

**INSTITUTIONAL AND STUDENT RELATED FACTORS AND DOCTORAL  
STUDIES COMPLETION RATES IN EDUCATION AT SELECTED PUBLIC  
UNIVERSITIES IN KENYA**

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of the Degree of Doctor of Education in Educational Administration**

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## **DECLARATION**

This thesis is my original work and has not been presented for a  
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## **DEDICATION**

I dedicate this thesis to my loving children Bernard Kipkosgei, Robert Kiptoo

Dorothy Jebiwott as well as my dear wife Rodah Ronguno.

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## **ABBREVIATIONS AND ACRONYMS**

**CAGS** Canadian Association for Graduate Studies.

**CHE** Commission for Higher Education

**CGS** College of Graduate Studies

**CUE** Commission for University Education

**ICT** Information Communication Technology

**NRC** National Research Council

**UoN** University of Nairobi

**M U** Moi University

**K U** Kenyatta University

**T/L** Teaching and Learning Resources

**HR** Human Resource

**ID** Infrastructure Development

## ABSTRACT

The current study was conducted to investigate institutional factors, assess supervision process related factors, examine teaching/learning resources, assess different modes of study- full time or part time and to determine student related factors that influence completion rates of doctoral studies in education selected public in universities in Kenya. Descriptive survey design was used. The total number of participants were 115 (62.09%) of a total of 184 lecturers/heads of departments in the three universities studied. The number of doctoral students who participated were 388 (67.29%) of 579 doctoral students registered between the years 2009 to 2013 in the three universities. A questionnaire, document analysis guide and interview guide were used to collect data for the study. Validity of the research instruments was based on construct and content validity. The reliability of the research instruments was determined by a test- retest method on a pilot study sample. Pearson's Product Co-efficiency (r) was 0.969. Quantitative data was coded and analyzed using SPSS. Data from field notes was transcribed and organized to themes. Some data was coded and tallied based on their similarities and presented using descriptive statistics such as tables, percentages frequencies and graphs. The study found out that about 50% of the teaching staff at the selected public universities were tutorial fellows- who cannot supervise PhD hence inadequate staff. Libraries lack adequate relevant T/L resources and ICT connectivity. Family responsibility, job commitment and lack of adequate writing skills derail most candidates. Academic discipline and mode of study did not appear to be a significant influencing factor. The universities' policies are that a doctoral degree course should take a minimum of three and a maximum of five years. The average completion time between 2001 and 2008 was nine years but kept on reducing to about six and half years. Completion rates is between 50% and 70% with female candidates generally having slightly higher completion rates. Completion rates for candidates registered from 2009 onward are still far below 50%. There is no significant difference in time to degree between male and female candidates. The five factors studied (institutional administrative factors, supervision process, Teaching/learning resources, different study programmes and student related factors) contributed 65.7% of the effects of institutional and student related factors influencing doctoral studies completion rates. The study concluded that key factors influencing doctoral completion rates and time –to- degree include but not limited to policies and programme requirements, inadequate number of supervisors and individual student factors including socio economic and lack of thesis writing skills. The findings of the study will provide useful information to policy makers towards making informed decisions. Based on the foregoing research findings, the study recommended that public universities ought to employ adequate number of qualified lecturers and improve Teaching/Learning resources.

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Background to the study**

The number of applicants for doctoral programmes in many universities in Kenya has continued to rise over time. In addition to pursue of knowledge, the desire for educational advancement coupled with the ever increasing demand for better services and quality work-output, has motivated the desire for higher academic qualifications among elite (Siringi, 2011). However, the process of acquiring a doctoral degree is, in itself, a daunting task to many students. Many students take a considerably lengthy period of time to complete their theses or fail to complete them at all (Canadian Association for Graduate Studies CAGS, 2006).

Studies show that faculties not only have an ability to ensure timely quality education for their students but also play a significant role in the process of students' effective learning (Pascarella & Terenzini, 2005). Institutional administrative elements that influence doctoral completion rates and time-to-degree include student selection process, student mentoring programmes, study environment and programme process (College of Graduate Schools CGS, 2009). The supervisors' role is a key factor in the entire process of thesis writing. Doctoral advising relationship not only affect a doctoral students' professional development, but also the thesis writing process (Barnes & Austin, 2009) therefore promoting effective learning and timely completion of doctoral studies. However, if the student does not receive adequate guidance, chances of timely completing of thesis writing process might be slim.

Effective learning and timely completion of thesis development and writing process is dependent largely on accessibility to relevant reading materials. With advancement in ICT development, many students are able to access quality reading materials necessary for their studies (Sarkar, 2012). However, development of ICT in most Kenyan institutions of higher learning is still far underway. This does not only affect the timely completion of thesis writing process but it may also compromise the quality of education. Prolonged doctoral studies or drop-out is attributed to supervision process, resources related challenges as well as student related factors. Key student related factors. Include socio-economic (inadequate financial support personal responsibilities and commitments) and inadequate study skills. Although many doctoral students enroll for doctoral study programmes with a determination for timely completion, many of them end up delaying or drop-out (CGS 2009). In institutions across Europe and America, the doctoral programme though with variations among disciplines and institutions, is expected to take an average duration of three to four years. However, less than half of those who enroll for doctoral studies actually complete (Council of Graduate Schools CGS, 2008). The total time to completion is normally two to three years more with those in pure and applied sciences completing relatively earlier than those in social science disciplines. For example, in Trinity Western University (UK), a cohort of Doctor of Philosophy PhD students monitored from their enrolment, after five years of studies, 57 percent and 19 percent of full time and part time respectively had completed. After seven years, the completion rate was 71 percent and 34 percent full time and part time students respectively.

The College of Graduate Studies CGS (2010) in a study that involved 21 universities, provide doctoral completion rates for several institutions. For example at

Massachusetts Amherst University, the completion rates are 52.1 percent and 45.5 percent for Doctor of Education and Education Psychology respectively. At Illinois University, the completion rates improved progressively from 38 percent in the academic year 2000/2001 to 57 percent in 2009/2010. The improvement was attributed to increased number of female candidates completing the programme after intervention policies were put in place to support their candidature. Scott and Smallwood (2004) in Smith (2009) indicate that at Texas University, only one out of every three doctoral candidates earn the degree while attrition rate range from 40-50 percent.

The main causes cited for delay or failure to complete includes inadequate supervision, unmanageable thesis topics and unsustainable funding of students (CAGS, 2006). Some of the efforts made to improve completion rates by most universities across Europe and America include an introduction of various policies and frameworks to encourage students to submit their theses in a timely fashion. Also a continuation charge payable by research students if their research work extends beyond the time limit stipulated by the university (Protivnak & Foss, 2009). For example, Harvard University introduced a programme in which doctoral students received yearly written reviews that details what is expected of them and where they stand each year. The interventions improved completion rates in some institutions. At Harvard University, the completion rates from the year 2005 to 2007 improved by 25 percent and 16 percent in humanities and social science respectively (CGS, 2008).

On the African continent, doctoral completion rates are equally low. Terence (2011) report that the average doctoral completion rates in Egypt are 60 percent in life science, 55 percent and 49 percent in social science and humanities respectively.

At Makerere University, a follow up of a total of 295 students who registered for doctoral programmes between the years 2000 and 2005, by November 2010, only 89 (39.7 %) had successfully earned the degree (Wamala, Oonyo and Acaya, 2011). Bunting and Sheppard (2012) report that doctoral completion rates in most South African universities remained below 20 percent until the year 2004 when it began to improve. The improvement was because of implementation of interventions aimed at improving completion rates to about 75 percent. However, the target was not achieved. For example, between the years 2005 to 2010, the completion rates staggered between 45-50 percent.

Green and Powel (2005) pointed out four factors underlying timely or untimely completion or even the decision to discontinue in a doctoral study programmed. These were : Individual (including gender, age, ethnicity and social background), Structural (including level of funding and disciplinary area), Academic (Including previous experience and the type of research being undertaken) and Environmental (supervision, mentoring, progress review and academic culture). Council of Graduate Studies (2008) note that factors related to institutional administrative structures influence completion of doctoral studies in many universities. The report emphasizes the need for institutional practices such as dissertation workshops on thesis writing, organizing academic support groups and rewarding outstanding mentors. Building doctoral student capacity and training faculty members on new effective strategies (Di Pierro, 2007). Other recommendations include improvement of administrative mechanisms, mentoring and advising and financial support to students (CGS, 2010).



Despite a lot of literature about graduate studies in western countries, studies show that several Kenyans (57 %) prefer foreign Universities with the perception that it is possible to complete a doctoral degree programme in countries outside the country within a relatively shorter period of time than in a local university (Siringi, 2011). However, a lot of information about the cost, completion rates and time-to-degree in most foreign universities is available in the public domains. The average cost for fees and upkeep range between three million and five million Kenya shillings. Completion rates are below 50 % and time-to-degree in institutions take two to three years more than stipulated by the universities. One can access such information through internet or the universities' websites. Interestingly many Kenyans would rather opt for foreign universities if given the opportunity than pursue the same course in a local university at a much lower cost.

The Commission for University Education (CUE) recommends the need for adequate number of qualified teaching staff (CUE Audit Report, 2013). In collaboration with CUE to enhance provision of quality higher education, the Commission for Higher Education (CHE) has worked out recommended ratios of students to a lecturer in pursuance of quality teaching/learning for different academic disciplines at universities in Kenya. The recommended ratios are as follows: Medical and Applied Science (1:7), Pure and Natural Science (1:10), Applied Science (1:10), Arts and Humanities (1:15) and social science (1:18). The recommendations propose a small number of students to a lecturer in Medical, Pure and Applied Sciences. This could be due to the fact that such courses require close supervision and consultation between the supervisor and the supervisee. Although the recommended ratio of students to a lecturer in Arts, Humanities, and Social Science is below 20 supervisees per supervisor, the ratios in the local public universities may be higher than

recommended. In relation to resources, Eshwani (2009) points out that inadequate relevant Teaching/Learning resources like textbooks, journals and laboratory research equipment prolong thesis-writing process. In most public universities, such resources are not adequate. The few available may be very relevant to the academic needs of the learners. Internet devices, web connectivity and networked learning facilitate support research studies (Okwakol, 2008). Given the high cost of installing, managing and maintaining internet and web-connectivity, most public institutions of higher learning still in the process of installing or are yet to install such facilities. Concerning different study programmes, studies indicate that attrition in education programmes range from 50-70 % (Ivankova & Stick, 2007; Nettles & Millet, 2006). The number of public universities in Kenya has risen from seven accredited universities a decade ago to 22 and nine constituent colleges by June 2013 (CUE website). Faculties offering educational courses are among those with high enrolment; a good fraction of them being part-time students (Gudo, Olel & Oando, 2011).

Although enrolments in education doctoral programmes are high in most universities, the number of those earning the doctorate degree is low. For example, during the 48th graduation of the University of Nairobi, only two students in education earned their doctoral degrees while in Arts and Economics, they were nine and 13 respectively (UoN website). The 26th graduation ceremony of Moi university in 2010, comprised among others, a total of 13 graduants in business related fields (finance, tourism, marketing and agri-business) management, earning their doctorate degrees while in education (education administration, education communication technology and English in education), a total of 11 students earned their doctorate degrees (Graduation booklet). Given that the two institutions are among the largest in terms of student enrolment and facilities, the trend could be similar in other universities.

This seems to be in agreement with the findings of Ivankova & Stick (2007) and Nettles & millet (2006) who noted that the drop- out rate in education doctoral programmes is estimated to be 50-70 percent while it is relatively lower in other academic disciplines. Gudo, Olel and Oando (2011) points out that several students in doctoral education programmes are education practitioners. By virtue of the nature of their work ( a total of three months off-duty each year), they are expected to have enough time for their part-time study programmes as compared to their counterparts in other sectors.

## **1.2 Statement of the Problem**

Completion of doctoral studies in a timely fashion is important not only for the university, but students, supervisors and for funding bodies as well. However, low completion rates and a long time –to- degree or a failure to complete it is a growing concern not only to students but also to sponsors as well as faculties involved. Given the fact that naturally, most students enroll for doctoral programmes with initial commitment and determination to earn the degree in a timely fashion and that they are usually enrolled with a proven academic background, then what is it that make some to withdraw later or fail to complete it in a timely fashion? Given that the public in general are aware of the high cost of pursuing higher education in foreign countries as compared to the cost of the same study programmes if pursued in a local university, then what is it that make 57% of Kenyans prefer to pursue their studies in abroad if given the opportunity? Low completion rates, long time-to-degree and preference for foreign universities compared to the local institutions, raises questions about the situation in the local universities. Thus the current study on institutional and student related factors and doctoral studies completion rates in education at selected public universities in Kenya is timely.

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

The purpose of the study was to examine institutional and student related factors and doctoral studies completion rates in education in selected public universities in Kenya.

### **1.4 Research Objectives**

The study was guided by the following objectives;

- i. To establish administrative factors influencing doctoral studies completion rates in education in selected public universities in Kenya.
- ii. To determine supervision process related factors that influence completion of doctoral studies in education in selected public universities in Kenya.
- iii. To examine how teaching/learning resources affect completion of doctoral studies in education in selected public universities.
- iv. To establish how different study programme; full-time or part-time, affect completion of doctoral studies in education in selected public universities in Kenya.
- v. To determine student related factors that influence completion rates of doctoral studies in education in selected public universities in Kenya.

## 1.5 Research Questions

The study was guided by the following research questions.

- i. What are the institutional administrative factors that influence doctoral studies completion rates in education at public universities in Kenya?
- ii. How does supervision of thesis entire process influence completion of doctoral studies in education at public universities in Kenya?
- iii. What are the teaching/learning resources that influence completion of doctoral studies in education at public universities in Kenya?
- iv. How do the different modes of study such as full-time or part-time influence completion of doctoral studies in education at public universities in Kenya?
- v. What are student related factors that influence doctoral studies completion rates in education at public universities in Kenya?

## 1.6 Research Hypotheses

The following hypotheses were tested;

H<sub>O1</sub>: Administrative factors have no significant influence on doctoral studies completion rates in education at public universities in Kenya.

H<sub>O2</sub>: Supervision process related factors have no significant influence on doctoral studies completion rates in education at public universities in Kenya.

H<sub>O3</sub>: Teaching/learning resources have no significant effect on completion of doctoral Studies in education at public universities

H<sub>04</sub>: Different modes of study; full-time or part-time, have no significant effect on completion rate of doctoral studies in education at public universities in Kenya.

H<sub>05</sub>: Student related factors have no significant effect on completion rates of doctoral studies in education at public universities in Kenya.

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

The research findings may be useful to Ministry of Education in policy making and advising on corrective actions. The universities may use the findings to improve development of infrastructure such as libraries, Information and Communication Technology (ICT) facilities and human resource. The findings may enhance development of student support programmes from the government and other well-wishers. Lecturers may use the findings to create awareness and improve completion rates at public universities in Kenya. The findings may be useful to graduate students pursuing or intending to pursue doctoral studies to address study related factors that influence thesis completion. The findings may provide valuable data for funding agencies to make informed decisions regarding their sponsorship of graduate students. The data may provide may be useful to future researchers in the same area.

### **1.8 Limitations of the Study**

All the documents on graduation records were accessible in all the institutions studied. In order to confirm their accuracy, multiple approaches were used to access the same information. Similar approach was used to obtain statistics on students' enrolment. However in some departments, the data needed was obtained from hard copy records (files). Therefore although the information given was confirmed by HoDs of the respective units as true and accurate information, some records might

have been missing. None of the departments had information on completion rates or student/lecturer ratios. To obtain this information, the researcher had to compute ratios based on enrolment and completion statistics. The study covered doctoral studies in Education in selected public universities only. Study period was considered to be the period of time from registration for PhD to graduation time. Most universities offer full registration for PhD only after the student has successfully defended his research proposal.

### **1.9 Delimitation of the Study**

The targeted respondents were Heads of Departments offering doctoral programmes in education, lecturers in schools of education and doctoral candidates in doctoral education programmes. The study examined institutional and student related factors influencing doctoral studies completion rates in education at public universities in Kenya. The researcher studied The University of Nairobi, Kenyatta and Moi universities as these are the oldest universities and are assumed to be well established in terms of the number of lecturers as well as the physical resources necessary for graduate studies.

### **1.10 Assumptions**

The study assumed that respondents were aware of institutional- related factors influencing doctoral completion and that they honestly and freely, provided valuable information needed for the study.

### **1.11 Definition of Key Terms**

The following are key terms used in the study:

**Completion rate** refers to the number of students from a given cohort attaining their doctoral degree.

**Institutional administrative related factors** refers to formal and informal programmes and activities planned and undertaken by the university in order to facilitate student learning and research studies.

**Lecturer** is a person with an earned doctoral degree and is teaching/lecturing in a university.

**Modes of study** refers to approved programme of advanced study for the completion of a doctoral degree like school based and evening study programme.

**Nontraditional student** refers to a student who is older than 24 years, does not live in a campus or is a part-time student or a combination of the three.

**Supervisor** refers to the university lecturer appointed by the university to provide academic guidance and mentorship to research students assigned to him.

**Tutorial fellow** refers to a person employed/contracted by a university to offer tutorial instructions to student but yet to earn a doctoral degree.

**Supervision related factors** refers to services like mentorship and structured supervision programme that are provided by the supervisor

**Teaching/learning resources** refers to facilities, equipments and materials such as libraries, reference books, conference reports and journals that enable students to access information pertaining research work.

**Time-to-completion** refers to the number of years that elapse from entry into a doctoral programme to the time the doctorate degree is attained, including periods of breaks during active enrolment.



**Timely completion** refers to the ability of the student to earn the doctorate degree within the time frame stipulated by the university. Most universities give a time frame of three years and five years minimum and maximum respectively.

**Untimely (prolonged completion)** refers to a situation in which the student fails to earn the doctorate degree within the time frame stipulated by the university. Instead the study extends beyond the maximum time stipulated.

**Student integration** refers to the ability of the student to interact with lecturers, faculty members and fellow students in a manner that promotes acquisition learning.

### **1.12 Organization of the Study**

The study has five chapters. Chapter one contains the background to the study, the statement of the problem, the purpose of the study, research objectives, research questions, hypotheses, significance of the study, limitations, delimitation of the study, basic assumptions of the study, definitions of significant terms and organization of the study. Chapter two covers literature review that is organized under the following sub-headings; institutional administrative related factors, supervision related factors, programme related factors, and teaching/learning resources related factors, the theoretical framework and the conceptual framework model. Chapter three contains the research methodology that include research design, population, sample size and sampling technique, research instruments, instrument validity, instrument reliability, data collection and analysis technique. Chapter four comprise data analysis, interpretation and discussion. Chapter five contains summary, conclusions, recommendations and suggestions for further studies.

## **CHAPTER TWO**

### **REVIEW OF RELATED LITERATURE**

#### **2.1 Introduction**

This chapter covers literature review that is organized under the following sub-headings; institutional administrative related factors, supervision related factors, programme related factors, teaching/learning resources related factors and student related factors, the theoretical framework and the conceptual framework model.

#### **2.2 Doctoral Completion Rates**

High completion rates of thesis development and writing within a reasonable period of time is a sign of hard work not only by the student but also by the supervisors and the department involved (Luwel and Moel 2007). Moreover, completion rates and time-to-completion in doctoral training programmes are important indicators, monitoring the stock and flow of students in graduate programmes in a given University (Wright & Cochrane 2000), as well as an indicator of regions' potential of highly skilled workforce. Nonetheless, studies show that many students take exceptionally long periods to complete their theses or fail to complete at all. The report further notes that only delayed completion or failure to complete taint the image of the institution but the student is equally affected.

Those students who take exceptionally longer periods than expected or drop out, pay emotional and personal costs (Lovitts & Nelson, 2000). Similarly, Goble (2000) and Green and Kluever (2000) note that, failure to complete a doctoral programme, is not only painful and expensive for a student, but is also discouraging for the faculty involved, injurious to an institution's reputation and results in a loss of high-level

resource. Studies show that the failure to complete a doctoral programme within the time frame expected, is not the result of one single factor, but rather, an interaction of multiple factors generally categorized as student related factors or institutional factors (Wao, 2010., Gardner, 2009., Ivan kova & Stick, 2007). Ferrer de Valero (2001) observes that careful planning and management of graduate study programmes is crucial because of the high cost of graduate studies couple with diminishing compensatory opportunities in terms of jobs, causing steep competition for the few opportunities.

### **2.3 Administrative Related Factors and Doctoral Completion Rates**

Institutional administrative elements that influence doctoral completion rates and time to completion include student selection process, student mentoring programmes, study environment and programme process (CGS, 2009). Faculties not only have an ability to ensure quality education for their students but also play a significant role in the process of students' effective learning (Pascarella & Terenzini, 2005). In a study which involved 21 universities, CGS (2010) suggested six practices notably; improving administrative mechanism, improving advising and mentoring processes, providing financial support, creating academic supportive environment, providing research experiences that foster social interaction and providing curricular support in areas such as thesis writing skills. Darwin & Palmer (2009) note that approaches such as mentor circles, where mentors and students work in small groups, can increase connectivity and students' successful social and academic integration into their graduate programme and thus promote timely completion. The level of guidance provided to students to aid in navigating programme elements such as course work,

qualifying examination, candidacy and thesis writing process, affect timely completion of doctoral thesis writing (Earl, 2006; Grover, 2007).

Doctoral education curriculum should focus more on practically preparing students for thesis writing process (Pascarella & Terenzini, 2005). The study noted that institutions that provide appropriate psychological and student welfare support services, tend to have low rates of student attrition and relatively high completion rates. Institutional administrative expectations, clear departmental guidelines and administrative roles facilitate thesis completion while departmental politics and personal conflicts between faculties can impede the thesis development process (Strayhorn 2005). The problem of ridiculously long and costly number of years of earning the doctorate has many components, including an initial tendency to require more and more resources in terms of time and money. Studies show that time-to-degree is longest in social and humanities, where coincidentally job opportunities are scarce (Nerad, 2000).

Due to some of these challenges, African universities over the last 15 to 20 years have continued to produce small numbers of PhDs in the social sciences, arts, and humanities. Moreover, there remain small numbers of dedicated faculty and administrators who are either ready or able to supervise doctoral students in their departments. In nearly all departments in most institutions of higher learning, the academic staff are too few in number. also too often distracted by external demands and opportunities, and are, as they themselves often assert, too far and outdated in terms of current literature, theory, and debates to provide the kind of supervision and training that larger numbers and better trained PhD students would require (Earl-Novell 2006). Freezes on new hiring in many universities during the last few decades

made matters worse by creating serious generational and intellectual gaps among faculties (Mushi et. al. 2001). Massive enrolments in higher education means that current faculties (both human resource and infrastructure), are badly stretched. David L. Szanton and Sarah Manyika of University of California, in their report to the Rockefeller Foundation, also Di Pierro (2007) noted that simply scattering more young faculties across the social sciences, arts, and humanities will not have the cumulative effect essential for the development, or substantial strengthening, of existing PhD programs. A more concentrated, focused, and practical effort is needed. The departments should be structured based on current or imaginable working relations and intellectual linkages or synergies among them. The report noted that institutions should emphasize their own particular institutional and national context to create an intellectually powerful and mutually supportive community. Institutions should also attempt to strengthen and complement the choices of the other participating universities at least in the same region.

Di Pierro (2007) noted that simply adding more new PhDs courses in the social sciences and humanities in order to expand the capacities of those universities to produce their own PhDs, would not be sufficient to reach the desired goals. In line with the foregoing are the emerging developments among universities. Inter-university networking and collaborations are some of the recently developed strategies among universities. Most of them are designed to work on PhDs in the social sciences, arts, and humanities under a broad thematic framework, and more so in parallel with each other, but in connections with faculty and students at other universities. There are obvious opportunities for various lateral networking and collaborative activities that would be mutually beneficial and strengthen their

individual projects, and the participating universities. At the earliest stage, the participating universities would minimize overlap, and provide broader, complementary, and coordinated disciplinary coverage and look to creating dynamic and highly productive national, regional, and indeed international intellectual centers in the selected fields.

#### **2.4 Supervision Process Related Factors and Doctoral Completion Rates**

A good relationship between the advisor and advisee is the primary reason for a timely completion of thesis writing process while a poor relationship between advisor and the advisee can impede timely completion of thesis writing (Earl 2006). This seems to be in agreement with earlier findings by Smith (1995) and (Tinto 1993) that the relationship a student develops with his or her advisor has great impact on the student's research progress. Many students feel that effective supervisor mentorship is a key factor in a timely completion of a graduate programme (Barnes & Austin, 2009). Similarly, the nature of advisor-advisee relationship, can greatly impact the students research progress. Nerad & Miller (1996) argue that poor advisor-student relationship impedes doctoral completion rates and time to completion. If a supervisor places the onus entirely on the student, the time to completion is prolonged (Earl, 2006).

Some of the most successful doctoral students had supervisors who not only provided guidance but also the freedom and autonomy they needed to grow as scholars (Ray, 2007). Proper supervision, arrangements, timely feedback to students, advisor-advisee meeting frequency, good relationship and early start, are key pointers of a possible high rate and timely completion of thesis writing (Wamala & Oonyo, 2011). Further

that when supervisors and supervisees have good rapport and work together to facilitate the advisee's progress, the student would have greater academic success.

Zhao (2007) report that the kind of relationship that a student develops with his or her supervisor can greatly affect the student's academic progress, especially as the student moves closer to and through the thesis stage. However, it is important that there be a match between advisor and advisee regarding topic of interest, expectations about progress and time-lines. At the same time, supervisors can help their supervisees grow by working from students' individual strengths, demonstrating unconditional positive regard, by teaching resiliency and conflict-resolution skills and by focusing on building students positive self-image.

Protivnak and Foss (2009) observed that doctoral students feel that mentoring and structured supervision systems such as weekly deadlines and weekly monitoring, can facilitate timely completion of thesis writing. Other factors that influence thesis completion are problems related to thesis committee, administrative beaurarcrcacy, nature of the research and student social-socio economic related issues (Moron & Worthley 1995).Concerning resources and study environment, Wright & Cochrane (2000) note that the nature of an academic discipline and resources rich-environment influences to a large extend, the time to degree in doctoral programmes.

Ivankova and stick (2007) in their study of factors contributing to students persistence at the University of Nebraska-Lincoln, observed that the factors influencing thesis completion rates can be broadly grouped into external and internal factors. The external factors include the nature of programme, student support services and the faculty while the internal factors include student self- motivation and quality of academic experience.

The influence of these factors to thesis completion can be positive or negative depending on how the student encounters and interacts with them. A study conducted by Gudo, Olele and Oanda (2011) to determine the impact of University in Kenya on quality of education, found out that generally, Kenyan universities are understaffed.

It does not only affect the quality of education but it also impedes thesis completion rates. The report noted that because of the poor faculty salaries, benefits, and teaching conditions many senior professors have shifted over to externally and relatively well and more flexibly funded, project-oriented, research institutions. This means minimizing their teaching activities. Others get caught up in well paying project developments or evaluation consultancies for national and international donors, agencies, and NGOs operating locally or elsewhere. Others have simply joined the international brain drain to Europe, UK, US, or in recent years, to the Middle East- in some cases taking their best students with them. As a result, crucial and widely desired courses in theory, methods, proposal writing, agenda setting, philosophy, the ethics and politics of research are not getting taught to the depth required.

Equally problematic, doctoral students – and thus potential junior faculty lose the essential apprenticeships, mentoring, supervision, and role models that they need and want. consequently, students' work take weeks to months before they are looked at and responded to by an overworked faculty member. Ngolovoi (2006) note that overwhelming workload and lack of competence among some lecturers, could be affecting the quality of education in Kenyan universities thus partly contributing to low and delayed completions in graduate studies. Odero (2010) in Gudo, Olel and Oando (2011) noted that in order to survive the heavy workload, faculties should consider adopting survival mechanisms. In a four-fold survival mechanism notably:



assigning tutorial fellows full time teaching responsibilities such that they teach both junior and senior classes, assigning tutorial fellows students' advisory responsibilities including assessment of students in the field, assigning junior faculty members to supervise, and appointing supervisors from other disciplines. While these recommendations may to be a quick mitigation to the challenge of inadequate number of supervisors, the question is are tutorial fellows able deliver quality teaching and supervisory responsibilities to senior classes? The quality of education might be compromised. Szanton and Manyika (2009) reported to the Rockefeller Foundation further noted that systems for approving dissertation research and funding proposals are rarely encouraging.

Given the still ubiquitous research in doctoral programs, enormous energy and attention is generally directed to the dissertation proposal. One consequence is that the process of identifying, developing, and obtaining official approval for a dissertation topic often takes two years or more. This will prolong the entire process of thesis development and writing. In most African countries, draft proposals must go through a hierarchy of evaluations from supervisors, departments, faculties, and multi-disciplinary graduate committees whose members are often unfamiliar with or suspicious of the methods used in other disciplines. As a result while university catalogues generally claim that the PhD takes 2 years beyond the Masters degree or M. Phil, six to eight years seems far more common( Farrar & Young, 2007).

## **2.5 Teaching/Learning Resources and Doctoral completion Factors Rates**

Library books, reference books, conference reports and journals are all important in research studies. The role of library on research work is a critical component and libraries have been historically the gateways to information, providing researchers

with access to knowledge facts to support their studies (Ruiz; 2002). Academically successful students have adequate access to teaching/learning resources that are essential for their studies. The resources include materials on improved research practices, catalogues of research materials, better informed researchers as well as dedicated spaces that provide a better work environment for researchers. The dedicated space is important more so for some researchers who rely on printed manuscript content held in libraries (Ivankova & Stick 2007).

However studies show that most public Universities in Kenya are not adequately equipped in terms of physical facilities like print journals, teaching and research equipment, internet connectivity and maintenance of such equipment. Most of them are forced to work under adverse conditions ( Eshiwani, 2009). The report notes that many institutions do not commit adequate funds to library resources nor address the deeper structural issues that ultimately shape student persistence and timely completion rates. Most of them align their resources more so to projects that do not directly help the students' academic work. Lack of adequate library resources in public universities is a common problem continentally.

Okwakol (2008) note that most African universities do not have adequate physical facilities such as lecture rooms, Offices, library and laboratory space to provide a suitable learning and teaching environment. Cheboi (2006) observed that lack of adequate facilities compromised the quality of university education. The Public Universities Inspection Board ( Republic of Kenya 2006) noted that the quality and quantity of teaching and learning resources affect significantly quality of teaching and research. The Board observed that accelerated growth in student enrolment in the public universities was not matched by expansion of physical and learning resources.

Similar observation was made by Ndethiu (2007) who noted that lack of adequate reading materials posed a challenge to the promotion of student reading culture. Scarcity of such resources implies the environment for higher education has changed from one of plenty to one of diminishing resources- negatively influencing student effective studies. Nelson and Lovitts (2008) note that libraries are critically important in helping researchers to exploit the full benefits and opportunities of the networked world including such developments as open access and social media. This promotes and exploits new technologies and new models of scholarly communication especially with the introduction of econtent which has improved the ways in which researchers interact with digital content therefore accessing virtual as well as physical library.

Sarkar (2012) point out that the application of ICT is particularly powerful and uncontroversial in higher education's research work because it enables researchers to access not only information but also varieties of academic resources across the world. It was noted that combination of communications and digital libraries is equalizing access to academic resources, greatly enriching research possibilities more so in universities outside big cities. The use of ICT in data processing and the unprecedented growth in bandwidth and computing powers provide opportunities for processing huge amounts of data and performing complex computations quickly and accurately. However asserts that taking advantage of ICT to create new dynamics in research requires national policies for ICTs in higher education and establishment of joint information systems linking all higher education institutions.

Manyasi (2010) argued that advances in Information Technology could be used to enhance quality and timely university education in Kenya. However most institutions lack the necessary preparedness necessary for maximum utilization of such

technology. Such status act as an impediment to provision of quality teaching and learning. Although university libraries are generally mandated to be equipped by among other materials,- copies of locally completed masters, and doctoral theses, there are no proper mechanisms put in place for accessing such publications (Yankah 2000).

During the last four decades, African countries seeking support from World Bank and IMF to fund their social services including expenditure on higher education faced rude shock in many instances. The funding reduced sometime drastically thus pushing universities to financial turmoil. As a University faculty salaries remained flat or declined, research funding dried up, university libraries stopped purchasing books and journal. For the same reasons, student scholarships and both local and overseas faculty development funds were largely eliminated. New faculty hiring was curtailed, in some cases halted for many years. All theses also occurred at a time when universities were experiencing high student enrolments and faculty expansions (World Bank, 2000).

Most African university face financial challenges thus making libraries lack the capacity to develop the resources required. In the long process, neither the doctoral students nor their local faculty supervisors are likely to have access to current theoretical and comparative literature that might bear on or provide new insights in. A few departmental or university libraries have been able to maintain or begin to rebuild their collections in particular topic areas with the support of donations from abroad, such as the Gender Studies Library at Makerere University, Margaret Thatcher Library at Moi University among others. However, even these collections seem far

from current. In several libraries most books are few and ancient, and in some, where books are available, they are in fact simply shells.

International journals and intellectual discourse often are lacking (Cartwright consulting limited in partnership with Oppenheim, 2009). It has been suggested that African university libraries might not necessarily “over emphasize” the need for hard copy volumes but rather build broad and accessible collections of electronic books, international journals, and databases through the Internet (McNair & Johnson, 2009). The study noted that the new ICT systems could make a great difference in providing access to a vast array of databases, bibliographies, networks and information sources from around the world. Such level of technology as witnessed at The University of Nairobi and Kenyatta University, has enabled students and other researchers access library resources even at their remote villages in the upcountry. However in institutions, more so the newly established universities, connectivity is still limited, unreliable, expensive, and an unfamiliar tool. Very few students have their own computers, and departmental and campus-based computer centers are small, difficult of access, and tightly scheduled. As a result, most student are circumstantially forced to resort to business based cyber cafes - which again are usually congested leave alone being unreliable in terms of network connectivity.

Another variable determining doctoral completion rates is the inadequacy of public and other sources of funding to support doctoral students. Considerably greater financial support is required if doctoral completion rates are to be significantly improved. Not only does the overall funding for doctoral scholarships have to be increased but also individual awards have to be made for deserving students. Current awards are limited and often inadequate to attract and fully maintain doctoral students

(Ivankova & Stick 2007). The findings note that in order to record significant improvements in terms of academicians acquiring doctoral degrees, adequate investments should be made in programmes offering such studies and enrolment be competitive and linked to institutional capacity building.

## **2.6 Academic Disciplines and Study Programmes Related Factors**

Research findings indicate that drop-out and untimely completion in doctoral studies is not only costly to institutions but can also be devastating and demoralizing to students leading to financial, personal and professional consequences (Wao, 2010; Snyder and Dringus, 2009) in Spaulding and Amanda (2012). They noted that the delay among students in distance learning programmes is higher by 10 to 20 percent compared to those in residential programmes. Most of the students enrolling for doctoral programmes in education are typically education practitioners such as principals, administrators and teachers. Thus with academic responsibilities serving to intensify demands in their energy, commitment and time, they often experience prolonged thesis writing process (Jiranek, 2010).

A study undertaken by CGS (2008) to examine PhD completion rates of about 19,000 students from 24 North American institutions, found out that there is a tendency for higher completion rates among students pursuing courses related to science, engineering and mathematics fields. That unlike graduate students in social sciences, those in natural and life science academic disciplines attract external grant funding, more cohesive and competitive of research environment and a more frequent contact between students and supervisors. Generally, the students in the arts and education programmes experience not only delayed thesis completion but also higher

attrition rates; 45-51 percent, while the science observe rates of 30-40 percent (Nelson & Lovitts, 2008; Wright & Cochrane 2000).

Woodrow (2005) observed that time to degree is longest in fields that academic job prospects are poorest. Further noted that History and English noting that less than 20 percent of their doctoral candidates end up as faculty members at the research university or selective small colleges. Suggested that faculties ought to design programmes in such a way that students engage with the community for example as resource persons, discussion leaders or in partnerships. Students can work in small groups to imagine how their research might connect with the larger public. These kind of teams or partnerships outside the academy will serve as eye opener on how they can transfer the academic skills and scholarly expertise to new setting-thus minimize drop-out due to low optimism about job acquisition.

In order to improve completion rates and time-to-degree among graduate studies, some universities have developed innovative programmes. According to Kirton (2003) some Innovative African PhD programs already in place include research Clusters chosen competitively on the basis of proposals from small but institutionally and disciplinarily mixed groups of faculty – including one from overseas to provide international comparisons and perspectives. Once the Research Cluster topic or theme has been selected, the managing board advertises widely for postgraduate students working on relevant issues and who would be interested in joining the Cluster. The faculty then chooses a dozen promising students, again by prior agreement from an array of institutions and a variety of disciplines, and invites them to a series of workshops. When their home universities have approved their proposals and they

have established a budget and a starting date, the students receive funding to assure that they can actually conduct their research.

The report noted the students work on their own independent projects, but on closely related subjects, these workshops are proving extremely useful and energizing. A final “reporting workshop,” to include interested outsiders (other scholars, policy makers, practitioners, activists, etc.), intended to disseminate the findings and encourage individual and collective publication of the Cluster’s research products. Given that the students interact, they are learning the value, limits, and relationships of their own interests and projects with those of the others. Their individual and collective products should be a distinct contribution to scholarship and knowledge. They are encouraging and accelerating the completion of each other’s degrees. Because they are fast becoming a cohort or community of collegially oriented young scholars, there are growing hopes that many will stay in academic or research careers.

The emphasis on bringing the students together in various workshops is both a means of assuring great efficiency in instruction. Equally important, it is a means of creating on- going mutually supportive networks and communities of interest among these younger scholars that again, hopefully, will encourage them to remain in academic or research related careers in their home universities or countries. However, in such group based approaches, goals are only achievable based on an individual efforts of the student. Interdisciplinary is another universally praised adventurous learning. This has gained popularity because the world outside academics needs something that crosses the academic boundaries. But how the university administers the interdisciplinary in relation to the academic disciplines remains one of the most



fragile problems economically and academically (Golde & Dore, 2001). In their study, Golde and Dore reported that out of every ten doctoral students they interviewed, six desired collaborations while only 27 percent believed that their departments were preparing them adequately for job market requirements.

## **2.7 Student Related Factors and Doctoral Studies Completion Rates**

The study identified three key socio-economic factors related to the student and which may directly or indirectly influence the student's ability for a timely completion of the doctoral study programme. Environmental and personal health related factors sometimes comes into play. The most common socio –economic factors are financial, personal state of mind and responsibilities.

Adequate financial support promotes a timely completion while lack of it is a major cause of attrition (Lovitts 2001). Studies shows that about 40 percent to 60 percent of students who enroll for doctoral programmes either take exceptionally longer periods of time to complete or not complete at all (Nolan, 1999, Geiger, 1997, Tinto 1993, Bowen and Rudenstine, 1992). High drop-out rates and ever increasing time to completion are reported as chronic problems in doctoral programmes (Lovitts and Nelson, 2000). Adequate financial support is the “nervous system” in any academic research undertaking. Lovitts (2001) note that problems related to finance are major cause of a delayed completion of a doctoral programme or dropout. Students with scholarships are most likely to complete their thesis writing within a reasonable period of time compared to their counterparts without it (Ehrenberg & Mavros, 1995). It is also argued that self- financing doctoral students are less likely to complete their graduate studies in good time compared to those who receive funding irrespective of the type, (Lovitts & Nelson, 2000).

None the less, financial support does not guarantee programme completion. It takes more than a financial support to complete a graduate programme successfully. Some faculties and administrators view students' failure to complete their theses in a reasonable period of time or drop-out, as a function of idiosyncrasies of individual students, such as lack of academic ability, motivation or commitment, difficulty in selecting a research topic or a change in the direction of the research topic. Lack of academic ability, motivation and commitment are some of the factors associated with untimely completion or dropout (Earl 2006).

Delayed completion or dropout is also linked to two other factors, stress (Lovitts, 2001) and social isolation (Ali & Kohun, 2006). Personal social factors are key traits to academic success among doctoral students (Cavazos, Johnson, Fielding, Castro & Vela, 2010 ). With regard to stress, doctoral students face enormous demands upon their time, energy, endurance, patience and organizational skills. Peer guide and social support are viewed by graduate student as providing a free environment for exchanging ideas and receiving guidance towards meeting program requirements and progress towards a timely degree completion. (Papalewis and Brown 1995) Lee, (2009) note that students' unique traits like self-discipline and positive self-concept, have positive impact on the student's overall success. Furthermore, students' desire to achieve a doctorate degree, motivates them to manage the stress and cope with it (Protivnak and Fass, 2009).

Students with adequate peer group moral support, family support and other forms of social support, tend to experience less stress and are more likely to persist and complete their theses in time (Torres & Solberg, 2001). However studies show that parent support/ involvement have less influence on doctoral studies ( Cavazos,

Johnson, Fielding, et al., 2010; Ceballo, 2004). Although the study revealed little evidence of positive influence of a parent support on doctoral success, there was a strong evidence of spousal support. Social and academic environment within the faculty and supervision process, appear to play the role of parental support and thus promote student resiliency and timely completion. Further support for the positive influence of institutional environment is contained in Hoskins and Goldberg (2005). The report noted two components influencing doctoral success; academic and social-personality.

Academic match referred to a positive relationship between the students' goals and aspirations with doctoral programme and course work, whereas social-personal match involved relationship with faculty and peers. Learning style, intelligence and level of intrinsic motivation are positively associated with a timely completion (Lovitts, 2005). Contrary to this, some traits like dependency and procrastination are associated with delayed completion (Terrell, 2002). Concerning adult students, Remer (2002) in a study of student attribution at Texas University observed that there are main factors behind adult (over 24 years) students experience with institutions, financial support and unexpected crisis. More over the principal dilemma confronting adult students is the ability to manage time especially in regard to the struggle to juggle the competition demands of work, school and family. This struggle to juggle causes students to feel stressed and in some cases, re-evaluate the cost and benefit of continuing their educational pursuit and may decide to continue or drop out.

Strayhorn (2005) observed that despite decades of good effort and good deal of research studies on students' persistence, the rate of graduate completion in the United states have not changed applicably. That the rate of completion has remained

slightly above 50percent with six out every 10 enrolled not completing a four -year programme after six years. The main reasons noted are those related to financial support as most of those who failed to complete in time come from low-income backgrounds (NCES, 2003). A study conducted by Amini et al, (2008), revealed four themes that medical students believed led to their doctoral success. These were personal abilities, attitudes, beliefs and motivation, efforts and perseverance and supportive factors. Although universities may effort to ascertain entry behavior of a student before registering the student, these other factors like attitude and beliefs may be difficult to neither ascertain nor control. It therefore takes the effort of an individual student to make personal efforts to overcome such kind of challenges.

The students emphasized efforts and endurance more than intelligence in medical doctoral schools. Mentor support from supervisors and peer group were also rated high. Student demographic variables such as age, gender and marital status, to some degree, influence thesis completion rates (Wao and Onwuegbuzie, 2011). Men and younger candidates are likely to finish in a relatively less time compared to women, older and married students (Gardner and Powers, 2009., Price, 2006). Female doctoral students more often face family responsibilities and lack of adequate time which to some extend become obstacles to completing their theses in good time (Eitel and Martin, 2009; Heenan, 2002).Hence, it is presumed that in average, male students have slightly higher thesis completion rates compared to their female counterparts in the same programme – all other conditions held constant.

The main responsibilities are those related to the family and job. In regard to socialization and conventions, African cultures are typically not flexible enough to allow women with children, whose schedules and responsibilities are often

demanding, much humble time for the busy and quite demanding doctoral studies programmes, (Gardner, 2008). This seems to explain the reason why in many doctoral programmes, the number of male students is slightly higher than that of female students. Further, balancing doctoral studies with family and work related responsibilities is a challenge to many doctoral candidates across institutions and academic programmes (Wasburn, 2008). However Castro, Garcia, Cavazos & Castro (2009) note that women attribute their doctoral academic success to their individual attributes, such as independence, internal locus of control, resolve and perseverance. Secondly, the capitalization of external negative factors as sources of motivation to improve themselves seems to be common among these class of women. They use education to escape the past and overcome socio-economic insecurity.

Smith (2006) note that the time needed to devote to doctoral studies and the time away from family, more often results in worry, anxiety and at extreme cases, family breakdowns. Students who encounter mental or family problems during their doctoral studies, often experience additional duress. As women typically bear more responsibility for home and child care, problems in this domain are likely to affect them to a greater magnitude than their male counterparts. Levitts (2001) noted that 70% percent of the drop -outs cited personal reasons for their exit. Therefore socio-economic and psycho social issues related to the students seem to influence the completion rate, and time to-completion. Concerning age or disability, Goode (2007) note that most students enroll for doctoral study programmes when they are already around 30 to 40 years of age. Most of them have family responsibilities as well as job commitments. Thus while many study programmes may require full time registration, the actual reality of many students is of being part time due to the need

for paid jobs. For such students, it can be difficult to access the research cultures of their departments. Farrar (2007) observes that disabled students can encounter difficulties with all aspects of the infrastructure: administration, communication, research management, fieldwork and social experience. The kind of support needed is usually in the form of material resources, guidance and information. Some institutions may not have in place the kind of support needed by different people with different disabilities.

## **2.8 Summary of the Related Literature Reviewed**

As noted from the review of the related literature, some of the institutional administrative related factors influencing doctoral studies completion rates and time-to-degree include but not limited to infrastructure development, curriculum development and periodic review, departmental strengthening, inter-University networking and collaboration, and collective oversight and coordination. Supervision process related factors include inadequate number of supervisors, supervisor /student contact time and frequency and supervisor/supervisee rapport. Key factors related to teaching/learning resources comprise inadequate reading materials that can support research and lack of proper ICT network connectivity. Frequently mentioned under student related factors included personal attributes, academic abilities, financial support, peer collaboration, motivation and career progression –as factors associated with timely completion while lack of such factors leads to delayed completion (Lovitts 2005). Some of the external factors noted include job opportunities and market requirements; progression verses stagnation, incentive and legal/ethical requirements for research. From the literature review, studies have shown that students pursuing doctoral programmes in education experience high drop - out rates

(50-70) percent (Ivankova & Stick, 2007; Nettles & millet, 2006) and the delay rates of those in part-time programmes is 10-20 percent higher compared to their counterparts in full time (CAGS, 2006). Between 1983 and 2008, time-to-degree for doctoral students in education programmes increased from 11.7 years to 12.7 years, while decreasing from 8.2 years to 7.7 years in all other fields (National Science Foundation NSF, 2009; Wao & Onwuegbuzie, 2011). This is in contrast to the expectation of many people because, unlike in the past, students can now use ICT to access teaching/learning resources that support research studies as well as interact with their supervisors. Hence, it is possible to complete doctoral thesis writing process in a relatively shorter period of time compared to previous years. Despite a lot of information in the public domain about doctoral studies in Western Countries and other parts of the world more so in terms of the cost, average completion rates and time-to-degree, many Kenyans perceive western world institutions of higher learning as better compared to their home institutions.

The high number (57%) of Kenyans preferring foreign universities if given the opportunity compared to the local institutions (Siringi, 2011). Students enrolling for doctoral studies in education at the public universities equally take a considerable period of time to earn the degree. Most of them take three to four years beyond the stipulated time frame. This raises questions about the situation in the local universities. Many studies have been done in many parts of the world about thesis completion in many doctoral programmes. However, there is hardly any on institutional and student related factors influencing doctoral studies completion rates and time to degree at public universities in Kenya. Therefore the current study on institutional and student related factors and doctoral studies completion rates in education at selected public universities in Kenya was timely. The study established that some

of the key factors influencing doctoral studies completion rates in education at public universities in Kenya included inadequate financial support to the student, family responsibility and job commitment, inadequate thesis writing skills, inadequate relevant T/L resources and cum internet connectivity and challenges related to thesis supervision process. Most universities are not fully staffed with lecturers. The few who are available are equally over whelmed by heavy workloads due to high enrolment of students without commensurable increase in the number of lecturers as well as T/L resources necessary to effectively support doctoral studies.

## **2.9 Theoretical Framework**

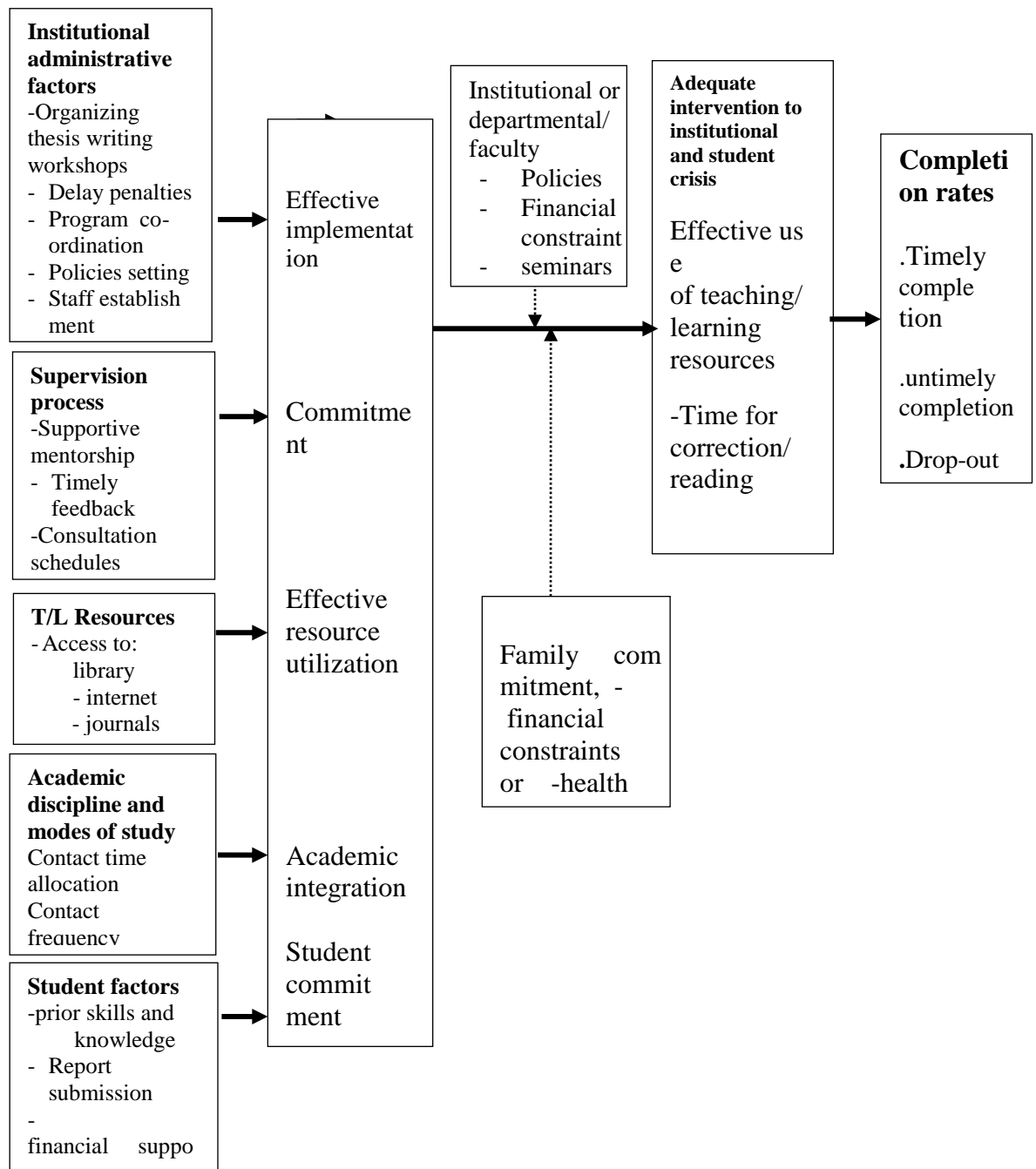
Abstract Systems Theory also referred to as Formal Systems Theory by Donald Bertalanffy guided the study. According to Bertalanffy (1956), formal organizations are organization that is established as a means of achieving defined objectives. Its design specifies how goals are subdivided and reflected in sub divisions of the organization. Divisions, departments, sections, positions, roles and tasks make up the structure of the organization (Handy 2006). It is a system theory in which the observed entities and their environment are interpreted through a system view point (Bertalanffy 1968). The fundamental unit of analysis is a system made up of many interlinked components or structures with the aim of realizing a common goal (Parsons 1971). Each component represents a recognizable entity with assigned roles, activities and tasks performing in compliance with rules and constraints. The theory proposes that public and private organizations are complex entities that can be understood as systems. Every system identifies several supra- systems and several sub-systems whose contribution in terms of relationships, interaction and exchange of information and services, is fundamental to realization of the organization's goals.



The theory was most appropriate for the current study because universities are organizations with many management levels such as faculties and departments that are rationally constituted, assigned specific roles, objectives and activities performed in compliance with the university rules and norms and within frameworks. The theory has been used extensively in studies related to organizations in both academia and business related organizations. Although the theory does not specify specific norms and rules, it however recognizes the entities as fundamental units in realization of organizations' goals.

## 2.10 Conceptual Framework

The conceptual framework for the current study has been designed based on the theory of Bertalanffy (1956). The conceptual framework is presented in Figure 2.1



**Figure 2.1:Relation of Factors influencing thesis completion Rates**

The model represents a situation in which there are five factors (administrative related factors, supervision process, Teaching/Learning resources, mode of study and student related) which influence doctoral studies completion rates and time to degree. The conceptual framework is a representation of a system by design. It has five separate but interrelated organs whose role basically contribute to a timely or untimely completion of doctoral studies depending on effective and efficient functionality of each organ. The system's functions are guided by certain predetermined policies, rules and norms operating within an empirically designed framework. The key role of the system is to process a raw input and yield a well-refined output. The inputs in this case are students and resources (human, materials and monetary resources. The expected output are highly qualified personnel as well as quality research "output". Proper coordination and implementation of administrative policies, commitment of supervisors in the supervision of research process, effective use of T/L resources, proper integration of students into their academic faculties and student self commitment, leads to a timely completion of doctoral studies presumably there are no serious challenges encountered by either of the parties involved in the research process. In essence, the possibility of a timely or untimely thesis completion depends on the level of commitment and academic integration of the student and the institutional commitment. However in a situation where serious challenges that cause threat to the research process are encountered, then completion rates and time to complete will depend on whether an intervention surfaces or not. Problems may be from the faculty/department or from the student.

Possible challenges from the faculty side could include but not limited to departmental politics, resources related issues such as lack of adequate number of supervisors, financial constraints, unfavorable policies, government policies, political

stalemate. Possible source of intervention can be the university management, the government or any other interested and capable third party. A timely intervention will lead to timely completion and vice-versa. Some of the possible challenges students may encounter include life crisis issues either social, health, financial or responsibility related. The possibility for a timely completion will depend on whether a timely intervention from friends and family members prevail or not. A timely intervention will overcome the challenges thus leading to a timely completion. Lack of it will lead to prolonged completion or dropout. A timely intervention from either side to address any challenge (s) that may have emerged or threatening the progress of thesis writing process will hopefully restore the situation-thus enabling students to concentrate on studies using the available resources.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter presents description of the strategies and procedures followed in the study. The sub sections are research design, target population, sample size and sampling techniques, research instruments, validity and reliability of instrument, ethical considerations, data collection procedure and data analysis techniques.

#### **3.2 Research Design**

Descriptive survey design was used. Descriptive survey design is most appropriate for studying social variables that influence the behavior of individuals or social processes because it seeks to answer questions through analysis of variable relationships, such as what factors seem to be associated with certain occurrence, conditions and types of behaviors (Best & Kahn, 2011). The design is appropriate for the current study because the study tried to find out the factors associated with institutional administrative, supervision related, T/L resources, different study programmes and student related factors influencing doctoral studies completion rates in education at public universities in Kenya. The findings may be generalized to a wider representation of the population.

#### **3.3 Target Population**

The study targeted all students registered for doctoral programmes in education at public universities in Kenya from the years 2009-2013, heads of departments and lecturers in the departments of education. The University of Nairobi, Moi University and Kenyatta University were studied because they offer doctoral study

programmes in education and are also the oldest in the country and are well established in terms of the number of professors (Table 2.1). The findings may be generalized to all education doctoral programmes in universities in Kenya.

### 3.4 Sample Size and Sampling Technique

In a population where the respondents are either widely scattered across a large geographical area or are difficult to access, at least 70% of the sample size picked will respond (Best and Kahn, 2011). In order to ensure that the minimum empirically acceptable number of respondents is achieved, the study targeted 80 % of the lecturers and 80 % of the doctoral students. These translates to 144 lecturers (Professors and Doctors) and four total number of lecturers and the proportion of those who participated are provided in table 3.1

**Table 3.1 :Number of Lecturers and the sample size-School of Education**

University	Lecturers			Sample size (80 %)			Total	%
	Professors	Doctors	Total	Professors	Doctors	Total		
UoN	6	30	36	1	22	23	63.88	
MOI	13	38	51	3	31	34	66.67	
KU	20	77	97	8	50	58	59.79	
<b>TOTAL</b>	<b>30</b>	<b>145</b>	<b>184</b>	<b>12</b>	<b>103</b>	<b>115</b>	<b>62.50</b>	
							<b>%</b>	

Source: School of Education staff establishment 2014

Table 3.1 presents the total number of lecturers in the three universities as at 31<sup>st</sup> December 2014, the sample size picked and the proportion of those who actually participated in the study. A total of 115 lecturers participated which represents 62.50 percent. The high rate of responds might have been due to the fact that the data collection instruments were issued to the respective respondents through their respective heads of departments. Each questionnaire sent to lecturers and students had copies of research permit and data collection permission letters from the Vice

Chancellors of the respective universities. The total population of students and the sample size target was determined and sample size are provided in table 3.2

**Table 3.2: Student Enrolment, Sample Size and Actual Respondents.**

Universities	Gender			Target (80%)	Actual response		Total	%
					M	F		
Nairobi	90	76	166	133	62	54	116	69.88
Moi	77	90	167	134	74	61	135	80.84
Kenyatta	126	120	246	197	78	59	137	55.69
<b>TOTAL</b>	<b>293</b>	<b>286</b>	<b>579</b>	<b>464</b>	<b>214</b>	<b>174</b>	<b>388</b>	<b>67.01</b>

Table 3.2 Doctoral student enrolment from 2009 to 2015

The total number of doctoral students registered in the three universities between the years 2009-2013 were 579. The study target 80 % as sample size. Table 3.2 provides the total population, sample size (target) and the number of those who responded. A total of 388 (67.29 %) students participated. In all cases, purposive and stratified sampling techniques were used. Under stratified technique, the study ensured that all the departments offering doctoral study programmes in education at the three universities were represented. Under purposive sampling technique, the current study targeted among others, doctoral candidates who experienced prolonged time-to – degree ( 10 years or more) and those who had timely completion ( five years or less of studies). The purpose was to determine factors influencing timely and untimely completion of doctoral studies. In the side of HoDs, only those who had been in that position for at least two years were engaged. The hope was they would provide a rich and reliable information. Students who enrolled in the year 2014 and 2015 were excluded from data collection because they were not yet expose adequately to research issues at the doctoral level.

### **3.5 Research Instruments**

Questionnaires, interview guide and document analysis guide were used. Questionnaires were used to collect data needed from doctoral students and lecturers. Heads of departments who participated were interviewed. A questionnaire is an appropriate instrument for collecting data during research in social fields (Best and Kahn, 2011) and provides a quick and precise data (Borg and Gall, 2003). A questionnaire was considered most appropriate for the current study because the study relates to peoples' social behavior in education doctoral studies. Both questionnaires (for lecturers and for doctoral students ) had two sections. Section A elicited demographic information about respondents so as ascertain the reliability of the findings. Section B covered institutional and student related factors influencing doctoral studies completion rates in education at public universities in Kenya.

An interview guide was used to collect information from HoDs, An interview guide was considered most appropriate for the current study because an interview guide schedule has the merit of having open- ended questions, which makes it flexible for the researcher to capture unexpected responses which may enrich the findings of the study Baumgartner (2002). The researcher interviewed a few lecturers and doctoral students. The lecturers interviewed are those who earned the degree within five years from the time they were registered for the programme. This category of respondents were identified from document analysis. The aim of interviewing them was to establish factors influencing timely completion of doctoral studies in education. Most of the students interviewed were those who had been in the programme for more than eight years and had not earned the degree. The aim was to establish reasons for their delay. Data collected from interviews provided in-depth understanding of the situation and were used in triangulation of the data analysis.



Document analysis guide was considered important for the current study because analysis is concerned with the explanation of the status of some phenomenon at a particular time or its development over a period of time (Best and Kahn, 2011). Doctoral enrollment and completion records were analyzed in order to study completion rate trends and time-to-degree. The documents analyzed were mainly policy documents, staff establishment records, student enrolment statistics, graduation booklets. The aim was to establish policies and regulations guiding practices in the institutions. Staff establishment and enrolment records were used to compute; (a) the overall lecturer/ student ratio and (b) doctoral student completion- line- trends.

The documents were obtained from HoDs, schools of postgraduate studies, the examination offices, official websites, admission offices and the universities' central ICT centres. The information derived from these offices and documents were student enrolment statistics, staff establishment, graduation statistics and policies guiding practices at each of the universities. The purpose of using the three types of instruments was to enable the triangulation of the research findings, hence making the research findings more reliable.

### **3.6 Validity of Research Instruments**

Validity of research instruments was based on construct and content validity. Construct validity is the degree to which test items and structures of a test can be accounted for by the explanatory construct of a sound theory ( Best and Kahn, 2011). Items in the research instrument were designed based on the content of the theory that guided the study. The instruments were tested in a pilot study in order to determine the degree in which the sample of the test items represent the content in which it is designed to test (Borg and Gall, 2003).The instruments were subjected to scrutiny by

the research supervisors (Jiranek 2010).The results of the first test was used to correct errors in the instruments.

### **3.7 Reliability of the Research Instruments**

Reliability of the research instruments was determined by a test-retest method on a pilot study sample. This was to ensure that the instruments are reliable. The retesting was done after four weeks. The scores of the second test was correlated with the scores of the first test administered to the same subjects. To minimize probability of measurement errors and random errors, attempt was made to ensure that variables under investigation were effectively addressed. In order to establish the extent to which the test items were consistent in eliciting the same responses, Pearson's product correlation co- efficiency (r) was computed.

$$\underline{\sum x} \quad r = \sqrt{(\sum x^2) (y^2)},$$

where  $x = X - \bar{X}$  and  $y = Y - \bar{Y}$

A correlation- coefficient (r) of 0.8 and above was taken to mean the research instruments were highly reliable. Table 3.3 provides the outcome of the comparison between the first and the second responses. X and Y represent the first and the second responses ( re-test) respectively. The value of correlation coefficient (r) for the questionnaire was 0.969.

Table 3.3: Testing for Reliability of the Research Instruments

Subject(N)	First Testing(X)		Second Testing (Y)		
N	X	X <sup>2</sup>	Y	Y <sup>2</sup>	XY
A	65.944	4348.611	64.388	4145.815	4246.002
B	81.026	6565.213	81.545	6634.754	6599.892
C	65.332	4268.270	56.384	3179.155	3683.679
D	86.400	7464.960	84.884	7205.293	7333.928
E	77.500	6006.250	77.634	6027.038	6016.635
Sum (ΣN) = 5	ΣX =376.202	ΣX <sup>2</sup> = 2865.304	ΣY =364.744	ΣY <sup>2</sup> =27192.055	ΣXY =27880.186

Pearson's Product

$$\text{Correlation coefficient}(r) = \frac{N(\Sigma XY) - (\Sigma X)(\Sigma Y)}{\sqrt{[N(\Sigma X^2) - (\Sigma X)^2][N(\Sigma Y^2) - (\Sigma Y)^2]}}$$

$$= \frac{5(27880.186) - (376.202)(364.7)}{\sqrt{[5(2865.304) - (376.202)^2][5(27192.055) - (364.744)^2]}}$$

$$= \frac{139400.930 - 137217.4223}{\sqrt{[143266.52 - 141527.9448][135960.275 - 133038.1855]}}$$

$$= \frac{2183.5077}{\sqrt{(1738.5752)(2922.0895)}}$$

$$= \frac{2183.5077}{\sqrt{5080272.337}}$$

$$= 2193.5077$$

$$= \frac{2253.945948}{0.968748}$$

$$= 0.969$$

Therefore, the reliability estimate of the quantitative research instrument was approximately 0.969, (3dp). This indicates that the instruments were highly reliable.

Qualitative data collection tools were subjected to a scrutiny by supervisors and qualitative research specialists

### **3.8 Data Collection Procedures**

A research permit was obtained from National Commission for Science, Technology and Innovation to facilitate data collection. The researcher visited the universities selected for the study to seek for data collection permission from the respective vice chancellors. After obtaining the data collection permission letters from the respective deputy vice chancellors in charge of academic and research, the researcher reported to deans of education and the heads of departments (HoD) of the various departments in the respective schools of education in the three universities.

The purpose was to establish a rapport and book for the day to administer the questionnaires to both the HoDs and the lecturers. Where it was not possible to meet respondents in person(s), the development of rapport and explanation of the purpose of the study was done through their respective cell phone or e-mail contacts before administering the questionnaire. The questionnaires administered in person to the HoDs. Contacts of doctoral candidates were obtained from the HoDs' offices and the rapport was established with them all before administering the questionnaire. Some students received questionnaires posted to their respective e-mails. A few of the candidates preferred hard copies of the questionnaire and sent to them. The questionnaires were collected immediately they were filled. The interviewees were drawn from HODs, lecturers and doctoral candidates. Purposive and stratified sampling technique was used to identify interviewees. The purposely targeted candidates are those who had managed to earn the degree within five years from their enrolment and those who spent more than eight years to earn it. The aim was to

establish factors that promote early completion visa-vis factors responsible for delayed completion. The stratified approach was used in an effort to ensure that all the departments were represented. Senior lecturers and HODs were included. The main purpose for the interview was to get the insight of the factors influencing completion rates and time-to –degree as well as generate suggestions from HoDs, lecturers and students about the entire thesis writing process. Interviews were conducted after questionnaires had been analyzed. This provided basis for purposive identification of interviewees.

After analyzing the data, the findings from both the questionnaires and interview (quantitative and qualitative) were integrated to form one whole as applied by Leech & Onwinegbuzie (2009). HoDs and lecturers interviewed were selected by administrators of their respective schools/faculties based on the duration of time they had served or their experience in the past. Such categories of interviewees were considered well informed and therefore would provide a more reliable information. The interviews were conducted after establishment of good rapport and assurance of confidentiality. Prior to the interviews the researcher explained the purpose for the study, importance and assured the interviewees that no personal identifications will be revealed unless with the permission of the person concern (respondent). The interviewee had the freedom to decide when, where and how they like to be interviewed. During the interview process, Interviewees were probed to clarify their information whenever the interviewer felt there was a need for clarification or the clarification would generate information that is more useful.

The final integration and interpretation of the research findings was done after analyzing data from questionnaire and interviews separately and then as combined ( Onwuegbuzie & Teddlie 2003)

The documents analyzed were mainly policy documents, staff establishment records, student enrolment statistics and graduation booklets. The aim was to establish policies and regulations guiding practices in the institutions, teaching staff establishment and the total number of students enrolled for different study programmes in the school of education at the three universities. This information was used to compute the overall lecturer/student ratio, doctoral student completion- line- trends, supervisor/supervisee ratio and doctoral completion rates. The documents were obtained from HoDs, schools of postgraduate studies, the examination offices, official websites, admission offices and the universities' central ICT centres. The information derived from these offices and documents were student enrolment statistics, staff establishment, graduation statistics and policies guiding practices at each of the universities.

### **3.9 Data Analysis Techniques**

According to Mugenda & Mugenda (2003), data analysis entails ordering and structuring the mass of data collected so as to have meaning. Quantitative data from closed ended questions was coded, entered and analyzed using and Statistical Package for Social Science (SPSS). Quantitative data from open ended questions and interview were transcribed and organized according to themes, coded and some data was tallied based on their similarities and integrated with data from closed ended questions for frequencies and percentages. Triangulation of the data collected was done in order to produce a more comprehensive set of research findings. The analyzed results was presented using descriptive statistics such as tables, line graphs

and bar graphs. Interpretation and analysis of the findings were subjected to a review by supervisors and peer researchers.

### **3.10 Ethical Considerations**

To adhere to the principle of confidentiality, the researcher obtained research permit and authorization from NACOSTI prior to seeking for reporting to County Commissioners and County Directors of Education -Nairobi and Uasin Gishu, where the three universities are situated in. Permission to collect data in three universities (University of Nairobi, Moi and Kenyatta Universities) was obtained from the Vice Chancellors of the respective universities. All respondents (HoDs, lecturers and students) were assured of that the purpose of the study was purely academic. In all and at all times, the principle of voluntary and informed consent was affirmed. Confidentiality and privacy was adhered to by use of anonymity except with consent of the respondent. In addition, all the citations respondents have been shown on the reference list.

## **CHAPTER FOUR**

### **DATA ANALYSIS, PRESENTATION AND DISCUSSION**

#### **4.1. Introduction**

This chapter presents an analysis of data collected, interpretations based on descriptive and inferential analysis of the research questions and discussion of the findings. The chapter includes an analysis of the questionnaire return rate, background information on the respondents, responses to the research questions and the testing of the hypothesis of the study.

#### **4.2 Instrument Return Rate**

Data were collected from 115(62.50%) lecturers and 388(67%) doctoral students. The total number of lecturers was 184 while students enrolled from 2009 to 2013 were 579 (Table 3.1 and Table 3.2). To obtain the research data needed, three approaches were used; a questionnaire, interview guide and documentary analysis guide. The study targeted over 50% of the population studied because the total size of population targeted was about 500 in number. According to Gay & Airasian (2003), in a population size of 500 or less, half of the population should participate. The questionnaire was administered to Heads of Departments (HODs), lecturers and doctoral students. The researcher targeted at least 80% of each category to participate. According to Best and Kahn (2011) in a population where the respondents are either widely scattered across a large geographical area or are difficult to access, at least 70% of the sample picked will respond. A total of three HODs from The University of Nairobi responded while from Moi and Kenyatta Universities, they were four and five respectively.



Questionnaires that were posted to lecturers through their e-mails had a low response (29%) despite regular reminder and request to respond. In order to ensure an adequate number of responses, an attempt was made to issue the questionnaires to the lecturers through heads of their respective departments, with copies of research permit and data collection permission letters from their respective vice chancellors attached to (appendices 7-9 ). This raised the number of respondents to 62.5% that was high enough to make a generalization about the entire population.

In the study, tutorial fellows were excluded because they were still doctoral candidates and therefore could not fall in the category of lecturers. Part – time lecturers were not included in the study because they were not regular members of the teaching staff. At The University of Nairobi, most of the questionnaires were issued directly to individual lecturers after adequate rapport was established. At Moi and Kenyatta Universities, all the questionnaires were issued through HODs and the number of responses was high enough to be a representative of the entire population.

The study targeted ongoing doctoral students. The assumption was that those who had been in the system for more than eight years might have completed and therefore may not be accessible.

#### **4.3 Respondents' Background Information**

In order to gain an insight understanding of the respondents, the researcher explored the background information because it has implications to the results of the study. The background information depicts an information about the respondents experience as well as professional development. Such information determines to a large extend the quality and therefore trustworthiness of the information provided. Both the lecturers and the doctoral students' background information was obtained.

### 4.3.1 Lecturers' Background Information

The gender of the lecturers who participated in the study was noted. The aim was to see if gender related factors influence doctoral completion rates and time to degree.

The summary is presented in Table 4.1

**Table 4.1 Distribution of Lecturers by Gender**

Gender	University			Total
	Nairobi	Moi	Kenyatta	
Male	12	19	32	63
Female	11	15	26	52
<b>Total</b>	<b>23</b>	<b>34</b>	<b>58</b>	<b>115</b>

Table 4.1 shows that the number of male respondents was slightly higher than that of female respondents in all the three universities studied. Information on the level of professional development and possibly experience of the academic staff was determined. The information is considered important because it determines the “quality” of information given by the lecturer. A summary of the same is provided in table 4.2

**Table 4.2 Level of Designation of the Lecturers**

University	Professors	Senior lecturers	Lecturers	Total
Nairobi	1	12	10	23
Moi	3	19	12	34
Kenyatta	8	29	21	58
<b>Total</b>	<b>12</b>	<b>60</b>	<b>43</b>	<b>115</b>

Table 4.2 indicates that majority of the respondents were senior lecturers ( 52.17%). The rest were 10.43% and 37.39% Professors and lecturers respectively. Information about the position held by the lecturers who participated was captured. The information is considered important because it has direct link with the policies and practices of the institution and therefore informs the reliability of the information given by such respondent. The information was summarized and provided in Table 4.3

**Table 4.3 Position held by academic Staff**

Position	University			
	Nairobi	Moi	Kenyatta	Total
Principal/Director/Dean	-	1	2	3
Head of Department (HOD)	3	8	9	20
Programme coordinator	6	9	11	37
Lecturer	15	16	36	55
<b>Total</b>	<b>23</b>	<b>34</b>	<b>58</b>	<b>115</b>

The information provided in Table 4.3 indicate that majority (47.82%) of the respondents were lecturers. Programme coordinators and HODs were 32.17% and

17.39% respectively while Deans Directors/Principals were only 2.60%. These wide range of administrators and non administrators are deemed to be well informed and therefore provided rich and reliable information.

#### 4.3.2 Students' Background Information

The students' background information was considered important because it has a link to the factors that influence the student's time to degree. The background information sort for were gender age, academic discipline, mode of study and nationality. The gender distribution of the doctoral candidates who participated in the study were as follows: University of Nairobi 62 males and 54 females, Moi university; 74 and 61 male and female respectively while at Kenyatta University, they were 78 and 59 male and female respectively (table 4.2). In total, majority of the students who participated were male 55.15% while the female students were 44.86%. Information about the age of the students was considered important because it predicts possible socio-economic responsibilities of the student, which in-turn may indirectly influence the time to degree. Table 4.4 displays a summarized information about the age of the doctoral students who participated in the study.

**Table 4.4: Age of the Students**

Age bracket (years)	University			Total
	Nairobi	Moi	Kenyatta	
Less than 24	-	-	-	-
25 – 35	27	36	39	102
36 – 46	56	61	63	180
Over 47	33	38	35	106
<b>Total</b>	<b>116</b>	<b>135</b>	<b>137</b>	<b>388</b>

The information in Table 4.4 reveals that majority (46.39%) of the students who participated in the study were in the age bracket of 36-46 years old. This was considered an average age. Those in the age bracket of 25-35 years and over 47 years of age were 26.287% and 27.32 % respectively. They were considered young and old age brackets respectively. None of them was still below 24 years old. This statistics reveals that none of the doctoral students was still at the youth full age (below 24 years). Majority of the doctoral students are those in their mid age (36-46) and those above 47 years old. These are married cadre and probably working class. The academic disciplines of the candidates who participated in the study were captured. The aim was to determine their dispersion across the various departments offering doctoral study programmes. The summary is provided in Table 4.5

**Table 4.5: Students' Dispersion across Departments.**

Department	University							
	Nairobi		Moi		Kenyatta		Total	
	M	F	M	F	M	F	M	F
Administration and planning/education management and policy studies	42	37	27	16	39	25	98	76
Education communication & technology /curriculum Institution/media	11	9	39	42	20	23	64	79
Education foundations	9	8			9	5	23	11
Education psychology			8	3	6	2	12	5
Special Needs Education					2	4	5	9
Library and information science					2	0	1	0
Sub total	62	54	74	61	78	59	214	174
Grand total	<b>116</b>		<b>135</b>		<b>137</b>		<b>388</b>	

The information provided in table 4.5 show that a total of 388 students participated in the study. The shaded sections implies that doctoral programmes were not offered.

The study programmes through which the doctoral students pursued their studies were explored. They are full time, part time regular and school based. The rationale behind this was to determine if the mode of study determines the mean time a student takes to degree. The information was summarized and displayed in table 4.6

**Table 4.6: Study Programme**

Mode	University			
	Nairobi	Moi	Kenyatta	Total %
Full time in campus	0	1	2	3 0.8
Regular off-campus	7	6	8	21 5.4
Part time (evening & weekends)	16	21	23	60 15.5
School based	93	107	104	304 78.3
<b>Total</b>	<b>116</b>	<b>135</b>	<b>137</b>	<b>388</b> <b>100</b>

The information depicted in table 4.6 indicates that most of the doctoral students who participated in the study were school based (78.3 %) followed by part time (15.5%), then regular off campus (5.4 %) and the least were full time in campus (0.8 %). It suggests that most of the education doctoral students could be working class and possibly education practitioners. As such, part time mode of study may be the most appropriate for them. After analyzing completion statistics, it was noted that there was no significant difference in time to degree and completions rates between part-time and school-based students. However, regular students were reported to have higher completion rates and shorter time to degree.

The study sort to know the nationality of the students. It was found out that only 2.79% of them were international scholars. Their spread were as follows; University of Nairobi (2), Moi University (1) and Kenyatta University (4). One of the aims of universities is internationalization of universities. Therefore this has not been achieved here yet.

#### **4.4 Objectives of the Study**

This section presents the analysis, interpretation and discussion of the findings of the study.

##### **4.4.1 Institutional Administrative Related Factors and Doctoral Studies Completion Rates in Education at Selected Public Universities in Kenya**

In order to obtain information on the administrative factors, the respondents were asked to rate statements that sort to determine institutional administrative related factors influencing doctoral studies completion rates in education at public universities in Kenya. The rating was based on a Likert Scale where 1=SD, 2=D, 3=U, 4=A and 5= SA. Just for purposes of clarity and in-depth analysis, the responses for lecturers and that of students were presented in two separate tables. However the two are analyzed as one whole. From the responses for every statement, the mean score for every statement is presented in the last column in Table 4.7





**Table 4.7: Administrative Factors Influencing Doctoral Studies Completion Rates (Lecturers Responses)**

	N	Mean	Std. Deviation	KU	MOI	N	Mean	Std. Deviation	N	Mean	Std. Deviation	UoN
				N	Mean							Std. Deviation
i. The faculty/school keeps statistics on doctoral completion rates and time to completion.	58	3.72	.95	34	4.18	.99	23	3.17	1.7	<b>3.69</b>		
ii. Faculty organize students' hands on opportunities e.g. involving them in research activities,	58	3.52	1.27	34	3.44	1.13	23	3.65	1.15	<b>3.53</b>		
iii. Students get opportunities to present their early findings in conferences and induction courses	58	3.69	.98	34	3.09	1.05	23	3.48	1.44	<b>3.42</b>		
iv. The institution reviews its doctoral requirements regularly.	58	3.66	.89	34	4.18	1.06	23	3.57	1.08	<b>3.8</b>		
v. There is a need to review the current doctoral requirements.	58	3.29	1.27	34	3.47	1.31	23	3.13	1.39	<b>3.29</b>		
vi. The faculty does not have adequate number of lecturers to supervise students' research studies.	58	3.55	1.34	34	3.29	.91	23	3.22	1.41	<b>3.35</b>		
vii. The faculty lacks adequately equipped library and ICT centre to effectively support research work.	58	2.07	.89	34	3.00	1.21	23	2.70	1.46	<b>3.88</b>		
viii. Management of graduate school is very much concern with doctoral completion rates and time to completion in the faculty.	58	3.88	.96	34	4.18	.94	23	3.30	1.49	<b>3.78</b>		

ix. The faculty is satisfied with the current doctoral completion rates and time-to-completion	58	3.17	1.14	34	2.94	1.30	23	2.83	1.27	<b>2.98</b>
Valid N (listwise) N=115	N = 58		N = 34				N=23			<b>3.52</b>

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Table 4.7 is a summary of HoDs and lecturers responses to items (statements) presented under research objective one. The summary provided in the table show that lecturers agreed in all the statements presented except on the issue of faculty being satisfied with the prevailing completion rates. The responds indicate that faculties review their doctoral requirements regularly. The management is also very concern with doctoral completion rates. The researcher was interesting in finding out if schools of education at the public universities in Kenya keep statistics on doctoral completion rates and time to completion. This item was presented to lecturers and HoDs only. The assumption was that students might not be in a position to provide a reliable responds to this item because the item seeks to obtain information about “inside” administrative issues of the faculty-which students may not be so sure of. The responses show that lecturers from all the three universities studied were not sure if their institutions keep statistical records on doctoral completion rates and time –to- degree. When the researcher asked for records on completion rates and time -to- degree from the faculties/school HoDs, it became apparent that such information was not available. The information that was available was statistics on student enrolment and graduation records, which could be obtained from students’ admission and examination offices respectively. This implied that Public Universities in Kenya do not compute completion rates for their doctoral study programmes. The universities studied, (Nairobi, Moi and Kenyatta) being the largest and oldest public universities in the country, means therefore that none of the schools of education at public universities in Kenya keep records about doctoral studies completion rates nor time –to- degree. During interview sessions, it was noted that some students take long breaks in the process of writing their theses. It was difficult to tell whether doctoral students who disappear for long were still in the programme or might have withdrawn. The students’ responses were summarized and provided in Table

**Table 4.8: Administrative Factors Influencing Doctoral Studies Completion Rates (Students' Responses)**

	KU			MOI			UoN			Mean
	N	Mean	Std. Deviation	N	Mean	Std. Deviation	N	Mean	Std. Deviation	
i. The institution organizes students hands on opportunities e.g. participating in research activities, presenting their early conferences e.t.c	148	3.54	1.19	114	3.72	1.17	125	3.22	.99	<b>3.49</b>
ii. Faculty organizes induction courses aimed at helping students develop thesis - writing skills.	148	3.17	1.19	114	3.42	1.36	125	3.71	1.31	<b>3.43</b>
iii. The faculty does not have adequate number of lecturers to supervise students' research studies.	148	2.93	1.48	114	2.97	1.35	125	2.84	1.49	<b>2.91</b>
iv. The faculty lacks adequately equipped library and ICT centre to effectively support research work.	148	2.73	1.41	114	2.68	1.42	125	2.66	1.43	<b>2.69</b>
v. The management of graduate school is very much concerned with doctoral thesis writing process and time to completion in the institution.	148	3.59	1.21	114	3.32	1.15	125	3.28	1.15	<b>2.52</b>
vi. The faculty is satisfied with the current doctoral completion rates and time-to-completion	148	2.82	1.06	114	3.04	1.19	125	2.76	1.32	<b>2.87</b>
vii. There is need to review current policies and programme requirements governing doctoral studies in the institution.	148	3.99	1.30	114	3.51	1.53	125	4.14	.79	<b>3.88</b>
	148	3.32	1.41	114	3.95	1.23	125	3.46	1.42	<b>3.57</b>

viii. The institution encourages students integration into academic and social life of the university by allowing formation of student societies, unions and clubs.	148	3.41	1.02	114	3.43	1.29	125	2.62	1.59	<b>3.15</b>
Valid N (listwise)	N=148			N=114			N=125			3.26

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Table 4.8: provides a summary of students' responses to items presented to address institutional administrative related factors influencing doctoral completion rates. From the summary, it appears that the issue of T/L resources is not a big issue to many students. According to lecturers it is a problem but students' responses seem to suggest the otherwise. This may be a reflection of how students view library resources. Lecturers see them as very important but students did not rate them as such. During interview sessions, most students noted that due to their family and job commitment, they lack time for library studies at campus. The researcher was interested to know if faculties organize students' hands on opportunities for example involving them in research activities. Most students agreed that their respective faculties organize students hands own activities that engage the students in research activities. The interpretation here was that public universities in Kenya engage their doctoral students in research activities. Such activities help the students to improve their research skills and possibly promote timely completion of their studies.

As noted in the preceding chapters, some of the practices proven to support thesis - writing process include organizing workshops on academic writing skills and encouraging students to form discussion study groups. Students academic discussion groups have been used in different universities especially in Europe and America and the outcome are impressive. It is therefore true to say that the students' hands –on activities organized by public universities in Kenya are in line with universal higher education practices. The researcher was interested to know if doctoral students get opportunities to present their early research findings. The responses show that opportunities to present say in international conference come along the way but a few students take advantage of the same to present their early findings.

Testing of the Null Hypothesis  $H_{01}$  to determine if the independent variable (Institutional Administrative Factors ) have a significant influence on the dependent variable (Completion Rates) was carried out. The results is presented in Table 4.9.

**Table 4.9 : Regression Coefficient forAdministrative Factors**

Hypothesis  $H_{01}$ : Administrative factors have no significant influence on doctoral studies completion rates in education at public universities in Kenya.

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std Error	Beta	t	Sig
1	Constant	2.569	.349		7.366	.000
	Supervision factors	-1.024	.214	-.256	-4.779	.000

a. Dependent Variable: Completion rate

Table 4.9 interprets the standardized regression coefficients (Beta). In estimating the contribution of institutional factors to completion of doctoral studies, it was established that Institutional factors had a significant contribution to doctoral completion rates ( $p= 0.000$ ) at 0.05 level of accepting or rejecting. The null hypothesis  $H_{01}$  was therefore rejected. The results indicate that institutional administrative related factors influence doctoral studies completion rates at public universities. The results conform to findings from studies carried out in many parts of the world. The analysis of the research findings therefore follows and includes responses to open ended questions in the questionnaire, interview reports and documentary analysis.

The first item presented sort to find out if schools of education at the public universities in Kenya keep statistics on doctoral completion rates and time to completion. This item was presented to lecturers and HoDs only. The assumption was that students might not be in a position to provide a reliable responds to this item because the item seeks to obtain information about “inside” administrative issues of the faculty-which students may not be so sure of. The responses show that lecturers from all the three universities studied were not sure if their institutions keep statistical records on doctoral completion rates and time –to- degree. However, when the researcher asked for records on completion rates and time -to- degree from the faculties/school HoDs, the statistics were not available. The only information available were records on student enrolments and graduation lists, which could be obtained from Students’ Admission and Examination Offices respectively.

This implied that the lecturers’ acknowledgement of existence of records on completion rates may have been based on assumptions with no substantive evidence. The universities studied, (Nairobi, Moi and Kenyatta) being the largest and oldest public universities in the country, means therefore that none of the schools of education at public universities in Kenya keep records about doctoral studies completion rates nor time –to- degree. Concerning the faculty organizing students’ hands on opportunities for example involving them in research activities, respondents agreed (m= 3.53 and 3.43) lecturers and students respectively. This implies that both sides agreed with an average mean of 3.48 that their respective faculties organize students hands own activities that engage the students in research activities. The interpretation here was that public universities in Kenya engage their doctoral students in research activities. Such activities help the students to improve their research skills and possibly promote timely completion of their studies.



The findings are in line with CGS (2008) who found out that some of the practices proven to support thesis -writing process include organizing workshops on academic writing, organizing academic support groups and retreats, and creating awards to recognize outstanding mentors and theses. University of Maryland (2009) noted that campus-wide workshops for students on motivational strategies and time management are of great help to thesis writing process. Golde (2005) suggested implementation of structures that offer students opportunities to conduct supervised research. Considering the foregoing previous research findings, it can be concluded that the students' hands -on activities organized by public universities in Kenya are in line with universal higher education practices. In regard to whether doctoral students get opportunities to present their early research findings, the findings showed varied opinions among members of different institutions. In average lecturers agreed (m=3.42) while the students were undecided (m=2.91). From interviews, most respondents noted that generally, universities (both public and private) organize academic international conference. Through such conferences, students get opportunities to present their early research findings. The interpretation here was that while opportunities to present one's research findings come along the way, still many students are not keen enough to take advantage of such opportunities. Presenting in such academic conferences not only improves their final research report, but it also energizes the presenters' research process.

An item on institutions' regular review of its doctoral requirements was presented to lecturers only because of an assumption that since doctoral students in most case have just one year of residential at the campus or sometimes none, they may not be in a position to tell the history of the institution in terms of review of policies. The outcome from lecturers had a mean of 3.80. This implies that lecturers agreed that

their institutions observe regular review of doctoral study requirements. Both lecturers and students were asked to comment if there was a need to review the doctoral requirements in place. The aim was to know the views of the lecturers and students about the doctoral requirements at hand. Interestingly both sides were for the idea of having them reviewed- with a mean of 3.62 and 3.88 lecturers and students respectively.

This gives a common stand at 3.75. The interpretation was that although the requirements are reviewed regularly, members felt that what was in operation at the time of the study ought to be reviewed. The findings of this study are in line with CGS (2008) suggestions that some of the program requirements that faculties ought to review regularly include student selection process and mentorship programmes, programme environment and programme processes and procedures. The study attempted to find out the level of research grants awarded to doctoral candidates to cushion them in their research work. Lecturers generally agreed (m=3.29) that doctoral candidates receive research grants. The candidates themselves were undecided (m=2.52). Through interview and open-ended items in the questionnaire, it was noted that most candidates were self sponsored. Those who had research grants were mostly employees pursuing doctoral studies and were sponsored by their employers and a few others sponsored by their Constituency Development Fund (CDF). The later were mostly from semi arid areas or foreign students. A good number of the doctoral students were teachers and other education practitioners. Their employer, Teachers Service Commission (TSC) does not have a provision for doctoral sponsorship grants to her teaching force. The interpretation here was that majority of the candidates sponsored themselves. They spent most of their time in paid jobs in order to support themselves financially. As such, financial constraints

could be one of the major challenges hindering timely completion of doctoral studies in education at public universities in Kenya. A statement requiring them to comment on the number of lecturers in their respective departments was presented. Lecturers agreed ( $m=3.35$ ) that they were indeed understaffed.

Students across the universities were undecided ( $m=2.69$ ). This implies that they were not sure if inadequate number of supervisors available influenced their prolonged time to degree. Documentary analysis shows that in total, there were 184 lecturers in the three universities. A large proportion of the teaching staff were tutorial fellows (fig 4.1)-who by qualification, cannot supervise thesis writing process. The high enrolment at graduate schools has caused high student per capita which not only prolong time to degree but the quality of education could as well be at jeopardy.

An item, which sort to find out if faculties of education were, satisfied with the prevailing doctoral completion rates and time- to-completion was presented. Both lecturers and students were undecided ( $m=2.98$ ) and ( $m=2.87$ ) lecturers and students respectively. This gives an average mean of 2.93. During interview session, most interviewees noted that they had no idea about the prevailing completion rates and time – to- degree, thus they could not confidently say whether or not the faculties were satisfied. Based on this and the fact that none of the HoDs could provide any information about completion rates and time to degree, it was taken to mean that statistics on doctoral studies completion rates and time to degree in education at the public universities in Kenya were non existential.

The study sort to know the opinion of the respondents in relation to the need for universities to introduce penalties for delayed completion for example a continuation fee payable by doctoral candidates whose research work extends beyond the

stipulated time frame. Although there were varied responses across the institutions and even among different groups of students and lecturers, in average both lecturers and students disagreed with average mean of 2.32. Most of the students interviewed noted that the penalty would create extra financial burden to them. Most of the issues raised were related to admissibility of the penalty for example what criteria will the management use to determine who between the supervisor and the supervisee caused the delay.

The findings of the current study have shown that institutional administrative factors influence doctoral studies completion rates. As noted in the research findings, some of the administrative elements that featured most included but not limited to policies, student per capita and lack of commitment. The role of any administration includes but not limited to planning, recruiting/staffing, coordination, supervision and evaluating. These functions are performed within some predetermine organization frame works and guided by rules or norms and directed by goals to be achieved. Planning is a core function of any prudently managed organization. As noted by Ferre de Valero (2001), planning requires a lot of care specially where, due to competition and other factors, the return of the cost incurred is either not immediate or minimal. Therefore, the costs should be minimized. It is on such premise that public universities in Kenya ought to base Plans for their study programmes given the fact that job opportunities are minimal and very competitive. CGS (2010) suggested six practices based on the findings of a study that involved 21 universities. The suggestions were; improving administrative mechanism, improving advising and mentorship processes, providing financial support, creating supportive environment, providing research experience and providing curricular in areas related to research. Most of these suggestions are already in place for example provision of curriculum

intended to equip students with thesis writing skills, creating academic support environment and mentorship process. These practices are in line with practices in developed countries as reported by Earl (2010), Grover (2007) and Pascerella and Terenzini (2005). Although commendable progress is on course, there is still a lot to be done specially on graduate students' financial support.

The current study found out that 46.39 % of all the doctoral students were aged between 36 and 46 years old and 47 years old and above were 27.32% while between 25 and 35 years of age were 26.29% (Table 4.4). Majority of doctoral students fall within 36 and 46 years of age. From interviews, some respondents noted that completion a timely or untimely fashion depends on an individual effort. However students with adequate financial support, foreign students and full time students are most likely to complete earlier than those experiencing financial challenges. Some noted that the emphasis for the girl child in the last two decades seem to have encouraged female doctoral students to work harder in their studies thus explaining the reason why relatively more women than men attain the degree in a timely fashion. A Professor of Education Psychology at Kenyatta University commented that women tend to dedicate much of their time, energy and resources to one task at a time unlike men who undertake multiple tasks simultaneously. These include family and job responsibilities as well as community tasks .

The findings of the current study are in line with the findings of Martin et al (1999), who studied the progress of 5552 students in one of the Australian institutions and discovered that completion rates for male and female students were similar and higher for full time and younger ( below 24 years) students. That the average time to completion kept on reducing over time. For example students enrolled in 1996 spent

an average time of 6.9 years. Those whose studies commenced in 2001 completed with an average time of four years while the 2003 group had a mean completion time of 3.7 years. Similarly, Wao (2010) in a study of completion rates in some institutions in U.S reported faster completion rates for female students. Students with scholarships completed 25% time earlier than those without them. The arguments in support of such trends were; (a) students who succeed in attracting scholarships are likely to have better academic records hence they are likely to be of higher caliber hence progress faster and are most likely to succeed. (b) The days of an international student in the host country are usually limited due to visa restrictions. As such, international students work extra hard to fit the time- frame. (c) Students without scholarships may be required to work longer hours in paid employment to support themselves (James, Bexley, Devlin & Marginson, 2007, Wright & Cochrane, 2000).

Masteknasa (2005) in Norway suggested slightly faster completion for male students. Similarly, U.S Bureau of the Census (2009a and 2009b) reports noted fewer completion and longer time for women than men at the doctoral level but the reverse at the lower levels. Caretaking and other domestic responsibilities are some of the factors cited as obstacles to attaining advanced degrees among women (Eitel & Martin 2009, Heenan, 2002). From the foregoing, completion rates and time-to-degree, it is evident that completion rates and time to degree vary from institution to institution and may change over time. While many research findings show that male students are more likely to complete earlier than their female counter parts, the current study did not confirm it. The findings of the current study show that there are no significant differences in time to complete when students are classified as male or female.

During interviews, most students argued that relatively younger students tend to complete earlier than those who are relatively older. The argument was that older students tend to have many commitments. Asked to name the specific commitments, most of them argued that apart from family responsibility, most of the elderly students are in administrative positions like school principals, education officers, heads of departments among other responsibilities. Some hold positions and therefore extra responsibilities in socio-economic organizations like project managers or group/organizations' leaders in their local communities. Such responsibilities tend to surf much of their time and energy-thus prolong their study time. Unlike the elderly, the relatively younger students tend to have less or none of the formal or informal commitments. As such, they are in a better position to direct much of their time and energy to their studies. In the end, most of them degree relatively earlier than their elderly aged counterparts. Although these claims and arguments are weighty, the findings of the current study did not confirm as such. Statistics showed that most of the doctoral students at public universities in Kenya are between 36 and 46 years of age. This age bracket was considered the middle age level. The youthful age bracket (25-35) and the old age bracket (47+) was almost the same proportion. The study did not establish any significant difference when the students are said to be in either of the age brackets. The current study concluded that the time –to-degree is dependent on once individual effort to complete the study.

Another factor that was rated highly as key factors determining doctoral studies completion rates is student per capita. The staff establishment statistics as provided in Table 4.7 show that there were a total of 338 teaching staff in the three universities studied. In order to create a visual impression of the proportion of the teaching staff at

each level of their professional development, the number of each group were summarized in the form of a pie chart and presented in figure 4.1

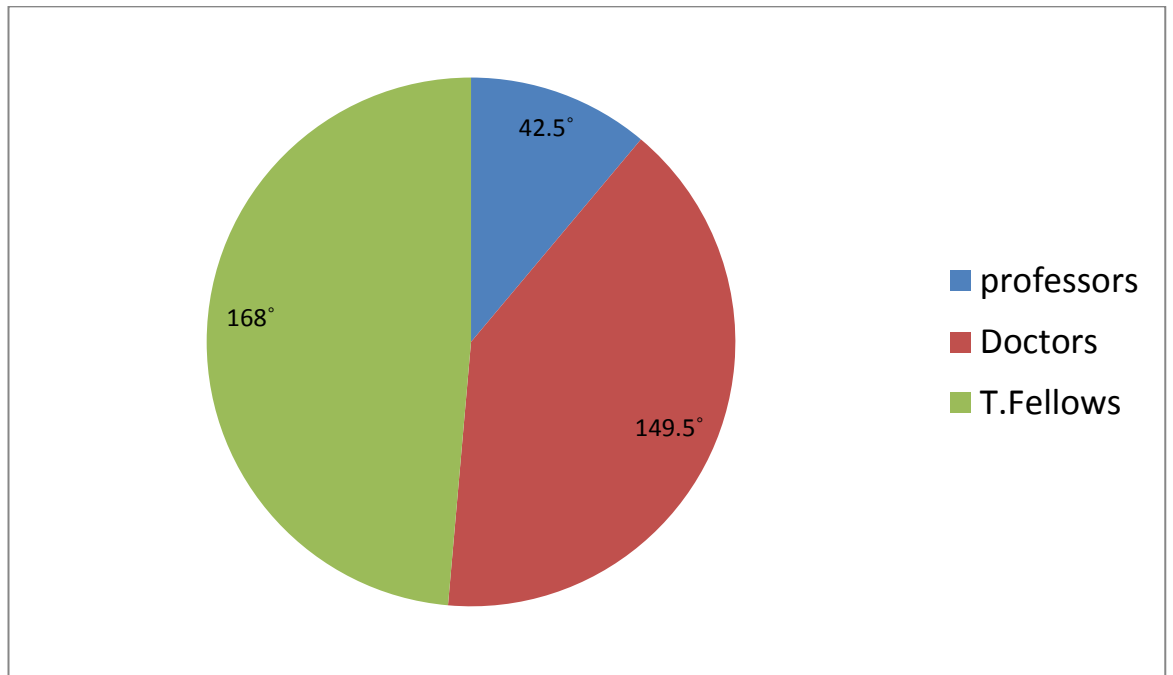


Figure 4.1 proportion of the teaching staff at different levels of their profession development

The information in the pie chart show that a large proportion 154 (168<sup>0</sup>) equivalent to 46.67% of the teaching staff were tutorial fellows while Professors and Doctors comprised 39(42.5°) and 145( 149.5°) respectively. The overall teaching staff/student ratio in the institutions was 1:129 the overall ratio obtained was 1:33 This indicates that in average, one Supervisor handles 33 theses. According to the CUE, the ratio of a lecturer to students is supposed to be 1:18 in social sciences and 1:15 in humanities (table 1.1). Given that the three universities studied were the oldest and largest in the country and therefore most developed in terms of the number of professors and lecturers with earned doctoral degrees, the ratios could be higher in the other developing universities. A comparison of the CUE recommendations and the staffing



situation on the ground show that there is a need to increase the number of the teaching staff by approximately 100%.

The ratios are clear indicators of the staffing situation in the public universities. It is apparent that universities in Kenya rely heavily on tutorial fellows. Whether this is due lack of funds for employing adequate number of lecturers or shortage of qualified personnel in the market is another problem requiring an inquiry. The obvious negative impact it poses to student is no doubt inadequate contact. This leads to prolonged time to degree and further to disappointment of student and possibility some withdrawing from the programme.

Possibility of availability of adequate contact time between a supervisor and supervisee was inquired. Both lecturers and students noted at a high level that it was not adequate ( $m=4.04$ ) and ( $m=4.02$  lecturers and students respectively). Through interviews, it was observed that although students attempt to meet their supervisors regularly, their effort in most cases end up in vain. The argument given across all the institutions was that supervisors are ever committed. This was interpreted as lecturers are over-whelmed by the many tasks they handle in addition to the high number of supervisees assigned to each supervisor. Similar studies carried out in the past showed that some of the most successful doctoral students had mentors who not only provide guidance but also the freedom and autonomy they needed to grow as scholars ( Ray, 2007). When asked to suggest ways of improving completion rates, lecturers and students made several suggestions. For example, universities should allow coursework studies to run concurrently with thesis development. That is research proposal may as well be presented and be examined while coursework is still ongoing. On the same note, universities ought to employ more lecturers instead of

tutorial fellows. Concerning doctoral studies completion time, one of the lecturers interviewed said;

*“ public universities can come up with time-lines at all stages of thesis writing process and offer full registration to students for doctoral study programme immediately they are because they are enrolled with a proven academic background and they should be made to do a sample analysis of some research tools so that they develop skills before they are left on their own.”*

One of the roles of any organizational management is to develop policies and rules or guidelines that can enhance service delivery. Universities being autonomous organizations, they are expected to have policies in place that guide their daily operations. Policies require regular review so that they remain relevant with changing time and taste. One of the HoDs interviewed had this to say;

*“all universities should come up with a policy where doctoral candidates publish journal articles in peer review journals from their research work as a requirement for the award of the degree. For students to improve their research skills, Encourage the use of on-line services and use of distant learning facilities instead of the traditional face- to- face supervisor/supervisee interaction and develop a mechanism for tracking and monitoring doctoral candidates’ thesis writing progress- specially those who delay.”*

Looking at the quotation stated above, it is like some institutions of higher learning do not emphasize publication of articles as one of the requirements for the

award of the degree. Document analysis show that publication of journal articles is one of the requirements for the award of a doctorate degree. Probably, some sort of policies should be formulated to address issues like how a university management can intervene when students are delayed and when they need help. Also how to empowering the postgraduate schools to supervise the whole supervision process and take appropriate action should there be a need to do so and promote commitment by punishing delays and rewarding good performers might improve completion rate.

A Professor interviewed was very categorical;

*“the key issues affecting timely completion of doctoral study programmes are overloaded lecturers and students delay in submitting their work. Supervisors should have less of other university responsibilities”.*

Data obtained from document analysis reveals that there has been an increase in the number of students at all levels. However, enrolment at master and doctoral programmes has been increasing more rapidly within the last one and half decades. This might have contributed to the current high ratio of supervisees. High student enrolment without commensurate increase in the number of lecturers as well as lack of incentives to lecturers can easily compromise the quality of education. Enrolment should be based on available resources and lecturers be motivated. Also adhering to strict time lines and some degree of commitment among supervisors will improve time-to-degree.

#### **4.5 Supervision Process Related Factors and Doctoral Completion Rates**

To determine supervision related factors, ten items were presented to HoDs, lecturers and doctoral students in the three universities studied. They were required to rate statements that sort to determine supervision process related factors influencing doctoral studies completion rates in education at public universities in Kenya-based on a Likert Scale where 1=SD, 2=D, 3=U, 4=A and 5= SA. The responses for lecturers and that from students are presented in two separate tables. However the two are analyzed as one whole. From the responses for every statement, the mean score for every statement is presented in the last column in table 4.10 and table 4.11

**Table 4.10: Supervision Related Factors Influencing Doctoral Studies Completion Rates in Education ( Lecturers Responses)**

	KU			MOI			UoN			
	N	Mean	Deviation	N	Mean	Std. Deviatin	N	Mean	Devian	mean
i. There is need to increase the number of lecturers in the faculty/school.	58	4.22	.839	34	4.26	.86	23	4.04	1.11	<b>4.17</b>
ii. There is lack of adequate contact time between the supervisors and the supervisees, hence delayed completion.	58	3.88	1.06	34	4.41	.78	23	3.83	1.27	<b>4.04</b>
iii. There is need to introduce training for supervisors.	58	4.34	.76	34	4.41	.61	23	4.17	.89	<b>4.3</b>
iv. There is need to introduce incentives to supervisors.	58	4.60	.93	34	4.32	.84	23	4.39	.84	<b>4.43</b>
v. Students fail to establish a good supervisor-supervisee rapport	58	3.81	.98	34	3.47	1.21	23	3.78	1.21	<b>3.68</b>
vi. Inadequate guidance from the supervisor cause delay	58	3.98	.86	34	4.12	1.12	23	3.61	1.19	<b>3.9</b>
vii. Lecturers' requirement to publish regularly limits time for supervision of students' research work.	58	2.52	1.17	34	2.82	1.36	23	3.04	1.39	<b>2.79</b>
viii. Supervisor – supervisee relationship does not determine time to complete a thesis writing process.	58	2.64	1.29	34	3.44	1.38	23	2.87	1.48	<b>2.98</b>
ix. Parallel teaching programmes consumes a lot time for many lecturers hence limiting time for supervision	58	3.38	1.38	34	3.91	.99	23	4.04	1.18	<b>3.77</b>
x. Lecturers are assigned a lot of work like hence too busy	58	3.67	1.130	34	3.59	1.351	23	3.52	1.344	<b>3.59</b>
	Valid N (listwise) N=58			N=34			N=23			<b>3.77</b>

Table 4.10 provides a summary of lecturers' responses to items presented under research question two.

The study sort to find out the level of staffing in the faculty/school. The respondents were required to comment if there was a need to increase the number of lecturers in their respective faculties. All the lecturers across the universities studied, strongly agreed (m=4.51). The interpretation was that public universities in Kenya are seriously understaffed. The response confirms the responses obtained through other research tools like interview guide and document analysis guide. The number of lecturers in most universities is about 50% or less of the entire teaching staff. The rest are tutorial fellows. The tutorial group cannot supervise thesis development and writing process. Most of the tutorial members of the teaching force are doctoral students. Through document analysis, it was noted that students enrolment at all levels of university education has been on the rise. A sharp rise in student enrolment took place during double intake in 2006. This constrained resources at the university campuses. The researcher was interested to know the views of students concerning the need for lecturers to regularly carry out researches for purposes of publishing. Most students were of the opinion that publishing does not affect doctoral studies in any way. The general policy is that lecturers should continue generating knowledge through research. It was however noted that given the level of advancement in Information Communication Technology (ICT) -that may have brought in new approaches in supervision process, most lecturers were of the opinion that lecturers need to embrace ICT and thus update their supervisory skills. Some of them also suggested the need to motivate supervisor through an introduction of appropriate incentives mechanism. They noted that motivation would improve service delivery. Therefore improving completion rates and time-to-degree in doctoral studies. Responses from students were summarized and presented in Table 4.11

**Table 4.11: Supervision Related Factors Influencing Doctoral Completion Rates ( Doctoral Students' Responses )**

	KU			MOI			UoN			Mean
	N	Mean	Std. Deviation	N	Mean	Std. Deviation	N	Mean	Std. Deviation	
i. There is need to increase the number of lecturers in the school.	148	4.22	.84	114	4.74	.63	125	4.57	.84	<b>4.51</b>
ii. There is lack of adequate contact time between the supervisors and the supervisees, hence delayed completion.	148	3.88	1.06	114	3.89	1.18	125	4.30	.85	<b>4.02</b>
iii. There is need to introduce training for supervisors.	148	4.34	.76	114	4.02	1.14	125	4.27	.87	<b>4.21</b>
iv. There is need to introduce incentives to supervisors.	148	4.60	.93	114	4.02	1.14	125	4.27	.87	<b>4.29</b>
v. Doctoral students fail to establish a good supervisor-supervisee relation, hence affects doctoral completion time.	148	3.81	1.06	114	3.74	1.29	125	3.21	1.35	<b>3.58</b>
vi. Inadequate guidance from the supervisor on research matters e.g. topic selection, refinement and thesis writing process is the cause of prolonged thesis completion time	148	3.98	.87	114	4.08	1.09	125	3.89	1.06	<b>3.98</b>
vii. Lecturers' requirement to publish regularly limits time for supervision of students' research work.	148	2.52	1.17	114	3.25	1.36	125	3.70	1.28	<b>3.15</b>
viii. Supervisor attending conference does not determine time to complete a thesis writing process.	148	2.64	1.29	114	2.95	1.33	125	2.78	1.57	<b>2.79</b>
ix. Parallel teaching programmes consumes a lot time for many lecturers hence limiting time for supervision	148	3.38	1.39	114	4.00	1.19	125	4.23	1.21	<b>3.87</b>
x. Lecturers are assigned a lot of work like conferences, carrying out research, etc hence these affect time for supervision.	148	3.67	1.13	114	3.75	1.41	125	4.46	.88	<b>3.96</b>
N=388										

Table 4.11 provides a summary of lecturers and HoDs responses to research question two.

The summary of responses from students were compiled and presented in Table 4.12. The researcher wanted to know the views of students concerning the level of staffing in their respective universities. The students were presented with statements to comment on. The responses show that all the doctoral candidates across the universities studied, strongly agreed (  $m = 4.17$ ) that there was a need to increase the number of lecturers. This kind of response confirms the earlier response from lecturers. The interpretation therefore was that public universities in Kenya are seriously understaffed. On the issue of using ICT to improve supervision process, students' responses concurred with the responses from the lecturer. They argued that the use of ICT would improve communication between a supervisor and a supervisee regardless of geographical distance either of them could be. About parallel teaching/learning programmes, students noted that the programme constraint the lecturers because in most cases the programmes are run concurrently with the regular.

When asked whether supervisor/supervisee rapport matter when it comes to when to degree, most students noted that it important. They observed that the kind of rapport between a supervisor and a supervisee influence the willingness and motivation of the supervisor to mentor the student. Some students noted that personal respect and good moral was necessary for purposes of working cordially. Detailed findings from both the students and the lecturers were summarized and presented in the discussion part of the findings.

The Null hypothesis  $N_02$  was tested to determine if indeed the independent variable (Supervision Related Factors) have any significant influence on the dependent Variable (Doctoral Completion Rates). The results is presented in Table 4.12



**Table 4.12 Regression Coefficient for Supervision Related Factors**

H<sub>02</sub>: Supervision process related factors have no significant influence on completion of doctoral studies in education at public universities in Kenya.

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std Error	Beta	t	Sig
1	Constant	2.569	.349		7.366	.000
	Supervision factors	-1.024	.214	-.256	-4.779	.000

a. Dependent Variable: Completion rate

Table 4.12 interprets the standardized regression coefficients (Beta). In estimating the contribution of supervision factors to completion of doctoral studies, it was established that supervision factors had a significant contribution to doctoral completion rates ( $p= 0.000$ ) at 0.05 level of rejecting or accepting the hypothesis. We therefore rejected H<sub>02</sub>. The results provide that there are factors related to supervision process that can hinder or propel timely completion of doctoral studies. A discussion based on integrated findings from all the research instruments used (questionnaire, interview guide and document analysis guide) for herein.

Lecturers and students were presented with statements that required them to comment on based on a Likert Scale. Respondents were required to comment if there was a need to increase the number of lecturers in their respective faculties. All the respondents (both lecturers and doctoral candidates) across the universities studied, strongly agreed ( $m=4.51$  and  $m= 4.17$ ) lecturers and students respectively. An average mean of 4.34 as the level of the need to employ more supervisors/lecturers. The interpretation was that public universities in Kenya are seriously understaffed. To

ascertain it, the researcher sort to find out the actual level of staffing at the school/ faculties of education. The lists of teaching staff were obtained from HOD's of all the departments under the schools of education in each of the three universities studied. The records were summarized and presented in table 4.13

**Table 4.13: Teaching Staff per Institution and Department**

<b>University of Nairobi</b>	Professors lect	&Lecturers	Snr Tutorial	fellows	Total
Adm and planning	2	13	4		19
Educ communication and Tech	1	12	9		22
Physical education and sports	1	2	4		7
Education foundations	2	3	10		15
<b>Sub Total</b>	<b>6</b>	<b>30</b>	<b>27</b>		<b>63</b>
<b>Moi University</b>					
Education foundations	2	3	13		18
Education psychology	1	13	20		34
Curriculum inst. Edu,& media	6	9	26		41
Edu. mgt and policy studies	4	9	8		21
Centre for Tr. Education	0	1	4		5
Technology education	0	1	5		6
Physical tech and sports	0	2	1		0
<b>Sub Total</b>	<b>13</b>	<b>36</b>	<b>76</b>		<b>125</b>
<b>Kenyatta University</b>					
Mgt., Policy and curri. Studies	6	20	11		37
Education Foundation	7	11	2		20
Library and Information science	0	3	15		18
Edu Comm, & Technology	6	15	17		38
Dept Special Needs	1	10	2		13

Education									
Dept	ECD								
Studies		0	20	10	69	4	51	14	140
<b>Sub Total</b>									

<b>Grand Total</b>	<b>39</b>	<b>135</b>	<b>154</b>	<b>328</b>
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Source: Staff Records as at December 2015

The staff establishment in table 4.13 shows that professors are 39 that comprise approximately 11.89% of the entire teaching staff. Doctors and tutorial fellows (comprise 41.15%) and 46.95% respectively. It is clear that majority of the teaching staff are tutorial fellows – who make almost half of the teaching staff at the public universities in Kenya. In order to determine student – lecturer ratio, the total number of ongoing students at all levels were obtained from their respective departments. The data was compiled and presented in Table 4.14

**Table 4.14 : Overall Student Enrolment**

University	Levels				Total
	Undergraduate	Post graduate diploma	Masters	Doctoral	
Nairobi	4760	-	2196	194	7150
Moi	9609	24	498	107	10238
Kenyatta	21381	255	3148	540	25324
<b>Total</b>	<b>35750</b>	<b>279</b>	<b>5842</b>	<b>843</b>	<b>42712</b>

Source: University admission office and graduate school registry as at 30<sup>th</sup> June 2015

Table 4.14 show the total number of ongoing students as at June 2015. From the foregoing statistics, overall teaching staff/student ratios were computed per university and finally as an average. University of Nairobi had an overall teaching staff/student ratio of 1:114 (7150/63). At Moi and Kenyatta universities, the overall teaching staff/student ratios were 1:82 and 1:181 (10238/125 and 25324/140) respectively. In

average, the overall teaching staff/student ratio in the institutions was 1:129 (42712/330). This implies that in average, one “lecturer” handles 129 students at public universities in Kenya. In terms of supervision of research work, the ratios of students to a supervisor was obtained by computing based on the sum total of doctoral and masters students by the sum total of lecturers only. Tutorial fellows were not considered because they do not supervise graduate research studies. The figures indicated that at University of Nairobi, one lecturer supervised 66 students (approx. ratio of 1:66). In Moi University one lecturer supervisor 12 candidates (1:12). At Kenyatta University the ration was 1:41. The overall ratio obtained was 1:33 (5725/176). This indicates that in average, one Supervisor handles 33 theses. According to the CUE, the ratio of a lecturer to students is supposed to be 1:18 in social sciences and 1:15 in humanities (table 1.1). Findings can be interpreted as public universities in Kenya are understaffed. Given that the three universities studied were the oldest and largest in the country and therefore most developed in terms of the number of professors and lecturers with earned doctoral degrees, the ratios could be higher in the other developing universities. A comparison of the CUE recommendations and the staffing situation on the ground show that there is a need to increase the number of the teaching staff by approximately 100%. Doubling the current number of teaching staff would reduce the current staff/student ratio to 1:16.5 approximately 1:17, which is within acceptable level as per the CUE recommendations.

Possibility of availability of adequate contact time between a supervisor and supervisee was inquired. Both lecturers and students noted at a high level that it was not adequate ( $m=4.04$ ) and ( $m=4.02$  lecturers and students respectively). Through interviews, it was noted that although students attempt to meet their supervisors

regularly, their effort in most cases end up in vain. The argument given across all the institutions was that supervisors are ever committed. This was interpreted, as lecturers are over-whelmed by the many tasks they handle in addition to the high number of supervisees assigned to each supervisor. Similar studies carried out in the past showed that some of the most successful doctoral students had mentors who not only provide guidance but also the freedom and autonomy they needed to grow as scholars ( Ray, 2007).

The respondents were required to comment about the need for lecturers to regularly update their supervisory skills. Both lecturers and students strongly agreed (m=4.21 and 4.30) lecturers and students respectively. This translates to a mean of 4.24 level of the need to have supervisors regularly update their supervisory skills. It was interpreted that due to the ever evolving and advancing information communication technology that may have brought in new approaches in supervision process among other things, there is a need for supervisors to embrace technology and thus update their supervisory skills. The fourth item required respondents to comment on whether there was a need to introduce incentives to supervisors. All the respondents strongly agreed (m=4.43) lecturers and (m=4.29) students, that there was a need to motivate supervisor through an introduction of appropriate incentives mechanism. During interviews, majority of interviewees, lecturers, HODs and students expressed the need to introduce incentives to supervisors. About supervisor/supervisee rapport, the response between lecturers and students was almost the same. Lecturers agreed (m=3.68) similarly to students (m=3.58).

Respondents were asked to comment on the level of mentorship from the supervisor, for example on topic selection, refinement and thesis writing process. The responses

wert. Lecturers (m=3.90) and students (m=3.98). Lecturers' requirement to continuously generate new knowledge through research and publication was tested to determine if it affects time for supervision. Both supervisors and supervisees were undecided (m=2.79) lecturers and (m=3.15) students. During interview, most respondents show that the process of searching for new knowledge does not negatively affect time for supervision.

The respondents to comment on whether lecturers' frequent conferences cum workshops limit their time for supervision. Both lecturers and students were undecided (m=2.98) lecturers and (m=2.79) students. The respondents were required to comment on the influence of parallel study programmes. Both sides agreed (m=3.77) lecturers and (m=3.87) students. The last statement on supervision was on lecturers' administrative assignments. Both lecturers and students agreed (m=3.59) and (m=3.96) lecturers and students respectively. The respondents agreed in most of the items except on two of them. That is the need for lecturers to publish regularly (m=2.79) and the issue of lecturers attending conferences. (m=2.98). The need to increase the number of lecturers and lack of adequate supervisor/ supervisee contact time. In addition, the need for lecturers to regularly update their supervision skills in line with the ever-advancing ICT and the need to motivate lecturers were among those that were highly rated. Increasing the number of lecturers and incentives for lecturers rated as most crucial (m= 4.51) and (m=4.43) staffing and incentives respectively. The immediate impression portrayed here is that the number and remuneration status of lecturers at public universities in Kenya is really wanting. The null hypothesis was tested to determine if supervision process influence doctoral completion rates. The test results is provided in Table 4.12





Concerning supervision related factors, both lecturers and students made several observations. One of the observations noted across board is the issue of students either disappearing or taking too long breaks during the research period. There was no clear reason given for the same though some students cited socio economic related issues. It may or may not be but one aspect what emerged out clearly is that most (180) of the doctoral students are between 36 and 46 years of age (Table 4.4). It also emerged out that most of them are self -sponsored education practitioners. It is most likely that family responsibility, job commitment and financial constraints are the main factors behind long leaves or disappearing of doctoral students. As noted under review of the related literature, such challenges are common among doctoral students across continents.

Comparing the findings of the current study and studies in the past across the continents, it may be worth introducing penalties. A penalty would improve completion time but most likely to have other side socio- economic effects due to lack of clear policies and practices guiding the management of doctoral studies. Questions related to lecturers/student ratio, actual reasons behind the delay might have to be sorted out first. Just as it had been mentioned in the literature review, such penalties- though may not be desirable to every person, however they have positive impact because they compel the persons affected to avoid them by working extra hard. This leads to improved time-to-degree and may subsequently improve completion rates. It is also through that most of the doctoral students are working in paid jobs. The findings of the current study are in line with findings from studies done in the past. For example, Barnes & Austin ( 2009) noted that many students feel that effective supervisor mentorship is a key factor in a timely completion of a graduate programme. Similarly, Nerad & Miller (1996) reported that the nature of advisor-

advisee relationship, can greatly impact the students research progress. This means that poor advisor-student relationship impedes doctoral completion rates and time to completion. In addition, if a supervisor places the onus entirely on the student, the time to completion is prolonged. Studies show that some of the most successful doctoral students had supervisors who not only provided guidance but also the freedom and autonomy they needed to grow as scholars (Ray, 2007). It is therefore proper to say that supervision, arrangements, timely feedback to students, advisor-advisee meeting frequency, good relationship and early start, are key pointers of a possible high rate and timely completion of thesis writing. Further that when supervisors and supervisees have good rapport and work together to facilitate the advisee's progress, the student would have greater academic success.

It was noted in the preceding chapters it is always important that there be a match between advisor and advisee regarding topic of interest, expectations about progress and time-lines. It may be a good advice to doctoral students to accept that they students who need to learn. This would minimize any form of resistance or unwillingness from students to make corrections in their theses. Structured supervision systems such as weekly deadlines and weekly monitoring, can facilitate timely completion of thesis writing. If faculty administrators can develop mechanism for that can promote structured supervision, the time to earn the degree might be shortened. Lack of adequate number of lecturers does not only affect the quality of education but it also impedes thesis completion rates. It is advisable to consider human resource factor before enrolling students for doctoral programmes.

#### **4.6 Teaching/Learning Resource and Doctoral Studies Completion Rates**

The influence of Teaching/Learning resources was explored to determine the extent to which T/L resources influence completion of doctoral studies in education. Five items were presented to HoDs, lecturers and doctoral students to comment on. Respondents were asked to rate statements that sort to determine the influence of teaching/learning on doctoral studies completion rates in education at public universities in Kenya-based on a Likert Scale where 1=SD, 2=D, 3=U, 4=A and 5=SA. Like in the preceding objectives, the responses for lecturers and that of students are presented in two separate tables. However the two are analyzed as one whole. From the responses for every statement, the mean score for every statement is presented in the last column in Table 4.15

**Table 4.15: Teaching/Learning Resources Influencing Doctoral Studies Completion Rates (Lecturers' Responses )**

	N	KU		N	MOI		N	UoN		Mean
		Mean	Std. Deviation		Mean	Std. Deviation		Mean	Std. Deviation	
i. There is inadequate relevant functioning ICT equipment to support research work	58	4.26	1.09	34	4.29	.72	23	4.30	.77	<b>4.28</b>
ii. There is need to use flexible mode of study e.g. on-line teaching/learning programmes to improve communication with students.	58	4.00	1.08	34	4.29	.71	23	4.30	.77	<b>4.19</b>
iii. Most candidates fail to utilize resources available for their studies	58	3.21	1.24	34	3.68	1.22	23	4.04	1.15	<b>3.64</b>
iv. Library resources that support doctoral programmes including e.g journals and books are adequately available.	58	4.14	.95	34	3.97	1.11	23	4.09	1.08	<b>4.06</b>
v. There is inadequate facilities like and workshops to facilitate doctoral research work.	58	3.00	1.39	34	3.65	1.20	23	3.57	1.16	<b>3.40</b>
Valid N (list wise)	N=58			N=34			N=23			<b>3.95</b>

Tables 4.15 provides a summary of lecturers' responses to research questions on Teaching/Learning resources influencing doctoral completion rates at public universities in Kenya. Concerning availability of ICT connectivity in their respective faculties, most lecturers noted that ICT was already in place in most institutions including their campuses. However, connectivity is still low and require improvement. On library resources, lecturers noted that most libraries in the public universities could be lacking adequate T/L resources necessary for doctoral studies. Other challenges noted by lecturers included lack of adequate work space (offices) for lecturers and reading space in the library purposely for students. However in most main campuses, the issue of reading space was not a challenge. Responses from students were summarized and provided in Table 4.16

**Table 4.16: Teaching/Learning Resources Influencing Doctoral Studies Completion Rates (Students' Responses )**

	KU		MOI		UoN		Mean
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	
i. There is inadequate relevant functioning ICT equipment to support research work	4.26	1.086	3.75	1.295	3.90	1.03	<b>3.97</b>
ii. There is need to use flexible mode of study e.g. on-line teaching/learning programmes to improve communication with students.	3.81	1.059	3.75	1.295	3.90	1.03	<b>3.82</b>
iii. Most candidates fail to utilize resources available for their studies	4.53	.674	3.85	1.184	4.02	1.08	<b>4.13</b>
iv. Library resources that support doctoral programmes including e.g journals and books are adequately available.	4.03	.791	3.96	.916	3.81	.91	<b>3.93</b>
v. There is inadequate facilities like and workshops to facilitate doctoral research work.	3.23	1.113	3.64	1.198	3.79	1.13	<b>3.55</b>
Valid N (listwise)	N=148		N=114		N=125		<b>3.88</b>

Table 4.16 provides a summary of students' responses to research questions on teaching/learning resources influencing doctoral completion rates at public universities in Kenya. Most students noted that Libraries at most public universities lack adequate relevant reading materials to support doctoral studies. On the issue of ICT, students noted that the facility is still at low level of development-especially in use at the libraries. About effective utilization of T/L materials, majority noted that they hardly get time for library studies at campuses. Detailed analysis of both the lecturers responses and students' responses are presented in the next paragraphs.

The Null Hypothesis N<sub>03</sub> (Teaching/Learning resources does not influence doctoral completion rates) was tested to determine whether or not the independent variable (T/L resources) have significant influence on the dependent variable (Doctoral Completion Rates).The results is provided in Table 4.17

Table 4.17 **Regression Coefficient for T/L Resources**

Hypothesis H<sub>03</sub>: Teaching/learning resources have no significant effect on completion of doctoral studies in education at public universities

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std Error	Beta	t	Sig
1	Constant	2.569	.349		7.366	.000
	Supervision factors	-1.024	.214	-.256	-4.779	.000

a. Dependent Variable: Completion rate

Table 4.17 interprets the standardized regression coefficients (Beta). In estimating the contribution of teaching/learning resources factors to completion of doctoral studies, it was established that T/L related factors had a significant contribution to doctoral completion rates ( $p= 0.005$ ) at 0.05 level of accepting or rejecting the hypothesis. We therefore rejected H<sub>03</sub>. The results implies that there are a number of factors related to T/L that influence significantly completion rates and time-to-degree at the doctoral level. In order to unlock these factors, responses from all the research instruments (questionnaire, interview guide and document analysis guide) were analyzed and discussed as presented in the next paragraphs



The first item required respondents to commend on the availability of ICT connectivity in their respective faculties. Both lecturers and students agreed (m=4.28) and (m=3.97) lecturers and students respectively. This implies that most libraries in the public universities could be lacking adequate T/L resources necessary for doctoral studies. This is contrary to progress in developed countries. For example in a report associated with student satisfaction, completion and attrition at the University of south Australia by Di Bills, students were reasonably satisfied with their access to computing facilities and work space. The full time students were actually more satisfied with access to research equipments than their part time counter parts. The next item required the respondents to rate mode of study in teaching and learning. In their responds, both lecturers and students agreed (m=4.19) and (m=3.82) lecturers and students respectively.

The respondents were asked to commend on students' utilization of available T/L resources. Both lecturers and students agreed (m=3.64) and (m=4.13) lecturers and students respectively. The last item under T/L resources required respondents to commend on availability of structural facilities that can support doctoral studies. Such facilities include lecture room, consultation rooms furniture and other relevant materials to facilitate doctoral studies. Their responses indicate that lecturers agreed (m=3.40) similarly to students (m=3.55). In average, supervisors and supervisees at public universities in Kenya agreed (m=3.45) that they hardly have structural facilities that can adequately support doctoral studies.

During interview sessions, some of the lecturers noted that they do not have offices and therefore, it is difficult to meet their supervisees or even have a good place to sit and work at their workplace. Some students interviewed noted that some supervisors

required them to meet in hotels, which makes it camper some for many. Open ended questions based on the five research objectives were also presented to the students and lecturers. The first question stated; If you were to choose between human (HR) development and infrastructure development (ID), which one would you choose? 79.76% of the responses preferred human resource development. 15.45% Of them opted for infrastructure while 4.76% noted that they see both (human resource and infrastructure ) as equally important. The second question asked them to provide reasons for their choices. Their reasons were as shortlisted below.

The availability of library resources like textbooks, prescribed journals and internet connectivity was also inquired. Both lecturers and students agreed (m=4.06) and (m=3.93) lecturers and students respectively. The response depicts a picture about public universities' libraries as lacking adequate relevant resources for doctoral studies. Inadequate internet connectivity was strongly noted as one of the factors limiting student access to T/L resources such as prescribed journals among other publications. The interpretation here was that libraries in the public universities are not well equipped with reading materials for graduate

On the issue of ICT, it is interesting to note that if ICT connectivity is still not adequate as respondents noted and at the same time hard copy library resources are not effectively utilized, then what sources of information do students rely upon for their studies? What does such scenario say about the quality of grandaunts awarded degrees every year from Kenyan universities? Some of the students observed that due to factors like family and job responsibilities, they have no adequate time for library studies. This implies that even if libraries were to be equipped heavily, it is like most doctoral students will not maximize the use of the same.

The status of libraries at public universities in Kenya seem to be contrary to the status of university libraries in developed nations as noted in the preceding pages.

A lecturer interviewed had this to say:

*“On-line connectivity to libraries is a new development that might not be possible to avoid. Universities have to invest adequately in ICT and internet connectivity to enable students to access a variety of reading materials”.*

This comment is in line with the report of Sarka (2012) that the use of ICT in academic research is not only limited to accessing information but provide opportunities for analyzing/processing huge amounts of data and performing complex computations in a manner that is extremely faster, accurate and reliable. The report also noted that the use of on-line full text database and libraries provide researchers with online access to to the content of thousands of books from major publishing houses, research reports and peer-review articles in electronic journals. Given the faster growing preference for on-line access to information and use of ICT technology in computations and management of information, universities have no better option but to invest in ICT and internet connectivity.

Due to the fast changing modes of communication, books and any other library resource or information can be accessed irrespective of once geographical location. However if the challenge is books, then the same should be imported because there are very few authors who have articulated on the local context. At the same time local professors should publish widely to give students good literature to review.

Lack of adequate space especially for those who rely on library textbooks was pointed as an issue in some institutions. The spaces available cannot accommodate the population of students in need of the space. This implies the libraries might be old because they were constructed when the student population was still low. Some lecturers noted that they do not have offices and therefore it is difficult to meet their supervisee or even have a place to sit and work at their places of work. This could be a challenge in some institutions especially in campuses and colleges suited far away from the main campus. Some students interviewed noted that some supervisors required them to meet in hotels, which makes it camper some for many. The issue of lack space may not be noticed in the main campuses and well established university colleges.

Lecturers were asked, “if you were to choose between developing the institutional infrastructure and investing in human resource, which one would you choose?” The responds was 79.76% in support for human resource, 15.45% in support of infrastructure. The responds portrays the level of needs for human capital in the public universities. Indeed human resource development reduces student per capita. Quality research and therefore highly educated grandaunts depends more on HR than good infrastructure. All the other developments are dependent more on HR and it enhances student/lecturer contact and thus timely completion. HR development determines the outcome of an institution in terms of nurturing and motivating of students. ICT facilities are prerequisite for HR development as well as the for flow of students from one level to another. ICT improve efficiently in supervision process. Most HoDs and lecturers noted that development of ICT is progressing slowly in most universities partly due cost related factors. They argued that finding and retaining technical staff is like could be a challenge because of the related cost. This

argument cannot be taken for granted because over and above the substantial costs of obtaining, installing, and trouble-shooting departmental and campus networks, hardware, and software, the difficulties and costs of training and retaining essential technical support staff are already huge costs and keep growing very rapidly. A wide range of technical staff are absolutely essential for maintaining the equipment and systems, for training faculty, staff, and students, for dealing with constantly needed upgrading, and for evaluating new programs and possibilities. Unfortunately, people with such kind of skills are on high demand and so they find jobs offering better pay quite easily. Attracting and retaining them becomes another challenge altogether. Developed countries like American and Britain have reached higher levels of ICT development in most of their sectors –both public and private. Their institutions of higher learning use highly developed ICT facilities with sufficient network connectivity. It should be known however that such progress is as a result of many decades of heavily investing in ICT. Just like in most African countries, ICT is a recent development in Kenya and so to the institutions of higher learning. It might take some few decades before ICT and the Internet are widely and inexpensively accessible and broadly useful for doctoral research purposes in universities in African countries.

#### **4.7 Different Study Programmes and Doctoral Completion Rates in Education**

The study examined programme related factors influencing doctoral studies completion rates in education. To shade light on such factors, three items were presented to respondents to comment on based on Likerts Scale where 1=SD, 2=D, 3=U, 4=a and 5=SA. The quantitative summary of the findings were presented in Table 4.18 and Table 4.19

**Table 4.18: Different Study Programmes and Doctoral Completion Rates in Education ( Lecturers' Responses)**

	KU			MOI			UoN			Mean
	N	Std.		N	Std.		N	Std.		
		Mean	Deviation		Mean	Deviation		Mean	Deviation	
i. Specific programme requirements like course work and written exams prolong thesis completion.	58	2.88	1.36	34	3.00	1.37	23	2.09	1.20	<b>2.65</b>
ii. Doctoral part time students lack adequate time for research work.	58	3.38	1.28	34	3.47	1.21	23	3.35	1.23	<b>3.4</b>
iii. Introduction of part-time study programmes limit time for supervision and therefore prolong time-to-degree	58	3.00	1.38	34	3.65	1.20		3.57	1.16	<b>3.40</b>
Valid N (listwise)	N=58			N=34			N=23			<b>3.16</b>

Table 4.18 provides a summary of lecturers and HoDs responses to items presented under research objective four.

**4.19 Different Study Programmes and Doctoral Completion Rates in Education ( Doctorals' Students' Responses)**

	KU			MOI			UoN			Mean
	N	Std.		N	Std.		N	Std.		
		Mean	Deviation		Mean	Deviation		Mean	Deviation	
i. Specific programme requirements like course work and written exams prolong thesis completion.	148	3.50	1.45	114	3.56	1.45	125	3.71	1.31	<b>3.59</b>
ii. Introduction of parallel programs limits time for supervision	148	3.50	1.44	114	3.81	1.20	125	4.09	1.27	<b>3.8</b>
iii. Doctoral part time students lack adequate time for research work.	148	4.39	.84	114	3.96	1.17	125	4.01	1.19	<b>4.12</b>
Valid N (listwise)	N= 148			N= 114			N= 125			<b>3.84</b>

Table 4.19 provides a summary of students' responses to items presented under research objective four.

Table 4.18 and Table 4.19 provide summaries of responses to items presented under research objective four. The responses indicated that programme related factors do not influence doctoral completion. To ascertain, the Null Hypothesis  $H_{04}$  (Study programme related factors have no influence on doctoral completion rates) was tested to determine whether or not the independent variable ( Study Programme Related Factors) have any significant influence on the dependent variable(Doctoral Completion Rates). The results is presented in Table 4.20

Table 4.20 **Regression Coefficient for Programme Related Factors**

$H_{04}$ : Different modes of study; full-time or part-time, have no significant effect on completion rates of doctoral studies in education at public universities in Kenya.

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std Error	Beta	t	Sig
1	Constant	2.569	.349		7.366	.000
	Supervision factors	-1.024	.214	-.256	-4.779	.000

a. Dependent Variable: Completion rate

Table 4.20 interprets the standardized regression coefficients (Beta). In estimating the contribution of mode of study factors to completion of doctoral studies, it was established that programme and mode of study factors had no significant contribution to doctoral completion rates as ( $p= 0.160$ ) at 0.05 level of accepting the hypothesis. The null hypothesis  $H_{04}$ .was therefore accepted. Analysis of both lecturers and student responses follow in the next paragraphs.



Although most students rated the three items high, lecturers did see them as a treat except the introduction of parallel study programmes. They noted that parallel study programmes created extra units to teach and therefore extra hours needed to attend to. This implies that they are additional responsibilities to lecturers and consume the time which should be spent guiding students on their research studies. However many lecturers and doctoral students interviewed made positive comments regarding course work and examination. Majority was in support of course work and examination but most students wanted both coursework and thesis development and writing to run concurrently. Asked if they can afford it in terms of time to have the two run concurrently. Majority argued that the coursework would keep students close to campus and therefore close to their supervisors and colleagues. The universities' policies on coursework is that doctoral students should complete all coursework and pass all the written and oral examinations before embarking on the long journey of thesis writing process. As such, students are assigned supervisors only after this policy has been observed fully.

The second item sort to know if part time studies constraint doctoral students' time therefore affecting their research. Both lecturers and students agreed ( $m=3.40$ ) and ( $m=4.12$ ) respectively. Most of them attributed this to students' divided attention. Job commitment, family responsibilities and university studies-all addressed concurrently were said to be the main factors which constraint doctoral students in their research work.

The fourth objective of the study was to examine how different study programmes such as part time or full time affect completion of doctoral studies. The current study did not found any relationship between different study programmes and doctoral

completion rates in education at public universities in Kenya. Similarly, testing of the null hypothesis did not detect any significant relationship between different study programmes and doctoral completion rates (0.160) at 0.05 level of acceptance. The null hypothesis test was therefore accepted. The study concluded that different study programmes do not influence doctoral studies completion rates.

However, responses to research question three seem to have elicited mixed reactions more so among doctoral students. While they are in support of coursework, at another hand, they see it as a constraining factor. Working in isolation and probably at a distance from colleagues and the supervisors seems to scare doctoral students universally ( Lovitts, 2001., Ali & Kahun2006).The issue of coursework and examinations is now a universally accepted practice after several empirical studies pointed out that the practice yield more merits than demerits- more so to the doctoral students (Shulman 2010, Ray, 2007, Grover 2007, Novell 2006, Erdem & Oze 2003 and Buchanam & Herubel 1995).

#### **4.8 Students' Related Factors and Doctoral Studies Completion Rates in Education at Public Universities in Kenya**

The fifth objective of the study was to examine student related factors that influence doctoral completion rates based on Likerts Scale where 1=SD, 2=D,3=U, 4=A and 5=SA. Seven items were presented to the respondents to comment on The responses were summarized and presented in table 4.21 and table 4.22



**Table 21: Students Related Factors and Doctoral Studies Completion Rates (Lecturers' Responses)**

	KU			MOI			UoN			Mean
	N	Mean	Std. Deviation	N	Mean	Std. Deviation	N	Mean	Std. Deviation	
i. Many students fail to complete their theses in a timely fashion due to lack of academic writing skills.	58	3.48	1.06	34	3.76	1.08	23	3.91	1.20	<b>3.71</b>
ii.Lack of communication skills, argumentation and logical presentation among students cause prolonged completion of thesis writing process	58	4.41	.62	34	4.15	.86	23	4.09	1.08	<b>4.21</b>
iii. Difficulty in selecting research topic or change in direction of it is associated with prolonged completion	58	4.16	.87	34	4.18	.94	23	4.39	.65	<b>4.24</b>
iv. Family, job and other social responsibilities among student contribute to prolonged completion	58	3.69	.98	34	3.85	1.13	23	5.70	2.75	<b>4.41</b>
v. Demographic factors such as age and gender can influence time to degree.	58	4.28	.76	34	4.41	.89	23	4.61	.58	<b>4.43</b>
vi. Lack of adequate financial support can cause prolonged completion	58	3.91	.94	34	4.24	1.12	23	3.96	1.19	<b>4.03</b>
vii.Lack of adequate skills in review of literature cause prolonged completion	58	4.39	1.24	34	4.58	.71	23	4.04	.56	<b>4.33</b>
	Valid N =115									<b>4.19</b>

Table 4.21 provides a summary of lecturers' responses to items testing student related factors. Lecturer rated most of the items high. This means that majority of the respondents strongly believe that all the items tested are significant student related factors influencing doctoral studies completion rates. On whether or not inadequacy in thesis writing skills among doctoral students contributed to prolonged time-to degree. Lecturers agreed (m=3.71) that indeed lack of thesis writing skills was a contributing factor to a prolonged time to degree. During interview sessions, most respondents both lecturers and students affirmed that inadequacy in thesis writing skills was one of the major undermining factor on timely completion of doctoral study programmes. Lecturers mentioned several reasons against the factors surrounding students and therefore hinder them from earning the degree in a timely fashion. Most of the reasons are within the students' socio-economic live. Lack of adequate funding, job and family responsibilities and socio environmental among so me. Table 4.22 provides a summary of the students' responses to student related factors influencing doctoral studies completion rates.

#### 4.22 Students Related Factors and Doctoral Studies Completion Rates (Doctoral Students' Responses)

	KU			MOI			UoN			Mean
	N	Mean	Std. Deviation	N	Mean	Std. Deviation	N	Mean	Std. Deviation	
i. Doctoral students fail to utilize the teaching/learning resources available.	148	4.22	.84	114	4.74	1.63	125	4.57	.84	<b>4.51</b>
ii. Lack of student intrinsic motivation and commitment cause prolonged completion	148	3.88	1.06	114	3.89	1.18	125	4.30	.85	<b>4.02</b>
iii. Difficulty in selecting research topic or change in direction of it is associated with prolonged completion	148	4.06	1.08	114	4.02	1.14	125	4.27	.87	<b>4.11</b>
iv. Family and peer group moral support helps students to realize a timely completion	148	4.49	.69	114	4.02	1.14	125	4.27	.87	<b>4.26</b>
v. Lack of adequate financial support causes prolonged completion	148	3.98	.87	114	4.08	1.09	125	3.89	1.06	<b>3.98</b>
Valid N =388										<b>4.18</b>

Table 4.22 provide the summary of students' responses to items presented under student related factors. Just like lecturers, students also rated most of the items high. This means that majority of the respondents strongly believe that all the items tested are significant student related factors influencing doctoral studies completion rates. During interview sessions, most students affirmed that inadequacy in thesis writing skills was one of the major undermining factor on timely completion of doctoral study programmes. Lack of adequate funding, job and family responsibilities were the main factors related to the students and undermine completion of doctoral studies in a timely fashion.

Testing of the Null Hypothesis  $H_0$  (Student related factors have no influence on doctoral completion rates) was done to determine whether or not Independent Variable (Student Related Factors) have any significant influence on the Dependent Variable (Doctoral Completion Rates).The results is presented in Table 4.2



**Table 4.23 Regression Coefficient for Student Related Factors**

Hypothesis H<sub>05</sub>: Student related factors have no significant effect on completion rates of doctoral studies in education at public universities in Kenya.

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std Error	Beta	t	Sig
1	Constant	2.569	.349		7.366	.000
	Supervision factors	-1.024	.214	-.256	-4.779	.000

a. Dependent Variable: Completion rate

Table 4.23 interprets the standardized regression coefficients (Beta). In estimating the contribution of student factors to completion of doctoral studies, it was established that student factors had a significant contribution to doctoral completion rates ( $p=0.00$ ). The null hypothesis H<sub>05</sub> was therefore rejected.

Looking at the responses to all the factors related to the students, the immediate impression is that student related factors seem to be the major determinants on doctoral completion rates. For example the first item requested the respondents to comment on whether inadequacy in thesis writing skills among doctoral students contributed to prolonged time-to degree. This item was presented to lecturers only. The assumption was that students, just like many other human beings, might not accept liability in terms of lack of writing skills. Lecturers agreed ( $m=3.71$ ) that indeed lack of thesis writing skills was a contributing factor to a prolonged time to degree. During interview sessions, most respondents both lecturers and students

affirmed that inadequacy in thesis writing skills was one of the major undermining factor on timely completion of doctoral study programmes.

The findings of the current study are in agreement with Siegel (2005) who noted that high entrance scores contributed to success. Similarly, Karns, Gardiner & Marshal (2008) reported that personal situation of the student including academic ability and language skill determine the time to degree. The second item was on personal ability to communicate. The item was presented to lecturers and HoDs only on the same grounds as in item one. The respondents strongly agreed ( $m=4.21$ ) that difficulty in personal self expression undermines the individuals timely completion. Most students interviewed mentioned identification and application of the most relevant statistics like T-test, Chi-square test etc as some of the area that are most daunting in thesis writing process.

The third item required the respondent to comment on whether challenges related to topic selection or change in the direction of it influence time-to -degree. Both lecturers and students strongly agreed ( $m=4.24$ ) and ( $m=4.11$ ) lecturers and students respectively. A good number of students said they had to seek advice from their supervisors. Most common challenges cited included difficulty in identifying a researchable topic in the area of one's discipline and narrowing it appropriately. The fourth item required the respondents to comment on whether family and job commitment among doctoral students influence time to degree. Both lecturers and students agreed ( $m=4.41$ ) and ( $m=4.11$ ) lecturers and students respectively, giving an average mean of 4.26. Their responses indicated that family responsibility and job commitment are some of the major derailing factors in timely completion of doctoral studies.

During interviews, 70.87% of lecturers interviewed and 90.68% of the students indicated that family responsibility and job commitment are some of the major derailing factors in timely completion among doctoral students.

One of the lecturers note;

*“ the main causes of delayed completion are issues related to external variables like job and family commitment, financial needs, supervisor/supervisee rapport and too committed supervisors”.*

A similar comment was recorded from a student who commented;

*“most of the doctoral students are working and family members. They have divided attention between doctoral work and roles related to work and family. Students’ work should be promptly attended to once it is received despite other work that the supervisor was doing”.*

Some students reported that they become impatient when they are asked to keep on waiting for unspecified period of time. The current findings are in line with Jimenez (2011) and Smith, Maroney, Nelson, Abel ,& Abel, (2006) who noted that doctoral education students work full time as principals, administrators or teachers with academic responsibilities serving to intensify demands on their energy, commitment and time. This explains why education graduate students take longer period of time to degree as compared to their counterparts in other disciplines. The fifth item required the respondents to comment on whether demographic factors like age and gender can

influence time to degree. The responses showed a sharp difference between the perception of lecturers and that of students. While lecturers across the universities agree (m=4.43) that age, gender and other demographic factors strongly influence time - to-degree in doctoral studies, students on the other hand disagreed (m=2.86). Most of the lecturers interviewed across the universities believe that age, gender and other demographic factors strongly influence time - to-degree. About half of doctoral students believe that demographic factors have any significant influence.

The respondents were asked to comment on whether lack of adequate financial support among students could be a cause of prolonged completion. Both lecturers and students agreed (m=4.03) that financial related challenges among students lead to a prolonged completion of doctoral studies and a major cause of drop-out. It is however undoubtedly that finance is the backbone of continuation in doctoral studies. Even though so, students optimism and expectations of a bright future upon acquiring the doctorate for example a well paying job, diminishes the pain of cost constraints. When students' experience with their departments and supervisors are more positive, they are more likely to accept greater financial burdens in order to continue attendance than when the experiences are unsatisfactory.

Asked whether they are sponsored or are self sponsored, the response showed that 81.43% of the respondents were self sponsored. The rest were either partially or fully sponsored. On whether they had ever applied for scholarships, majority (58%) noted that they had not. Among those who had applied, most of them did not receive any financial grant. The few who succeeded were either employees of the funding organization or were from arid regions of the country and were being supported by

their constituency bursary kid. A very small fraction reported having received grants from none governmental organizations like DAAD among a few other organizations.

The findings of the current study are in line with Lovits and Nelson (2000) who noted that self financing doctoral students are less likely to complete their graduate studies than students who receive funding irrespective of type. Earl- Novel (2001) reported that full fellowship students are more at risk of no-completion than their funded counter-parts. During interview session, students and lecturers made some suggestion. Aminada, a student The University of Nairobi noted;

*“Before a student is registered for a doctoral study programme, the department responsible should carry out a needs assessment on the student’s preparedness in terms of work commitment, financial support and experience. This will ascertain whether the student is capable to pursue the degree to completion or not”.*

Ng’eno (M.U) emphasized that organizing concept paper presentation as part of the course is necessary to familiarize the student with thesis development skill (personal communication June, 14<sup>th</sup> 2015).

Several students and lecturers noted that most of the doctoral students are working and family members who have divided attention between doctoral studies and roles related to work and family. Majority suggested that students’ work should be accorded prompt attention once it is received. On T/L resources, many noted that most books have to be imported because very few authors have articulated on the local context. He suggested that local professors should publish widely to give students good literature to review.

In relation to student related factors, it is a universal reality that most doctoral students have many challenges such as family and job responsibility, financial constraints and stress partly caused by isolation and delayed feedback from supervisors and external examiners. Although student related factors, appear to be the main factors influencing doctoral studies completion rates, none of it stands on its own. All the five factors examined are intertwined and the kind and magnitude of interplay between and among them, combine to determine the overall outcome. For example, the efficiency and effectiveness of supervisors largely depends on the decisions, policies and practices of the university management. A prudent university or faculty management will ensure a prudent supervision process is in place and vice versa.

Issues to do with remuneration of lecturers, timely payment of supervision interest and other forms of incentives, are controlled by the management. Therefore if supervisors are adequate or inadequate, motivated or not motivated, overloaded or not overload, is just a factor of university management. Similarly, lack of adequate number of relevant T/L resources, policies and requirements governing various study programmes, are all directly linked to the management. Students' delayed completion or drop-out may not necessarily be associated with lack of academic expertise, financial or other external variables like family and job commitment come into play. In any case, a student is usually enrolled with a proven academic ability. Armed with full knowledge of financial requirements in form of fees and other stipend expenses, the student enrolls with a determination to complete in a timely fashion. Why then should the student delay or decide to discontinue? Some of the factors behind students' academic turmoil are associated with the other four factors (institutional, supervision, programme and T/L resources). For example if there is lack of adequate

guidance from the supervisor, delayed reading and return of students' work, lack of appropriate referent materials or a fragmented study programme, all these among others will combine to deter the students' timely completion.

After a thorough examining, analysis and triangulation of the research findings based on items presented in relation to research objective one, it is worth pointing out that out of all the areas examined, three major factors featured out prominently as factors with more influence than the rest. These are student per capita, lack of commitment by the university/faculty management to improve completion rates and time to degree and policies governing doctoral study. The student per capita is a challenge that has emerged as a result of high student enrolment without commensurate number of lecturers. Lack of commitment by the university manage is linked to lack of statistics on completion rates.

#### **4.9 Doctoral Studies Completion Rates**

In order to determine doctoral studies completion rates in education at the selected public universities in Kenya, document analysis was done. With the use of a document analysis guide, statistics on student enrolment and graduation were captured. The documents analyzed were doctoral student enrolment records and graduation records. The total number of doctoral students enrolled between the year 2001 and 2015 inclusive was determined. The purpose was to make a follow-up of each student and study their completion rates and completion time –line- trends. The enrolment statistics are presented in table 4.24



**Table 4.24: Doctoral Student Enrolment (2001-2015)**

	University of Nairobi		Kenyatta University		Moi University		Sub-Total		Grand total
	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	
2001	-	-	6	2	2	0	8	2	10
2002	-	-	3	2	2	1	5	3	8
2003	1	-	4	4	1	1	6	5	11
2004	2	1	8	7	1	5	11	13	24
2005	2	1	23	13	1	1	26	15	41
2006	1	1	32	13	11	7	44	21	65
2007	1	1	26	17	18	6	45	24	69
2008	2	1	24	33	16	16	42	50	92
2009	4	2	33	31	17	23	54	56	111
2010	5	0	36	43	12	6	53	49	102
2011	13	14	27	33	22	23	62	70	132
2012	20	16	33	55	11	27	64	98	162
2013	29	31	32	29	11	18	72	78	150
2014	15	11	28	21	18	10	61	42	103
2015	13	14	6	2	15	12	33	28	61
<b>Total</b>	<b>108</b>	<b>83</b>	<b>321</b>	<b>305</b>	<b>77</b>	<b>90</b>	<b>506</b>	<b>478</b>	<b>984</b>

Source: University enrolment/admission records as at 30<sup>th</sup> July 2015

Table 4:24 shows that a total of 506 male and 478 female students enrolled for doctoral study programmes in education in the three universities between the year 2001 and 30<sup>th</sup> September 2015. Some institutions lack some of the data on their enrolment statistics. It also shows that enrolment was not event across the universities. Completion statistics were also determined. This were computed by working out the total number of years each student spent from enrolment date to graduation date including breaks that the student might have taken within the time of studies. The enrolment date is the date the student was registered for the doctoral degree programme. Most universities offer such registration only after the student has successfully passed the preliminary examinations that in most cases are either oral, written or both. The oral examination in most cases is the defense of the research

proposal. The graduation date (as contained in the graduation list) was taken to be the completion date. The completion statistics per institution were compiled and presented in table 4.25

**Table 4.25: Completion Statistics per Institution**

	University of Nairobi		Kenyatta University		Moi University		Total		Grand total
	M	F	M	F	M	F	M	F	
2001	-	-	4	1	2	0	6	1	7
2002	-	-	2	2	2	1	4	3	7
2003	0	0	3	3	1	1	4	4	8
2004	1	1	4	4	1	5	6	10	16
2005	1	1	6	5	1	1	8	7	15
2006	0	1	19	10	10	7	29	18	47
2007	0	1	7	10	9	15	16	19	35
2008	1	1	7	3	13	9	21	13	34
2009	3	1	4	7	14	16	21	24	45
2010	3	0	2	5	4	3	9	8	17
2011	3	2	1	5	1	1	5	8	13
2012	4	1	0	0	0	0	4	1	5
2013	0	0	0	0	0	0	0	0	0
2014	-	-	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>18</b>	<b>10</b>	<b>59</b>	<b>55</b>	<b>58</b>	<b>61</b>	<b>135</b>	<b>117</b>	<b>252</b>

Source: University graduation books

Table 4.25 Provides the number of doctoral candidates who earned the degree. In total, 252 candidates (135male and 117 female) managed to graduate with doctoral degrees in the three institutions between 2001 and 2015. Completion rates were then computed from the sum totals of the completion figures. The completion rates were compiled and presented in table 4.26

**Table 4.26: Doctoral Completion Rates**

Year	Male			Female			Total		
	<u>Enrol</u>	<u>Com</u>	<u>%</u>	<u>Enrol</u>	<u>Com</u>	<u>%</u>	<u>Enrol</u>	<u>Com</u>	<u>%</u>

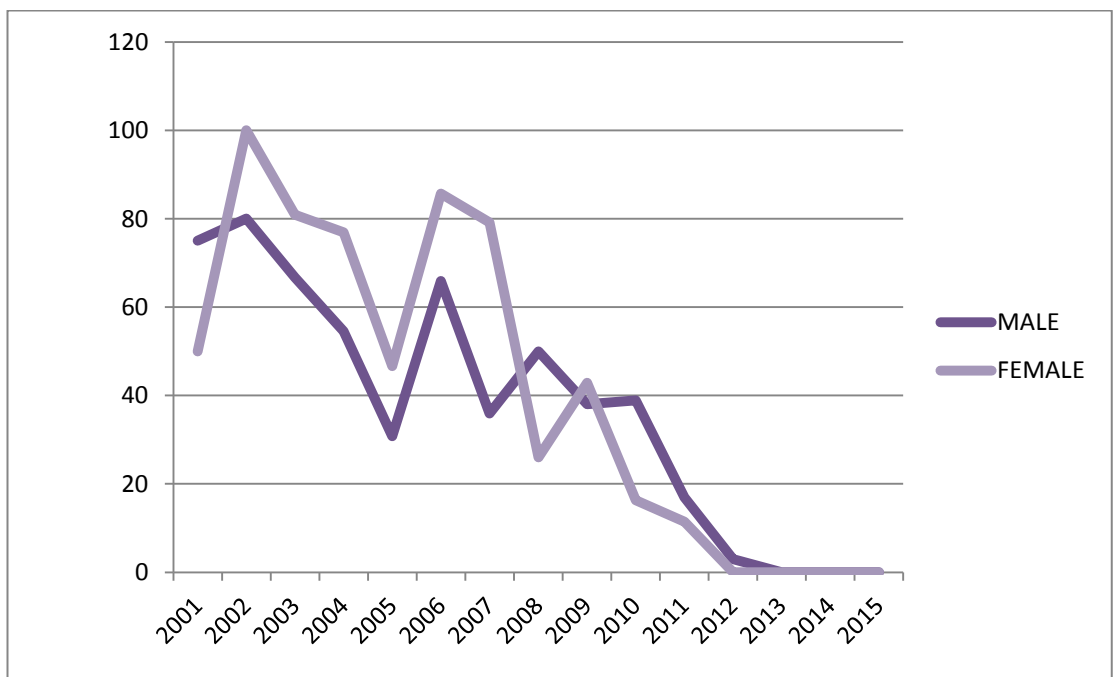
2001	8	6	75.00	2	1	50.00	10	7	70.00
2002	5	4	80.00	3	3	100.00	8	7	87.50
2003	6	4	66.67	5	4	80.00	11	8	72.73
2004	11	6	54.54	13	10	76.92	24	16	66.67
2005	26	8	30.77	15	7	46.67	41	15	36.59
2006	44	29	65.91	21	18	85.71	65	47	72.31
2007	45	16	35.56	24	19	79.17	69	35	50.72
2008	42	21	50.00	50	13	26.00	92	34	36.96
2009	54	9	38.89	56	24	42.86	111	45	40.54
2010	53	9	16.98	49	8	16.33	102	17	16.67
2011	62	5	8.06	70	8	11.43	132	13	9.85
2012	64	4	6.25	98	1	1.02	162	5	3.09
2013	72	0	0.0	78	0	0.0	150	0	0.00
2014	61	0	0.0	42	0	0.0	103	0	0.0
2015	33	0	0.10	28	0	0.0	61	0	0.0
<b>Total/ mean</b>	<b>506</b>	<b>135</b>	<b>35.43</b>	<b>478</b>	<b>117</b>	<b>41.16</b>	<b>984</b>	<b>252</b>	<b>25.61</b>

Source: Computed from enrolment and completion statistics

Table 4.23 shows the number of students who earned the degree from the enrolment of each year. For example, out of a total of eight male students who enrolled for PhD study programmes in the year 2001, only six (75%) of them managed to earn the degree. Their female counterparts who enrolled for the same study programme that year were two. Only one (50%) earned the degree. In total, out of all the 984 PhD students enrolled between 2001 and 2015, only 25.61% had managed to earn the degree as at the end of the year 2015. However, the bulky population of the students were enrolled from the year 2009 and therefore assumed to be still working on their theses. The figures suggest that completion rates kept on dropping over time. For

example between 2001 and 2007, the completion rates oscillated between 50% and 87%. The highest completion rate in record is 87.5% (2002 enrolment).

The completion rates for students enrolled from 2008 are still below 50%. As stated before, this was interpreted to mean that majority of them could still be writing their theses. However, students enrolled between 2001 and 2005, have been in the system for more than 10 years, thus their completion rates are not expected to change further. Those who have not earned the degree are assumed to have dropped, transferred or exited through natural attrition. Table 4.18 shows that completion rates kept on dropping in both genders from about 80% to about 41% from 2001 to 2009. In order to visualize the completion rates time-line- trends over the 15 years period of time, the completion rates were plotted graphically and presented as figure 4.2



**Figure 4.2 Doctoral Completing Rates**

Figure 4.2: Doctoral Completion Rates -Line -Trends (2001-2015). It shows that except in 2001, during the preceding seven years, more female than male candidates earned the degree. The overall completion rate oscillated between 60-80%. However, from 2009 onward, the gender completion rates- line- trends seems to have reversed. More male than female candidates earned the degree. These are early completers and it is like majority of those who complete the studies in a timely fashion are male candidates. As stated before, majority of students enrolled from 2009 onwards were assumed to be still writing their theses. Their current completion rates could not be interpreted to mean anything worth generalizing. One very interesting message conveyed by the figure is that in average, the completion rates for both genders have been on their downward trend throughout the entire period of time observed.

On the question of time –to-completion, the study made a follow up of every student from the day of enrolment to the day of graduation. The graduation day was taken to mean completion time. This provided the total number of years an individual candidate spent to earn the degree. To obtain the average time- to – degree, the sum total of years taken by the candidates to earn the degree were divided by the number of candidates who earned the degree. For example, in 2001, six male candidates managed to earn their PhD degrees. The earliest to graduate were in 2005 (4 years down the line) and the last was in 2011 (10 years after enrolling).The sum total of the number of years taken by the six men were divided by their total number (6). This resulted in an average of 7.1 years. The only female student, who earned the degree from the 2001 enrolment, spent 9 years to complete. The findings were computed and summarized in table 4.27

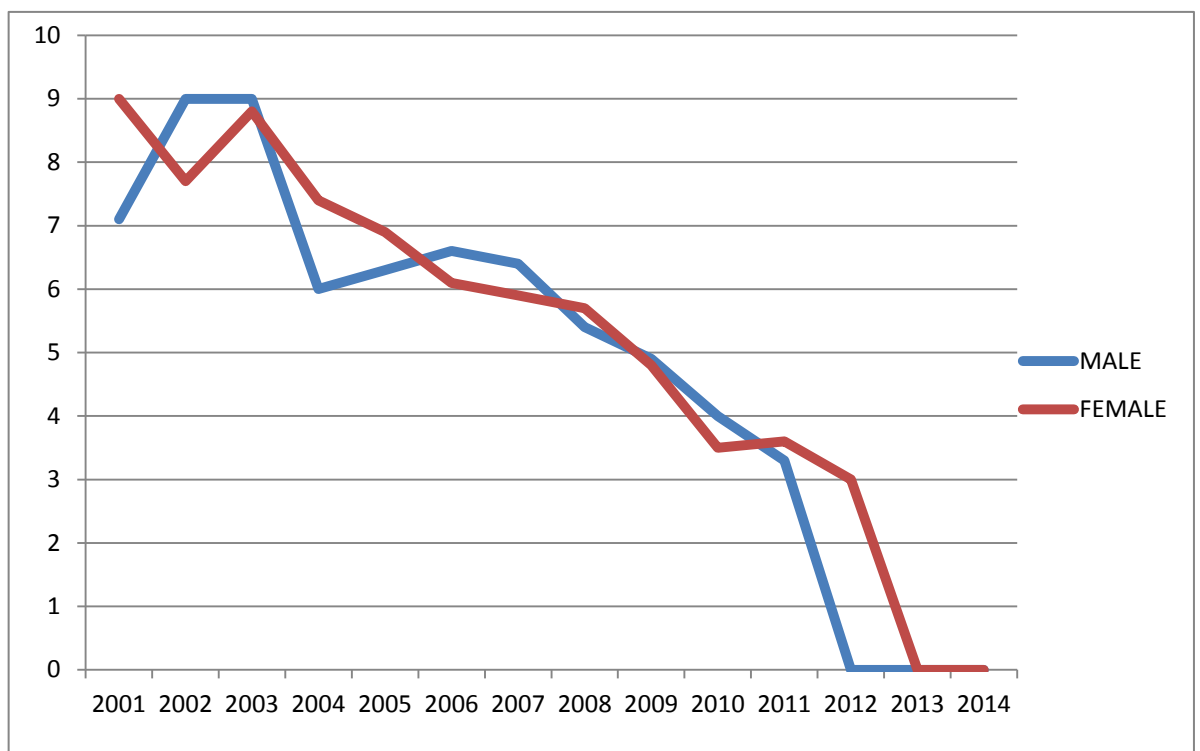
**Table 4.27: Completion Trends (Dispersion)**

Enrol l year	Gender	Entry													Tota l	Average time spent (yrs.)
			2005	2006	2007	2008	2009	2010	2011	2011	2013	2014	2015			
2001	M	8	2			1		2	1					6	7.1	
	F	2						1						1	9	
2002	M	5				1			1	1	1			4	9	
	F	3			1		1				1			3	7.7	
2003	M	6						1	1		2			4	9	
	F	5			2			1	1					4	8.8	
2004	M	11						3	2			1		6	6.0	
	F	13				1	3	2	1	1		2		10	7.4	
2005	M	26					2		3	1	1	1		8	6.3	
	F	15						2	2	1		1	1	7	6.9	
2006	M	44						4	6	6	7	4	3	29	6.6	
	F	21						5	3	2	3	4	1	18	6.1	
2007	M	45							1	4	6	5	1	16	6.4	
	F	24							2	7	3	5	2	19	5.9	
2008	M	42							1	3	6	8	3	21	5.4	
	F	50								1	5	4	3	13	5.7	
2009	M	54								2	3	11	5	21	4.9	
	F	56								3	5	11	5	24	4.75	
2010	M	53								1	3	3	4	9	4.0	
	F	49									4	3	1	8	3.5	
2011	M	62										2	3	5	3.6	
	F	70										3	5	8	3.6	
2012	M	64										1	1	1	0.5	
	F	98											1	1	0.01	
2013	M	72														
	F	78														

Source: Computed from enrolment Verses completion record.

Table 4.27 indicates that out of a total of 132 (62 male and 70 female ) doctoral students registered in 2011, only 26 (10 male and 16 female ) had graduated by the end of 2015. This translates to 19.69 % earning the degree within five years of their doctoral studies. A total of 162 students enrolled in 2012 and by the end of 2015,only 5 of them (eight male and two female) had graduated by the end of 2015. This represents 6.17 % earning the degree after four years of studies.

It is also evident that the average time- to- degree between 2001 and 2003 oscillated between seven and nine years, with ladies taking a slightly longer period of time than their male counterparts. Thereafter the total time- to -degree kept on reducing but oscillating between six and seven years. To determine which gender had shorter time- to-degree than the other during the entire period of 15 years, their respective mean completion time were plotted and presented graphically as figure 4.3



**Figure 4.3: Doctoral Studies Completion Time**

Figure 4.3 show doctoral studies completion time –line- trends .The average time to degree had been dropping over the entire period of 15 years. To determine periodic completion time -line trends, they were grouped into four cohorts of three years each. This was informed by observations made by a number of HoDs that they review their doctoral studies requirements periodically. The cohorts were (2001-2003), (2004-2006), (2007-2009) and (2010-2012).

During the first cohort (2001-2003), male students spent an average of 8.37 years while the female candidates spent an average of 8.50 years to earn the degree. This shows that men completed the studies 0.13 years (approximately one month) earlier than the women did. During the second cohort (2004-2006), male candidates spent an average of 6.30 years while the female students spent an average of 6.80 years to earn the degree. This gives a difference of 0.50 years in favor of male students. During the third cohort (2007-2009), male students spent an average period of 5.57 years while the ladies spent an average period of 5.45 years. This gives a difference of 0.12 years (approximately one month) with ladies taking a shorter period of time. During the last cohort (2010-2012), men spent an average of 3.63 years while the ladies lasted about 3.37 years. This gives a difference of 0.26 years which is approximately three months, again in favor of ladies.

Although figures from the last cohort (2010-2012) cannot be interpreted to mean anything significant due to the fact that majority of the students are still writing their theses, the information coming out clearly is (a) the difference in time-to-degree between male and female students for the last one and the half decades is in terms of months. Since the difference has been alternating in favor of either gender, then the interpretation here is that there is no difference in time-to-degree between male and female students in doctoral studies. (b) The average time-to-degree has been reducing progressively from about nine years in 2001 down to about six years by 2008. As stated before, the figures for the years 2009 onward represents early completers. The bulky of the student population are still working on their theses.

Considering the progressive reduction in the average time-to-degree from about nine years to about six years between 2001 and 2008, without overlooking at the average



time taken by those who enrolled from 2009 onward and have completed, the interpretation is that public universities in Kenya are progressing towards their doctoral studies completion time limit. The policy in most public universities is that doctoral studies should take a minimum period of three years and a maximum of five years. Most of them are not yet there yet but are progressing towards it.

#### **4.10 Summary of the Chapter**

The findings of the study show that all the items presented to respondents influence doctoral completion rates in one way or another and with different magnitudes. However, under each of the five research objectives, the responses reveals that there are pertinent issues under each objective. These more weighty issues have more influence than the rest. From the first research objective, items that were reported to have more influence were (a) inadequate number of lecturers (60.06%), (b) lack of adequate commitment among the university management in ensuring timely completion of thesis writing process (68.26 %) and (c) policies and programme requirements governing doctoral study programmes (77.84 %). The three give an average of 68.70% magnitude of their influence. Out of all the items tested under supervision related factors, three of them emerged more critical than the rest. These are (a) the need for more supervisors (87.14 %), inadequate contact time between supervisor and supervisee (80.35 %) and the need for supervisors to update their supervisory skills (87.42 %). The three give an average 84.91% level of influence.

The second objective of the study was to investigate supervision related factors influencing doctoral studies completion rates in education at selected public universities in Kenya. The study found out that there are several supervision related factors that influence doctoral studies completion rates. Testing of the null hypothesis

also indicated that there is a relationship between supervision process and doctoral completion rates ( $p=0.000$ ) at 0.05 level of acceptance. The following factors featured out as the key supervision related factors influencing doctoral studies completion rates. Lack of adequate time for supervision due to heavy workload brought about by multiple responsibilities. Balancing between teaching, personal research, supervision and for some, management responsibility is a major challenge.

Lack of standard supervision guidelines to guide the process of supervision. Lack of commitment among supervisors partly due to lack of incentives and to some, work environment. Dealing with students who have a fixed mind set and so are not willing to learn. Students resistance or inability to make corrections. Some students want to complete without caring about quality - situation characterized by plagiarism and recycling of previous research findings. Very high per capita candidates. The number of lecturers in the universities studied are about 50%. The rest are tutorial fellows who by the level of their academic development, they cannot supervise thesis writing process.

The third objective of the study was to examine how Teaching/Learning resources influence doctoral studies completion rates in education at public universities in Kenya. The study found out that there is a relationship between T/L resources and doctoral studies completion rates. Similarly the testing of the null hypothesis showed that a relationship exist between T/L resources and doctoral studies completion rates ( $p=0.005$ ) at 0.05 level of acceptance. The main factors noted are lack of adequate space specially lecture halls, non functioning ICT facilities and poor internet connectivity and inadequate reading materials. Most of the books and journals available are old and outdated. Most universities do not have departmental resource

centres. The situation in some campuses is even more worse-specially campuses located in small towns –far a way from the main campus.

The fourth objective of the study was to examine how different study programmes such as part time or full time affect completion of doctoral studies. The current study did not found any relationship between different study programmes and doctoral completion rates in education at public universities in Kenya. Similarly, testing of the null hypothesis did not detect any significant relationship between different study programmes and doctoral completion rates (0.160) at 0.05 level of acceptance. The null hypothesis test was therefore accepted. The study concluded that different study programmes do not influence doctoral studies completion rates.

The fifth research objective was to determine student related factors that influence doctoral studies completion rates in education at public universities in Kenya. Testing of the null hypothesis showed that student related factors influence doctoral completion rates ( $p=0.000$ ) at 0.05 level of acceptance. The study found out that student related factors influence completion of doctoral studies. Testing of the null hypothesis confirmed the same. The main student related factors noted were inadequate financial support, inadequate thesis writing skills, family responsibility and job commitment. In order to establish the institutional and student related factors influencing doctoral studies completion rates in education in the selected public universities in Kenya, the researcher conducted a regression analysis. The researcher applied the statistical package for social sciences (SPSS) aid in the computation of the measurements of the multiple regressions for the study. A multiple regression analyses was conducted.

The following hypotheses were tested;

H<sub>01</sub>: Administrative factors have no significant influence on doctoral studies completion rates in education at public universities in Kenya.

H<sub>02</sub>: Supervision process related factors have no significant influence on completion of doctoral studies in education at public universities in Kenya.

H<sub>03</sub>: Teaching/learning resources have no significant effect on completion of doctoral studies in education at public universities

H<sub>04</sub>: Different modes of study; full-time or part-time, have no significant effect completion of doctoral studies in education at public universities in Kenya.

H<sub>05</sub>: Student related factors have no significant effect on completion rates of doctoral studies in education at public universities in Kenya.

#### **Analysis of Variance**

The 0.05 level of significance was used to reject or accept each of the hypotheses

**Table 4.28: Analysis of Variance of Institutional and student related Factors on**

Model		Sum of squares	Df	Mean Square	F	Sig.
1	Regression	26.216	5	5.243	18.333	.000 <sup>a</sup>
	Residual	31.175	109	.286		
	Total	57.391	114			

#### **Doctoral Completion Rates.**

a. Predictors: (Student factors, Program factors, Institutional factors, Supervision factors, T/Learning factors)

b. Dependent Variable: Completion rate

From the analysis of variance in table 4.28, the F Test of 18.333 indicates that the regressions explanatory power on the overall significance was strong. The significance value of 0.00 obtained implies that the regression model was significant in predicting the relationship between institutional and student related factors and doctoral studies completion rate as it was less than  $\alpha = 0.05$ . This significance level means that the chances are almost zero that the results of the regression model were due to random exogenous events instead of the true relationship existing in the model.

### Regression Model

Regression analysis was used to predict statistical significance between the dependent and independent variables. Regression analysis measures the effect of the relationship of the independent variables on the dependent variable. The researcher conducted a multiple regression analysis to investigate the impact of the given independent variables (Student factors, Program factors, Institutional factors, Supervision factors) on doctoral studies completion rates in Kenya. The model used for the regression analysis was expressed in the form of the equation below:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \epsilon$$

where  $X_1$  = Institutional factors,  
 $X_2$  = Supervision factors,  $X_3$  = Program factors,  $X_4$  = Teaching/learning factors and  
 $X_5$  = Student factors

### Test of hypotheses

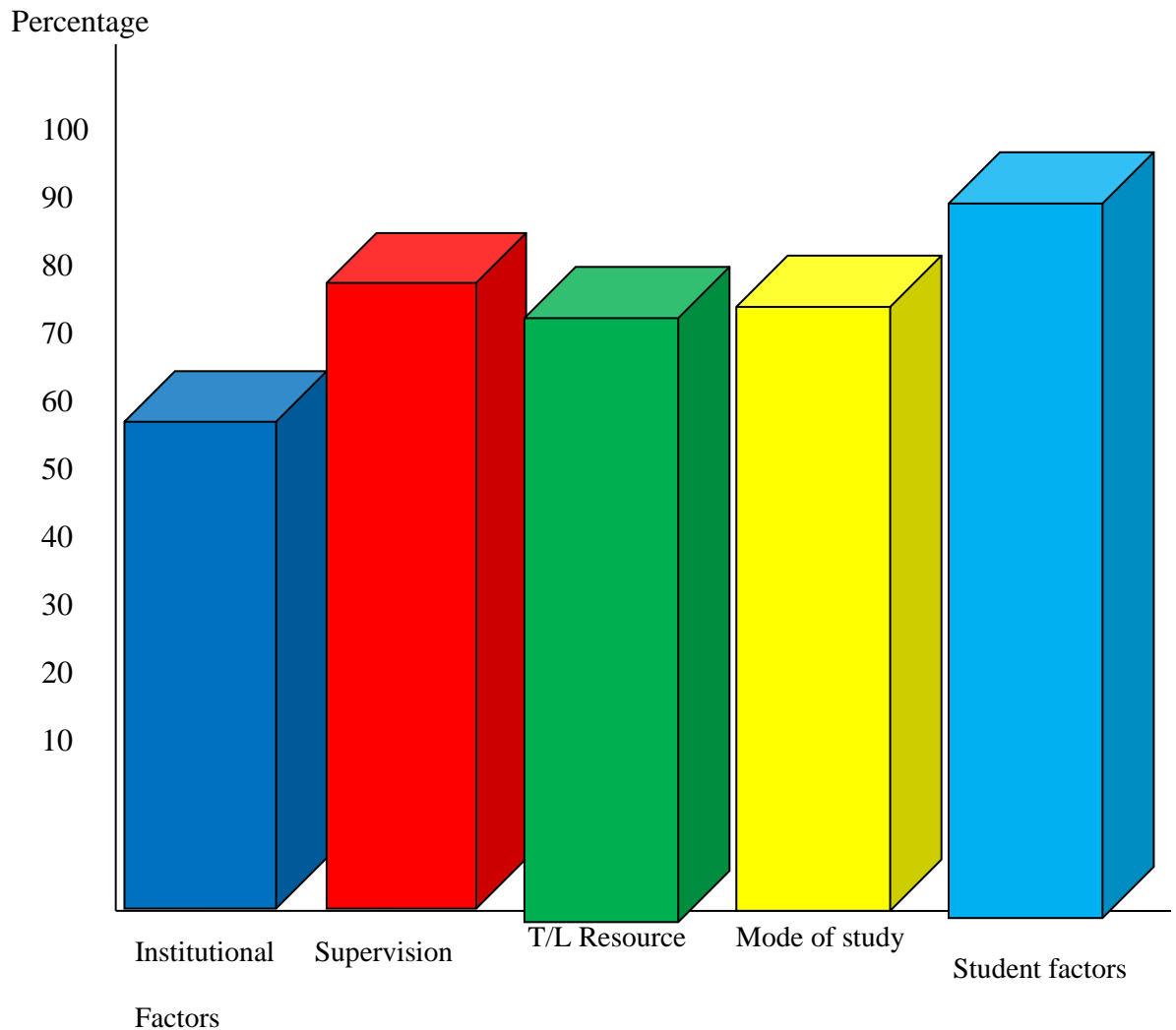
**Table 4.29: Model Summary**

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.676 <sup>a</sup>	.657	.652	.343
a. Predictors: (Constant), Student factors, Program factors, Institutional factors, Supervision factors, T/Learning factors				

Coefficient of determination explains the extent to which changes in the dependent variable (completion rate) can be explained by the change in the independent variables or the percentage of variation in the dependent variable that is explained by all the four independent variables (Student factors, Program factors, Institutional factors, Supervision factors, T/Learning factors). The five independent variables that were studied, contribute 65.7% of the effects of institutional and student related factors on doctoral studies completion rates as represented by the  $R^2$ .

This therefore means that there are other factors not studied in this research that contributes 34.3% of doctoral studies completion rates in Kenya. Therefore, further research should be conducted to investigate these factors. From the foregoing, the study interpreted and thus concluded that the kind of interplay and interaction of parties, forces and processes within the supervision process, determine the supervision climate and therefore time to degree.

All the five research objectives examined are interlinked together and form a kind of a system that operates as one whole. Any alteration in one or part of it, influence the other parts of the system. This explains why the Formal System Theory was the most appropriate for the current study. The findings of the current study were summarized to identify which one among the five variables studied has more influence than other on doctoral completion rates. The summary are presented in form of bar graphs and presented as figure 4.4



**Figure 4.4: Graphical representation of Factors Influencing Doctoral Studies Completion Rates in Education**

Figure 4.4 suggest that supervision process and student related factors are the main factors influencing doctoral completion rates in education at public universities in Kenya. From the foregoing responses, it appears that the major student related factors that hinder timely completion of thesis writing process are socio-economic and intrapersonal thesis writing skills. The socio- economic factors comprise mainly inadequate financial support and personal commitment in terms of family responsibility and job commitment.

## CHAPTER FIVE

### SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 This chapter presents the summary of the study, the conclusion based on the findings, recommendations and suggestions for further studies.

#### 5.2 Summary of the Study

The study sought to investigate institutional and student related factors influencing doctoral studies completion rates in education at public universities in Kenya . A number of research objectives were set to guide the collection of the required information. The objectives of the study were, to establish institutionnal administrative related factors influencing doctoral studies completion rates in education at public universities in Kenya, determine if supervision related factors influence completion of doctoral studies completion rates in education at public universities, examine how Teaching/Learning resources influence completion of doctoral studies completion rates in education, establish if there was any relationship between different study programmes and completion of doctoral studies and to examine how student related factors influence doctoral studies completion rates in education.

The following hypotheses were

tested: H<sub>01</sub>: Administrative factors have no significant influence on doctoral studies completion rates in education at public universities in Kenya.

H<sub>02</sub>: Supervision process related factors have no significant influence on completion of doctoral studies in education at public universities in Kenya.

H<sub>03</sub>: Teaching/learning resources have no significant effect on completion of doctoral studies in education at public universities



H<sub>04</sub>: Different modes of study; full-time or part-time, have no significant effect on completion of doctoral studies in education at public universities in Kenya.

H<sub>05</sub>: Student related factors have no significant effect on completion rates of doctoral studies in education at public universities in Kenya.

Each hypothesis H<sub>01</sub>-H<sub>05</sub> was tested for significance using regression coefficient (Beta) at  $p=0.05$  level of significance. The findings of the hypotheses complemented the findings of the descriptive statistics and observations made on the other research instruments.

The researcher studied The University of Nairobi, Moi and Kenyatta Universities. The respondents were Heads of Departments, lecturers and doctoral candidates. The study adopted a descriptive survey design. Stratified and purposive sampling techniques were used to pick the participants. The total number of participants was 115 lecturers and 388 doctoral candidates. They represent 62.50% and 67.29% lecturers and students respectively. The study was guided by Abstract Systems. A questionnaire, interview guide and document analysis guide were used to collect data from lecturers and students. Reliability of the research instruments was determined by a test-retest method on a pilot study. Pearson's product correlation coefficient ( $r$ ) was used to compare the responses. The correlation coefficient ( $r$ ) was 0.969. Validity of the research instruments was based on construct and content validity. The instruments were subjected to scrutiny by the research supervisors. Quantitative data from closed ended questions was coded, entered and analyzed using Statistical Package for Social Science (SPSS). Quantitative data from open ended questions and interview were transcribed and organized according to themes, coded and some data

was tallied based on their similarities and integrated with data from closed ended questions for frequencies and percentages.

### **5.3 Summary of Research Findings**

This section presents a summary of the findings according to the objectives of the study.

#### **5.3.1 Institutional administrative relate factors influencing doctoral studies completion rates in education at public universities in Kenya.**

The results from testing of the null hypothesis show that institutional administrative factors have influence on doctoral studies completion rates. In estimating the contribution of institutional factors to completion of doctoral studies, it was established that Institutional factors had a significant contribution to doctoral completion rates ( $p= 0.000$ ) at 0.05 level of significance. The null hypothesis  $H_{01}$  was therefore rejected. The study found out that the average time to degree has been dropping progressively over the last 15 years- from about nine years in 2001 to about six and half years by 2008. Between the year 2001 and 2015, 41.16 % female students earned the degree compared to 35.43% of their male counterparts. The mean completion rate for female students was higher by 5.73% than that of their male counterparts. In terms of time-to-degree, there was no significant variation between male and female students. Between the year 2001 and 2003, female candidates spent an average of 8.50 years to earn the degree compared to male candidates with a mean of 8.37 years. From 2004 to 2006, female candidates spent an average of 6.80 years while their male counterparts spent an average of 6.30years. From 2007 to 2010, female candidates spent 5.45 years while the male group spent 5.57 years ( Table 4.11). In average, the candidates spent an average of 6.03 and 5.97 years female and

male respectively. A difference of 0.06 years which is insignificant. Therefore gender does not influence the time to degree at public universities in Kenya. The main administrative elements noted include student per capita, policies and programme requirements and low level of commitment by the university management to improve doctoral studies completion rates.

### **5.3.2 Supervision related factors influence completion of doctoral studies completion rates in education at public universities.**

The results for testing of the null hypothesis show that supervision related factors have influence on doctoral studies completion rates. The null hypothesis was tested. In estimating the contribution of institutional factors to completion of doctoral studies, it was established that Institutional factors had a significant contribution to doctoral completion rates ( $p= 0.000$ ) at 0.05 level of level of significance. The null hypothesis  $H_{01}$  was therefore rejected.

The study found out that about 50% of the teaching staff at the selected public universities are tutorial fellows. The overall ratio of teaching staff to students is 1:129 while that of supervisors to supervisees is 1:33. Lecturers are over whelmed by workload due to high student enrolment without commensurable increase in the number of lecturers. Students' research work takes weeks to months before it is looked at and returned to the student.

### **5.3.3 Teaching/Learning resources influencing completion of doctoral studies completion rates in education at public universities in Kenya.**

This part examined the influence of T/L resources in completion of doctoral studies completion rates at public universities in Kenya. In estimating the contribution of T/L

to completion of doctoral studies, the results for testing of the null hypothesis show that supervision related factors have influence on doctoral studies completion rates ( $p= 0.005$ ) at 0.05 level of level of significance. The null hypothesis  $H_{01}$  was therefore rejected. The study found out that T/L materials necessary to support doctoral studies were inadequate. The level of ICT and internet connectivity in most institutions of higher learning was still low and therefore online access to T/L materials like university's prescribed journals and other reading materials was difficult. Reading space for students was limited in many universities.

#### **5.3.4 Programme related factors influencing doctoral studies completion rates in education at public universities in Kenya.**

The findings of the current study show that different programme mode of study relate factors have no influence on doctoral studies completion rates. The test of the null hypothesis in estimating the contribution of programme mode of study related factors to completion of doctoral studies did not show any relationship between the two ( $p= 0.160$ ). The null hypothesis  $H_{04}$  was therefore accepted. The most common mode of study noted were school based, part time (evening and week end and full time -in campus. There was no significant difference in time to degree between students under either of the modes of study.

#### **5.3.5 Student related factors influencing doctoral studies completion rates in education.**

The findings of the current study show that student relate factors have influence on doctoral studies completion rates. The test of the null hypothesis in estimating the contribution of student related factors to completion of doctoral studies show that there is relationship between the two ( $p= 0.000$ ). The null hypothesis  $H_{05}$  Was therefore

rejected. The main student related factors influencing doctoral studies completion rates are inadequate financial support, family responsibility, job commitment, inadequate thesis writing skills and isolation.

#### **5.4 Conclusion**

From the findings, the study concluded that institutional administrative related factors have significant influence on doctoral studies completion rates in education at public universities in Kenya. The key administrative factors influencing doctoral completion are policies and inadequacy of supervisors. Due to inadequate number of supervisors, the supervisees hardly get adequate timely contact time with their supervisors, therefore partly contributing to prolonged time-to-degree and may be indirectly low completion rates. Lack of adequate relevant reading materials that can support thesis writing process and low ICT connectivity lead to low completion rates and prolonged time to degree. Different modes of study programmes do not influence completion rates in doctoral studies in education. Lack of sufficient thesis writing competence, financial constraints, family responsibility and job commitment among doctoral students lower doctoral studies completion rates and prolong time to degree.

#### **5.5 Recommendations of the Study**

It has become apparent throughout this study that useful lessons have been learnt and useful insight gained to guide present and future management practices of doctoral studies in public universities in Kenya. The findings revealed that doctoral studies completion rates at public universities in Kenya are low and time-to-degree is goes beyond the time limit stipulated by the universities. Based on the findings, the study made the following recommendations:

## **Recommendations for Policy**

Based on the findings, the study made the following recommendation:

The approval for establishment of universities in Kenya should be based on availability of adequate relevant resources ( both human and infrastructure).

### **5.5.2 Recommendations for Management Practice**

- (1) The government through Ministry of Education should consider allocating funds to public universities-specifically to cater for students who may need financial aid for their thesis writing process and during other forms of postgraduate empirical studies.
- (2) The University Management should improve staffing and remuneration for supervisors. Remuneration should include prompt adequate compensations or incentives to motivate them. Supervision must be staggered along the thesis writing process to minimize total loss of the same in case the supervisee drops – out.
- (3) Commission for University Education should ensure that universities adhere to the Commission’s guideline on ratio of students to a lecturer. The number of supervisors should be commensurate to the number of students-in line with CUE recommendations. A comparison of the CUE recommendations and the staffing situation on the ground show that there is a need to increase the number of the lecturers by approximately 100%. Doubling the current number of lecturers would reduce the current supervisor/supervisee ratio (table 4.16) to 1:16.5 approximately 1:17, which is within acceptable level as per the CUE recommendations. This will go a long way in promoting quality education.

(4) The University Management should look for a way of providing scholarships to needy graduate students. This would help pride students but with financial constraints to pursue their university education to completion.

(5) Education Foundations, Constituency Bursary, Boards, County Bursary Boards, Banks and other willing donors should solicit funds for full or partial scholarship for doctoral candidates. This would cushion some of them from financial turmoil's.

(6).The department should:

(i) put in place an active tracking system with a view of closely monitoring and evaluating student progress for example creating time – lines for completion by putting in place mandatory supervisor – supervisee meeting schedule and regular reporting of student progress.

(ii) design work schedules for supervisors to cater for their various responsibilities. These would afford them time to attend to their supervisees.

(iii) encourage students to form group discussions. This can serve as thesis writing support and mentorship groups. It will go a long way in minimizing the feeling of isolation as well as improve thesis writing skills.

(7). Doctoral students should be encouraged to be persistent and strive to complete their studies within the time limit stipulated by the university. Most universities give a minimum of three years and a maximum of five years.

### **5.5.3 Recommendation for Research**

The study contributed to academia by developing conceptual framework and formulating testable hypotheses. The conceptual framework shows the main institutional and student related factors and their implication in the management of doctoral studies. From the findings, it is apparent that universities by design, are formal organizations whose practices are systematic in nature. Like most formal organizations, universities are characterized by subsystems (Schools/Faculties and Departments) whose functions are in accordance with the policies and goals of the organization and operates within a given framework. Formal Systems within the main academic system. A university as a formal organization has subsystems within the main system. All the subsystems' operations are guided by rules, norms and values and operate within a given framework. Human capital, students, finance and infrastructure are some of the heavily invested inputs in the organization. Any form of malpractice within any of the subsystems might affect the whole process and therefore the output. The current study therefore recommends that University Management should ensure that all her sub systems are well managed, equipped and functioning.

### **5.6 Suggestions for further studies**

Based on the findings, the current study suggests as follows:

- (1) Given that chartered universities are autonomous, the current study could be replicated elsewhere specially in the newly established public and private universities.
- (2) The five factors studied under institutional and student related factors influencing doctoral completion studies completion rates in education contributed 65.7% of the completion rates. The researcher suggests that a further study may be



carried out to determine factors responsible for 34.3% influence on doctoral studies completion rates in education.

(3) Studies show that majority of Kenyans if given an opportunity would prefer to pursue their university studies in a foreign country rather than in any of the local universities. Indeed this was one of the key factors that informed the decision to carry out the current study to examine the situation in the local universities. The findings of the current study do not show any significant differences between doctoral studies completion rates in education at public universities in Kenya and doctoral studies completion rates in education in most foreign universities. Therefore a study may be carried out to establish factors influencing Kenya's preference for foreign universities.

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**APPENDICES**

**APPENDIX 1**

**LETTER OF INTRODUCTION**

University of Nairobi,

P.O. Box 30197,

Nairobi.

1<sup>st</sup>, January, 2015

To Prof/Dr/Mr/Mrs/Ms/Miss.....

Dear Sir/Madam,

**RE: DATA COLLECTION QUESTIONNAIRE.**

I am a doctoral student, University of Nairobi. I am carrying out a study on **institutional related factors influencing doctoral studies completion rates in education at public universities in Kenya.** The data collected is solely for academic

purpose. Your identity or that of your institution will be kept confidential. You need not provide your identity. You are, therefore, kindly requested to fill it honestly.

Yours faithfully,

Samuel K. Rong'uno.

## APPENDIX 2

### A QUESTIONNAIRE FOR HEADS OF DEPARTMENTS AND LECTURERS

**Please respond to these questions about your institution.**

#### Part A Background Information

Please, indicate your designation by ticking (✓) the most appropriate choice

1. Gender      ( )              Male ( )      Female ( )      others ( )

2. Level of Profession: Professor ( )              Senior lecturer ( )

Lecturer ( )              Assistant lecturer ( )

3. Position in the management of the institution

Director/Principal ( )              Head of Department ( )

Programme Coordinator ( )              Lecturer ( )

4. Others (specify)\_\_\_\_\_

Part B: Respond to the following section by ticking the most preferred column.

SA=Strongly Agree, A=Agree, U=Udecided. D=Disagree and SD=Strongly Disagree.

Serial no	A	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
5	<b>Institutional Related Factors</b>					
I	The faculty/school keeps statistics on doctoral completion rates and time to completion.					
Ii	Faculty organize students' hands on opportunities e.g. involving them in research activities,					
iii	Students get opportunities to present their early findings in conferences					
Iv	The institution reviews its doctoral requirements regularly.					
V	The university offers research grants to cushion students in their research work.					
Vi	The faculty does not have adequate number of lecturers to supervise students research studies.					
Vii	The faculty lacks adequately equipped library and ICT centre to effectively support research work.					
Viii	Management of graduate school is very much concern with doctoral completion rates.					
Ix	The faculty is aware of the current doctoral completion rates and time-to-completion					
X	There is need to review current policies and programme requirements governing doctoral studies in the institution.					
Xi	The institution deregisters doctoral candidates whose research work extends beyond the stipulated time limit.					
Xii	Promoting of students integration into academic and social life of the university by disseminating information on student societies, unions and schools.					

6	<b>Supervision Related Factors</b>					
I	There is need to increase the number of lecturers in the faculty/school.					
Ii	There is lack of adequate contact time between the supervisors and the supervisees, hence delayed completion.					
Iii	There is need to introduce training for supervisors.					
Iv	There is need to introduce incentives to supervisors.					
V	Doctoral students fail to establish a good supervisor-supervisee relation, hence affects doctoral completion time.					
Xi	Inadequate guidance from the supervisor on research matters e.g. topic selection, refinement and thesis writing process is the cause of prolonged thesis completion time					
Xiii	Lecturers' requirement to publish regularly limits time for supervision of students' research work.					
Ix	Supervisor – supervisee relationship does not determine time to complete a thesis writing process.					
X	Parallel teaching programmes consumes a lot time for many lecturers hence limiting time for supervision					
Xi	Lecturers are assigned a lot of work like conferences, carrying 33 tc hence these affect tim					
7	<b>Programme Related Factors.</b>					
I	Specific programme requirements like course work and written exams prolong thesis completion.					
Ii	Doctoral part time students lack adequate time for research work.					
Iii	There is need to use flexible mode of study e.g. on-line teaching/learning programmes to improve completion time.					
Iv	Most candidates fail to utilize resources available for their studies					
V	Library resources that support doctoral programmes including e.g journals and books are adequately available.					

Vi	There is inadequate opportunities like and workshops to facilitate doctoral research work.					
8	<b>Student Related Factors</b>					
I	Many students fail to complete their theses in a timely fashion due to lack of academic writing skills.					
Ii	Lack of communication skills cause prolonged completion of thesis writing process.					
Iii	Difficulty in selecting research topic is associated with prolonged completion					
Iv	Family, job and other social responsibilities among student contribute to prolonged completion					
V	Demographic factors such ; gender can influence time to degree.					
Vi	Lack of adequate financial support can cause prolonged completion					
Vii	Lack of adequate skills in review of literature cause prolonged completion					

**PART B Institutional influence in completion rates for doctoral programmes in education**

This section contains institutional related factors that influence (facilitate or constrain) completion rates of doctoral programmes in education at public universities in Kenya. Please, beside each statement, indicate the magnitude of its

Kindly respond to the following questions.

9.If you were to decide between developing the institutional infrastructure and investing in human resource development such as the number of lecturers, which one would you prefer? Infrastructure ( ) Human resource ( )

10. Reasons for your choice.....

11(i) What could be some of the major challenges institution faces in managing doctoral programmes ?.....

(ii)List the main problems related to the supervision process.....

(iii)How best could the supervision process be improved?.....

(iv)List challenges related to teaching/learning resources?

(v)What are the challenges related to university policies that contribute to untimely completion of doctoral programmes?.....

12(i) As an experienced university administrator/lecturer, identify possible challenges contributing to untimely completion of doctoral theses in the institution.....

(ii) Kindly suggest any possible mitigations to the challenges you have listed above.....

.....  
**Thank you for your positive responses. In case you need a copy of the summary of the findings, then indicate your e-mail in the space provided below**  
.....

### Appendix 3

#### QUESTIONNAIRE FOR DOCTORAL STUDENTS

##### Part A Background Information

Please tick (✓) the most appropriate choice

1. Gender Male ( ) Female ( ) Any other ( )
2. Your age when you enrolled for the doctoral program  
Age bracket: Less than 24 ( ) 26 – 35 ( )  
36 – 46 ( ) Over 47 ( )
3. Academic discipline (area of specialization) .....
4. State job experience (if any) ; Less than 5 yrs ( ) 6 – 10 ( ) 11 and above ( )
5. Mode of study  
Full time on campus ( ) Regular off campus ( )  
Part –time (evening & weekends) ( ) Part time school based ( )  
Any other(specify).....
6. Nationality ; Kenyan ( ) International Scholar ( )

##### Part B Institutional Administrative Factors influencing thesis completion



Column A contains institutional and student related factors that influence thesis completion. Beside each of the statement provided in column A, In column B, indicate by ticking ( ✓ ) the extend of the influence.

Serial no	A	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
7	<b>Institutional Related Factors</b>					
I	The institution organizes students hands on opportunities e.g. participating in research activities, presenting their early findings in conferences e.t.c					
ii	Faculty organizes induction courses aimed at helping students develop thesis writing skills.					
iii	The faculty does not have adequate number of lecturers to supervise students research studies.					
Iv	The faculty lacks adequately equipped library and ICT centre to effectively support research work.					
V	The management of graduate school is very much concerned with doctoral thesis writing process and time to completion in the institution.					
vi	The faculty is satisfied with the current doctoral completion rates and time-to-completion					
vii	There is need to review current policies and programme requirements governing doctoral studies in the institution.					
viii	The institution ought to introduce penalties for delayed completion e.g continuation fee payable by doctoral candidates whose research work extends beyond the stipulated time limit.					
Ix	The institution encourages students integration into academic and social life of the university by allowing formation of student societies, unions and clubs.					
7	<b>Supervision Related Factors</b>					
I	There is a need to increase the number of lecturers in the faculty/school.					

ii	Inadequate contacts between the supervisor and the student on programme schedule and the duration of time a piece of work should take and to meet/ forward it prolongs thesis completion time.					
iii	There is need to introduce training and incentives for supervisors.					
iv	Doctoral students fail to establish good supervisor-supervisee relation, hence affects doctoral completion time.					
v	Inadequate guidance from the supervisor on the research matters e.g. topic selection, refinement and thesis writing process is the cause of prolonged thesis completion					
vi	Lecturers requirement to publish regularly limits time for supervision of students' research work.					
vii	Supervisor – supervise relationship is not a determiner in doctoral completion					
viii	Supervisor placing the onus entirely on the student prolongs time to complete					
ix	Parallel teaching programmes consumes a lot of time for lecturers hence limiting time for supervision by lecturers					
X	Lecturers are assigned a lot of work like attending conferences, carrying out teaching, research, etc hence these affect time for supervision.					
8	<b>Programme Related Factors</b>					
I	Specific programme requirements like course work, oral and written exams prolong thesis completion.					
ii	Introduction of parallel programs limits time for supervision					
iii	Doctoral students lack adequate skills for research work.					
9	<b>T/learning Related Factors</b>					
I	There is inadequate relevant functioning ICT equipment to support research work.					
ii	There is need to use flexible mode of study e.g. on-line teaching/learning programmes to improve communication with students.					
iii	Most doctoral candidates fail to utilize ICT resources to access international publications and institutions' prescribed					

	journals.					
Iv	library resources are inadequate to support doctoral programmes					
V	There is inadequate facilities like laboratories and workshops to facilitate doctoral research work.					
10	<b>Student related Factors</b>					
I	Doctoral students fail to utilize the teaching/learning resources available					
ii	Lack of student intrinsic motivation and commitment cause prolonged completion					
iii	Difficulty in selecting research topic or change in direction of it is associated with prolonged completion					
Iv	Involment on my job reduces time for campus studies.					
V	Lack of adequate financial support cause prolonged completion					
vi	Family and peer group moral support helps students to realize a timely completion					

**PART B Institutional influence in completion rates for doctoral programmes in education**

This section contains institutional related factors that influence (facilitate or constrain) completion rates of doctoral programmes in education at public universities in Kenya. Please, beside each statement, indicate the magnitude of its

Kindly respond to the following questions.

11(i) If you were to decide between developing the institutional infrastructure and investing in human resource development such as the number of lecturers, which one would you prefer? Infrastructure ( ) Human resource ( )

(ii) Reasons for your choice.....

12(i) List the major challenges institutions in managing doctoral programmes .....

(ii) List the main problems related to the supervision process.....

(iii) How best could the supervision process be improved?.....  
.....

(iv) List challenges related to teaching/learning resources?

.....  
(v) What are the challenges related to university policies that contribute to untimely completion of doctoral programmes?.....  
.....

(vi) As an experienced university administrator/lecturer, identify possible challenges contributing to untimely completion of doctoral theses in the institution.....

(vii) Kindly suggest any possible mitigations to the challenges you have listed above.....

**Thank you for your positive responses. In case you need a copy of the summary of the findings, then indicate your e-mail in the space provided below**

.....

#### **APPENDIX 4**

##### **Interview Guide for Heads of Departments and Lecturers**

Name of Researcher.....

College.....

1. How long have you served as lecturer/HoD ?

2. Have you served before in the same capacity else where ?

3. What is your opinion about departments keeping statistics on doctoral completion rates and time to degree ? Do you have any in your department ?

4. How many supervisees do you supervise at the doctoral level?

5. Have you ever had your supervisees present their early research findings in conferences or peer review workshops?

6. Kindly comment on the level of ICT connectivity in your department/school.

7. Comment on the level of library T/L and their relevant

8. As a member of the university academic staff, do you think the current policies guiding academic programmes and practice should be improved? If yes, what are the specific policies on programmes should be reviewed?

9. It is argued that part time students hardly maximize the use of available reading materials. How can they be encouraged to use them? What are the possible repercussions of not using the resources?

10. Some students have difficulties in thesis writing skills such as selection and refinement of a research topic and application of descriptive and inferential statistics. Suggest the way forward.

The interview schedule below guided in the interviewing of HoDs and lecturers. The schedule served as a pointer on the areas explored. Probing characterized the entire process- in a very relaxed manner.

## APPENDIX 5

### Doctoral Students Interview Schedule

Name of interviewer.....

Date of interview ..... Time.....

1. Do you had any problem selecting and refining your research topic. If so how did you finally settle it?
2. Do you feel you are very competent in writing your thesis in terms of thesis writing skills? If not how do you go about on the same?
3. How do you finance your studies in terms of fees for the course? Tick your source of fees :Scholarship ( ), Sponsor ( ), Loan ( ), Savings ( ), Any other-state.....
4. What is your opinion about coursework and examination at the doctoral level?
5. What is your opinion about the current university policies in regard to management of doctoral programmes?

6. How often do you meet your supervisors?
7. Do what extent do you feel the guidance and mentorship you receive from your supervisors is adequate?
8. In what ways would you like to have supervision process improved?
9. How do you access reading materials necessary for your studies?
10. Comment on the level of ICT connectivity in your university.

The interview schedule below was used to guide in the process of interviewing doctoral candidates. The schedule served just as a pointer on the areas inquired. A lot of probing was done to have the respondents expand their contributions. All the interviews were conducted in a free and relaxed manner –at interviewee preferred place and time. The aim of this was to ensure the respondents were comfortable for the kind of interaction.

**APPENDIX 6  
NACOSTI Research Permit**


**THIS IS TO CERTIFY THAT:**

**MR. SAMUEL KANKUKO RONGUNO**  
**of UNIVERSITY OF NAIROBI, 0-30100**  
**Eldoret, has been permitted to conduct**  
**research in Nairobi, Uasin-Gishu**  
**Counties**

**on the topic: INSTITUTIONAL AND**  
**STUDENT RELATED FACTORS**  
**INFLUENCING DOCTORAL STUDIES**  
**COMPLETION RATES IN EDUCATION AT**  
**PUBLIC UNIVERSITIES IN KENYA.**

**for the period ending:**  
**31st August, 2015**

**Permit No : NACOSTI/P/15/3129/5929**  
**Date Of Issue : 10th June, 2015**  
**Fee Received : Ksh 2,000**



**Applicant's Signature**

**Director General**  
**National Commission for Science,**  
**Technology & Innovation**

**APPENDIX 7**  
**NACOSTI Research Authorization Letter**



**NATIONAL COMMISSION FOR SCIENCE,  
TECHNOLOGY AND INNOVATION**

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

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

Ref. No.

Date:  
**10<sup>th</sup> June, 2015**

**NACOSTI/P/15/3129/5929**

Samuel Kankuko Ronguno  
University of Nairobi  
P.O Box 30197-00100  
**NAIROBI.**

**RE: RESEARCH AUTHORIZATION**

Following your application for authority to carry out research on "*Institutional and student related factors influencing doctoral studies completion rates in education at public universities in Kenya,*" I am pleased to inform you that you have been authorized to undertake research in **Nairobi County** for a period ending **6<sup>th</sup> November, 2015.**

You are advised to report **the Vice Chancellors of selected public universities, the County Commissioner and the County Director of Education, Nairobi and Uasin Gishu Counties** before embarking on the research project.

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

  
**DR. M. K. RUGUTT, PhD, HSC.**  
**DIRECTOR-GENERAL/CEO**

Copy to

The Vice Chancellors  
Selected Public Universities.

The County Commissioner  
Nairobi County.

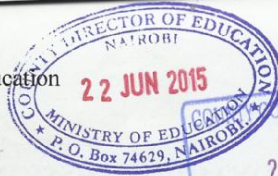
**COUNTY COMMISSIONER**  
**NAIROBI COUNTY**  
**P. O. Box 30124-00100, NBI**



7 The County Director of Education  
Nairobi County.

The County Commissioner  
Uasin Gishu County.

The County Director of Education  
Uasin Gishu County.



COUNTY COMMISSIONER  
UASIN GISHU COUNTY



COUNTY COMMISSIONER  
UASIN GISHU COUNTY  
P.O. Box 30, ELDORET  
TEL: 24488

**APPENDIX 8**  
**Data Collection Permission Letter (Moi University)**



**MOI UNIVERSITY**  
OFFICE OF THE DEPUTY VICE CHANCELLOR  
ACADEMICS, RESEARCH AND EXTENSION

Tel: (053) 43355  
(053) 43620  
Fax: (053) 43412  
Email: [dvc\\_are@mu.ac.ke](mailto:dvc_are@mu.ac.ke) or [dvcresearchmu@gmail.com](mailto:dvcresearchmu@gmail.com)

P.O. Box 3900  
Eldoret - 30100  
Kenya

**Ref: MU/DVC/REP/27B**

**29<sup>th</sup> June, 2015**

TO WHOM IT MAY CONCERN

**RE: PERMISSION TO COLLECT DATA – SAMUEL KANKUKU RONG'UNO**

The above subject matter refers.

Mr. Samuel K. Rong'uno is a Ph.D. Student at University of Nairobi, he has applied for request to collect data within Moi University. We would be grateful if he is permitted to collect his data on the research topic "*Institutional and Student Related factors influencing Doctoral Studies Completion Rates in Education at Public Universities in Kenya.*"

By copy of this letter authority is hereby granted to him to collect the data.

After the completion of the research, a complete report both on hard and soft copy will be handed over to the office of Deputy Vice-Chancellor, Academics, Research & Extension.

Any assistance accorded to him will be highly appreciated.

Thank you.

Yours faithfully,


**PROF. B.E.L. WISHITEMI**  
**DEPUTY VICE-CHANCELLOR**  
**(ACADEMICS, RESEARCH & EXTENSION)**

SKM:so



## APPENDIX 9

### Data Collection Permission Letter (University of Nairobi)



**UNIVERSITY OF NAIROBI**  
**OFFICE OF THE DEPUTY VICE - CHANCELLOR**  
(Research, Production & Extension)  
Prof. Lucy W. Irungu B.Sc., M.Sc., Ph.D.

P.O. Box 30197-GPO.  
00100, Nairobi-Kenya  
Telephone: +254-20-2315416 (DI), 318262

Fax: 0202317251  
Email: dvcrpe@uonbi.ac.ke

**Our Ref:** UON/RPE/3/5/Vol.XIV/78

July 14, 2015


Samuel K. Rung'uno  
College of Education & External Studies  
School of Education

Dear Rung'uno,

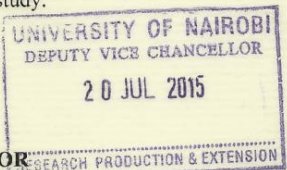
**PERMISSION TO COLLECT DATA AT THE UNIVERSITY OF NAIROBI**

Your request dated July 5, 2015 to conduct research at the University of Nairobi entitled: **"Institutional and Student Related Factors Influencing doctoral Studies Completion Rates in Education at Public Universities in Kenya"** for the award of Doctor of Philosophy degree from the University of Nairobi, is hereby approved w.e.f. July 13, 2015 up to and including August 31, 2015.


You are however required to share the findings of your study with the University of Nairobi by depositing a copy of your research findings with the Director, Library & Information Services on completion of your study.



**LUCY W. IRUNGU**  
**DEPUTY VICE-CHANCELLOR**  
**(RESEARCH, PRODUCTION AND EXTENSION)**  
&  
**PROFESSOR OF ENTOMOLOGY**



c.c. Vice-Chancellor  
DVC, A&F  
DVC, AA  
DVC, SA  
Principal, CEES  
Dean, School of Education  
Director, Library & Information Services

 ISO 9001:2008 CERTIFIED

**APPENDIX 9**  
**Data Collection Permission Letter (Kenyatta University)**



**KENYATTA UNIVERSITY**

**OFFICE OF DEPUTY VICE-CHANCELLOR, RESEARCH,  
INNOVATION AND OUTREACH**

Ref: KU/DVCR/PGS/VOL1/15

S. K. Rong'uno,  
Dept of Administration and Planning,  
University of Nairobi.

P. O. Box 43844 - 00100  
Nairobi, Kenya  
Tel. 254-20-810901 Ext. 026  
E-mail: [dvc-rio@ku.ac.ke](mailto:dvc-rio@ku.ac.ke)

29<sup>th</sup> June, 2015

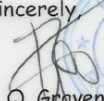
Dear Mr. Rong'uno,

**RE: REQUEST TO COLLECT RESEARCH DATA AT KENYATTA UNIVERSITY**

This is in reference to your letter dated 22<sup>nd</sup> June, 2015 requesting for authorization to collect data at Kenyatta University towards your PhD degree titled: *Institutional and Student Related Factors Influencing Doctoral Studies Completion Rates in Education at Public Universities in Kenya*.

I am happy to inform you that the Vice-Chancellor has considered your request and approved it. It has been noted that your respondents are Heads of Departments, selected lecturers and PhD students in the School of Education.

Yours Sincerely,

  
Prof. F. Q. Gravenir  
Deputy Vice-Chancellor  
Research, Innovation & Outreach  
cc. Vice-Chancellor  
DVC, Academic  
Dean, School of Education





**APPENDIX 10**  
**Ministry of Education Permission Letter**

REPUBLIC OF KENYA



**MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY**  
STATE DEPARTMENT OF EDUCATION

Telegrams: "EDUCATION", Eldoret  
Telephone: 053-2063342 or 2031421/2  
Mobile : 0719 12 72 12/0732 260 280  
Email: cdeuasisingishucounty@yahoo.com  
: cdeuasisingishucounty@gmail.com

Office of The County Director of Education,  
Uasin Gishu County,  
P.O. Box 9843-30100,  
**ELDORET.**

When replying please quote:

Ref: No. MOEST/UGC/TRN/9/VOL II/37

25<sup>TH</sup> JUNE, 2015


**Samuel Kankuko Ronguno**  
University of Nairobi  
P.O BOX 30197- 00100  
NAIROBI.

**RE: RESEARCH AUTHORIZATION**

This office has received your letter requesting for authority to allow you carry out research on "**Institutional and student related factors influencing doctoral studies completion rates in education at public universities in Kenya,**" Within Uasin Gishu County."

We wish to inform you that the request has been granted for a period ending **6<sup>th</sup> November 2015**. The authorities concerned are therefore requested to give you maximum support.

We take this opportunity to wish you well during this research.

  
**REBECCA K. BUTALANYI**  
**COUNTY DIRECTOR OF EDUCATION**  
**UASIN GISHU COUNTY**



