EXPLORATION INTO THE QUALITY OF KENYAN UNIVERSITY GRADUATES AND THEIR

WORK PREPAREDNESS

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DECLARATION

This Thesis is my original work and has not been presented for award of any degree in any other university.
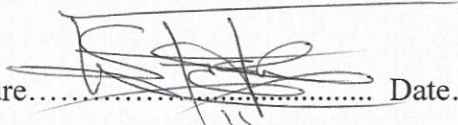
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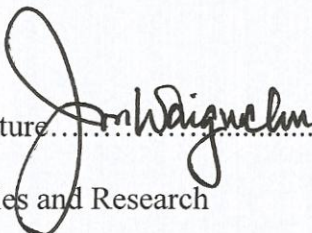
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DEDICATION

This study is dedicated to my mother Zipporah and my late father Justus for their initial investment in my education. To all Mwirichia's family, whose trust, prayers, love and moral support was my guide. My husband Kibiti Rintari, children Evans, Esther, Pauline and Dan have been my greatest pillars in this academic journey.

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ABBREVIATIONS AND ACRONYMS

ADB   African Development Bank

ANOVA   Analysis of Variance

AU   Africa Union

CHE   Commission for Higher Education

CHEA   Council for Higher Education Accreditation in United States

CLD   Cooperative Learning Designs

COYA   Company of the Year Award

CUE   Commission for University Education

DIES   Dialogue on Innovation Higher Education Strategies

EFQM   European Foundation for Quality Management

EQA   External Quality Assurance

GIBS   Gordon Institute of Business Schools

GRC   Germany Rectors Conference

HEIs   Higher Education Institutes

HESA   Higher Education in South Africa

IAUP   International Association of University Presidents

ICT   Information Communication Technology

INQAAHE   International Network for Quality Assurance Agencies in Higher

                   Education

IQA   Internal Quality Assurance

ISO   International Standard Organization

IUCEA   Interuniversity Council of East Africa

JIPSA   Joint Initiative for Priority Skills and Acquisition

JKUAT   Jomo Kenyatta University of Agriculture and Technology

KCA   Kenya College of Accountancy

KeMU   Kenya Methodist University

KIM   Kenya Institute of Management

KIM   Kenya Institute of Management

KNBS   Kenya National Bureau of Statistics

KPI   Key Performance Indicators

MBNQA   Malco/m Baldrige National Quality Award

OECD   Organization for Economic Cooperation and Development

OPI   Organizational Performance Index

PUEA   Presbyterian University of Eastern Africa

QA   Quality Assurance

QMS	Quality Management Systems
RBPS	Role- Based Performance Scales
REG	Regional Economic Community
SERVQUAL	Service Quality
SPSS	Statistical Packages for Social Sciences
THE	Times Higher Education
TQM	Total Quality Management
UNESCO	United Nations Scientific and Cultural Organization
UON	University Of Nairobi
USIU	United States International University

ABSTRACT

There is a serious problem in Africa with large class sizes, availability of up to date equipment, academic materials, curricula relevance and integration of higher education labour market. Increased student enrollment without proportionate improvement of the available physical resources, learning environment, service quality, attraction of highly qualified teaching staff, inadequate development of a curriculum that is relevant to current job market needs and matching students skills to their employment needs are some of the problems facing these universities. These challenges are raising doubts on the quality of graduates produced by the Kenyan universities and by extension the level of their preparedness in their employment market. This research explored these two issues and also and ranked Kenyan universities based on the quality of their graduates. The main objective of this study was to explore into the quality of Kenyan university graduates and their work preparedness. Literature review was on quality of education globally, in Africa, regionally and locally while the conceptual framework on quality of graduates and work preparedness guided the study. The study used descriptive and exploratory designs to conduct qualitative analysis. The target population was 420 graduate employees and 46 supervisors / managers of the COYA 2013 companies who were given a five Likert Scale questionnaire ranging from one strongly disagree to five strongly agree. The questionnaire was divided into two sections to collect detailed data to provide information on quality of Kenyan graduates and their work preparedness. A survey of five public and five private universities was conducted to interrogate their side of the research to get an all inclusive perspective of this study. Characteristics of the study variables were analyzed using SPSS and the relationship between variables was tested using Pearson's correlation analysis. Testing the operational framework model was done using structured model equation which utilizes multiple regressions. The study findings indicated that seventy two percent of the graduates have no practical skills; thirteen percent were working in jobs they were not trained on. Fifty one percent were not well prepared theoretically and practically. Public universities had more PhD holders and professors than private though private were better quality service providers. Additionally, the curriculum needed to be aligned with labour market needs. The study recommends that universities should involve the industry players in developing a curriculum that satisfies the universities, graduates and labour market needs. The research filled the gap and added knowledge on quality on quality of graduates and work preparedness, developed a conceptual framework to guide the study and conceptualize the variables of the study. The study also recommends a similar research in other countries using different variables. Secondly, flexibility of the degree obtained and the extent it can be applied in other areas can be study. It would also be prudent to carry out a research in colleges, secondary and primary school subsectors of Kenyan education which were not covered by this study.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Provision of quality in higher education is very critical internationally and locally according to the General Conference of UNESCO conference (2003). This is due to the importance that higher education plays globally in its development process and in guaranteeing a competitive advantage. Garvey (2010) points out that Higher Education trains students to function professionally in managerial, entrepreneurial and technical positions. Additionally, higher education is critical for conducting research, executing private and public sector services according to Garvey (2010). Thus, quality of education in higher education has become a major concern in the developing countries as it plays a vital role in capacity building and professional training. As such, there is recognition of the critical role that university education plays in social economic and political development of any country (World Bank, 2005). Therefore, universities need to take the lead in the crucial role of producing quality graduates who will fit into the dynamic labour market making quality of education critical. Higher education in conjunction with the industry players should prepare graduates with competent employability skills that meet job market requirements by educating people in a wide range of disciplines (Kaluyu, 2013).

For universities to provide their crucial service, they need to form dynamic strategies that will improve quality of the graduates they produce.

1.1.1 Globalization and quality in higher education

Organization for Economic Cooperation and, OECD (2009 pp. 13) states that "Higher education drives and is driven by globalization, as it trains the highly skilled workers and contributes to the research base and capacity for innovation which determines competitiveness in the knowledge-based global economy. Additionally, it facilitates international collaboration and cross-cultural exchange, cross-border flow of ideas, faculty and financing, students, coupled with developments in information and communication technology. This is changing the environment where higher education institutions function. Co-operation and competition are intensifying simultaneously under the growing influence of market forces and the emergence of new players''.

The importance of quality assurance in higher education institutions should therefore be the responsibility of governments worldwide. Today's international working environment, quality and comparability of academic programs are critical. Globally, employers and national markets need quality staff and university students are looking for a recognized degree to be compatible with the labour market needs (Andrea, 2010). Due to the critical role education plays, there should be a strict criteria followed to ensure comparability, quality and effectiveness in higher education. Andrea recommends that all world nations should transform and improve their quality assurance systems. British Council Intelligence Report (2013) further states that continuous improvement to global quality assurance standards and benchmarking of higher education teaching and research are important for social economic development of any country.

Arguably, Chalmers (2008) found out that Australian universities have recognized the need to implement agreed quality indicators across all their university sectors. Australian universities have developed a framework for teaching quality dimensions. They point out that organizations should audit and review university performance throughout states and national boundaries. In addition, Wende *et* al. (2007) document that institutions and national quality models and performance indicators are important in raising higher education standards of quality that will results to quality output.

1.1.2 Higher Education in Africa

Africa needs education as a critical tool to develop economic success and its long term growth and development. According to Abagi (1997) Higher education is said to be a sensitive area of investment and African governments are committed to developing university education as they need highly trained human resources to do research, formulate polices that are important for implementation of national development. Higher education is the backbone of any society globally, regionally and locally. Today's higher education has become a complex system facilitating research, teaching, international cooperation and understanding customers. Expansion has been a constant feature of higher education in Africa with the demand surpassing the supply which is raising questions on the quality of the output which this study is investigating.

It is evident from various literatures that, higher education promotes qualified human capital, international cooperation, generates knowledge and improves competitiveness in Africa. Further, African education institutions face decline in quality, deteriorating physical facilities, inadequate learning and research, outdated curricula,

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unqualified teaching staff, insufficient equipment, instructional materials, poor academic environment and inadequate evaluation of academic performance. It is also noted that the overall mismatch between programs of study and labour market requirements are of great concern in development of curricula relevance to job market needs. In addition, African higher institutions are generally inadequate at preparing their students with relevant applicable skills that reflect the needs of their employment market. Moreover, according to United Nations Scientific and Cultural Organization (UNESCO, 1992), countries globally needs to produce quality university graduates to adapt to the changing technology.

According to UNICEF (2000) and Wilson (2009) quality education is achieved through quality lecturers, adequate curriculum, training facilities, state of students in use of learner centered teaching, holistic learning environment, knowledge content, teacher knowledge and skills. Wanjala (2013) documents that in Kenya, both public and private institutions of higher learning have questionable quality, efficiency, relevance and academic fraud in common.

Additionally, Concern is being raised about the quality of higher education in Africa as a response to the public perception that quality is being compromised due to expanding enrollment of students. There is also growing concern that university graduates are not well prepared for their job market. According to Materu there is a lot of concern on quality which has come at a time of growing potentially powerful role of education. He documents that education quality is compromised in the effort to expand enrollment, and there are growing complaints about university preparation of the

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graduates for the labour market. Materu posits that little literature is available on what countries in Africa are doing to improve quality in Higher Education (Materu, 2007).

However, although the University education subsector that this study is interested in has various issues discussed in this study, several critical success factors are evident such as Virtual learning environment, e-learning and massive expansion of Higher Education Institutions (HEIs). Additionally, an increasing number of HEIs are exploring or have implemented Enterprise Resource Planning (ERP) Systems as a success factor which has improved institutions and decreased costs globally, in Africa, regionally and locally. However, ERP Systems implementation is not an easy task as it is complex, difficult, costly and time consuming (Rabaai, 2009) Though Kenya has rapidly increased the number of universities, student enrollment, and established Commission for University Education (CUE), the quality of most of the graduates produced by these universities is in doubt and has necessitated this research. It is suggested that e-learning can contribute to quality of output globally, though face to face teaching remains most practiced mode of teaching in Kenyan universities according to Mgaya (2010).

1.1.3 Interuniversity Council of East Africa (IUCEA) and Higher education

Marwa and Zairi (2008) document that East Africa universities have concentrated mostly on teaching rather than research and innovation of their programmes and have been ranked poorly by Webometrics in quality and research output. There is a slow rate with which they are embracing Total Quality Management (TQM) in their practices. East African universities need to improve on research, ICT, diversity, faculty, quality,

accreditation, networks and global collaboration to attain global recognition as supreme centers of excellence.

IUCEA was formed to regulate and streamline issues of university quality systems and practices in East Africa. This body uses quality assurance as a management tool to achieve efficiency resource utilization and production of quality output. Furthermore, it aims at harmonizing quality in the region, link academia to industry and enhances productivity (Mwiria, 2011).

Therefore, IUCEA is of critical importance in the development and harmonization of human resources through quality assurance in higher education in East Africa. It aims at achieving quality through government, employers, society at large, students and parents.

1.1.4 Kenyan University Education

In view of the above issues, the Ministry of Education (MOE) developed a national strategy for university education in 2006 with the aim of formulating and developing goals, strategies, objectives, targets and output in the university sub sector. Additionally, this Ministry through a task force addressed critical issues namely: quality and relevance, equity and access, science, technology, innovation, financing university education, governance and management, linkages and partnerships and ICT in university education (MOE, 2006). Importantly, university education should seek to generate, store, transmit, retrieve knowledge and also develop persons who are creative, critical, transform the society and promote integrity. Hence, the MOE strategic plan documents that graduates should be trained by universities to independently carry out tasks, be creative, innovative and goal oriented.

In Kenya, it is noted that the Commission for University Education has emphasized on quality of higher education. The standards set by CUE are related to standards of quality in physical resources, teaching, teachers, research and innovations, learning environment, information communication technology, academic programs and university libraries. These standards apply to all universities, constituent's colleges and their learning centre's operating in Kenya. According to Lindow (2008) the higher education sector in East Africa has grown in complexity as well as numbers and therefore, universities have to look for ways to represent and serve their societies. It is observed that most of Kenyan Universities have focused on raising student numbers rather than on improving quality of education and research. They argue that there is a crisis in some of these universities, as hiring and retaining qualified PhD lecturers is difficult. Furthermore, PhD holders are highly trained researchers, who are urgently needed in the universities to produce highly qualified graduates who can research, publish, innovate and cope with the dynamic technology. Kindiki *et* al. (2012 pp224) states that: "The lack of highly skilled academic professionals has a negative consequence for economy of Kenya".

Further, Kindiki *et* al. (2012) argue that qualified university academic staff both in private and public universities resign to secure better jobs abroad, take up consultancy or are absorbed in other sectors in the country thus causing brain drain. Brain drain is defined as emigration or loss of academic staff and skilled personnel to settle in other countries with better pay (Kindiki *et* al., 2012). They document that for instance, due to brain drain, the teaching force that hold PhD is only 40% in University of Nairobi, Kenyatta University 32% and Egerton University 19%. They argue that although PhD is

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the benchmark for teaching in universities internationally, masters' holders were teaching in African universities and also in Kenya. According to Kindiki *et* al. 60%, 68%, and 81% masters holders without pedagogical training skills teach in Nairobi, Kenyatta, and Egerton universities respectively. Kenyan universities have fewer PhD staff compared to other countries of sub-Saharan Africa, and PhD is no longer a requirement to teach in the University (Keringa & Bugira, 2009). According to this research twenty (20) PhD holders left Moi University; 40 left University of Nairobi and a number left Egerton for better employment terms in America, United Kingdom, South Africa and in Kenya for consultancy within the Government sectors in a span of just one year from 2012 to 2013. According to a pilot study done by this research in 2013 on business departments of various universities, Kenya Methodist University (KeMu) has 10 PhD holders for 6000 students; Presbyterian University of Eastern Africa (PUEA) has 2 PhD to 400; KCA has 9 PhD holders to 1500; Meru University has no PhD holders for over 3,500; and JKUAT has 26 PhD holders to 3304 students yet, there are post graduate students in these Universities. Ndegwa (2010) observes that Kenyan university lecturers are overworked as they handle large numbers of students which results into more exoduses to countries with better pay.

It is also observed that the (CUE) is concerned with the critical shortage of PhD holders due to brain drain (CUE, 2013). As a result, most of the university teaching is left to masters' holders and tutorial fellows who teach even in post graduate classes. Additionally, Gudo *et* al. (2011) in their research are concerned with the rapid recruitment of teachers and relaxed promotion criteria with no emphasis on research and publication which has negative consequences of education and quality offered. Musembi

(2011) agrees that although there is an increase in the number of students in both public and private universities, they only have 43% and 69% of the required facilities respectively. According to this research, there was serious congestion of students in the classes. Gudo *et* al. (2011) study shows that the universities did not have enough of necessary physical facilities, teaching, research recourses, and innovation and information communication technology. This is made worse by the rapid increase of students pursuing university education. The laboratory equipment were not adequate as public had 34% and private 79% of the required equipment meaning that the teaching in the universities was not adequate. For the computers, public had 35% and private 83%. World Bank (2000) and Cheboi (2006), documents that most universities do not have adequate financial recourses to improve their facilities which affected quality of education. The University Inspection Board (2006) showed that most recreation facilities were poor. They also note that the increasing number of students did not match with academic infrastructure. World Bank and Cheboi's research showed that 55% science laboratory equipment was in a state of despair which meant that only 45% of the experiments can be carried out. Their research indicates that graduates produced will not match academic, technical and psychological competence. Library staffs were 87% and 73% trained in private and public universities and 40% of public were not satisfied with internet facilities. This resulted in shortage of research journals to be used which affects quality of research.

In general Kenyan universities are not well developed in areas such as: academic qualification, faculty, experience and diversity of innovative programmes. Additionally,

their multicultural environment is not well connected with business and the society (Marwa, Keoy and Kol (2009).

Furthermore, Eshiwani (2009) documents that there is concern with the lowering of academic standards of quality of graduates' raising a question on whether these graduates are well prepared for the employment market. This study also shows that issues of examination integrity are common in the Kenyan universities. Thus, there is 63% inadequate supervision and invigilation cases, 31% are cases of cheating, 14% are cases of unethical grades given by lecturers after students have given them incentives. The former commission for Higher Education (CHE) (2010), noted that the ratio for lecturers to students is low and recommends the correct numbers as: Applied science 1:10, Arts and humanities 1:15, medical and allied science 1:7, Pure and natural science 1:10, Social Science 1: 18, According to this study, tutorials are absent in most of the Kenyan universities although they appear in the time table. Yet, these universities have large classes and the commission's regulations have not been followed.

Chacha (2004) found out that Kenyan universities are faced with staff retention problems, inadequate budgets, overcrowding and lack of adequate resources which has contributed to inefficient and deteriorating academic standards. Other problems include low publications and research, ICT capacity and utilization, management and students welfare. This has led to a trend of deterioration in quality of education in most of the Kenyan universities.

According to Public Universities Inspection Board Report (PUIBR, 2006) the quality of university graduates is declining in some programmes yet, quality graduates

are essential for social economic development. Additionally, professional bodies, the local industry and other employers in public and private service sectors have raised concerns about the quality of graduates from local universities though partnerships between Kenyan universities and the local industry or employers have been very weak. Furthermore, this report documents that Kenyan universities currently do not adequately invest in faculty development and as a result this is already having negative effects on the quality of university graduates produced. Some doctoral programmes in strategic areas have very low enrolments. Faculty members are also not being trained on new innovations in teaching and learning, and receive very limited support for research (GoK, 2006).

However, though there are doubts on graduates produced by the Kenyan universities, it should be noted that the global economy has changed from being commodity based to knowledge driven in these dynamic global job market. Therefore, the ability to generate knowledge has become critical to the economic and social advancement of nations and communities yet Kenya is performing dismally in the global rankings of its universities.

1.2 Statement of the Problem

African countries have a greater need to produce quality university graduates who will adapt to Africa's rapid changing needs of technology development. There is a serious problem in Africa with large class sizes, availability of up to date equipment, academic materials, curricula relevance and integration of higher education labour market. Thus, higher education should start providing pedagogical training skills to teachers as well as graduates seeking employment. They note that most of the African

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universities have critical mismatch between their curricula and societal needs. The African universities continue to underpay lecturers who are already overworked as they handle large numbers of students. They admit that there should be more emphasis in research to further advance technology and improve preparation of researchers and produce quality in higher education. In addition, the government of Kenya is expanding the institutions of higher learning although there is very little that has been done to attract highly qualified lecturers for teaching and guiding research in the universities. Certainly, there is a need to urgently hire more PhD holders as most of them have migrated to other countries due to brain drain.

Meeting these requirements is difficult since Kenya has limited resources yet, the fast expansion of Kenyan universities has only focused on raising student numbers rather than improving the quality of education and research. Furthermore, increased student enrollment without a proportionate improvement in available physical resources, learning environment, service quality, attraction of highly qualified teaching staff, developing curriculum that is relevant to the current job market needs and matching students skills to their employment needs are some of the problems facing these universities. These challenges are raising doubts on the quality of graduates produced by the Kenyan universities and the level of work preparedness in their employment market. This research has explored these twin issues of quality of university graduates and their work preparedness and also went further to rank Kenyan universities based on the quality of their graduates to close these gaps and add more knowledge on this area.

1.3 Purpose of the study

The purpose of this study was to ascertain the quality of Kenyan graduates and by extension the extent to which they have met the job performance expectations of their employers. The results enabled the study to rank Kenyan universities based on the quality of their graduates. This research was prompted by the inadequacy of local content and knowledge on the area of quality of universities, quality of graduates, competence of teaching staff, quality of physical resources, curriculum content, institution's reliability, employability skills, service delivery and work preparedness of graduates. This research provided insights on the Kenyan scenario on the same area.

1.4 Objectives of the study.

The general objective of this study was to explore the quality of Kenyan university graduates and their work preparedness. In addition the research investigated competence of the teaching staff, quality of service delivery, curriculum content, quality of university physical resources, institutional reliability and also explored what determined quality of a university graduate.

Specifically, the study sought to:

(i)   To investigate competence of the teaching staff in Kenyan universities

(ii)   To examine quality of service delivery by the university

(iii)   To investigate adequacy of the curriculum content

(iv)   To explore the quality of physical resources in the university

(v)   To explore the quality of a university graduates.

(vi)   To evaluate how graduates' quality compare amongst various universities in Kenya.

1.5 Hypotheses

These six research hypotheses were derived from the research objectives above and are listed here below.

Ho₁: There is no significant relationship between the competence of teaching staff and graduates work preparedness.

Ha₁: There is a significant relationship between the competence of teaching staff and graduates work preparedness.

Ho₂: There is no significant relationship between quality of service delivery by the university and work preparedness of university graduates.

Ha₂: There is a significant relationship between quality of service delivery by the university and work preparedness of university graduates.

Ho₃: There is no significant relationship between adequacy of curriculum content and graduates work preparedness.

Ha₃: There is a significant relationship between adequacy of curriculum content and graduates work preparedness.

Ho₄: There is no significant relationship between quality of physical resources in the university and quality of university graduate.

Ha4: There is significant relationship between quality of physical resources in the university and quality of university graduate.

Ho5: There is no significant relationship between quality of university graduates and their work preparedness.

Ha5: There is a significant relationship between quality of university graduates and their work preparedness.

Ho6: There is no significant relationship between graduates' quality amongst various universities in Kenya.

Ha6: There is a significant relationship between graduates' quality amongst various universities in Kenya.

1.6 Significance of the study

The findings of this study have generated useful information which adds knowledge to university developers, students, graduates, employers and policy makers to arrive at appropriate decisions. The quality assurance officers, the Commission for University Education will apply the skills that will give universities competitive advantage on quality of graduates and employability skills of their output. The literature on independent and dependent variables added more knowledge to the theories and models of quality in the Kenyan context. This study also offered knowledge concerning new information on the quality of graduates produced in Kenyan universities. In addition, it has also given an insight on the level of preparedness of graduates in their labour market. Although employers have indicated dissatisfaction with university graduates in Kenya,

universities rarely solicit feedback from the society and the employers about their graduates' performance in the labour market. This study therefore, addressed this apparent disconnect between the quality of the university graduates and their work preparedness. The results of this study helped to rank universities which will benefit the decision makers, students and employers on choice of universities with a national outlook and quality graduates. The quality of Kenyan university graduates and their job market preparedness, ranking of Kenyan universities using quality and employability skills are gaps that this study has filled

1.6.1 Scope of the study

This study explored the quality of Kenyan university graduates and their work preparedness. In this study, university graduates were defined as the individuals who held a bachelor's degree for one to five years and were in employment. The Kenyan universities who had graduates working in COYA (2013) participating institutions were ranked based on the quality of their graduate. This is because the process of starting new universities needs policies to ensure quality in higher education and research. Thus, this study covered quality of graduates and their work employment preparedness. It only looked at information derived from Kenyan university graduates and how they are assessed by their employers. Thus, this study covered the quality of the university, graduates quality, employability, and compared graduates from different universities, in terms of service delivery, competence of academic staff, work employment preparedness and makes conclusions to university development on the twin issues of graduates and work employment preparedness. The study collected data only from Company of the Year Award (COYA) participating companies' managers/supervisors and university

graduates who work in these companies. Ninety three percent (93%) of top awarded companies in 2013 were included in this study as 7% were not accessible.

COYA participants were introduced as a corporate event in the year 2000 by Kenya Institute of Management (KIM) to reward the best organizations that performed well in management Kenya every year. Its aims at maintaining integrity in management practice, in order to increase competitiveness locally in the increasing global world. The companies are assessed using the indicators of: Leadership and management, Human resource focus, Financial management, Environment focus, Customer and market orientation, Information and Knowledge management, Strategic focus and Business Productivity and Quality. It uses Organizational Performance Index (OPI) to rate business performance on a scale of 1 to 10. COYA helps businesses to act on their Organizational Performance Index (OPI). OPI emphasizes linking processes and performance in competitiveness of quality which applies to university output. Most outstanding companies receive awards and the top company is declared company of the year (Muthoka, 2013). The companies that participated in COYA (2013) were: Nestle Kenya, Crown Paints, Jubilee Insurance, Tourist Fund, Gulf Africa Bank, National Oil Corporation Kenya, Post Bank, Laptrust, Nairobi Bottlers, Jetlink Express, New KCC, Consolidated Bank, Kenyatta University, Britam, CFC Life, UNAITAS, Betashelys Africa, Githunguri Dairy, UAP Insurance Company, Davis and Shirtliff, Kenya Sugar Board, Toyota Kenya, South Nyanza Sugar Co LTD, UBA Kenya Bank Ltd, Pan Africa Insurance, Blowplast, Kenya Wildlife Services, Kenya Pipeline, KNT, Kenya Commercial Bank, Keroche Industries, ICDC, KCC, Kenya Forest Service, Mabati Rolling Mills, National Media Group, NSSF, EABL, Engen Kenya, Jacaranda Hotel,

Elgon Hotel, Safari Park Hotel, Moi Teaching and Referral Hospital, Magnet Ventures, Geothermal Cooperation, Compulux, McKinney Rogers, Kenya Tourism Board, Kenya Meat Commission and Barclays Bank of Kenya (See appendix).

The idea of COYA participants was inspired by the critical need to enhance company performance excellence and organizational management capabilities. These companies were selected and rated on business performance and quality which this study is investigating. The research assumed that COYA participants employ most of the university graduates in Kenya.

1.6.2 Rationale for the Study

The Kenyan universities have not fared well in the international ranking in terms of graduate quality and employability. The first Kenyan university came a distance 1,634 according to Webometrics (2013). The global quality competitiveness has become a point of concern following low rankings of Kenyan universities in the world, Africa and East Africa. The quality of the university graduates produced is not well understood and has become an issue of interest to the employer who need graduates that have skills fitting in the dynamic labour market. Indeed it is worth noting that organizations in Kenya are all looking for quality theoretical and practical graduates while university graduates are looking for quality degrees according to Gudo *et* al. (2011).

The foregoing suggests that there was a need to assess the quality of Kenyan university graduates and their job market preparedness. As such, determining employability skills and evaluation of the university graduates by their employer shed

light on ways the graduates can be prepared by the universities in future for the job market making them globally competitive.

1.7 Limitations and delimitation

This research was based on graduates' reactions and perceptions on university preparation of graduates and it was possible that a difference existed between their reactions and reality of the real situation in the job employment preparedness. In addition, the study is based on sharing information truthfully and willingly by mangers/supervisors and graduates. The purpose of the study was explained to the managers and graduates to get their cooperation .

1.8. Assumptions of the study

The study assumed that university graduates and their employers were rational in using the information in the questionnaire to make systematic decisions in their answers. Secondly, the university graduates and their employers answered the questions truthfully, honestly, accurately and there was be no bias in their assessment. It is also assumed that their responses were as a result of understanding and not misinterpretation. The researcher assumed that the selected companies were accessible. There was an assumption that the sample was representative of the population the research made inferences to. The assumption that Private universities had better facilities and infrastructure than public universities was confirmed by the study. Additionally, it was assumed that both private and public universities follow quality guidelines strictly as per CUE. The study further assumed that university graduates could apply the theoretical knowledge in their practical areas.

1.9 Definition of Significant terms

Employability is the ability of a student to get a job after graduation and is concerned with student's attributes which empower them as a critical life-long learner.

Quality is getting things done right and exceeding high standards or passing the required standards.

Service quality is satisfying expectations of customers and teaching services are done right to produce quality output which the graduates in this study are.

A **University** is an institution that engages in research as well as undergraduate and graduate education.

1.10 Chapter summaries

The structure of the thesis covered a critical review and relevant information on quality of Kenyan university graduates and their work preparedness. Given the importance of higher education quality of output, it seemed reasonable to discuss issues in context of graduates quality and labour market preparedness. The research objectives, hypotheses and research methodology was provided and discussed.

Chapter 1: Discusses the research background, problem statement, objectives of the study and the. In addition, it reviews the scope, assumptions and the limitations of the research. Further, the hypotheses and rationale of the study have also been discussed. The following chapter two discusses the literature reviewed in this study.

Chapter 2 summary

This section presents a review of relevant quality models, theories of quality assurance and dimensions of quality in higher education. The theoretical framework and

concept of quality in higher education is also discussed. Additionally, it discusses empirical studies from different authors of quality in higher in higher education, quality of graduates and their employability skills. The literature reviewed looked at global, African, East African and Kenyan view of graduates quality and how it relates to employability skills. The conceptual framework was the guide and road map to the literature on the variables influencing the quality of graduates in higher education.

Chapter 3: provides a detailed explanation on the methodology used. The research design details, methods, approaches and procedures were also explained. It includes population of the study, target population, sample, sampling technique, data collection instruments and procedures that were used. The piloting of the study, data collection, data analysis, interpretation and presentation are also discussed.

Chapter 4: Discusses the research findings from the field data and analysis and discussions are based on the data, objectives, hypothesis and the reviewed literature. SPSS version 21.0 was used to analyze variables of the study while Pearson's correlation tested the relationship between variables. The data was presented in charts and tables.

Chapter 5: presents summary, conclusions and recommendation of the study. In addition, it discusses how the research has contributed to body of knowledge, all based on interpretations from the data and findings obtained. Additionally, recommendations made were to the university developers, policy makers, students, graduates and also further research.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter provides a clear account of developments in literature relating to this study. It specifically focuses on discussion and review of scholarly work in relation to: quality assurance theories and models, Commission of University Education (CUE), and empirical studies of university graduates and employee labour market preparedness. Previous research studies provided a comprehensive understanding of quality, labour market and higher education. The conceptual and operational framework is also discussed. Conceptualization framework for measuring quality of university graduates their work preparedness and ranking Kenyan universities are gaps that have been filled by this study. Literature reviewed gaps that were filled and empirical literature carried out elsewhere by other researchers added core knowledge in this area.

2.1 Global issues in higher education sector

According to Schapiro and McPherson (2003) globalization in higher education is considered more important for all the countries now and education systems are now viewed in the international context. Additionally, the effect of globalization has increased students mobility and free exchange of knowledge across borders. Furthermore, the African higher education sector faces issues related to poor governance, critical shortage of quality faculties, inadequate finances, leadership and management, poor infrastructure, declining quality and teaching relevance and reduced capacity for research.

However, these issues have never been as profound as they are in the recent past. Holm and Malete (2010) documents that higher education in Africa is facing crisis as quality of teaching and research have declined drastically due to reduced budget cuts, repeated strikes, rapid enrollment and migration of talented academic staff to developed countries.

In Kenya these challenges have led to fears that most universities' graduates quality is in on down trend due to rapid expansion in the Kenyan higher education subsector increasing the number of universities and student enrollment levels which have resulted in reduced state resources, financial resources, and changing of an increasingly dynamic global society (Gaynor, 2010). Although there are many challenges facing the higher education sector, the Kenya government is largely emphasizing on free primary and secondary education and licensing more universities without critically monitoring the university education and the quality of its output which is on downward trend.

2.1.1 Trends in Higher Education

According to Altbach *et al.* (2009 p. i) "An academic revolution has taken place in higher education in the past half century marked by transformations unprecedented in scope and diversity comprehending this ongoing and dynamic process while being in the midst of it is not an easy task. Arguably, the developments of the recent past are at least as dramatic as those in the nineteenth century when the research university evolved, first in Germany and then elsewhere and fundamentally redesigned the nature of the university worldwide. The academic changes of the late twentieth and early twenty first centuries are more extensive due to their global nature and the number of institutions and people they affect."

Altbach *et* al. (2009) argues that higher education has become very competitive enterprise in the 21st century. Higher education has also been profoundly influenced by globalization in terms of new information, integrated world economy, communication technology (ICT) and the emergence of international knowledge network. In addition, the use of English in most international higher educational institutions has created universal means of instantaneous contact and simplified communication meaning students can study across boundaries with ease. Thus, the comparability of educational qualifications across the boundaries has become a key issue in the international discussions.

Globalization has brought about mobility of the international students and various countries have adjusted immigration requirements to attract more foreign students making international opportunities available to all equitably. According to Altbach *et* al. (2009) the World Bank has partnered with UNESCO to create Global initiative for Quality Assurance Capacity. Private global universities are absorbing students who are not qualified for public institutions. Academic migrations are disadvantageous to the developing countries. However, though global universities are growing in numbers some traditional universities will still remain while others will be rendered obsolete by information technology, death of the distance and innovations. The internet has revolutionalized the way universities are working, communicating, researching, publishing and distributing their knowledge.

Additionally, OECD (2009) argues that trends in higher education will influence growth of students' mobility expanding global institutions. Further, academic research will expand and become increasingly international but affected by competitive and collaborative forces. The dynamics of globalization will lead to increase of privatization

of higher education. According to OECD (2009) quality assurance focus will strengthen to respond to the growing importance of cross-border, private education and institutional ranking. The quality assurance will put emphasis on educational assessment and labour market demands.

According to Heydenrych (2013) trends in tertiary education in South Africa have been influenced by mobile technology, improved access to internet and growth of social media. Free education software and resources, distance learning and the need for bridging courses also a growing trend. Additionally, there is a growing closer collaboration between business and education. In Africa there is a trend of continuous improvement and updating of knowledge and skills to keep pace with a rapidly evolving economy to remain competitive in the labour market Heydenrych (2013).

However, with the current trend in higher education it is no longer enough to gain skills and knowledge for the labour market additional global corporate knowledge of the world economy is critical. In Kenya, there are doubts on whether skills gained at the universities are adequate to meet the needs of the the labour market.

2.2 Dimensions of quality in higher education

Quality of education is critical to all stake holders, notably the service providers, staff, employers of graduates, individual institutions and their students. The manufacturing industry originally developed the dimensions of quality (Largosen *et* al., 2004). It is important to note that applying features of quality in higher education requires teamwork. Moreover, the dimensions of quality in higher education include performance, reliability, conformance, durability and service. In university education this translates to primary knowledge, skills required, accurate and up to date knowledge of the

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teaching staff. Certainly, establishment of standards, depth of teaching and handling customer complaints are also critical in the university education.

Further, Owlia and Aspinwall (1996) identify efficiency, integrity, testability, correctness and reliability as the important soft ware quality dimensions. Additionally, Parasuraman *et* al. (1994) identifies reliability, responsibility, access, communication, courtesy, understanding customers and physical resources as the key area to observe in university teaching. Another scholar Mukhopadhyay, (2005) agrees that key six dimensions are critical in evaluating quality dimensions in higher education. These include physical resources, competence of academic staff, attitude, content, service delivery and reliability is sufficient in analyzing higher education institution.

2.3 Competence of University teaching staff

Competence of teaching staff involves having sufficient teaching staff who can apply theoretical knowledge and practical skills which is up to date. Teaching expertise and communication are critical (Mishra, 2007). This study is using competence, sufficient academic staff, practical knowledge, expertise, communication and up to date knowledge to measure competence of teaching staff in Kenyan universities. According to GoK (2006) the teacher resource is a very critical input in the education system with indicators such as: qualifications, competence, motivation, inspired and dedication. To encourage competency, GoK (2006) recommends that research should be funded at PhD level, new teachers trained on pedagogy skills, communication, and refresher courses to mentor them. In any university academic staff should be encouraged to research and do publications as an indicator of staff quality. The government is setting polices to have

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PhD holders only teach in the universities after the next five years as well as enforce the university set standards. However, it is only a few Kenyan scholars who are good publishers in the international journals. The information from literature review leads the study to arrive on the hypothesis: *There is no significant relationship between the competence of teaching staff and graduates work preparedness.*

2.4 Higher education in Kenya

In the Kenyan context the term higher education includes: Polytechnic, teacher training, colleges, technical institutes, and technological institutes, private and public universities and also government owned institutes (Ooro, 2009).

The higher education institutions contribute immensely to the professional and personal lives of students and enrich the, economic, intellectual and cultural fabric of their states, communities, nations, and beyond. Few social institutions have been as highly valued as universities and colleges. Thus, those and other contributions of the higher education to the community have been important over the years in professional and academic areas (Reuben, 2007).

In Kenya, GoK (2006 p. 19) states that: "University education seeks not only to generate, transmit, store and retrieve knowledge but also mature persons of virtue and integrity. University education trains leaders who are critical, creative and innovative. Such leaders in training are offered the challenge of actualizing their potential and transforming society. University education therefore assists students in developing skills that help them learn lessons from the past, examine the present and plan for the future". However, though quality assurance departments are supposed to maintain standards of

quality, the high demand of university education in Kenya, rapid expansion of higher institutions, increased enrollment through parallel programmes, distance learning are raising doubts on the level of quality of graduates produced in these institutions.

In this study higher education output refers to those with university degree and also referred to as graduates. According to Gibbs (2010), Higher education should be a process that transforms and supports graduates development to make a wide contribution to the society, economy and local communities. He concludes that measuring of education process is important in the higher education.

More so, according to Wittenberg *et* al. (2000) higher education has historically and functionally occupied a position of social development by generating and transmitting knowledge to provide opportunities that transcend horizons of everyday to solve society problems. Therefore, universities should develop the employability skills of their graduates to ensure stronger link between higher education and practice since university education is purely based on technical content which is no longer considered adequate to meet needs of the job market.

JIPSA (2011) also emphasizes the importance of the knowledge-driven world that will compel university education to produce graduates who will compete productively. Parasuraman *et* al. (1985) more importantly, recommends the use of SERVQUAL instrument to measure quality of service in higher education using variables such as reliability of teachers, assurance, empathy, tangibles and responsibility as used increasingly in the global world to promote economy, growth and development.

Additionally, higher education in Kenya includes college and university learning in which students attain higher education qualifications imparting in-depth knowledge in all aspects of life. Higher education is critical for: production of qualified human resources to be absorbed in the job market, training for research, efficient management of teaching, and also gives opportunity to participate in development process. Higher Education Institutions (HEI) also contribute to national development, foster global competencies among students, inculcate value systems in students, promote technology use and develop themselves into centers of excellence (Mishra, 2007).

2.4.1 Universities in Kenya

Universities in are established through university rules 1989, section 7 (1) (a-f), (C.U.E, 2012) which stipulates the guidelines and details of commencing requirements such as: Proposed name, historical background, vision, mission, justification, physical resources, academic character, location, philosophy, objectives, governance, academic programs, human and financial resources. A letter of interim authority leads to awarding of charter after set requirements are achieved. According to CUE there are a total of sixty seven private and public universities in Kenya which have spread their campuses across the country. CUE has set standards and guidelines for physical facilities, university libraries, setting up private universities, curriculum preparations, conduct and discipline of students, teaching qualifications, collaboration between institutions and standards for validation of diploma programmes (Standa, 2008). Public and private universities follow CUE guidelines for quality in all areas to produce quality graduates in Kenya. However, public universities are managed by the government while most of the private universities are church sponsored with a different leadership style.

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2.4.2 The National Strategy for Kenyan University Education 2007-2015

In 2006 the government of Kenya (GoK) through the Ministry of Education created a taskforce for development of the national strategy for university education to formulate goals, strategies, specific objectives, targets and output in the university sub sector. The taskforce developed strategies to address eight areas namely: equity and access, relevance and quality, science, financing, students and staff welfare, technology and innovation, ICT in education, partnership and Linkages, governance and management in university education.

2.4.3 Quality of Service delivery in Higher Education

Parasuraman *et* al. (1985) identified reliability, competence, responsiveness, access, communication, credibility, security, understanding the customer needs and tangibles as key dimensions of service quality in higher education. Parasuraman emphasizes satisfying the expectations of the customers and improving teaching services to improve quality of the output. Owlia and Aspinwall have a model that agrees with Parasuraman on the dimensions of quality in higher education. In addition, Parasuraman introduces the indicators of performance, completeness, flexibility and redress as some of the other service quality indicators to be considered. In essence quality is viewed as "zero defects", and fitness for the purpose (Juran, 1988). According to Mishra (2007) quality is fitness for a purpose which is done at a minimum cost to the society, also a philosophy and a concept. In addition, Harvey (2005) adds that quality is zero defects, fitness for a purpose, getting things right and exceeding high standards or passing the required standards. Quality is a process that is absolute and revolves around a culture that is

considered to be the highest standard. Mukhopadhyay (2005 p.19) states that "the product quality has to meet minimum conditions for quality". He posits that a product or service must undergo the set processes and conform to set procedural requirement. Thus, to achieve quality, systems and procedures are laid down for required purpose.

In higher education quality means the educational process ensuring that students achieve their objectives and goals to help in national development and satisfying the needs of the society (NAAC, 2007). Quality in higher education can be achieved through evaluation of each institution's best practices benchmarking and monitoring of external quality. External quality is preferred throughout the world and in order to capitalize on internal quality and add value to quality assessment, external monitoring is done.

In addition, Owlia and Aspinwall document that reliability in teaching is important in service delivery and refers to the extent to which knowledge or skills learned is correct, accurate and up to date. They recommend the indicators of reliability as trustworthiness, keeping promise and solving students' problems. Parasuraman *et* al. (1985) asserts that reliability of the service involves carrying out the service in the way it is promised or the degree of consistency in the educational process. In this research, university reliability was measured by assessing the universities 'trustworthiness, keeping promises, handling problems, rewarding process, confidentiality, respect and preserving students' dignity.

Owlia and Aspinwall (1996) developed a conceptual framework for service quality in and argue that service quality in higher education combines the critical indicators into six criteria to cover service quality. These are: Physical resources (tangibles), competence, curriculum content, service delivery, reliability and attitude. These are the dimensions

indicative of assurance of quality in higher education. This study adapted these indicators of Aspinwall, Owlia and Parasuraman *et* al. (1985) since it not possible to cover all the indicators in this study; it is recommended that other researchers can fill the gap left by this research.

2.4.4 Universities Initiatives to grow a culture of quality excellence

The developed countries like Germany launched first plans for excellence initiatives for their universities making them more attractive locations for research and innovations. Universities such Oxford and Harvard are some of the centers of excellence globally (Zhu, 2013).

Additionally, In Kenya, universities are supporting research and innovations, creating enabling environment for scientists at the universities to create a culture of excellence. For instance, in Kenyatta University the strategic planning and vision are used as tools to improve the performance of the institution (Mugenda, 2013). The awarding of the Charters is a logical step towards excellence as universities are certified by a commendable level of performance set by CUE using various pre-set standards.

Furthermore, the universities have an objective of excellence in research, scholarship, publishes, teaching as well as aligning with bottom up practices to achieve excellent skills (OECD, 2008). In Kenya CUE has set guidelines on programmes, practices, curriculum, quality, teaching staff qualifications, service delivery, standards of physical resources and university libraries to create a culture if excellence(CUE, 2013). In addition, Marwa, Keoy and Hoh (2009) ascertained that to get closer to a world class university school attributes of excellence have to be identified and used as a yardstick to

gauge business schools performance. They emphasize on creating a culture of excellence to catapult the schools towards excellence. Further, they document that universities poor research records and skill shortages are an impediment requiring immediate action.

In addition, both private and public Kenyan universities have established internal quality assurance which is a benchmark to serve as positive indicators of self-criticism by both stakeholders and the universities. This is in terms of examinations, feedback from students, alumni, peers, industry and the other relevant professional bodies. This is aimed at improving quality of universities and its graduates.

2.4.5 Quality assurance in Higher Education in Kenya

British Standard Institution (BSI) posits that quality is totality of features and characteristics of a product or service that bear on its ability to satisfy implied or stated needs (BSI, 1991). According to Materu (2007 pp.31) "Quality assurance within institutions of higher learning should takes place throughout the teaching and learning process. It includes screening of candidates for admission, staff recruitment and promotion procedures, curriculum reviews, teaching and learning facilities, quality of research, policy development and management mechanisms, student evaluation of staff, external examiners for end-of-semester or end-of-year examinations, tracer studies, academic reviews and audits."

However, what Materu (2007) document is supposed to be done but in Kenya the process of implementation is weak due to failure to keep up with teaching timelines, increased workload for lecturers and few lecturers are available to supervise research.

Arguably, according to Bashaka *et* al. (2009) quality in higher education cannot be avoided. They posit that the entry of private higher education provides and declining government funding has caused decline in quality of graduates. In Kenyan quality assurance in higher education is undertaken by professional bodies, higher education institutions (HEIs), directorate of quality assurance and standards and the Commission of University Education.

Further, the provision for quality in the higher education sector is a major concern in the developing countries due to the recognition of the central role that university education plays in the economic, social and political development of the country (World Bank, 2005). Quality in higher education institutions plays a critical role in maintaining competitive advantage in globalizing world knowledge (UN, 2001). In Africa, university education has a critical role in professional training and capacity building.

However, despite the traditional higher regard for colleges and universities work, these institutions face challenges of quality management due to the new enrollment patterns, changes in student demographics, technological revolution, information explosion, constrains on resources and the changing nature of the work place requirements (Ruben, 2007). According to Mansfield work by Ruben (2007) two models can be used for maintaining excellence in higher education. These models Baldrige and accrediting model frameworks identify critical standards to organizational quality and effectiveness. Both of these models Baldrige and accrediting models each stress the critical role of institutional, assessment, leadership, data-based decision making, planning, strategic, outcomes measurement, and peer comparisons. They also share the position that review, continuous improvement, planning, and are fundamental to

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institutional effectiveness and should be thoroughly integrated into the strategies of every institution aspiring to achieve excellence in higher education (Ruben, 2007). "Baldrige model was developed as a way of thinking, philosophy, and methodology for conceptualizing, Operationalization, and organizational excellence in quality" (Ruben, 2007 p.9).

According to GoK (2006) the quality of university education depends on the quality of the students, faculty members, and the learning environment. However, although the quality of service to the students continues to improve, faculty development programmes are lacking, and there is also a shortage of doctoral-level lecturers as a result of rapid expansion of the Kenyan universities and brain drain as they seek better jobs and pay. The quality of the learning environment in some universities needs improvement. This has had an especially negative effect on undergraduate and graduate degree programmes in the universities.

Furthermore, according to UNESCO (2009) higher education has become a crucial driver of competitiveness in the increasing knowledge driven economy and research database for post graduate research which creates an important resource for economic development globally. In Kenya, the universities educate people in a wide range of services and disciplines which will play a key role in achieving vision 2030 and millennium development goals (UNESCO, 2009). The quality systems in higher education are impelled by the growth and diversification of the society concerns (OECD, 2013). UNESCO conference (2005) also recommended the collaboration of joint guidelines for quality provisions internationally based on United Nations (UN) and UNESCO instruments and principles as a response to the growing commercialization in

higher education. This was to ensure the best practices as a response to assist the member states in assessing their higher education service quality. Andrea (2010) emphasizes the need to achieve market and industry skills through strict service quality criteria that assures effectiveness and compatibility of academic programmes that each individual university students should have. More so, quality and Performance in global higher education has always been an important area of concern as education through universities and colleges provide a special class of professionals. However, according to Mansfield work there is a growing concern that countries need to develop criteria for assessing service quality of higher education institution to track organizational achievement and output (Ruben, 2007). For the purpose of this study, Kenyan universities' quality of service was ranked through the indicators of availability of academic staff, convenient operating hours, students' motivation, knowledge applicability, use of modern technology, teaching timelines. In addition the research assessed whether academic staff was easily contacted by their students. Consequently, in light of the discussion above, the study postulated the following hypothesis: *There is no significant relationship between quality of service delivery by the university and work preparedness of university graduates.*

2.5 Curriculum in Higher Education

More importantly, IUCEA confirms that curriculum is an instrument of quality assurance and quality improvement in East Africa. Therefore, university Vice Chancellors, Deputy Vice chancellors and Deans in the region meet regularly to discuss more on improving and maintain quality assurance in their universities. To emphasize this, IUCEA has 76 member countries in Africa who collaborate with development

partners like DAAD, Germany Rectors Conference (HRK) and Dialogue on Innovation Higher Education Strategies (DIES) to promote quality assurance in this region (Chacha, 2010). In addition, the regional peace in education report in Eastern and Central Africa (2008) documents that there should be value–based education with students placed at the centre to contribute to improvement on quality of teaching, learning environment, academic outcomes and students behaviour to achieve student centered learning and quality education in the region. However, most of the teaching in the region is teacher based rather than students based which raises questions on service delivery on teaching in higher education.

In Kenya, the University Act (2012) established CUE to replace Commission for Higher Education (CHE) to oversee university standards. The CUE in Kenya is charged with the responsibility of establishing universities, setting standards, governance, accreditation and supervision (Wanjala, 2013). To safeguard the standards of universities in Kenyan, CUE monitors curricula of foreign universities offering degrees in Kenya for accreditation from their own countries to maintain quality standards in Kenya. CHE was established in 1985 to accredit and inspect public and private universities and maintain quality assurance. CHE collaborated with Kenyan universities to develop a framework for sustaining and measuring quality assurance in Kenya. Individual universities in Kenya have their quality Assurance department and career development programs to assess each of their departments on the quality of the education programmes that they offer (Lenga, 2010). Quality assurance globally aims at achieving quality in universities and their output which the graduates produced.

2.5.1 Curriculum content

According to Mishra (2007), the curriculum content in the universities should be relevant to the future needs of the graduates to fit in the dynamic labour market. It should contain relevant skills and knowledge competences, research and innovation, design and development and also be flexible to fit in other fields in their job market. The curriculum should reflect communication skills, relevance to graduates' future job and teamwork of the academic staff and students.

As such, these views led this study to formulate the null hypothesis that: *There is no significant relationship between adequacy of curriculum content and graduates work preparedness*

2. 6 Quality of university physical resources

Physical resources or tangibles in the universities are critical support to teaching internationally and locally. Sufficient equipment, adequate buildings, sanitation facilities, water supply, library facilities, ease to access, visually appealing environment and supportive services are important in supporting university education (NAAC, 2007a).

In view of this, this study formulated the following null hypothesis: *There is no significant relationship between the quality of university physical resources and work preparedness of its graduates.*

2.6.1 Concept of Quality in higher education

Higher education is a multidimensional concept that embraces all its activities and functions including students, teaching, research and scholarship, academic programmes,

staffing, buildings, facilities, academic environment, service to the community, service delivery, and curriculum and institution reliability. This concept also involves exchange of knowledge, international exchange project and teachers' mobility Higher education definition differs according to the context it is used. It also refers to the post-secondary education where a degree, diploma, or certificate is achieved (Suzhang; Oyewole, 2010).

Barnett (1992) also explains this concept with emphasis on producing qualified human resources as they are products to be absorbed in the employment market to build the country's economic growth and development. He asserts that university education is training for future researchers to continuously develop knowledge and research to participate in the countries development process in the world. The advancement in technology and economic growth in any country depends on higher education to produce planners, designers, teachers and researchers as experts in the labour market. Additionally, Mishra (2007) documents that higher education should impart an in-depth knowledge, competence in societal and job issues as well as understanding of both theory and practice. Moreover, Suzhang (2010) further agrees that, quality in higher education is a multidimensional concept which embraces: academic programs, teaching, staffing, research, buildings, students, equipment, facilities, academic environment and service to the community. It is illustrated in his argument that independent national bodies should be established to monitor quality to maintain standards of higher education worldwide. This author believes that higher education should include all educational functions and activities such as research, social education and high morality of graduates to meet job needs of the society. Furthermore, Harvey (2007) looks at quality as the totality of features and characteristics of the product or service that bears the ability to satisfy the

present needs. In addition, he documents that quality passes a required standard, consistency, and fitness for the purpose. Quality should also have efficiency, effectiveness and be transformational.

Certainly, higher education quality can be viewed as quality of products that are graduates, service quality and also can be viewed through six dimensions which include tangibles, attitudes, content, competence, reliability and delivery of service in educational institutions (Mukhopadhyay, 2005).

2.6.2 Commission for University Education and Quality Assurance

As discussed in the handbook for CUE, quality in higher education is regarded as attaining high level standards or exceptionally high standards, conforming to standards and fitness for the purpose of the institution. CUE (2013) document that quality assurance involves putting all systems in place to guarantee quality in education by monitoring and controlling the set standards. It also involves process control to ensure compliance with the pre-set standards. The external body (CUE) assesses quality in higher education monitoring programmes, processes, practices and service delivery in the institutions. Quality audit of educational institutions in Kenya is referred to as "re-inspection". The principle of CUE is to operate on the best practices and flexibility to achieve the pre-determined procedures and standards.

For this reason therefore, educational institutions maintain the individual Internal Quality Assurance (IQA) then engages the External Quality Assurance (EQA) external bodies like CUE to assess and maintain quality assurance in the institutions. In Kenya, Higher institutions have quality assurance and control departments that monitor and

check whether all activities were carried out as intended. Universities meeting these standards are awarded a charter meaning that the institutions continue to maintain the standards of academic excellence set by CUE.

As explained earlier, CUE ensures maintenance standards, relevance, quality in training and research, continuous improvement, management of quality education and safeguard academic integrity of university education in Kenya (Lenga, 2009).

2.6.3 How quality was measured in this study

Quality in university education is viewed as multidimensional concept that considers: Teaching and academic programmes, research and scholarships, staffing, students, building, facilities, equipment, services to the community and academic environment (Sakthivel, 2007).

However, globally, many countries are debating whether higher education systems are fit for the students training and education that meets countries' development the needs of the society. Today, quality in higher education is the key to producing quality output, the graduates. In this study quality in higher education was measured by assessing competence of academic staff, service delivery, curricula, physical resources, institutional reliability, learning environment and quality of graduates produced. However, some other variables can be used to measure quality in higher education but have been recommended for further studies.

2.6.4 Context of Higher Education in Kenya.

The Higher Education in Kenya has evolved under the influence of political, economic, socio-cultural, legal and technological issues. These aspects have shaped the history of higher education in Kenya. In East Africa, Makerere College in Uganda was established in1922 as a small technical institute to serve the three countries of Kenya, Tanzania and Uganda. In 1956 Kenya established the Royal Technical College in Nairobi which later became a University College of Nairobi in 1963. This was followed by Dar es Salaam and the three offered degrees from University of London until 1970 when the three universities got the right to operate Makerere, Nairobi and Dar es Salaam as autonomous institutions (Kaluyu, 2013). After attaining independence in 1963, Kenya put more emphasis in education to achieve social economic development. The University Education has since then expanded to provide qualified personnel that are required for growth of Kenya's economy. Since then, there has been a rapid increase of higher education institutions and students enrolment (Sifuna, 1998).

2.6.5 Quality assurance in Higher education

According to Storey *et* al. (2000), quality assurance (QA) is a method of management that includes all systematic actions needed to provide an adequate and planned confidence that a service, product or result to satisfy quality requirements and fit for use. Additionally, it should achieve the required standard and it aims at preventing mistakes or defects either in manufacturing or service.

Quality assurance is important as it guarantees certain standards of higher education are processed and evaluated as universities have an obligation to make quality

explicit and effective. It is seen that, in the developed countries, quality assurance in higher education was steadily gaining in importance due to the governments and industries advocacy of well educated workforce that was essential for increasing productivity and maintaining a competitive advantage in the global knowledge economy (Harvey & Night, 1996; 1998; 2005; Woodhouse, 1999).

Additionally, universities across the world administrative units, students, service and academic areas are under pressure internally and externally to increase quality, efficiency and effectiveness. Higher education institutions should be committed to excellence, however, the pace of improvement and change in these institutions is slow (Spelling 2006a, 2006b).

Thus, quality assurance in higher education is a necessary ingredient to national development. In HEI, quality assurance is everyone's responsibility in applying best practices and benchmarking by using tools such as: process flow charts, Pareto analysis, Fishbone and scatter diagrams, Check sheets, Control charts, and brain storming (Mishra, 2007).

Globally, UNESCO (2011) recommends factors that should be considered as units of assessment in quality assurance of higher education. These are students, academic programmes, internal quality control, academic staff, research, infrastructure, management and the organization. NAAC of India, Regional Accreditation of USA, and Indonesia's National Accreditation Board for Higher education (BAN-PT) also use these variables to assess quality of higher education. The International Network for quality Assurance Agencies in Higher Education (INQAAHE), International Association of

University Presidents (IAUP), the Council for Higher Education Accreditation in United States (CHEA), OECD, and UNESCO are the world organizations that emphasizes quality of higher education and production of quality graduates. Hanlie and Parker (2009) agree that there is a real need to address issues between expectations of the employers and quality of output from higher education globally.

They also document that graduates should be able to apply the knowledge they learnt to their job market. This study recommends the use of innovations in higher education to bridge this gap.

In Africa, there is creation of regional coordination mechanisms for assessing quality assurance in higher education in most of the countries to include all stakeholders such as African Development Bank (ADB), African Union (AU), Regional Economic Community (REC), CAMES, AAU, ADEA, and all African universities. There is a need to set strategies for maintaining quality of higher education in African universities, share experiences, and information on quality assurance by 2013. It is noted with importance the crucial need for African countries and universities to work together to improve their educational programmes to achieve and establish coherent systems of equivalence and accreditation (UNESCO, 2012).

Furthermore, in East Africa and internationally, IUCEA maintains high and comparable academic standards in higher education in the region. IUCEA emphasizes promotion of quality assurance (QA), quality management, and maintains international standards to the regions universities. They support and fund academic activities to promote quality assurance in East Africa as well as liaising with African and other world

academic bodies. According to IUCEA, all stakeholders including policy makers, employers, students and parents should be involved in quality assurance to produce quality output who is the graduates. They agree that each university in East African region has to operate its core academic functions and activities with some forms of quality assurance systems.

2.7 University initiatives to improve graduates work preparedness

Globally, many HEIs have developed many graduate employability programmes through internship which is a way of developing work preparedness that employers look for in the labour market (Lewin *et* al., 2013). To improve graduates work skills, the internship of the students is expected to give them more skills in their related to jobs and industries of their interest. The students in internships are expected to gain skills in communication, initiative enterprise, teamwork, planning, learning new knowledge, planning, organizing, service delivery, problem solving, job competence, job confidence, self-competence, commitment, and other employability skills (Lewin *et* al., 2013). Internship and placement make a big contribution to enhancement of employability skills. Additionally, in some developed and developing countries, projects are being undertaken to encourage consultation between stakeholders, representatives of universities, industries and businesses to identify best practices of developing, assessing, reporting and integrating employability skills internationally and locally. The precision consultancy (2007) also identifies critical employability skills such as: teamwork, communication, problem solving, self-management and planning, organizing and life-long skills. These skills can be linked with core skills, life skills, essential skills, transferable skills and competencies. Furthermore, some universities are taking the approach to map out

graduates attributes across their curriculum to ensure they have employability skills. In addition, this study showed that stronger link between business and university gives a greater opportunity to develop and integrate employability skills in undergraduates (Precision consultancy report, 2007).

2. 8 Quality of university graduates

Quality of graduates refers to the quality of the educated to meet the requirement of academic degree and the use of the knowledge to make contribution to research and the society. All universities are facing the issue of ensuring quality of graduates' education. Higher education institutions have to ensure and guarantee training of advanced talents to meet the needs of the country as well as developing science and technology. To meet the requirements of today's dynamic job demand, universities should strive to strengthen and improve quality of graduates they produce. The achievement of quality of education comes from quality of graduates who have been educated. The quality of graduates produced must accord with moral demands from society and fulfill the requirements of human resources from enterprises. The equality of graduates educated should satisfy self-development, promote social science, competence at work, theory learnt and demonstrate required knowledge skills (Suzhang *et* al., 2010). The Kenyan graduates' quality is ranked through employability skills, present job competence, job involvement, job confidence, practical application of theoretical and practical skills learnt at their universities.

In addition, Helyer (2009); Weligamage (2008); York and Knight (2004); Harvey *et* al. (1996); Mehta *et* al. (2011); Hanlie and Yuzhuo (2009) and Vidal (2010) document

that employability skills, understanding, problem solving skills, teamwork, competence, job involvement, communication skills and confidences some of the skills shown work preparedness. These have been adapted in this study to assess the graduates for their work preparedness. The quality of graduates in this study assessed competence of graduates for global work, quality of degree and skill obtained from the university.

The above reviewed literature and supporting arguments lead to formulation of the following null hypothesis: *There is no significant relationship between quality of university graduates and their work preparedness.*

2.9 Global ranking of Universities

The aim of university ranking is to improve research and academic competitiveness in higher education institutions in the world. Times Higher Education and Webometrics are the institutions that regularly rank universities internationally. Webometrics is regarded as the largest academic ranking body of Higher University Institutions every six months. According to the Times Higher Education (THE, 2013), out of 100 top universities worldwide over 40 are from United States (US). The first is Harvard followed by Massachusetts for three consecutive years. University of Cambridge and Oxford from UK follow in third and fourth positions respectively. Australia has six universities in the top 100 and is third on the list behind UK which has 9 representatives on the list and second largest after US. Japan Canada, Switzerland, Singapore, China, Korea, Russia, Netherlands, Turkey, Taiwan, Israel, Germany, Belgium, Brazil, Hong Kong, France and Sweden have their universities represented. Africa is not represented in

this list and only South Africa is number 103th out of the ranked 400 universities in the world.

Times Higher education (2013) used thirteen indicators grouped into five areas to rank the top one hundred world universities. These indicators were carefully calibrated to give comprehensive and balanced comparisons of the ranked universities. These indicators are: research volume, income and reputation; teaching and learning environment; Citation and research influence; industry, income and innovations; and international outlook.

Global Webometrics ranking shows Massachusetts as the best ranked using variables of size, visibility, richness and scholarly work followed by Harvard and Stanford universities. United States leads with 38 out of top 50 universities worldwide.

2.9.1 Africa university ranking

African universities are struggling to attain world class status and are ranked poorly internationally (Marwa and Zairi, 2008). According to university Webometrics ranking (2013) out of 100 universities in Africa, South Africa and Egypt lead with 19 universities followed by Nigeria. Kenya has six universities in this list with the first Kenyan university of Nairobi was a distant number 20 Kenyatta 34, JKUAT 51, Moi University 55, and Egerton number 81 in Africa. The African University ranking was based on the following indicators: international diversity, innovation, research, teaching and research influence. Ranking involved gathering information and analyzing the core missions of teaching, transfer of knowledge, and international outlook of each university. African universities are ranked low in the world universities.

Also ranked among the best business schools in Africa are the universities of Dar es Salaam, UNISA, and management college of South Africa. Stellan Bosch and Gordon Institute of business school of science (GIBS) were also ranked as best performers according to Africa Business Review Magazine 2013.

2.9.2 University Ranking in East Africa

According to Marwa, Keoy and Koh (2009) the future success of East African Universities (Kenya, Uganda, Tanzania, Rwanda and Burundi) will offer innovative programmes with appropriate resources that guarantees an international experience and excellent faculty body with multicultural environment to students. Additionally, they argue that of the five East African Countries, Kenya has the most advanced educational systems yet its universities have not been fully developed. Furthermore, Marwa *et* al. (2009) ascertained that East African universities have been ranked poorly by Webometrics which considers quality of education, size, research output, and prestige (award winning).

Makerere University in Uganda was ranked best in the region and fourth in Africa according to Webometrics (2013). Dar-es-salamu University was second and 11th in Africa while Nairobi University was 3rd and 17th in Africa. Maseno University was ranked 21st, Kenyatta University 87th, Egerton 94th, and Jomo Kenyatta university college of agriculture and technology was ranked 96th out of one hundred African universities. East African Universities are ranked poorly in Africa. Most universities in the top hundred were from South Africa.

2.9.3 Kenyan university ranking

The best universities in East Africa also form the best in their respective countries. Thus Nairobi University is the best in Kenya, Makerere in Uganda and Dar es Salaam University in Tanzania. In addition, Webo metric (2013) ranked the Kenya universities and also put them in the world ranking table. Nairobi University was ranked first overall and 1624 word wide and 12th in Africa followed by Kenyatta University in 19th position. The first six universities were public and 13 private universities were ranked in top twenty on the list.

These universities were ranked on: impact, presence, openness and excellence indicators. Webometrics (2011) conducted a survey and found out that only university of Nairobi and Strathmore were ranked in the top fifty out of 12000 universities in Africa.

More importantly, in the ranking of business schools Strathmore emerged the best school in East Africa and third best in Africa according to Africa business review magazine. Nairobi and USIU business schools are ranked 4th and 6th in Africa's top ten (Webometrics, 2013). There was no Kenyan university ranked in the top one thousand according to a survey by Academic ranking of international universities in 2012. This shows that despite the effort to revamp Kenyan university education universities continue to be ranked low worldwide (Kaluyu, 2013). Poor ranking of these universities gives them less competitive advantage and poor international outlook. These universities have not been ranked using quality of their graduates.

2.9.4 University ranking implications

Scholars argue that ranking of the universities depends on the set indicators and the purpose. Many researchers say that all rankings are partial and consider this not to be the best approach as all rankings contain bias and are purpose driven. Those who support ranking argue that for any university to be successful, it has become necessary to improve on its table of ranking. Some policy makers widely base resource allocation on university ranking. Many critics do not value ranking as they consider it to reflect the real important functions of higher education. Others recommend the ranking as a way of representing transparence to allow students to make informed choices when selecting universities (Marginson et al., 2007).

There are forces inside and outside the universities pushing them to improve the position of their ranking. The power for ranking overrules all critics against it as ranking strengthens competition among universities and encourages change by the policy makers. Many ranking bodies put more emphasis on research and publication and poorly reflect on teaching. Critics are concerned with: transparency of ranking, indentify of ranking provider, aims of particular ranking and the target group selection. It is also not clear who is the real beneficiary, is it the student, university policy makers or is it a motivator to improve university performance in a particular region (Marginson *et* al., 2011).

However, according to Marginson *et* al., ranking raises pertinent questions of what is actually measured, how raw data is used to calculate the value and how the final score is calculated to rank these universities. They argue that ranking should be transparent; collecting of data should follow ethical procedures and provide the consumer

with clear understanding of all the variables and factors used for ranking development. Errors should be eliminated before publishing the ranking tables. The positive implications of university ranking are that students can use it to choose the appropriate university locally and internationally, it encourages collection and publication of data on higher education. Internationally, ranking encourages search for information for the features for which data is collected.

Nevertheless, ranking ignores those universities that do not do research and does not mostly consider quality of teaching. Cost of efficiency, accessibility, creativity, innovations, creative culture and finances by government is not considered Hazelkorn (2011). The ranking bodies used globally, regionally and locally for the purpose ranking universities for this study are the Times Higher Education and Webometrics because they are more recent and improved than older ranking method. Universities in this study were ranked using quality of their graduates. Therefore, in the light of the discussion above, this study examined the following hypothesis:

There is no significant relationship between graduates quality among various universities in Kenya

2. 10 Models of quality

Globally, there are popular models of quality that can be applied to higher education such as ISO 9000:2000, Capability maturity model, Total quality management, Baldridge criteria and Six Sigma model (Mishra, 2007). ISO (*isos*) is a Greek word meaning uniform, homogenous or equal. It is seen as a short form for *isos* which was founded in 1946 to develop and maintain international standards in quality. ISO was

originally started to produce reliable products in manufacturing but has since spread to other sectors including education and training. ISO 9000 is a common label but includes ISO 9001, ISO 9002, ISO 9003, and ISO 9004. The needs of stake holders and customers can be met through ISO certification. ISO is based on the process model that emphasizes continuous quality improvement of all activities of institutions like higher education to provide assurance that programmes and courses meet goals of users of the final product like the graduates' employer (Mishra, 2007).

Additionally, ISO represents the bedrock of an organizations excellence and international set standards for establishing Quality Management Systems (QMS). Organizations can only be ISO certified if they meet the set standards requirement. The Kenya government is improving service delivery of its citizens by implementing ISO 9001:2008 through performance contracts in public service management by adopting QMS in their operations. More so, ISO 9001: 2008 has successfully been implemented in the private sector while HEI are implementing QMS with some challenges (Marwa, 2013).

Another model, Total quality management (TQM), is explained using five components that include training and development, customer, teamwork, measurement and continuous improvement (NAAC, 2003). Therefore, in higher education, quality assurance mechanisms have mainly adopted Total Quality Management system as a vehicle for sustainable competitive advantage. Deming (1982) defined the key objective of TQM as the development of a sustainable efficiency expressed in cost reduction and customer satisfaction. In addition, scholars have widely established that TQM has a substantial role in building competitive advantage of any organization through creating

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additional values to customers (Kroll *et* al., 1999). Externally, TQM aids in establishing an effective direct benefit and connection to the organizations customers. In higher education, this leads to satisfied students and staff increasing loyalty to the institution.

Hansson, (2003 p.111) states that: "TQM is considered to be an important management philosophy, which supports the organizations in their efforts to obtain satisfied customers". According to Hansson (2003) TQM has been accepted as an important concept in practice and theory and has been used frequently in discussion regarding quality in both manufacturing and service organizations. Hansson notes that today's organization have a dynamic environment which has affected both large and small firms therefore, experiencing increased quality demands on their products and services.

Furthermore, Mbeche *et* al. (2010) emphasizes total management practices in Kenyan education institution basing their case on University of Nairobi (UON) and establishing that UON has to a great extent provided evidence of its commitment to implementing quality management systems. Ongera et al. (2010) also documents that UON uses quality management systems to have their academic products meet CHE regulatory requirement and establish objectives to meet for at each level. One scholar who studied on issues of higher education, Barnett (1992) argues that there are some key activities that take care of higher education quality. These are curriculum or courses, teaching and learning, students' assessment, staff development, research and publications, recruitment policies, and academic development plans that link industry and professional community. These serve as the overall activities that are core to quality assessment in higher education.

According to Ramias (2005) another model the Six Sigma was invented by Motorola Company to improve their manufacturing processes, product design and reduction of product defects. This invention made Motorola the first winner of Malcolm Baldridge Quality Award in 1988. Ramias document that Motorola recognized the importance of concepts in quality processes and performance to satisfy the customer demands (Ramias, 2005). Pande *et* al. (2000) argues that the path to success of any business is paved by constant measurement of the company's performance and the workers who give a constant feedback. The six sigma goal is to have a near perfection in meeting customer demands and requirements. The six sigma targets to operate at 3.4 defects for every one million activities by targeting culture change to achieve customer satisfaction, competitiveness and profitability. The six sigma model is driven by understanding customer needs, use of data, fact, statistical analysis and improving business processes. According to Pande *et* al. (2000) argues that the six sigma model has critical area of advantages which include: reduction of product defects, product and service development, cost reduction, productivity improvement, growth in market share, culture change and customer retention.

Additionally, Barney (2002) argues that Motorola's Six Sigma goes beyond counting defects in a product or process as it business oriented, focuses on training with verifiable return on investment and executive ownership. The total quality management has self-directed teams, is quality oriented and focuses on return on investment.

More so, according to Pyzdek, (2003) the six sigma model is used in business to cover Texas instruments, Sony, Polaroid, 3m, Ford, general electric and American express models. The academia is applying this model for assessing quality improvement.

The main aim of the six sigma model is to reduce variations and products or service defects, and increase profitability and customer satisfaction. In the education sector it is used to reduce mistakes in results declaration. The Six sigma model promotes team work. However six sigma model should be used in addition to Total Quality Management (TQM) for effectiveness as six sigma model was mainly invented for manufacturing organizations.

It is important therefore that, SERVQUAL model was developed by Parasuraman et al. (1985, 1986, 1988, 1991, 1993, 1994; Ziethaml et al., 1990). Certainly, this model is the most often used approach for measuring quality of service. It compares service quality perception of customers before and after delivery. SERVQUAL uses six dimensions to measure service quality such as tangibles which consider physical facilities, appearance, of persons giving the service and the equipment used. Reliability to perform the promised service and accuracy is considered. The responsiveness which is willingness to help customers and provide a prompt service is another dimension. Parasuraman et al. (1994) also considered the dimension of assurance which includes competence, courtesy, and credibility when performing the service. The sixth dimension considered by this model is access to the service offered. Empathy includes communication and customer understanding. The SERVQUAL six dimensions were adapted by this research, and additional variables such as: environment that is conducive, ICT added to improve the SERVQUAL model. Shahin (2001) recommends the variables used in this model for measuring service quality in higher education like universities.

However, SERVQUAL only considers service quality and does not consider the manufacturing aspect like the six sigma model since SERVQUAL is meant for growth

and development of the service businesses. It is observed that this model focuses more on service delivery process that the technical dimensions of service like service encounter outcomes. According to Parasuraman *et* al. (2011) the dimensions of SERVQUAL are tangibles, responsiveness to customers, assurance, empathy, competence and reliability.

However, in this research more dimensions like ICT, learning environment, service delivery and institutional reliability have been added to reflect today's dynamism in service delivery. SERVQUAL, TQM, ISO and Six Sigma should be revised by researchers to reflect today's dynamic environment and include modern technology. Since these models were developed many firms have changed in size, operations, management, tastes and preference of their customers. This is a gap other researchers need to fill.

2.10.1 Performance management in Kenyan Public sector

Government organizations around the world face challenges from internal and external environment as they govern their institutions due to globalization and increased complexities of the public forcing governments to ensure delivery of quality service. Performance management was originally developed from private sector using practical strategies and management techniques to improve performance of the employees and the organization by exploring new management strategies (Lee, 2012). This has been adapted in the public sector to include strategic planning, performance measurement, performance monitoring, and teamwork and total quality management. This has increased the role of performance management during administrative reforms in public service which helps attain higher performance goals. Performance management aims at operational

effectiveness to attain productivity, quality, total quality management, innovations and benchmarking (Lee, 2012).

Furthermore, in Kenya most organizations in the public sector are measuring and tracking the right information on performance management by using Key Performance Indicators (KPI). These KPIs are included in the balance score card to measure employees' and organizational performance. The balanced score card assembles information from key institutional areas and systems to measure performance (Calkins, 2013).

In addition, Obong'o (2009) documents that the pursuit of goal performance improvement in the public sector performance management emphasizes the adoption of private sector practices. To improve service delivery, public sector reform initiatives have been developed such as by introduction of performance contracting.

Calkins (2013) also argues that performance contracting (PC) has increased and improved service delivery by setting a culture of business on customers and institutions results. That is why the Kenyan public sector is emphasizing on performance management for results delivery which unites the attention of organizations members on common objectives of achieving the goals. The use of performance data is critical in guiding managers' decisions on public organizations in developed and developing countries.

Furthermore, Marr (2005) emphasizes on gaining competitive advantage by using total quality management, job enrichment, employee involvement, work teams, values, customer satisfaction and skill-based pay to increase the organizations performance

management. This initiative is designed to encourage employees to change the way they work to increase responsibility and contribute actively to achieve organizational goals. Performance management appraisals are considered for checking competencies and for building a culture of performance excellence. According to Marr (2005) Performance management should comply with the institutional goals. Lunger (2006) further states that modern performance management should be in line with organizational objectives, development strategies, values functions, customers, focus groups and team performance to sustain growth. Sibson *et* al. (2011) argues that the pillars of effective performance management include differentiated individual outcomes, business critical goal alignment and leadership champions support which lead to improved institutional results. In this study Sibson documents that performance management get employees support if they trust the CEO on the process of business critical goal alignment and organizational goals.

The Kenyan Public sector uses performance management as a total system that gathers information on performance, reviews performance against set targets, provides feedback to individual employees, and uses this information to improve organizational effectiveness and institutional results. To measure the effectiveness of every employee, performance contract is signed every year between the organization and employee (Lubale, 2012).

In essence, all economic sectors in Kenya need quality performance management and as such, quality university graduates are needed to work in these sectors to grow the economy. It can be deduced from reviewed literature from performance in public Kenyan sectors that there may be or may not be a relationship between university graduates' employability skill from different economic sectors in Kenya.

2.11 Total quality Management Philosophy

This study is guided by the Total Management philosophy (TQM philosophy) which underpins the research. According to Deming (1982) the quality management philosophy emphasizes on creating of consistence of purpose for improvement of systems, products or services with the purpose to produce an excellent output provide jobs and satisfy customers. The philosophy indicates that improving quality is not a onetime effort involves continuous improvement of services, products and all the activities in the organizations including the universities.

Today, quality has become a critical factor in achieving competitive advantage as having a good service or product enables organizations to gain and retain customers (Vidhu & Josh, 2013). Companies and organizations like universities striving to achieve quality should direct their efforts towards innovation of their teaching processes to improve on their output who are the graduates.

However, the concept of quality is complex and therefore groups, institutions and individuals differ about products and service quality dimensions. Thus, education and product is not the same definition as in the industry the customers are the society at large (Molina, 2011). Institutions such as higher education need Total Quality Management (TQM) as it emphasizes on continuous improvement of quality and this will result to quality output which is quality graduates for the labour market. Continuous Total Quality Managements' philosophy underpins this research.

2. 12 Magic bullet model of employability.

The magic model of employability says that the students get employability skills just because they are students. Harvey (2002) argues that Higher Education Institutions should prepare the graduates with employability development opportunities to gain employability skills for future employment.   Some critics argue that this model is unrealistic since employability also depends on other factors which equip the students to do the job such as Students characteristics like willingness to learn, intellectual activities and leadership skills influence employability (Hillage and Poland, 1998; Harvey, 2000). This model was adapted for this study as the research agrees that universities should prepare their graduates adequately for the labour market.

According to Harvey, University education and the labour market are changing rapidly and there is need for higher education to incorporate efficient practices to develop student employability. Higher education should help students to develop communication skills, interpersonal skills, personal skills, personal attributes, teamwork, intellectual ability, flexibility, adaptability, and problem solving in a more holistic approach. Harvey documents that the higher education should help the students to develop employability attributes, work experience, career management skills, development of self-promotion and a willingness to learn and reflect on learning.   The Magic Bullet Model of employability shows that students are given employability skills to lead to their employment according to Hillage and Harvey (2000). The model explained above is shown in figure 2 here below.

Figure 2.1

Magic bullet model of employability   **Source: Harvey (2002)**

Higher Education Institutions

↓

Employability development opportunities

↓

Graduates

↓

Employability

↓

Employment
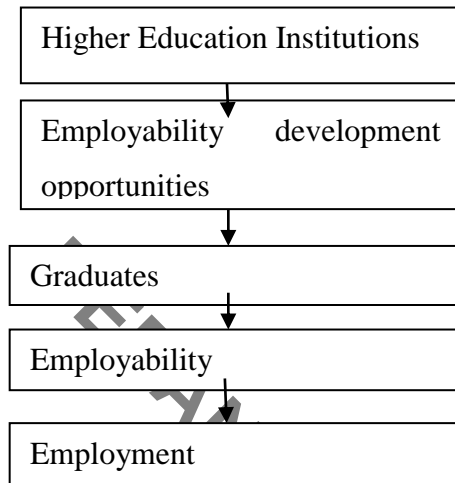
2.13 Empirical review

The term empirical was originally used by Sextus Empiricus, a Greek scientist, to refer to those ancient Greek practitioners of medicine who rejected the doctrines of the day. They preferred instead to rely on the observation of the phenomena as seen through experience (Mugenda, 2008). Empiricism focuses on the aspect of scientific knowledge that is closely related to experience, especially as formed through deliberate experimental arrangement. It serves as the fundamental requirement of scientific method that all hypotheses and theories must be tested against the observations of the natural world as opposed to solely resting on a priori reasoning, revelation or intuition (Mugenda, 2008). The empirical literature in this research dealt with studies conducted on the quality of university graduates, as well as studies on graduates' employability in different context.

In educational institutions, quality is viewed as a process that transforms and in each entity quality assurance is a must as it is concerned with acknowledging the

importance of quality (Mishra, 2007). He posits that, quality assurance in higher education is important for global development and economic growth. Higher education imparts on in-depth knowledge and skills to develop students' ability as qualified human recourses to fit in different job markets. Students are products to be absorbed in the labour markets to develop and grow countries businesses and industries. Therefore, higher education should train and prepare students to be qualified scientists, innovators and researchers (Bennett, 1992)

Globally, a large volume of quality in higher education, university graduates and their labour market, literature has been reviewed by many writers who hail from the field of higher education and quality assurance. For example literature reviewed from Hanlie and Parker (2009) discusses the global dynamic changes and argues that there is pressure on higher education from both the employer and the government to produce employable graduates who have competences and capabilities to work successfully. They document that employers value competence, involvement, confidence, conceptual foundation and intellectual approach to task given by the employer.

Additionally, Yuzhuo et al. (2012) conducted a research and found out that the Finland government had adopted a strategic goal to connect students trained in their universities to country's labour market needs. They document that the concept of employability is closely related to professional success such as successful transition from higher education to the job market. In conclusion this study showed that, 23% of university graduates took jobs that required lower degree of education as their university skills did not match the job expectations in foreign labour market resulting in underemployment. They found out that graduates required relevant skills, attitudes, team

working skills, computer skills, competencies and compatibility with employers' requirements. The study also recommended improvement of curricula and quality of teaching to enhance graduates quality. Therefore, a gap exists between higher educational studies especially in area of software and generic skills. He documents that graduates would prefer to have more practical studies that help in their future job employment.

In addition, according to Pekkola (2012) research, there is gap between the academic content and labour market-tailored content is yet to be reached. All the stakeholders involving employers, students, and graduates should be involved in discussing academic content. Graduates from other countries fail to get relevant jobs outside their home country because of skill incompatibilities and discrimination. There is a constant global complaint from recruiters because employable graduates with right skills and training are hard to come by. According to the study by Pekkola (2012), in Taiwan curricula from top universities and job popular careers are being reconciled to narrow the gap between academia and industry requirements. This study explored the quality of Kenyan university graduates and their work preparedness, closing this gap and added to existing empirical literature.

Sahama *et* al. (2006) recommends a Cooperative Learning Model (CLD) to bridge the gap between the universities and the labour market. They argue that practical learning situations where the key players who include the employers, industries, students, and university academicians agree on what skills are needed to prepare the graduate for a smooth transition to the working environment. CLD puts students to work in small groups on selected industry tasks without direct supervision so that they gain experience and confidence on clients project for future labour market preparations. According to

Sahama CLD seeks to increase the range of services to the students to manage transition between university teaching and full-time employment by offering meaning full practical activities and projects.

In Africa, Hanlie & Parker (2009) researched on graduates attributes and their labour market preparedness and found out that graduates need to have enough skills to fit in their job market. Higher Education South Africa (HESA,2009) notes that there is articulation between higher education and employment as employability depends on practical skills, understanding, personal attributes, job involvement, and competence that are necessary pre-condition for a graduate to have achieved. In South Africa, the Joint Initiative for Priority Skills Acquisition (JIPSA, 2011) has served as a powerful tool in bringing focus skills needed for the economy to mobilize collective support for higher education priority skill development. JIPSA recommends the importance of skill development as the curriculum developers are not paying enough attention to issues of relevance skills and competences that learners require for the labour market. This research says that there is a gap between trained university graduates and the skills needed by the labour market. They document that Africa should produce graduates who are able to compete in within a shrinking workforce.

According to studies done by Hanlie and Parker (2009); Yuzhuo *et* al. (2012); Mehta *et* al. (2011); and Vidal (2010) it is argued that university graduates should have skill practices, deep understanding of work efficacious beliefs, intellectual ability, ability to coordinate activities, decision making skills, working without supervision, interactive knowledge and application knowledge to cope in the labour market. They also recommend job involvement, job confidence and competence as variables to consider

when evaluating graduates employability. These parameters were adapted for this study to bridge the gap between the expectations of employers and their evaluation of graduates' basic skills to understand the knowledge they demonstrate in their workplace.

Locally in Kenya, Kadii (2012) explains that Higher Education Institutions (HEIs) have to tailor the programmes to fit the national development agenda that will help grow the economy, develop infrastructure, and all sectors in the country and achieve vision 2030. He argues that producing graduates with inadequate skills will negatively affect Kenya's development agenda. He sees the need to emphasize on science, technology and innovation to fulfill development plans. The universities should link their curriculum and current economic needs. The education teaching should focus more on practical situations to prepare the graduates for the job market. According to Kenya National Bureau of Statistic (KNBS) report, unemployment is at 40% due to job incompatibility. They recommend a consultation forum between private, public sectors and academia to help to align teaching programmes with growth and economic need of the county. Kadii (2012) documents that Kenyan government has been encouraging rapid growth of educational institutions without emphasizes of relevant policies of the labour market requirements. This report recommends internship programmes before the employee is released to the employer.

2.14 Theoretical and Conceptual frame work

According to Mugenda and Mugenda (2013), theoretical orientation is a collection of existing theories of quality and dimensions of quality from literature or professional hunch which underpin conceptual framework and subsequently inform the

problem statement. This section discussed existing models of quality from selected research studies on performance and quality theories from literature which enhanced the problem statement. Performance management in Kenyan public sector, quality dimensions in higher education and the Total quality management philosophy that underpins the study will also be discussed below.

2.14.1 Theories of quality

Mokamba *et al.* (2013) points out that most successful business organization consider the quality of products and service as critical factors that influence growth and performance. They document that TQM is an improvement body of methodologies which is service oriented and customer based. However, TQM works better under the support of other different theories to guide its practices such as: Deming's theory, Crosby's theory, Joseph Juran theory, and Ishikawa theory which are relevant for this study and are discussed here below.

a) Deming's theory

It is important to note that Deming theory supports TQM as they all advocate for quality management in enterprises. This theory rests upon 14 points of improving total quality management which are: adopt new philosophy, create constancy of purpose, aim at continuous and service improvement, stop dependency on mass inspections, bring cutting-edge on job training, not award businesses on price, deconstruct business barriers, implement cutting-edge barriers, implement cutting edge methods for leadership, avoid quantity based work goals, support craftsmanship, get rid of standards and quotas, ensure training and education of everyone, get top management support and set objectives and

standards to check and ensure quality against the original Mokamba *et* al. (2013). The COYA companies used by this study are hinged on Edward Deming's theory (Marwa & Zairi, 2008). However, there is a challenge of applying all the 14 points suggested by Deming effectively and successfully in all companies. This theory also does not consider small and medium enterprises and therefore leaves out a critical part of business enterprises that contribute greatly to the economy of each society.

b) **Ishikawa theory**

As mentioned above on theories of quality, Ishikawa theory identifies seven basic tools for quality improvement which are: Pareto analysis to identify problems, cause and effect diagrams to get the cause of the problem, fitting collected information together, check sheets to check how often problems occur, monitoring variations by use of histograms, scatter charts to demonstrate and check on variety of factors and process control to determine the variations to focus on.

c) **Crosby's theory**

The idea of Crosby's theory was introduced by Philip Crosby as he started TQM movement in 1980s. Crosby agrees with Deming that money should be spent to produce quality. Crosby based his theory on four critical areas on quality management which were: prevention as the best way to achieve quality, quality adherence to requirement, zero defects as a measure of standards performance. He also suggested quality to be measured by price of non-conformity. However, Crosby and Deming do not agree on their 14 points but they both agree that continuous quality management is important in maintaining quality. The idea of Crosby does not consider today's dynamic environment

posing the challenge of the theories applicability in current enterprises such as the university (Mokamba *et* al., 2013)

d) Joseph Juran's Theory

The idea of Juran stated in the 1950s and he emphasizes on 3 critical areas of: Quality planning, quality improvement and quality control usually regarded to as "Quality Trilogyll" Juran considered ten steps of quality improvement which include: improvement of goals must be determined, awareness of opportunities and improvement, goals improvement, progress monitoring, start projects, organization reach goals, performance is recognized and results are reported. Juran agrees with Deming and Crosby on quality improvement but disagrees on other areas (Mokamba *et* al., 2013).

Based on the arguments of these theories, it is therefore presumed that factors such as quality improvement, quality planning and control as discussed by Juran, Deming, Crosby and Ishikawa increase growth , performance and quality of output in organizations, including universities. Though these theorists emphasize different schools of thought, they all agree that managing quality is critical for any organization. However, they all have not included environmental analysis in their theories though this a critical point to consider in this dynamic world and have not considered the development of a quality culture.

However, although Juran, Crosby, Ishikawa and Deming laid down the foundation of Total Quality Management, the real work was started by the army. Deming also documents that TQM stops people from thinking and argues that his work was to transform management of organizations.

2.14.2 Conceptual frame work

The conceptual framework was developed by this study and is discussed under figure 2.2 and 2.3 on page 67 and 68 respectively and the measurement of the variables that are used shown in the diagrams.

According to Parsons and Shills (1962) a conceptual framework includes descriptive categories systematically placed in a structure to explicit prepositions, statements of relationships between two or more empirical properties to be accepted or rejected. This framework explores the relationship between independent variables and dependent variable. Therefore, some the conceptual framework variables for this study were adapted from Owlia and Aspinwall's model (1996) while development of the conceptual framework and conceptualization was done by this research. This has added new knowledge and content of the literature on service quality and their work place preparedness. The conceptual and operational framework in this study followed the objectives of the study. The researcher's model integrated various variables in explaining quality of university graduates and their job market using the Kenyan concept.

Thus, in this study, quality of university graduates is the dependent variable while competence of teaching staff, curriculum content, service delivery, academic reliability, physical resources (tangibles) and learning environment are the independent variables. This study was informed by quality of higher education existing theories and results from empirical studies. The predicted relationship between dependent and independent variables was identified and their relationship is hypothesized in the study. Based on reviewed literature, more Importantly, Owalia and Aspinwall (1996) presents a conceptual model that has six criteria for depicting quality dimensions in high education.

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They document that higher education should be concerned with this criteria to ensure quality. In addition, Parasuraman, Ziethaml and Berry 1988; Westbrook and Peterson (1988);Reer (2009) agree with Owlia and Aspinwall that the core areas of concern in higher education quality are reliability, content, delivery, competence, tangibles, courtesy, accessibility, security, credibility and understanding student needs. Thus these scholars agree that framework variables are more applicable in a teaching situation. This conceptual frame work offered the conceptual foundation and elaborative network associating the variables deemed relevant to the problem statement and it is shown on the following page.

Figure 2.2 Conceptual Framework is shown here below.

Competence of teaching staff

Quality of service delivery

Curriculum content

Physical resources

Quality of university graduate

Work preparedness of graduates

Independent variables   **Dependent variable**

Source: Author, 2014

71
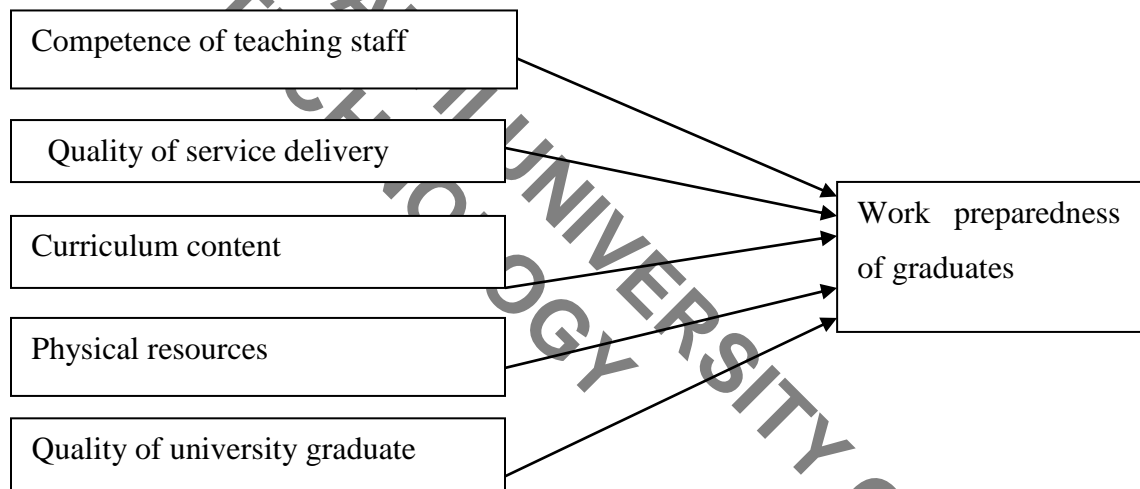
Figure 2.2 above is explained in details of the dependent variable. The conceptualization of the variables is illustrated in figures 2.3 on page 69 and 70.

2. 14. 3 Dependent variable: work preparedness

In this study work preparedness which is the dependent variable is measured by employability skills, job competence, job involvement and job confidence of the university graduate.

2.14.4 Evaluating work preparedness

To evaluate the graduates work preparedness, university education and training, Vidal (2010); Mehta *et* al. (2011) and Hanlie and Yuzhuo (2009) document that the items to be considered are: Job competence, job confidence and job involvement of the graduate employee.

Vidal (2010) documents that job competence can be measured by employee's decision making skills such as: management skills, team spirit, oral expression, practical learning, theoretical learning, written expression, leadership ability, creativity, computer application skills, attitude towards work, and the attention shown to customers. He points out that job confidence can be used to assess employee supervision qualities, knowledge and skill towards work. Mehta *et* al. (2011) argues that to measure job involvement, the employer can use the following variables: job interest, active participation, commitment to handle large amount of work, ability to work independently, and self-confidence. The questionnaires for employers were based on these three studies.

2.14.5 Employability skills

Employability is the ability of the student to get a job after graduation and it is concerned with student's attributes which empower the student as a critical life-long learner.

The employability index determines whether the student job within a specific period after graduating. Yorke and Knight (2004) define employability as a set of achievements, skills, understanding, problem solving, teamwork, competence, confidence, involvement, communication skills and personal attributes that make a graduate more likely to gain employment and be successful in their chosen occupations which benefits them, the workforce, the community and the economy. Employability elements differ from one job to another job though the basic outcome remains the same. These elements make an employee useful and desirable at the workplace. In the dynamic world, employees need to be adaptable and multi skilled with employability skills needed in the labour market (Helyer, 2007). Study by Weligamage (2009) on graduates' employability skills in the developed countries, it was concluded that universities globally should identify a set of skills that will best serve the future labour markets and align higher education programs to meet those needs.   Weligamage notes that with the current dynamic business environment there should be emphasis on the importance education for employment focusing on both the skills and practical experience of the graduates.

Further, Harvey and Knight (2005) confirm that in order to enhance competitive advantage for graduates' employment, students need to develop skills in addition to the

acquisition of knowledge from specific subjects. He documents that Higher Education Institutions (HEIs) need to identify ways of incorporating these requirements. For the graduates to be employable, they should have knowledge skills, time management skills, learning skill, team work, problem solving skills, understanding workplace, thinking skills, personal attributes and practical skills that they are able to apply and meet the employer's needs.

Employer needs survey is critical in any country to match industry needs and the training programs (Yorke & Knight, 2003). Harvey *et* al. (1996) conducted a survey on developed countries and concluded that most employers identified most common employability skills as: time management, self-understanding, learning, teamwork. In addition, they identified leadership, problem solving, working, diversity, understanding skills and risk management skills. Personality, self-confident, attitudes, job involvement, were the most preferred attributes by the employers (Weligamage, 2006; Vidal, 2010; Hanlie & Yuzhuo, 2009; Mehta *et* al., 2011). This study used these attributes to measure employability of graduates produced from Kenyan universities. All stakeholders including students, graduates, employers, the government and university administrators should be involved into finding out the skill requirements to close this gap (Harvey, 2005). It is important therefore, to measure employees' performance using Role-Based Performance Scales (RBPS) that consider job, career, innovation, team participation and organizational citizenship as suggested by Erez *et* al. (2005).

Furthermore, a balanced score card can also be used as it gives the view of the employees performance against agreed set indicators to be measured. In addition, Performance appraisals and productivity tests are often used to assess employee

performance in organizations. Harvey (2002) developed a model of employability and emphasized the teamwork between Higher education institutions, graduates, employers, employment developers to produce employable graduates fit for the employment market. Harvey emphasizes the importance of teamwork between all the stakeholders to support of higher education in producing quality output for the global market. He documents that employability model consists of the graduate's development attributes that includes: employability attributes, work experience, self-promotion, career management skills and willingness to learn. However, he notes that, employability development opportunities are also affected by the subject discipline of the graduate to some extent. According to Helyer (2007 pp. 1-2) " employability is clearly a complex mixture of elements; these elements may differ from job to job but the basic outcome is the same –they make a person a useful, and therefore, desirable employee. In a rapidly changing society it is also clear that employees need to be adaptable and multi-faceted. It is unlikely that twenty first century workers will hold one position, or even one occupation, for their working lives. They work for longer than previous generations and perhaps in changing circumstances. There is need for re-invention which requires a receptive and self-aware person and employability skills need to be honed and enhanced by employees and students". Helyer posits that, increasing government agenda are linking Higher education qualifications with profitability and productivity in United Kingdom (UK).

According to Elias and Purcell (2004), graduates should be well prepared as they do a wider range of jobs today as a result of the changing technology, economic restructuring, and related demand due to changes in the labour market. The study emphasizes on development of graduates skill and knowledge at the degree level as it is required by both

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the graduates and the employer. In addition, the main skills required in the labour market are problem solving, decision making, interactive knowledge, leadership, handling new information, ability to acquire new knowledge, coordinating activities, prioritizing, teamwork, communication, technology, imitativeness and enterprise skills (Harvey, 2001). These variables have been adapted in this study as they also include personal attributes of the employee. The Kenyan employer demands an employee who is fully trained and with knowledge in the areas of their job market. They are less favorable to employing graduates they have to retrain. Hence, graduates that are needed by employers or industry are those who can independently can handle tasks, are, creative, innovative and can set and achieve goals. Although employers are dissatisfied with university graduates in Kenya, universities often operate without involvement and feedback from the employers and the society. Thus, there is a need to address this disconnect between the training graduates receive from the universities and the labour market demands (GoK, 2006).

Figure 2.3 Operational framework below explains how the **dependent variable** was measured.

Present job competence.	• Oral expression • Teamwork • Decision making skills • Written expression • Managerial skills • Computer skills	
Present job involvement	• Works independently • Cope with work • Views Work as self rewarding • Completes work assignment timely	
Present job confidence	• Creativity • Minimal supervision • Applies practical skills • Applies theoretical skills • Positive attitude towards work • Has relevant degree	
Employability skills	• Intellectual activities • Decision making skills • Interactive knowledge • Creativity • Leadership skills • Handling new information • Coordinating activities • Priorities	

Work Preparedness of university graduates

Dependent

Variable

Source: Author, 2014   **Independent Variable**   **Measurement**

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Figure 2.3 continued. How quality of university graduates was measured in this study.

| Competence of teaching staff | → | • Theoretical knowledge
• Qualifications
• Practical knowledge up to date
• Teaching expertise
• Communication
• Sufficient academic staff |

| Curriculum content | → | • Relevance to future job
• Skills & knowledge
• completeness
• flexibility., Research
• research/ innovations/ICT
• ICT
• design and development |

| Physical resources | → | • Ease of access,
• Support,
• services,
• Equipment,
• facilities |

| Service delivery | → | • Effective presentation
• Timelines.
• Setting exams.
• marking exams,
• Cross disciplines |

| Institutional reliability | → | • Trustworthiness
• Keeping promise
• Handling complaints
• Solving problems
• Confidentiality |

| Learning environment | → | Conducive, peaceful, environment, , worship |

DEDAN KIMATHI TECHNOLOGY UNIVERSITY

Source: Author, 2014   **variables**   **measurement**

2.15 Research Gaps

In all these studies, it can be deduced that substantial research work has been carried out on quality of university graduates and their job market in various parts of the developed countries. However, none of these researches have been done on the Kenyan quality of university graduates and their work preparedness. Universities in Kenya have been ranked using other variables but have not been ranked using quality of graduates produced and their employability in the labour market. This research ranked Kenyan universities using their work preparedness and quality of the graduates they produce. The twin gaps of quality of graduates produced in Kenyan universities and their work preparedness was filled. This research also measured and ranked Kenyan universities with graduates in COYA participants based on quality of their graduates.

2.16 Model of study

The regression model explains the change in dependent variable with a change in the independent variable. The general objective of regression analysis of regression analysis is to estimate the relationship between explanatory variable (independent variable) and dependent variable (Hoffmann, 2010).

Regression Model $\mathbf{WP = X_1 + X_2 + X_3 + X_4 + X_5 + X6 + \text{........} + Error\ term}$ (factors outside the regression Model).   Work preparedness (dependent variable) of graduates.

This regression model is borrowed from Kothari (2008).

Where;

Dependent variable (y)

Where: **WP** is work preparedness of graduates.

Independent variables (x)

X_1 is the competence of teaching staff

X_2 is Quality of service delivery

X_3 is the adequacy of curriculum content

X_4 is quality of physical resources

X_5 quality of university graduates

In this study the quality of graduates is determined by the competence in global work, skill and quality of the degree obtained from the university. All these influence the dependent variable which is graduates work preparedness.

Error term – these are all other factor not included in the regression model.

2.17 Chapter summary.

This chapter has presented a review of relevant quality models, theories of quality, assurance and dimensions of quality in higher education. The theoretical framework and concept of quality in higher education have also been discussed. This part has also examined empirical studies from different authors of quality of higher education. Empirical studies from different authors of quality of higher in higher education, quality of graduates and their employability skills have been discussed. The literature reviewed has looked at global, African, East African and Kenyan view of graduates quality and how they relate to employability skills. The conceptual framework has given a guide and road map to the literature on the variables influencing the quality of university graduates in higher education. The ranking of international, African, East African and Kenyan universities has been reviewed as shown in the Appendix 2. The research gaps of the study have also been identified and discussed in this.

The next chapter three on the next page presents the research methodology of the study.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.0   Introduction

This chapter explains how the research problem was explored and methodology that was used in this study to gather data on aspects associated with quality of graduates in Kenyan universities and their job market preparedness. Methods and procedures that were used to carry out this study are explained under the following subheadings: research design, population, sample selection, research instrument, pilot study, data editing, coding and management and data analysis. To achieve the objective of this research, both quantitative and qualitative data were collected and analyzed. All the data sources and methods are discussed. Key ethical considerations of the study were adhered to and maintained thought the study. This research is based on total quality management philosophy.

3.1   Research Design

Burns and Grove (2001) describe research design as a guideline for the research process in order to achieve the intended results that will be a reflection of reality.

This study used descriptive and explanatory designs to conduct quantitative analysis as recommended by (Myers, 1990). This provided situations to explain and systematically provide information of quality of graduates from Kenyan universities, curriculum content, and quality of physical resources, examine reliability of the university, factors determining employability and graduates job market preparedness. The

descriptive research design was used as it assisted in obtaining information concerning the current phenomena and describes the existing variables and conditions in a given situation (Frankel &Wallen, 2000). The explanatory research is a continuation of descriptive research and explains how and why of the phenomena under study. Thus the explanatory research aims to understand and measure relationships among variables (Ghauri, Granhaug & Kristianslund, 1995). In this study the relationships were measured as outlined in the objectives, research question and hypothesis of the study. According to Saunders *et* al. (2003) explanatory studies are important means of investigating what is happening, to seek new insight, to ask questions and assess the phenomena of the study. In this research the descriptive and explanatory design was selected because descriptive data was collected through a detailed questionnaire for graduates and the managers/supervisors of COYA companies. The study also used explanatory design since the study explained relationships between university graduates and their workplace preparedness. Qualitative approach helped to involve interaction between the researcher and the respondents to discuss their environment Burns (2000). Both quantitative and qualitative techniques were used in analyzing the collected data. The objectives, design, sampling and questions to be asked were predetermined to quantify the level or extent of employers and graduates with quality and standard of education. The unstructured phenomenon was explored qualitatively to give an account of different opinions of employees on the issue of their job market preparedness and quality of higher education.

Data was collected by means of a structured questionnaire comprising two sections namely **A** and **B**. Questionnaires were used because they are less expensive and easier to administer. Section **A** contained questions that were answered by university

graduates regarding quality of education and service delivery in the universities they attended. An interview was conducted on the selected respondents. Section **B** consisted of questions which required the employer /manager to evaluate the graduates on their job competence, employability skills, job involvement, confidence of their present job, and opinion of their supervisors on the graduates practical and theoretical skill application at their work place.

The items in **section A** of the questionnaire on graduates quality were extracted from Abdullah (2005); Parasuraman (2004); Ziethaml and Berry (1988); Westbrook and Perterson (1988); Reer (2009); Aspinwall and Owalia (1996) and CHE (2013) quality guidelines. This study adopted questions validated from various researches to analyze the dependent and independent variables. These items were extracted from studies done on higher education which fitted in this study. All items in the questionnaire used Likert scale rating that were presented as statement on a scale of 1 = strongly disagree to 5 = strongly agree. According to Tsang (2012) Likert scale empowers the researcher to effectively operationalise the variables to identify their relationships. He argues that the mid-point of the 5- point Likert scale does not affect reliability and validity of the data. Kaluyu (2013) used a 5- point Likert in her study of competitive advantage in Kenyan universities.

In addition to the main scale addressing individual items, employers provided the overall rating comparing public and private university graduates in their present work performance. The university attended was also indicated by the graduates to provide ranking information. The items in **section B** forming the questionnaire on the employer were borrowed from Vidal (2010); Mehta *et* al. (2011); Hanlie and Parker (2009); they

identify Job competence, job confidence, job involvement, working without supervision, work efficiency, intellectual ability, decision making skills, communication skills, interactive knowledge, collaborating team work and application of knowledge, as variables that are exhibited by well trained employees in the work employment preparedness. The variables of these researchers were adapted by this research. Both sample sizes of graduates and the employer were selected from the 53 COYA companies in Kenya selected by size the sample frame of using the formula for finite population on page 83 was used and 46 companies were selected.

3.2   Target population

Brink and Wood (1996) defines a population as the entire group of items/objects that is of interest to the researcher. Population refers to an entire group of individuals, events or objects having a common observable characteristic. Borg and Gall (1989) documents that target populations include all members of hypothetical or real set of people, objects or events which an investigator makes generalization of results in a study. The target population in this study was companies participating in Kenyan Company of the year award (COYA) 2013, the graduates working in these companies. Supervisors or managers of graduates working in these companies were used for this study because they were the ones who could measure graduates present job competence, job confidence, job involvement, employability skills and also give their opinion on practical and theoretical preparation of the graduate employee. Graduates who had worked in these companies for a period of 1- 5 years were selected as target population of the research. These graduate employees were selected because they knew their universities competence of staff, service delivery, curriculum, physical resources, institutional reliability, learning

environment and the quality of the university. Additionally, they were the right people to judge the training and skills they received from the universities and how it compared with the needs of the present employment requirements. In addition, 5 public and 5 private universities were also used to get the university side of research**.**

Why COYA participating companies were selected for this research.

Company of the year awards (COYA) were developed on the basis of framework for European Foundation for Quality Management (EFQM) and Malco/m Baldrige National Quality Award (MBNQA) used in US representing international quality. In Kenya COYA participants were introduced for benchmarking companies that excel against international best practices. Areas considered are financial management, corporate citizenship and marketing to embrace business excellence using Organizational Performance Index (OPI) to rank these business institutions. OPI gives the organization an innovative model of excellence to enable the development world class innovation capacity, competitiveness and processes to win at a global level. COYA participants are meant to promote excellence and integrity in management practices, to increase competitiveness and management performance in global world. COYA participating companies represent eleven economic sectors in Kenya such as: Finance, regulatory, service, education, communication, ICT, manufacturing, insurance and transport, agriculture, and hotel sectors. It was an assumption of this study that being the top companies most university graduates were expected to be working in there.

To get an all inclusive perspective of this study, a survey was done to interrogate the first ten universities ranked by quality of their graduates in this study and had also participated

in global ranking. These were University of Nairobi, Kenyatta, JKUAT, Egerton and Moi represent the public universities while Strathmore, Daystar, Mount Kenya (MKU), KeMU and KCA represent the private universities. The results of this study was all inclusive and can also be generalized to represent a local and global perspective since these companies are benchmarked against international best business practices and the universities used for the survey have participated in the world ranking. This gives the study results a global perspective.

3.3   Sampling Procedure

Sampling is the process of obtaining units of analysis of population frame from which a sample is drawn. In this survey, the researcher used the simple random sampling technique to arrive at a representative sample of both the companies and graduates. A sample population was drawn from the sampling frame of the 53 companies of COYA 2013 participants. There are two types of sampling methods namely probability and non probability sampling. Probability sampling was considered appropriate for this research as it allows calculation of precision of estimates and specification of sample error from the sample (Mugenda, 2013; Saunders *et* al., 2003). The study employed simple random sampling which allowed equal representation of the sample chosen for the target population.

Random sampling ensured inclusion of units in the sample which would otherwise be omitted by other sampling methods. If a population from which a sample is to be drawn does not constitute a homogenous group, random sampling technique is generally applied in order to obtain a representative sample. In random sampling each

unit of the population has an equal chance of being selected (Kothari, 2004). There was no bias as every graduate and employer had an equal chance of being selected for the interview and similarly, there was no discrimination on gender. In any sample design sample size determination is crucial. According to Israel (2009), it is important to take into consideration boundaries of mistakes and errors in crucial areas in estimating population for sample size. He recommends three approaches of determining sample size. The first is to use a published table, second is to apply formulas and third is to adopt similar findings of other researches that have been done previously.

In this study, 46 COYA 2013 participating institutions were randomly selected from a total of 53 participants constituting 86.8 per cent. Mugenda recommend 30 percent (1/3) as a minimum representative for a sample. In addition 420 University graduates were selected for this study of which 44 (95.6%) companies and 413 (97.1%) graduate employees returned the questionnaires. Justification of the sample is discussed on page 85 of this study.

3.4   Data collection instruments and procedure

Questionnaires

Data collection tools refer to the devices/instruments used to collect data in an effective manner for the purpose of the research (Mugenda & Mugenda, 2003).   Field research used questionnaires to collect primary data because they are cost effective as they were distributed over a large geographical area, assured anonymity, they reduced bias and the respondents schedule was interrupted because questionnaires were filled and collected when completed later.

There were two types of structured questionnaires divided into questionnaire (A) and B. Questionnaire A was administered to the graduates working in the selected COYA 2013 companies and questionnaire (B) was issued to the employer, manager or supervisor in these institutions to assess the job market preparedness of the university graduates. The questionnaires had open and closed ended questions. The questionnaire was attached to a cover letter introducing the researcher to the respondents. The required data was collected as identified in the objectives, hypothesis, literature review, theoretical review and conceptual framework.

3.5   Validity and reliability of study instruments

The development of the questionnaire was done using research objectives, the hypotheses and the relevant literature reviewed with the assistance of a qualified statistician.

3.5.1 Reliability Measures

Reliability estimates are used to evaluate the stability of measures administered at different times to same individuals and also use the same test or of different observers scoring a behavior or event using the same instrument or the equivalent of set of items from the same test which is internal consistency (Kimberlin &Winterstein, 2008). Piloting was done using two companies and graduates who were 1-5 years into employment in the COYA 2013 companies. In this study, tools that were used by researchers to measure quality of graduates and their labour market were used. The resulting data was subjected to validity tests using the Cronbach's Alpha statistics and the Structured Mean Correction (SMC), in this case Alpha statistics of greater than 0.6 and

SMC of greater than 0.5 were considered both reliable and valid. In the sample procedure, factors that did not score to the above threshold were dropped and were not used in the subsequent Principal Component Analysis (PCA).

3.6   Study Population and Sample selection

A Sample of 46 companies were randomly selected using a simple random sampling (SRS) and from each selected company graduates from Kenyan universities working in these companies were interviewed. Forty six of the 53 COYA companies were selected translating to 86.7 percent of the total managers or supervisors. A total of 413 graduates were used for this study. A survey was done to interrogate the university side of the research by using 5 public and 5 private universities that were highly ranked in this research and in Webometrics. The assessment of quality of Kenyan universities was used using the indicators of: academic staff competence, academic staff qualifications, curriculum relevance and adequacy, physical resources, learning environment, service delivery, intuition reliability and quality of its graduates'. Employer assessment of graduates' work preparedness used present job competence, job confidence, job involvement and employability skills. In addition the employer assessed practical and theoretical work preparedness.

3.7   Sample Size

To get a representative sample size for the survey, descriptive sample size calculation was employed as shown in equation 3.1 and 3.2 respectively.

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$$no = \frac{Z2\alpha/2/2*\pi(1-\pi)}{2}$$ Eqn 3.1

For the employers, the sample size needed to be corrected since it was a finite population, N is known. The sample size determination using the finite population factor is shown here bellow.

This becomes;

$$n = \frac{noN}{no+(N-1)}$$ Eqn 3.2

Where;

N = Total Population size;

n = Sample Size

$Z^2_{\alpha/2}$ = X-axis value corresponding to 95% Confidence Interval

$\prod$ = portion of work preparedness set at 50%, since no other study was done to establish the levels. Using the above formulae, the total companies to be sampled were 46 (after adjustment) and 385 graduates. Since 385 was the minimum any figure above was appropriate therefore a sample of 420 graduates was used. Krejcie and Morgan (1970) table recommend a sample of 385 where the population size is more than 100,000 or the population is infinite.

3.7.1 Qualitative survey to check best practices

A pilot survey was done to check the individual initiatives to prepare graduates for the job market. This survey indicated that only a few universities were serious in preparing their graduates for the job employment as most only concentrated in theoretical teaching according to the respondents interviewed. Most of the top ranked universities

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only had career days at the end of the year   and did nothing else to improve their graduates' practical skills. Additionally, KCA University was doing well as they had set up centers for entrepreneurship and leadership to grow and nature students for the labour market. They have set up career planning centre where students are advised on various careers, invite employers to make presentations on industry expectations of employees. Their curriculum has been developed in partnership with the industry players. In addition, a feedback from the students about teaching is given and weak areas are improved. Further seminars are organized where students are taught writing and communication skills. More importantly, they have two main successful practical businesses of Software and quality certification companies started by their students.

Strathmore University was also doing well in adapting practical skill for their students. They have apprenticeships, workshops, invite employers from all over the world to share their experiences to students, exchange programmes, employ lecturers conversant with new market trends and relate theory to practice through case studies.

3.7.2 University Ranking

Times higher education and Webometrics (2013) have used: teaching, learning environment, innovations, research, reputation, international outlook, Knowledge transfer, institutions reliability, physical facilities, and services delivery as some of the university ranking indicators. In the Kenyan context, universities in this study were ranked using quality of graduates and employability. The indicators used for measuring and ranking quality of graduates were competence of academic staff, university service delivery, curriculum content, physical facilities, institutions reliability, learning

environment and graduates quality. These variables were used in the questionnaire **A**, for the graduates. Universities were ranked using employability of their graduates. The indicators used were graduates present job competence, job confidence, job involvement, and employability skills. These variables are in questionnaire **B** that was completed by the employer, manager or the supervisor of the graduate employee. These indicators have been adapted from reviewed literatures on employability, quality of graduates, and quality of universities and ranking of universities.

3.8   Pilot study

A pilot study is a small scale preliminary study conducted in order to evaluate feasibility, time, cost, adverse events, and affect size (statistical variability) in an attempt to predict an appropriate sample size and improve upon the study design prior to performance of a full-scale research project Helyer (2007). It is frequently carried out before large-scale quantitative research, in an attempt to avoid time and money being wasted on an inadequately designed project. A pilot study is usually carried out on members of the relevant population, but not on those who will form part of the final sample. This is because it may influence the later behavior of research subjects if they have already been involved in the research (Harambus & Holborn, 2000). In this research the draft questionnaires of 2 employers from COYA 2013 and 5 university graduates in these selected institutions were used to pilot the study commenting on any omissions or errors concerning the statements in the questionnaire. This input helped to restructure the questionnaire to improve comprehension in full-scale study. Results

3.9 Data collection and Management

The research permission was obtained from the Director of school of Graduates Studies and research, Dedan Kimathi University of Technology and from the managers of the COYA 2013 companies. In addition, three research assistants were selected and trained one week before piloting the study. The minimum qualifications of these assistants were a holder of a university degree as they understood and communicated comfortably in English. The procedure of collecting data was first seeking permission from the companies, booking the appointments and self-delivering the questionnaires. The questionnaires were collected at the agreed date and time from the manager/supervisors and the graduates.

The data was collected using the coded questionnaires. The collected data was forwarded into a central place for data editing and valid checking. After the cleaning, the researcher within consultation with the statistician designed a data entry screen on Microsoft Access. This was a preferred as it could allow for the data entry controls and skip pattern. The data was double entered and later merged for quality check. The clean data set was exported to Statistical Package for Social Scientist (SPSS) version 21.0 for analysis and inference building.

3.10 Data analysis and presentation.

According to Saunders *et* al. (2003) data analysis is a body of methods and approaches that are used for describing facts for developing explanations in a given representation of a population. It guides hypotheses testing and different pattern of events. The Statistical Package for Social Sciences (SPSS) is the most widely used

programs for statistical analysis in social science and it is appropriate for this research. It was used to generate descriptive statistics and predict numerical outcomes was be used to analyze qualitative and quantitative data of this study.

To test the relationship between variables Pearson's correlation coefficient was used. Testing the operational framework model was done using the path analysis and the Structured Model Equation (SME) using Amos 18.0.

The factor analysis helped to explain the variability among observables and serve to eliminate the items which do not load on the expected factor for the sample. Thus, items which remained in case of any deletion were further selected to build each of the constructs to be used for further analysis. A new factor analysis was further performed for the items that remained after deletion. This process was undertaken for all the variables within the employer and the graduates. This facilitated the factor reduction to arrive and a parsimonious model representation.

The second step, involved undertaking an independent sample t-test for the equality of means for both the public and private universities. This was performed on present job competence, job confidence, job involvement, employability skills, for the employer analysis. For the graduates the competence of staff, service delivery, curriculum, physical recourses, institutional reliability, learning environment and quality of graduates analysis. A recursive method was used to eliminate the path with the lowest t-statistic at each iterating level, until all coefficients were significant at the 95% level of significance ($p < 0.05$). The results of this study were presented in tables, pie charts and bar charts. Regression coefficients were interpreted and the coefficient of determination

reported. A p-value of 0.05 and less was considered statistically significant while values above 0.05 were not significant.

The results of data analysis and discussion of the findings in relationship to existing literature was presented using tables and charts.

3.11   Ethical Issues

According to Saunders *et* al. (2003) appropriateness of behavior and acceptability of the researcher by respondents are very important in any research. This research ensured that ethical principles such as confidentiality and anonymity were met. Permission was first sought from Dekut school of post graduates studies, COYA company managers/supervisors and graduates working in these companies. Secondly, the intention of the study was explained clearly to the COYA managers/supervisors and the graduates. The principle of objectivity was considered very critical to this research during data collection as recommended by Saunders *et* al. (2003). After collection, data and information was protected and privacy maintained.

The research was conducted amongst university graduates and their work place supervisors/managers in COYA (2013) companies in Kenya. Respondents were assured of anonymity, respect and confidentiality in whole process of data collection. They were informed to what extent the data collected was to be shared. The whole process was conducted in an ethical and fair manner.

3.12 Chapter summary

Chapter 3: has described the procedures required to investigate the area of this research. The explanations of this part were based on the phenomena of the research. This chapter discusses: study population, sample selection, target population, COYA 2013 companies, sampling and the research design. In addition chapter three also outlines the sample size justification, data collection instruments and procedure. The structure of the questionnaire, qualitative survey, university ranking, pilot study, validity and reliability of the study instrument is also given in detail. Further, data collection and management, data analysis, discussion, presentation and ethical consideration of this research are discussed in this section. The research design details, methods, approaches and procedures are also explained. It includes population of the study, target population, sample, sampling technique, data collection instruments and procedures that were used. The piloting of the study, how data was collected, data analysis, interpretation and presentation are also discussed.

Chapter four that follows is on data analysis, results and interpretation of the findings of this research and is presented on the following page.

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSIONS

4.0   Introduction

This chapter presents the results of data analysis and discussion of the findings based on the data analysis, the hypothesis testing and literature. Characteristics of the study variables were analyzed using SPSS version 21.0. The results were presented in charts and tables. To test the relationship between variables Pearson's correlation coefficient was used. Testing the operational framework model was done using the path analysis and the Structured Model Equation (SME) using Amos 18.0.

4.1   Response Rate

A total of 46 questionnaires were given out to managers and supervisors of the COYA companies fully registered in Kenya out of which 41 were completed and returned giving a response rate of 89.13% percent. For the graduates 420 questionnaires were given and 413 were duly answered and collected. According to Mugenda and Mugenda (1999) a 50 percent return rate is adequate, 60 percent is good and above 70 percent is rated as very good. According to Saunders *et* al. (2003) a response rate variability of between 52 to 100 percent is considered adequate for organizations. Based on this assertion therefore the response rate for this study can be rated as very good at 89.13 percent for the employer and 98.33 percent for the graduates. Out of a total of 10 questionnaires for 10 universities 9 were returned translating to 90% return rate. This very high response rate was attributed to the data collection procedures where the

researcher administered questionnaires to the respondents who completed them at their convenient time and picked immediately afterwards. These results are presented in the table below.

Table 4.1 Response Rate

Questionnaires	Returned	Response Rate (%)
Employer 46	41	89.1
Graduate 420	413	98. 33
Survey on 10 universities	9	90

4.2   Data management

After data collection all the questionnaires were checked for completeness and for any missing data were raised and addressed using follow up by the senior research assistant. The missing data was completed using the statistical procedure for getting the missing entries. In this case the research used the central tendencies and regression approaches to fill in the missing entries. In most instances, the exercise was done through a follow up call backs to the respondents. This was done to ensure that there were no missing entries which could later affect the reliability of the analysis. All the completed questionnaires were sent to a central data entry point for data coding, editing and entry.

Data management was done in consultation with an experienced statistician who assisted in the data base designed on a Microsoft access. This enabled the researcher to control both internal and external validity in the data. The data base was checked for completeness before the actual data entry was started. The data entry was double entered and later merged so as to control for consistency and accuracy. After data entry, the data was exported to statistical package for social sciences (SPSS) version 21.0 for further

data cleaning, management and for inferential statistics. The table 4.2 on the following page discuses competence of academic staff as rated by university graduates.

Table 4.2: Competence of Academic Staff as rated by graduates

Competence of Academic	Factor Level	Frequency	Percentage.	Mean Score
Competence of Academic staff	Strongly Disagree	10	2.4	
	Disagree	23	5.6	
	Neutral	78	18.9	3.92
	Agree	183	44.3	
	Strongly Agree	119	28.8	
Experience Teaching Staff	Strongly Disagree	5	f	
	Disagree	23	5.6	
	Neutral	53	12.8	4.08
	Agree	184	44.6	
	Strongly Agree	148	35.8	
Teaching Staff with required Qualifications	Strongly Disagree	5	1.2	
	Disagree	36	8.7	
	Neutral	75	18.2	3.88
	Agree	185	44.8	
	Strongly Agree	112	27.1	
Practical Knowledge	Strongly Disagree	4	1.0	
	Disagree	34	8.2	
	Neutral	92	22.3	3.85
	Agree	172	41.6	
	Strongly Agree	111	26.9	
Staff with up to date information	Strongly Disagree	8	1.9	
	Disagree	39	9.4	
	Neutral	97	23.5	
	Agree	166	40.2	3.77
	Strongly Agree	103	24.9	
Fluent Communication	Strongly Disagree	9	2.2	
	Disagree	41	9.9	
	Neutral	97	23.5	3.78
	Agree	161	39.0	
	Strongly Agree	105	25.4	
Enough PHD Staff	Strongly Disagree	40	9.7	

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Disagree	112	27.1	
Neutral	101	24.5	3.12
Agree	80	19.4	
Strongly Agree	80	19.4	

Table 4.2 on page 100 is explained in details here below under various headings.

4.3 Competence of academic staff as rated by graduates

Table 4.2 illustrates the findings above and indicate that majority (73%) of the graduates interviewed agreed that there was competence among the academic staff, strongly disagree was 2.4 percent, 5.6 percent strongly disagreed and 18.9 percent were neutral. This shows that competence of academic staff has not excelled in any university. In addition majority of graduate employees (73.1 percent) moderately agreed that academic staff were competent. These findings show that academic staff in both universities had average competencies and very few (m=3.12) had PhD qualifications which is also the current practical situation in Kenyan universities. Government is developing a policy to have only PhD holders lecture in Kenyan universities in the next five years and also supporting more research and innovation at PhD level. Currently, research and innovations is not being supervised very well since these experts are not enough in both public and private universities.

a) **Sufficient experience of academic expertise in areas taught**

The research found out that 35.8 percent of the graduates strongly agreed, 44.6 percent agreed, 5.6 percent disagreed and 1.2 percent strongly disagreed about sufficient experience of academic expertise of staff in areas taught. Neutral of 12.8 percent means graduates did not agree or disagree as their universities did not excel in these areas stated. A mean score of 4.08 means that universities have not excelled in this area lectures with

no experience are working in the universities and experienced ones moving to areas with better pay.

b) Teaching staff with required qualifications

In this study 27.1percent of the graduates strongly agreed, 44.8 percent agreed, 18. 2 percent were neutral, 8.7 percent disagreed and 1.2 percent strongly disagreed about the university teaching staff having required qualifications. In addition a survey interrogating the university academic staff indicated that there were more PhD holders and Professors in public than private universities and majority were male lecturers (see appendix).

This implied that both private and public universities had not excelled in this area. Universities need more qualified academic staff to guide the students.

c) Practical knowledge

The study found out that majority of graduates that is 41.6 percent agreed, 26 percent agree strongly that their university staff had practical academic knowledge. The other 8.2 percent disagreed and 1 percent strongly disagreed. An average (M=3.85) moderately agreed to the statement. This means that only a total of 67 percent of academic staff had practical knowledge and could not effectively guide students adequately. This is supported by the finding of figure 4.18 on page 176 that indicates 72.7 percent of graduates have no practical skills and 4.5 percent are not hands on

d) Staff with up to date relevant academic information

The research findings in table 6 indicated that majority of the graduates 40. 2 percent agreed, 24.9 percent strongly disagreed, disagree was 9.4 percent and strongly

disagree 1.9 percent. The mean score (M=3.77) indicated that graduates slightly agreed their university academic staff had up to date relevant academic information. This implies that academic staff is not updating teaching information or are inexperienced.

e) Academic staff had fluent communication that was well understood

In this study a total of 54.4 percent of the graduates strongly agreed that staff had fluent communication at 25.4 percent while those who agreed were 39 percent. This indicated an average of slightly agree as M=3.78. 41 graduates (9.9 percent) disagreed and 2.2 percent strongly disagreed on fluent communication and understanding of their academic staff. Neutral represented 23.5 percent of the graduates. This implied that majority of the academic staff were able to communicate well with university students since most lectures had a masters degree.

f) Academic staff with PhD was enough in the department

The research sought to find out whether the academic staff in their departments had enough PhDs. It was indicated that 40 graduates (9.7 percent) strongly disagreed, 112 (27.1 percent) disagreed with an average (M=3.12) of graduates slightly disagreeing that their departments had enough PhD academic staff. Using the factor extraction method (table 4.11 below), two factors were adequate to explain the score which (68%) was adequate and sufficient and two units less from the cut-off rule of thumb of (70%) required for extraction of factors as shown in the scree plot below and table 4.11.Cumulatively, the inclusion of third and fourth factors progressively explained 78% and 85% respectively. According to the survey carried out by this research both private and public universities indicated that they had insufficient academic staff that had PhD.

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The figure 4.1 below presents information on university **academic staff competencies**.
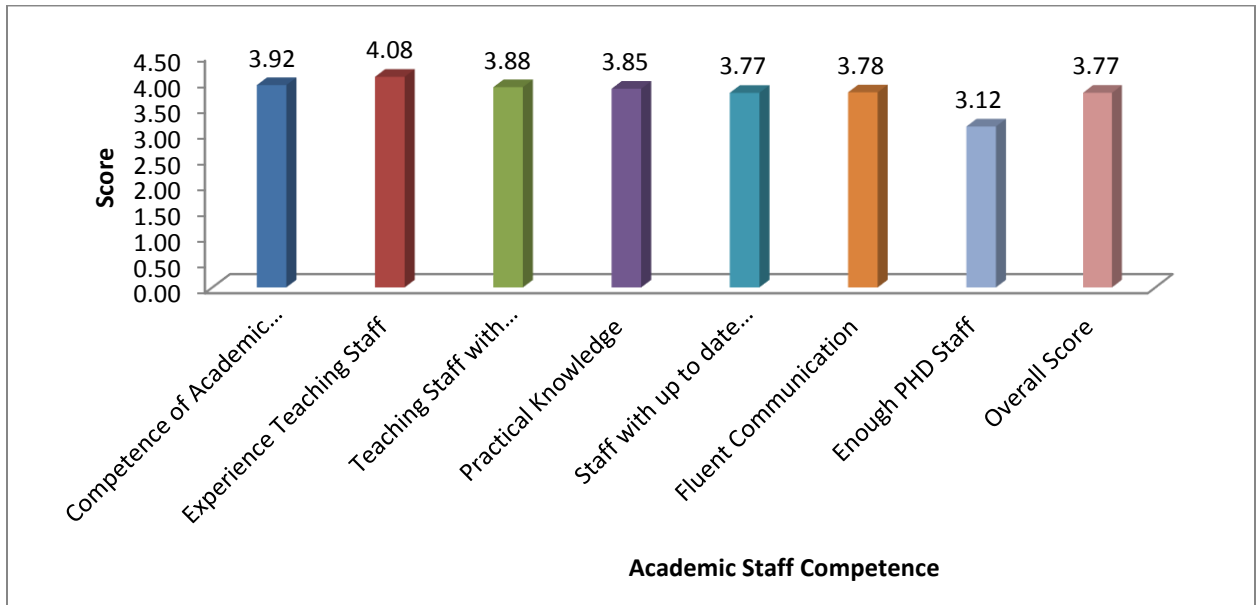
Figure 4.1: university academic Staff Competencies

Figure 4.1 above shows the mean scores of university academic staff competencies. It shows that both private and public universities do not have enough PhD lecturers. The results indicate that academic staff is moderately competent in the areas shown which corroborates the results of table 4.2 page 100. The table below (4.3) provides an explanation of the factor analysis for competence of academic staff.

Table 4.3: factor analysis competence of academic staff

Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.933	56.190	56.190	*3.933*	*56.190*	*56.190*
2	.828	11.833	68.023			
3	.687	9.821	77.844			
4	.530	7.567	85.411			
5	.360	5.144	90.556			
6	.355	5.069	95.624			
7	.306	4.376	100.000			

Table 4.3 on the previous page, shows that, out of seven factors studied, the teaching staff competencies, practical knowledge and experience sufficiently explain the variability at 68% and 77%. This implies that, studying these three factors will address the staff competencies as judged by the students.
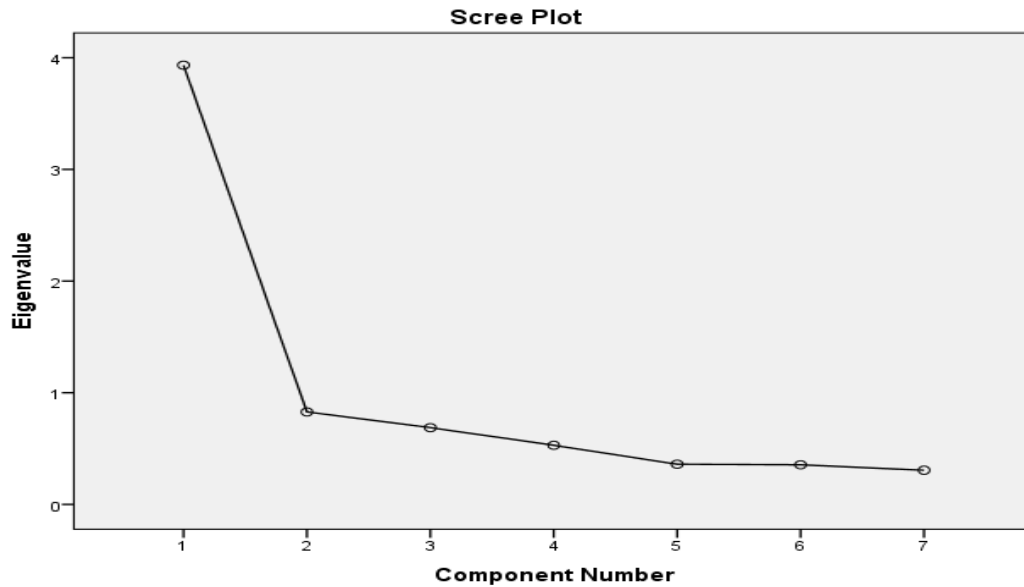
Figure 4.2: Scree plot for competence of academic staff.

The scree plot above (figure 4.2) supports table 4.3 and show that five variables to the left were enough to explain the variability on competence of academic staff.

Table 4.4: Competence of Academic Staff by the type of University

Competence	Factor Level	University Private		Public		P value
		Freq	Percentage	Freq	Percent	
Competence of Academic staff	Strongly Disagree	3	3.1	7	2.2	
	Disagree	3	3.1	20	6.3	
	Neutral	15	15.6	63	19.9	0.284
	Agree	40	41.7	143	45.1	
	Strongly Agree	35	36.5	84	26.5	
Experience Teaching Staff	Strongly Disagree	1	1.0	4	1.3	
	Disagree	5	5.2	18	5.7	
	Neutral	11	11.5	42	13.2	0.761
	Agree	39	40.6	145	45.7	
	Strongly Agree	40	41.7	108	34.1	
Teaching Staff with required Qualifications	Strongly Disagree	0	0.0	5	1.6	
	Disagree	9	9.4	27	8.5	
	Neutral	13	13.5	62	19.6	0.067
	Agree	38	39.6	147	46.4	
	Strongly Agree	36	37.5	76	24.0	
Practical Knowledge	Strongly Disagree	1	1.0	3	.9	
	Disagree	4	4.2	30	9.5	
	Neutral	17	17.7	75	23.7	**0.001**
	Agree	32	33.3	140	44.2	
	Strongly Agree	42	43.8	69	21.8	
Staff with up to date information	Strongly Disagree	1	1.0	7	2.2	
	Disagree	8	8.3	31	9.8	
	Neutral	19	19.8	78	24.6	0.177
	Agree	35	36.5	131	41.3	
	Strongly Agree	33	34.4	70	22.1	
Fluent Communication	Strongly Disagree	2	2.1	7	2.2	
	Disagree	6	6.3	35	11.0	
	Neutral	18	18.8	79	24.9	0.048
	Agree	31	32.3	130	41.0	
	Strongly Agree	39	40.6	66	20.8	
Enough PHD Staff	Strongly Disagree	16	16.7	24	7.6	
	Disagree	18	18.8	94	29.7	
	Neutral	24	25.0	77	24.3	0.049
	Agree	19	19.8	61	19.2	
	Strongly Agree	19	19.8	61	19.2	

Table 4.4 on the page 106 provides a detailed account on comparison of competence of academic staff in both public and private universities in Kenya. It is discussed here below.

4.4 Competence of academic staff by type of the University

According to the findings of this study, majority of graduates agreeing are 78.2 percent in private while 71.6 percent are in public universities. 6.2% of the total graduates disagreeing were private and while 8.5 percent in public. However, there is no significance difference (p=0.284) in the competence of academic staff in private and public universities. The probability of obtaining the observed data sample if null hypothesis were true and P-value lies between 0 and 1. Thus the competence of academic staff in private and public universities is not significantly different as shown by (p value > 0.05). A survey carried out to interrogate the university side of the research to get an all inclusive perspective confirms that there was no significant difference in competence of academic staff in private and public universities. In practice, lecturers are shared between private and public universities. Therefore, teaching practices are the same.

a) **Sufficient experience of academic staff expertise in areas taught**

The study sought to find out whether there is sufficient experience of academic expertise in the areas they taught. The results indicate that majority of private university graduates 41.7 percent strongly agreed, 40.6 percent agreed to the statement while 34.1 percent strongly agreed and 45.7 percent agreed from public universities. This finding was not sufficient enough to conclude that there any statistically difference between competence and the type of the university (p value>0.05). This implies that both private and public universities do not have sufficient experienced academic staff experts in areas taught.

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b) Teaching staff has required qualification

Judging from the results shown on table 4.4 on page 106, majority of both graduates from private and public universities indicated that they agreed (private 77.1 percent, public 70.4 percent) with the statement. Those who disagreed were 9.4 percent for private and 10.1 percent public. The p- value was greater 0.05 indicating that there was no statistically significant difference in required academic qualification of the staff in both private and public universities. This implies that public and private universities are sharing the same lecturers in their universities.

c) Academic staff has enough practical knowledge

Majority (77%) of the students in private agreed that academic staff had enough practical knowledge compared to 66% in public. The findings review that there is more practical knowledge shown by academic staff in private universities. This is supported by the findings in figure 4.7 on page 145 where private universities were rated better than public in quality. A small number in private 5.2 percent and 10.4 percent disagree while 17.7 percent in private and 23.7 percent in public were about neutral.

d) Staff with up to date relevant information

In addition, majority of graduates in both private (70.9 percent) and public (63.4 percent) universities agreed that their academic staff had up to date relevant information. However, p value (p =0.177) indicated no significant statistical difference meaning that both universalities had staff with up to date relevant information. The 9.3 percent in private and 12 percent in public disagreed with this statement. This means that majority of the teaching staff are current with information or they research adequately.

e) Fluent communication well understood

The respondents agree with the following statements; strongly agree 40.6 percent and agree 32.3 percent, 18.8 percent were neutral in private universities. 41.0 percent strongly agreed, 24.9 neutral and 20.8 percent agreed in public. The p value was (p = 0.048) indicated that there was no statistical significant difference in both public and private universities' staff with fluent communication that was well understood existed. It means that the same lecturers are teaching in both universities because there is shortage of teaching staff due to brain drain in Kenya

f) Enough staff with PhD in the department

According to the study findings, the respondents in both public and private universities disagreed that academic staff with PhD were enough as indicated by 35.5 percent in private and 37.3 in public. Those who agreed were 39.6 percent in private and 38.4 percent in public. The p value of 0.049 indicated that no significant difference between the two university types. This implied that public and private universities have a shortage of lecturers with PhD qualifications. In practice, it takes a long time to train a PhD holder in Kenya who are critically needed for teaching research and innovation.

Table 4.5: **Service Delivery by academic staff**

Service Delivery	Factor Level	Freq	Percent	Mean Score
Easily to contacted Staff	Strongly Disagree	14	3.4	
	Disagree	60	14.5	
	Neutral	101	24.5	3.58
	Agree	148	35.8	
	Strongly Agree	90	21.8	
Staff follow sequence and timelines for teaching	Strongly Disagree	12	2.9	
	Disagree	44	10.7	
	Neutral	98	23.7	3.65
	Agree	182	44.1	
	Strongly Agree	77	18.6	
Staff consistent and fair in setting exam	Strongly Disagree	15	3.6	
	Disagree	54	13.1	
	Neutral	103	24.9	3.57
	Agree	163	39.5	
	Strongly Agree	78	18.9	
Use of Modern Technology	Strongly Disagree	14	3.4	
	Disagree	49	11.9	
	Neutral	80	19.4	3.72
	Agree	164	39.7	
	Strongly Agree	106	25.7	
Availability of knowledge applicability	Strongly Disagree	10	2.4	
	Disagree	41	9.9	
	Neutral	89	21.5	3.74
	Agree	179	43.3	
	Strongly Agree	94	22.8	
Staff have convenient operating hours	Strongly Disagree	17	4.1	
	Disagree	72	17.4	
	Neutral	95	23.0	3.47
	Agree	156	37.8	
	Strongly Agree	73	17.7	
Recognition of students	Strongly Disagree	23	5.6	
	Disagree	67	16.2	
	Neutral	104	25.2	3.43
	Agree	146	35.4	
	Strongly Agree	73	17.7	
Availability of staff all the time	Strongly Disagree	32	7.7	
	Disagree	99	24.0	
	Neutral	99	24.0	3.22
	Agree	114	27.6	
	Strongly Agree	69	16.7	

The results of table 4.5, page 110 on service delivery by the universities indicate poor mean scores in all the key measured indicators. This means that students did not get good service delivery in both public and private universities.

4.5 Assessing service delivery by academic staff

The study findings on table 4.5 is explained below in details and shows that, 21.8 percent strongly agreed and agree was 35.8 percent giving a total of 57. 6 percent who agreed (M = 3.58) slightly with the statement. Those who disagreed with this statement were 17.9 percent meaning a number of academic staff was not easily contacted by students and 24.5 were about neutral. This means that academic staffs are too busy in other areas or there is a shortage of the teaching staff which is also the practice in Kenya.

a) Staff follows sequence and timelines for teaching

According to table 4.5 under staff follow sequence and timelines for teaching, 62.7 percent slightly agreed (M = 3.65) and 13.6 percent disagreed meaning a number of academic staff follow the sequence and timelines for teaching while a smaller number does not follow. This implies that some academic staff is not using course outlines when teaching the students therefore not following any sequence in teaching.

b) Staff is consistent and fair in setting and marking exam

The findings from this study indicated that only 18.9 percent strongly agreed that there is consistent and fairness in setting and marking exams. Another 39.5 percent just agree while 24.9 percent did not agree nor agree to the statement. The respondents also disagree with the statement by 16. 7 percent. The sample mean was 3.57 meaning that a slight agreement in setting and marking exams in both private and public universities.

This implies that students may not be graded fairly by the academic staff and the degree awarded may not be a true reflection of the graduate' performance.

c) Use of modern technology

The use of modern technology was shown as 25.7 percent in strong agreement, 39.7 Percent agreed, 19.4 percent as neutral and a total of 15. 3 percent disagreed. A mean score of 3.72 in the use of modern technology means that both public and private universities were using it but have not excelled in this area. This means that majority (65.54%) of graduates are adequately prepared in the use of modern technology especially computers.

d) Applicability of knowledge across disciplines

From the findings of this study, majority of the respondents (66.1 percent) were in agreement that there was applicability of knowledge across disciplines in service delivery. 12.3 percent disagreed and 23 percent remained neutral. A mean of 3.74 indicated that respondents moderately agreed to this statement. This means that the lecturers have general knowledge across various subjects.

e) Staff has convenient operating hours

Further from this study respondents were slightly in agreement as indicated by the mean score (M = 3.47) and those agreeing were 55.5 percent. Also some respondents disagree (21.5 percent) that their academic staff had convenient operating hours. In addition some neutrally indicated that about staff operation hours.

f) Recognition by motivating of students

The results of table 8 under recognition by motivating of students, majority of the respondents 53.1 percent, M = 3.43, slightly agreed that students were recognized by motivating them. Further 21.8 percent of the respondents disagree students were recognized by motivating them. The low scores indicate that students are not well recognized or motivated by academic staff in the universities. This also implies that motivating students as part of service delivery was not well done.

g) Availability of staff all times to assist student

The findings of the study as shown in table 8 indicate that only 16.7 percent strongly agree that academic staff is available at all the times to assist student in the universities. The total of the respondent who agreed were 44.3 percent. In addition 31.7 percent disagreed that academic staff were available to assist students at all times which means the staff may be engaged in other duties. A mean of 3.22 indicated an overall slight agreement that the staff was available to assist students. This is the poorest part of service delivery by both public and private universities. This implies that students do of the work by themselves without guidance from their lecturers translating to poor guidance in research and education. This agrees with the statement of the problem on page 8 of chapter one.

However, a survey carried out by this study to interrogate the university side of the subject agreed with earlier findings that service delivery was significantly different in private and public universities. This implies that private universities had facilities and were giving better services than public universities.

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The table (4.6) below explains the factor analysis for service delivery.

Table 4.6 factor analysis for service delivery

Total Variance Explained

Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.527	56.585	*56.585*	*4.527*	*56.585*	*56.585*
2	.859	10.738	*67.323*			
3	.681	8.509	75.833			
4	.510	6.369	82.202			
5	.416	5.200	87.402			
6	.391	4.885	92.287			
7	.320	3.999	96.285			
8	.297	3.715	100.000			

Extraction Method: Principal Component Analysis.

Using the factor extraction method, two factors were adequate to explain which score 67% which is adequate and sufficient and three units less from the cut-off rule of thumb of 70% required for extraction of factors as shown in the scree plot below. Cumulatively, the inclusion of third and fourth factors progressively explained 75% and 82% respectively. This is explained in table 4.6 above. The graduates considered convenient operating hours, fairness in setting and marking exams, following sequence and timelines in teaching as very critical areas in university service delivery. Additionally, they indicate that contacting academic staff face to face would further improve service delivery.

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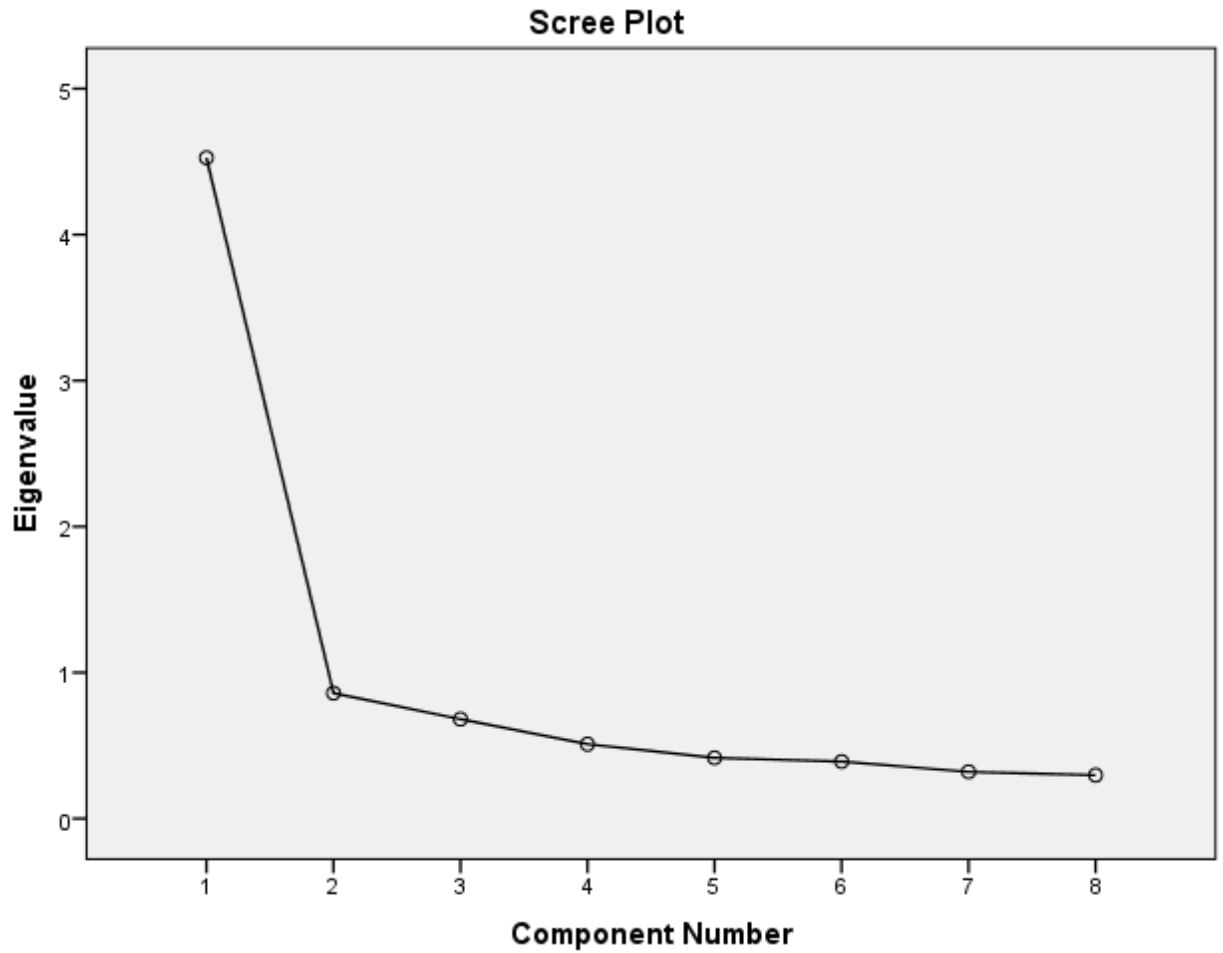
Scree Plot

4.3: Scree plot for service delivery

Figure 4.3 above indicates that out of the eight factors studied for the service delivery, staff convenience for consulting hour and recognition of the workers sufficiently six variables explain the variability of service delivery. The other two factors were dropped in further analysis.

Table 4.7 on the next page elaborates the findings of service delivery by university.

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Table 4.7: Comparing Service Delivery by University

Service Delivery	Factor Level	University Private		Public		P value
		Freq	Percent	Freq	Percent	
Easily to contacted Staff	Strongly Disagree	1	1.0	13	4.1	
	Disagree	6	6.3	54	17.0	
	Neutral	19	19.8	82	25.9	**0.006**
	Agree	45	46.9	103	32.5	
	Strongly Agree	25	26.0	65	20.5	
Staff follow sequence and timelines for teaching	Strongly Disagree	1	1.0	11	3.5	
	Disagree	5	5.2	39	12.3	
	Neutral	23	24.0	75	23.7	0.138
	Agree	44	45.8	138	43.5	
	Strongly Agree	23	24.0	54	17.0	
Staff consistent and fair in setting exam	Strongly Disagree	2	2.1	13	4.1	
	Disagree	6	6.3	48	15.1	
	Neutral	24	25.0	79	24.9	**0.045**
	Agree	38	39.6	125	39.4	
	Strongly Agree	26	27.1	52	16.4	
Use of Modern Technology	Strongly Disagree	3	3.1	11	3.5	
	Disagree	4	4.2	45	14.2	
	Neutral	12	12.5	68	21.5	**0.007**
	Agree	44	45.8	120	37.9	
	Strongly Agree	33	34.4	73	23.0	
Availability of knowledge applicability	Strongly Disagree	2	2.1	8	2.5	
	Disagree	6	6.3	35	11.0	
	Neutral	12	12.5	77	24.3	**0.012**
	Agree	44	45.8	135	42.6	
	Strongly Agree	32	33.3	62	19.6	
Staff have convenient operating hours	Strongly Disagree	2	2.1	15	4.7	
	Disagree	12	12.5	60	18.9	
	Neutral	19	19.8	76	24.0	**0.001**
	Agree	32	33.3	124	39.1	
	Strongly Agree	31	32.3	42	13.2	
Recognition of students	Strongly Disagree	4	4.2	19	6.0	
	Disagree	8	8.3	59	18.6	
	Neutral	20	20.8	84	26.5	**0.002**
	Agree	35	36.5	111	35.0	
	Strongly Agree	29	30.2	44	13.9	
Availability of staff all the time	Strongly Disagree	4	4.2	28	8.8	
	Disagree	17	17.7	82	25.9	
	Neutral	20	20.8	79	24.9	**0.029**
	Agree	31	32.3	83	26.2	
	Strongly Agree	24	25.0	45	14.2	

4.6 Comparing service delivery by university

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The table 4.7 above shows the comparison of service delivery between public and private universities. It indicates that service delivery is better in private than public universities. The details are discussed here below.

a) **Contacting of Staff**

Table 4.7 presents the service delivery by the universities. In private universities majority (72.9 percent) of the respondents agreed that their academic staff is easily contacted by students while public universities indicated 52 percent. This means students easily contact academic staff in private than those in public universities shown by a difference of 20 percent in this study. Further 21.1 percent of respondents in public universities disagreed that their academic staff were easy to contact while 7.3 percent in private indicated so. This study reviewed that there was a statistical significant difference between contracting and the type of the university (p = 0.006).This meant that, it was easy to contact academic staff in private universities than public which meant that private universities guiding their students better than public students.

b) **Staff follows sequence and timelines for teaching**

This study had sought to find out how academic staff follows sequence and timelines for teaching. The findings show that 67 percent in private and 60.5 percent in public follow sequence and timelines for teaching. Another 6.2 percent and 15.8 percent disagree while 24.0 percent and 23.7 percent are neutral about it. This indicated that there is no statistical significant difference in how academic staff follows sequence and timelines for teaching in both public and private universities (p value>0.05). This means both private and public universities were not using the course outlines as intended and were not following the timelines and teaching sequence.

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c) Staff consistence in setting and marking exams

The study findings on table 4.7 on page 116 indicated a significant statistical difference (p = 0.045) between private and public universities' staff consistence and fairness in setting and marking exam. Majority of the respondent agreed to the statement in private universities (66.7 percent) and public by 55.8 percent. There was a significant difference in setting and marking exams in both private and public universities (p value = 0.045). The respondents who disagreed were 8.4 percent in private and 19.2 percent in public university. About 25 percent in both universities were neutral about the statement. This implies that private universities were slightly better in setting and marking exams for the students though both universities have not excelled in this area of service delivery.

d) Use of modern technology

The results of the study in table 4.7 indicates that majority of the respondents in private (80.2 percent) and public universities (60. 9 percent) e use of modern agreed that there was modern technology was used. Those who disagreed were 7.3 percent in private and 17.7 in public. Further 12.5 percent in private and 21.5 percent in public were neutral to the statement. From these percentages and p value (0.007) smaller than 0.05 it is indicated that there is a statistically significant difference in the use of modern technology in both private and public universities. This implies that private universities are better equipped with modern facilities for ease spread of information to improve service delivery.

e) Availability of knowledge applicability across disciplines

From the study findings majority agreed there was a difference in availability of knowledge across disciplines indicated by private (79.1 percent) and public (62.2 percent) respondents who agreed to the statement. In addition 8.3 percent in private and 13.5 percent in public disagreed that their academic staff applied knowledge across disciplines (p value = 0.012). This implies that in both private and public universities the lecturers had fair knowledge which they applied across disciplines offered in their universities.

f) Staff has convenient operating hours to assist students

Additionally, the study sought to establish if there is a difference between the private and public universities' academic staff in having convenient operating hours to assist students. The result showed that majority of the respondent 65.6 percent in private and 52.3 percent in public agreed that their staff had convenient operating hours to assist students. Moreover respondents from both universities disagree by 14.6 percent in private and 23.6 in public that staff had convenient hours. It therefore emerges from this research that staff operating hours to assist students is significantly different (p value 0.001) between the universities. The implications of these results is that academic staff in private universities had set better operating hours than public universities. This also means that private universities assisted their students more than public universities.

g) Recognition of students by motivating

Study findings on recognition of students by motivating reviewed that 66.7 percent in private and 48.9 percent in public universities agree on the statement. Additionally, 20.8 percent of respondents in private and 26.5 percent public are neutral

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while 12.5 and 24.6 percent disagree. A p-value of 0.002 indicate that there is a statistically significant difference in the way academic staff shows recognition by motivating students.

h) Availability of teaching staff

In addition the study also sought to find out if the academic staff was available all the times to assist students. The results showed that majority of the respondents (57.3 percent) of private and (40.4 percent) public universities agree that staff is available all the times to assist students. As evident from the percentages and a smaller value (p value =0.029). There was enough evidence to conclude significant difference shown between both types of the universities regarding availability of staff to assist the student all times. This implies that both academic staff at private and public universities was not always available at all times to assist their students. This corroborates the results of figure 4.20 on page 179 showing that 51 percent of graduates were not well prepared theoretically and practically by the universities.

Table 4.8: Curriculum

Curriculum	Factor level	Freq	Percent	Mean Score
Relevant curriculum to future job	Strongly Disagree	20	4.8	
	Disagree	49	11.9	
	Neutral	81	19.6	3.56
	Agree	167	40.4	
	Strongly Agree	96	23.2	
Adequate content of curriculum	Strongly Disagree	7	1.7	
	Disagree	46	11.1	
	Neutral	99	24.0	3.66
	Agree	188	45.5	
	Strongly Agree	73	17.7	
Skilled and knowledgeable staff	Strongly Disagree	9	2.2	
	Disagree	33	8.0	
	Neutral	87	21.1	3.76
	Agree	203	49.2	
	Strongly Agree	81	19.6	
Flexible curriculum to current job	Strongly Disagree	16	3.9	
	Disagree	61	14.8	
	Neutral	77	18.6	3.59
	Agree	179	43.3	
	Strongly Agree	80	19.4	
Research and innovation taken care of in the curriculum	Strongly Disagree	11	2.7	
	Disagree	54	13.1	
	Neutral	92	22.3	3.66
	Agree	160	38.7	
	Strongly Agree	96	23.2	
ICT in the Curriculum	Strongly Disagree	6	1.5	
	Disagree	49	11.9	
	Neutral	66	16.0	3.83
	Agree	181	43.8	
	Strongly Agree	111	26.9	
Well-designed curriculum	Strongly Disagree	14	3.4	
	Disagree	49	11.9	
	Neutral	98	23.7	3.65
	Agree	158	38.3	
	Strongly Agree	94	22.8	

4. 7 Analyzing the curriculum

The table 4.8 on the previous page, the curriculum is fully discussed here below.

a) Relevant curriculum to future job

Relevant curriculum to the future job was studied as another aspect of measuring quality of a university. The study results indicated majority of respondents (63.6 percent) agreed that both private and public universities have relevant curricula to their future job. Additionally, 16.7 percents disagreed to the statement. Those who were about neutral were 19.6 percents. A mean of 3.56 shows that majority of the respondents slightly agreed about the relevance of the curriculum to their future jobs. This implies that industries and the job market needs to contribute to knowledge needed to the universities to prepare these students for their future jobs. However, there is a need for the universities to balance between academic standards and also meet the industry needs.

b) Curricula content adequate

Further the study found out that 63.2 percent of the graduates agreed that the curricula was adequate in content to the require detail. Another 24 percent were about neutral to the statement and 12.8 percent indicated that the curriculum was not adequate in content to the required detail. The obtained mean of 3.66 means that majority of the respondents slightly agreed to the statement. This implies that the curricula needed more review of the content to make it more complete and all inclusive.

c) Skilled and knowledge staff

According to the results of this study under academic skill and knowledge, majority of the respondents (68.8 percent) agreed, 10.2 percent disagreed and 21.1 percent were neutral about skill and knowledge of staff. A mean of 3.76 indicated there was a moderate agreement by majority that staff showed skill and knowledge of the

curriculum. The results imply that the academic staff fairly understood their curriculum but they had not excelled on this area.

d) Flexible curriculum to current job

Additionally from the study findings the respondents (52.7 percent) agreed with the statement of the flexible curriculum to current job, 18.6 percent were neutral and 18.7 percent disagreed. A study mean of 3.59 showed a slight agreement of the statement by majority of the respondents. This implies that not all the graduates found their curriculum flexible to the current job or relating to what they were doing in the organizations. In regard to the study objectives this meant that graduates may not fit in different sectors in Kenya apart from the ones they were trained for because the curriculum used to train them was not flexible to current job market.

e) Research and innovation taken care of in the curriculum

Further the study sought to investigate whether the curriculum took care of research and innovation and the results indicated that 61.9 percent agreed, 14.8 percent disagreed and 22.3 percent were neutral about the statement. From the results of the percentages and a mean of 3.66, most of the respondents slightly agreed. This corroborates the results of table 4.8 on page 89 which shows that graduates had the ability to handle new knowledge and use it creatively as indicated by a mean score of 3.85. This implied that most universities took care of research and innovations when designing their curriculum to encourage students to carried out research and be creative in dealing with new knowledge in their work place.

f) Information communication technology in the curriculum

Majority of the graduates 70.7 percent indicated use of ICT in their curriculum, 16 percent were neutral about it and 13.4 percent disagreed. This implies that most of the graduates learnt information communication technology in most universities. This is supported by the mean of 3.83 showing moderate agreement with the statement. These findings are further supported by the results of table 1 where majority of the graduates agreed that computer skill were taught at the universities. This also implies that graduates can handle large information(m=4.05) by uses of the computers which are supported by results of table 4.17 on page 142 where majority of the employers agreed in percentage and mean score that graduates well involved with their present work.

g) Well-designed curricula

The findings of this study moderately (61.1 percent, M = 3.65) indicate that universities have a well-designed curriculum for their students. Those who were neutral about the statement were 23.7 percent while 15. 3 percent disagreed that their universities had a well-designed curricula. In addition table 4.9 below shows that using the factor extraction method, one factors was adequate in explaining curriculum which score 62% which is adequate and sufficient and eight units less from the cut-off rule of thumb of 70% required for extraction of factors as shown also in the scree plot.

Table 4.9 on factor **analysis of the curriculum** below.

Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.351	62.152	62.152	*4.351*	*62.152*	*62.152*
2	.798	11.404	73.556			
3	.484	6.921	80.477			
4	.385	5.501	85.978			
5	.358	5.111	91.088			
6	.336	4.795	95.883			
7	.288	4.117	100.000			

Out of the seven factors studied for the teaching staff competencies, showing of skills and portraying of skills and knowledge sufficiently explain the variability at 80% and 78%. This implied that studying these two factors would address the curriculum needs and expectations of the graduates in relation to the job market. The results are shown on table 4.9 above.

The table 4.10 below gives the findings on comparison of the curriculum by both private and public universities. Table 4.10: Curriculum by University

Curriculum	Factor Level	University Private		Public		P value
		Freq	Percent	Freq	Percent	
Relevant curriculum to future job	Strongly Disagree	4	4.2	16	5.0	
	Disagree	7	7.3	42	13.2	
	Neutral	16	16.7	65	20.5	0.076
	Agree	37	38.5	130	41.0	
	Strongly Agree	32	33.3	64	20.2	
Adequate content of curriculum	Strongly Disagree	0	0.0	7	2.2	
	Disagree	9	9.4	37	11.7	
	Neutral	23	24.0	76	24.0	0.586
	Agree	45	46.9	143	45.1	
	Strongly Agree	19	19.8	54	17.0	
Skilled and knowledgeable staff	Strongly Disagree	3	3.1	6	1.9	
	Disagree	6	6.3	27	8.5	
	Neutral	12	12.5	75	23.7	**0.041**
	Agree	48	50.0	155	48.9	
	Strongly Agree	27	28.1	54	17.0	
Flexible curriculum to current job	Strongly Disagree	3	3.1	13	4.1	
	Disagree	9	9.4	52	16.4	
	Neutral	15	15.6	62	19.6	0.226
	Agree	45	46.9	134	42.3	
	Strongly Agree	24	25.0	56	17.7	
Research and innovation taken care of in the curriculum	Strongly Disagree	2	2.1	9	2.8	
	Disagree	11	11.5	43	13.6	
	Neutral	18	18.8	74	23.3	0.661
	Agree	38	39.6	122	38.5	
	Strongly Agree	27	28.1	69	21.8	
ICT in the Curriculum	Strongly Disagree	1	1.0	5	1.6	
	Disagree	8	8.3	41	12.9	
	Neutral	15	15.6	51	16.1	0.162
	Agree	37	38.5	144	45.4	
	Strongly Agree	35	36.5	76	24.0	
Well-designed curriculum	Strongly Disagree	4	4.2	10	3.2	
	Disagree	10	10.4	39	12.3	
	Neutral	21	21.9	77	24.3	0.125
	Agree	30	31.3	128	40.4	
	Strongly Agree	31	32.3	63	19.9	

The results of table 4.10 on page 126 are discussed in details here below under different

subsections.

4.8 Relevance of curriculum to future job by university

This study sought to compare the curriculum developed by private and public universities and found out that there was no significant difference between the two as shown by a p value bigger (0.076) than 0.05. Those who agreed that the curricula were relevant to their jobs were 71.8 percent in private universities and 60.2 percent in public. Another 16.7 percent in private and 20.5 percent in public were neutral while 11.5 percent in private and 18.2 percent in public disagreed to the statement. This implied that both private and public universities needed to be more relevant to industry demands and need to prepare their students for the job market. In regard to the study objectives this also means that curricula should reflect skills of different sectors to help them fit in their current jobs

a) **Adequate content of curriculum**

This study also sought to find out how curriculum content adequacy compared in private and public universities and found out that there was no significant difference as indicated by a (p = 0.0586); a bigger p value than 0.05. This is further supported by 66.7 percent in private and 62.1 percent in public showing almost an equal number of respondents from both universities agreeing with the statement. Those who disagreed were 9.4 in private universities and 13.9 in public. This means that the curriculum is fairly adequate but needs more improvement in both private and public universities. It also implies that curricula are controlled by CUE in all universities according to the set rules and regulation, hence no significant difference in the content of the universities.

b) **Skilled and knowledgeable staff**

The results of this study further showed that there is a significant difference between public and private universities with the skill and knowledge in their curriculum as indicated by a smaller p-value (0.041) than 0.05. Also those disagreeing (9.4 percent private) and (10.4 percent) were almost equal with 12.5 percent in private and 23.7 percent in public remaining neutral to the statement. This implied that the curricula in both universities were developed by experts with similar knowledge and skill as encouraged by Commission for University Education in Kenya through their approval and inspection.

c) **Flexible curriculum to current job**

Further this study indicated that there was no significant difference in the flexibility of the curriculum to current job of the graduates as shown by a p value of 0.226; larger than 0.05. Respondents agreeing to the statement were 71.9 percent in private and 60 percent in public while 15.6 percent in private and 19.6 percent in public remained neutral about the statement. Another 12.5 percent in private and 20.5 percent in public disagree that their universities had a flexible curriculum to current job. This implies that the curriculum needs to be changed regularly to accommodate the dynamic needs in the labour market.

d) **Research and innovation taken care of in the curriculum**

In addition this study found out that there is no significant difference in the way both private and public universities included research and innovation in their curriculum as indicated by the p value (0.661) larger than 0.05 and those agreed to the statement were 67.7 percent in private and 60.3 percent in public. Those who disagreed were a total of 13.6 in private and 16.4 in public while 18.8 percent in private and 23.3 percent

in public were neutral. This implies that the universities and Commission for University Education encouraged innovation and research in the curriculum to prepare graduates for the current job market.

e) ICT in the curriculum

The results of this study show that there is no difference in the way information communication technology was included in the curriculum as shown by a p value bigger (0.162) than 0.05. Majority of the respondents (75 percent) in private and (69.4 percent) for public agreed with the way ICT was included in the curriculum. Those who were neutral (private 15.6 percent, public 16.1 percent) indicated no difference. A few (private 9.3 percent, public 14.5 percent) disagreed with the statement. This implied that ICT in the curriculum was well taken care of and this is corroborated by the results of table 4.2 on page 94 that indicate computer skills had a mean score of 4.39.

f) Well designed curriculum

Additionally the study reviewed that there is no difference in the way curriculum in both public and private universities is designed and developed as indicated by a p- value bigger (p = 0.125) than 0.05 and almost equal percentages (private 63.6 percent, public 60.3 percent) in both type of universities. Those who disagreed to the statement we 14.6 percent in private and 15.5 percent in public showing minimal difference of developing and designing the curriculum is the universities. This implies that developing and designing of the curriculum is done in the same way in the universities with approval and inspection from CUE in Kenya. However, interrogating the curriculum from the university side using a survey shows that all areas of the curricula such as: Relevance, adequacy, flexibility, design, industry involvement in development and inclusion of ICT were the same in all the universities. The results in the table 4.11 are shown on page 131 indicating the comparison of private and public universities' physical resources. The

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findings show that private universities were well equipped, had adequate buildings and easily accessed physical resources.

Figure 4.4 below present's sree plot for curriculum content
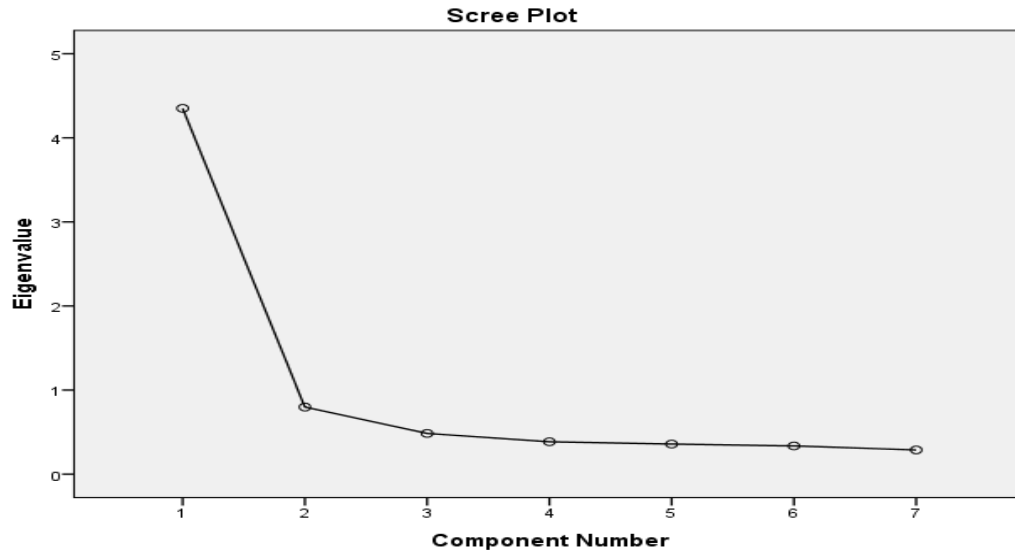
Figure 4.4: scree plot for curriculum

The scree plot shows four critical variables are adequate in explaining the total variations of the curriculum as outlined above and illustrated on table 4.11. This means that these two variables could have been used to get information needed.

The table 4.11 below gives the findings on comparison of the curriculum by both private and public universities.

Table 4.11: Quality of Physical Resources.

Physical Resources	Factor Level	University				P value
		Private		Public		
		Freq	Percent	Freq	Percent	
Well equipped	Strongly Disagree	5	5.2	16	5.0	
	Disagree	8	8.3	72	22.7	
	Neutral	19	19.8	66	20.8	**0.015**

	Agree	32	33.3	94	29.7	
	Strongly Agree	32	33.3	69	21.8	
Adequate Buildings	Strongly Disagree	3	3.1	25	7.9	
	Disagree	6	6.3	54	17.0	
	Neutral	17	17.7	75	23.7	**0.003**
	Agree	44	45.8	98	30.9	
	Strongly Agree	26	27.1	65	20.5	
Good support services	Strongly Disagree	4	4.2	11	3.5	
	Disagree	7	7.3	62	19.6	
	Neutral	18	18.8	67	21.1	0.052
	Agree	46	47.9	120	37.9	
	Strongly Agree	21	21.9	57	18.0	
Easily accessed physical resources	Strongly Disagree	4	4.2	5	1.6	
	Disagree	7	7.3	58	18.3	
	Neutral	18	18.8	69	21.8	**0.042**
	Agree	45	46.9	128	40.4	
	Strongly Agree	22	22.9	57	18.0	
Well maintained sanitation facilities	Strongly Disagree	6	6.3	8	2.5	
	Disagree	4	4.2	37	11.7	
	Neutral	16	16.7	79	24.9	0.023
	Agree	44	45.8	115	36.3	
	Strongly Agree	26	27.1	78	24.6	
Adequate water supply	Strongly Disagree	5	5.2	6	1.9	
	Disagree	2	2.1	25	7.9	
	Neutral	13	13.5	58	18.3	0.079
	Agree	41	42.7	120	37.9	
	Strongly Agree	35	36.5	108	34.1	
Adequate library services	Strongly Disagree	5	5.2	19	6.0	
	Disagree	7	7.3	59	18.6	
	Neutral	18	18.8	54	17.0	0.100
	Agree	37	38.5	96	30.3	
	Strongly Agree	29	30.2	89	28.1	

4.9 Physical resources

The results in the table 4.11 on the previous page are elaborated upon below.

a) Equipment up to date

The results in table 4.11 compared physical resources in both type of the university and found a significant difference existed as indicated by private 66.6 percent, public 50.5 percent who agreed to the statement. A further difference is shown in those who

disagreed at 13.5 percent private, public 27.2 percent and p value =0.015). Those who were neutral (private 19.28 percent, public 20.8 percent) remained almost the same in both public and private universities. This study implies that private universities have better equipment than public because their finances are better as students pay higher for the services. This also mean that private university students are well prepared than public university graduates.

b) **Adequate buildings**

Additionally the study findings under adequate buildings showed that there was a significant difference as indicated by a very small p value (p = 0.003) less than 0.05, Private universities had 73.9 percent and public had 51.4 percent agreeing to the statement. Another 9.4 percent in private and 24.9 percent in public disagree that the universities had adequate buildings. This implies that private universities have adequate buildings but public do not have enough.

c) **Good support services**

From the result of the study there was no difference in the support services in the universities as shown by a p value = 0.052). Majority of the respondents (private 69.8 percent) and (55.9 percent in public) agreed that the universities had good support services. Those who disagree were 11.5 percent in private and 23.1 percent in public. This implies that universities valued support services and kept them in good condition. It also means that both universities took care of their support services adequately.

d) **Physical resources were easily accessed**

Majority of the respondents in private (69.8 percent) indicated they easily accessed physical resources while the public universities only easily accessed them 38.4 percent. This significant difference is further indicated by a small p value = 0.042. There are respondents (private 11.5%, Public 19.9%) who disagreed that physical resources were easily accessible in the universities. Also 18.8 percent in private and 21.8 percent in public remained neutral about this statement. This implies that physical resources were easy to access in private universities than public.

e) Well maintained sanitation facilities

The results of the study show that there is a significant difference between private and public universities in maintenance of their sanitation facilities as shown by 77.9 percent in private and 60.9 percent in public and a p value = 0.023). Another difference is seen as 10.5 percent in private and 13.2 percent in public disagree that their sanitation was well maintained while 16.7 percent in private and 24.9 percent were neutral. This implied that private universities had more resources to take care of the sanitation facilities than public universities that relied on the government which took a long time to fund them.

A survey interrogating the university side which interviewed staff on the same subject indicated that sanitation facilities in private universities were better maintained than public universities.

f) Adequate water supply

The results of this research show that majority agreed there was adequate water supply in both private (79.1 percent) and public (72 percent). There was no significant

difference in the supply of water as indicated by a bigger p value = 0.079. The total respondents who disagreed were 7.3 percent in private and 9.8 percent public. It can be judged from these results that the universities have adequate supply of water and there is no difference in private and public universities in delivery of this service. This means that Kenya has enough water in most parts of the country and hygiene is valued. It also implies that adequate water is a requirement from CUE for any university.

g) Adequate library services

The findings from this study show that 68.7 percent of private and 58.4 percent in public universities agree there are adequate library services while 12.5 percent of private and 24.6 percent in public disagree with the statement. Another 18.8 percent in private and 17 percent were neutral to the statement. A p- value of 0.100 indicated that there is no significant difference in adequacy of library services in private and public universities. From the majority who agree to the statement it can be implied that both universities consider library an important service to the students. This is confirmed by a survey done by this research whose results show a p-value above 0.05 in all library services implying that there was no difference in the library services were offered in all universities in terms of: Text books, journals/periodicals, internet access, study space, library staff services, e-learning and ICT services.   It also means that library services are a requirement of CUE and is assessed for adequacy regularly and therefore university have to comply. Table 4.12 on page 135 explains factor analysis for physical resources. Using the factor extraction method, one factor was adequate to explain variability of physical resources. This factor scored 61% which is adequate and sufficient and nine units less from the cut-

off rule of thumb of 70% required for extraction of factors as shown in the scree plot below on figure 4.20.

However, a survey carried out by this study rated the private better than public universities in physical resources (M=2.25), learning environment (M=2.44), service delivery (M=2.58), graduates quality (M=2.58), institutional reliability (M=2.60), facilities (M=2.77) and library services (M=2.92), though public universities had competent academic staff (M=2.77) and curricula (2.57). This was done on a Likert scale of 1=excellent, 2=very good, 3=good, 4= insufficient and 5= poor (see the appendix 7)

Table 4.12: Factor analysis of physical resources

Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.275	61.070	*61.070*	*4.275*	*61.070*	*61.070*
2	.843	12.036	73.106			
3	.571	8.154	81.261			
4	.420	5.999	87.259			
5	.376	5.372	92.631			
6	.294	4.206	96.838			
7	.221	3.162	100.000			

Out of the seven factors studied for the physical resources, availability of support services in good conditions sufficiently explain the variability at 82%.This implies the studying these five factors would have addressed the expected physical resources in the universities. The last two factors contributed very low as shown in the scree plot and were dropped.

Scree Plot for physical resources

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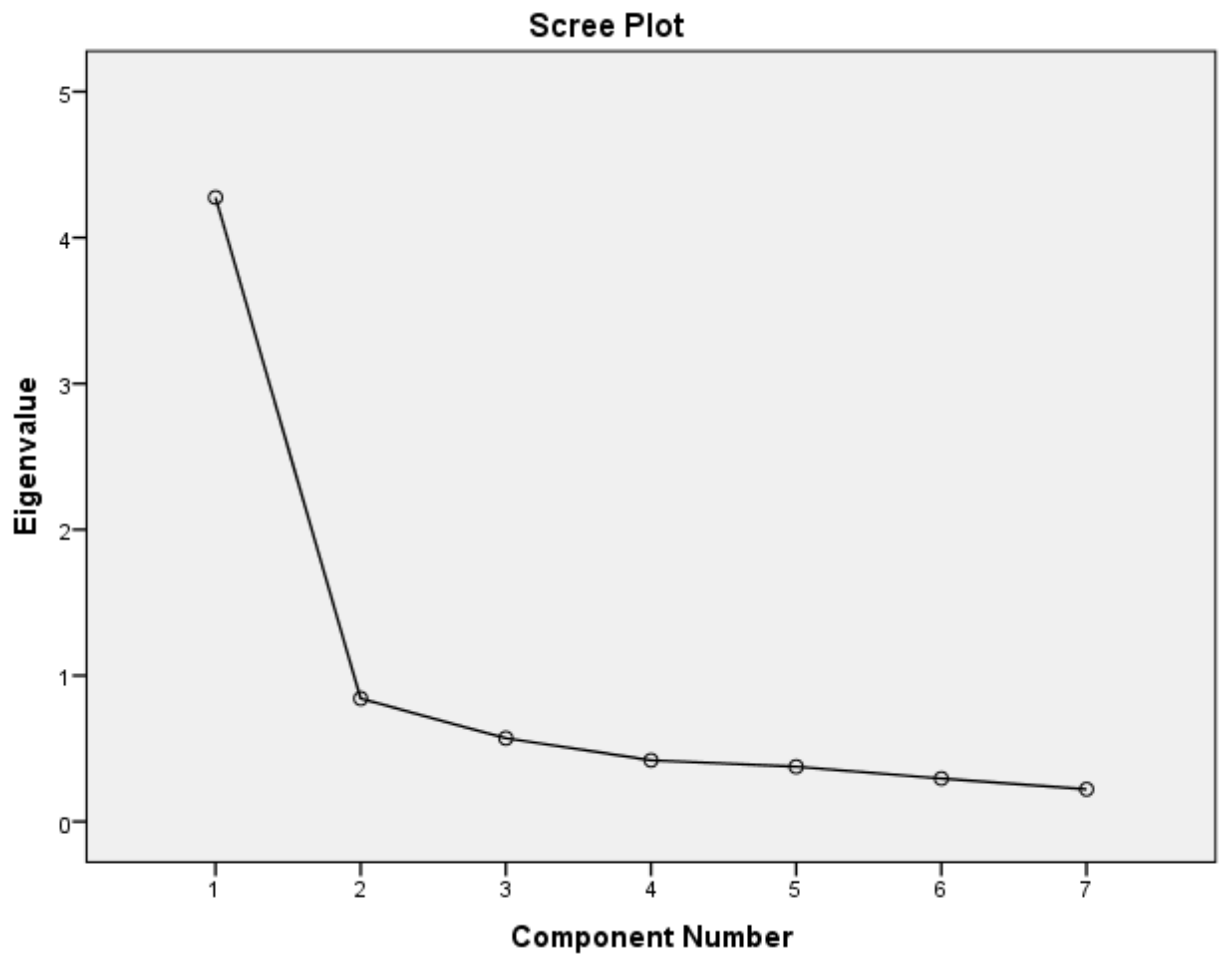
Figure 4.5: Physical resources.

The scree plot on figure 4.5 above supports the discussion of table 4.12 on the page 135. It indicates that four factors were adequate in deciding on the physical resources as shown on the scree plot above. All other factors were dropped in further analysis

Table 4.13: Institution Reliability by University

Institutional Reliability	Factor level	University Private		Public		P value
		Freq	Percent	Freq	Percent	
Trustworthy University	Strongly Disagree	5	5.2	19	6.0	
	Disagree	13	13.5	65	20.5	
	Neutral	22	22.9	52	16.4	0.091
	Agree	25	26.0	109	34.4	
	Strongly Agree	31	32.3	72	22.7	
Keeping of Promise	Strongly Disagree	5	5.2	19	6.0	
	Disagree	7	7.3	63	19.9	
	Neutral	23	24.0	91	28.7	*0.014*
	Agree	42	43.8	96	30.3	
	Strongly Agree	19	19.8	48	15.1	
Adequate handing of complains	Strongly Disagree	6	6.3	22	6.9	
	Disagree	10	10.4	71	22.4	
	Neutral	26	27.1	96	30.3	*0.016*
	Agree	34	35.4	94	29.7	
	Strongly Agree	20	20.8	34	10.7	
Student problems were solved fairly	Strongly Disagree	9	9.4	18	5.7	
	Disagree	8	8.3	60	18.9	
	Neutral	25	26.0	115	36.3	*0.008*
	Agree	39	40.6	91	28.7	
	Strongly Agree	15	15.6	33	10.4	
Rewards fairly awarded	Strongly Disagree	5	5.2	14	4.4	
	Disagree	10	10.4	59	18.6	
	Neutral	28	29.2	104	32.8	0.072
	Agree	31	32.3	100	31.5	
	Strongly Agree	22	22.9	40	12.6	
Confidential information well preserved	Strongly Disagree	3	3.1	10	3.2	
	Disagree	9	9.4	35	11.0	
	Neutral	21	21.9	83	26.2	0.800
	Agree	37	38.5	120	37.9	
	Strongly Agree	26	27.1	69	21.8	
Dignity of students preserved	Strongly Disagree	4	4.2	9	2.8	
	Disagree	8	8.3	45	14.2	
	Neutral	18	18.8	80	25.2	0.215
	Agree	38	39.6	115	36.3	
	Strongly Agree	28	29.2	68	21.5	

The table above table 4.13 explains details on institutional reliability by private and public universities. The results of this table are elaborated upon below.

4.10 Institution reliability by university.

Is discussed here bellow under different headings.

a) Trustworthy University

The results of the study indicate that there is no difference in reliability of the universities as indicated by those who agree in private 58.3 percent, 57.1 percent in public. The p value of 0.091 also indicates there is no significant difference in trustworthiness of the universities. The respondents who disagree were 18.7 percent and 26.5 percent in private and public. These descriptive statistics imply that graduates did not fully trust their universities.

b) Keeping promise

This study shows that keeping promise as a measure of university reliability was significantly different as shown by private 630.8 percent, public 45.4 percent of respondents agreed to the statement. Further the p value =0.014 supporting the existing difference in the universities' keeping the promises to their students. In private 12.5 percent, public 25.9 percent disagreeing shows that private universities were more reliable in keeping promises to their students. This means that private universities were better in keeping promises to their students than public universities.

c) Handling students' complaints

This study sought to find out how adequate handling of complaints measured the institutions reliability and the results showed that there was a significant difference between the universities. The study shows that private universities (56.2 percent) handled

students' complaints more adequately than public (40.4 percent) as indicated by those who agreed to the statement and the p-value of 0.016. The implication of this is that although private universities handled students' problems better than public universities both have not excelled on this area.

d) Students' problems were solved fairly

Table 4.13 on page 138 shows that there is a difference in fairness in solving students problems as indicated by a small p value = 0.008and difference in percentages of respondents who agreed to the statement (private 56.2 percent, public 39.1 percent). The respondents who disagreed to the statement 17.7 percent were private and 24 .6 percent in public. This implied that private universities solved student problems fairly making them more reliable to their students than public universities as private have fewer students.

e) Awards fairly awarded

The results of the study shows that there is no significant difference in fairness when rewarding students in both institutions as indicated (p = 0.072). In private 55.2 percent and public 44.1 percent agreed that rewards were fairly rewarded while 29.2 percent and 32.8 percent in private and public remained neutral. Those who disagreed were 15.6 percent and 23 percent indicating that some institutions were not rewarding students fairly. The findings imply that both public and private universities were not different in the way they rewarded their students.

f) Confidential information well preserved

Table 4.13 shows that there is no difference in the institutions preservation of student's confidential information as indicated by respondents. Those who agreed to the

statement are 65.6 percent in private and 59.4 percent in public universities. Another 12.5 percent and 14.2 percent in private and public disagreed to the statement. The p value of 0.800 confirms there is no difference in the preserving of students' confidential information. 21.9 percent in private and 26.2 percent in public universities remained neutral on the statement. The implication of the findings is that both universities handled students' confidential matters in the same way as most of the universities had counseling departments that dealt with students' issues.

g) **Dignity of the students preserved and respected**

The results from this study show that majority of the respondents (58.8 percent in private, 57.8 percent in public) agreed that the dignity of the students was not very well preserved and respected. These and large p value of 0.215 results indicate there is no difference between private and public universities in the way they preserve and respect students' dignity. 12.5 percent and 17 percent in private and public disagreed with the statement. This implies that the dignity of the students in both universities needed to be well preserved.

Interrogating the university staff through a survey on the subject matter shows that there is no significant difference in institutional reliability of both private and public university as the p-value is more than 0.05 in keeping promises by the university, trust, handling complains, solving problems, reward, maintaining students dignity and preserving students' confidential information. This survey agreed with the responses of the graduates interviewed from the COYA companies. The table 4.23 below indicates the factor analysis for institutional reliability.

Table 4.14 Factor Analysis-institutional reliability

Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.556	65.084	***65.084***	***4.556***	***65.084***	***65.084***
2	**.774**	11.061	76.146			
3	.668	9.545	85.691			
4	.399	5.702	91.392			
5	.246	3.516	94.908			
6	.217	3.103	98.011			
7	.139	1.989	100.000			

Using the factor extraction method as shown in table 4.14 above shows that, out of the seven factors studied for the institution reliability two factors were adequate in explaining of institutional variability at 76%. Therefore two factors were adequate and sufficient in explaining institutional reliability. Five units were dropped as the cut-off rule of thumb of 70% required for extraction of factors as shown in the table and scree plot below.
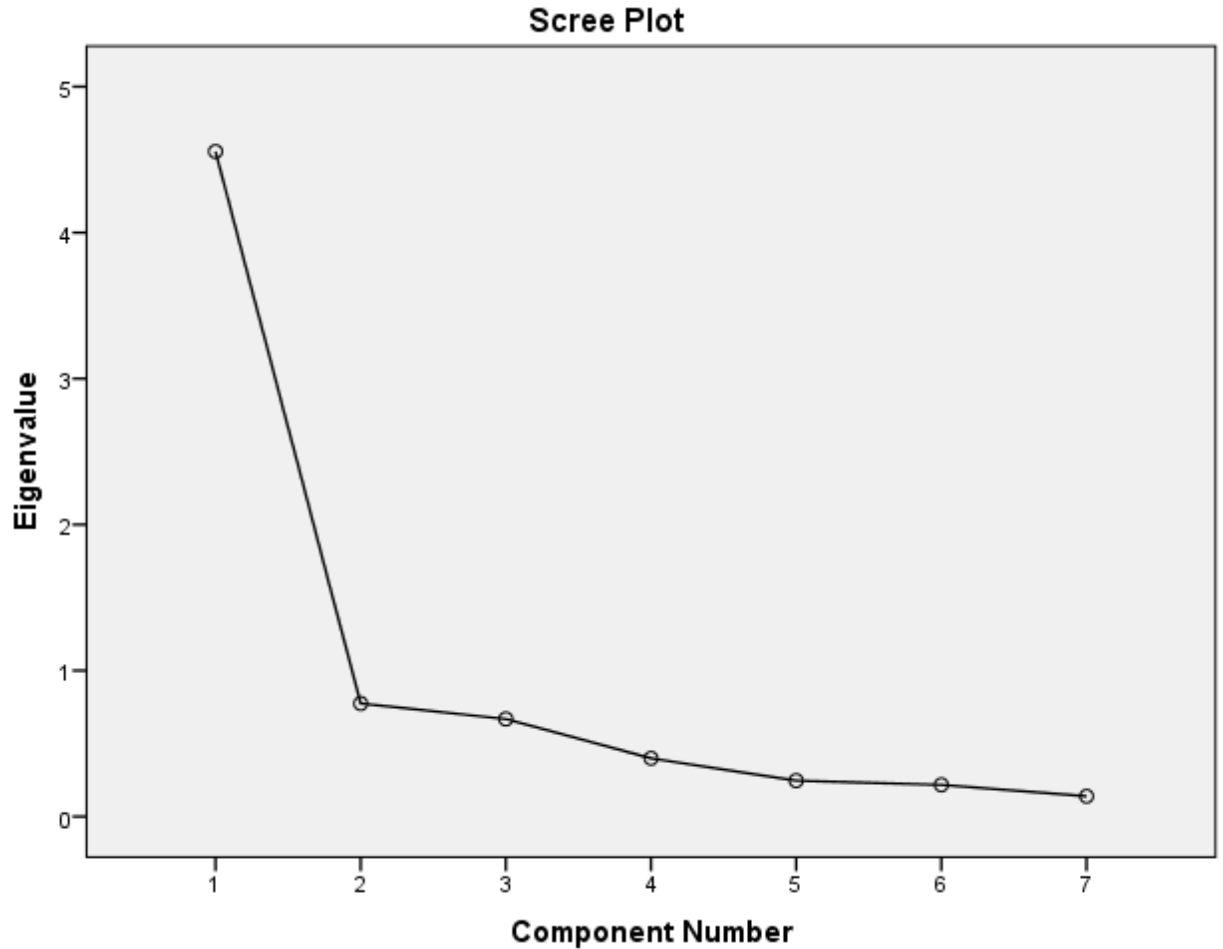
Scree Plot

Figure 4.6: Scree plot for institutional reliability

Four variables were enough in explaining institutional reliability as shown in the sree plot figure 4.6 above. It shows there is no significant difference in the two institutions as the p-value is greater than 0.05 in all areas. Table 4.6 on page 143 explains learning environment and quality by university.

4.11 Quality of graduates

The discussion of quality graduates is given below under different headings.

a) Graduates prepared to work competently for global work

From the findings of the study there was no difference between public and private universities preparation for their students to be global graduates. This is shown by the p

value of 0.797 which is smaller than 0.05. The respondents agreed with the statement in private by72.9 percent and 69.1 percent in public universities. 11.5 percent and 13.8 percent disagreed with the statement. These results are supported by the findings of a survey (p-value=0.0549) done by this research which indicated that university graduates are not well prepared for global work and there is no significant difference in the quality of the degree awarded in both private and public universities. This implies that graduates need to be more prepare to fit in the global market.

b) University gave enough skill to be a quality graduates

The results of the study indicate that there is no difference in the skills given to be a quality graduate in both private and public universities. Majority of the respondents 82.1 percent in private and 70.1 percent in public agreed to the statement while 13.5 percent and 21.1 percent in private and public disagree that the universities gave them enough skills to be quality graduates. A p value of 0.471 indicates that there is no significant difference in the way universities gave enough skill to their students to be quality graduates. This means that graduates from both universities were give the same skill which also implied that the same lecturers are being shared by the same universities.

c) Degree worth quality expected

According to this study 10.4 percent of private and 14.6 percent of public university graduates indicated that they were not prepared with the degree worth the quality expected from the universities. 80.1 percent from private and 68.2 percent from public universities agreed that they received a degree worth the quality they expected while 12.5 percent and 19.5 percent from private and public universities were neutral about the statement. In addition, a p- value of 0.438 indicated there was no significant difference

between public and private universities degree worth quality expected by their students. Majority (88.9%) of university students are recruited through KCSE qualifications with a set minimum entry qualifications. This means that the quality of students recruited met the criteria of selection but the quality of the degree obtained was the same in both public and private universities. This also implies that CUE was controlling quality and curricula in all the universities.

The figure **4.7** on the below presents a comparison of private and public universities graduates' preparation by university.
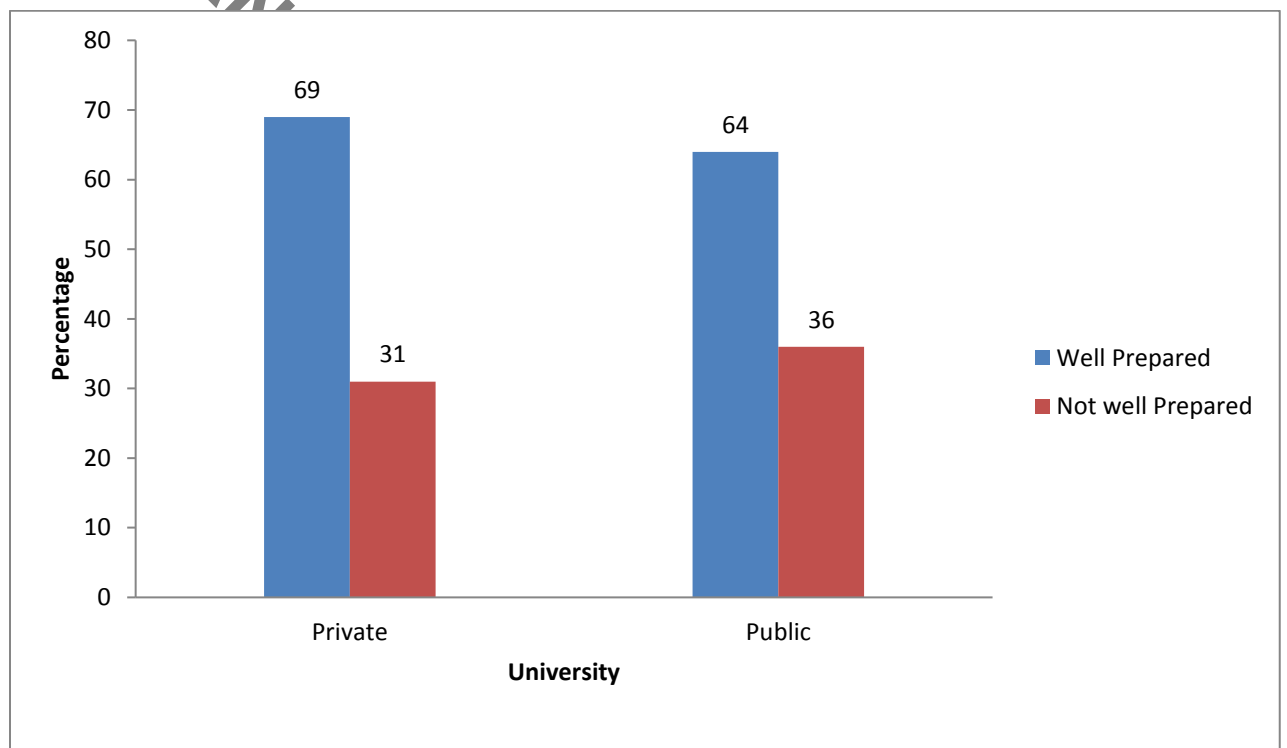
Figure 4.7: Comparing preparation of graduates by university

The figure 4.7 above explains the preparation of graduates both theoretically and practically by private and public universities. The results indicate that 69% in private and 64% in public universities are well prepared. In Private universities 31 % and 36% of

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public are not well prepared. This research agreed with the findings of Gudo *et* al. (2011 pp. 113) who found out "Private universities performed better than public universities in management of quality education". However, this implies that the Kenya Public university management may be interfered with by politics, thus interfering with quality management and service delivery in these institutions.

Table 4.15: Factor Analysis for quality of graduates

Total Variance Explained

Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.661	88.692	88.692	**2.661**	**88.692**	**88.692**
2	.198	6.605	95.297			
3	.141	4.703	100.000			

Extraction Method: Principal Component Analysis.

Using the factor extraction method, one factor was adequate to explaining quality of graduates which scored 89% which is adequate and greater than the cut-off rule of thumb of 70% required for extraction of factors as shown in the scree plot below.

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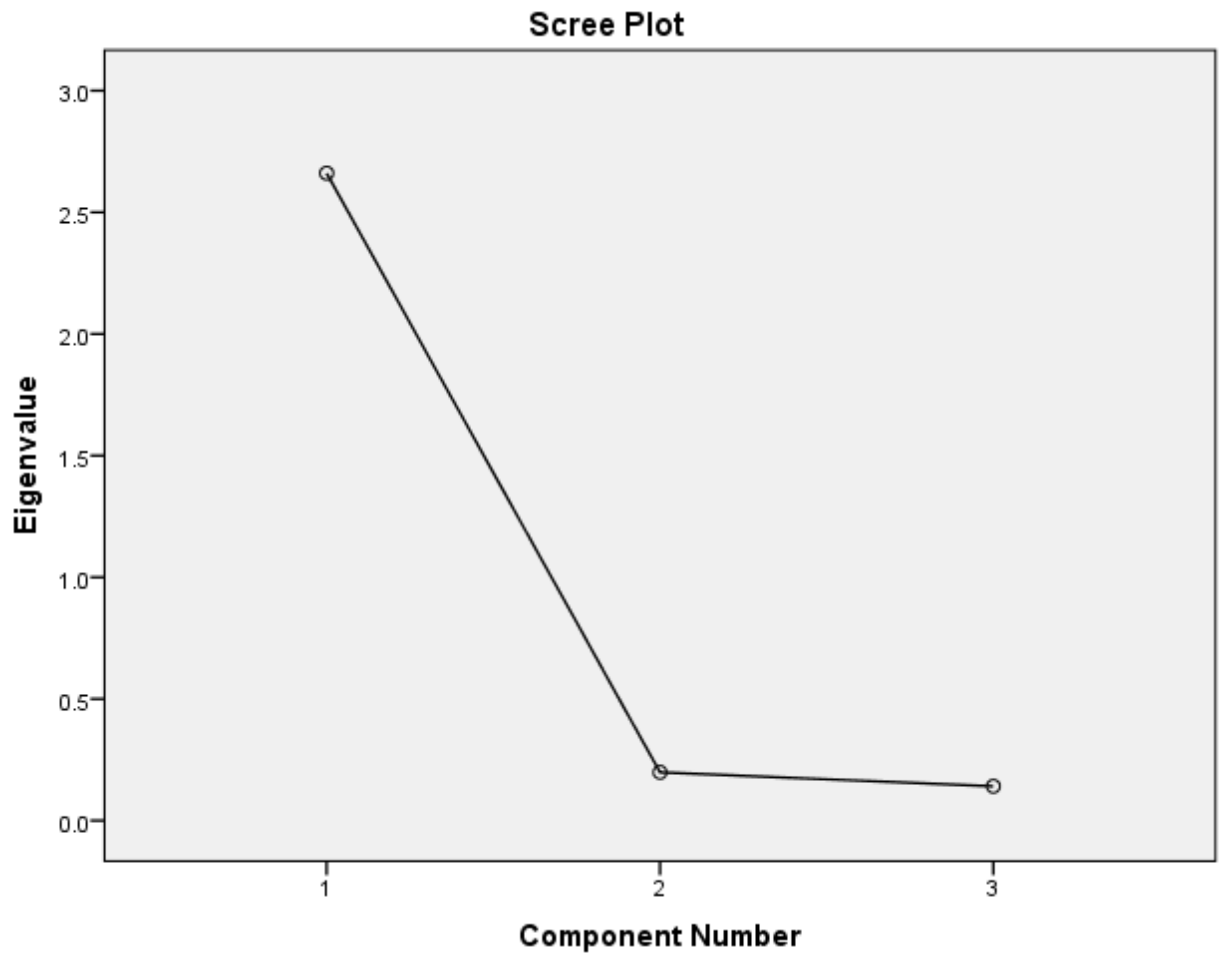
Figure 4.8: scree plot quality of graduates.

All the three factors studied for the quality of graduates, dispatching of enough skills sufficiently were used to explain variability for quality of graduates. This means that studying all the factors were not critical in evaluating quality of the university graduates.

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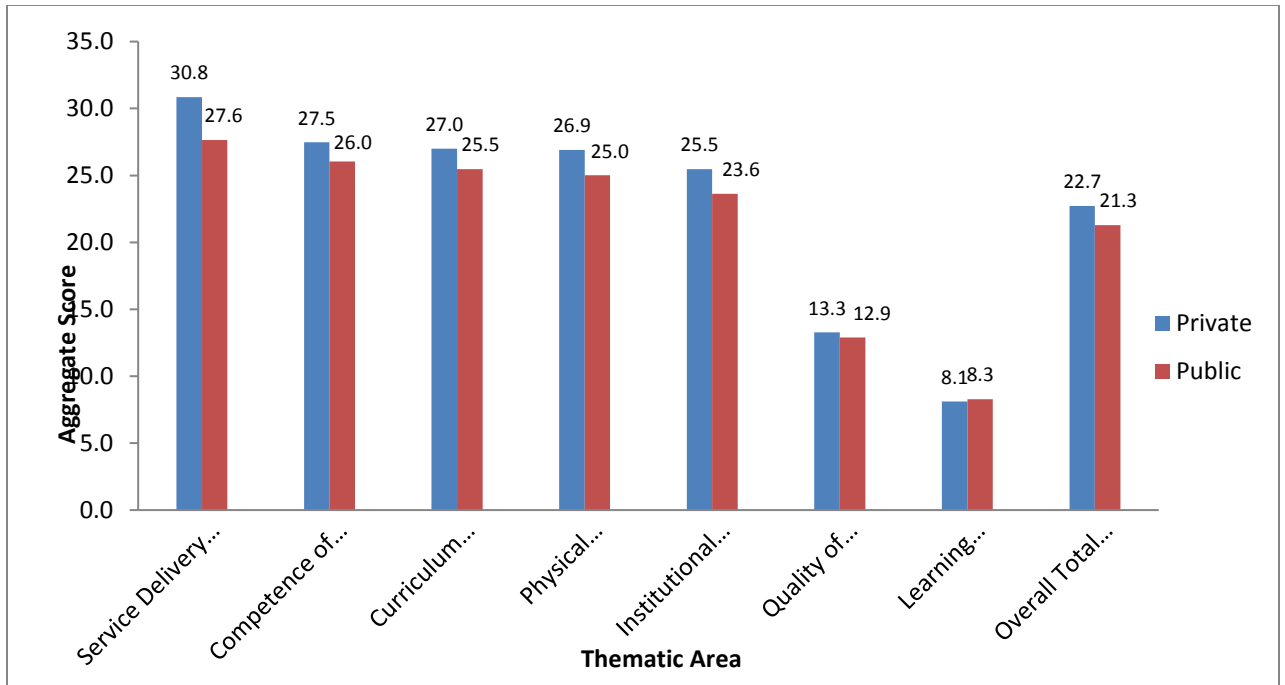
Figure 4.9: Opinion of graduates' preparedness from the University for the Present Employment.

Rating universities by their graduates

The study findings in figure 4.9 above indicate that service delivery had more respondents from private universities (30.8) than public universities (27.6) of the aggregate score. A higher score in competence of academic staff was from private (27.5) as compared to (26.0) who were from public universities. Curriculum scored more in private universities (27) than in the public universities (25.5). The study also indicated that physical resources where better in private (26.9) than public (25) universities. Institutional reliability was rated higher (25.5) in private than (23.6) in the public universities. Quality of graduates was highly rated in private (13.3) as compared to (12.9) public universities. From the study the learning environment was better (8.3) in public than in the private universities. This implies public universities have a better learning

environment because they are government sponsored allocated large land. It also means that private universities did well in all other areas as they have more recourse from their sponsors.

Determinants of the quality of a university.

Various aspects were evaluated which included the academic competences of the staff, service delivery, curriculum, physical resources, institutional reliability, learning environment and quality of graduates. Figure 4.10 below presents the results of determinants of university quality.
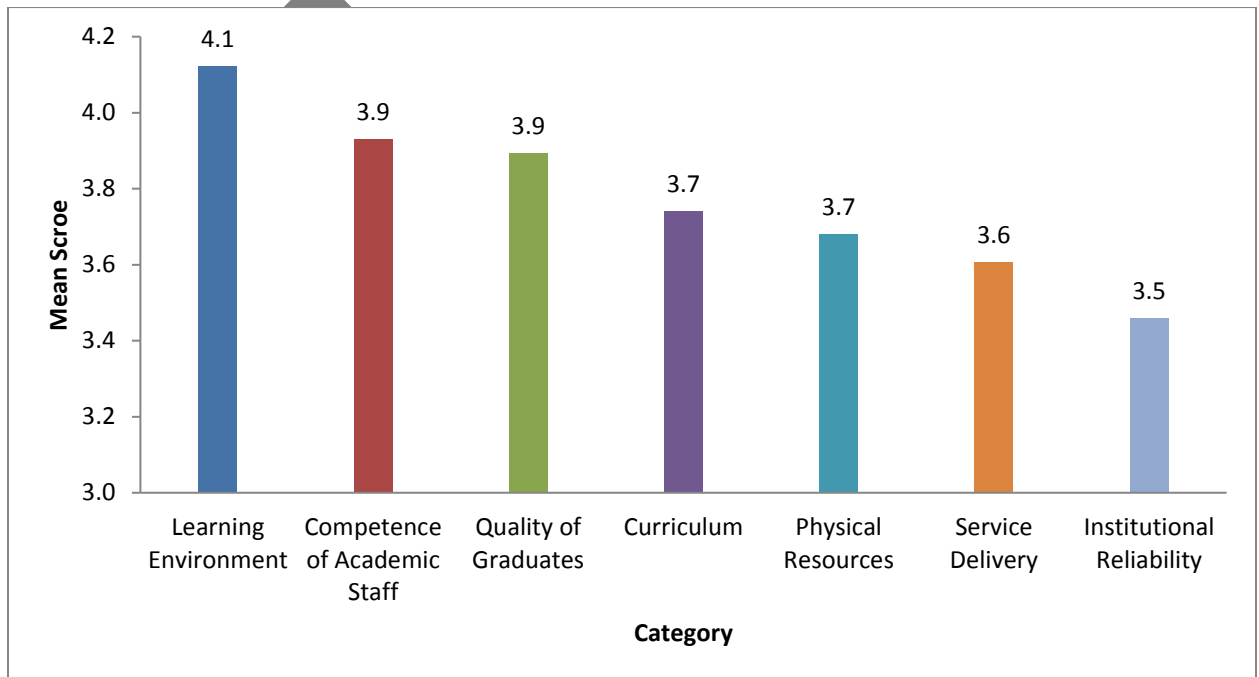
Figure 4.10: Determinants of the university quality.

According to figure 4.10, majority of the universities quality was determined by learning environment which scored total score of 4.1 (Agree), followed by Competence of Academic of the staff at 3.9. The findings also show that quality of graduates determines quality of the university by 3.9, curriculum by 3.7, Physical resources scored

3.7, service delivery 3.6 and institutional reliability had a mean score of 3.5. This study shows that the quality of a Kenyan university is greatly determined by learning environment, competence of staff and the graduates it produces. To investigate the aspects more, an Analysis of Variance (ANOVA) was undertaken to use the mean scores of the median for the various categories. In these cases, the median scores were used as they were more representative compared to the mean.

Table 4.16: Independent T-Test for the Categories by Universities

To see which categories differed significantly in the mean scores, an independent t-test was done as shown below.

Categories	Type of University	n	Mean	std	se (μ)	p value
Competence of Academic Staff	Private	96	4.14	0.84	0.09	*0.006*
	Public	317	3.87	0.84	0.05	
Service Delivery	Private	96	3.92	0.90	0.09	<0.001
	Public	317	3.51	0.91	0.05	
Curriculum	Private	96	3.86	0.88	0.09	0.124
	Public	317	3.70	0.90	0.05	
Physical Resources	Private	96	3.89	0.98	0.10	*0.023*
	Public	317	3.62	1.01	0.06	
Institutional Score	Private	96	3.67	1.05	0.11	*0.02*
	Public	317	3.40	0.97	0.05	
Learning Environment	Private	96	4.05	1.01	0.10	0.396
	Public	317	4.14	0.90	0.05	
Quality of Graduates	Private	96	3.99	0.98	0.10	0.293
	Public	317	3.86	1.03	0.06	

In addition, the findings of this table show that competence of academic staff, service delivery, physical resources and the institutional reliability at 0.006, <0.001, 0.023 and 0.020 p value respectively. For the above categories, the graduates rating then

differed considerably from private to public. Other categories were not significantly different by the type of the university (p value>0.05). A p-value of 0.293 indicated that there was no significant difference between quality of graduates from private and public universities. This implies that the universities are sharing lecturers producing same quality of graduates. Below is table 4.17 one page 152 that is explaining work preparedness of university graduates in the labour market.

Table 4.17: Present Job Competence of the Graduates

Present Job Competence	Factor Level	Frequency	Percent	Mean Score
Demonstrate theoretical learning	Strongly Disagree	-	-	
	Disagree	6	14.6	
	Neutral	3	7.3	3.98
	Agree	18	43.9	
	Strongly Agree	14	34.1	
Oral expression freely	Strongly Disagree	-	-	
	Disagree	6	14.6	
	Neutral	4	9.8	3.98
	Agree	16	39.0	
	Strongly Agree	15	36.6	
Team work	Strongly Disagree	-	-	
	Disagree	6	14.6	
	Neutral	2	4.9	3.98
	Agree	20	48.8	
	Strongly Agree	13	31.7	
Managerial Skills	Strongly Disagree	-	-	
	Disagree	5	12.2	
	Neutral	8	19.5	3.90
	Agree	14	34.1	
	Strongly Agree	14	34.1	
Decision making	Strongly Disagree	-	-	
	Disagree	4	9.8	
	Neutral	11	26.8	3.88
	Agree	12	29.3	
	Strongly Agree	14	34.1	
Written expression	Strongly Disagree	-	-	
	Disagree	6	14.6	
	Neutral	6	14.6	3.90
	Agree	15	36.6	
	Strongly Agree	14	34.1	
Computer Skills	Strongly Disagree	-	-	
	Disagree	3	7.3	
	Neutral	4	9.8	4.39
	Agree	8	19.5	
	Strongly Agree	26	63.4	

The results of the table 4.17 on the previous page are all explained below to give an insight on graduates' demonstration of theoretical learning, oral expression, teamwork managerial skills, decision making skills, and written expression and Computer skills.

4.12   Present Job Competence of the graduates

To measure present job competence (table 4.1) of the graduates, their application of theoretical learning, oral expression, managerial skills, decision making skills, and written expression, teamwork and computer skills from reviewed literature were assessed and are discussed here below. It was established that majority (mean score of 4.00 which translates to a good score) of the employers were in support of the graduates competence in their present job by a mean of 3.88 to 4.39. This was above average scale as it
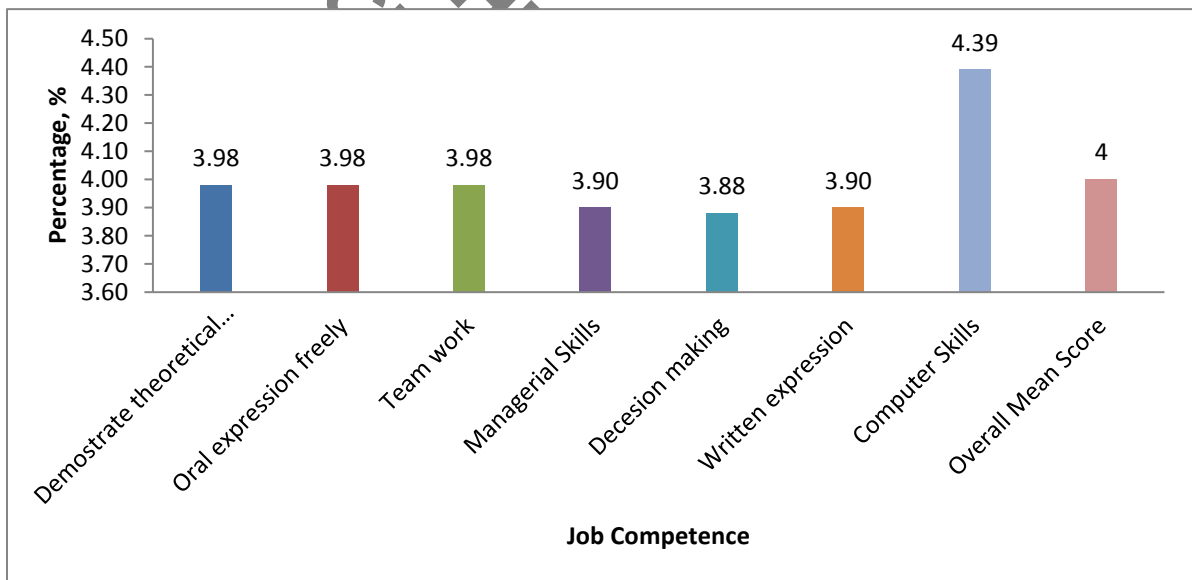
corresponds to good scales of 4 on average as shown in table 4.11 above.

Figure 4.11 job competences of graduates Figure 4.11 above shows the mean scores of job competence of the graduates illustrated in a bar chart and this corroborates

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the evidence of the results showed on table 4.11 above. These results are discussed below.

a) Theoretical learning

The study found out that 14 company managers/supervisors (34 percent) strongly supported that graduates demonstrated theoretical learning, 43.9 percent agreed, 14.6 percent disagreed and 7.3 percent were neutral. From this finding therefore, it is clear that studied graduates were fairly competent on their present jobs in the companies. The study established that out of a mean score of 3.98 translating to 78 percent agreed that graduates demonstrated theoretical knowledge in their present job as indicated in the figure 4.12 below. The cumulative percentage for those were in support was 78 percent (strongly agree and the agree categories) which is significant.
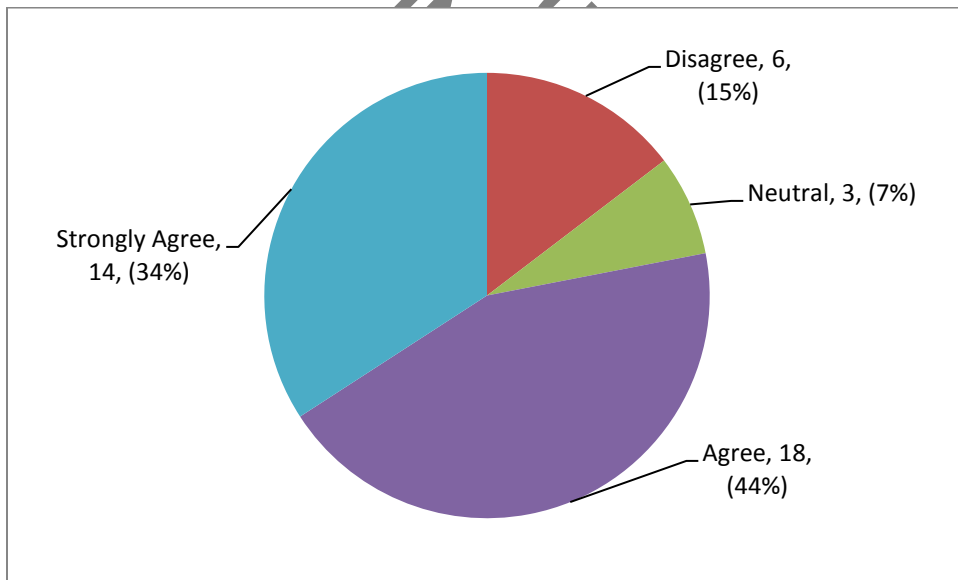
Figure 4.12: Theoretical learning

The findings of figure 4.12 above indicates that a total of 78% of the graduates agree that theoretical learning is emphasized while 15% disagree. This implies that both public and private universities concentrate on giving theoretical teaching and did little practically. These findings agree with figure-4.8 which shows that 72.7% of university graduates do not demonstrate practical skills in the work place as rated by their employers.

b) Oral Expression Demonstrated Freely

Fifteen (15) managers (36.6 percent) strongly agreed, 16 (39 percent) agreed, 4 (9.8 percent) were neutral and 6 (14.6 percent) disagreed that graduates were able to orally express themselves freely in the matters touching their job requirements. This indicated that majority of (75.6 percent, Mean score= 3.98) the graduate employees communicated freely in their present organizations. This implied that communication skills taught in the universities was adequate and helped graduates to interact orally freely with other organizations members.

c) Teamwork Player

It was established that majority (48%) of the supervisors agreed that teamwork was well demonstrated by the graduates as another 31.7 percent strongly agreeing with a mean score of 3.98 indicating moderate agreement by the respondents. In this study 14.6 percent of the managers disagreed that graduates were teamwork players. This implied that graduates related well with others in their work place and achieved more in groups.

d) Good managerial skills demonstrated.

4.13 below present the results of how graduates demonstrated their managerial skills in the work place. It shows that 68.2 percent of the supervisors/managers were in agreement

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that university graduates demonstrated good managerial skills while 12.2 percent disagreed. Good managerial skills had a mean score of 3.90 showing that majority of university graduates employees demonstrated competence in their present jobs. This implied that graduates had the ability to manage their organization adequately. In summary therefore, 68 percent of the employers were supportive of the idea that graduates possessed managerial skills while 32 percent did not.
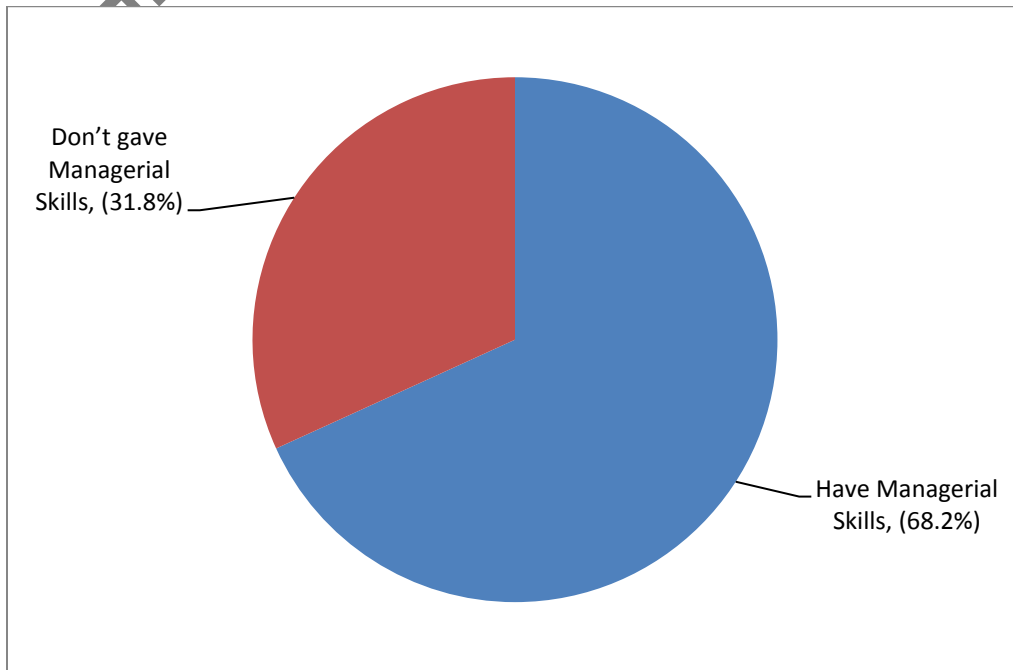
Figure 4.13: managerial skills of graduates.

e) Decision making

It was important for the survey to determine whether decision making is well illustrated by the graduate employees. It was found that 34 percent of the employers strongly agreed, 29 percent agreed, and 9.8 percent disagreed and 26.8 percent remained neutral. This translated to a mean score of 3.88 implying that employers fairly supported

the graduate employees were good decision makers at their present jobs. This research agreed with Gudo *et* al. (2011 pp 113) who recommended that "managers of the universities should deliberately take short term leadership courses to boost their managerial skills as a significant step towards delivery of quality education and decision making".

f) Written Expression

The findings of the study found out that 9.8 percent disagreed that graduates demonstrated good written expression while majority (70.7 percent) agreed and 14.6 percent remained neutral. A mean of 3.90 indicated that managers moderately agreed that graduates can communicate well in writing which increased their competence in their present job.

g) Computer skills

Further employers indicated strongly that 63.4 percent demonstrated understanding of computer skills, 19.5 percent also agreed. A total of 7.3 percent disagreed that graduates showed understanding of computer skills. These results show that graduates can apply more of computer skills in their jobs since they learned them practically in their universities. This means that practical skills learnt in the university were appreciated by the employers more than the theory. A mean of 4.39 is an indication of how practical learning is important in higher institutions as a preparation for work environment and competence in employee's job.

h) Employer: Factor analysis for present job competence

Principal Component Analysis (PCA) is a multivariate analysis technique that is used to extract relevance information from a set of variables in data sets. It adds knowledge on how to reduce a complex data set to lower dimensions that are able to review simplified dynamics (Shlens, 2013). For the present job competence from the employee, a total of 7 factors were examined. Out of these factors decision making was able to explain above 80% of the total variability in the present job competences at 81%. This implied that there was adequacy in the decision making in explaining the job competence of the graduates. Oral expression, demonstration of theoretical skills, managerial skills and team work explained about 74%, 81%, 74% and 705 respectively. This is factor analysis and results of the findings indicate that decision making (0.808) contributed more to present job competence. The table 4.3 below shows what has been explained on PCA of present job competence and details of extraction score.

Table 4.18: PCA of present job competence

Factor	Extraction Score
Demonstrate theoretical learning	0.742
Oral expression freely	0.807
Team work	0.704
Managerial Skills	0.742
Decision making	*0.808*
Written expression	0.712
Computer Skills	0.350

The table 4.19 below provides present job competence factor extraction and give the details each factors, contribution.

Table 4.19: Present Job Competence Factor Extraction is presented below.

Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.864	69.493	69.493	*4.864*	*69.493*	*69.493*
2	.830	11.861	81.354			
3	.415	5.924	87.277			
4	.351	5.012	92.289			
5	.259	3.706	95.995			
6	.179	2.557	98.552			
7	.101	1.448	100.000			

Using the factor extraction method, one factor was adequate to explain the score 69% which is

adequate and sufficient and one unit less from the rule of thumb of 70% required for extraction

of factors as shown in the figure 4.14 below. Cumulatively, the inclusion of second, third,

and fourth factors progressively explained 81%, 87% and 92% respectively.

Figure 4.14 below provides information on the scree plot for job competence.

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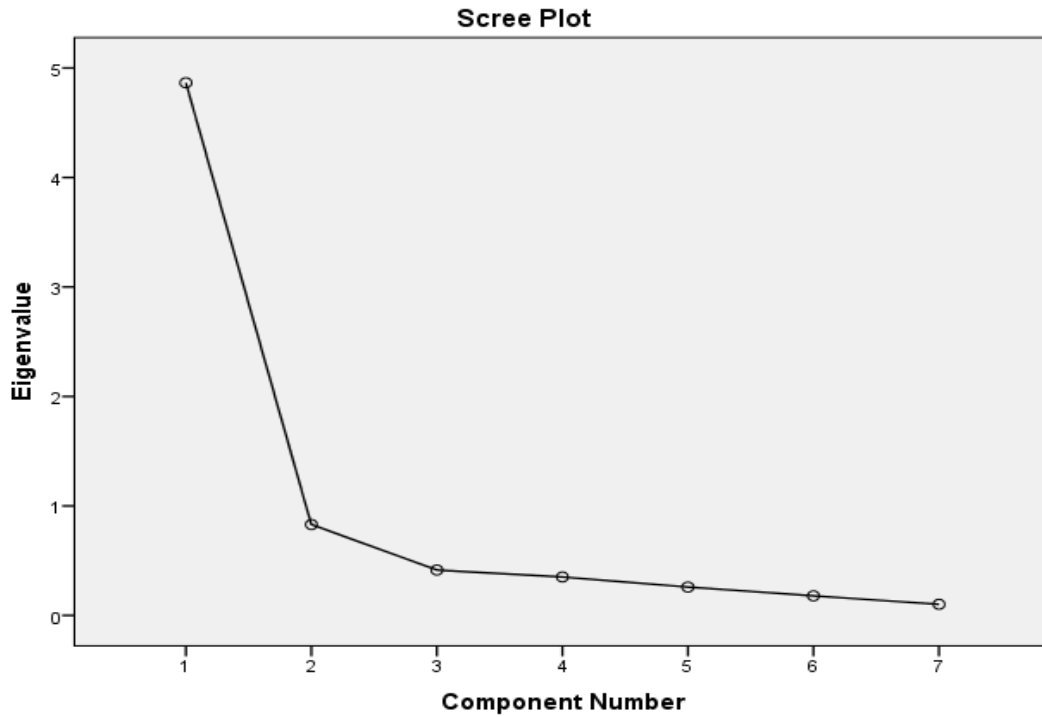
Figure 4.14: Scree Plot for Present Job Competence

Out of the seven factors studied for the job competence, decision making sufficiently explain the variability at 90%, all the other factors were dropped in further modeling of the job competence as assessed by the companies. This implied that decision making by the graduates was enough to explain in the present job competence. Computor skills were not necessary in explaining job competence of graduates as indicated in the findings on table 4.17 on page 152 which corresponds to the scree plot above. As such, all these findings on job competence imply that work preparedness should involve cooperative learning designs when preparing students to smooth work environment for global and lifelong learning on general. Theoretical skills, oral expression skills, managerial abilities, working with others, teamwork and written skills have become imperative for present day job competence. These indicators have been inadequately addressed by this study though higher education environment continues to change rapidly.

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Table 4.20: Job Confidence of graduates

Job Confidence	Factor Level	Frequency	Percent	Mean Score
Creative Skills and theoretical	Strongly Disagree	1	2.4	
	Disagree	0	0.0	
	Neutral	4	9.8	4.2
	Agree	23	56.1	
	Strongly Agree	13	31.7	
Use theoretical knowledge to serve customer	Strongly Disagree	1	2.4	
	Disagree	1	2.4	
	Neutral	3	7.3	4.1
	Agree	23	56.1	
	Strongly Agree	12	29.3	
Minimal supervision	Strongly Disagree	3	7.3	
	Disagree	2	4.9	
	Neutral	4	9.8	4
	Agree	15	36.6	
	Strongly Agree	17	41.5	
Application of theoretical and practical knowledge	Strongly Disagree	1	2.4	
	Disagree	3	7.3	
	Neutral	4	9.8	3.95
	Agree	22	53.7	
	Strongly Agree	11	26.8	
Written communication skills are well illustrated	Strongly Disagree	1	2.4	
	Disagree	0	0.0	
	Neutral	6	14.6	4.15
	Agree	19	46.3	
	Strongly Agree	15	36.6	
Positive attitude	Strongly Disagree	1	2.4	
	Disagree	1	2.4	
	Neutral	8	19.5	3.98
	Agree	19	46.3	
	Strongly Agree	11	26.8	
	55	1	2.4	
Relevance of the degree	Strongly Disagree	5	12.2	
	Disagree	5	12.2	
	Neutral	4	9.8	3.68
	Agree	11	26.8	
	Strongly Agree	16	39.0	

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4.13   Job confidence of graduates

According to the findings of table 4.3 Job confidence was important for the study as this was to ascertain how employee applied their creativity, served customers, worked without supervision, used written communication, showed attitude towards work and the relevance of their degree in the present employment whose details are given below. The overall scores for this category were 4.01 and that was good score. Table 4.4 also indicate that only 65.8% of the graduates agreed their degree was relevant (mean score 3.68) to the present job confidence. This implied that most of the university graduates were confident about their work.
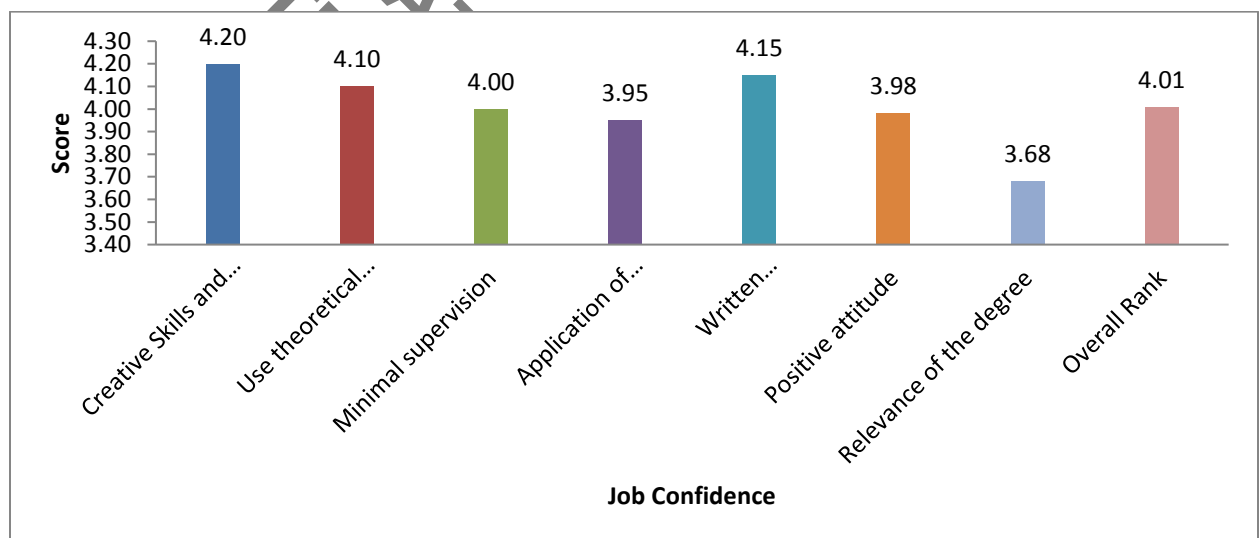
Figure 4.15: Job Confidence

a)   Theoretical knowledge and creative skills

The study findings in figure 4.15 above reviewed that 31.7 percent of the employers strongly agreed, 56.1 percent agreed, 9.8 disagree, and 2.4 percent strongly disagreed that graduate employees were creative in skill and theoretical knowledge. This

is supported by a mean score of 4.2 of the employers who moderately agree that university graduates in their organizations demonstrated theoretical knowledge and creative skills in their jobs. These results imply that graduates were creative in their work place.

b) Uses theoretical knowledge to serve customers

The researcher sought to find out whether the employees used their theoretical knowledge to serve customers and found out that 12 (29.3 percent) strongly agreed, 23 (56.1 percent) agreed, 2.4 percent disagreed, 2.4 strongly disagreed and 7.3 percent remained neutral. A mean of 4.1 showed agreement towards the use of theoretical knowledge in serving company customers

c) Graduates work with minimal supervision

Supervision was also assessed on table 4.4 on the previous page and results indicate that 41.5 percent strongly agreed, 36.6 percent agreed, 4.9 percent disagreed and 7.3 strongly disagreed that employees work with minimal supervision. Those who did not agree said that graduates employees needed more practical work before they are absolved into their respective employment. Employers moderately agreed (mean score of 4.0) with minimal supervision having 76.1 percent of the graduates meaning that 23.9 percent of graduate employees needed more supervision on their various assignments.

d) Application of theoretical and practical knowledge

Further the study assessed whether the university graduates applied both theoretical and practical knowledge to demonstrate confidence their work. The findings showed that 11 managers (26.8 percent) strongly agreed, 22 (53.7 percent agreed), 3

disagreed (7.3 percent), 1 strongly disagreed (2.4 percent) and 4 (9. 8 percent) remained neutral. Most of the employers (M=3.95) slightly agreed that graduate employees applied theoretical and practical knowledge. This implied that graduates were not well prepared practically and theoretically and the quality of the graduates was not very good according to the employers' opinion.

e) Written communication skills

Written communication skills were well illustrated by university graduates in their work place as shown by 15 (36.6 percent) employers strongly agreeing, 19 (46.3 percent) agree, 1 (2.4percent) strongly disagreeing and 14.6 percent were neutral. This is further supported (M=4.15) by employers who moderately agreed. This implied that majority of the graduates communicated very well in writing in their place of work.

f) Attitude towards work

The research findings also indicated that 11 (26.8 percent) of the employers strongly agreed, 19 (46.3 percent) agreed and 7.2 percent disagreed that graduates demonstrated positive attitude towards their work in the job place. The employers slightly (M=3.95) agree that graduate employees exhibit positive attitude towards work.

g) Relevance of degree

Additionally, 16 (39 percent) of the employer strongly agreed, 11 (26.8 percent) agreed, 5 (12.2 percent) disagreed, 5(12.2) strongly disagreed that the employee was selected to work for the organization because their university degree was relevant to the work they do. Those who were neutral were 4 (9.8 percent). Most employers (M=3.68) slightly agree that the employees were selected to work for the organization because their

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degree was relevant to the work they do. This means that there are graduate employees

who are working in jobs they were not trained for.

Table 4.21 Factor Extraction for Job Confidence

Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.777	68.240	68.240	*4.777*	*68.240*	*68.240*
2	.696	9.937	78.178			
3	.581	8.298	86.476			
4	.440	6.286	92.762			
5	.211	3.013	95.775			
6	.209	2.993	98.767			
7	.086	1.233	100.000			

Using the factor extraction method, one factor was adequate to explain which

score 68% which is adequate and sufficient and two units less from the cut-off rule of

thumb of 70% required for extraction of factors as shown in the scree plot below.

Cumulatively, the inclusion of second, third, and fourth factors progressively explained

78%, 86% and 93% respectively as indicated in table 4.21 above.

Table 4.22: Component Scores for Job Confidence

Table 4.22 below provides the results that show PCA for job confidence.

Factor	Component
Creative Skills and theoretical knowledge	.862
Use theoretical knowledge to serve customer	.818
Minimal supervision	.826
Application of theoretical and practical knowledge	.798
Written communication skills are well illustrated	.888
Positive attitude	*.892*
Relevance of the degree	.679

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Out of the seven factors studied for the job confidence, positive attitude sufficiently explain the variability at 89%, written communication skills 88.8%, minimal supervision 82.6%, theoretical knowledge to serve customers 81.8 %, creative and theoretical knowledge 86.62%, all the other two factors were dropped in further modeling of the job confidence as assessed. This implied in studying the five factors were relatively enough to explain various confidences among the **COYA** companies in the country. Relevance of the degree and application of theoretical and practical knowledge were not critical in assessing job confidence. Figure **4.16** below provides an explanation of the variables in the scree plot.
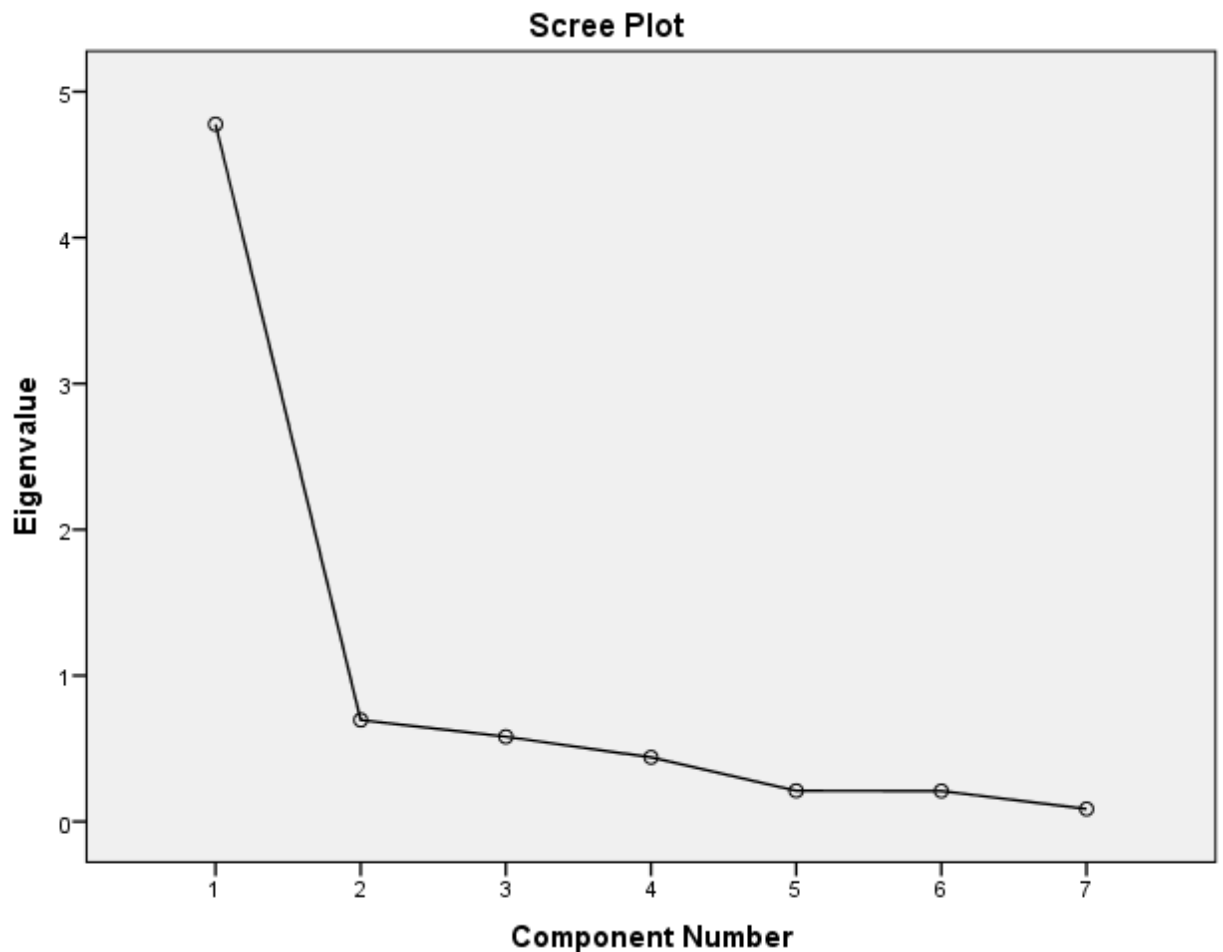
Scree Plot

Figure 4.16 scree plots for job confidence

It is evident from the scree plot above that five variables to the left of the scree plot were important in explaining the variation in job confidence, as seen in the figure 4.16 above.

From the summary of all the findings, building confidence in graduates and their intellectual skills requires developments such as: Applications of practical skills, communication skills, have relevant training, creativity, theoretical skills, and attitude towards their work. This implies that that graduation programs should be designed to support every graduate to acquire these transition attributes. To sum up, employability skills and work preparedness are foundation for attaining quality in a university graduate education.

Table 4.23: Job Involvement

Job Confidence	Factor Level	Frequency	Percent	Mean Score
Independence of the graduate	Strongly Disagree	1	2.4	
	Disagree	4	9.8	
	Neutral	6	14.6	3.93
	Agree	16	39.0	
	Strongly Agree	14	34.1	
Willing to exert themselves to cope with work	Strongly Disagree	0	0.0	
	Disagree	4	9.8	
	Neutral	6	14.6	3.95
	Agree	19	46.3	
	Strongly Agree	12	29.3	
Ability to handle large work pieces	Strongly Disagree	0	0.0	
	Disagree	1	2.4	
	Neutral	8	19.5	4.05
	Agree	20	48.8	
	Strongly Agree	12	29.3	
Independent and confidence	Strongly Disagree	0	0.0	
	Disagree	2	4.9	
	Neutral	7	17.1	4.1
	Agree	17	41.5	
	Strongly Agree	15	36.6	

4.14 Job involvement of graduates

Table 4.7 shows how the employers rated their graduate employees on job involvement and all details are explained below. From the findings of this study 14 (34.1 percent) of the employers strongly agreed, 16 (39percent) agreed, 4 (14.6 percent) disagreed, 1 (2.4 percent) strongly disagreed that graduate employees work independently. Employers lightly agree (M=3.93) that their employees work independently meaning that there are graduate employees who need supervision to do their work most of the time in the work place.

a) Willingness to exert themselves to cope with work

The study sought to find out what the employers said on graduates employees' willingness to exert themselves to cope with work and 12 employers (29.3 percent) strongly agreed, 20 (48.8 percent) agreed, 4 (9.8 percent) disagreed, and 6 (14.6 percent) were neutral. The employer also showed that 12 (29.3 percent) strongly agreed, 20 (48.8 percent) agreed, 2.4 percent disagreed while 19, 5 percent were neutral. The employers indicated (M=3.95) that they slightly agreed that their employees were willing to exert themselves to cope with work. This implies that some graduates were not willing to extend their time to complete their work.

b) Ability to handle large work pieces of information

According to the study, 12 (29.3 percent) of the employers strongly agreed, 20(48.8 percent) agreed, 8 (19.5 percent) remained neutral, and 2.4 percent disagreed that their graduate employees had the ability to handle large work pieces of information. Most of the managers moderately agreed (M =4.05) that graduate employees had the

ability to handle large work piece of information in their employment. This implied that majority of the graduates cope with large work pieces of information in the work place.

c) Looks at work with interest

The employers indicated that 4.9 percent of the graduate disagreed, 41.5 percent agreed and 36.6 percent strongly agreed17.1 percent were neutral and 4.9 percent disagreed that university graduate employees look at work with interest. Most employers (M=4.1) moderately agreed that their employees looked at work with interest. The implication of this is that majority of the graduate employees were interested in their work.

d) Factor Analysis for job involvement

As shown in table 4.9, using the factor extraction method, one factor was adequate to explain which score 73% which is adequate and sufficient and two unit above the cut-off rule of thumb of 70% required for extraction of factors as shown in the table below. Cumulatively, the inclusion of second, third, and fourth factors progressively explained 83%, 92% and 100% respectively. This is shown in table 4.23 below.

Table 4.24: Factor extraction for Job Involvement

Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.912	72.810	72.810	*2.912*	*72.810*	*72.810*
2	.410	10.241	83.051			
3	.362	9.039	92.089			
4	.316	7.911	100.000			

Out of the four factors studied for the job involvement on table 4.24 on page 169, independency of the graduates employees sufficiently explain the variability at 87%, all the other factors also contributed in further modeling of the job involvement. This implied that studying the independence of the graduate greatly to explain various job involvements among the COYA companies. Ability to multi-task and graduate confidence were also important in the studying the graduate involvement both at 85%.

From the summary of the results above, university graduates have not excelled on job involvement. Organizational effectiveness globally requires a high degree of job involvement among organizational members. Employees who are deeply involved in their jobs show job interest by exerting themselves, working independently, performs their job confidently and independently. More involved workers feel competent and can handle more information for their organizations. Furthermore, organizations need to encourage job involvement to achieve organizational goals and employee work satisfaction. Differences in personality may hinder highest degree of improving JI (Liao & Lee, 2009). In addition, Mehta *et* al. (2011) points out that JI is influenced by personal and environmental variables such as: confidence, interest in work, amount of work, self confidence and independence of employee. Andotra and Harleen (2012) suggest that job involvement and organizational commitment are predicted by attitude which impacts on the organizational commitment. To this end, it can be observed that Kenyan universities have not fully embraced practical teaching of their graduates though capturing implicit cognition in the work place can help improve graduates job involvement
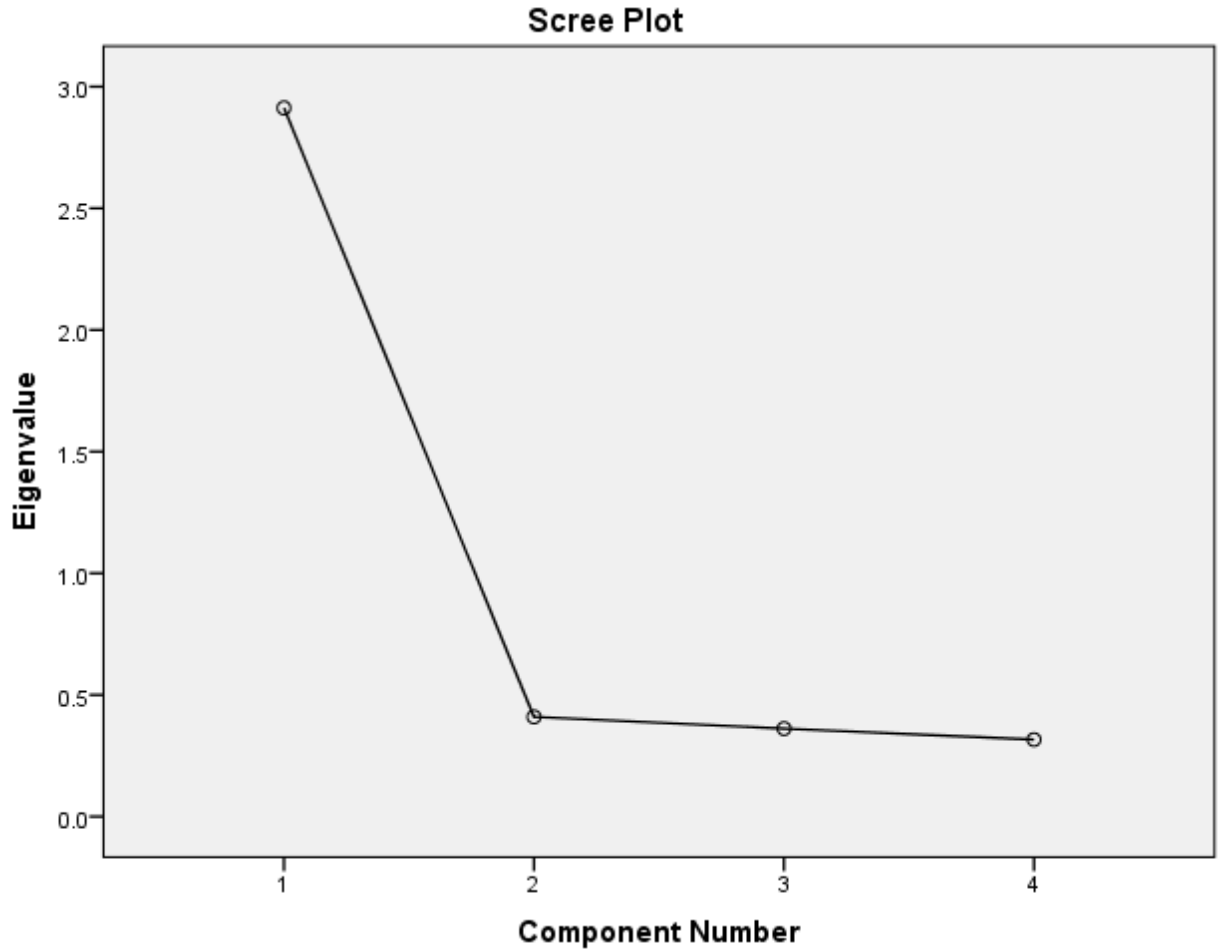
Scree Plot

Figure 4.17: Scree plot for job involvement

Figure 4.17 above shows a scree plot for job involvement. The illustration indicates that two factors were used to adequately explain job involvement for graduate employees. This sree plot supports the results of table 4.23 on factor extraction for job involvement on the page 160.

Table **4 .25**: Employability Skills

Employable Skills	Factor	Frequency	Percent	Mean Score
Intellectual ability	Strongly Disagree	1	2.4	
	Disagree	4	9.8	
	Neutral	9	22.0	3.85
	Agree	13	31.7	
	Strongly Agree	14	34.1	
Quick decision making and solving	Strongly Disagree	1	2.4	
	Disagree	3	7.3	
	Neutral	9	22.0	3.78
	Agree	19	46.3	
	Strongly Agree	9	22.0	
Interactive knowledge	Strongly Disagree	1	2.4	
	Disagree	2	4.9	
	Neutral	6	14.6	3.92
	Agree	22	53.7	
	Strongly Agree	10	24.4	
Ability to use new knowledge creativity	Strongly Disagree	1	2.4	
	Disagree	3	7.3	
	Neutral	6	14.6	3.85
	Agree	22	53.7	
	Strongly Agree	9	22.0	
Leadership Skills	Strongly Disagree	1	2.4	
	Disagree	4	9.8	
	Neutral	10	24.4	3.73
	Agree	16	39.0	
	Strongly Agree	10	24.4	
Ability to handle new knowledge	Strongly Disagree	1	2.4	
	Disagree	2	4.9	
	Neutral	10	24.4	3.85
	Agree	17	41.5	
	Strongly Agree	11	26.8	
Ability to coordinate activities	Strongly Disagree	1	2.4	
	Disagree	4	9.8	
	Neutral	9	22.0	3.58
	Agree	14	34.1	
	Strongly Agree	13	31.7	
Prioritize activities	Strongly Disagree	1	2.4	
	Disagree	7	17.1	
	Neutral	9	22.0	
	Agree	15	36.6	3.56
	Strongly Agree	9	22.0	

Source: Author 2014

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Table 4.25 on the previous page shows the results of the employability skills of the graduates and the key issues are discussed below.

4.15 Analysis of graduates employability skills

How employability skills were measured in this study

Employability skills in this research were measured by analyzing intellectual ability, decision making skills, interactive knowledge, ability to use new knowledge creatively, leadership skills, ability to coordinate activities and prioritizing activities by the graduate employees working the COYA (2013) companies. There are other variables found in the literature but were not tested and are recommended for further research. The results indicated that graduates' mean score in the measured employability skills were ranging from 3.56 to 3.92 which mean they had not excelled in this area. Graduates showed poor coordinating activities and prioritizing activities.

According to table 4.24 on page 160 employability skills are discussed in details below.

a) **Intellectual ability of the graduates**

Under intellectual ability of the graduates, the study indicated that 14 (34.1 percent) strongly agreed, 13 (31.7) agreed, 9 (22 percent) were neutral, 4(9.8 percent) disagreed and 1(2.4 percent) strongly disagreed. The employers slightly agreed (M=3.85) that graduate employees had intellectual ability skills. This implies that graduates still need to improve their intellectual ability to handle work in their present job.

b) **Quick decision making when solving problems**

The findings of table 4 under quick decision making when solving problems, the research showed that 9(22 percent) strongly agreed, 19 (46.3 percent) agreed,

9(22percent) were neutral, 3(7.3 percent) disagreed and1 (2.4 percent) strongly disagreed. The managers/supervisors slightly agreed (M=3.78) that the employees make quick decisions when solving problems in the organizations. This means that graduates need to be taught more decision making skill in their universities before they enter the labour market.

c) Interactive knowledge of graduates

According to table 4 the section under interactive knowledge, the study indicated that 10 (24.4 percent strongly agree, 22(53.7 percent) agreed, 6(14.6 percent) were neutral 3(7.3 percent) disagreed and 2.4 percent strongly disagreed. The employers were moderately (M=3.92) in agreement that employees showed interactive knowledge. This means that graduates to learn more on interaction between themselves and their customers in the work place.

d) Ability to acquire and use new knowledge creatively

The study sought to find out the ability of the employees to acquire and uses new knowledge creatively. The study indicated that 22 percent of the managers strongly agree, 53.7 percent agreed, 14.6 percent were neutral, 7.3 percent disagree, and 2.4 percent disagree that employees had the ability to acquire and use knew knowledge creatively. The overall findings were that mangers agreed moderately (M=3.85) implying that employees acquire and use new knowledge creatively in the job market.

e) Ability to coordinate activities

This section studied the employee's ability to coordinate organizational activities. The study showed that 31. 7 percent strongly percent agreed, 36.6 percent agreed, 22 neither agreed nor disagreed, 9.8 percent disagreed, and 2.4 percent strongly disagreed.

The managers/supervisors slightly agreed (M=3.58) that the employees had little ability to coordinate organizations activities meaning they were not good coordinators and they have not developed managerial skills.

f) Prioritizes activities

Table 4.9 indicates that the employers strongly agreed that 22 percent of the graduates can prioritize activities. Another 36.6 percent just agreed, 17.1 percent strongly disagree, 2.4 percent disagreed and 22 percent were neutral. The mean score (M=3.56) showed that the graduates were not good in setting their priorities in their work place. According to table 4.9 prioritizing of activities was the lowest rated variable in analyzing employability skills the graduates. This implies that graduates were not adequately prepared in their universities on how to sort out priority activities.

As such, the summary of these findings imply that the universities have not excelled in developing employability skills to determine whether the student gets a job within a specific period after graduating. Additionally, the study established that employability skills are a set of achievements, skills, problem solving, intellectual ability and interactive knowledge. Furthermore, ability to use new knowledge, leadership skills, ability to coordinate activities, prioritizing activities and personal attributes make a graduate more

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likely to gain employment and be successful in their chosen occupations which benefits them, the workforce, the community and the economy.

Figure 4.18 below provide the results of the employers' opinion on job preparedness of the graduate employees and details are discussed below the table.
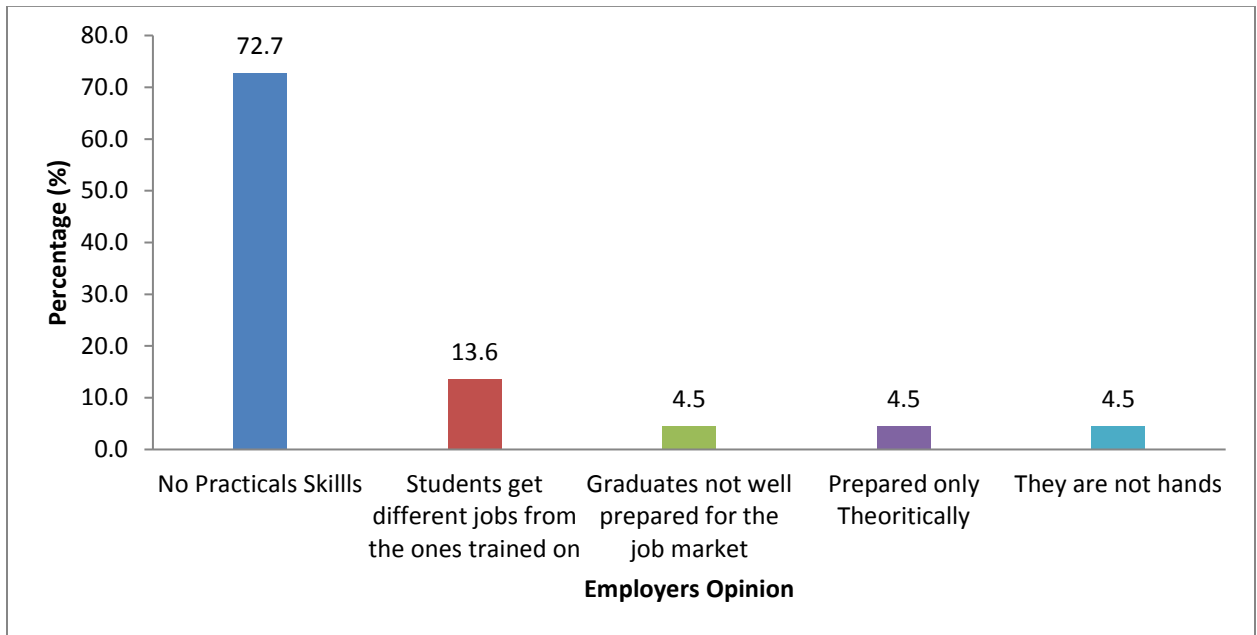
Figure 4.18 Employers' opinion on job preparedness of the graduates

Figure 4.18 above outlines the findings of employer's opinion on job preparedness of the graduates and the details are discussed here below.

4.16 Opinion of the employer on job preparedness of graduates

This study further sought to determine the opinion of the employer on whether the university graduates were well prepared for the present employment practically and theoretically. The results indicate that 72.7 percent had no practical skills for present employment, 13.6 percent were doing jobs they were not trained for, 4.5 percent were only prepared theoretically, 4.5 percent were not hands on and another 4.5 percent were not prepared well theoretically for the current job market. This is supported by figure

4.10 on page 117 where and overall 51.0 percent of the employers agree that graduates are not well prepared theoretically and practically by their universities for the current labour market.

Evaluation of the graduates work preparedness in this study was supported by Vidal (2010); Mehta *et* al. (2011) and Hanlie and Yuzhuo (2009) who came up with the items to be considered such as: Job competence, job confidence and job involvement of the graduate employee.

Vidal (2010) points out that job competence can be measured by employee's decision making skills such as: management skills, team spirit, oral expression, practical learning, theoretical learning, written expression, leadership ability, creativity, computer application skills, attitude towards work, and the attention shown to customers. In addition job confidence can be used to assess employee supervision qualities, knowledge and skill towards work. Mehta *et* al. (2011) argues that to measure job involvement, the employer can use the following variables: job interest, active participation, commitment to handle large amount of work, ability to work independently, and self confidence.

From the summaries and discussions above, work preparedness of graduates is contingent for effective coordination of the university graduates ability to fit in the labour market.

Figure 4.19 below explains the type of the university and the percentage of the graduates they produce.
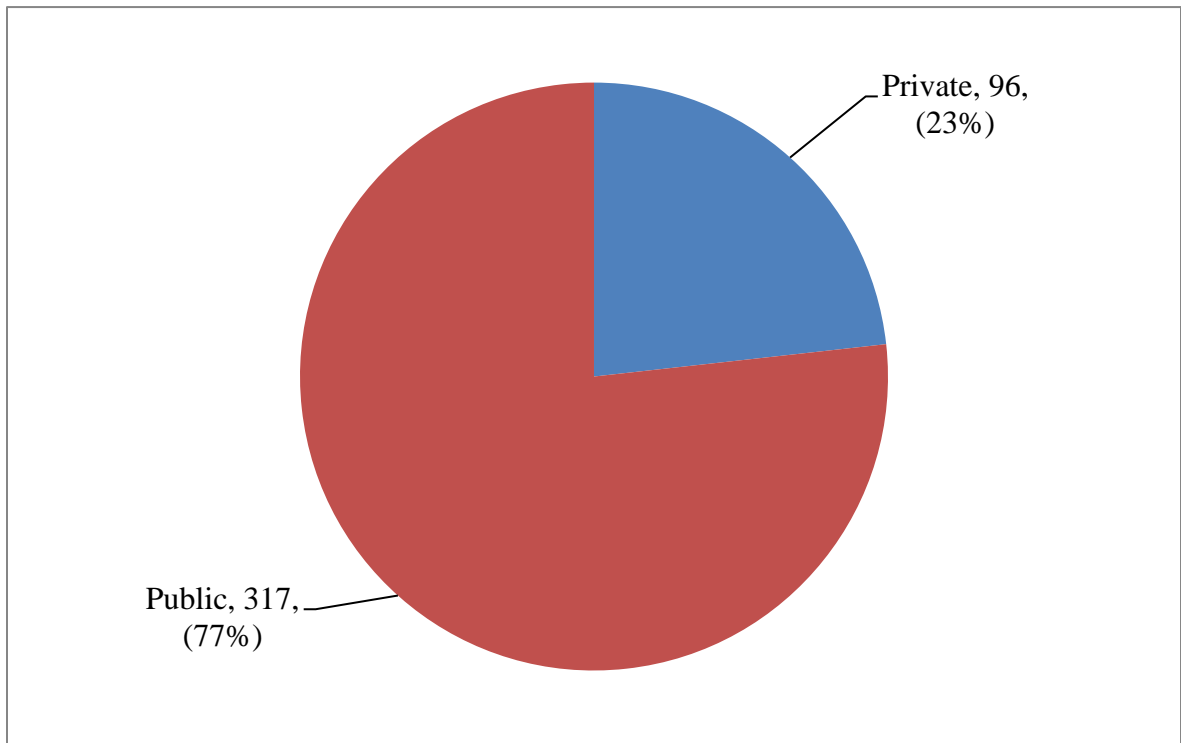
Figure 4.19 Type of university producing graduates

Figure 4.19 is explained here below.

4.17 Type of University producing graduates

According to the research as indicated by figure 1, majority of graduate employees (77 percent) were from public universities while only 23 percent were from private universities as indicated by the graduates. This implies that public universities train more students than private universities in Kenya (KBS, 2012). Public universities also started producing graduates before private universities in Kenya.

Figure 4.20 below provide the overall opinion of the employer on work preparedness of the graduates.
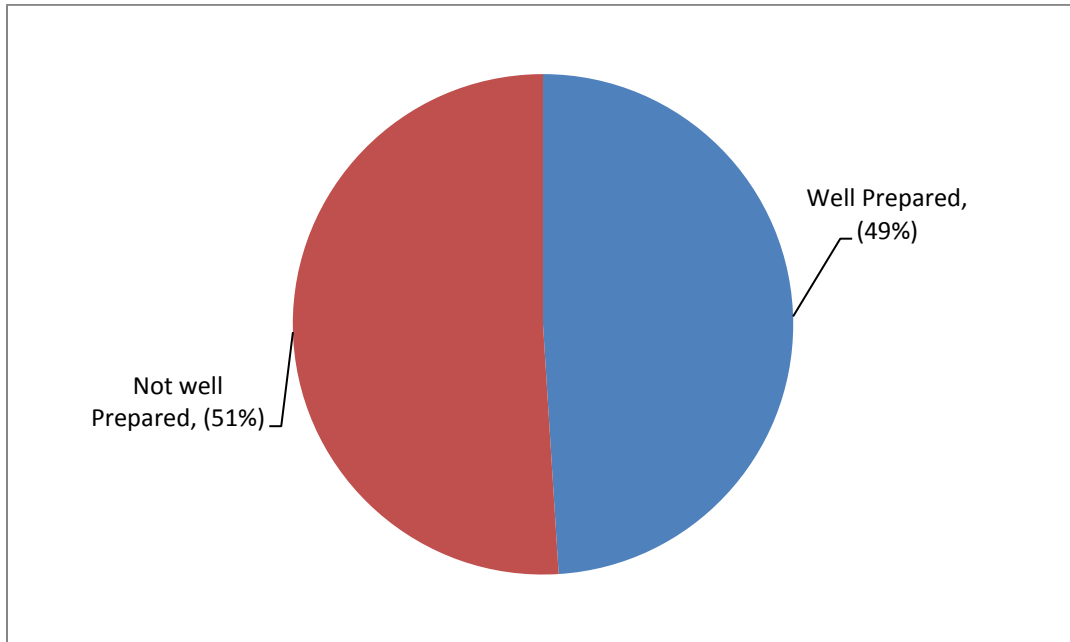
Figure 4.20: work preparedness of the graduates.

The details of figure 4.20 above, is explained in below.

4.18 Work preparedness of Graduate as rated by employers

The results indicate that majority of the graduates (51 percent) were not well prepared for their current employment both practically and theoretically. The managers/supervisors felt that more practical preparation and on job training was necessary. Only 49 percent of the graduates were well prepared in their employment. The findings of this study are consistent with the literature reviewed on employability skills

The figure below (4.20) shows the distribution of the graduates from private and public universities.
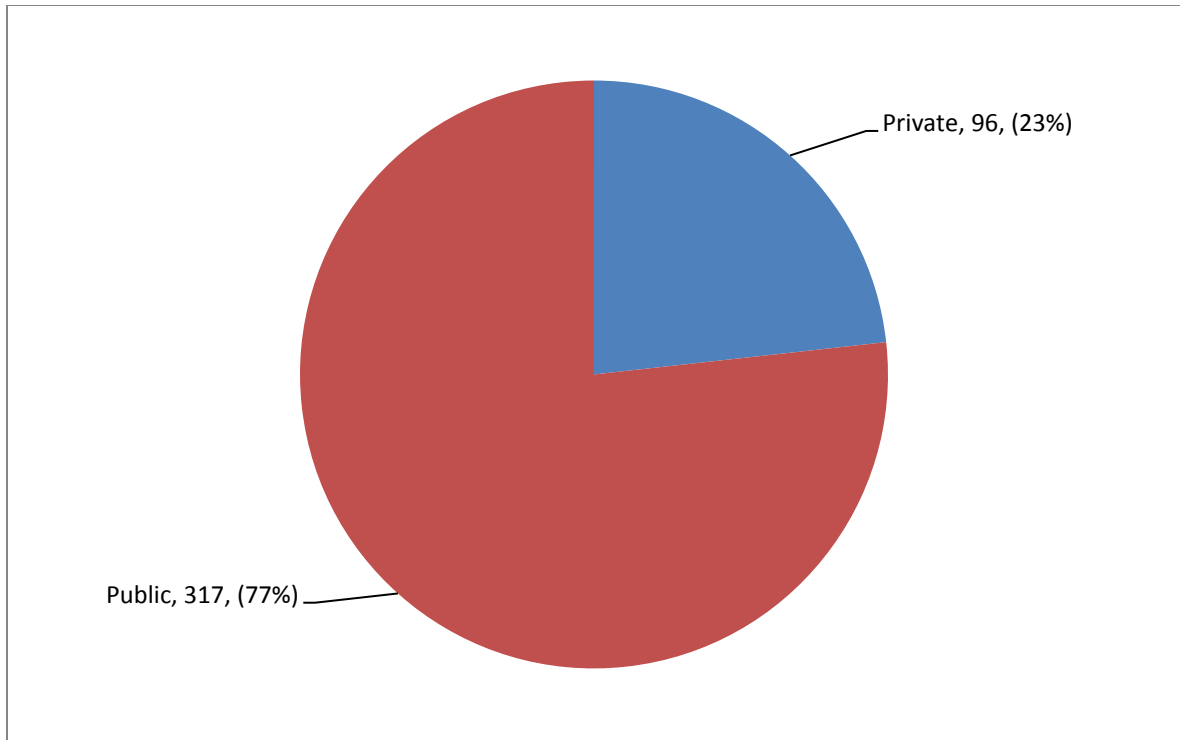
Figure 4.21: Distribution of university studied

The details of figure 4.21 are elaborated below.

4.19   Distributions of the universities studied

Majority (77%) of graduates employed were from public universities like Nairobi 19.5 percent, Kenyatta 17.4 percent, JKUAT 16.2 percent, Moi 6.8 percent, and Maseno 4.1 percent, Egerton 3.6 percent and Masinde Muliro 1.7 percent. The reason is that these are the largest Kenyan universities according to the size of students' intake. Nairobi University has enrolled 39,403, Kenyatta University 22, 900,Moi University 19,806, Egerton University 12,533, Maseno university 5,412 and JKUAT 9,517 on average for the last six years(2006-2012) with the numbers increasing yearly (KNBS, 2012). In addition it also implies that the COYA companies recruit employees from the universities

because of their reputation in quality of their graduates as indicated by the ranking of universities in this research shown on table 4.29 on page 186.

Using the factor extraction method, one factor was adequate to explain which score 78% which is adequate and sufficient and eight units more than the cut-off rule of thumb of 70% required for the extraction of factors as shown in the scree plot below. Cumulatively, the inclusion of second, third, and fourth factors progressively explained 85%, 89% and 94% respectively.

Table 4.26: Factor Reduction for the Employability Skills

Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.231	77.884	77.884	**6.231**	**77.884**	**77.884**
2	.575	7.187	85.072			
3	.351	4.389	89.461			
4	.330	4.131	93.591			
5	.216	2.697	96.289			
6	.132	1.645	97.934			
7	.085	1.057	98.991			
8	.081	1.009	100.000			

Table 4.26 above indicates that out of the eight factors studied for the employability skills, interactive knowledge sufficiently explain the variability at 93%, all the other factors were dropped in further modeling of the main factor of employability skills of the graduates in their present job. This implied that studying the graduate interactive knowledge was enough to explain various confidences among the COYA companies. Coordination of activities and creativity in the undertaking of the assignments were critical in the studying of the graduates' employability both contributing 93%.

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The figure 4.22 of the scree plot below shows variables that were critical in evaluating employability skills which is also supported by table 4.26 in above.
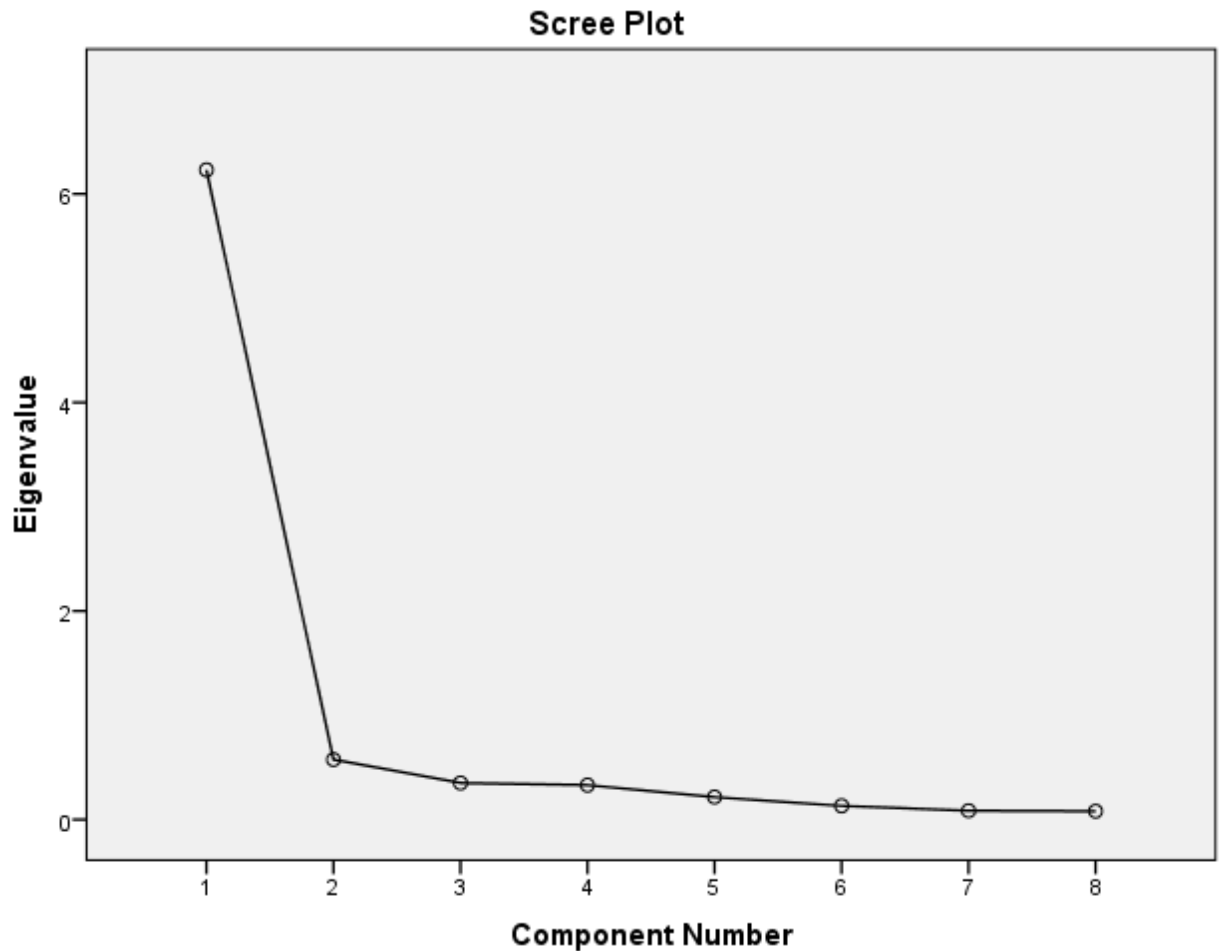
Scree Plot

Figure 4.22: Scree plot for employability skills.

Scree plot (fig 4.22) shows that the six variables explained the variability of employability skills adequately. Coordinating activities and prioritizing activities only contributed very little each and were all dropped from further analysis.

Below is table **4.27** that provides the details of on academic staff competence in the universities.

Table 4.27 Learning environment and quality by University

		Factor Level	University Private		Public		P value
			Freq	Percent	Freq	Percent	
Learning Environment	Conducive learning environment	Strongly Disagree	4	4.2	6	1.9	
		Disagree	6	6.3	24	7.6	
		Neutral	9	9.4	40	12.6	0.534
		Agree	40	41.7	115	36.3	
		Strongly Agree	37	38.5	132	41.6	
	Place of worship was available	Strongly Disagree	5	5.2	7	2.2	
		Disagree	7	7.3	16	5.0	
		Neutral	6	6.3	34	10.7	0.255
		Agree	37	38.5	108	34.1	
		Strongly Agree	41	42.7	152	47.9	
Quality of Graduates	Prepared to work competently for global work	Strongly Disagree	2	2.1	9	2.8	
		Disagree	9	9.4	35	11.0	
		Neutral	15	15.6	61	19.2	0.797
		Agree	36	37.5	118	37.2	
		Strongly Agree	34	35.4	94	29.7	
	Gave enough skills to quality graduate	Strongly Disagree	1	1.0	6	1.9	
		Disagree	7	7.3	25	7.9	
		Neutral	13	13.5	67	21.1	0.471
		Agree	43	44.8	120	37.9	
		Strongly Agree	32	33.3	99	31.2	
	Degree worth the quality expected	Strongly Disagree	3	3.1	7	2.2	
		Disagree	7	7.3	33	10.4	
		Neutral	12	12.5	61	19.2	0.438
		Agree	40	41.7	114	36.0	
		Strongly Agree	34	35.4	102	32.2	

The findings of table 4.27 above are presented here below in detail.

4.20 Learning environment and quality by university.

The discussion of learning environment and quality by university was as follows:

a) Conducive learning environment

According to the results of table 4.27 the learning environment of private and

public universities has no difference. This is shown by agreement of the statement by

private 80.2 percent in private and 77.9 percent in public universities. In addition the p value of 0.534 is more than 0.05 indicating there is no significant difference. Those who disagreed in private were 10.5 percent and public was 9.5 percent. This implies that private and public universities had a conducive environment for their students. It also means that as a requirement for CUE both universities have complied.

b) Place of worship was available

Additionally, the study findings under place of worship majority indicated that both private and public universities had a place of worship as shown by those who agreed, private 81.2 percent, public 82 percent. These percentages and a p value of more than 0.05 indicate that there is no difference in availability of place of worship. This implies that most of the private universities are church owned and for public universities churches are nearby for their staff.

Table 4. 28: Extraction of the Factors in Learning environment. Extraction Method: Principal Component Analysis**.**

Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.661	83.055	83.055	*1.661*	*83.055*	*83.055*
2	.339	16.945	100.000			

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Additionally, using the factor extraction method, either of the factors was adequate to explain the learning environment which score83% which is adequate and sufficient and more than the cut-off rule of thumb of 70% required for extraction of factors as shown in the table and scree plot below.
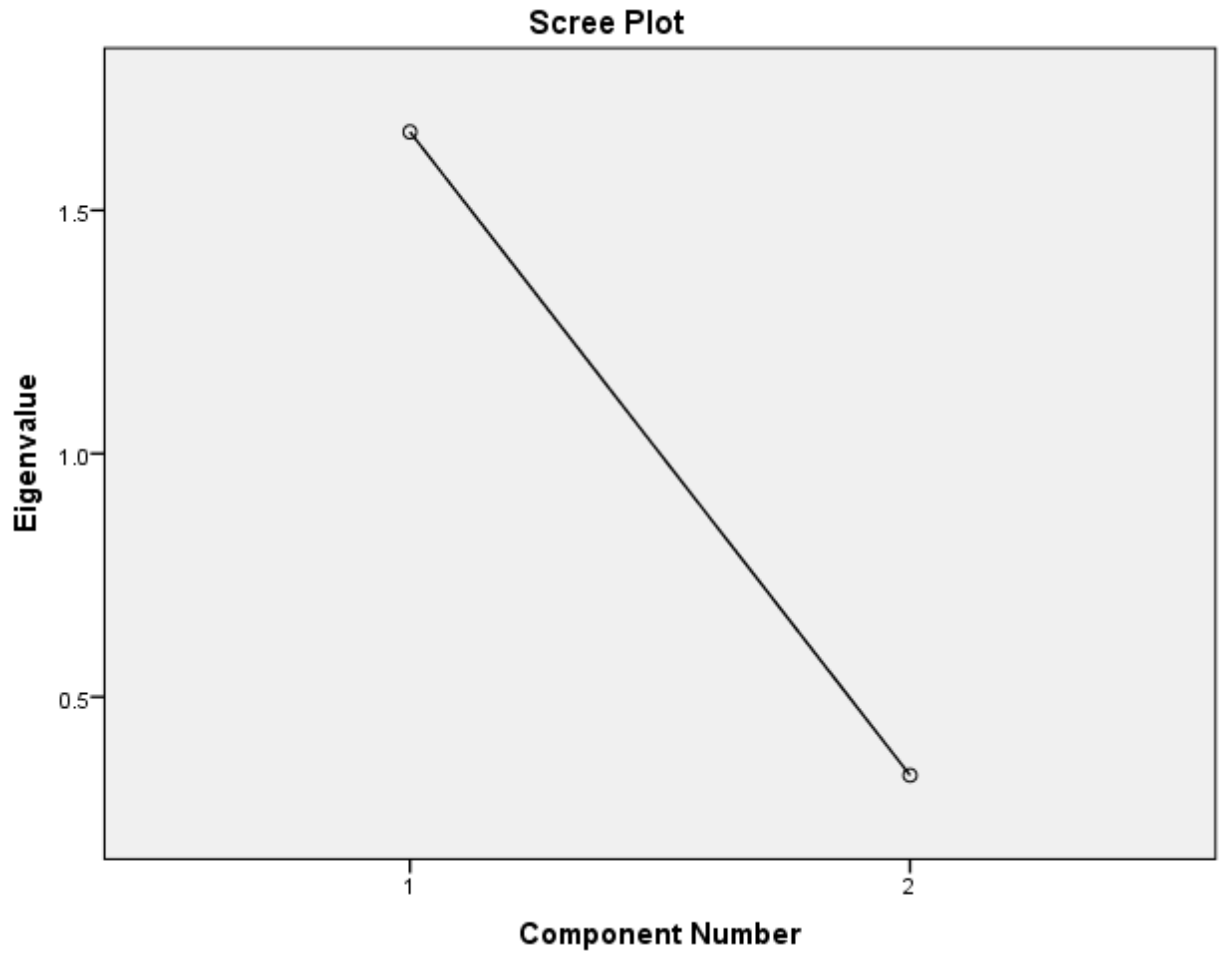
Scree Plot

Figure 4.23: scree plot for learning environment

Out of the two factors studied for the learning environment, either of the two factors, Conducive learning environment and presence of a worship place was important in explaining the required environment for the learning environment at 91%.

The table (4.29) the following page 186 presents the rankings of Kenyan universities.

Table 4.29: Ranking of Kenyan Universities

University	Compe tence Median Score	Service Deliver y Median Score	Curricu lum Median Score	Physica l Median Score	Instituti onal Median Score	Learni ng Median Score	Quality Median Score	Raw Score (Weight ed)	Freque ncy Weight ing (n1/n)	Weig ed Score
Nairobi	4.00	3.50	4.00	4.00	4.00	4.00	4.00	3.93	0.191	**0.75**
Kenyatta	4.00	4.00	4.00	4.00	3.00	4.50	4.00	3.93	0.174	**0.68**
JKUAT	4.00	3.00	4.00	3.00	3.00	4.00	4.00	3.57	0.162	**0.58**
Moi	4.00	3.00	3.50	3.00	3.00	4.00	3.50	3.43	0.068	**0.23**
KEMU	4.00	4.00	4.00	4.00	4.00	4.50	4.00	4.07	0.051	**0.21**
Strathmore	4.50	4.00	4.00	4.00	4.00	4.25	4.50	4.18	0.044	**0.18**
TUK	4.00	3.50	3.00	3.00	4.50	4.00	4.00	3.71	0.044	**0.16**
Maseno	4.00	3.50	4.00	4.00	4.00	4.00	4.00	3.93	0.041	**0.16**
Egerton	4.00	4.00	4.00	4.00	4.00	4.50	4.00	4.07	0.036	**0.15**
Daystar	4.50	4.00	4.00	4.00	4.00	4.75	4.00	4.18	0.024	**0.10**
USIU	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	0.022	**0.09**
MKU	4.00	3.50	4.00	4.00	3.00	4.00	4.00	3.79	0.022	**0.08**
Masinde	4.00	3.50	4.00	4.00	4.00	5.00	5.00	4.21	0.017	**0.07**
Nazarene	5.00	4.50	4.00	4.00	4.50	4.50	4.50	4.43	0.015	**0.06**
KCA	3.00	4.00	4.00	4.00	3.00	3.50	4.00	3.64	0.012	**0.04**
CUEA	4.50	4.50	4.50	4.50	4.50	4.00	4.00	4.36	0.010	**0.04**
Catholic	3.50	3.50	4.00	4.00	3.00	3.75	4.00	3.68	0.010	**0.04**
Kabarak	5.00	4.00	5.00	4.00	4.00	5.00	5.00	4.57	0.007	**0.03**
Multi-Media	4.00	3.50	3.50	3.50	3.50	4.50	4.00	3.79	0.007	**0.03**
Kimathi	4.00	3.50	3.50	3.50	3.50	3.50	2.00	3.36	0.005	**0.02**
Inoorero	4.00	5.00	4.00	5.00	4.00	5.00	5.00	4.57	0.002	**0.01**
Foreign	5.00	4.00	4.00	4.00	4.00	5.00	4.00	4.29	0.002	**0.01**
KPU	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	0.002	**0.01**
St. Paul	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	0.002	**0.01**
PACU	5.00	3.00	4.00	4.00	4.00	3.50	3.00	3.79	0.002	**0.01**
Nairobi Aviation	2.00	4.00	4.00	4.00	2.00	3.50	4.00	3.36	0.002	**0.01**
PUEA	2.00	1.00	2.00	3.00	1.00	2.00	2.00	1.86	0.002	**0.00**

The table 4.29 above on ranking of universities is discussed below in details

4.21 Ranking of the Kenyan Universities

The Kenyan universities were ranked by quality of their graduates based on competence of staff, service delivery, curriculum, physical resources, institutional reliability, quality of graduates and their opinion about the university. Only the universities with graduates working in COYA (2013) were ranked in this study. University of Nairobi was first followed by Kenyatta and JKUAT on second and third position. Moi University was on fourth position while KeMu and Strathmore lead the private universities. Maseno and Egerton universities were ranked ninth and tenth respectively. The private universities, Nairobi aviation and PCEA were ranked last by their graduates. For easy of analysis, the Likert scale from the above various thematic areas were recorded and the median and mean for each was calculated. To get a representative score the frequency weight from the various universities were used to compute the overall rating score as shown below. The median was used as to avoid the extreme values.

In addition, a survey was done by this research to interrogate the university side of the research subject to get an all-inclusive perspective. The rating of the universities was done on a Likert scale of 1-excellent, 2- very good, 3- good, 4-insufficient, 5- poor meaning that the lower the score the better the university. The following variables were used for ranking: Library services, competence of academic staff, service delivery, curriculum, physical resources, institutional reliability, classes, computers, sanitation, science laboratories, students' hostels, sports and recreation and quality of graduates.

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From the findings of this survey Strathmore University was rated the best, followed by Day Star, Kenyatta University, University of Nairobi, KCA, Egerton, Moi and Mount Kenya in that order. It was noted that Kenyatta University was consistently competent in the two studies. This survey also shows that the universities offered certificates, undergraduates, masters, Doctorate and postgraduate courses. The main focus of private universities was business administration (75%) while public universities concentrated on science courses (60%), Agriculture 40% and arts and humanities 50%.

Table 4.29.1 Ranking of 10 top universities by a survey is shown and explained here below.

	University								
	UON	JKUAT	Day Star	Egerton	KCA	KU	Mt. Kenya	Moi	Strathmor
Facilities	3.50	4.50	2.33	3.00	3.00	2.17	3.00	2.83	2.17
Library Services	3.22	3.78	3.11	3.22	3.00	2.33	3.11	3.78	2.44
Competence of Academic Staff	2.71	3.00	2.43	2.57	2.71	2.57	3.71	3.00	2.43
Service Delivery	2.83	3.17	2.33	3.50	2.83	3.33	2.83	3.00	2.33
Curriculum	2.83	3.17	3.33	2.17	2.33	1.50	3.50	3.17	2.17
Physical Resources	3.40	3.20	1.00	2.40	3.40	2.00	3.40	3.00	1.20
Institutional Reliability	2.20	3.00	1.60	2.80	3.20	3.00	3.20	3.60	2.40
Learning Environment	3.50	2.25	1.00	3.50	3.25	1.75	3.75	3.00	1.75
Graduate Quality	1.33	3.00	2.00	3.67	3.00	1.67	3.33	3.33	2.00
Mean Scores	**2.84**	**3.23**	**2.13**	**2.98**	**2.97**	**2.26**	**3.32**	**3.19**	**2.10**
Ranking	*4*	*8*	*2*	*6*	*5*	*3*	*9*	*7*	*1*

The table 4.29.1 above indicates that Strathmore University was first scoring highly in the services offered and has best practices for its students. (Likert scale 1=excellent, 2= very good, 3=good, 4= insufficient, 5= poor). University of Nairobi was ranked number

fourth while Day Star was second in this survey. These universities were selected as they formed the top ten from the study survey. In addition they participated in Africa and global ranking by Webometrics (2013). However, this differs with the ranking of the universities by their graduates explained in table 4.28 on page 174 which shows University of Nairobi leading, followed by Kenyatta University and JKUAT. It is noted that Kenyatta University has remained constantly at the top scoring number two in graduates' rating and three in the survey which implies that it highly regarded by its graduates and it has best practices.
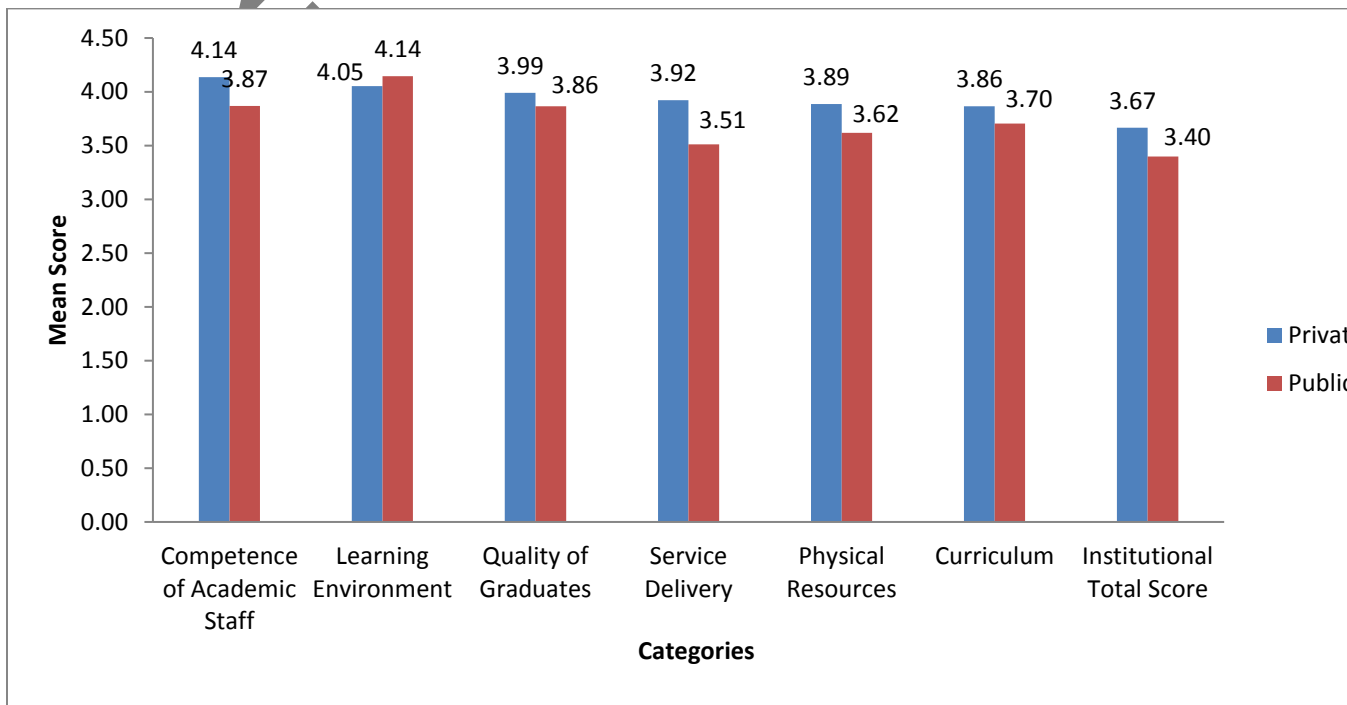
Figure 4.24: Comparing graduates' quality by university

4.22: Quality of University by Type

The results of the study showed that private universities scored more on quality as indicated by competence of staff with a mean score of 4.14 against 3.87 in public, quality of graduates was 3.99 compared to 3.86 in public universities. Service delivery was rated

3.92 in private and 3.51 in public while physical resources had 3.89 in private against 3.62 in public. The curriculum had 3.86 in private and public universities scored 3.70. For the institutional reliability the private universities had a higher rating of 3.67 compared to the public who scored 3.4. The public universities scored higher in the learning environment as compared to the private universities. Figure 4.25 results indicate that private universities were rated higher in quality than the public universities in Kenya as evidenced by the mean score. This implies that graduates in private universities better quality in institutional in the variables tested. Other details of comparing quality by university are explained below in different subheadings.
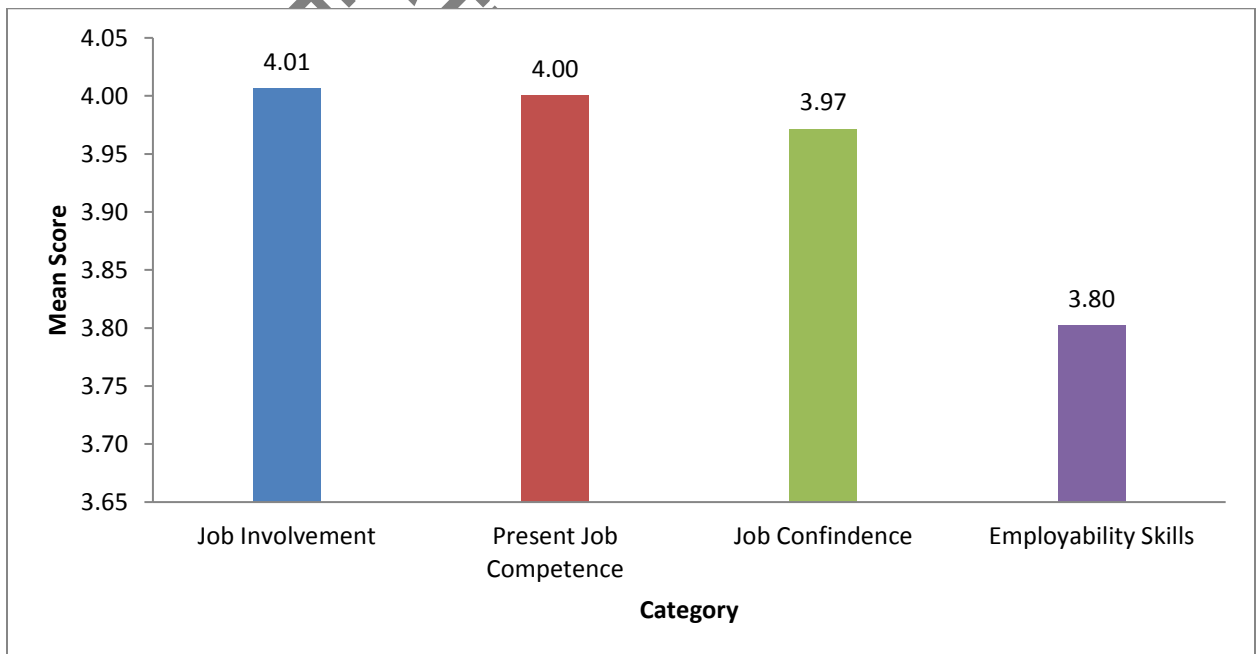
Figure 4.25: Determinants of the quality of a university graduate

4.22.1 Determinants of university graduates' Quality

According to figure 4.25 on page 190 shows what determines the quality of a university graduate. The indicators of job involvement, present job competence, job confidence, and employability skills were evaluate as rated by their employer. The findings of the study indicate that job involvement (4.01) and present job competence (4.0) were considered more important in determining the graduate quality. Job confidence scored 3.97 and employability skills 3.8. These results imply that the employers considered graduates who worked independently, exerted themselves to cope with work and handled large amount of information as more quality graduates. In addition, the employers also implied that employees who demonstrated theoretical learning, orally expressed themselves freely, were team players, demonstrated managerial skills, illustrated decision making skills, illustrated written expression well and showed understanding of computer skills were quality university graduates. This shows consistency with arguments of Parasad (2006).
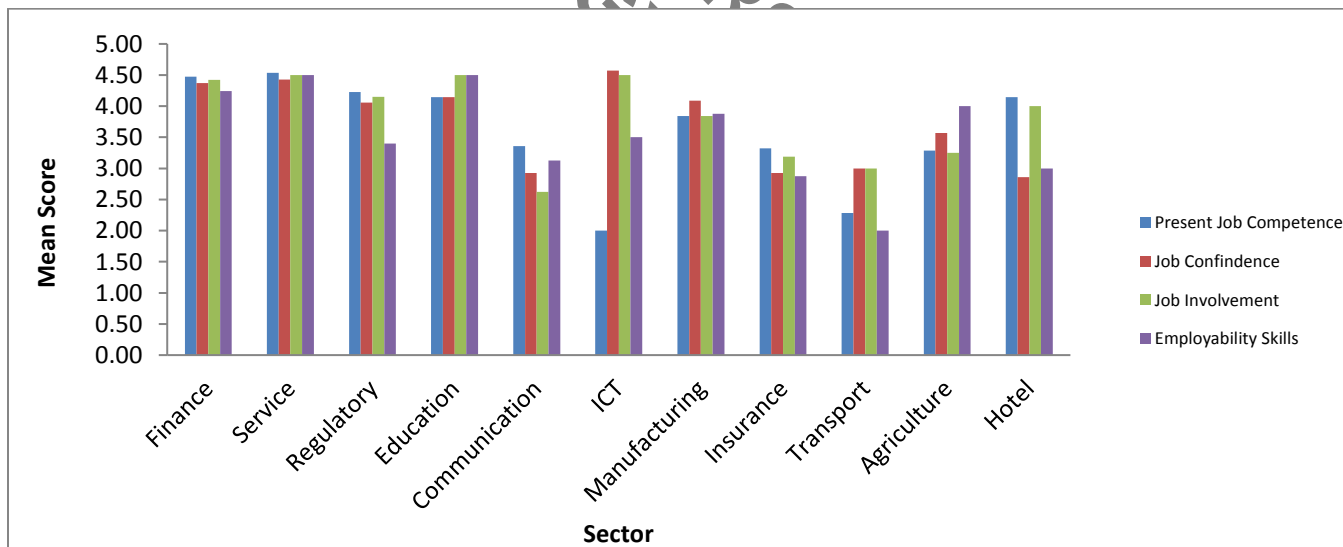
Figure 4.26: Determinants of graduates' quality by sector

4.22.2 Work preparedness of graduates by sector

In addition the study shows that present job competence scored in the finance (4.5), service (4.6), Regulatory (4.5), education, manufacturing (4.0) and hotel industries. Job involvement determined higher quality of graduate in finance, service, education, and ICT and hotel industry. Job confidence and involvement determined quality of graduate more in ICT and manufacturing sectors indicating more practical skills were needed in these industries. Further form the findings of this study, the finance, service, education and manufacturing sectors showed that the quality of university graduate was determined by job competence, job confidence, job involvement and employability skills at a strong score of 4.5. This implies that they are all very important for the graduate working in these industries. These study findings agree with other studies of Vidal (2000); Mehta *et al.* (2011) and Yuzhuo (2009) who argue that universities need to evaluate their graduates' quality using these indicators to determine quality. Table 4.30 below presents the ANOVA for the categories by company.

Table 4.30: ANOVA for the Categories by Company

Categories	Source of Variance	Sum of Squares	DF	Mean Square	F-statistics	P value
Present Job Competence	Between Groups	14.677	10	1.468	3.305	*0.005*
	Within Groups	13.323	30	.444		
	Total	28.000	40			
Job Confidence	Between Groups	12.141	10	1.214	2.689	*0.018*
	Within Groups	13.092	29	.451		
	Total	25.233	39			
Job Involvement	Between Groups	12.118	10	1.212	3.109	*0.008*
	Within Groups	11.693	30	.390		
	Total	23.811	40			
Employability Skills	Between Groups	14.160	10	1.416	2.477	*0.027*
	Within Groups	17.152	30	.572		
	Total	31.312	40			

A further investigation was done to determine whether there was a significant positive relationship between the quality determinants of graduates and the quality of a university graduate. All the factors (present job competence 0.005, job confidence 0.018, job involvement 0.008, employability skills 0.027) were significantly different by the sector with p value <0.05. All these results mean that all the factors mentioned were significant for job preparedness of the graduates.

4.22.3 Relationship between the quality of a university and the quality of its graduates

To explore the relationship between the quality of a university and the quality of its graduates, a weighted score of the University was matched with the quality of university graduates using a correlation table. There was a negative correlation between

the graduate quality and the University ranking. However, there was no significant difference between them as the p- value (0.650) was more than 0.05. To further investigate the relationship a Pearson Correlation was undertaken to analysis the correlation of the university and the quality of the graduates. The table 4.31 below explains the relationship between quality of a university and quality of its graduates.

Table 4 .31: Relationship between quality of University and quality of its graduates

		Rank	Quality of Graduates
Rank of the University	Pearson Correlation	1	-.022
	P-value		.650
	N	413	413
Quality of Graduates	Pearson Correlation	-.022	1
	P-value	.650	
	n	413	413

ANOVA test was done since more than two categories were being considered. The results of the findings indicate that there is no significant difference between graduates quality from private and public universities as indicated by the p-value (0.142) which is more than 0.05.

Table 4.32 below presents a regression analysis for quality of graduates and quality of a university.

Table 4.32: Regression Analysis for Quality of Graduates and quality of a University

	Sum of Squares	df	Mean Square	F	P value
Between Groups	36.079	27	1.336	1.308	0.142
Within Groups	393.234	385	1.021		
Total	429.312	412			
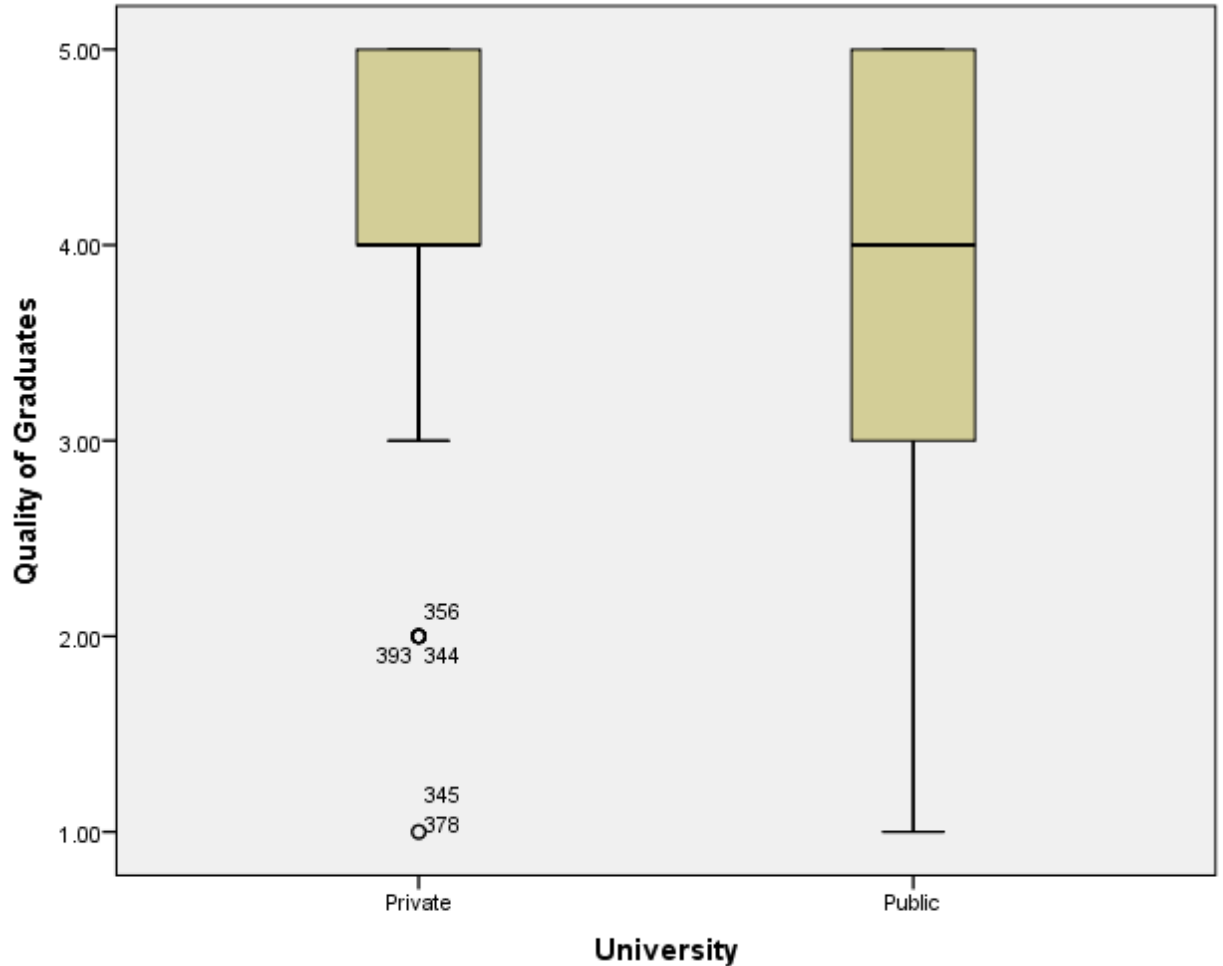
Figure 4.27: Box plot for comparing quality of graduates in both private and public universities.

It is evident from figure 4.27 above that there is a variability and lack of consistency in the public universities as shown by box plot above. This is shown by their median scores which were higher in some and lower in others. From these findings the private universities had a higher consistent median score than public universities. The disparity is clear from the chart where both the 'narrowing' and 'consistency' factors are displayed. It can be argued that there is an indication that some public universities were weak. From these findings, the private universities have a higher mean score of quality of their graduates meaning their quality is better than some public universities.

The results of the regression analysis show a p value ($p= 0.142>0.05$) which means that there was no significant relationship between quality of graduates and quality of a university. This shows that the best universities in quality may not be the best in producing the best graduates. It also implies that best practices may be in universities that were not necessarily the best in producing best graduates.

Figure 4.28 below shows the relationship between graduates in different economic sectors
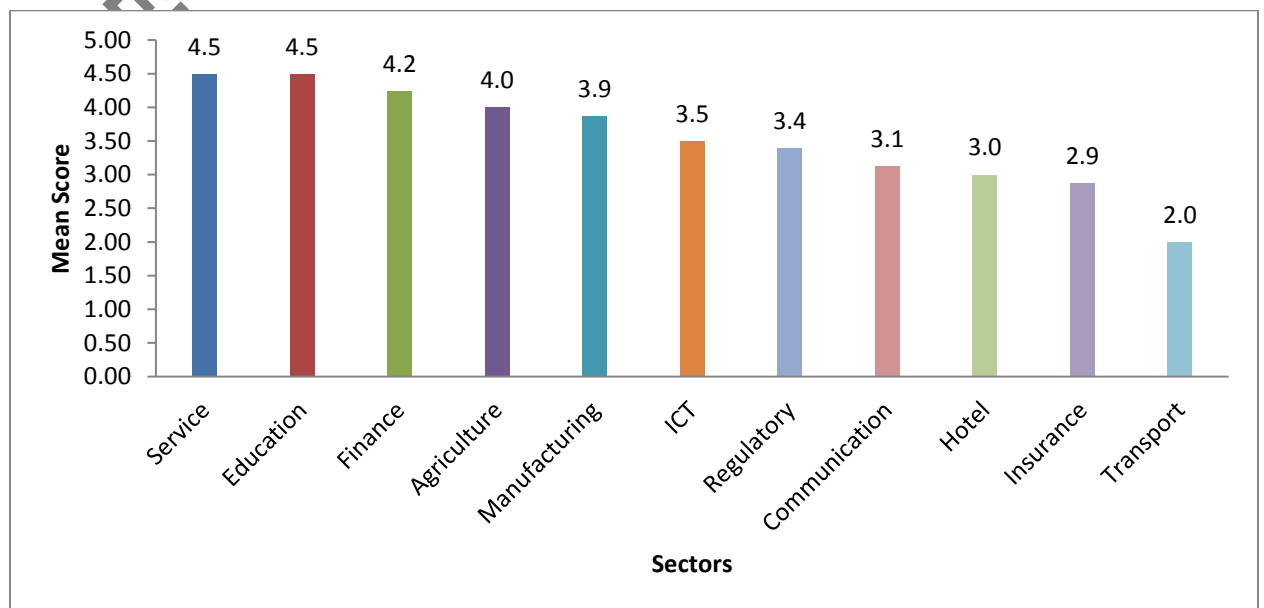
Figure 4.28 Relationship between graduates in different sectors and their employability skills.

This figure is explained in details here below.

4.23 Employability skills by economic sectors

This study further sought to determine influence of employability skills on work preparedness. The findings of the research shows how university graduates from different economic sectors in Kenya compare in terms of work preparedness skills. The results were as indicated in figure 4.28 above which shows education: (4.5), service (4.5) and

finance sectors (4.2). These required more employability skills as indicated by the employer. Further, the results indicated that manufacturing had a mean score of 3.9, ICT 3.5 and regulatory 3.4. Additionally, these study findings indicate that insurance and transport needed less employability skills. This implies that for insurance (m=2.9) and transport (m=2.0) do not need a lot of expertise to work in these sectors. In addition, the table below shows a p value of 0.027 <0.05 indicating that there was a significant difference in employability skills of graduates between different economic sectors. Table 4.30 below and figure 4.29 above corroborate this information.

Table **4.33** below presents a **comparison of employability skills by economic sectors**.

	Sum of Squares	df	Mean Square	F	p value
Between Groups	14.160	10	1.416	2.477	.027
Within Groups	17.152	30	.572		
Total	**31.312**	**40**			

4.23.1 Link between graduates employability skills and work preparedness.

. A partial correlation was done to compare the scores for employability and other work preparedness skills. The findings show that employability skills was positively correlated with present job competence, job confidence and job involvement at p value <0.05, with correlation coefficient of 0.596, 0.572 and 0.605. On undertaking the regression analysis was undertaken to determine the determinants of employability skills and the models was found to be significant.

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Table 4.34 shows correlation analysis on determinants of employability skills. The details are presented here below.

		Employability Skills	Present Job Competence	Job Confidence	Job Involvement
Employability Skills	Pearson Correlation	1	.596**	.572**	.605**
	P value		.000	.000	.000
	n	41	41	40	41
Present Job Competence	Pearson Correlation	.596**	1	.741**	.797**
	P Value	*.000*		.000	.000
	n	41	41	40	41
Job Confidence	Pearson Correlation	.572**	.741**	1	.872**
	P value	*.000*	.000		.000
	n	40	40	40	40
Job Involvement	Pearson Correlation	.605**	.797**	.872**	1
	P value	*.000*	*.000*	.000	
	n	41	41	40	41

Table 4.34 above shows Pearson's correlation analysis that was done to check the link between employability skills and present job competence, job confidence and job involvement. Employability skills was positively correlated (r= .595) to present job competence, job confidence (r = .572) and job involvement (r = .605). Present job competence is positively correlated (r = .596) to employability skill, job confidence (r =.741) and job involvement (r = .797). The findings of this analysis also show that job confidence is positively and strongly (r =.872) correlated to job involvement. Job involvement has a positive strong link to job competence (r = .797) and job confidence (r = .797)

These findings indicate a strong correlation indicated by a p-value 0.000 showing that with an increase in employability skills also present job competence, job confidence

and job involvement increases positively. In addition it shows that when each of these variable increases employability skills positively increase. Further the findings imply that work preparedness of the graduate increase with an increase in their job competence, job confidence, and job involvement and employability skills. This correlation was significant at the 0.01 level (2 tailed).

Moreover, to investigate the link between graduates employability skills and work preparedness, a partial correlation was done comparing the scores for employability and work preparedness skills. This means that to improve work preparedness of graduates employability skills should also be increased and improved.

4.24 Reliability and validity Analysis of the Factors

In this study, tools which were used by other researchers to measure graduates quality and their labour market preparedness were used. The Cronbach's alpha (a function of the average inter-in correlations of items and the number of items in the scale) was used in this study to measure to measure internal consistency of questionnaire items as done by (Kaluyu, 2013). The study tools were accepted since their results of the coefficient were more than 0.796. This was acceptable as it indicated satisfactory internal consistency in reliability (Nunnaly & Bernstein, 1994).

To ascertain the reliability of the various aspects of the graduates the following were evaluated. These included the academic competences of the staff, service delivery, curriculum, physical resources, institutional reliability, learning environment and quality of graduates using the Cronbach's alpha statistics as shown in the table 4.35 next page.

Table 4.35: Reliability of the Graduates

S/No.	Factor	Reliability Statistics (Cronbach's alpha statistics)	n
1	Competence of Academic Staff	0.86	7
2	Service Delivery	0.889	8
3	Curriculum	0.898	7
4	Physical Resources	0.892	7
5	Institution Reliability	0.909	7
6	Learning Environment	0.796	2
7	Quality of Graduates	0.935	3

Table 4.35 above is discussed upon below.

4.24.1 Reliability of graduates

To ascertain reliability of the various aspects of the employer the following information, Competence of academic staff, service delivery, curriculum, physical resources, institutions reliability, learning environment and quality of graduates was evaluated. The entire factor was reliable scoring more than 0.7 Cronbach's alpha statistics indicating that all the scale were valid. The findings are shown in table 4.35 above.

Table 4.36 below gives the details of reliability statistics showing Cronbach's alpha.

Table 4.36: Reliability of the Employers

S/No.	Factor	Reliability Statistics	n
1	Present Job Competences	0.925	7
2	Job Confidence	0. 950	7
3	Job Involvement	0.871	4
4	Employable Skills	0.958	8

The entire factors for the employer was reliable scoring more than 0.7 Cronbach's alpha statistics indicating that all the scale were valid and therefore for further analysis (0.925, 0.950, 0.871 and 0.958) for present job competence, job confidence, job involvement and employability skills respectively.

4.24.2 Validity Measures

According to Joppe (2000), posits that Validity determines how truthful the research results are or if the research truly measures what it was intended to measure. It is the extent to which an instrument is meant to measure (Davies & Dodd, 2000; Mishler, 2002; Stenbacka, 2001, 2001). Validity of the research checks whether what was intended was measured and how truthful the results were. It is the degree to which an instrument measures what is supposed to measure (Kothari, 2004).

The table 4.37 on the next page shows reliability of the employer by component.

Table 4.37: Reliability of the Employers by Component

Present Job Competence	Scale Mean	Scale Variance	Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted	Overall Cronbac Alpha Statistic
Demonstrate theoretical learning	24.02	25.174	.798	.726	.910	
Oral expression freely	24.02	24.474	.853	.742	.904	
Team work	24.02	25.674	.765	.773	.913	0.93
Managerial Skills	2f	25.140	.794	.792	.910	
Decision making	24.12	24.760	.853	.788	.904	
Written expression	24.10	25.040	.782	.649	.912	
Computer Skills	23.61	28.344	.503	.401	.937	

4.24.3 Reliability of employer by component

The entire factors in figure 4.37 on page 201 were valid scoring above SMC of above than 60% for theoretical learning, oral expression, team work, managerial skills, decision making and written expression, while understanding of computer scored 40%. Cronbach's Alpha was more than 90 % for all factors showing they were reliable. The computer skills were not useful in the explanation of the latent variable on present job competence.

4.25 Principal Component Analysis (PCA)

Principal component Analysis is a variable-reduction technique. It reduces larger set of variables to smaller set of variables referred to as 'principle components' accounting for most of the variance in the original variables. The PCA was undertaken for seven components which included demonstration of theoretical learning, oral expression freely expression, team work, managerial skills, decision making, and written expression indicates a high correlation of more than 60% and computer skills. These results also correspond to the scree plot. On the next page is table 4.36 that is explaining the reliability of job confidence of the graduates.

Table 4.38: Reliability of the Job Confidence

Job Confidence	Scale Mean	Scale Variance	Total Correlation	Squared Multiple Correlation	Cronbach's Alpha	Overall Cronbach's Alpha Statist
Creative Skills and theoretical	23.83	25.245	.791	.739	.887	
Use theoretical knowledge to serve customer	23.90	25.340	.716	.732	.892	
Minimal supervision	23.98	22.224	.766	.716	.886	0.91
Application of theoretical and practical knowledge	24.02	24.674	.701	.643	.893	
Written communication skills are well illustrated	23.83	24.495	.823	.777	.882	
Positive attitude	24.00	23.900	.839	.847	.879	
Relevance of the degree	24.29	22.212	.592	.463	.919	

4.25.1 Reliability of job confidence

According to table 4.38 above, result of entire factors were valid scoring above SMC of above than 64% for theoretical learning, oral expression, team work, managerial skills, decision making and written expression, while relevance of the degree 46%. In addition this is supported by PCA and sree plots. Cronbach's Alpha was more than 91 % for all factors showing they were reliable. All the factors were strongly correlated above 0.7 except degree relevance (0.59). Therefore, the relevance of the degree was not useful in the explanation of the latent variable on present job confidence. Table 4.37 below shows reliability of job involvement and the explanation given is on the next page.

Table 4.39: Reliability of the Job Involvement

Job involvement	Scale Mean	Scale Variance	Total Correlation	Squared Multiple Correlation	Cronbach's Alpha	Overall Cronbach's Alpha Statistics
Independence of the graduate	12.10	4.890	.751	.570	.830	
Willing to exert themselves to cope with work	12.07	5.570	.715	.514	.838	0.87
Ability to handle large work pieces	11.98	6.124	.732	.542	.837	
Independent and confident	11.93	5.770	.729	.534	.833	

4.25.2 Reliability of job involvement

According to the of this table 4.39 above, result of entire factors were valid scoring above SMC of above than 50% for independent graduate when working, willing to exert themselves to cope with work, ability to handle large work pieces and independent and confident when working. Cronbach's Alpha was more than 80 % for all factors show they were reliable. All the factors were strongly correlated above 0.7 meaning that job involvement positively increased with these factors. Therefore, all the factors were useful in the explanation of the latent variable on present job involvement. Table 4.40 below explains reliability of employability skills.

Table 4.40: Reliability of the Employability skills

Employability Skills	Scale Mean	Scale Variance	Total Correlation	Squared Multiple Correlation	Cronbach's Alpha	Overall Cronbach's Alpha Statistics
Intellectual ability	26.5610	38.452	.778	.686	.956	
Quick decision making and solving	26.6341	39.038	.843	.846	.952	
Interactive knowledge	26.4878	39.106	.899	.861	.949	
Ability to use new knowledge creativity	26.5610	39.052	.868	.854	.950	
						0.96
Leadership Skills	26.6829	38.472	.831	.841	.952	
Ability to handle new knowledge	26.5610	38.452	.897	.857	.948	
Ability to coordinate activities	26.5854	38.049	.826	.759	.953	
Prioritize activities	26.8293	38.095	.799	.676	.955	

The details of the table (4.40) above are outlined below in details.

4.25.3 Reliability of employability skills

The reliability of the employability skills was tested (table 4.40) for correlation with intellectual ability, quick decision making and solving problems, interactive knowledge ability to use new knowledge creativity, leadership skills, ability to handle new knowledge, ability to coordinate activities and prioritizes activities. According to the findings of the study, all the factors were valid scoring SMC of above than 60%.Cronbach's Alpha was more than 90 % for all factors showing they were reliable. All the factors were strongly correlated above 0.7 meaning that employability skills positively increased with these factors. Hence they were considered in explaining the category of employability skills.

Table 4.41 below presents reliability of the competence of academic staff.

Table 4.411: Reliability of the Competence of Academic Staff

	Scale Mean	Scale Variance	Total Correlation	Cronbach's Alpha	Overall Cronbach's Alpha Statistics
Competence of Academic staff	22.45	20.044	.681	.827	
Experience Teaching Staff with expertise	22.29	20.622	.653	.832	
Teaching Staff with required Qualifications	22.49	19.891	.709	.823	
Practical Knowledge	22.52	20.178	.675	.828	0.866
Staff with up to date information	22.60	19.784	.681	.827	
Fluent Communication	22.61	19.985	.638	.833	
Enough PHD Staff	23.25	20.543	.401	.877	

4.25.5 Reliability competence of staff

The study reviewed the entire factors and were found to be valid scoring an overall Cronbach's' Alpha of above than 0.8 for competence in academic staff, expertise, required qualification, practical knowledge, un to date information, fluent communication and enough PhD staff. This study also indicated that all factors were positively correlated above 60% to competence of academic staff except enough PhD staff (40%) which was not useful in the explanation of the latent variable on present competence of academic staff.

4.25.6 Reliability of the curriculum

Further the findings of this research (fig 4.41) show that all the factors were valid scoring an overall Cronbach's Alpha of above 0.89 for relevant curriculum to current job, ICT in the curriculum and well design curriculum the future job, adequate content of

curriculum, skilled and knowledgeable staff, flexible curriculum to current job, research and innovation taken care of in the curriculum. All the factors were strongly correlated above 0.6 meaning that curriculum positively increased with these factors. Therefore, all the factors were useful in the explanation of the latent variable on the curriculum. Table 4.42 below gives information on reliability of the physical resources.

Table 4.42: Reliability of the Physical Resources

Physical Resources	Scale Mean	Scale Variance	Total Correlation	Cronbach's Alpha	Overall Cronbach's Alpha Statistics
Well equipped	21.9467	26.614	.714	.873	
Adequate Buildings	21.9419	26.997	.693	.876	
Good support services	21.9056	27.406	.729	.871	
Easily accessed physical resources	21.8450	27.874	.726	.872	0.89
Well maintained sanitation facilities	21.7240	27.802	.717	.873	
Adequate water supply	21.4818	29.051	.625	.883	
Adequate library services	21.8281	27.337	.634	.884	

Table 4.42 above presents information on reliability of the physical resources which is fully explained below.

4.25.7 Reliability of physical resources

According to the findings of table 4.42 above the result of entire factors was valid scoring an overall Cronbach's Alpha of 0.89. In addition this is supported by PCA and sree plots. A total correlation of above 0.6 showed that these physical resources increase with an

increase of these factors. Therefore, all factors were relevant in the explanation of the latent variable on physical resources. In addition, the scree plot and PCA (60.070 %) give the same results (see appendix). This shows that these factors can be relied on to make conclusions on the physical resources. The table below (4.43) presents Cronbach's Alpha statistics on reliability of the institution.

Table 4.2 Reliability of the Institution

	Scale Mean	Scale Variance	Total Correlation	Overall Cronbach's Alpha Statistics
Conducive learning environment	4.17	1.021	.661	0.792
Place of worship was available	4.07	1.034	.661	

The statistics of table 4.43 indicate that the entire factors were valid scoring Cronbach's Alpha of 0.792. All the factors were strongly correlated above 0.6 meaning when the factors increase the institutional reliability also increases. It shows that the two factors were useful in explaining latent variables on institutional reliability.

4.25.8 Institutional reliability

Additionally, a further analysis of institutions reliability shows an overall Cronbach's Alpha of 0.72 indicating that the entire factor was reliable since it scored more than 0.7. From the results of these findings can be said that a conducive learning environment and place of worship were positively correlated to institutional reliability. A PCA (85.742 %) on table 4.43 above and scree plot on page 141 figure 4.6 also are additional evidence. The table 4.44 below presents statistics on reliability of the quality of graduates.

Table 4.44: Reliability of the Quality of Graduates

Quality of Graduates	Scale Mean	Scale Variance	Total Correlation	Cronbach's Alpha	Overall Cronbach's Alpha Statistics
Prepared to work competently for global work	7.80	3.794	.864	.909	
					0.95
Gave enough skills to quality graduate	7.72	4.033	.888	.891	
Degree worth the quality expected	7.75	3.892	.850	.919	

4.25.9 Reliability of graduates

To ascertain reliability of the various aspects of the graduates' quality the following information, prepared to work completely for global work, given enough skills, degree worth quality expected. The entire factor was reliable scoring more than 0.7 Cronbach's alpha statistics indicating that all the scale were valid. From these findings a total correlation of 0.850 indicates that quality of a graduate increase positively with increase of these factors.

4.26 Modeling the quality of Universities Using the Structured Model Equation (SME)

To model the quality of university using the Structured Model Equation (SME), the following were treated as latent variables, Competence of the teaching staff, Curriculum content, Physical resources, Service quality, Academic reliability, learning environment, Quality of university and work preparedness which were modeled separately and the significant factor used in the full model.
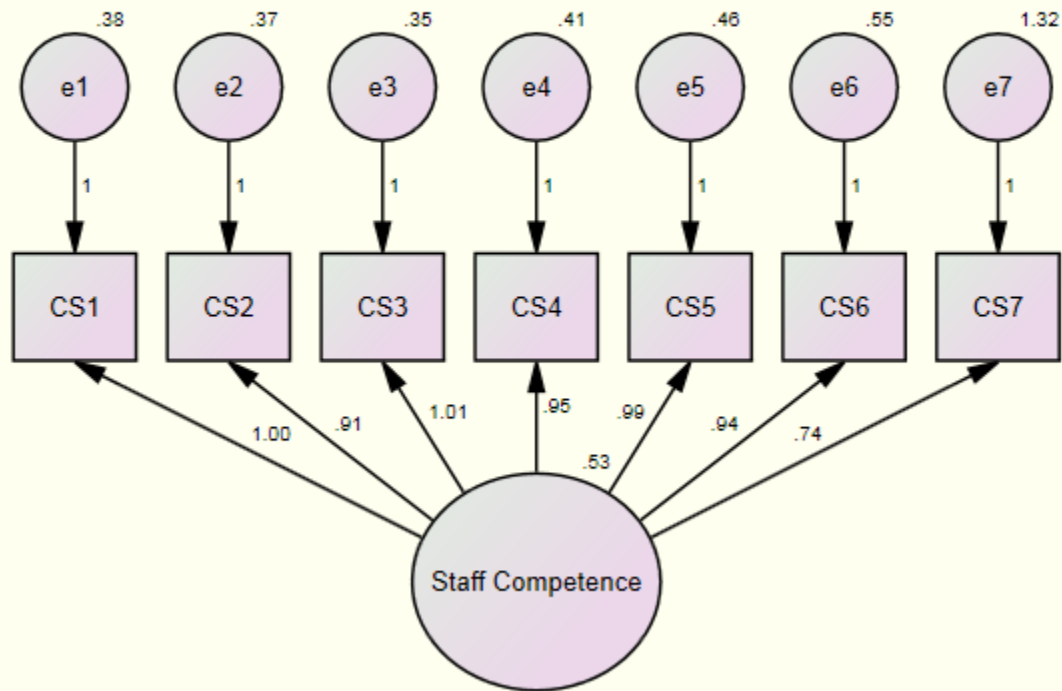
Figure 4.29 (i) Competence of the teaching staff

Modeling staff competence

Staff competence =1.0*CS1+0.91*CS2+1.01*CS3
+0.95*CS4+0.99*CS5+.094*CS6+0.74*CS7

The results of the regression weight (Group number 1- Default model) indicate that all the factors were significantly explaining the competence of the academic staff as shown a smaller (p=0.000) probability value (p value <0.05) of the model. The results further show that the model is adequate (GFI>0.8). The model is fit and adequate as indicated by GFI of 0.932 which >0.8.

This means that competence of academic staff was well explained by, experienced academic expertise (CS1), required academic qualification (CS2); practical knowledge of

staff (CS3), practical knowledge relating to theory (CS4), up to date with relevant information (CS5), fluent well understood (CS6) and enough PhD academic staff (CS7).(See output in appendix).
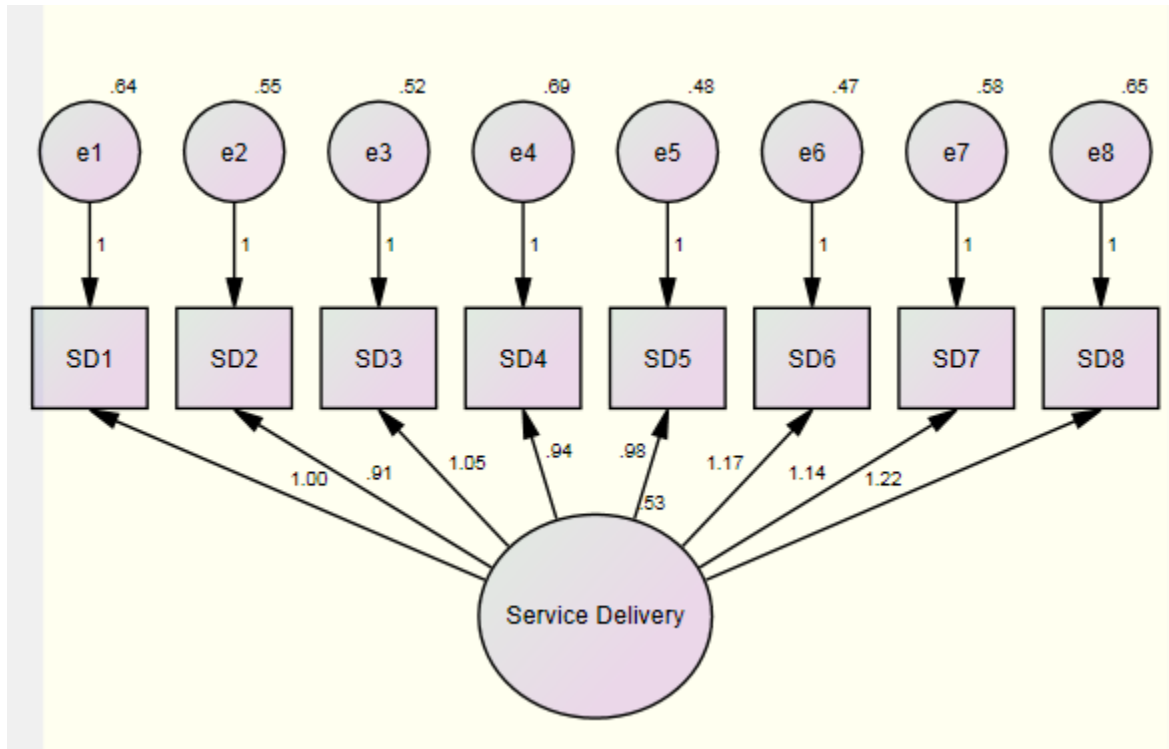
Figure 4.29 (ii) Service delivery

Modeling service quality

Service   delivery=
1.00*SD1+0.91*SD2+1.05*SD3+0.94*SD4+0.98*SD5+1.17*SD6+1.14*SD7+1.22*SD8

Goodness of fit is 0.894 indicating that the model is adequate. This means that the model if adequate.
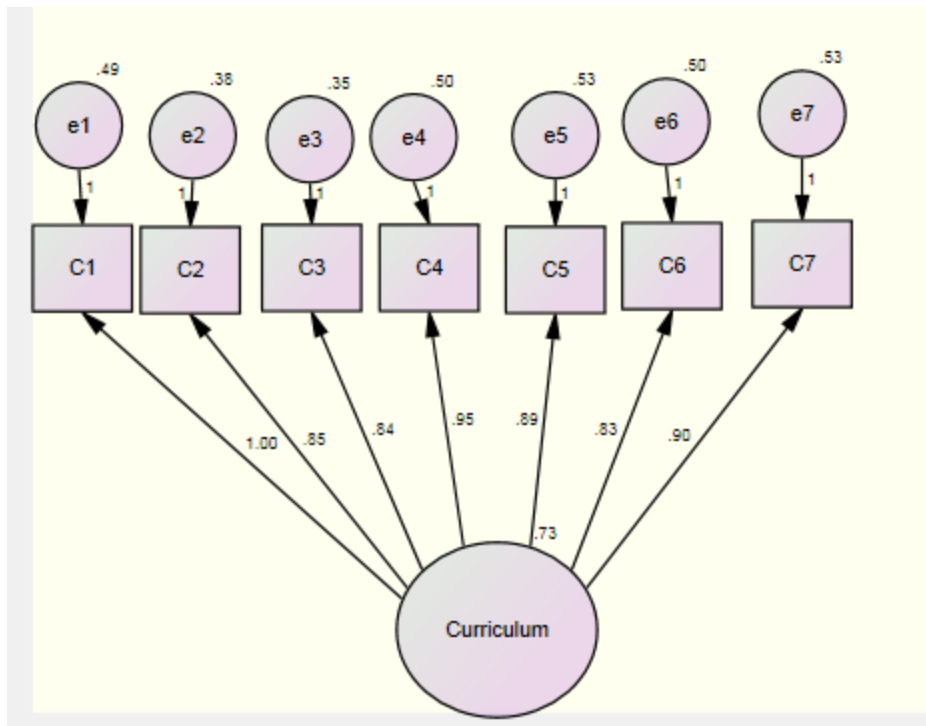
Figure 4.29 (iii) Curriculum

Modeling curriculum

Regression Weights: (Group number 1 - Default model)

Curriculum = 1.0*C1+0.85*C2+0.84*C3+0.95*C4+0.89*C5+0.83*C6+0.90*C7

Where GFI is 0.893 meaning the model is adequate. This indicated that the curriculum was fully explained by the factors that were measured.
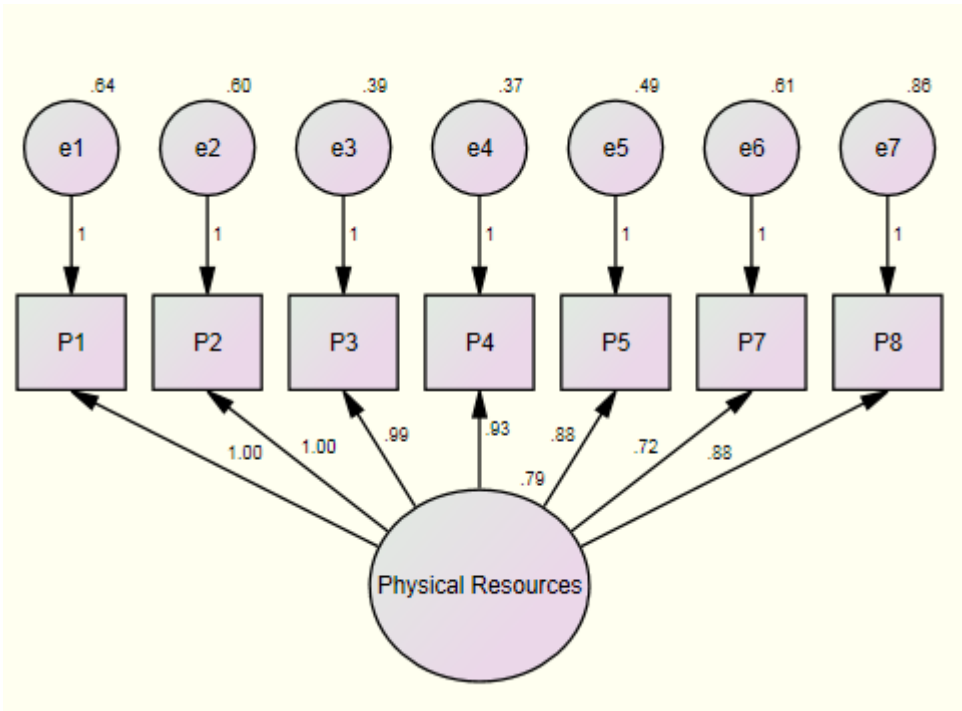
Figure 4.29 (iv) Physical Resources

Modeling physical resources

In modeling the physical resources the following were considered; equipment up to date, building were adequate, support services were in good condition, easily accessible, sanitation facilities well maintained, water supply adequate, and library had enough space well equipped. According to the regression weight (Group number 1-Default model) indicates that all the factors significantly explained the competence of the physical resources as shown a smaller probability value (p value <0.05) of this model. Further the results show that the model is adequate (GFI>0.8). The model is adequate as indicated by GFI of 0.864which >0.8 (see appendix).
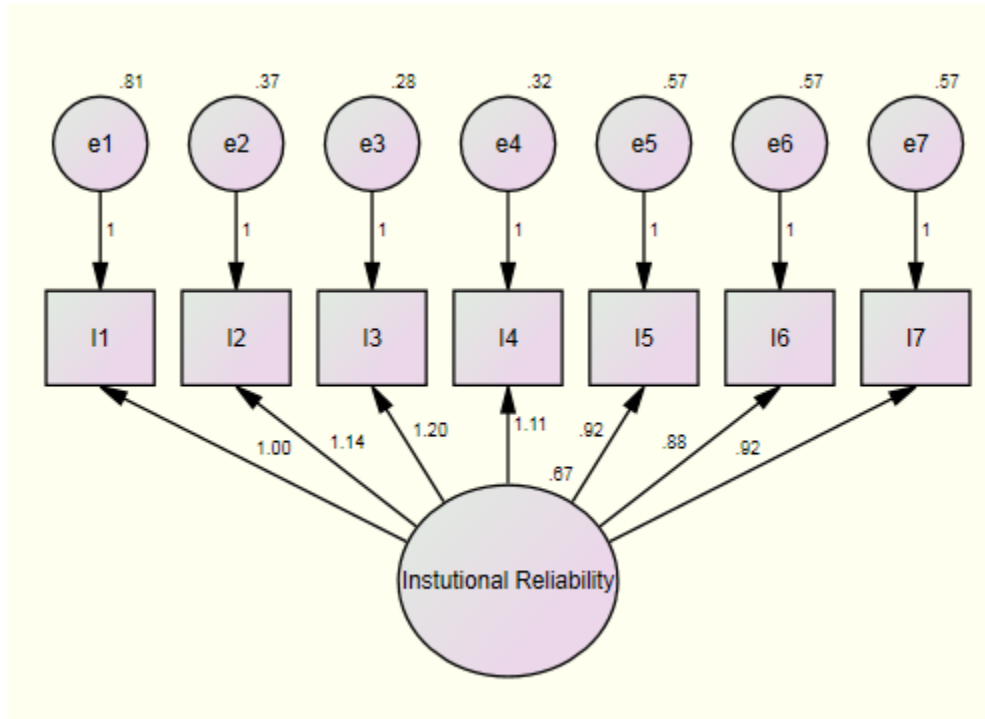
Figure 4.29 (v) Institutional Reliability

Modeling institutional reliability

In modeling the instructional reliability the following were considered; university was trustworthy, institution kept promises to staff and students, complaints handled promptly, students problem handed fairly, rewards validly given, confidential information was well preserved, students dignity was preserved and respected. The findings of Regression Weights: (Group number 1 - Default model) indicate that the p-value is less than 0.05 therefore the model significantly explains the factors in institutional reliability.
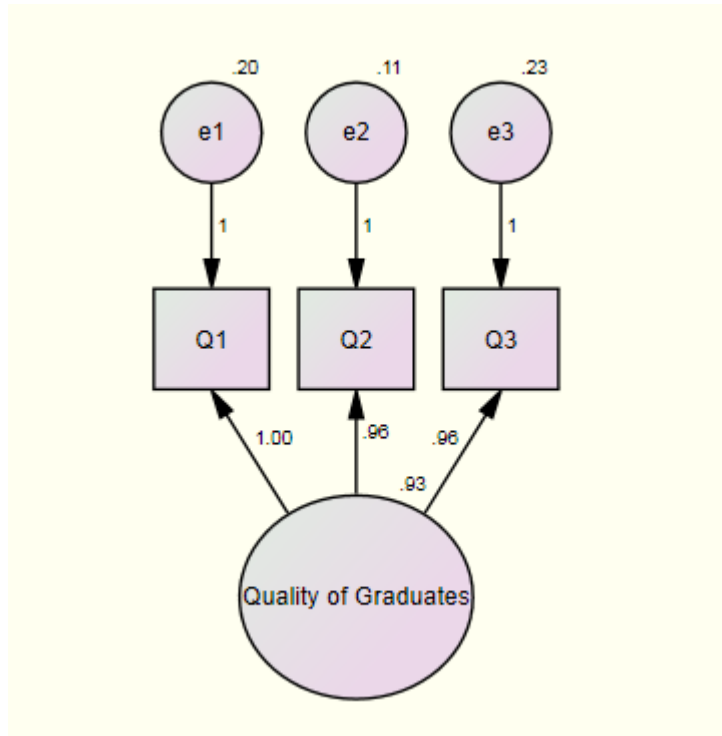
Figure 4.29 (vi) Quality of Graduates

Modeling graduates quality

Quality of graduates = $1.00*Q1+0.96*Q2+0.96+Q3$ (Equation of the model). To model quality of graduates the factors considered included prepared competently for global work, enough skill to be quality graduate and degree worth what was expected. The results indicate that GFI = 1 was>0.8. This means that the data was adequate fitted explaining the model.

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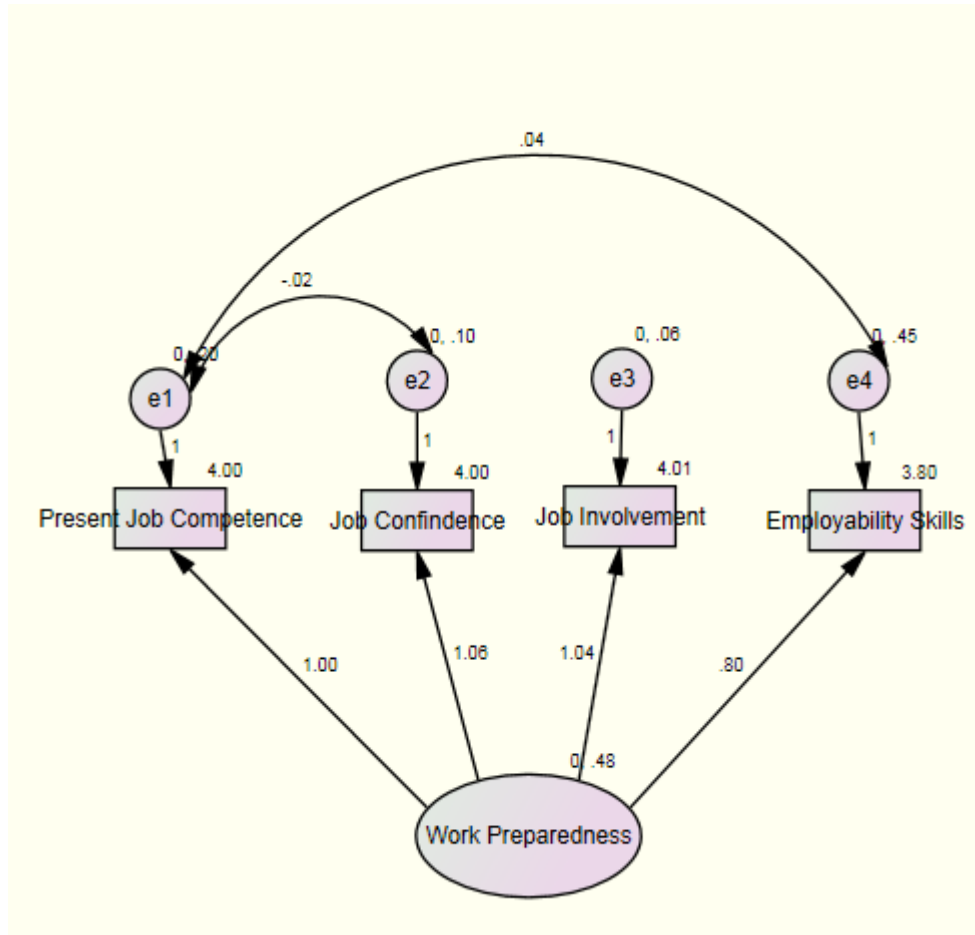
Figure 4.29 (vii) Work Preparedness

Modeling work preparedness

Work Preparedness = 0.8 * Employability + 1.04 * Job involvement +1.06 *Job Confidendence+1.0*Present Job Competence. To model work preparedness of the graduates, present job competence, job confidence, job involvement, employability skills were considered. The results of the Alkhaic (AIC) model indicate that there is a smaller reduced model (28.000) equal to saturated model (28.000) and BCC of 32 meaning the model is adequate.
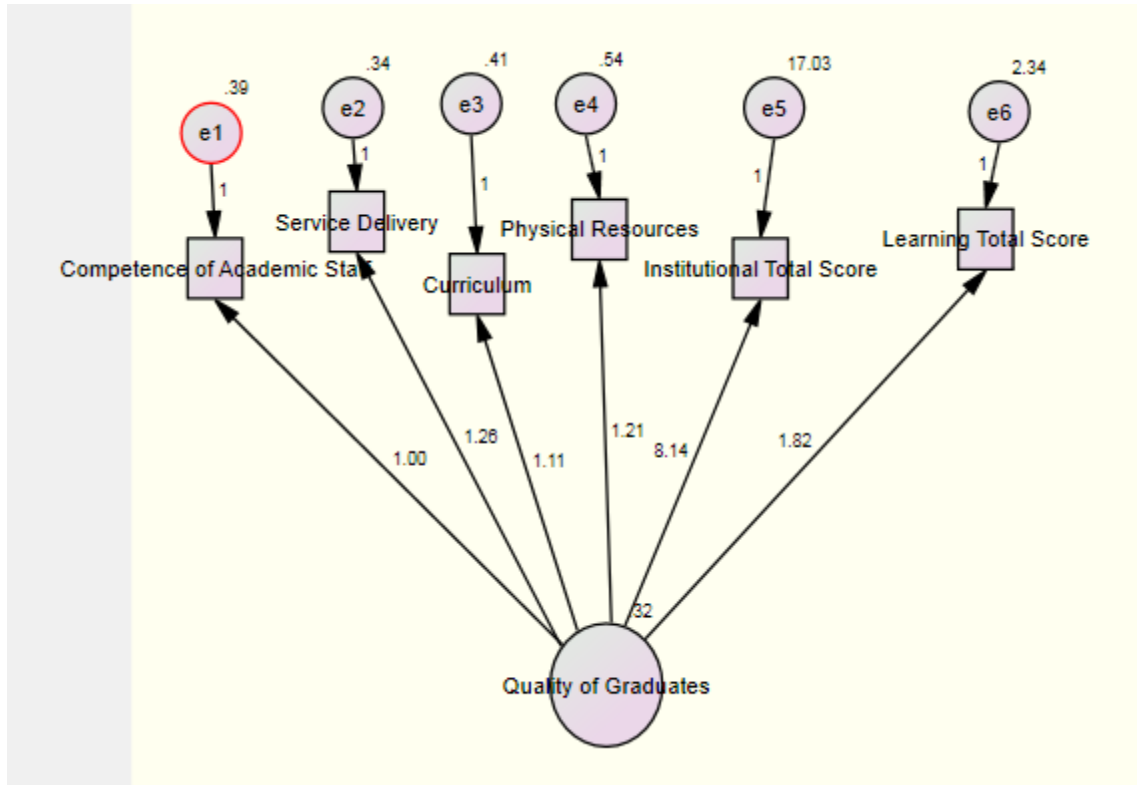
Figure 4.29 (viii) Quality of the Graduates Model

Modeling quality of graduates

Quality of Graduates = 1.82*Learning Environment+8.14*Institutional Reliability + 1.21*Physical Resources+1.11*Curiculum+Service Delivery+1.0*Competence of Staff. This model is adequate according to the results. (See appendix).

Table 4.45: Linkage between Exploratory Variables and Quality of Graduates

		Quality	Competence	Service Delivery	Curriculum	Physical	Institutio nal	Learn ng
Quality	Pearson Correlation	1						
	p value							
Competence	Pearson Correlation	.457**	1					
	p value	.000						
Service Delivery	Pearson Correlation	.527**	.673**	1				
	p value	.000	.000					
Curriculum	Pearson Correlation	.530**	.555**	.652**	1			
	p value	.000	.000	.000				
Physical	Pearson Correlation	.483**	.514**	.622**	.540**	1		
	p value	.000	.000	.000	.000			
Institutional	Pearson Correlation	.566**	.481**	.626**	.572**	.629**	1	
	p value	.000	.000	.000	.000	.000		
Learning	Pearson Correlation	.607**	.430**	.385**	.396**	.459**	.488**	1
	p value	.000	.000	.000	.000	.000	.000	

The results of table 4.45 are summarized here below.

4.27 Summary of the model results

All the explanatory variables were positively correlated and significant (p value <0.05) to the model. Path analysis and SEM are extensions of the general linear model (GLM) that enables a researcher to test a set of **regression equations** simultaneously." A key feature of SEM is that observed variables are understood to represent a small number of "**latent traits**" or "latent constructs" that cannot be directly measured, only inferred from the observed measured variables."Path analysis (and SEM) is a multivariate extension of the multiple linear regressions to a series of multiple regressions, where all the equations are fitted simultaneously. In this, case the models are as follows;

Work Preparedness ⟶ 4.2*Quality of Graduates   **Eqn 4.1**

Work Preparedness → 2.3*Quality of Graduates - 1.2*Quality of university. **Eqn 4.2**

Additionally, there was a positive relationship between work preparedness and the quality of graduates, but the relationship between quality of university is inverse (-1.2). On adding the quality of university to the model with quality of graduate the model improves hence quality of graduates improves the performance of predicting the work preparedness of the students. This implies that when graduated are well trained their performance and work preparedness improves in their work place.

4.28 Chapter 4 Summary: Discusses the research findings from the field data, analysis and discussions are based on the data, objectives, hypothesis and the reviewed literature. SPSS version 21.0 was used to analyze variables of the study while Pearson's correlation tested the relationship between variables. The data was presented in charts and tables.

The next chapter presents a summary, conclusion, recommendations and areas of further research as suggested by this study.

CHAPTER FIVE

5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

In this chapter the results of the key findings of the research are discussed and summarized. The chapter presents the summary of the study findings, contributions to the body of knowledge, conclusions and the recommendations of research based on interpretations from data and findings obtained from the study. The recommendation has two sections: Recommendations to university developers, policy makers, students, graduates and area for further research. It also discusses how different consumers stand to benefit from this study. These were all based on the findings of this research.

5.1 Summary

The purpose of this study was to ascertain the quality of Kenyan graduates and by extension the extent to which they have met the job performance expectations of their employer. The results enabled to rank Kenyan universities having graduates in the COYA participating institutions based on the quality of their graduates. This research was prompted by the inadequacy of local content and knowledge on the area of quality of university of graduates, work preparedness skills, competence of teaching staff, adequacy of physical resources, curriculum content, quality of service delivery and graduates work employment preparedness. Additionally, the study assessed reliability of the university. This research provided insights on the Kenyan scenario on the same areas.

The study documented knowledge on quality of Kenyan university graduates, ranked the universities using the quality of the graduates and their work place

employment preparedness. The specific study objectives were: 1) To investigate competence of the teaching staff; 2) To examine quality of service delivery by the university; 3) To investigate adequacy of the curriculum content; 4) To explore the quality of physical resources; 5) To explore what determines the quality of a university graduates and 6); To evaluate how graduates' quality compare amongst various universities in Kenya.

This study employed descriptive and explanatory designs while qualitative and quantitative techniques were used to analyze the data. The data was collected from 413 employee graduates and 46 managers / supervisor of the COYA 2013 participants using a Likert scale type questionnaire. Data characteristics were analyzed using SPSS and Pearson's product correlation to test the relationship between variables studied.

5.2 Literature

A review of the literature included higher education, concepts of quality, context of higher education sector, quality of graduates, quality assurance, commission for university education, performance management in Kenyan public sector and universities initiatives for growing culture of excellence. In addition various models of quality and dimensions of quality were discussed.

Furthermore, an empirical review of the relationship of quality higher education and employability skills was done. A conceptual frame work was developed by this study. Variables were from reviewed literature including, Owlia and Aspinwall (1996); Parasuraman, Ziethaml and Berry (1998); Westbrook and Peterson (1988); Reer (2009; Vidal (2010) and Mehta (2011). This research considered present job competence, job

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involvement, job confidence, employability skills for graduates work preparedness. It also considered competence of teaching staff, service delivery, curricula, physical resources, institutions reliability, learning environment, and quality of graduates as a measure of university graduates quality which were used in this study. COYA participants (2013) and university literature was also reviewed. Additionally, literature on university ranking was reviewed and gaps of the research identified.

5.3 Methodology

The study design was both descriptive and exploratory. Data was collected from 46 of the 53 COYA 2013 companies which were selected using simple random. A return rate of 41 companies was received (87.2 %) The primary data was collected using structured closed ended questionnaires on a Likert scale of 1-5, strongly disagree, disagree, neutral, agree and strongly agree. The questionnaires were administered to the supervisors/managers of the COYA participants and to 413 graduate employees who had worked between 1-5 years after completing university. Data characteristics were analyzed using SPSS and results were presented in charts and tables.

5.4 Contribution of the study to knowledge

The results of this study have added significant information to the body of knowledge, specifically on the quality of Kenyan university graduates and their work preparedness. This research filled the gap that existed on graduates quality and their work preparedness in the Kenyan economic sectors. Quality of graduates and their work preparedness has been subject of a lot of debate globally because of its implications in a countries' development. Furthermore, research of this kind had not been done in Kenya before.

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Hence, this study gave a new insight into the importance of quality of Kenyan university graduates and job performance expectations of their employer.

Secondly, it lays a good foundation and contribution new knowledge on quality of graduates and ranking of Kenyan universities using quality and the employers' job requirements for graduate employees. Finally, it adds value to theory and model formation in the area that was researched. Additionally, local content and knowledge of quality of universities, quality of graduates, and comparison of graduates, service delivery, university ranking and the level of graduates work preparedness has been enhanced.

Further, a conceptual framework to measure quality of Kenyan University graduates was developed by this research. Conceptualization of work preparedness indicators and details of measurement the key variables of the study have been developed.

Additionally, the study has established that quality of graduates is positively related to work preparedness. The p-value all the regressed parameters were less than 0.001 indicating a significant positive relationship. Indeed this study posits that Kenyan universities need to liaise with the employers in the industry and develop a curriculum that meets the labour market needs of the graduates.

5.5 Conclusions

This part deals with the conclusions made from the study and the recommendations after the data analysis and interpretation. In summarizing the results of this study regarding objectives 1-6 the following main findings emerged. This study indicates that employers

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of university graduates ascertained that majority of the graduate employers (72 %) have no practical skills and 13.6 % are working in jobs they were trained for. An overall rating by employers shows that 51% were not prepared practically and theoretically for the present jobs. University graduates had an average mean score in demonstrating theoretical skills (3.98), oral expression, teamwork (3.98), managerial skills (3.98), decision making (3.88) and written expression (3.90). They excelled in computer skills (M=4.39) which was taught practically in the universities. This implied that increasing practical teaching would increase university graduates' job performance and employability skills in the labour market. Therefore, this added knew knowledge on this area that university managers and developers can use to match graduates training and the labour market needs. Universities should also have a global training exchange programs that will produce competent employees for global market.

This study was only limited to quality of graduates in the universities, therefore, did not include colleges, secondary and primary schools. Most of the COYA participants were business organizations which excluded areas such as medicine and Architecture. One company was reluctant in giving information though it was clearly explained was for research purposes only.

Objective 1

To investigate the competence of the teaching staff showed the following Means: competence of the teaching staff (3.9), required academic qualifications (4.1), practical knowledge (3.9), relevant information (3.9), fluent communication of teaching staff (3.8) and academic staff with PhD scored a mean of 3.1. Competence of teaching was

significantly important at a smaller value of p<0.001 when regression weights were estimated. The hypothesis was tested and there was a significant positive relationship between competence of teaching staff and university graduates work preparedness. This implied that competence of the teaching staff contributed greatly to graduates preparedness in their labour market.

Objective 2

This objective sought to examine quality of service delivery by the university. The results indicated that there was a significant relationship between quality of service delivery and work preparedness of the university graduates with a p-value of less than 0.05. The null hypothesis was not accepted but there was no evidence to accept the alternate hypothesis Academic staff easily contacted (Mean= 3.6), following sequence and timelines in teaching (3.6), fairness in setting and marking exams (3.6), use of modern technology (3.7), having knowledge across disciplines (3.7), staff has convenient operating hour (3.5), motivating students (3.4), availability of teaching staff at all times (3.2). These results indicated that quality of service delivery in both public and private universities had not excelled in this area. This implied that university graduates were not well prepared by their universities for the labour market. In practice, there have been a lot of complains from Kenyan employers about graduates work preparedness. This agrees with the study results that universities had not excelled in their service delivery to produce quality output.

Objective 3

Objective three showed that there is a significant difference between adequacy of the curriculum content and graduates' work preparedness. A p-value (0.001) which is more less that 0.05 indicated a significant positive relationship. The hypothesis Ho failed to be rejected but there was no evidence to accept alternative hypothesis. Further the research findings show that both private universities and public universities were consistent in development of the curriculum content as indicated by Mean values of between 3.7 and 3.8 indicated in all the areas studied.

Objective 4

Additionally, objective five sought to explore the university's quality of physical resources. The study results show that equipment up to date (M =3.5), adequate buildings (3.5), Support services (3.5), accessibility of physical resources (3.6), maintenance of sanitation facilities (3.7), water supply (4.0), library equipment and space (3.6),

It shows that service, physical resources needed to be improved. It can be argued that the physical resources were better in private than public universities. This implied that private universities had more resources from their sponsors. The tested hypothesis showed a p-value of less than 0.005 indicating a significant between universities physical resources work preparedness of graduates in the labour market. The null hypothesis failed to be rejected.

Objective 5

This objective explored quality of a university graduate. Majority of the employers indicated that job competence and job involvement were main (mean score 4.5) determinants of a university graduates in the in their job market. Job competence was mainly required in finance, service, regulatory and education sectors. The findings also reviewed that transport industry required less employability skills, job involvement, job confidence and present job competence shown by a mean score of below 3 agree. Additionally, study findings show that all factors were significantly positively related to graduates labour market preparedness. The findings implied that the employers regarded as quality graduates those employees who worked independently, exerted themselves to cope with work and could handle large amount of information. In addition, employers valued those university graduates who were prepared for the global market, hard enough skills and had a quality degree. To explore the relationship between the quality of university graduates and their work preparedness, the hypothesis was tested and the findings showed that there was a significant positive relationship with a small p-value of 0.001. The null hypothesis was not accepted but there was no evidence to accept alternate hypothesis.

Objective 6

Objective six showed that there is no significant difference between graduates quality from public and private universities indicated by a p-value (0.142) which is more than 0.05. The hypothesis Ho failed to be rejected but there was no evidence to accept alternative hypothesis. Further the research findings show that private universities were

consistent in quality than public universities as indicated by the box plot figure 4.27 on page 195 where both the 'narrowing' and 'consistency' factors were displayed. From these findings it can be implied that some public universities are in producing quality graduates. However a mean score of 1-5 shows inconsistency of the public universities while private universities have a mean score of 3-5 showing consistency in graduates quality. Universities that had graduate employees in COYA participating institutions were ranked.

5.6 Beneficiaries of the study.

From the results of this study different consumers stand to benefit such the university developers, higher education institutions, lecturers, students, graduates and industry players. It will help the industry players to liaise with the universities and other higher education institutions to develop curricula which will prepare the students adequately for the labour market. The graduates will benefit from be well prepared by the universities.

5.7 Recommendations on the research findings

This study provides recommendations for universities, the labour market, the Government of Kenya and areas for further studies and research. The universities and the employers in the labour market need to work together to develop a curriculum that will meet the needs of the graduates in the job employment market. To increase the work preparedness of the graduates the universities have to increase the employability skills including job confidence, job competence and job involvement.

This research ascertained that majority of the graduates employees (72%) have no practical skills and 51% were not well prepared for the present employment and 13.6%

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are working in jobs they are not trained for. Competence of teaching staff, quality of service delivery, adequacy of the curriculum, quality of physical resources and the quality of university graduates are positively related to graduates labour market preparedness with a p-value of less than 0.005. This implies that these variables should be improved to increase graduates preparedness in the job market. These results indicate that universities are not meeting the labour market employment needs and therefore these recommendations should be adopted by the university developers to remedy the situation. However, there seems to be a critical disconnect when employers complain that Kenya is still experiencing shortage of relevant skills at technological, technical and graduates. Therefore, there should be a projection of critical skills from the industry as all countries need a balanced manpower demand and supply for all levels of skills.

The study recommends that practical skills can be increased through yearly internships or attachments in the industry, establishing practical incubation centers in all universities, involving industry players in career days, setting up career centers and inviting guest lecturers with practical experience from the industry to teach practical skills. Team teaching and group learning activities of one subject will give students the best aspect of practical expertise. Distance and e-learning students should have frequent practical and tutorials to improve understanding of the subject. It is also critical for Kenya's higher education to tailor make skills for their graduates to fit into the job market since the findings indicate that universities are not meeting the demands of the employer. The universities can also bridge the practical skills gap between what is taught and its application in the job market by hiring company executives and experienced qualified workers in the labour market to teach in the current relevant areas. The

professors available can teach using modern technology like Skype, go-to-meeting to improve quality and reduce shortage of qualified academic staff globally.

5.7.1 Managerial implications

However, there are practical managerial implications for execution of the recommendations such as government bureaucracies and lack of funds which may hinder implementation of the suggested recommendations. Labour market needs are dynamic making it difficult to solve the disconnect between the labour market needs and university graduate skills as changing the curriculum regularly to adapt to market requirements may not be acceptable to the Commission for University Education (CUE).

5.7.2 Policy implications of recommendations

University developers, policy makers and the industry may not have enough resources to implement and embrace these recommendations to encourage university managers, lecturers, students and graduates to adopt them. The CUE Strategic Plan 2013-2018 may take too long to develop due to frequent changes of the human resource at the ministry of Science and Technology. The structure of the new body of Planning, Research and Development (PRD) division at CUE may delay government advise on policy issues, monitoring, evaluation, leadership and policy development. Politics may also interfere with planning, resource mobilization, and review of university admissions. Hence, these may have implications of implementation of the study recommendations.

5.7 3 Research limitations

Institutions such as Polytechnics, teachers training, colleges, technical institutions and government owned institutions were not included in this study. In addition, secondary and primary schools were not part of the research. A research needs to be carried out to ascertain the quality of these institutions' graduates and their work preparedness.

5.8 Areas for further studies

This study was done from the Kenyan perspective and further research may be carried out from the East African perspective. The study focused on manager/supervisors of the university graduate employees and further study can be conducted using the universities. In addition, this study used present job competence, job confidence, job involvement, employability skills and the opinion from the employers in assessing their graduates for present job preparedness and therefore other variables can be studied. It would also be prudent to carry out this research in colleges, secondary and primary school subsectors of Kenyan education. A number of other variables were identified but not tested such as:

a) Relationship of accessibility of university on quality of graduates

b) How understanding students needs influences quality of graduates.

c) How completeness of supplementary knowledge and skill affect quality of university graduates.

d) What is the flexibility of the degree skills and the extent it can be applied in other fields?

Further, universities can be ranked using other variables other than quality variables that have been used in this study.

5.9 Chapter 5 summary.

This chapter presents a summary and conclusions on the objectives of the study, literature, and methodology and data analysis. In addition contribution of the study to knowledge, study recommendations and areas for further study have been suggested. These were all based on interpretations from the data and the findings obtained from the study.

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APPENDIX 1: INTRODUCTORY LETTER FOR RESEARCH

DEDAN KIMATHI UNIVERSITY OF TECHNOLOGY

NYERI-MWEIGA ROAD

P.O. BOX 657, 10100- NYERI KENYA.

Phone: 0710127516 EMAIL: directorbps@dekut.ac.ke

REF: B311-018/2010   January 13th 2014

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

RE: INTRODUCTORY LETTER FOR RESEARCH

The bearer of this letter; **NANCY RINTARI** is a bonafied student in the School of Graduate Studies and Research at Dedan Kimathi University of Technology. In fulfilling part of the requirements for a Doctorate Degree in Business Administration and Management, she intends to conduct research in your company.

The university requests for your assistance to the student with the necessary data which forms an integral part of the academic research. The information provided will be used only for this purpose and will be treated with utmost confidentiality. A final copy of the report will be made available to you upon request.

Thank you in advance.

PROF. MURUKU WAIGUCHU

DIRECTOR, SCHOOL OF GRADUATE STUDIES AND RESEARCH

DeKUT is ISO 9001: 2008 Certified

Better Life Through Technology

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THIS IS TO CERTIFY THAT:

MS. NANCY GACHERI M`MWIRICHIA

of DEDAN KIMATHI UNIVERSITY OF

TECHNOLOGY, 177-60600 Maua,has

been permitted to conduct research in

Nairobi County

on the topic: *AN EXPLORATION INTO*
THE QUALITY OF KENYAN GRADUATES
AND THE WORK PREPAREDNESS

for the period ending:
1st September,2015

Permit No : NACOSTI/P/14/9504/3097

Date Of Issue : 11th September,2014

Fee Recieved :Ksh. 2000

....

Applicant's
Signature

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

APPENDIX 3

LETTER FOR GRADUATES

January 2014

Dear Participant,

My name is Nancy Gacheri Rintari, Doctor of Business Administration candidate at Dedan Kimathi University of Technology. This program of the study requires that I undertake a research in the area of Marketing. My topic of research is: **An exploration into the quality of Kenyan university graduates and their work preparedness.**

The questionnaire contains information about the university you attended. It taps into your feeling about competence on the academic staff, service delivery, curriculum, physical resources, institutional reliability learning environment, quality of you as a graduate and you opinion generally about the university that you attended

The responses you give will be treated with utmost confidentiality, therefore, there is no provision for writing your name as all information given will remain anonymous. Kindly read the questionnaire carefully, and answer all the questions honestly and correctly to the best of your ability.   Please feel free to write any additional information at the end of the questionnaire and place the questionnaire in the envelope provided for collection in three days time. The authorization letter has been issued by Kimathi university school of post graduate studies.

For any clarifications, feel free to contact me. Thank you for your time, effort and contribution towards this study.

Yours faithfully,

Nancy G. Rintari

Email address: nancyr177@gmail.com

Mobile   +254-725-844-371

APPENDIX 4: COVER LETTER OF EMPLOYER

January 2014

Dear Participant,

My name is Nancy Gacheri Rintari, Doctor of Business Administration candidate at Dedan Kimathi University of Technology. This program of the study requires that I undertake a research in the area of Marketing. My topic of research is: **An exploration into the quality of Kenyan university graduates and their work preparedness.**

The questionnaire contains information about the university graduate employees who have worked in your company for 1-5 years. The questions tap your general feelings about all the employees' present job competence, job confidence, job involvement, employability skills and your opinion about their practical and theoretical preparedness for this employment.

The responses you give will be treated with utmost confidentiality, therefore, there is no provision for writing your name as all information given will remain anonymous. Kindly read the questionnaire carefully, and answer all the questions honestly and correctly to the best of your ability.   Please feel free to write any additional information at the end of the questionnaire and place the questionnaire in the envelope provided for collection in three days time. The authorization letter has been issued by Kimathi university school of post graduate studies.

For any clarifications, feel free to contact me. Thank you for your time, effort and contribution towards this study.

Yours faithfully,

Nancy G. Rintari

Email address: nancyr177@gmail.com

Mobile   +254-725-844-371

APPENDIX 5:

QUESTIONNAIRE FOR THE EMPLOYER (MANAGERS/SUPERVISORS)

SECTION B

On a scale of 1 = strongly disagree to 5 = strongly agree, indicate the overall level of your feeling on each of the item listed below.

1 = strongly disagree- SD, 2 = Disagree –D-, 3 = Neutral =N, 4 = Agree =A, 5 = strongly Agree= SA.

How many graduate employees do you have? ------------ (indicate the number) Name of the organization---------------------------

Put a tick.

Q1. Present job competence

| | SD | D | N | A | SA |

STATEMENTS	1	2	3	4	5
The employee demonstrates theoretical learning					
Employee expresses oral expression freely					
Employee is a team player in the organization					
Good managerial skills are demonstrated by the employee					
Decision making is well illustrated					
Written expression is well illustrated					
Shows understanding of computer skills					

Q2. Job confidence

STATEMENTS	1	2	3	4	5
Employee is creative in skill and theoretical knowledge					
Employee uses theoretical knowledge to serve customers					
Employee works with minimal supervision					
Worker applies both theoretical and practical knowledge					
Written communication skills are well illustrated					
Shows positive attitude towards work					
The employee was selected to work for the organization because their degree was relevant to the work they do.					

Q3. Job involvement

STATEMENTS	1	2	3	4	5
Employee is independent when working					
Employee is willing to exert themselves to cope with work					
Employee has ability to handle large amount of information					
The employee is independent and confident when working					

Q4. Employability skills

STATEMENTS					
Employee shows intellectual ability					
Quick decision making when solving problems					
Shows interactive knowledge					
Shows ability to acquire and use new knowledge-creativity					
Shows leadership skills					

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Has ability to handle large work pieces of information					
Has ability to coordinate activities					
Prioritizes activities					

4   **In your own opinion, are the graduates well prepared for this employment practically and theoretically? Please explain.-- -- -- -- -------------**

APPENDIX 6: QUESTIONNAIRE FOR UNIVERSITY GRADUATE.

SECTION A to be answered by the university graduates

On a scale of 1 = strongly disagree to 5 = strongly agree, indicate the overall level of your feeling on each of the item listed below.

1 = strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = strongly Agree.

Quality of university

Did you attend private or public university? Put a tick   Private   Public   Name of university attended----------------------------

1. Competence of academic staff

STATEMENTS	1	2	3	4	5
Academic staff is sufficient experienced academic expertise in areas taught.					
Academic staff has required academic qualification.					
Academic staff have practical knowledge					
Academic staff have practical knowledge to relate to theory					
Academic are up to date with relevant information					
They communicate fluently and are well understood					
Academic staff with PhD were enough in your department					

2 Service delivery

The academic staff is easily contacted (face to face, phone, email					
Academic staff follow sequence and timeline for teaching					
They are consistent and fair in setting and marking exams					
They use modern technology and information to ease spread of information					

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There is availability of knowledge applicability across disciplines					
Academic staff have convenient operating hours and consultation time					
Academic staff showed recognition by motivating students.					
Academic staff is available at all times to assist students					

3. Curriculum

Curriculum is relevant to students future job					
Curriculum content is adequate to required detail					
Showed skill and knowledge					
Curriculum was flexible to current job market needs					
Research and innovation was included in the curriculum					
Information communication technology was included					
Curriculum is well designed and developed					

4 Physical recourses (tangibles)

STATEMENTS	1	2	3	4	5
Equipment was up to date (e.g. computers, lab, projectors,					
Buildings were adequate (classes/furniture/accommodation/…..					
Support services were in good condition (sports/					
Physical resources were easily accessible					
Sanitation facilities are well maintained					
Water supply is adequate					
Library had enough space and well equipped					

5 Institution reliability

STATEMENTS					
University was trustworthy					
Institution keep promise to staff and students					
Complains were handled promptly					

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Students problems were solved fairly					
Rewards were validly given					
Confidential information was well preserved					
Students dignity was preserved and respected					

6   Learning Environment

STATEMENTS					
University is in a conducive learning environment					
Place of worship was available					

7 Quality of graduates

The university prepared you to work competently for global work					
The institution gave enough skill to be a quality graduate					
Your degree is worth the quality you expected					

8. In your own opinion, do you think the university you attended prepared you well for your present employment?

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APPENDIX 7

Survey questionnaire for assessing the best practices in the Kenyan universities.

Institutions general information

1. Name of the University...

2. Location where the institution is situated...

3. Institutions web address..

4. Is your institution private or Public...

5. What level are academic programmes offered by your institution?

a) Certificates ☐

b) Undergraduate ☐

c) Masters ☐

d) Doctorate ☐

e) Post graduate ☐

f) All above ☐

g) Others (specify) ☐

6. Which is the main focus of your University?

a) Business Administration and management ☐

b) Medicine ☐

c) Agriculture ☐

d) Arts, Languages and Humanities ☐

e) Sciences ☐

☐

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f) Information and technology

7. How do you rate the following facilities in your Universities?

	Excellent	Very good	Good	Insufficient	poor
Classes					
Computers					
Sanitation					
Science Laboratories					
Students Hostels					
Sports and recreational facilities					

Library Services

Text book					
Journals/ periodicals					
Internet access					
Study space					
Library staff service					
E-Learning					
Skype					
Go-Learning					
Teleconferencing					

Competence of academic staff

Academic staff has sufficient experience and expertise					
Academic staff has required qualifications					
Academic staff have practical knowledge					
Academic staff relate practical knowledge to theory					
Lecturers are up to date with relevant information					
Lecturers are competent in communication					
PhD lecturers are enough in the department					

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Service delivery

Academic staff is available all the times to assist students					
Academic staff easily contacted					
Follow sequence and timelines for teaching					
Consistence, fair in setting and marking exams					
Use modern technology in teaching					
Staff have convenient operating hours					

Curriculum

Curriculum is relevant to students future job					
Curriculum is adequate					
Is flexible to current job market needs.					
ICT is included					
Curriculum is well designed and developed					
Employers are involved in curriculum development					

Physical resources (Tangibles)

Equipment is up to date(e.g. computers, projectors, lab)					
Buildings are adequate (classes/furniture/accommodation...)					
Sanitation facilities well maintained					
Water supply is adequate					
Physical resources are easily available					

Institutional reliability

University is trusted				
Institution keeps promises to staff and students				
Complains are handled promptly				
Student's problems were solved fairly.				
Rewards are validly given				
Student's dignity and confidential information is well preserved.				

Learning environment

University is in a conducive environment				
Classes are adequate				
Place of worship is available				
Lecturers are presentable and communicate well				

Quality of graduates

Graduates are prepared to work globally				
Degree is the quality expected				
Most of you graduates work locally, regionally, globally.				

8. Which areas can be improved to produce quality graduates...............? (Please explain).

9. State the number of your academic staff in school of business/economics.

Rank	Male	Female	Total
PhD			
Masters			
Bachelors			

10. What is the number of academic staff by rank?

Professor			
Associate Professor			
Senior Lecturer			
Lecturer			
Visiting Professors			
Teaching assistant			

11. How are the student evaluated?

Assessment	Frequency (how many times per semester)
Assignments	
Term Paper	
Research project/thesis	
Mid semester exams	
End of year exams	
Industrial Attachments	

12. What proportion of required academic staff has PhD?

a) 20 - 40%   ☐

b) 40 - 60%   ☐

c) 60 – 80%   ☐

d) Over 80%   ☐

13. How are the students in your University Recruited? (Put a tick to indicate the answer)

a) Through interviews   ☐

b) Through KCSE qualifications (specify minimum entry grade)   ☐

14. How are academic staffs recruited?   ☐

a) Interviews by board of directors   ☐

b) Through interviews following advertisement   ☐

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c) Selected by their peer ☐

d) Selected by Senior Staff in the University ☐

15) In your opinion, do you think this university prepares the graduate well for the current dynamic job market……………………………………………………………………………..

16) How often does your university invite the key players in the industry to explain the employer expectations of the graduates?

a) Once a year ☐

b) Twice a year ☐

c) Three times a year ☐

d) Four times a year ☐

e) None ☐

f) Others (specify)

APPENDIX 8: LIST OF COYA COMPANIES IN KENYA.

COYA RANKING (2013)

1. Nestle Kenya	2. Crown Paints
3. Jubilee Insurance	4. Tourism Fund
5. Gulf African Bank	6. NOCK (National Oil Corporation Kenya)
7. Post bank	8. Laptrust
9. Britam	10. CFC Life
11. UNAITAS	12. Betashelys Africa
13. Githunguri Dairy	14. UAP Insurance Company
15. Davis and Shirtliff	16. Kenya Sugar Board
17. Toyota Kenya	18. South Nyanza Sugar Co Ltd
19. UBA Kenya Bank Ltd	20. Pan Africa Insurance
21. Blowplast Ltd	22. Kenya Wildlife Services
23. Gulf African Bank	24. Post bank
25. Kenya Pipeline	26. KNH
27. Keroche Breweries	28. KCB
29. ICDC	30. KICC
31. EABL	32. Engen Kenya
33. Elgon Kenya	34. Jacaranda Hotel
35. Safari park Hotel	36. Moi Teaching and Referral
37.Geothermal Development Cooperation	38. Magnate Ventures
39. McKinney Rogers	40. Compulynx
41. Kenya Tourism Board	42. Kenya Meat Commission
43. Nation Media Group	44. Barclays Bank of Kenya
45. Mabati Rolling Mills	46. Kenya Forest Service
47. Nairobi Bottlers	48. Jetlink Express
49. New KCC	50. Kenya Power
51. Consolidated Bank	52. Kenyatta University
53. NSSF	

OUTPUT

Staff competence

Regression Weights: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
q1a <--- Staff Competence	1.000				
q1b <--- Staff Competence	.909	.061	14.918	***	
q1c <--- Staff Competence	1.015	.064	15.933	***	
q1d <--- Staff Competence	.949	.064	14.893	***	
q1e <--- Staff Competence	.987	.067	14.704	***	
q1f <--- Staff Competence	.942	.069	13.668	***	
q1g <--- Staff Competence	.736	.089	8.242	***	

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	14	100.211	14	.000	7.158
Saturated model	28	.000	0		
Independence model	7	1264.736	21	.000	60.226

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.044	.932	.864	.466
Saturated model	.000	1.000		

Model	RMR	GFI	AGFI	PGFI
Independence model	.409	.406	.207	.304

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.921	.881	.931	.896	.931
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.667	.614	.620
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	86.211	58.113	121.799
Saturated model	.000	.000	.000
Independence model	1243.736	1130.878	1363.972

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	.243	.209	.141	.296
Saturated model	.000	.000	.000	.000
Independence model	3.070	3.019	2.745	3.311

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.122	.100	.145	.000
Independence model	.379	.362	.397	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	128.211	128.766	184.540	198.540
Saturated model	56.000	57.109	168.657	196.657
Independence model	1278.736	1279.014	1306.901	1313.901

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	.311	.243	.398	.313
Saturated model	.136	.136	.136	.139
Independence model	3.104	2.830	3.396	3.104

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	98	120
Independence model	11	13

Minimization: O.16

Miscellaneous: .119

Bootstrap: .000

Total: .135

OUTPUT PHYSICAL RESOURCES

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
q3a	<---	Physical Resources	1.000				
q3b	<---	Physical Resources	.998	.066	15.135	***	
q3c	<---	Physical Resources	.995	.060	16.439	***	
q3d	<---	Physical Resources	.934	.058	16.214	***	
q3e	<---	Physical Resources	.881	.059	14.956	***	
q3f	<---	Physical Resources	.719	.057	12.598	***	
q3g	<---	Physical Resources	.882	.069	12.837	***	

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.078	.864	.729	.432
Saturated model	.000	1.000		
Independence model	.589	.354	.139	.266

The GFI (0.864) is more than 0.8 therefore the model is adequate.

RMR, GFI. Service delivery

Model	RMR	GFI	AGFI	PGFI
Default model	.066	.894	.809	.497
Saturated model	.000	1.000		
Independence model	.523	.356	.172	.277

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.667	.581	.586
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

Output on institutional reliability

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.092	.785	.569	.392
Saturated model	.000	1.000		
Independence model	.626	.317	.089	.238

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.667	.543	.546
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

Regression Weights: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
q7_a <--- Quality of Graduates	1.000				
q7_b <--- Quality of Graduates	.959	.031	30.546	***	
q7_c <--- Quality of Graduates	.964	.035	27.315	***	

Output: staff competence

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.044	.932	.864	.466
Saturated model	.000	1.000		
Independence model	.409	.406	.207	.304

RMR, GFI; curriculum

Model	RMR	GFI	AGFI	PGFI
Default model	.057	.893	.787	.447
Saturated model	.000	1.000		
Independence model	.512	.345	.127	.259

RMR, GFI. Institutional reliability

Model	RMR	GFI	AGFI	PGFI
Default model	.078	.864	.729	.432
Saturated model	.000	1.000		
Independence model	.589	.354	.139	.266

SURVEY RESULTS:

Type of University

Private, (44.4%)

Public, (55.6%)
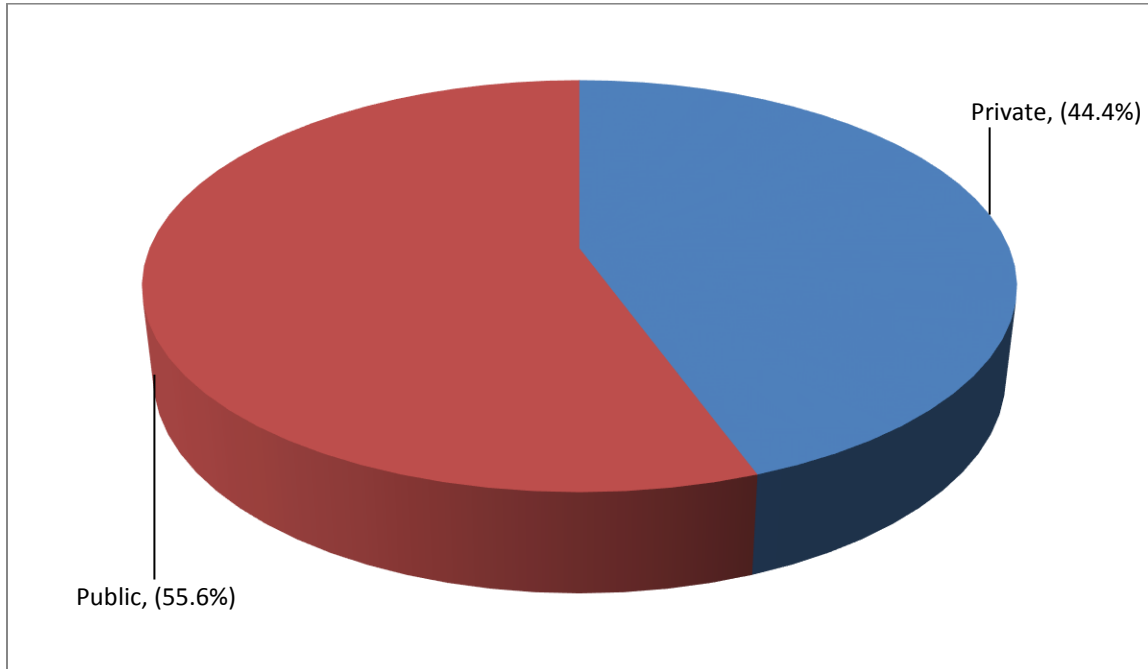
Table 1: Programs Offered

Programs	Type of University	
	Private	**Public**
Certificate	100.0	100.0
Under Graduate	100.0	100.0
Masters	100.0	100.0
Doctorate	100.0	100.0
Diploma	100.0	100.0

Main focus of courses
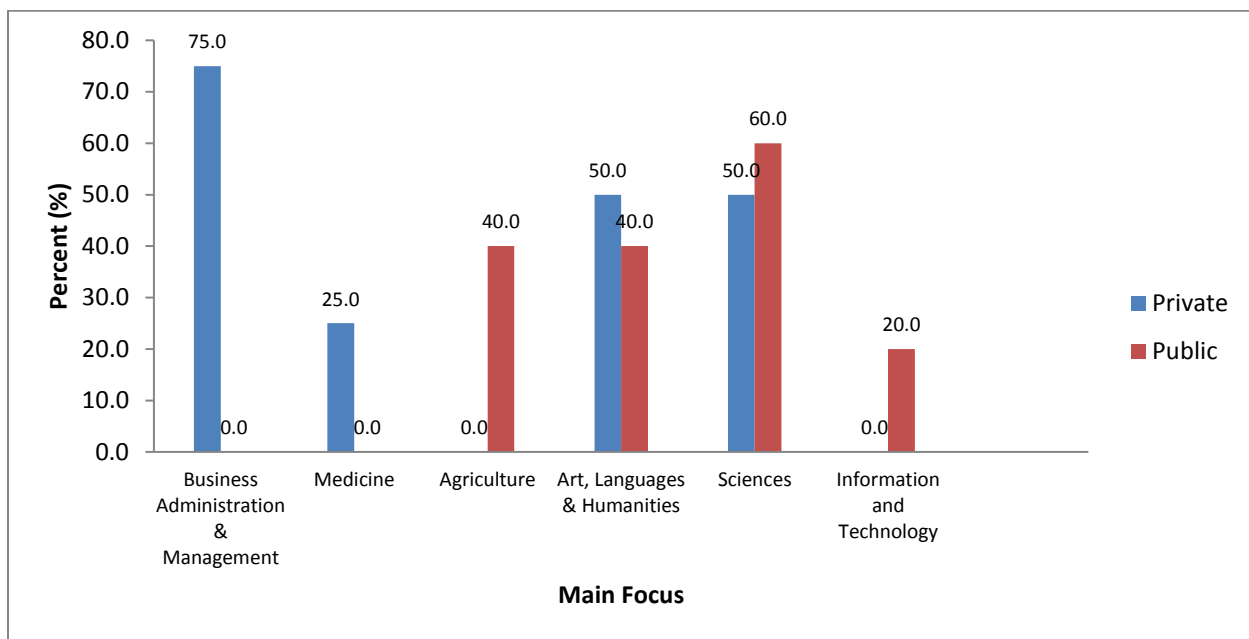
Library Service

Library Services	Rating	Type of University		P Value
		Private	Public	
		Percent	Percent	
Text Books	Excellent	25.0	40.0	
	Very Good	50.0	0.0	0.308
	Good	25.0	40.0	
	Inefficient	0.0	20.0	
	Poor	0.0	0.0	
Journals/Periodicals	Excellent	25.0	20.0	
	Very Good	25.0	0.0	
	Good	50.0	60.0	0.549
	Inefficient	0.0	20.0	
	Poor	0.0	0.0	
Internet Access	Excellent	0.0	20.0	
	Very Good	25.0	40.0	
	Good	75.0	40.0	0.487
	Inefficient	0.0	0.0	
	Poor	0.0	0.0	
Study Space	Excellent	0.0	0.0	
	Very Good	50.0	20.0	
	Good	50.0	40.0	0.325
	Inefficient	0.0	40.0	
	Poor	0.0	0.0	
Library Staff Services	Excellent	25.0	20.0	
	Very Good	50.0	0.0	
	Good	25.0	80.0	0.155
	Inefficient	0.0	0.0	
	Poor	0.0	0.0	
E-Learning	Excellent	25.0	0.0	
	Very Good	25.0	0.0	
	Good	50.0	40.0	0.175
	Inefficient	0.0	60.0	
	Poor	0.0	0.0	

Library Services	Rating	Type of University		
		Private	Public	P Value
Skype	Excellent	0.0	0.0	
	Very Good	0.0	0.0	
	Good	50.0	40.0	0.764
	Inefficient	0.0	0.0	
	Poor	50.0	60.0	
Go-Learning	Excellent	0.0	0.0	
	Very Good	0.0	0.0	
	Good	50.0	40.0	0.764
	Inefficient	0.0	0.0	
	Poor	50.0	60.0	
Teleconferencing	Excellent	0.0	0.0	
	Very Good	0.0	0.0	
	Good	0.0	40.0	0.126
	Inefficient	50.0	0.0	
	Poor	50.0	60.0	

Competence of Academic Staff

Rating		Type of University		P- value
		Private	Public	
		Percent	Percent	
Experience	Excellent	.0	20.0	
	Very Good	75.0	40.0	
	Good	.0	40.0	0.247
	Inefficient	25.0	.0	
	Poor	.0	.0	
Qualification	Excellent	.0	20.0	
	Very Good	50.0	40.0	
	Good	25.0	40.0	
	Inefficient	25.0	.0	0.522
	Poor	.0	.0	
Practical Knowledge	Excellent	.0	.0	
	Very Good	25.0	60.0	
	Good	50.0	40.0	0.247
	Inefficient	25.0	.0	
	Poor	.0	.0	
Relating Practical to Knowledge	Excellent	.0	.0	
	Very Good	25.0	40.0	
	Good	50.0	60.0	
	Inefficient	25.0	.0	0.384
	Poor	.0	.0	
Informed Lecturer	Excellent	25.0	.0	
	Very Good	50.0	40.0	
	Good	25.0	40.0	0.487
	Inefficient	.0	20.0	
	Poor	.0	.0	
Communication	Excellent	.0	.0	
	Very Good	25.0	20.0	
	Good	75.0	40.0	0.522
	Inefficient	.0	40.0	
	Poor	.0	.0	
Enough PhDs	Excellent	.0	.0	
	Very Good	.0	.0	
	Good	50.0	20.0	0.347
	Inefficient	25.0	60.0	
	Poor	25.0	20.0	

Service Delivery

		Type of University		
		Private	Public	P-value
		Percent	Percent	
SD1	Excellent	.0	.0	
	Very Good	25.0	.0	0.232
	Good	75.0	60.0	
	Inefficient	.0	40.0	
	Poor	.0	.0	
SD2	Excellent	25.0	.0	
	Very Good	.0	.0	
	Good	75.0	60.0	0.232
	Inefficient	.0	40.0	
	Poor	.0	.0	
SD3	Excellent	25.0	.0	
	Very Good	.0	.0	
	Good	75.0	80.0	
	Inefficient	.0	20.0	0.358
	Poor	.0	.0	
SD4	Excellent	.0	.0	
	Very Good	50.0	20.0	
	Good	50.0	60.0	
	Inefficient	.0	.0	0.481
	Poor	.0	20.0	
SD5	Excellent	25.0	.0	
	Very Good	.0	.0	
	Good	75.0	80.0	
	Inefficient	.0	20.0	0.358
	Poor	.0	.0	
SD6	Excellent	.0	.0	
	Very Good	25.0	60.0	
	Good	75.0	20.0	
	Inefficient	.0	20.0	0.232
	Poor	.0	.0	

Curriculum

		Type of University		P -value
		Private	Public	
		Percent	Percent	
CU1	Excellent	.0	40.0	
	Very Good	25.0	40.0	0.308
	Good	25.0	.0	
	Inefficient	50.0	20.0	
	Poor	.0	.0	
CU2	Excellent	.0	20.0	
	Very Good	25.0	40.0	
	Good	50.0	20.0	0.682
	Inefficient	25.0	20.0	
	Poor	.0	.0	
CU3	Excellent	.0	20.0	
	Very Good	50.0	.0	
	Good	25.0	60.0	
	Inefficient	25.0	20.0	0.268
	Poor	.0	.0	
CU4	Excellent	.0	20.0	
	Very Good	25.0	20.0	
	Good	75.0	40.0	0.549
	Inefficient	.0	20.0	
	Poor	.0	.0	
CU5	Excellent	.0	.0	
	Very Good	50.0	60.0	
	Good	25.0	40.0	0.487
	Inefficient	25.0	.0	
	Poor	.0	.0	
CU6	Excellent	25.0	20.0	
	Very Good	.0	.0	
	Good	75.0	40.0	
	Inefficient	.0	20.0	0.549
	Poor	.0	20.0	

Physical Resources

		Type of University		
		Private	Public	P value
		Percent	Percent	
PR1	Excellent	25.0	20.0	
	Very Good	25.0	20.0	0.591
	Good	25.0	60.0	
	Inefficient	25.0	.0	
	Poor	.0	.0	
PR2	Excellent	50.0	20.0	
	Very Good	.0	.0	
	Good	25.0	40.0	
	Inefficient	25.0	40.0	0.638
	Poor	.0	.0	
PR3	Excellent	50.0	.0	
	Very Good	.0	20.0	
	Good	25.0	60.0	
	Inefficient	25.0	20.0	0.268
	Poor	.0	.0	
PR4	Excellent	50.0	.0	
	Very Good	.0	40.0	
	Good	50.0	60.0	
	Inefficient	.0	.0	
	Poor	.0	.0	0.126
PR5	Excellent	50.0	.0	
	Very Good	.0	20.0	
	Good	25.0	60.0	
	Inefficient	25.0	20.0	0.268
	Poor	.0	.0	

Institutional Reliability

		Type of University		P value
		Private	Public	
		Percent	Percent	
IR1	Excellent	25.0	60.0	
	Very Good	50.0	.0	
	Good	25.0	40.0	0.196
	Inefficient	.0	.0	
	Poor	.0	.0	
IR2	Excellent	25.0	20.0	
	Very Good	25.0	.0	
	Good	50.0	60.0	0.549
	Inefficient	.0	20.0	
	Poor	.0	.0	
IR3	Excellent	.0	.0	
	Very Good	50.0	.0	
	Good	25.0	80.0	
	Inefficient	25.0	20.0	0.155
	Poor	.0	.0	
IR4	Excellent	.0	.0	
	Very Good	25.0	.0	
	Good	25.0	60.0	0.384
	Inefficient	50.0	40.0	
	Poor	.0	.0	
IR5	Excellent	.0	.0	
	Very Good	25.0	.0	
	Good	75.0	60.0	
	Inefficient	.0	40.0	0.232
	Poor	.0	.0	

Learning Environment

		Type of University		
		Private	Public	P value
		Percent	Percent	
LE1	Excellent	50.0	20.0	
	Very Good	.0	20.0	0.487
	Good	50.0	60.0	
	Inefficient	.0	.0	
	Poor	.0	.0	
LE2	Excellent	25.0	20.0	
	Very Good	25.0	.0	
	Good	.0	40.0	
	Inefficient	50.0	40.0	0.403
	Poor	.0	.0	
LE3	Excellent	25.0	.0	
	Very Good	25.0	40.0	
	Good	25.0	20.0	
	Inefficient	25.0	40.0	0.665
	Poor	.0	.0	
LE4	Excellent	25.0	.0	
	Very Good	25.0	20.0	
	Good	25.0	80.0	
	Inefficient	25.0	.0	0.292
	Poor	.0	.0	

Quality

		Type of University		
		Private	Public	P value
		Percent	Percent	
QD1	Excellent	.0	20.0	
	Very Good	25.0	20.0	0.549
	Good	75.0	40.0	
	Inefficient	.0	20.0	
	Poor	.0	.0	
QD2	Excellent	.0	40.0	
	Very Good	50.0	.0	
	Good	25.0	20.0	0.413
	Inefficient	25.0	40.0	
	Poor	.0	.0	
QD3	Excellent	25.0	20.0	
	Very Good	25.0	.0	
	Good	50.0	80.0	
	Inefficient	.0	.0	0.223
	Poor	.0	.0	

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No. Academic Staff in school of Business

	Type of University	
	Private	Public
	Mean	Mean
PhD_male	5.25	12.40
PhD_Female	5.00	7.60
Master_Male	9.50	21.80
Master_Female	7.25	13.60
Bachalor_male	2.50	5.25
Bachalor_female	5.00	4.00

No. Academic Staff by Rank

	Type of University	
	Private	Public
	Mean	Mean
Prof_Male	3.00	4.75
Prof_female	1.00	5.00
Ass_Prof_Male	2.67	2.75
Ass_Prof_Female	.	2.00
S_Lecturer_Male	8.00	7.00
S_Lectuer_Female	5.50	4.00
Lecturers_Male	6.00	20.20
Lecturer_Female	5.00	12.60
Visiting_Prof_Male	2.00	1.00
Visiting_Prof_Female	1.50	5.00
TA_male	3.67	4.75
TA_female	1.50	5.00

Q19: How students are recruited.
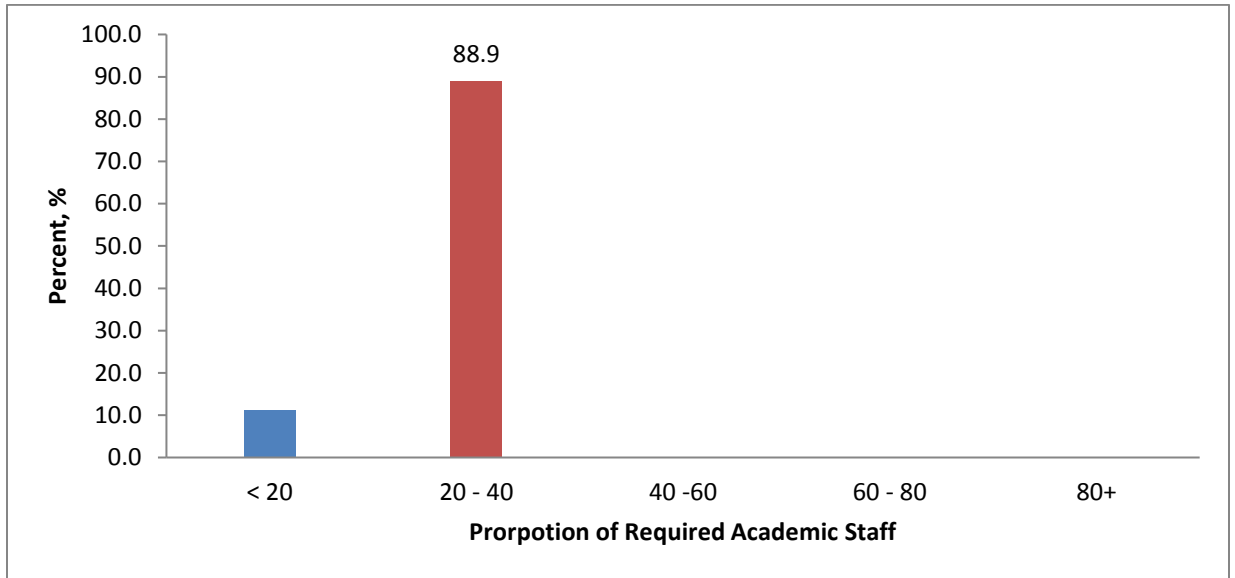
Ranking

Service Area	Private Mean Score	Public Mean Score	Overall Score	Ranking
Physical Resources	2.25	2.80	2.53	1
Learning Environment	2.44	2.80	2.62	2
Service Delivery	2.58	3.17	2.87	3
Graduate Quality	2.58	2.60	2.59	4
Institutional Reliability	2.60	2.92	2.76	5
Facilities	2.63	3.20	2.91	6
Competence of Academic Staff	2.82	2.77	2.80	7
Curriculum	2.83	2.57	2.70	8
Library Services	2.92	3.27	3.09	9

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Service Offered	Score Ranking	University Type
Physical Resources	2.25	Private
Learning Environment	2.44	Private
Service Delivery	2.58	Private
Graduate Quality	2.58	Private
Institutional Reliability	2.60	Private
Facilities	2.63	Private
Competence of Academic Staff	2.77	Public
Curriculum	2.57	Public
Library Services	2.92	Private

	University								
	UON	**JKUAT**	**Day Star**	**Egerton**	**KCA**	**KU**	**Mt. Kenya**	**Moi**	**Strathmor**
Facilities	3.50	4.50	2.33	3.00	3.00	2.17	3.00	2.83	2.17
Library Services	3.22	3.78	3.11	3.22	3.00	2.33	3.11	3.78	2.44
Competence of Academic Staff	2.71	3.00	2.43	2.57	2.71	2.57	3.71	3.00	2.43
Service Delivery	2.83	3.17	2.33	3.50	2.83	3.33	2.83	3.00	2.33
Curriculum	2.83	3.17	3.33	2.17	2.33	1.50	3.50	3.17	2.17
Physical Resources	3.40	3.20	1.00	2.40	3.40	2.00	3.40	3.00	1.20
Institutional Reliability	2.20	3.00	1.60	2.80	3.20	3.00	3.20	3.60	2.40
Learning Environment	3.50	2.25	1.00	3.50	3.25	1.75	3.75	3.00	1.75
Graduate Quality	1.33	3.00	2.00	3.67	3.00	1.67	3.33	3.33	2.00
Mean Scores	**2.84**	**3.23**	**2.13**	**2.98**	**2.97**	**2.26**	**3.32**	**3.19**	**2.10**
Ranking	*4*	*8*	*2*	*6*	*5*	*3*	*9*	*7*	*1*

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APPENDIX 11

UNIVERSITY RANKING

GLOBAL UNIVERSITY RANKING

2013 Rank	2012 Rank	2011 Rank	Institution	Country
1	1	1	Harvard University	US
2	2	2	Massachusetts Institute of Technology	US
3	3	3	University of Cambridge	UK
4	6	6	University of Oxford	UK
5	5	4	University of California, Berkeley	US
6	4	5	Stanford University	US
7	7	7	Princeton University	US
8	9	12	University of California, Los Angeles	US
9	8	8	University of Tokyo	Japan
10	10	9	Yale University	US
11	11	10	California Institute of Technology	US
12	12	13	University of Michigan	US
13	15	23	Columbia University	US
14	14	15	University of Chicago	US

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2013 Rank	2012 Rank	2011 Rank	Institution	Country
14	13	11	Imperial College London	UK
16	16	17	University of Toronto	Canada
17	16	16	Cornell University	US
18	19	22	University of Pennsylvania	US
19	18	14	Johns Hopkins University	US
20	21	19	University College London	UK
20	22	24	Swiss Federal Institute of Technology Zürich	Switzerland
22	23	27	National University of Singapore	Singapore
23	20	18	Kyoto University	Japan
24	23	21	University of Illinois at Urbana Champaign	US
25	29	37	London School of Economics and Political Science	UK
26	37	28	Carnegie Mellon University	US
27	32	31	University of Texas at Austin	US
27	28	26	University of Washington	US
29	34	51-60	New York University	US
30	27	25	University of Wisconsin-Madison	US
31	25	31	University of British Columbia	Canada
31	33	36	Duke University	US

2013 Rank	2012 Rank	2011 Rank	Institution	Country
31	25	29	McGill University	Canada
34	36	30	University of California, San Diego	US
35	30	35	Tsinghua University	China
36	39	42	The University of Hong Kong	Hong Kong
37	35	40	Northwestern University	US
38	41	39	Georgia Institute of Technology	US
39	43	45	University of Melbourne	Australia
40	31	34	University of California, San Francisco	US
41	51-60	51-60	Seoul National University	Korea, Republic Of
42	44	51-60	Australian National University	Australia
42	39	19	University of Massachusetts	US
44	42	48	Ludwig-Maximilians-Universität München	Germany
45	38	43	Peking University	China
46	49	45	University of Edinburgh	UK
47	51-60	61-70	University of Manchester	UK
48	44	38	University of California, Davis	US
49	50	51-60	The University of Sydney	Australia
50			Lomonosov Moscow State University	Russian Federation

2013 Rank	2012 Rank	2011 Rank	Institution	Country
50	47	47	Purdue University	US
51-60	51-60	49	Delft University of Technology	Netherlands
51-60	61-70	71-80	École Polytechnique Fédérale de Lausanne	Switzerland
51-60	91-100		Middle East Technical University	Turkey
51-60	47	43	University of Minnesota	US
51-60	46	41	University of North Carolina at Chapel Hill	US
51-60	51-60	51-60	The Ohio State University	US
51-60	51-60	50	Osaka University	Japan
51-60	51-60	61-70	Pennsylvania State University	US
51-60	51-60	51-60	University of California, Santa Barbara	US
51-60	61-70	81-90	National Taiwan University	Taiwan
61-70	61-70	91-100	The Hong Kong University of Science and Technology	Hong Kong
61-70	51-60	51-60	Karolinska Institute	Sweden
61-70	61-70	61-70	King's College London	UK
61-70	81-90	91-100	Korea Advanced Institute of Science and Technology	Korea, Republic Of
61-70	81-90	81-90	Leiden University	Netherlands
61-70	61-70		University of São Paulo	Brazil
61-70	61-70	71-80	University of Southern California	US

2013 Rank	2012 Rank	2011 Rank	Institution	Country
61-70	61-70	61-70	Technische Universität München	Germany
61-70	51-60	51-60	Tohoku University	Japan
61-70	51-60	51-60	Tokyo Institute of Technology	Japan
71-80	61-70		Hebrew University of Jerusalem	Israel
71-80	61-70	71-80	Humboldt-Universität zu Berlin	Germany
71-80	81-90	81-90	Katholieke Universiteit Leuven	Belgium
71-80	71-80	71-80	Michigan State University	US
71-80	81-90	91-100	Nanyang Technological University	Singapore
71-80	71-80		Université Paris-Sorbonne	France
71-80	61-70	51-60	University of Pittsburgh	US
71-80	71-80	81-90	The University of Queensland Australia	Australia
71-80	71-80	81-90	Universität Heidelberg	Germany
81-90	71-80	81-90	University of Amsterdam	Netherlands
81-90	91-100	61-70	Boston University	US
81-90	81-90		Brown University	US
81-90	81-90		The Chinese University of Hong Kong	Hong Kong
81-90	91-100	61-70	École Polytechnique	France
81-90	81-90	61-70	University of Florida	US
81-90			The University of New South Wales	Australia

2013 Rank	2012 Rank	2011 Rank	Institution	Country
81-90	91-100		Université Pierre et Marie Curie	France
81-90	91-100	71-80	Rutgers, The State University of New Jersey	US
81-90	71-80	71-80	Utrecht University	Netherlands
81-90	71-80	71-80	Washington University in St Louis	US
91-100	91-100	81-90	University of Bristol	UK
91-100			Freie Universität Berlin	Germany
91-100	81-90	71-80	Lund University	Sweden
91-100			University of Maryland, College Park	US
91-100			Monash University	Australia
91-100	91-100		Université Paris-Sud	France
91-100	71-80	81-90	Texas A&M University	US
91-100	71-80	61-70	Uppsala University	Sweden
91-100	91-100		Wageningen University and Research Center	Netherlands

Africa university ranking

1	University of South Africa	South Africa
2	University of Cape Town	South Africa
3	Universiteit Stellenbosch	South Africa
4	University of Dar es Salaam	Tanzania
5	University of KwaZulu-Natal	South Africa
6	University of Pretoria	South Africa
7	Cairo University	Egypt
8	University of the Witwatersrand	South Africa
9	University of the Western Cape	South Africa
10	Obafemi Awolowo University	Nigeria
11	Makerere University	Uganda
12	University of Botswana	Botswana

13	Mansoura University	Egypt
14	Rhodes University	South Africa
15	Alexandria University	Egypt
16	The American University in Cairo	Egypt
17	Zagazig University	Egypt
18	University of Johannesburg	South Africa
19	Assiut University	Egypt
20	University of Nairobi	Kenya
21	Université Cheikh Anta Diop	Senegal
22	University of Zambia	Zambia
23	North-West University	South Africa
24	University of Lagos	Nigeria

25	Tanta University	Egypt
26	University of Ghana	Ghana
27	Université de Ouagadougou	Burkina Faso
28	Université Mohammed V - Agdal	Morocco
29	Nelson Mandela Metropolitan University	South Africa
30	Cape Peninsula University of Technology	South Africa
31	Université d'Antananarivo	Madagascar
32	Ain Shams University	Egypt
33	University of Ibadan	Nigeria
34	Kenyatta University	Kenya
35	University of Namibia	Namibia
36	Universiteit van die Vrystaat	South Africa

37	University of Nigeria	Nigeria
38	The German University in Cairo	Egypt
39	University of Limpopo	South Africa
40	Université de la Reunion	Reunion
41	University of Khartoum	Sudan
42	Benha University	Egypt
43	Universidade Eduardo Mondlane	Mozambique
44	Helwan University	Egypt
45	École Nationale d'Architecture	Morocco
46	University of Fort Hare	South Africa
47	Université Nationale du Rwanda	Rwanda
48	Al Akhawayn University	Morocco

49	Université Catholique de l'Afrique de l'Ouest	Benin
50	Tshwane University of Technology	South Africa
51	Jomo Kenyatta University of Agriculture and Technology	Kenya
52	Minia University	Egypt
53	Addis Ababa University	Ethiopia
54	Fayoum University	Egypt
55	Moi University	Kenya
56	University of Ilorin	Nigeria
57	October 6 University	Egypt
58	South Valley University	Egypt
59	Sokoine University of Agriculture	Tanzania
60	Université Mouloud Maameri de Tizi Ouzou	Algeria

61	Université Mohammed V - Souissi	Morocco
62	Al-Azhar University	Egypt
63	Kwame Nkrumah University of Science and Technology	Ghana
64	Misurata University	Libya
65	Minoufiya University	Egypt
66	Université d'Oran	Algeria
67	Université Hassan II Mohammedia - Casablanca	Morocco
68	Polytechnic of Namibia	Namibia
69	Université d'Alger	Algeria
70	University of Zimbabwe	Zimbabwe
71	University of Cape Coast	Ghana
72	The British University in Egypt	Egypt

73	Université de Tunis El Manar	Tunisia
74	University of Zululand	South Africa
75	University of Agriculture, Abeokuta	Nigeria
76	University of Malawi	Malawi
77	Université Cadi Ayyad	Morocco
78	Université Mentouri de Constantine	Algeria
79	Suez Canal University	Egypt
80	Université de Yaoundé I	Cameroon
81	Egerton University	Kenya
82	University of Swaziland	Swaziland
83	Kafr el-Sheikh University	Egypt
84	Université Ibn Tofail	Morocco

85	Université de la Manouba	Tunisia
86	Université Hassan II - Casablanca	Morocco
87	Covenant University	Nigeria
88	University of Benin	Nigeria
89	École Nationale Supérieure en Informatique	Algeria
90	Université des Sciences et de la Technologie Houari Boumediène	Algeria
91	Durban University of Technology	South Africa
92	Strathmore University	Kenya
93	Ahmadu Bello University	Nigeria
94	Université Ibnou Zohr	Morocco
95	Universidade de Cabo Verde	Cape Verde

| | 96 | Sudan University of Science and Technology | | | | | Sudan |

| | 97 | University of Mauritius | | | | | Mauritius |

| | 98 | Muhimbili University of Health and Allied Sciences | | | | | Tanzania |

| | 99 | Gulu University | | | | | Uganda |

| | 100 | Vaal University of Technology | | | | | South Africa |

University Ranking in Kenya

ranking	World Rank	University	Det.	Presence Rank*	Impact Rank*	Openness Rank*	Excellence Rank*
1	1624	University of Nairobi		619	2883	1119	1323
2	2053	Maseno University		3498	1361	8090	3510
3	3489	Kenyatta University		381	6339	2536	2369
4	4803	Moi University		7071	8514	11062	2274
5	5143	Egerton University		6101	8274	1807	2810
6	5166	Jomo Kenyatta University of Agriculture and		3974	7821	6160	2982

ranking	World Rank	University	Det.	Presence Rank*	Impact Rank*	Openness Rank*	Excellence Rank*
		Technology					
7	6487	Strathmore University Nairobi		259	6064	6218	5080
8	7295	African Virtual University		9636	6550	9038	5080
9	10222	United States International University		11607	9610	17031	5080
10	11687	Catholic University of Eastern Africa		8730	11567	11381	5080
11	11824	East Africa School of Management		19333	11324	17431	5080
12	11880	Kenya Methodist University		2790	12062	8549	5080
13	12098	Daystar University		6445	11921	15034	5080
14	12174	International School of Kenya		8331	12124	10831	5080
15	12557	Africa Nazarene University		12738	12131	18232	5080
16	12726	Tangaza College		10947	12485	15954	5080
17	12929	KCA University		2750	12387	20101	5080

ranking	World Rank	University	Det.	Presence Rank*	Impact Rank*	Openness Rank*	Excellence Rank*
18	13067	Masinde Muliro University of Science and Technology		11290	14464	18690	4086
19	13392	University of Eastern Africa Baraton		9027	13209	16132	5080
20	13469	Mount Kenya University		9081	13427	13328	5080
21	13784	Kabarak University		15046	13649	13222	5080
22	13891	(1) Africa International University (Nairobi Evangelical Graduate School of Theology)		6474	13861	14924	5080
23	14561	Kenia Institute of Management		14699	14474	14794	5080
24	14734	Kenya Medical Training College		10567	14689	15246	5080
25	15336	Inoorero University (Kenya School of Professional Studies)		10099	15337	15246	5080
26	15668	Kiriri Women's University of Science		19805	15463	17919	5080

ranking	World Rank	University	Det.	Presence Rank*	Impact Rank*	Openness Rank*	Excellence Rank*
		& Technology					
27	15841	Multimedia University College of Kenya		8656	16129	5686	5080
28	16164	Maryknoll Institute of African Studies Nairobi		18956	16052	16713	5080
29	16267	(1) Saint Paul's University Limuru		20296	16147	15749	5080
30	16441	Great Lakes University of Kisumu		18068	16252	19506	5080
31	16714	Scott Theological College		1279	16757	17150	5080
32	16966	Chuka University		7089	17056	15349	5080
33	17212	Presbyterian University of East Africa		17568	17129	17769	5080
34	17370	Bondo University College		18901	17361	14014	5080
35	17439	Gretsa University		20401	17314	18444	5080
36	17543	Pan Africa Christian University		19576	17489	15954	5080

ranking	World Rank	University	Det.	Presence Rank*	Impact Rank*	Openness Rank*	Excellence Rank*
37	17694	Karatina University College		12274	17622	17919	5080
38	18015	Kenya Christian Industrial Training Institute		20932	17866	20101	5080
39	18050	Management University of Africa		3446	18166	15866	5080
40	18215	Kisii University		5462	18131	19506	5080
41	18480	Laikipia University College		17554	18515	13589	5080
42	18830	Pwani University College		3498	19145	7388	5080
43	18852	Cooperative University College of Kenya		19034	18843	16364	5080
44	19325	Nairobi Aviation College		15666	19252	19506	5080
45	19370	Taita Taveta University College		7274	19465	15034	5080
46	19460	Riara University		18072	19445	17431	5080
47	19462	Dedan Kimathi University of		12021	19537	13992	5080

ranking	World Rank	University	Det.	Presence Rank*	Impact Rank*	Openness Rank*	Excellence Rank*
		Technology (Kimathi University College of Technology)					
48	19485	Technical University of Kenya		4601	19674	10744	5080
49	20314	Embu University College		17813	20315	17150	5080
50	20377	Technical University of Mombasa (Mombasa Polytechnic University College)		13843	20420	10482	5080
51	20574	Riccatti Business College		19080	20557	20101	5080
52	20590	Umma University		20511	20573	18064	5080
53	20591	Machakos University College		20488	20585	17769	5080
54	21100	Kirinyaga University College		19794	20918	18232	5080
55	21110	Kibabii University College		19587	20918	18444	5080
56	21116	Rongo University		16446	20918	19049	5080

ranking	World Rank	University	Det.	Presence Rank*	Impact Rank*	Openness Rank*	Excellence Rank*
		College					
57	21130	Murang'a University College		19862	20918	18690	5080
58	21160	International Leadership University (Nairobi International School of Theology)		18362	20918	19506	5080
59	21248	Kenya Highlands Evangelical University (Kenya Highlands Bible College)		11140	20918	20101	5080