECTION B: CHALLENGES IN ISO 9001 CERTIFICATION IMPLEMENTATION.**

Compared to pre-ISO certification, indicate the extent to which you agree with the following statements concerning challenges of implementation of post ISO 9001 certification. For option 4 and 5 kindly explain why?

Key:

Strongly agree	1	Disagree	4
Agree	2	Strongly disagree	5
Neutral	3		

STATEMENT	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1.The top management does not support implementation of ISO certification					
2.The staff do not understand existing processes and procedures					
3.There is no clear communication about objectives and rationale behind ISO 9001 implementation efforts					
4.There is lack of employees involvement in the implementation efforts					
5.there is lack of regular review and follow-up of implementation					
6.Bulky documentation replaces people involvement in implementation					
7. Internal audits are done in a biased atmosphere.					
8.Needs assessment was not done before implementation of ISO 9001 was effected					
9.Work processes are not complemented by ISO certification					
10.The registrar ,KEBS, does not understand s the business of KMTC					

Others, specify.....