Chapter-3

Research Methodology
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This chapter dealt with the research methodology which is used to seek answers to the research questions framed at the beginning of the chapter. Justifications for different research methods, the sampling techniques and the ethical consideration associated with the research methods have been explained. The next chapter discusses data collection and data analysis for different surveys.

Methodology is the systematic, theoretical analysis of the methods applied to a field of study. It comprises the theoretical analysis of the body of methods and principles associated with a branch of knowledge. Typically, it encompasses concepts such as paradigm, theoretical model, phases and quantitative or qualitative techniques.\(^1\)

A methodology does not set out to provide solutions - it is, therefore, not the same as a method. Instead, a methodology offers the theoretical underpinning for understanding which method, set of methods, or so-called “best practices” can be applied to specific case, for example, to calculating a specific result.

It has been defined also as follows:

1. "the analysis of the principles of methods, rules, and postulates employed by a discipline";\(^2\)
2. "the systematic study of methods that are, can be, or have been applied within a discipline";\(^2\)
3. "the study or description of methods".\(^3\)

The methodology is the general research strategy that outlines the way in which research is to be undertaken and, among other things, identifies the methods to be used in it. These methods, described in the methodology, define the means or modes of data collection or, sometimes, how a specific result is to be calculated.\(^4\) Methodology does not define specific methods, even
though much attention is given to the nature and kinds of processes to be followed in a particular procedure or to attain an objective.

When proper to a study of methodology, such processes constitute a constructive generic framework, and may therefore be broken down into sub-processes, combined, or their sequence changed.\[5\]

A paradigm is similar to a methodology in that it is also a constructive framework. In theoretical work, the development of paradigms satisfies most or all of the criteria for methodology.\[6\] An algorithm, like a paradigm, is also a type of constructive framework, meaning that the construction is a logical, rather than a physical, array of connected elements.

Any description of a means of calculation of a specific result is always a description of a method and never a description of a methodology. It is thus important to avoid using methodology as a synonym for method or body of methods. Doing this shifts it away from its true epistemological meaning and reduces it to being the procedure itself, or the set of tools, or the instruments that should have been its outcome. A methodology is the design process for carrying out research or the development of a procedure and is not in itself an instrument, or method, or procedure for doing things.

This chapter presents the research design used by the researchers in this study. It is presented in terms of population, sample and the sample selection, data gathering instrument, administration of the instrument and the data analysis process. This brief explanation provides a better understanding of the tabulated data that is discussed in the next chapter.

**Research Design**

This research would be of descriptive research. Casestudies methodology is used to study Higher Education Institute,

1. SMK Taman Sri Andalas in Malaysia
2. State Engineering University of Armenia (SEUA).
3. Total Quality Management in Higher EducationCase Study:Quality in Practice at University College of Borås
4. QUALITY MANAGEMENT PRACTICES IN KENYAN EDUCATIONAL INSTITUTIONS: THE CASE OF THE UNIVERSITY OF NAIROBI

5. STUDY ON INDIAN HIGHER EDUCATION: A TQM PERSPECTIVE

The details of the same are given below:

1. The stages of implementation carried out by SMK Taman Sri Andalas & SEUA serve as a guide for implementation of TQM in Higher Education Institutes. The researcher designated a questionnaire consisting of a set of questions, which will be divided into four chapters. In chapter A, the researcher will obtain demographic data of the sample. Chapter B is meant on leadership regarding responsibilities of a leader in implementing TQM in Colleges. In Chapter C touches on strategic planning that helps in implementing TQM in Colleges. Meanwhile, Chapter D will gather information about the beneficiary satisfaction (customer focus) towards their perspective on the quality service provided by Colleges.

Samples

The target population of this study is including a Colleges principal, teachers, admin staff and students. There are 50 respondents for this study. The sample for this study is selected by using stratified random sampling. Stratified sampling is a procedure used to obtain a greater degree of representativeness while decreasing probable sampling error. Stratified sample method is chosen to ensure an adequate number of respondents.

Instrumentation

The instrument that will be used to conduct this study is questionnaire of a five point likert scale which comprises of 34 questions in four major chapters.

Demographic Data

In chapter A, the questionnaire will investigate on the respondents demographic data. There are five questions will be asked in this chapter which is age, gender, current status (position), and level of education.
Leadership

In this chapter, the researcher will ask the respondents on their perspective on a leader’s responsibilities towards implementing TQM in Colleges in order to maintain colleges performance and education quality.

Strategic Planning

In chapter C investigates on strategic planning in implementing implement TQM in Colleges.

The beneficiary satisfaction

In chapter D seeks customers focus, customers here are teachers, admin staff and students and to examine relationship between the beneficiary satisfaction and quality service provided by Colleges

Basically, the questionnaire administered is meant not to burden the respondents since the respondents are known for their hectic schedule. The questionnaire is a straight forward task where respondents would only answer 34 questions that only take about 7 – 10 minutes to complete it.

Data Collection Method

Data collection is by the researcher at the respective Colleges. Each questionnaire will be attached with instructions that clearly explain the purposes of the study and the questionnaires will be returned to the researcher as expected. In addition, the respondents will be informed about the objective of completing the questionnaires, the confidentiality of their responses and that the data would only be utilized for the purpose of this study.

The Chi-square test is the most popular nonparametric test of significance in Management research. It is used to make comparisons between two or more nominal variables. Unlike the other test of significance, the chi-square is used to make comparisons between frequencies rather than between means scores. This test evaluates whether the difference between the
observed frequencies and the expected frequencies under the null hypothesis can be attributed to chance or actual population differences.

\[ \sum (O_{ij} - E_{ij})^2 / E_{ij} \]

**Data Analysis**

The data analysis will be conducted using SPSS to retrieve accurate number of respondents with respective answers that will be answered by respondents. ANOVA and T-tests also relevant to be used in this study as to identify whether there is differences opinions between respondents based on variable demographic factors. Besides that, pearson’s correlation will be used to see significant relationship between the beneficiary satisfaction and quality service provided by SMK Taman Sri Andalas.

This chapter will describe the research design that will be used in this study. It explains on the population, sample and sample selection, data gathering instrument, data collection method as well as the data analysis process. It is hoped that this chapter has provided a clearer picture on the tabulated data.

Stage 1 and stage 2 of this research involved surveys. All respondents to the surveys were assured that their identities would remain confidential. They were also informed that their participation was voluntary and that they were free to withdraw from the survey if they so desired at any time. They were also briefed about the purpose of the survey and why they were requested to participate in the survey. Thus the respondents were free from any stress on account of their participation in the survey.

Stage 3 of this research involves action research methodology. For this also, a team of co-action researchers was made at the institute of Management. They were made the co-researchers with their consent and with the consent of the head of the department.

Survey A was concerned with assessing the organisational practices and policies of Management. Through the open-ended question I, this survey attempted to understand what new policies/practices the organization should adopt in the new scenario of liberalisation and
globalisation. Question II to question VI of the survey sought respondent’s opinion on ‘what is’ and ‘what should be’ the Management’s core values, style of management, growth strategies, competitive strategies and changes in organisational structure / management system. Part ‘a’ of these questions sought the ‘what is’ status and part ‘b’ of these questions sought the ‘should be’ status.

The questionnaire was sent by post. Before sending the questionnaire, the respondents were spoken to in person or telephonically and the purpose of the survey was explained to them. After sending the questionnaire, all the possible respondents were also reminded telephonically. Out of 25 questionnaires sent, 20 responses were received which made the response rate very high. The high response rate was possibly because the researcher and the respondents were both railwaymen. Thus the respondents were able to relate to the research work done. However not all the respondents answered all the questions.

2. State Engineering University of Armenia (SEUA).

One of the most important goals of the state and society is to improve the quality of education. Higher education system in Armenia has an important role in achieving long-term and sustainable human capacity building: to prepare a new generation to be viable and responsive to the current business environment.

The main objective to address this goal is to establish an interface between the career interests of university graduates and the demands of the labor market. The Universities must be sure that provided education is in compliance with international and local labor market needs.

State Engineering University of Armenia (SEUA) needs intensive attention and rigorous efforts to develop strategic management frameworks that will help enhance education quality and prepare qualified specialists. The main reason for University strategy development is better relocation of resources. These essential resources will help administrators determine which programs and services are most efficient to the University mission.

The mentioned goal can be reached by using Deming’s 14 principles. The implementation of this principles at the SEUA means: to increase the power of human resource by motivation, to
foster an environment of full cooperation between academic staff, administrators, departments, partner companies, governments, and to be recognized through process improvement, teamwork, and innovation. Therefore the key dimensions can be identified as: process management, assessment of student’s needs, fact-based decision making (self-assessment results), benchmarking, continuous quality improvement and control. The process was started 20 years ago.

To restore and improve the quality of education the university needs to follow international standards. During the long-term collaboration between Cal Poly Pomona and SEUA, different courses were developed. This cooperation gave an exceptional opportunity for faculty and staff to update their knowledge: familiarization with innovative aspects in the field of management; and implementation of new pedagogies in knowledge distribution to the students.

Another important result was the established Students Career Centre with the help of which interface between the career interest of university graduates and the demands of the labour market was created in order to improve employment opportunities of graduates. Organized career days with involvement of industry leaders and students helped find out opportunities for future career development and upcoming job demands.

However University needs to improve all the basic factors of education process. In order to achieve this goal an Education Quality Control and Management (EQCM) division was established. The main activities of the ECQM are to:

- develop the concept and organizational scheme for the SEUA system of quality assessment and assurance;
- prepare and conduct an internal multiphase process for the self-evaluation of the departments’ activities;
- plan and implement measures to enhance the quality of the Faculties’ activities based on the results of internal quality assessment;
- improve the processes and systems for final evaluation of the learning outputs and teaching efficiency;
- provide transparency and publicity of the quality assessment results.
Internal assessment, also called self-assessment is designed to identify areas for improvement, to allow the University to develop strategies that will help Faculties enhance their education quality and prepare the University for External Audit.

The process of self-assessment was led by the Head of EQCM division and Deans of Departments. A working group was appointed to analyze the department’s activities including not only representatives from each chair, who were interested in enhancement of the education quality, but also the academic staff, administrative personnel, students, employers, as well as co-operation partners. Members of the working group met regularly, discussing the plans of the Self-assessment procedures, collecting and analyzing information required for the final report formulation.

Each member had a specific task to fulfill. Information was collected through communication, informal discussions and different questionnaires (Figure 1).
Figure 1: a) Students’ satisfaction from different aspects of teaching methods, b) Employer satisfaction from graduates.

All inputs were discussed at Faculty meetings. Separate discussions were carried out between the faculty and students, alumni, administrative staff and the employers in the market.

**Education Process Improvement Techniques**

By overcoming difficulties the Balanced Scorecard (BSC) Methodology can be used. The BSC is based on the TQM philosophy, emphasizing customer satisfaction, as well as providing information regarding processes and results for continuous improvement of the strategic performance and actions. It proposes useful solutions by presupposing a thorough analysis of
the processes and procedures used by the organisation. Each organisation, according to BSC, is divided into four parts (images or perspectives): Financial; Customer (students); Internal procedures (of the organisation); Learning and improvement (ability of constant training, aiming at continuous improvement and competitiveness). Thus, the educational organisation sets targets for each of these four perspectives, collects the evidences of interest in order to verify the performance and quality level by using questionnaires, databases etc.

In BSC it is important to define Key Performance Indicators (KPIs). In order to define KPIs to be used as measures in BSC we employ the Goal-Question-Metric (GQM) method. We present an example from the learning and improvement perspective:

**Goal**: Continuous improvement effectiveness of teaching and learning.

**Question**: What appropriate conditions are created?

**Metrics**:

1. Adequacy of academic plans to the requirements of state educational standards
2. Percent of lecturers with scientific degrees (candidate and doctor of science)
3. Average age of the academic staff
4. The number of published scientific articles per academic staff
5. The number of published teaching materials per academic staff
6. Trainings of academic staff
7. Percent of supported teaching materials and literatures
8. Percent of courses supported by electronic teaching materials
9. Percent of computers connected to internet
10. Number of students per computer used in educational process
11. Teaching (classroom) space per student
12. Adequacy of laboratory equipment to the requirements of subject program
13. Technology enabled classrooms
14. Practical placement availability
15. Adequacy of practical placement work to the requirements of state educational standards
16. Scientific Colleges traditions
17. Participation in the University’s research projects
18. Scientific grants
19. Research topics financed from state budget
20. Students average learning achievements
21. Percent of published articles by students
22. Postgraduate and Masters’ students participation in the University’s research projects
23. Adequacy of graduates knowledge and skills to the requirements of employers

Twenty-three KPIs were included in the self-assessment process which described different areas of the Departments activities. Additionally each Faculty used its own characteristics which described its professional field.

The BSC was applied to the education quality enhancement strategy unit at SEUA. It was used as a development tool for the enhancement and pilot implementation of the strategic plan of SEUA. Goal 2, Objective 2.4 of the strategic plan states: "Create necessary prerequisites and supportive mechanisms to improve the quality and effectiveness of teaching and learning". (Strategic plan, goal 2, objective 2.4)

Information about the scorecard was distributed to the Departments Quality Management (DQM) team along with the University's vision, mission and strategy. The team participants introduced their initial thoughts on scorecard measures during discussions on the University's strategic objectives. The team debated on each of the four key strategic areas and created an action plan. These steps helped focus attention on the opinions of students and other stakeholders(Figure 2).
Figure 2: A mapping of Critical Success Factors onto BSC perspectives impacting the improvement of teaching and learning
The EQCM Division management discussed the proposed scorecard and measures, set targets of improvement for each of the measures and started the implementation processes. Balanced scorecard measures were prepared for review by the EQCM division management at appropriate intervals.

Figure 2 visualises the critical success factors for achieving the strategic goal (participation in research) for the unit in terms of KPIs for each of the four perspectives of the BSC.

The QA centre has created the unified assessment scale for KPI values; has carried out comparison of indicators with KPIs approved in the SEUA strategic plan and has determined the average meaning of the self-assessment indicator expressed by units.

Below is an example of the Power Engineering Department self-assessment results. Figure 3 is a Kiviat diagram mapping all KPIs and their values. This is a visual way of revealing the strengths and weaknesses and hence helping focus the efforts towards improvements.

**Figure 3 Indicators for the assessment of the Department’s progress**

Effective implementation of the action plan of the Departments’ activities will give opportunity to enhance education quality.

**Action plan to resolve weaknesses**

- Promote enhancement of academic potential of the University and encourage high quality teaching.
- Disseminate new methods and technologies of teaching.
• Create and implement plan for recruitment and development of academic staff
• Develop procedures for faculty performance evaluation.
• Use the faculty assessment results as a basis in signing contracts, promotion and salary progress of faculty.
• Establish attractive salary conditions and benefits for recruitment of young faculty.
• Involve faculty in new training programs organized by Faculty Development Centre (FDC).
• Stimulate student’s learning achievements.
• Develop students’ satisfaction questionnaires for assessment different aspects of teaching methods.
• Active participation of SEUA Student Councils in education quality enhancement process.
• Improve practical skills of students and expand their industrial internships in partner organisations.
• Conduct an evaluation survey on employer satisfaction from graduates.
• Involve industrial partners in the curricula evaluation and renovation process.
• Create technology enabled classrooms.
• Renovate the outdated equipment of teaching labs throughout the University.

Figure 4 depicts the forecasted /expected achievements in 2010-2011 resulting from the action plan to resolve weaknesses. The forecasted results outlines where the Faculty intends to be in 2010-2011 facing challenges of the time and realising the available resources to become competitive in education area.

Figure 4 Forecasted / expected achievements in 2010-2011
The key positions and the report of this self-assessment were presented and approved at the meeting of the Council of university held in July, 2009. Summarising we can draw the following conclusions: based on the calculations carried out in the faculties and regional branches the average score of the self-assessment indicators only partially corresponds to determined norms. Each faculty must create an action plan to remedy weaknesses and procedures for improving the main indicators during the next two years (Figure 5).

Figure 5 Average score of self assessment indicators by unit for all Faculties

First row: 2008-2009 years results, second row: forecasted results for 2010-2011 years

A summary of the findings were presented at the Workshop held within the framework of the project “Internal Quality Assurance System in Armenian HEI’s” (TEMPUS-TACIS JEP No.27178-2006 “ARMQA”).

Total quality management (TQM) can be best defined as one of the key approaches towards realizing the goal of meeting customer satisfaction. According to Besterfield in 1995, “TQM defined as both a philosophy and a set of guiding principles that represents the foundation a continuously improving organization.” Moreover, he added that “management has to outline
the quality goals, quality policies and quality plans so that employees are constantly reminded that the customers, not the product, is the top priority.”

TQM has been adopted as management paradigm by many organizations. As everyone clearly aware of the whole process of TQM whereby formerly it was only applied in manufacturing sectors most likely into supply chain, automobile, machinery, factory, and transportation. Many people only accept and realize that TQM can be just effective in services from manufacturing and industrial sectors. However, nowadays the process of TQM that being practiced by the business worlds for many years has also been adapted and applied in education sector. This is due to the existence of TQM in the education sectors to help education institutions change from traditional to modern management and be more effective. Education institutions such as Colleges and universities should apply TQM as a management process to ensure more productive and achieve the current requirements. In order to overcome the economic, social and cultural needs of a flexible management structure and implementation of more modern management as the trend now known as flexibility, portability and the ability to take advantage of modern culture.

So therefore, the objective of this research is essentially; to identify the general principles requirements for the implementation of TQM in SMK Taman Sri Andalas, Klang. As TQM is a philosophy of organizations, improves organizational performance and administrative. Based on the philosophy of W. Edwards Deming in year 2000, TQM is a systematic approach to education reform. Deming’s work is not merely about productivity and quality control; it is a broad vision on the nature of organizations and how organizations should be changed. When educators look at TQM principles, they assume that the model applies only to profit-making organizations. Actually, TQM applies as well to corporations, service organizations, universities, and elementary and secondary Colleges.

Thus, this research supports educators in institutions to be aware of rapidly evolves and changes on Colleges’ tasks that day to day became difficult than before; so that it requires new development and methods for Colleges’ management system. So if that the case, this research is to pull in modern management approach for Colleges to adopt it. The concept of TQM is considered as one of modern management approach. Since before until now, there are still many Colleges carry out administrative traditional patterns on educational system.
The potential benefits of TQM in Colleges are very clear whereby TQM can help Colleges to provide better service to its primary customers; they are students and employers (Colleges principal, teachers and staff). The benefit is also as the continuous improvement focus of TQM is a fundamental way of fulfilling the accountability requirements common to educational reform. Despite of that, operating a no-fear TQM system with a focus on continuous growth and improvement offers more excitement and challenge to students and teachers than an only good-enough learning environment can provide.

According to past research by Ronald Fitzgerald in 2005, he highlighted that in a TQM Colleges, improvement teams and individuals (Colleges principal, teachers and staff) are constantly working on improving service to customers (students). The concept of a service being "good enough" is considered inadequate. He came out with several areas that should take into reflection in order to implement TQM in Colleges. There are 10 important areas; awareness and commitment for everyone, a clear mission, a systems planning approach, teaming replacing hierarchy, enabling and empowerment replacing fear, focus on mastery learning, management by measurement, development of student TQM skills, a humanistic and a brain compatible focus, and a transformation plan.

Generally, this research aims to highlight general principles and requirements of TQM and particularly point out how the approach can be used to improve the quality of SMK Taman Sri Andalas, Klang. It is also to analyze each of these requirements and how those fit in the Colleges that leads to upgrade performance of SMK Taman Sri Andalas, Klang.

Based on Jamal Ahmad’s study, published on early 2011, he stressed on, there are still many education institutions refuse to follow TQM process. They been trapped with organization’s traditions whereby the ways they work on education system is still in traditional way. Also, the author added in order to meet economic, social and cultural challenges require flexible organizational structures and an implementing trend of modern management approach characterized by flexibility, portability and the ability to take advantage of modern culture.

3. Total Quality Management in Higher Education Case Study: Quality in Practice at University College of Borás

As we know, TQM has been used primarily in the industry but there are some reasons that TQM should be applied in educational institutions. First, necessitate for change do not be
accepted by the institution most of the time. Second, is the hazard to the faculty’s individual autonomy therefore in TQM we need to have customer involvement and teamwork, Fisher (993, pp. 15-19). Finally, existing process will be improved by TQM. It cannot promote radical change Fisher(ibid); Marchese, (1993, pp. 10-13). When the applicability of TQM in education is accepted, the procedure of its process should be addressed. In fact, many institutions have reviewed the applicability of TQM in higher education and there are some proposed models to prove its applicability. J. Motwani and A. Kumar (1997, pp.131–35) have suggested five step model that they believe is applicable to every institution. This model has five phases: deciding, preparing, starting, expanding and evaluating.

TQM model proposed by J. Motwani and A. Kumar (ibid) is well defined and is clearly describing what should be taken into consideration for TQM implementation. However, by looking at these phases and going back to the Deming cycle we will find similarities between them. To us the founded similarities means that we can put the phases defined by TQM model into Deming cycle, then the new created model will have more efficiency. In fact, one may claim that Deming cycle is for continuous improvement and proposed TQM model is for improving the quality. Therefore, combination of this model and cycle with some changes will offer model for continuous improvement of the quality, even though TQM is about continuous improvement for quality by itself, see figure 13, next page. For this purpose, the phases defined by the TQM model will be set up in Deming cycle with some changes. The proposed model here will be a four-step cycle, which its components are as follow:

Plan step in Deming cycle is divided by two parts, first part is called Studying. This part is about doing a research of what TQM really is and top management should fully understand the concept, its objectives and they must accomplish their plan. The next part in plan step of this cycle is named preparing, and is about performing an internal assessment of the quality work and defining values, methodologies and tools. Furthermore, there must be some clearly defined objectives and visions.

In this section, the history of the university college of Borås and its foundation will be reviewed. In fact, before offering university level courses by this university, the school of weaving was established at Borås in 1866, however this school became the Textile Institute in 1948. Then, the west Sweden school of nursing was set up in 1940. In 1970 university level, Courses from Gutenberg University offered in Borås, and then the Swedish school of library
and information science was established in 1972. Finally, Högskolan IBorås, University of College Borås (UCB), was founded by 1977.

Currently, UCB has 11,500 students and 600 employees, and the Campus is located at the city center of Borås. This university is also recognized to be a modern university. This university is consisting of six different schools, which offers different programs including several multi-discipline programs. These diverse programs provide students with large employment opportunities on the current market. The University College of Borås’s schools are as follows:

- Library and Information Science
- Business and Informatics
- Fashion and Textiles
- Behavioral Sciences and Teacher Education
- Engineering
- Health Care and Caring Science

In addition, this university is consisting of two other center that are Library and Learning Resources, and Central Administration center. In the following parts, there will be a brief introduction of these schools and programs offered by them, University College of Borås (2007).

4.3 University College of Borås- Mission, Vision and Goals

In this section, there would be a review to the vision and overall objectives of this university college. A vision should be formulated well and should desired future state for the organization. In fact, a vision should be what an organization wants to be identified by, and is where they want to go. Furthermore, a well characteristics; it should be Visualizable, Desirable, Clear, Flexible, Communicative, and StableMaria Fredriksson (2007).

According to this introduction, the strongest vision for this university institution, is to become the University of Professions. To becoming a university instead of being University College;
in another word, having rights to postgraduate education in all areas represented is the purpose, the difference between university and University College. However operation with Business Enterprise and Public Administration. They express their vision as follow:“With knowledge in our hands for professionalism, UCB have a clear vision of creativeness in professional educational positioning which in coand the public sector carries out a high international quality and society

Furthermore, their strategy in this context is to develop a new type of university. However, if some asks about the goals of the University of Profession, is about the integration of knowledge based on practical experience with knowledge based on academic studies, and creating an arena for the development of new knowledge, University College of Borås (2007).Defining a vision for an organization is essential, and it will assist them to move towards their vision stronger. However, one may claim that visions are rather far and are not measurable sometimes, and they call them as long-term goals. Therefore, defining some short-term goals is needed for the organization as well, which in this context this university college has also defined some strategic goals or short-term goals; however, the researcher could not find these strategic goals in English.

4.4 Quality System at University College of Borås

Systematic effort in order to assure the quality in all kinds of operations at the University College of Borås has been going on since the beginning of 1990. The first version of the quality program was established 1992. The quality effort and the program lay-out at the university are shortly presented in this quality program which was established 1995. It is worth to mention that the quality effort has been a great concern for UCB’s board, namely the principal, prefects and other departments’ heads from the beginning. On the other words, the quality efforts have been an integrated program among the board’s missions.

The quality program, which the board of this university college established 1995, contains also long-term visions for the quality development within different units of the operations along with the ambitions which the university have for the quality development/improvement in a three year-perspective.

An evaluation of these improvements was implemented 1998 as the result of the board’s decision. The idea was that this evaluation would act as one of the start-points for the new
quality project for the period of 1999-2001. The scope of the project somehow changed due to the invitation of the National Agency of Higher Education for entering the first round of evaluation of the universities quality efforts.

To sum up, the quality effort at the university college of Borås starts with an overall framework that applies to the teaching methods. It comprises the central goals as well as the local presumed visions, intentions and aims e.g. the strategic plan that concerns a superior role towards the other frameworks in terms of quality. This concept in general is defined as Quality Effort that means:

“Simple expressions to systematically carry out the activities, to take all aspects of the activities under consideration and to create routines suited to the purpose. It also means that each co worker is aware of his/her own importance/significance in the common strives towards a high quality of the main task, which the teaching method has namely education and research.”

It is worth to mention that there is a tool named: Policy för kvalitetsarbete vid Högskolan i Borås/Policy for quality efforts at the university college of Borås as guidance and working tool. Responsibility for development and follow-up of the university college’s quality assurance system is among UCB board’s tasks. There is an organisation consisting one quality council, four committees and the principal as a chairman as a support to the overall quality at the university. In addition, there is also a quality coordinator for the overall quality efforts in terms of teaching methods and positioning along with the coordinator/head of the unit in order to evaluate the committees responsibility area. This coordinator, quality council and its consisting committees’ mission is to coordinate and initiate development efforts assigned from the principal so to speak. The current follow-up task is being carried out by the different functions of the administration office. However, each institution and division is prepared based on its own evaluations and its specific action plans for quality efforts as a part of the activity plan, which is being performed in advance to each year. The person who is responsible for this matter is the prefects and head of the divisions.

There is also a Centre for Learning and Teaching Method (CLU) in order to contribute to a good quality and development of the pedagogical activities within the teaching methods/positioning at this university college, University College of Borås (2006).
4.5 Investigation

This section is about the investigation that has been done by the researchers and their findings about the quality work at the University College of Borås. It has been discussed in the last section that quality work at this university is in the frame of concept named as Quality Effort. Although, different department, divisions, and board of directors are responsible for the quality improvement in this institution, Quality Council and its consisting committees and Quality Coordinator are specifically working and involving the quality work when it comes to setting goals, implementing and proposing improvement systems, and evaluation and assessment of the quality work. Each of these committees and council or quality coordinator are working with different quality issues. In fact, in order to find out where the quality work at this university stands today and what are recommendations for possible improvement in quality work, the authors have to start from this council and its committees and the quality coordinator. Therefore, the researchers decided to interview with the chairman of this council and also the chairman of all committees. Though, it has been discussed that this is the delimitation of this project that there is no possibility for doing more interview with more people involved the quality work, and this is due to lack of time/credit. Since, selected interviewees are the chairman of each committee or quality council, and they appointed in the top position of their related council and committees, the validity of information’s collected by the researchers has been increased. Nevertheless, in the following sections collected data from both documents and interviews related to these committees’ tasks regarding to the quality work of this university will be discussed.

4.5.1 Quality Council

In the interview to the chairman of quality council the following questions has been discussed. Accordingly, the answers given by interviewee have been recorded.

1. What are the strategic goals of this university college?

Answer: in fact, this university has defined 18 strategic goals and above all of these goals the aim is to become a university of profession instead of being identified as a university college. Another way of expressing this overall objective is that this university college is willing to keep its autonomy in research education, which is the distinction between universities and university colleges.
2. What are the approaches of the university college to reach these goals?

Answer: we have set up a plan of action in order to achieve our objectives for a period of 2007-2009. As a part of this action plan, there is an investigation about allocating resources in order to develop strong disciplines in specific areas of studying. For instance, they are trying to develop strong disciplines in seven or eight areas, where they can have right to exam for research education in PhD level. In this context, we must try to put our resources in right areas of study where we can develop and have strong discipline. Moreover, we would like to improve our procedures and methods in these areas. However, this is the government, which makes final decision in this context. In addition, they are trying to develop new research profiles that two of these research profiles are Library and Information Science, and Textile. Despite of the fact that there are good operations, and internal resources in research activities, still it is necessary to put more resources in those research profiles.

3. How far is this institution from these goals? (What are the barriers?)

Answer: one of the barriers is that they have to prove high quality in education. In fact, it is not only a question of high quality in specific discipline or profile; it is also about the quality in all areas. However, if things turn out in the way which university is willing, reaching to these objectives is not so far, and there would be the possibility for them to exam for PhD research education in 2010-2011.

4. What are the main concerns with quality council, and what are the main tasks of this council?

Answer: the quality council has developed a quality policy for this university college. The purpose with quality council is to guarantee the quality in all kind of operations of this university, including education, processes, research processes and in administration processes. In fact, they prepare documents regarding how to plan and evaluate the education, how to plan for research proposals, and how administration is working with processes. In addition, the quality council will evaluate the quality work and decisions made by boards of directors and other divisions, in the context of quality, from another perspective, which is very important. However, the committee for evaluation and self-assessment is responsible for this task.
5. What does Quality Effort mean and how does it work?

Answer: this concept is defined in order to address the concept of quality matters in all kind of questions. In fact, this concept has defined to prepare the university for the evaluation is going to be done by National Agency for Higher Education in coming year, probably.

6. Does this university college have any quality improvement team, how does it work, what are the main tasks of this team, if there is any?

Answer: however, there is no special quality improvement teams, the chairman of all committees are joint together and make a team to address quality questions in all areas and suggest quality improvement approaches. In addition, when it comes to the quality issues in different departments each of them are working in rather different ways to improve their quality, and it is the consequences of de-centralization. For instance, there is quality improvement team in school of Engineering, while the school of library and information science is working in another way.

7. How can this university college be more students orientated?

Answer: we hope that we are student orientated; however, we are trying to develop our services to students and expand our relation with students. In addition, there is a question of the relation between students, teachers, and staffs, which is about daily activity and meeting between students and employees. This relationship between students and employees is very important to us, because if it is not working well then there would be problem.

8. How is this university college in cooperation with trade and industry world?

Answer: since, there are some middle size companies in Borås, we have to prove that we have interesting areas of research and we have prepared well-educated student that they can rely on them and employ them. In fact, we are trying to find more contacts with trade and industry, and in some special disciplines, we are more successful because of our good reputation, like in textile industry.

9. How can administration be made more effective and responsive while avoiding or reversing staff expansion (use its resources efficiently)?
Answer: in fact, we have started to define processes and procedures that can make our administration more efficient. In my opinion, we have an efficient administration, however things can be done better and we can improve our efficiency all the time.

10. What is the definition of quality in higher education?

Answer: In my opinion, the quality of higher education is a matter of well-educated and inspiring teachers, and is a matter of improving the efficiency of the teaching methods, hours spending in classes etc.

11. For whom is this university college working?

Answer: we are active and working for students, in fact without students there is no university college. However, employees are also important for this university to take care of them.

12. What are best ways of measuring the quality improvement of higher education?

Answer: student satisfaction is one important factor to measure the quality improvement. The number of employed students after graduation, the rate of employment, is another way of measuring the improvement, because it shows that we have educated our students well. In addition, we can see the effect of improvements in the number of applicants. In fact, the quality council is consisting of four committee in order to support and advice the council. In the following parts, there will be an overview to these committees and their tasks regarding to quality work.

4.5.2 Committee for Sustainable Development

In fact, this committee is responsible for improving the quality issues related to Sustainable Development. However, there are a few definitions for Sustainable Development one that has been used by different authors is “Sustainable Development is development that meets the needs of the present generation, without com-promising the ability of future generations to meet their own needs”, WCED (1987). University College of Borås is defining SD as “ SD is of kind that would satisfies the current need without causing any risk in terms of creating obstacles to satisfy the needs of the next generations to come.
In fact, nowadays most organizations are looking for ways which they can improve their performance in terms of sustainability. Accordingly, a committee with the mission to contribute to SD was assigned by this university college. The committee for sustainable development at UCB aims to conduct the activities of the university in a sustainable manner. Not only have they persisted to reach sustainable development objectives, but also they want to be certified by International Organization for Standardization, ISO 14000. However, the committee for SD was not active for a while they have established the policy for SD at UCB in spring 2005. In addition, in order to reach SD objectives and to be certified by ISO14000, this university has started to use a tool called “Environmental Management System”. This tool will assist the university college to contribute to a durable/lasting development while striving after fulfilling the national environment quality goals, which are:

• Environmental drift growth and welfare

• An appropriate well-being of the future most important resources

• Children-and youth policy for an aging society

The committee for SD has some defined tasks, which are:

• Prepare the missions to the quality council

• Initiate the missions to the quality council

• Initiate suggestions as possible solutions within the committee’s responsibility area

• Responsibility for bringing about and updating the policy documents for the committees responsibility area.

This committee has started to work a few years ago; however, they were not so active for awhile. The chairman of committee for sustainable development has been appointed a few months ago. In the interview to the chairman of this committee the following questions has been discussed. Accordingly, the answers given by interviewee have been recorded.

1. How does UCB conduct its activities to reach sustainable development?
Answer: we are working in direction to set up an environmental system, which is also related to our objective of being certified by ISO 14000. In order to reach this objective there are people in each department who are responsible for environmental issues, and they have received resources that they need. In fact, each department has a twenty percent full time job to work on environmental issues. All the departments’ representatives together with committee for SD will work to create an environmental system. In addition, we are trying to take into consideration SD in our course plans and program design, since there are some regulations, which say that all the universities must address SD in their education and in all levels and areas. The ambition for this university in this context is that every student graduated here must know how SD is related to his education. In fact, there is a board called FOU, which are looking to all the course plans and program design to assign SDs’ issues on them, and they will follow up the results of possible changes. In a long time perspective, the committee for SD shall look at the work done within the area. The main task will then be to look at SD with a quality perspective.

2. How far is this university college from sustainable development objectives? (What are the barriers?)

Answer: there would be some barriers and discussions about how sustainable development should be part of the education and course plans, and this is due to the need for some extra work for departments. In fact, all departments shall redesign their course plans. Furthermore, regarding different departments there would be different questions that shall be solved. However, some departments have started to work towards this objective actively like school of engineering, but things can be always be better and we can improve continuously. In addition, there should be some changes in the ways we act or behave, if we are going to be certified by ISO 14000.

3. How sustainable development can assist this university college in order to improve the quality of its higher education?

Answer: since SD is part of the society and nowadays everybody should be involved on this. Taking into consideration SD to the course plans will affect the quality of education. In addition, the idea here is that if we are going to be certified we shall try all the time to improve in special issues, continuous improvement. Continuous improvement is a part of the thoughts within the framework of ISO 14001. If we decide to follow up ISO 14001, we need
to work with continuous improvements. Therefore, SDis part of the quality work of this university college.

4. What is the definition of quality in higher education?

Answer: a good education should educate students where after graduation they can start a good career. In another words, good education has been defined according to the demands of the society, authorities, regulations and Swedish National Agency for Higher Education. Universities and University colleges are also responsible for creating educations according to results from research etc.

5. For whom is this university college working?

Answer: students are mainly in focus, however we try to provide good environment for our employees as well, and take care of them as well. This will encourage our employees to improve their own knowledge related to their tasks, which will affect to their relation with students as well. Since the university is part of the society and we are living to this environment, both society and environment are also important stakeholders for us.

4.5.3 Committee for Equality and multiplicity

This committee is dealing with quality issues regarding equality and multiplicity. In fact, Equality, diversity and equal handling are concern for University Collage of Borås. Confrontation between people with different backgrounds and different experiences gives rise to a diversity thought, beliefs, ideas and the interaction between people, which is enlightening and developing. The overall objectives of this committee are to treat the employees and students with respect, and in fact, all assessments of each work and study efforts shall be treated with an objective/impartial view. However, one of the primary tasks of this committee is to help and propose short-term goals and strategic plans according to the university’s visions. The advanced plan defined by this committee is also to fight against discriminating, harassment of any kind. In fact, there are some governmental laws and local guidance principles which university has taken into consideration in order to move towards this plan. Local guidance principles:

• Planning for equality and diversity concerning employees at the University College of Borås
• Plan of action regarding the accessibility/approachability at the University College of Borås

• Plan of action for equality and diversity concerning employees at the University College of Borås

• Plan of action for equality in treatment of the students at the University College of Borås

• Questions and answers regarding equality on treatment

• Registration form in case of harassment/discrimination

In addition to some laws and guidance principles, this committee has specified its visions for long-term goals so to speak in two categories, equality and diversity regarding to the employees and students. There will be an overview to these visions as well here.

**Equality and multiplicity for employees:**

Focus on competence and diversity shall prevail on our new recruitment. This university strives to have groups of personnel, which are not homogeneous, i.e. not a group of only men or only women, not only within a specific age etc. Suitable knowledge and competence shall be assessed in accordance to the related tasks while recruiting. They believe that all people with relevant competence shall be able to have the same opportunities to perform in terms of promoting to the higher position. In fact, all co-workers shall be evaluated and taken care of at this university college. However, evaluating employees positively and looking them as resources, would lead to a fact that the whole organization would develop in general and detailed terms. Therefore, UCB evaluate employees’ competence, looks out for their knowledge/experiences and their further improvement. Discriminating and harassment shall be resisted and fought against no matter if they are regulated in law or not. They believe on zero-tolerance when it comes to discrimination and harassment. This committee strives to increase the awareness of importance of equality and diversity in such a structural way. To them equality and diversity shall be integrated in all processes within our organizations and activities and permeates in all processes in the organization. It is of crucial importance that the matter of equality and diversity becomes a part of the teaching method’s structural capital.

**Equality and Multiplicity for Students:**
The university college of Borås strives to make groups of students with irrespective of sex, background, culture, ethnicity, belonging, religion or any other beliefs, age, sexual disposition, functional disability and partly after equalizing the imbalance division of certain educations/programs as well as the ethnicity. In fact, they try to have a wide recruitment within all programs, and they are looking, evaluating and taking care of Students’ differences. By evaluating individuals’ differences positively and by considering them as potential resources in our learning organization, the diversity, experiences, knowledge, thought and ideas would contribute to a significant development of the organization.

Everybody shall be aware of questions and wonderings that concerns diversity and equality at the university college of Borås and the society. Students shall be given the opportunity to acquire knowledge, understanding and insight regarding equality and diversity. In addition, the following questions has been addressed in interview with the chairman of this committee. Accordingly, the answers given by the respondent has recorded.

1. What are the strategic goals of this university college?

Answer: the strongest vision for this university college is to become a university of profession. This professionalism should be taken into consideration in all levels, from university level down into department level, program level, and all issues. For instance, there is learning and teaching center at this university, which they work with pedagogical educational development. In fact, they educate staffs and teachers and teach them different teaching and learning method sand procedures. This center is putting many efforts to discuss how they can use certain aspects as part of part of professionalism. However, this vision is rather far and not measurable so to speak. The university college of Borås has defined some other short-term goals that are achievable and there are some measures to see how far we are from our goals. For example, as a short-term goal we would like to have widening participation. This means that students with divers’ background, even those without academic background, from different nationality and by different languages shall have the possibility to be educated or continue their education at this university. This widening participation should be looked at for employees as well.

2. What are the approaches of this institution to reach these goals?
Answer: When it comes to professionalization, we invite some experts from outside of the university either from other universities or from industry. They will have lectures, seminars, workshops and so on in this context. They will educate us in all levels to know how as a university of profession we shall act. In addition, as it has mentioned there is learning and teaching center at this university, which they work with pedagogical educational development. In fact, they educate staffs and teachers and teach them different teaching and learning methods and procedures, and prepare them for professionalism. That is the reason why many of the teachers and lecturers here are aware of this vision defined by the university.

However, when it comes to widening participation the university will recruit both students and employees based on their relevant qualifications. There are some programs running in order to take into consideration students without academic backgrounds. Moreover, being rather a small university may lead to attracting students who do not know whether they are fitted for academic studies or not.

3. How far is this university college from those goals? (What are the main barriers?)

Answer: answer to this question may be rather not a good idea, since some goals have not been defined well enough or they have not been defined quantitatively. For instance, becoming university of profession is almost relevant and we may not be able to measure that when we are there. However, one barrier in this context is about defining the academia and profession. Academia tome is about innovation, working in a systematic way and at the same time, the profession is not always about innovation and in profession, each branch has its own logic. In fact, I feel we did not get quite enough the knowledge that profession has, and we are trying to use the same logic as we use in academia, which might not be a right way to go.

On the other hand, when it comes to recruitment I do not see special barrier and we have been successful almost to move towards our objective.

4. What are the main tasks of the Committee of Equality and Multiplicity?

Answer: our main task is to prepare questions for quality council, and we prepare documents including plan of actions and strategic goals. Plan of actions are activities that university must consider and try to act them out in the coming year. We also are partly involved in defining
some short-term goals, which are achievable in a shorter period of time than visions. In this context, we have enough knowledge and we employ some experts that assist us. However, we are not responsible for implementation of those defined actions, although there are some actions that can be done by this committee. In fact, we are advising committee.

5. What are the goals of the Committee of Equality and Multiplicity?

Answer: the ambition for this committee is to make everyone at this university aware of the importance of the issues regarding to equality and multiplicity. We think that actions are coming from awareness. In order to reach this objective we plan to set up some seminars and lectures to teach our staffs the importance of equality and multiplicity. We have been successful in this context.

6. What does the centre of learning and teaching do? How does the centre of learning and teaching work for improving the quality of learning and teaching methods?

Answer: this center is working with pedagogical educational development. Their task is to teach staffs about teaching and learning methods. There are some courses offered by this center that are obligatory for getting post here, and some seminars and lectures are also assigned by this center. In addition, this center is working as a consultant, which others can get help from us regarding pedagogical issues. They go to different departments to provide knowledge about specific questions like evaluation systems, and Bologna process etc. This center also assists teachers who want to offer distance courses, and they are responsible for teaching and learning platforms. In fact, this center together with the committee for equality and multiplicity are working as a unit to improve the quality of education in issues like teaching, learning, and equality in recruitment.

4.5.4 Committee for Evaluation and Self-Assessment

This committee is responsible for evaluation and assessment of the quality work of this university college. In the interview to the chairman of this committee the following questions has been discussed. Accordingly, the answers given by interviewee have been recorded.

1. What are the strategic goals of this university college?
Answer: however, some times the strategic goals defined by university are rather vague; all of them have been classified in the direction of our vision, university of profession. Some of these strategic goals are as follows:

Profile and cooperation within the university and also the region should be taken into consideration.

• We shall develop our research area within proficiency, or be profession research orientated so to speak. We shall not only be academic institution; instead, we shall cooperate with professional experts to develop our institution towards the objectives of professionalization.

• The term of profession should be considered in all of the aspects of this university. In fact, we need to have a professional discipline in all levels.

• We shall define our research area based on the needs of society and industry. For instance, we (in school of Textile) have defined a research profile in smart materials Textiles, which is needed for this region and Swedish textile industry.

• We need to develop suitable pedagogic in our education.

2. What are the approaches of the university college to reach these goals?

Answer: regarding developing the research profile this university has defined a board of director ,FOU. In fact, identifying special boards for different issues is the way that university works. As another example, there is a board or center for learning and teaching, which is working with the pedagogical development of education.

3. How far is this university college from those goals? (What are the main barriers?)

Answer: in fact, within different defined goals the university is standing in different levels. For instance, in developing research profile, we have been working well enough, and in pedagogical development, we have been successful, however there are real potential for more improvement. One of the barriers for development and improvement in this university is about communication and information in the sense of quality. In fact, the concept of quality, which is about continuous improvement, may not been fully understood by those involved in the quality work. However, there are much information and many documents how we shall
improve regarding different issues and, but not everyone is working according to those documents.

4. What are the main tasks of the Self-assessment and Evaluation Committee, and how does it work?

Answer: first, we shall act as a support to the quality council and accept assignments from them. This year we got three assignments from them, one doing an evaluation of what quality work at this university stands today, the next one is to plan for quality audit for the coming year. Another assignment we got is about the optimization of the policies appointed by the university and also redefining the strategic goals more specific. For doing these assignments we have different procedures. For instance, for optimization of the policies the quality coordinator and our group will work together in meetings and within some discussions we will define what to do and what information should be clarified. Then we will discuss it with quality council to make changes needed and finally they will approve it. For quality audit, we have defined a questionnaire in a quality audit manner, from which we will have a session/meeting the 29/5-2008 with people (3-6 persons) involved from every department at the university college. They will sit in groups and answer the questions according to how well implemented the different Quality aspects are in their own department. Within these questions we will try to find out how far are they from defined objectives and strategic goals defined by the university college and themselves and how do they work, or do they work or just is about some existing documents.

Finally, for the evaluation of the quality work, which this thesis is part of that, we will try to go through different committees and responsible people for quality issues and within questionnaires and interviews we will try to find where we stands today in different issues regarding quality.

5. Why does the university college assess the quality work?

Answer: in fact, we shall assess our quality work to find out if we are working well enough or we are working as we can. Furthermore, this assessment will bring new thought and reveal problems, if there is any, in this context. However, the main reason for assessing our quality work is that Hogskoleverket, the board of directors for reviewing the educational system in Sweden, has asked every university and university college to work with quality. In another
word, working with quality is a requirement for every institution. Therefore, before that this board will come and evaluate our quality work we must know by ourselves where we are in this context.

6. Who are assessing the quality work, except the self-assessment and evaluation committee?

Answer: as it has mentioned before, Hogskelevercet will assess our work. We have some student representative in our assessment work, which they assist us to find out how we are working within quality issues in practice. However, we could have the opportunity to be assessed by some external audits such as ISO9000, and it will bring many profits for us such as working with processes. In addition, we would like to involve students more in this context.

7. How often do they try to do the assessment of the quality work in this university college?

Answer: earlier the evaluation was performed each two or three year, however nowadays we do the assessment within each year. In my opinion, it is a good start and this will lead to bringing some new thought in this context.

8. Is this institution co-operating with quality assurances and accreditation agencies? If possible, please name and explain to what extent they co-operate?

Answer: in fact, the only cooperation we have is about ISO 14000 for environmental issues and the objective is to be certified in the future but today it is “only” a statement from management. This means that we will start working for an implementation, but it is not yet clear when this objective should be fulfilled, and we do not have other kind of cooperation with quality assurances and accreditation agencies.

9. How do they measure the quality improvement in this university college? (By satisfied stakeholders, by benchmarking, by the number of educated students, by the number of applicants, by the number of publications, is it qualitative or quantitative, etc.)

Answer: however, we try to measure our improvement by different factors, but the most common ones are the number of applicant and educated students. In addition, we are looking to the number of students who are employed after their graduations. Sometimes we also consider the number of our publications as a measure of improvement in research.
10. What is the definition of quality in higher education?

Answer: quality of higher education in my opinion is a matter of satisfying different stakeholders, and is also a matter of mutual cooperation between departments and institutions in a fair competition environment. It will also be about how we educate our students.

11. How far is this university college from desired quality? (What are the main barriers?)

Answer: however, there are many documents regarding quality issues in this university college, but when it comes to practice it is hard for some to work towards quality improvement and some see it time consuming. Therefore, take into consideration these notes and considering above definition, we can work better in this context.

12. For whom is this university working? Are the customers of this institution only students or do they include employees, industry, society, and environment as well?

Answer: this institution is mainly working for its students, and we think that the existence of this institution is because of the students.

13. What kind of assessment would you prefer to use in the quality work, why? (Selfassessment, external audit, benchmarking, etc)

Answer: in my opinion, the assessment of the quality work should be a combination of internal evaluation and some external audit and assessment as well. Furthermore, benchmarking is an important tool for assessment as well. Finally, there were some questions regarding to management system view of TQM. In these questions, the interviewers tried to find out if this approach is applicable or is well suited for this university or not. The respondent found this approach interesting for implementation, and she adds that it might be applicable as well. In addition, she has identified some values, methodologies, and tools, which in her opinion can be taken into consideration for this university.

4.5.5 Internationalisation Committee

In fact, this committee is responsible for dealing with quality issues regarding internationalization. Internationalization is of vital importance for the university college of Borås according to the university’s strategic plans. The future students shall be educated in
such a way to be well prepared for the global employment opportunities. It demands an increasing co-operation with foreign universities and international organisations.

This is considered to be of high value for both employees and students through the experiences gained by this co-operation. Furthermore, the universities’ international ranking would be strengthened which is to be considered as a measure of teaching method/positioning quality. University’s international co-ordinator is appointed to those who work strategically as well as operatively with the university’s international exchange program, but the internationalization effort is more that what mentioned above. All departments and divisions has the mission to increase the international contacts/network and international exchanges e.g. all mater programs are to be taught in English and all syllabuses are to be in English according to the strategic plan of the University College of Borås irrespective of which language the course/program is being taught. Reaching this goal demands quality securing routines that can support the common quality effort at University College of Borås. As a part of the school’s quality and exchange of foreign contact, is the fact that the quality committee has replaced by international committee of foreign contacts.

**The committee’s tasks are to:**

- Prepare the missions to the quality council
- Initiate the missions to the quality council
- Initiate suggestions as possible solutions within the committee’s responsibility area
- Responsibility for bringing about and updating the policy documents for the committees responsibility area.

However, the researchers have tried to set an appointment for interview with the chairman of this committee, they could not succeed, and after a while due to lack of time they put by from interview with him/her.

**4.5.6 Quality Coordinator**

Quality Coordinator at this university college is under the direct supervision of the principal. His/her task is to create an insight of the quality assuring and quality development at UCB
through the direct consultancy of the principal. He/she has some other defined tasks, which are:

• Gathering and spreading the information about the terms of reference of the quality efforts

• Reviewing and harmonizing the guidance principles which rule the operation at UCB

• Contributing to the implementation of the current guidance principles

• Initiating solutions that promote the quality efforts at UCB

• Acting as an administrator in the university’s requests for quality assurance in terms of teaching methods and positioning

• Acting as a secretary in the quality committee

In fact, quality coordinator must be always aware of what is going to happen next, and she is in front in working for quality. In interview with the quality coordinator following questions has been asked and answers given by her have been recorded accordingly:

1. What are the strategic goals of this university college?

Answer: The idea of activity is to be a profession university college that in cooperation with the economic and industrial life and the public sector manages education and research with high international quality and with great public relevance. UCB will characterize of nearness between

academic and practice and a systematic cooperation work with all partners. The devise for UCB is “science for profession”. If the teachers at UCB respect those goals and work in the direction of these goals, they also will reach the objectives. In the Strategy for education and research for UCB, you can find eighteen strategies that can be conclude under those four:

• UCB shall be an arena for the students’ interests and the working life’s needs.

• UCB shall be an arena for research among specific profession areas.

• UCB shall be an arena for change of competences, cooperation and regional development.
• UCB shall be an arena for increased multiplicity in the Swedish education system.

2. Do you think they have defined their goals SMART (Specific, Measurable, Accepted, Reasonable, Time set)?

Answer: I don’t think that the goals have been formulated out of SMART though the strategic goals are in the direction of the vision. It is even so that not all of UCB’s goals are specific and measurable but we can see some of them as defined out of thoughts of SMART.

3. What are the approaches of the university college to reach these goals? Do they have special methodologies to reach their goals?

Answer: all departments do cooperate with professions, for example, students of teaching go to schools and nursery students go to hospitals during education period to work practically. There are persons from the professions that take place in the board of decision making and counselling, to be correct, two in each board. Persons from the professions do also teach at UCB, some of them do come each semester and some of them come just once a year.

4. How far is this institution from these goals? What are the barriers for them to reach their goals?

Answer: The university college has not done any formal evaluation of effectiveness but my opinion is that some of the departments have already reached them. They have a good cooperation and students are satisfied with education but. In other parts they have not taken all those steps. In this case, the university has to work more. Here the university college has to make more to reach the goals. To become a university with permission to examine on doctors level is still a target for all of us.

5. What are the quality plans defined by this institution?

Answer: Except the intentions in the comprehensive vision and the strategies you find the plans in “Policy for quality assurance at UCB” that tell us that the university colleges quality work. shall be integrated with all activities

b. characterize of an ongoing improving work in all levels and within all processes

c. be pervade by transparence
To add there is an organization that support such work for example that there are routines for the systematic quality assurance work.

6. What are the approaches defined by this university college in order to improve its quality? Do they have a systematic improvement approach?

Answer: The Council of quality management does every year an inventory of the quality assurance work at UCB. Next time it will take place in two weeks. Then groups of 3 to 4 persons from each department come together and, out of a questionnaire, they value their quality assurance work. In that inventory, they ask these questions: Where are we now? Where will we be in the future? When will we be there? Then, they do self-assessment each third year for each department. This routine is for all the departments not just for each program or each course.

7. How does this institution measure its quality improvement?

Answer: The board of research and education quality has some new routines for measuring quality in courses and in programs. Then there are evaluation from the Swedish National Agency for Higher Education’s each sixth year. That is for all the programs, all the subjects, and even for the evaluation and quality system. UCB also do alumni evaluation each third year. Moreover, each department makes course evaluation and program evaluation. Every course shall be evaluated and UCB have a policy for this, which says that student shall have feedback from it every time.

The number of applicant and graduated students are a sort of quality measurements. Also they consider the number of publications by the university as another measurement.

8. What is the definition of quality in higher education?

Answer: quality in higher education is

a. When students get the education, they expect.

b. When the industrial and economical world and the public sector get the employers they expect.

c. When this is worked out in a democratic way where all participants feel participation.
9. How far is this university college from desired quality defined by you?

Answer: Parts of the university college have already reached the parts of the desired quality. For instance, the university has many competent teachers, several education programs with good quality and even unique.

10. For whom is this university college working? Are they working only for their students or do they consider employees, industry, society, and environment as well?

Answer: Of course, the students always are in the centre. In fact, all of the employees are here for educating and satisfying students and if they shall do that with good quality the employees must be secure and feel good with their situation. However, UCB works for becoming a university of profession all other stakeholders also always are in focus.

11. What is valued by this university in your opinion?

Answer: • Cooperate with the professions,

• Do research together with the professions,

• Cooperate with other universities in other countries – teacher and student exchange,

• Make the student pass their exam (economic perspective).

12. You have clarified some values for this university, how do they approach to these values (Do you have any special program to reach these values)?

Answer: Quite good question I think. I think the Bologna process can be an example on such a program. UCB’s unit Center for introduction and validation with “Invandrarakademin” is another example. All the research that already has been done at UCB and also the recruit of students in other countries are more examples.

13. What kind of tools do you think have been used or can be used by this university college?

Answer: I will not say that UCB consciously use TQM or SIQ’s values but the intention of those tools are expected. The tools UCB uses are worked out of The Swedish National
Agency for Higher Education’s instructions and also from ENQAs Standard and Guidelines for Quality Assurance in the European Higher Education Area.

5. Analysis and discussion

The concept of quality and its related notions like Total Quality Management has been elaborated so forth in this project. In addition, there was an investigation about the quality work at this university college and how they work within different quality issues, however some problems were found as a result of this investigation. Now it is time to analyze problems found and give some recommendations in order to improve the quality system and work of this university. In fact, it has been discussed that overall objective of this project is to highlight the general principles of TQM involved and to point out how this approach has been and can be used to improve the quality of an academic institution. Therefore, the researchers have tried to compare the quality work of this university college to the general principles of TQM, from definition to the implementation.

5.1 Analysis

University College of Borås has defined its strongest vision to become a university of profession. Moreover, they have defined some short-term goals, which are towards their vision. One of the strongest points that this university is stand for is about focusing on their vision and this vision as not been changed from quite a few years ago. In order to reach these goals and vision they have started to improve the quality of their institution in different issues. Some policies and guiding principles were published by this university. Within these policies and principles, they have identified different responsible people and the activities, which should be done by these people. In fact, different boards of directors, quality coordinator and quality improvement teams were appointed to work towards these policies and this quality movement and within different quality issues. Quality improvement team in this university in the highest level is consisting of the chairman of different committees, quality coordinator and the chairman of the quality council however some other improvement teams have been appointed in departments’ level in some departments. In addition, this university has defined a plan of action including activities that the university must follow to reach its objectives. Within these movements, they try to evaluate and assess their work regularly and in all issues. However, they are working hard and good enough in the direction of their objectives they believe that things can be always better and in other
words, they are seeking for continuous improvement. Finally, they believe that some departments, programs and committees have been successful to achieve objectives defined by the university college as a result of these movements and this quality system. For instance, the committee for equality and multiplicity has been successful to achieve its objectives towards improving the equality, and Swedish school for Textile has been successful when it comes to profession. Although, some people say that quality work in different departments differ and this is while not necessarily all work within the concept of quality. These departments try to improve their education system in their own way and they use their own terms in this circumstances. Nevertheless, this institution is persisting to evaluate and audit the quality work of its institutions regularly, which one committee has been appointed for this purpose. They believe that by this internal assessment and audit they will be able to find possible problems and resolve them, which is regarded as a tool for continuous improvement in this university.

Accordingly, the committee for evaluation and self-assessment offered this project in order to uncover some possible problems that might prevent them to have this continuous improvement. The overall findings about the quality work of university college of Borås in this investigation are as follows. First, not all people working in the context of quality are familiar good enough with the concept and its related terms and issues. There is a need for this institution to define the concept of quality i.e. quality of higher education.

Furthermore, there are some responsible groups of people for doing tasks in the context of quality, while not all know about their tasks good enough. In addition, some tasks have not been clearly defined for those who are responsible for. Some more detailed problems were found as a result of this investigation, which will be discussed consequently. There were questions about the goals and visions of this university college. However, there are some defined goals and visions by this university; some think that a number of these are rather far and not measurable. Furthermore, not all the people involved in the quality work have a good picture of what are the objectives of the university college. According to findings, some of the responsible people for the quality work of this institution think that employees can be considered as external customer as well. However, in designing programs at this university, decision makers try to finalize their decisions based on collected data and analyzing them. They collect some data to identify the needs of society and students, and then they design programs based on the needs of both the society and students as well. This fact reveals that in
some cases, they have a systematic data collection, and they are successful in making decisions based on relevant facts in this context. Although, there are some discussions about other decisions that the university college board make within each year. It does seem that there are only some meeting, evaluations and surveys, which they use in order to make final decisions for achieving their objectives. In fact, there is no systematic data collection. The existing documents and interviews show that there is lack of well-defined processes in this university college. In fact, there are some documents, which define certain activities but the relation between these activities and the purpose of the actions is not clear. Furthermore, as a part of plan of action in this university, there is an investigation about allocating resources in order to develop strong disciplines in specific areas. Although, improving the methodologies and consumption of resources are founded to be some concern for this institution. For instance, some responsible people for the quality work think that this university college can use Bologna process as an approach. One of the principles of this university is that every department should be involved the quality work, and they are all responsible for what they do and the way they act. In fact, they all try to be committed to the university plans. However, collected data show that there are some departments, which are not so active in this context. At the same time, some people who are responsible for quality issues in this university, and are part of the council or committees are not fully active.

Moreover, it does seem that even those involved and responsible for quality work of university have not been educated in this context. In fact, lack of knowledge about the concept of quality and its related issues has been found within some people involved the quality work. So forth, the discussion was mainly about oral problems founded within this investigation, which in the recommendation part we will refer to defining values. Although, the researchers have found some other problems, which they are mainly related to methodologies and tools that university uses in order to improve quality of its higher education.

In fact, no well-defined methodology was founded in this university and in their quality work. Here come some relevant problems founded by the researchers. Existing documents and interviews show that this institution is lack of systematic planning for improving institutions’ management.

In addition, according to findings there must be a systematic way to facilitate university for controlling the strategic goals of the university and actions done more regularly. However,
this systematic way should also take into consideration the point that there should not be more workload for employees and staffs.

Although, there are many documents regarding activities should be done, towards objective of the university and the needs of different stakeholders, still lack of some well-defined processes that show the connection between these activities and objectives are visible. The university board and top management are always looking for continuous improvement and they have plan for their activities. Although, there are some actions done towards their plans and they check what they have done, but it does seem that there is no record on well-done actions. According to existing documents and interviews, it does seem that for analyzing verbal information and numerical data there is no such a structured way. However, there are some meetings and many discussions for analyzing all kind of data and information. This may lead to wrong analysis and consequently some inappropriate decision may be make.

At this institution, different departments have special procedures and methods for improvement. The overall objective of all of them should be the same and towards the objectives of the university. These diverse procedures may lead to different results, which not necessarily are the same as what the university wants to achieve. In another word, within one institution it might be more effective if all departments use the same frame of reference for their improvement, although this does not mean they must all follow the same methodology or the same processes. Another finding in this investigation is that group of chairman of different committees, quality council, and quality coordinator form a quality improvement team for the whole university, and some schools have their own quality improvement teams like school of engineering. In our point of view, appointing a technical and supportive quality improvement team is differing from these improvement teams, while they must have the whole responsibility for the quality work of university.

This university has started to use ISO 14000 as a tool for moving towards environmental issues. Furthermore, in all meetings appointed for discussions about quality issues, brainstorming is a tool in order to uncover problems as well as suggestions for problem solving. According to this investigation, there is no evidence proving that some other practical tools have been used by this university i.e. some appropriate and more structured tools for collecting ideas, data and analyzing, and prioritizing.
Evaluation and assessment of the quality work at this institution is about internal assessment, which not necessarily will lead to identifying the problems and recognition of areas for improvement. In fact, self-auditing has many advantages but some external audits can facilitate and motivate this institution for more improvement. According to above discussions the following points were founded regarding to the quality system of the university.

1. There are some defined visions and goals; however, they could be defined better.

2. There should be some overall awareness about the goals and visions defined by the university.

3. The concept of quality has not been fully understood by those involved the quality work of university.

4. Commitment of all people involved the quality work is desirable.

5. There is a need for participation of more people in quality work, and they must be active in this context.

6. The tasks of different groups must be clarified, and there should be some well-defined goals and objectives for them.

7. Well-done activities should be recorded in order to let others to know. This will prevent overdo activities and making the same experiences by different groups of people and at different timetables.

8. Lack of some well-defined processes is visible in the quality work of university.

9. Although, there are many documents and activities defined for improving the quality of higher education at this university, still there is no a systematic way of improvement.

10. In some departments there are some quality improvement team, other departments have different procedures for improvement. That might be a wise idea to implement a unique approach in all departments.

11. Quality work should be conducted in a way, which will not lead to more work for employees and staffs.
12. Some well-defined methodologies must be classified by the university, and requirement of different stakeholders will be translated to university objectives in all areas.

13. Some more practical quality tools must be used by those involved quality work. This will facilitate the university to have more structured data collection and analysis.

14. There is a need for some external audits. Assessing the quality work of university by some other quality assurances and accreditation agencies not only will facilitate the university in the context of quality, but also it will motivate them to work more straightforward.

Do step in Deming cycle is about starting and in another word plan and implement solutions. In this step, there must be some training to all levels about terms like Quality, TQM, Core Values, Methodologies and tools, and distribution of some customer surveys to both internal customers and external customers is desirable. Furthermore, Quality Council must be formulated and some quality improvement teams should be formed. Finally, some measures must be established and the university board should perform a benchmarking in order to recognize and reward improvements.

Check step in Deming cycle has been regarded as evaluation step. This step has to do with evaluation of the plan and do steps. Here, the most effort should be set up for checking the actions that we have done and making sure that we are in a right direction to achieve our objectives.

Act step in Deming cycle is divided by two parts. In the first part, if there were found some problems according to checking step, changes must be applied to the system. Accordingly, those solutions and actions done well should be standardized. This will prevent from unwillingness changes within the defined systems

4. STUDY ON INDIAN HIGHER EDUCATION: A TQM PERSPECTIVE

A PERSPECTIVE ON QUALITY IN HIGHER EDUCATION:

In this world of rapidly boosting competition, speedy changes of technology, falling quality, varying demographics, privatization and internalization in education have led to the use of the concept of TQM in education. The prerequisite to change the current education system is highly needed. The various students, parents and the general public is dissatisfied from the
current education system due to the several complaints like students are unable to register themselves in the colleges due to limited seats, sufficient faculty is not present in the colleges, courses are taught by the senior graduates and not by the experienced faculty, lack of commitment on the part of faculty etc. (Hogg R. V., Hogg M. C., 1995). In pre independence period the Indian education system is suffering from many serious problems but after independence there is remarkable growth in the Indian education system with the establishment of several universities, technical institutes, research institutions, professional/non-professional colleges all over the country to promote education and knowledge with a noble cause of providing easy access to education to the common Indian (UGC Golden Jubilee Seminars- 2003). As public demands for the higher quality at reduced cost, the institutions providing higher education are looking for ways to achieve, maintain and restore quality in their academic and administrative components. The solution of these institutions which are looking for the ways to provide quality education is the ‘Total Quality Management’ or TQM (Sims R. R., Sims S. J., 1995). Before describing the TQM in education it is important to know what TQM is not. TQM is not a burden and cannot be done to you and for you. The initiative should be taken by the institution to introduce it. It involves doing things right first time and every time. For its successful implementation there is a strong need of everyone participation from the institution rather than the only involvement of only senior management (Sallis E., 2002). Continuous Quality Improvement (CQI), Strategic Quality Management (SQM) or Total Quality Management (TQM) is framework for the improvement of quality. But from all these TQM is considered as best and more general to gain the essence of quality improvement because TQM has the strategic component requiring evaluation and refinement of continuous improvement practices in all spheres of usefulness (Pour M. H., Yeshodhara K.).

OBJECTIVES OF THE STUDY:

These are the following objectives of my study:

1) To study the need of continuous quality improvement, components of TQM, and challenges of TQM in higher education.

2) To study the means and strategies adopted by different educational institutions for ensuring TQM.
RESEARCH METHODOLOGY:

The study has been conducted by consulting existing literature through historical, analytical and empirical approaches. Historical-analytical method has been taken into consideration while observing the reports related with the study and while examining the other literature relevant to the study. Case study method, an empirical technique, is applied to study the various dimensions and impact of TQM on education sector. Data analysis technique has been taken into consideration to examine analytically routine reports studied concerned to the TQM.

AN ANALYSIS OF CURRENT QUALITY MANAGEMENT PRACTICES:

AN INDIAN PERSPECTIVE:

The research provides that the various models which are developed for the industries for managing quality has been adopted or tested by the higher educational institutions on a global basis (Becket N., Brookes M., 2008). There is a great use of concept TQM in the manufacturing industries but its application in the education sector seems less. But now several colleges and universities have started using the concept of TQM and its values with a belief that TQM values are more compatible with higher education than many traditional management systems. In India, All India Council for Technical Education (AICTE) is set up as a national level apex advisory body to regulate, ensure and control the quality of education in the country (Thakkar C. M., 2011).

High rate or increasing rate of students’ enrolment in the higher educational institutions provides that the quality of education in the higher educational institutions has been improved and is improving. But still there is a demand of great improvement to improve the quality of education in future because India has not yet attained excellent results in the TQM implementation in the higher education sector. For this India need to create a dozen or more universities, colleges that will be in accordance to international standards to fully participate in the world economy. A successful TQM initiative will surely raise the standard and market value of the educational institutions and also these organizations will become able to face any
challenge from its competitors (Krishnan A., 2011). My research reveals the various initiatives adopted by higher educational institutions or should be adopted by higher educational institutions to install or implement TQM which are:

**IMPROVEMENTS IN CURRICULUM:**

The word curriculum has been derived from the Latin word ‘currere’ which means ‘a course to be run’. The curriculum should be a sum of consideration of the purposes of education, the content of teaching, teaching approaches with the focus being on the product as well as the process and a programme of evaluation of the outcomes (Hok-Chun K., Dennis, 2002). It is a weapon to meet a daring reality in the field of education named ‘competition’, which needs the designing of an effective curriculum. By improving the previous curriculums as per changing requirements, the educational institutions can survive in the market for a long time and also they need not to face the challenge of falling enrolment rate of the students. Poor curriculum design is a major cause of quality failure. The process of curriculum design needs to be specified and teamwork should be there to create a need based curriculum of our customers i.e. our students (Sallis E., 2002).

**IMPROVEMENTS IN DEPARTMENTS: GRASS-ROOTS IMPROVEMENTS:**

To make TQM a success, today the educational institutions are starting their TQM initiatives from the grassroot level because colleges and universities implement the projects but the primary commitment to manage TQM comes from top management or high officials like President/ Chancellor/ Vice Chancellor etc. These officials are playing a fundamental role in shaping the quality culture of education and are treated as the initiator of quality teaching initiatives. These leaders are conveying the relevance of the whole community in the implementation of the quality culture (Institutional Management in Higher Education, OECD). These leaders are also like a guardian to the students which are learning in their care (Oduro G. K., Dachi H. & etal., 2008).

**COURSE AND METHODOLOGY IMPROVEMENTS:**

Long, long ago, Newton had said that he was ‘like a child, who is picking pebbles at seashore while the great ocean of knowledge lies before me’. Since then, knowledge has grown enormously at a much faster speed than human ability to cope with it (Role of Education in
In today’s world an area that has seen big investment is education. In the ancient India, Vidya or knowledge or education was regarded as the “third eye” of man which provides him an insight into all affairs (Mutsotso S. N., Abenga E.S., 2010). Traditional teaching is concerned with the teacher who was the controller of the learning environment and enjoyed extreme power. He/she played the role of instructor by giving lectures and role of decision maker by designing contents of curriculum and by deciding other learning matters (Novak, J., 1998). But modern teaching methodology is much more student-centered. According to Jim Scrivener, the teacher’s main role is to “help learning to happen,” which includes “involving” students in what is going on “by enabling them to work at their own speed, by not giving long explanations, by encouraging them to participate, talk, interact, do things, etc” (Scrivener J., 2005).

Firstly, Open educational concept becomes a reality. With the help of internet, radio, television etc. a large amount of keen learners have opportunity of learning to change their carrier.

Secondly, the relationship of single teacher and student has been converted into teachers and students, students and teaching resources, students and students.

Thirdly, information technology is playing a great role in shaping the present and future of the current level of education. With widely use of modern educational technology, personalized learning gain conditions for rapid development.

Fourthly, life-long and continuous education is possible with the aid of modern educational technology. In the process of continuing education, trainees learn the up to date courses actively (Long L., Zhaohui L. & etal., 2008).

**ROLE OF HIGHER EDUCATION IN 21ST CENTURY:**

In a progressively knowledge-driven society, more and more people seek education as the hope for a healthier future, the key to good jobs and careers and to meaningful and fulfilling lives. It clears the fact that higher education will flourish in the coming years. So the requirement to provide advance education will become a more strategic issue for the colleges and universities (Duderstadt J., 1999).“India is entering the global employment marketplace
with a self-imposed handicap of which we are just beginning to become conscious — an acute shortage of Quality institutions of higher education. For far too long, we have been complacent about the fact that we had produced, since the 1960s, the world’s second largest pool of trained scientists and engineers.” - Shashi Tharoor, Former UN Diplomat (Implementing Quality in Higher Education, 2012).

Today the Indian education system is one of the largest in the world. At the time of attainment of independence there were only 20 universities and 500 colleges with 0.1 million students in India. But according to the latest research there are 611 universities and university level institutions and 31324 colleges as on 31 August 2011. The vision of 12th FYP is to promote the higher education by forming new universities and increasing the intake capacity of present universities and colleges. For enhancing quality the various measures in the 12th FYP are:

- Continuance of the reforms agenda in higher education will have to be followed in the field of academic, administration, curricula, pedagogy, programme offerings, research, etc.
- Structural and systemic reforms on a huge scale with healthy policies and realistic programmes to facilitate all the measures required for improving quality and to promote excellence in higher education, including good governance.
- Providing incentives through funding for academic reforms like introduction of semester system, grading, choice-based credit system, examination reforms, accreditation, etc. can go a long way towards enhancing quality.
- Focus in the 12th FYP will be on generation of a new knowledge society from the learners' perspective, satisfying the national and international demands of the society.
- Development of new models of accreditation and systems for implementation with the dual objectives of national level coverage and compulsory accreditation of all higher education institutions shall be undertaken in a time bound manner.
- In order to internalise quality inputs, all universities, government and government-aided colleges are to be supported with full-fledged Internal Quality Assurance Cells (IQAC) as a UGC-supported scheme, on regular basis with the required Information Technology (IT) infrastructure and supportive manpower

(Inclusive and Qualitative expansion of Higher Education, 12th Five Year Plan, 2011).

5. QUALITY MANAGEMENT PRACTICES IN KENYAN EDUCATIONAL INSTITUTIONS: THE CASE OF THE UNIVERSITY OF NAIROBI
Although TQM techniques were adopted prior to World War II by a number of organizations, the creation of the Total Quality Management philosophy is generally attributed to Dr. W. Edwards Deming. In the late 1920s, while working as a summer employee at Western Electric Company in Chicago, he found worker motivation systems to be degrading and economically unproductive; incentives were tied directly to quantity of output, and inefficient post-production inspection systems were used to find flawed goods (Hunt, 1992).

Deming teamed up in the 1930s with Walter A. Shewhart, a Bell Telephone Company statistician whose work convinced Deming that statistical control techniques could be used to supplant traditional management methods. Using Shewhart's theories, Deming devised a statistically controlled management process that provided managers with a means of determining when to intervene in an industrial process and when to leave it alone. Deming got a chance to put Shewhart's statistical-quality-control techniques, as well as his own management philosophies, to the test during World War II. Government managers found that his techniques could be easily taught to engineers and workers, and then quickly implemented in over-burdened war production plants (Weiss, and Gershon, 1989). One of Deming's clients, the U.S. State Department, sent him to Japan in 1947 as part of a national effort to revitalize the war-devastated Japanese economy. It was in Japan that Deming found an enthusiastic reception for his management ideas. Deming introduced his statistical process control, or statistical quality control, programs into Japan's ailing manufacturing sector. Those techniques are credited with instilling a dedication to quality and productivity in the Japanese industrial and service sectors that allowed the country to become a dominant force in the global economy by the 1980s (Harry and Sergesketter, 1993).

While Japan's industrial sector embarked on a quality initiative during the middle 1900s, most American companies continued to produce mass quantities of goods using traditional management techniques. America prospered aswar-ravaged European countries looked to the United States for manufactured goods. In addition, a domestic population boom resulted in surging U.S. markets. But by the 1970s some American industries had come to be regarded as inferior to their Asian and European competitors. As a result of increasing economic globalization during the 1980s, made possible in part by advanced information technologies, the U.S. manufacturing sector fell prey to more competitive producers, particularly in Japan (Svenson, et al 1994).
In response to massive market share gains achieved by Japanese companies during the late 1970s and 1980s, U.S. producers scrambled to adopt quality and productivity techniques that might restore their competitiveness. Indeed, Deming's philosophies and systems were finally recognized in the United States, and Deming himself became a highly sought after lecturer and author. The "Deming Management Method" became the model for many American corporations eager to improve. And Total Quality Management, the phrase applied to quality initiatives proffered by Deming and other management authorities, became a staple of American enterprise by the late 1980s. By the early 1990s, the U.S. manufacturing sector had achieved marked gains in quality and productivity (Saylor, 1992).

1.3 Quality Management and Higher Education

Defining quality in higher education has proved to be a challenging task. Cheng and Tam (1997, p. 23) suggest that “education quality is a rather vague and controversial concept” and Pounder (1999, p. 156) 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 (Oldfield and Baron, 1998; 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 (ISO 8402 in Wiklund et al., 2003, p. 99).

The rationale for adoption is that TQM 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 TQM 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 TQM in higher education is deteriorating into managerialism because of the disparity between TQM 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, p. 838) recommend that a model of educational quality that is different from, but capable of being related to commercial models, is beginning to emerge. However, it is not yet complete.

Srikanthan and Dalrymple (2003, p. 134) 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. QM “is seen by many as having enormous potential to respond to the challenges” (Hansen, 1993). 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 (Cowles, 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 (Stensaasen, 1995).
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).

1.4 Characteristics of Education Services

Lovelock (1983) offered a useful conceptual foundation that involved five criteria, each of which can be examined on four dimensions. Using Lovelock’s framework, education services can be described as having the following characteristics: The nature of the service act – the education service act is directed at people (their minds rather than their bodies), it is primarily “people based” rather than “equipment based” (Thomas, 1978), and involves largely intangible actions (Shostack, 1977). The relationship with the customer – education involves a lengthy and formal relationship with the client and a continuous delivery of the service. Students have what Lovelock (1983) refers to as a “membership” relationship with the service provider, offering an opportunity to develop strong client loyalty and enhanced client services.

The level of customization and judgement in service delivery – some services require greater customization and judgement on the part of service providers than others. The extent to which education services are customized is variable. Small tutorials or individual supervision are more customized than mass lectures. In most cases, the extent to which a service provider exercises judgement in meeting the needs of individual students is high. This is particularly the case with teaching staff. A problem arising from this is the possibility that quality can be affected by the variability of service delivery (Nicholls, 1987). The nature of demand relative to supply – a service can involve a widespread demand (e.g. electricity) or a narrow demand (e.g. insurance). At the same time, the ability to alter supply quickly, to meet demand fluctuations, varies. In education, demand is subject to relatively narrow fluctuations over time. However, supply can be difficult to manage, with limitations on the availability of staff and places in courses (Lovelock, 1983).

The method of service delivery – the delivery of services may be classified into those requiring single or multiple site outlets and the nature of the customer interaction with the service. Customers may move to a service provider, or a service provider may move to meet
them. International education services traditionally required the student to come to the institution to complete their courses. However, this is changing, with the establishment of offshore teaching programs and distance education and modern technologies (Soutar and Mazzarol, 1995).

1.5 The Kenyan Public Universities and the University of Nairobi

University education in Kenya began in 1963 with just 571 students enrolled in Nairobi University College (Weidman, 1995). Since then, the system has undergone some commendable expansion, and by 1998 there were a total of six public universities and 18 private universities with varying degrees of recognition in the country. With the establishment of the 8-4-4-system, university education takes a period of four years to complete, however there are schools such as medicine and law that take an additional year or two. In addition to the universities and their constituent campuses, higher education in Kenya also includes polytechnics, institutes of science and technology and diploma level teacher training colleges (Encyclopedia of Higher Education, 1992).

Notwithstanding the expansion in the past several years, the capacity of the higher education sector in Kenya is still limited and accommodates only 7.5 percent of students graduating from secondary schools, and 2 percent of the expected age cohort (Weidman, 1995). Between 1990 and 2000, it was reported that 180,000 of the students who attained the minimum entry qualification failed to gain admission to public universities (Kigotho, 2000). Therefore, access to higher education in Kenya is extremely competitive and students must earn a grade point average on the Kenya Certificate of Secondary Education significantly over and beyond the minimum eligibility requirement.

Formal education in Kenya dates back to the colonial times. At independence, the government took over the education sector. Kenya has since attached education to economic and social development (Sifuna, 1998). The University of Nairobi, a body corporate established by an Act of Parliament Cap 210 of the Laws of Kenya is the pioneer institution of University education in Kenya. Being the only institution of higher learning in Kenya for a long time, the University of Nairobi responded to the national, regional and Africa's high level manpower training needs by developing and evolving strong, diversified academic programmes and specializations in sciences, applied sciences, technology, humanities, social sciences and the arts. To date, the range of programmes offered number approximately two
hundred. The University has benefited from its location, in the country’s capital, Nairobi, as well as, from the efforts of the nation’s diverse population. (www.unobi.ac.ke).

The University of Nairobi owes its origin to several developments in higher education within the country and the region. The inception of the University of Nairobi is traced back to 1956 when the Royal Technical College admitted its first lot of A-level graduates for technical courses in April the same year. Soon after the arrival of students at the college, the pattern of education in East Africa came under security. Through the recommendation of a working party formed in 1958 chaired by the vice chancellor of the University of London, Sir John Lockwood, the Royal Technical College of East Africa was transformed. On 25th June 1961, the College became the second University College of East Africa; under the name Royal College Nairobi on 20th May 1964. On the attainment of University College status, the institution prepared students for bachelor’s degrees awarded by the University of London, while also continuing to offer college diploma programmes (www.unobi.ac.ke).

The University College Nairobi provided educational opportunities in this capacity until 1966 when it began preparing students exclusively for degrees of the University of East Africa and not London, as was the case before. In 1970, the University College Nairobi transformed into the first national University in Kenya and was renamed the University of Nairobi. In view of the rapid expansion, The University underwent a major reconstruction in 1983 resulting in decentralization of the administration, by creation of six campus colleges headed by principals of colleges being: College of Agriculture & Veterinary Sciences situated at Upper Kabete campus.

College of Architecture & Engineering situated at the Main Campus; College of Biological & Physical Sciences situated at Chiromo Campus; College of Education & External Studies situated at Kikuyu Campus; College of Health Sciences situated at the Kenyatta National Hospital; College of Humanities and Social sciences situated at the Main Campus - Faculty of Arts; Parklands-Faculty of Law and Lower Kabete Campus - Faculty of Commerce. Since then, there are seven Universities and seventeen private Universities competing with University of Nairobi (www.unobi.ac.ke).

Superior skills can be defined in terms of staff capability, systems, or marketing savvy not possessed by a competitor. A superior resource is defined in terms of physical resources that are available to help strategic implementation, such as operating scale, location,
comprehensiveness of a distribution system, brand equity, or processing assets. The successful conversion of skills and resources into a unified set of competencies is the basis for a cost or differentiation strategy that succeeds in the marketplace. The bundle of competencies that a firm takes to the marketplace may be available to competitors (Barney, 1991; Mahoney and Pandian, 1992; Bharadwaj et al., 1993). The University of Nairobi, school of business like most higher learning institutions in Kenya is faced with the need to control an ever large and rapidly changing strategic environment (www.unobi.ac.ke). Performance is a function of competitive advantage achieved by turning a source advantage resulting from superior skills and resources into a competitive advantage (Day and Wensley, 1988).

The University of Nairobi records the largest number of student admissions for degree courses per annum. Quality infrastructure has been regarded as critical operational issue for the University of Nairobi to achieve its desired goal of becoming an international centre of excellence. The University of Nairobi has continued to rehabilitate the existing infrastructure, and complete many of the stalled projects. For example the Central Examinations Center situated at Chiromo is in progress, which when completed, it is expected to strengthen further the examination process in the University of Nairobi. The University has also continued to expand and strengthen its Information and Communication Technologies (ICT) infrastructure by establishing and equipping computer laboratories for students and staff. This, no doubt, has contributed to the improvement its ranking that is the 21st in Africa from position 26 in the previous year. The University is also grateful to its donors and partners who have contributed towards the acquisition of the critically needed ICT (www.unobi.ac.ke).

1.6 Statement of the Problem

Issues of Quality of Education, rather than mass production, need to move to the forefront of the educational agenda of policy makers at higher education level. Considering the huge public and private investment in university education, there is an urgent need to evaluate how effectively the investment is being utilized by examining the quality of the educational infrastructure, the cadre of qualified tutors and other resources in place, and the quality of teaching and learning (UNESCO, 2003).
The University of Nairobi is within the new global market, which is characterized by rapid information change, intense information flows and increasing competition through the reduction of barriers to trade and exchange, the University is forced to slowly emerge as an organization driven by the commercial imperative of market led forces. Yet the University of Nairobi’s strategies for resource utilization are embedded in models of higher education. This had been coupled with other major challenges such as: inadequate funding especially for research and development, quality and relevance, inadequate use of ICT, lack of a unified accreditation system, un-harmonized legal frameworks, inadequate management capacity, drug and substance abuse. Hence there was need to document the most critical quality management practices used in its education services; while determining the challenges facing the University of Nairobi in the implementation of the continuous improvement principle of QM (www.unobi.ac.ke).

A number of researches had been done in the area of Quality and Quality Management. McCulloch (1993) in his study found out that the language of QM needs to be carefully adopted; he concluded that terms like customer, product, input, output, indicators, and efficiency are all problematic in higher education. This is because of the ever-changing demand of the customers and challenges posed by lack of enough resources. In accepting this idea, however, it seems that QM is inappropriate, since customer orientation, measurement, and cost reduction are among its main principles. For this, Coate (1993) concluded that experience shows arguments about language to be time-consuming and non-productive.

Other studies carried out by Cua et al. (2001) and Kaynak (2003), found that there is an underlined importance and causal relations between quality management practices and competitive advantage. Furthermore, many authors (Cua et al., 2001; Kaynak, 2003) suggested a positive association between QM practices and organizational performance. The conclusions from both the surveys and case studies found out that the different background of each institution and differences originate from five critical factors: degree of comprehensiveness of QM practices throughout the campus; inclusion or otherwise of academic sections; degree of employee involvement; time span of QM programmes; and lastly the degree of completion of the programmes when reporting.

Although a number of studies had been done on the concept and context of quality management and higher education respectively, none had been done within the context of
public universities in Kenya, the case of the University of Nairobi. There was need therefore for a study to be carried out focusing on the University of Nairobi’s academic services in conjunction with the main QM features. The following three research questions were focused in this study: What was the extent to which Quality Management was applied in the University of Nairobi? Second, what were the quality management practices used in the University of Nairobi? Third, what were the challenges faced in Quality Management implementation in the University of Nairobi

2.0 Research Strategy

This was a case study on the quality management practices in Kenyan educational institutions, particularly at the University of Nairobi. The research relied on records of events that had already taken place; hence, the researcher did not manipulate any casual factors or challenges that the academic managers/management posed to quality management in Universities.

The target population include all managers that constituted the University of Nairobi’s management board. This did not include the other subsidiaries operating under the University’s umbrella/name. Random Sampling was appropriate to obtain a sample from the population. The Sample was based on the following members of the University’s Management Board drawn from respective schools/faculties/institutes/boards (see appendix 1).

<table>
<thead>
<tr>
<th>Management Board</th>
<th>Total Population (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vice chancellor</td>
<td>1</td>
</tr>
<tr>
<td>Deputy vice chancellor (Admin &amp; Finance)</td>
<td>1</td>
</tr>
<tr>
<td>Deputy vice chancellor (Academic Affairs)</td>
<td>1</td>
</tr>
</tbody>
</table>
Simple random sampling assisted to minimize bias when dealing with the population sample. The sample consisted of the Senior Managers, Supervisors and junior staff. In Simple Random Sampling, the respondents from various cadres were selected randomly. Based on the above, a Sample of Seventy-Five (75) respondents was considered. This conformed to the widely held rule of thumb that to be representative, a sample should have 30 or more test units (Wayne and Terrell, 1995).

The following data collection instruments were used: questionnaires (both structured and unstructured); interviews (personal interviews which consisted of structured questions; secondary data such as files, pamphlets, office manuals circulars, policy papers and; observations (was done in a structural way).

The main instruments for data collection were questionnaires and document analysis. Questionnaires were used to obtain information from the University’s Management board. The questionnaire was divided into three sub questionnaires: Questionnaire One: Extent to
which Quality Management is applied; Questionnaire Two: The quality management practices and Questionnaire Three: Challenges in the Implementation of Quality Management Systems. Respondents were allowed fair latitude in their answering of interview questions.

On the validity of Instruments, the researcher also carried out a pilot study to appraise the questionnaire soundness of the items and to estimate time required to answer the items. The pilot study covered some of the some 20 members of the management team in the University of Nairobi not covered in the sampled population. The results of the pilot study were discussed with the respondents and adjustments were made accordingly. The validity of instruments measures the consistency of instruments. Best and Kahn (2000) considers the reliability of the instruments to be the degree of consistency that the instruments or procedure demonstrates. What it measures it does so consistently. The reliability of a standardized test is usually expressed as a correlation coefficient, which measures the strength of association between variables. Such coefficient vary between 0.00 and 1.00 with the former showing that there is no reliability and the later showing there is perfect reliability which is an ideal situation. Reliability was ascertained by splitting the instruments into two; by placing all odd numbered in one sub-set and all even numbered items in another subset and then finding the coefficient of internal consistency. The reliability was estimated to be 0.89 meaning that the instruments will be reliable.

Data analysis was based on the research questions designed at the beginning of the research. Frequency tables, percentages and means were used to analyse the data. Responses in the questionnaires were tabulated, coded and processed by use of a computer. Once the responses were received, the questionnaires were edited for completeness and consistency before processing. Data was coded to facilitate categorization. The data collected on the strategic responses was analysed quantitatively on the basis of the variables to be highlighted. Descriptive statistics was used especially the mode to determine the most frequent response on the factor under study. The mean was also used to determine the average response of the relationships between the variables under study. The presentation of the data utilized the use of tables and charts. These tools were selected for their clarity, preciseness, ease of understanding and interpretation.
The Statistical Package for Social Science (SPSS) programme was used to analyse the data, make conclusions and recommendations from the study. The responses on open-ended questions were reported by descriptive narrative. The results of the study were compared with literature review to establish the quality management practices in the University of Nairobi’s education services.

3.0 Data Analysis, Findings and Discussions

This section covers data analysis and findings of the research. The data is summarized and presented in the form of proportions, means, and tables. Data was collected from Forty-Five (45) members of the Management Board of the University of Nairobi. The collected data has been analyzed and interpreted in line with the aims of the study namely, to determine the extent to which Quality Management was applied in the University of Nairobi; to establish the quality management practices used in the University of Nairobi; and lastly to determine the challenges faced in Quality Management implementation in the University of Nairobi. The respondents were: the Vice chancellor, the Deputy vice chancellors, Principals of each University College and their Deputies, Registrars, Deans of faculties/schools, Directors of Schools /boards /institutes and the Departmental Heads. Out of the Seventy-Five (75) members of the University of Nairobi’s management board who were sampled and the questionnaires were administered, only Forty-Five (45) responded. This gave a response rate of 60% percent.

3.1 The Application of Quality Management in the University Academic Services

The respondents (Top management: DVC’s, Registrar Dean of students and Finance manager) were asked to indicate the extent to which Quality Management is applied in the University of Nairobi’s academic Services. There are very many quality certifications. The Quality Management System standards created by ISO are meant to certify the processes and the system of an organization and not the product or service itself. ISO 9000 standards do not certify the quality of the product or service. From the research data, the university of Nairobi’s quality system is derived from ISO 9000, which is actually in line with the International Organization for Standardization that created the Quality Management System (QMS) standards in 1987 comprising of a series of standards that comprise ISO 9001:1987, ISO 9002:1987 and ISO 9003:1987; which were applicable in different types of industries,
based on the type of activity: designing, production or service delivery. Thus the University of Nairobi has applied quality management to a great extent which is 100% in most of its academic process.

A quality management policy is important for an organization which is committed to quality service delivery. To test the extent onto which the university has applied quality management in its academic services, the respondents (Top Management) were asked to indicate extent to which they have used some basic aspects with respect to the University of Nairobi’s Quality policy in its academic function. From the results in table 4.2 below, and based on the measures on the likert-scale (where 1 = Very Great Extent and 5 = Very Small Extent), the University of Nairobi to a very great extent (Mean = 1) has ensured that the Quality Management Policy is appropriate to the purpose of the University of Nairobi; and it provides the framework for establishing and reviewing quality objectives. This is in line with EFQM, (2003) documentation that excellent organization design, with a sound quality management can improve processes in order to fully satisfy, and generate increasing value for customers and other stakeholders.

Based on the measures on the likert-scale, the university of Nairobi has to a very great extent (Mean = 1) done the following: provided evidence of its commitment to the development and implementation of the University of Nairobi’s QMS; defined its processes to ensure its academic/educational products meet the Commission of Higher Education regulatory requirements; implemented actions necessary to achieve planned results and continual improvement of their educational processes; and lastly communicated the importance of meeting customer as well as statutory and regulatory requirements. And to some great extent defined its processes to ensure its academic/educational products meet customer requirements.

3.2 The Quality Objectives in the University of Nairobi’s Academic Function

The respondents (Top Management) were asked to indicate the extent based on the measures on the likert-scale 1-5(where 1 = Very Great Extent and 5 = Very Small Extent), to which they agreed with some aspects that were touching on the University of Nairobi’s Quality objectives in its academic function. From the research data, the university of Nairobi has to a very great extent (Mean = 1) established quality objectives including those needed to meet requirements for product at each (relevant) function and level; documented its objectives
including those requirements needed for products with measurable quality objectives; and lastly the QMS planning is performed to meet the quality objectives and requirements. Every institution needs to have quality objectives which can be used to guard against any erroneous outputs from its services and activities. University of Nairobi is not an exception.

3.3 The Documentation Requirements in the University of Nairobi’s Quality Management Systems

The respondents (Principals and Directors) were asked with reference to the Documentation Requirements in the University of Nairobi’s quality management systems based on the measures on the likert-scale 1-5 (where 1 = Very Great Extent and 5 = Very Small Extent), to indicate the extent to which the quality management system documents some basic aspects relating to quality. From the research data, the university of Nairobi has to a very great extent (Mean = 1) made use of a quality manual which is well documented; documented all the documents needed by the University of Nairobi to ensure the effective planning, operation and control of its processes and lastly documented all the procedures required by this international standards. A proper documentation of every process aspect an entity is very important. This is because it acts as a centre of reference and corrections can easily be made in case of any diversion from norms.

3.4 The Establishment of a Written Quality Manual in the University of Nairobi

From the results above, it has been established that the university of Nairobi has to a very great extent (Mean = 1) made use of a quality manual which is well documented. The respondents (Principals and Directors) were asked with reference to the Quality Manual in the University of Nairobi’s quality management systems to indicate the extent to which the University’s quality manual that includes its critical aspects and elements. The results are as in table 4.6.

Table 4.6 Quality Manual Aspects of the University of Nairobi

Descriptive
Quality Manual Aspects of Statistics

the University of Nairobi Mean Std.

Deviation

The University of Nairobi 1.5098.50488 ensures the documents remain legible and readily identifiable. The University has defined 1.9804.14003 the scope of quality management system, including details of and justification for any exclusion. The University has a 2.0000.00000 description of the interaction between the processes of quality management system. The University of Nairobi 2.00001.00000 reviews and updates as necessary and re-approved documents. The University of Nairobi 2.0196.14003 evaluates the need for changes to the University of Nairobi’s QMS. The University of Nairobi’s 2.5098.50488 management review include an evaluation of the QMS to ensure its continuing suitability, adequacy, and effectiveness.

Source: Research Data

From the results in table 4.6 above, the university of Nairobi has to a very great extent (Mean = 1) ensured that the documents remain legible and readily identifiable; and with a defined the scope of quality management system, including details of and justification for any exclusion. The University has also to a high extent (Mean = 2) described the interaction between the processes of quality management system; reviewed and updated as necessary and re-approved documents to evaluate the need for changes to the University of Nairobi’s QMS to ensure its continuing suitability, adequacy, and effectiveness.

3.3.5 The University of Nairobi’s Internal Audit in Quality Management in its Academic Function

The respondents (Principals and Directors) were asked to indicate the information they need most when they analyze data in the University of Nairobi’s Internal Audit in Quality Management based on the measures on the likert-scale 1-5 (where 1 = Very Great Extent and 5 = Very Small Extent). From the research data, 51 % of the respondents felt that the analysis provides information relating to customer satisfaction (dissatisfaction); conformance to customer requirements; and suppliers: but very little information on the characteristics and trends of processes and products including preventive action.
The respondents (Principals and Directors) were further queried on how the University’s Internal Audit in Quality Management is carried out, by indicating the extent to which they agreed with some of the key aspects of Internal Audit in Quality Management, and from the research data, the University of Nairobi has to a very great extent (Mean = 1 and 2, with a significant standard deviation) taken a corrective action to ensure conformity of the product, when planned results are not achieved; the University of Nairobi measures and monitors processes to demonstrate the processes ability to achieve planned results; it also conducts internal audits at planned intervals to determine whether the QMS conforms to the requirements of the ISO 9001:2000.

The University of Nairobi applies suitable methods to monitor and, where applicable, measure the quality management's system processes. It has also managed to monitor information relating to customer perception as to whether the University of Nairobi has fulfilled customer requirements. The respondents were uncertain about how the University of Nairobi determines, collects and analyzes data to assess the suitability of the QMS.

3.5 The Challenges Faced in Quality Management Implementation in the University of Nairobi

3.5.1 The University of Nairobi’s Responsibility, Authority and Communication & Review in Quality Management

The biggest challenge in quality system implementation is the ability of an institution to carry responsibility the quality system, channelling authority, communication and Review in Quality Management in their core function. The respondents (Departmental Heads) were asked to indicate the extent to which they conquered with some aspects that relate to the University of Nairobi’s Responsibility, authority and communication in Quality Management & Review in Quality Management in its academic function. From the research data, the respondents were uncertain about how the University of Nairobi’s management review evaluates the need for changes to the University of Nairobi's QMS; how the Management representatives provide input to University of Nairobi top management on the performance of the QMS and needs for improvement; how the Management representatives promote awareness of customer requirements throughout the University of Nairobi; how the University of Nairobi’s Management Output Review in Quality Management includes actions to improve the effectiveness of the quality management system and its processes
Improvement of product related to customer requirements. Lastly, how the University of Nairobi’s Management Output Review in Quality Management includes actions to resource needs.

Also from the research data, with respect to the University of Nairobi’s Management Input Review the respondents were uncertain about how the University of Nairobi’s process performance and product conformity; the status of preventive and corrective actions; the follow-up actions from previous management reviews; the planned changes that could affect the quality management system; and lastly on the recommendations for improvement.

3.5.2 The University of Nairobi’s Resource Management in Quality Management in its Academic Function

The respondents (Departmental Heads) were asked to indicate the extent to which they agreed with some of the basic aspects underlying the University of Nairobi’s Resource Management in Quality Management in its academic function; and how the University’s Management has identified and implemented effective arrangements for communication with its customers in relation to some customer focus issues.

From the research results and data, the respondents were uncertain about how the University provides training or take other actions to satisfy competence needs; how the University ensures personnel are informed about the relevance and importance of their activities and how they contribute to the achievement of the quality objectives; how the University has planned (defined the sequence) the processes and sub-processes it needs for product realization (to have in place to produce its product or provide its academic services); how the University of Nairobi identifies; how they determine and provide competent personnel to perform work affecting quality; and lastly how the university of Nairobi’s management determines and provides resources needed to enhance customer satisfaction by meeting customer requirements. On the issue of communication, the respondents were also uncertain how the following information relating to its customers is communicated; Product/degree information; enquiries, contracts or order hauling, including amendments; and lastly how customer feedbacks, including customer complaints are handled at the moment.

3.5.3 Design, Development and the Challenges Affected the University of Nairobi’s Implementation of a Quality Management System
The respondents were asked to indicate the extent to which some challenges have/are affected/affecting the University of Nairobi’s implementation of a quality management system, with respect to the University of Nairobi’s Design and development in Quality Management in its academic function. From the research data, the respondents were uncertain (Mean = 3) about how the University of Nairobi’s change process that include an evaluation of the effects of changes on constituent parts, which are the campuses. They were also uncertain on how the University of Nairobi has established criteria for selection, evaluation, and re-evaluation of its suppliers; how validation for production and service provision processes is done i.e. Re-validation; how the University monitors information relating to customer perception as to whether the University of Nairobi has fulfilled customer requirements.

Also from the research data and based on the measures on the likert-scale 1-5 (where 1 = Very Great Extent and 5 = Very Small Extent), the university of Nairobi has to a very great extent (Mean = 1 and 2, with a significant standard deviation) faced with following major challenges in the implementation of its quality management system: failure to define the TQM Challenge in University of Nairobi Academic function; the impact and validity of distance learning; and lastly there is poor utilization of faculty time. The university of Nairobi is uncertain (Mean = 3, with a significant standard deviation) on the extent to which it is faced with following major challenges in the implementation of its quality management system: the University of Nairobi Academic Culture is not Receptive to TQM; it is hard to establish whether students actually learn in any situation; there is inappropriate use of technological innovations in instruction and lastly, there is no viability of faculty tenure.