

**Technological Infrastructure in Public Nairobi Universities Influencing Industry  
Innovation Among Students and Staff in the Technological Industry**

By:

124255 - Natasha Wairimu Gichira

118211 - Fredrick Koech

124562 - Ryan Gitonga

124422 - Dennis Muriuki

115891 - Kamundia Angela Wambui

114360 – Akide Bill Nyerere

120313 – Otieno Daniel Obala

Bachelors of Business Information Technology

**Strathmore University**

**School of Computing and Engineering Sciences**

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# Abstract

The present day university surroundings is day-via way of means of-day turning vibrant, stormy and unpredictable. Innovation is one of the control practices used to provide any institution's to be had capital and talents inside the cutting-edge and destiny possibilities in each the local and outward Universities as mechanisms of growing institutional survival and continual more desirable performance. The particular goals of this have a look at have been to discover they have an impact on of innovation practices in Universities in Nairobi and to decide the connection between innovation and performance. The have a look at followed a quantitative studies technique aided via way of means of case have a look at studies designs and the embracing secondary facts sources.

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# Chapter 1

## Introduction

### 1.1 Hypothesis and Research Problem

We based our research thesis on the research problem; "Does infrastructure and facilities in Nairobi Universities maximize innovation among students and staff in the Technological industry?"

From the research problem we derived the following hypothesis; "Lack of appropriate facilities and infrastructure hinder innovation among students and staff in Nairobi Universities." Our hypothesis was derived from previous research.

### 1.2 Value of the Study

Innovation is one of the key factors in control practices of an organisation. Management exercise refers to the system of approach formulation, implementation, assessment and control primarily based totally on micro and macro surroundings factors. It includes identity of the organisation's functions, it calls for plans, and movements got down achieving the purpose.

Upon the wake of the twenty first century, university schooling has come to be most of the offerings extensively sought i.e. the call for university schooling has been at pleasant rapid growing. For public establishments to stay green and powerful within side the converting and aggressive environment, it has come to be a simple requirement for them to undertake control practices of their operations. For establishments of better studying to stay aggressive and gain ever-growing expectations, they ought to have the ability to put into effect control models.

The Higher Education region all over the arena has within side the beyond few years witnessed extended increase in phrases of extended pupil enrolment, extended variety of latest establishments, and increase and enlargement of applications offered. The changes, surroundings and the challenges that better schooling establishments are going through nowadays are severe and complex.

Failure to undertake and implement control practices with the aid of using Universities has resulted to masses of demanding situations inclusive of negative or no infrastructures, negative provider transport educational staffs, demanding situations of accreditation, bad contention amongst control and staff, deteriorating best of training amongst others. In Africa, a multiplied

enlargement in universities is followed with the aid of using increasing enrolment of university students and applications offered, and converting modes of financing. This has resulted too many control demanding situations and as a result a want for reforms and institutional restructuring.

In Nairobi because of the emergence of many universities, the overall performance and provider shipping of those institutions were adversely affected. Competition within side the Nairobi Education zone has accelerated. Funding from the authorities has faded and consequently posed demanding situations in outfitting university budgets, making plans and control. Consequently, the variety of universities has notably accelerated and demands the adoption of control practices and measures for assessing institution's overall performance.

### **1.3 Research Objectives**

The overall goal of the observe changed into to set up the innovation and performance of public universities in Nairobi. The particular goals of this observe have been to:

1. Establish the character of innovative improvements with inside the public universities, in Nairobi.
2. Determine the have an impact on of innovative improvements on the overall performance of public universities in Nairobi.

# **Chapter 2**

## **Literature Review**

### **2.1 Problem and purpose of the study**

The call for university schooling in Kenya has increased considerably and has outpaced supply. There is an increased increase in student numbers in universities has now no longer been marched with the aid of using enlargement of physical centres and educational infrastructure and a number of the prevailing infrastructure became in insufficient and dilapidated. Universities in Nairobi are required with the aid of using regulation to provide suitable and adequate centres to cater for the number of programmes on offer and students' enrolment. These consist of library and Information Communication Technology (ICT) infrastructure. Those universities that do not comply are critically restricted. High trendy studies infrastructures are essential to the fulfilment of any university. This chapter explores the modern-day state and tendencies in studies infrastructure, in phrases of library and ICT centres. The chapter specially looks at insights into the modern-day state of ICT infrastructure in Nairobi universities; the adequacy of budget allocated for ICT; in addition to the demanding situations libraries and ICT gadgets in Nairobi universities face.

### **2.2 Introduction on University Education and National Development**

After independence, the call for university training in Nairobi has persevered to increase. Public universities have been absolutely funded via way of means of the authorities and nonetheless get hold of maximum in their funding from the authorities despite the fact that they are an increasing number of supplementing this with lessons costs mainly from university students at the parallel diploma programs. Parallel diploma programs; have been particularly added in universities for generating money. This is the approach of admitting complete fee-paying university students over and above the scholars who are admitted with authorities' subsidy.

Unfortunately, the universities have persevered to stand severe economic problems. In the beyond few years, they have been working on a Sh9 Billion deficit, a state of affairs that has persevered to undermine their capacity to provide fine training and education and to conduct research. Even as investment drops, enrolment numbers have persevered to soar.



As many researchers have clearly indicated, financing of universities is turning into an increasing number of tough for a quantity of reasons:

- The public quarter is difficult pressed with responsibilities especially at the switch aspect of the budget (e.g. getting to an ageing population, fitness care, poverty, and overseas aid), as nicely as with safety troubles and the renovation of public infrastructure. Consequently, the proportion of the sales being committed to university training is sure to diminish.
- The fee of imparting university schooling and of doing studies keeps developing significantly.

The mixture of excessive enrolments and coffee investment has hit even installed universities hard. Most of the universities do now no longer have sufficient first rate coaching or studying centres or get right of entry to modern era and because of this coaching frequently does now no longer boost past conventional methods.

## **2.3 Technological Sector in Nairobi**

Being the ICT hub of the East African region, Kenya's ICT quarter will account for as much as 7% of the GDP. Consistent with that is the Kenya 2030 imaginative and prescient to end up a competitive middle-earnings country. The three pillars (economic, social and political) have generation and innovation because the foundation.

The Second Medium Term Plan for 2030, which ran among 2013, and 2017 recommends intensifying the coordination of innovation, studies improvement and commercialization as a flagship programme for sustained productiveness growth. If this plan become nicely carried, out and is an extraordinary query as one might say the execution of commercialization of technological innovation within side the united states has been minimal. Absence of adequate infrastructure and suitable regulatory coverage frameworks are simply however a few of the significance of things that clearly assist this claim.

Kenyan universities and especially the ones within side the capital of Nairobi have to be at the middle of the countrywide schedule to have a sustainable aggressive economic system that is primarily based totally on technology. Universities should develop the studying reports of the students. The technological enterprise stretches throughout all monetary sectors and this must be contemplated within side the first-rate of schooling undertaken via way of means of the incoming workforce. A shift of idea is consequently urgently wanted from get entry to first-rate or extra precisely, toward get entry to with first-rate since universities have a vital position to play in fostering paintings skills, technological innovation, engagement and countrywide development.

## **2.4 Innovation in Nairobi Universities**

There are distinct definitions of innovations. One instance may be the search for locating new approaches of doing things. Another instance of a definition of innovation is the success exploitation of new thoughts. In each definitions, a great deal awareness is placed on innovation as a manner through which establishments can stable an aggressive side over their opponents

in globally aggressive environments both through exploring new thoughts and through locating new approaches to perform tasks.

The call for university education in Nairobi has accelerated appreciably and has outpaced supply. The Public Universities Inspection Board stated that multiplied boom in scholar numbers in universities has now no longer been matched with the aid of using growth of bodily centres and instructional infrastructure and a number of the present infrastructure turned into inadequate and dilapidated. Universities in Nairobi are required with the aid of using regulation to provide suitable and ok centres to cater for the wide variety of programs on provide and students' enrolment. These encompass library and Information Communication Technology (ICT) infrastructure. Those universities that do not comply are significantly restricted. High popular studies infrastructures are essential to the fulfilment of any university.

## **2.5 Infrastructure in Nairobi Universities: Targeting Nairobi University**

According to the University of Nairobi, the college's ICT infrastructure and assets have grown enormously over the past decade to cowl all campuses and extra-mural centres. The college has endured to decorate its ICT infrastructure to satisfy the developing call for and make sure that records is processed and made handy to all applicable stakeholders the use of the most powerful means. Among those enhancements, the University is remodelling the Data Centre into an Educational Data Centre in order to now no longer best make sure capacity, availability, and safety of computing assets, however can even affirm the University of Nairobi's lead role via way of means of growing an EDC in order to be a centre of excellence in education on information centre technologies. The college has additionally collaborated with KENET (Kenya Education Network Trust – The National Research Network) to offer broadband connectivity on fibre that has ensured speedy and reliable get admission to on-line assets from every of its campuses unfold throughout eighteen places in Nairobi, and different towns within side the country. In addition, the section is eager to increase WIFI offerings to scholar hostels and not unusual place regions to decorate on-line get admission to assets.

Prior studies discovered out that ICT gadgets and libraries in instructional establishments in Nairobi face some of demanding situations which includes excessive expenses of obtaining and upgrading the modern-day structures; insufficient staff; unreliable Internet access; loss of modern-day and applicable studying assets; loss of suitable furniture; area constraints; vandalism and insufficient funding. The library is of no use if it does now no longer have appropriate statistics materials. For the college library to guide the venture of the institution, its miles required to frequently acquire enough modern-day and applicable statistics materials. Inadequate funding, insufficient staffing, and absence of centres or infrastructure are the greatest obstacles to adoption of Open Access (OA). The college libraries are overcrowded whilst e-book collections are previous and insufficient. The library centres and statistics structures in nearly all the colleges are antiquated with books and scholarly journals, which are not simplest few however also vintage and consequently inappropriate to the modern-day wishes and priorities. There is a loss of applicable books, insufficient use of the Internet and trendy loss of studying area created the foremost constraints to scholar studying. The loss of ok studying assets posed a project to college students studying habits. Appearance of ICT on the worldwide scene has induced a revolution in libraries and the simplest manner to fulfil customers call for is to apply ICT in

statistics service delivery.

# Chapter 3

## Research Design

### 3.1 Introduction

Research design gives the glue that holds the studies task collectively. A shape is used to restructure the studies, to reveal how all of the essential components of the task, which consist of samples or groups, measures, remedies or programs, and techniques of challenge that paints collectively to try to deal with the important studies questions. This is due to the fact they have a look at sought to set up a dating among variables.

With a budget of 1,000,000 we followed a descriptive survey layout that targets at investigating the innovative improvements and overall performance of public universities in Nairobi. Descriptive designs bring about an outline of the facts, both in words, pictures, charts, or tables, and suggest whether the facts evaluation indicates statistical relationships or is simply descriptive. A pattern survey primarily based totally on the general public universities in Nairobi changed into used to provide effects which are broad, credible, and 24 conclusive. The studies changed into quantitative in nature and is based on number one facts received from Nairobi public universities.

### 3.2 Population and Sample

The target population of a study can be defined as a set of individuals, cases/objects with some common observable characteristics of a particular nature distinct from other populations. The population of this study was the total school administration and administrator's choice of students for the various technology faculties/departments in the five universities.

A sample can be defined as a smaller set of entities taken from a population for measurement and analysis using a pre-defined sampling technique. The study best suited random sampling method which entailed sampling from the pool of school administrators and administrator's choice of students with equal probability across the population.

Given that all the school administrators and administrator's choice of students that had similar characteristics, this allowed for unbiased sampling. The random subset selected then served as the source for data collection.

### 3.3 Data Collection

The researcher used a dependent questionnaire as number one information series instrument. The questionnaire turned into taken into consideration suitable due to the fact it is miles greater handy to manage and to gather information to permit the success of the goal of the study. Both number one and secondary information have been used to gather information on useful resource generation, coaching and learning, studies and information creation, aggressive advantage, product innovation, advertising innovation, technique innovation and organizational innovation.

The number one information have been accrued via a semi-established questionnaire. The questionnaire contained close-ended questions and had numerous sections. The first element contained questions about the bio information of the respondent and the alternative sections contained questions at the unique goals of the study. Questionnaire have been administered the use of drop and select out approach focused to the heads of departments worried in innovation management coordination of the general public universities. (See appendix II)

### 3.4 Data Analysis

The data collected from the first sources were consistently organized in an exceedingly manner to facilitate analysis. Information analysis concerned preparation of the collected information, coding, redaction and cleanup of knowledge thus on facilitate process. The results were bestowed victimization tables, graphs and charts for easy understanding. This allowed for interpretation of findings generated and proposals from the findings.

Multiple graded regression model was employed in this study because it permits synchronous investigation of the impact of 2 or a lot of variables. The model established the connection between innovations and performance of public universities in national capital. In regression language, the variable that's foretold is termed variable whereas the variable wont to predict the worth of variable is termed experimental variable. Information collected were analyzed victimization multiple regressions. the importance of every experimental variable was tested at a confidence level of 95%. During this study, variable was performance and freelance variables were product innovation, method innovation and structure innovation. The equation representing the algebraical expression of multivariate analysis model of the shape below was applied;

Performance =  $f$  (Innovation)

$$Y1 = \beta0 + \beta1X1 + \beta2X2 + \beta3X3 + \epsilon$$

Where  $Yk$  = Indicators of Organizational performance (dependent variable)

Where:

$Y1$  = Resource Generation

$\beta0$  = Constant which defines performance without inclusion of independent variables

$\beta1, 2, 3$  = Coefficient of  $X1, X2$  and  $X3$

$X1-K$  = Independent variables are:

$X1$  = Product Innovation

$X_2$  = Process Innovation

$X_3$  = Organizational Innovation

$\varepsilon$  = Error Term

$\beta_1 - K$  Regression coefficients - define the amount by which Y is changed for every unit change in independent variables

## 3.5 Data Analysis and Interpretation

In an attempt to have a clear and deeper understanding of the population of study, information such as duration of existence of the university, student population and number of the university's campuses were taken into consideration. This section was of significance in understanding the nature of the population of study and how the general characteristics impacted on the study variables; namely the innovation and organizational performance.

### 3.5.1 Period of Existence

Period of Existence	Frequency	%
1 - 5 Years	8	55
6-10 Years	1	6.1
11 - 15 Years	0	0.0
16 - 20 Years	1	8.1
Over 21 Years	4	30.8
Total	14	100

Table 3.1: **Period of Existence**

In order to ascertain how long the sampled institutions had been in existence in the education sector in Nairobi, the respondents were asked to indicate the period within which their institution had been in operation. 55% indicated that they had been operating for 1-5 years while 30.8% said they had been there for over 21 years. 8.1% had been in operation for 6-10 years same to 1 that had been existing 16-20 years as indicated in the table above.

### 3.5.2 Student Population

Student Population	Frequency	%
Over 25,000	3	19.5
10,001 - 25000	1	8.1
< 10,000	10	72.4
Total	14	100

Table 3.2: **Student Population**

We sought to find out the population of students in the sampled universities. Majority of the universities 10% had a population of 10,001 students and less. 3% had over 25000 while 1 university had a student population of between 10,001 and 25,000 students. The findings are represented in the table above.

### 3.5.3 Rate of Expansion

Rate of Expansion	Frequency	%
$\geq 7$	2	12.5
4 - 6	2	12.5
$< 4$	8	75
Total	12	100

Table 3.3: **Rate of Expansion**

Study findings revealed that 57.1% of the universities had less than 4 campuses while 14.3% had 7 or more campuses, 4-6 campuses and no campus at all. The table above illustrates this.

### 3.5.4 State of Innovation in Public Universities in Nairobi

		Frequency	%	Mean	Std Deviation
Continuously engaged in introducing new technological equipment	Less Extent	1	7.1	3.14	1.027
	Moderate Extent	3	21.4		
	Large Extent	3	21.4		
	Very Large Extent	7	50.0		
	Total	14	100		
Continuously aligning academic programs to vision 2030 and new constitution	Moderate Extent	3	21.4	3.36	0.929
	Large Extent	4	28.6		
	Very Large Extent	6	42.9		
	None	1	7.1		
	Total	14	100		
Continuously rolling out tech projects by students to the industry	Less Extent	1	7.1	2.86	0.949
	Moderate Extent	4	28.6		
	Large Extent	5	35.7		
	Very Large Extent	4	28.6		
	Total	14	100		
Regular reviews and renews its tech content objectives	Less Extent	2	14.3	2.86	1.027
	Moderate Extent	1	7.1		
	Large Extent	9	64.3		
	Very Large Extent	1	7.1		
	None	1	7.1		
	Total	14	100		
Continuous review of tech system	Less Extent	1	7.1	2.92	0.954
	Moderate Extent	2	14.3		
	Large Extent	8	57.1		
	Very Large Extent	1	7.1		
	None	1	7.1		
	Total	13	92.9		
Continuously involved in hosting tech events and seminars open to the public	Moderate extent	1	7.1	3.43	0.852
	Large Extent	8	57.1		
	Very Large Extent	3	21.4		
	None	2	14.3		
	Total	14	100		

Table 3.4: **Mean Responses on Innovation**

The key objective of the study was to establish the innovation and performance of public universities in Nairobi. Before examining the influence, the study sought first to establish the extent to which the sampled public universities embraced various

dimensions of innovations. These included product innovation, organizational and process innovation. The respondents were required to indicate the extent to which state of innovations applied to their respective universities on a Likert scale of 1-5 where this was based on the scale; 0.1-1.0- Less extent, 1.1-2.0- moderate extent, 2.1-3.0- Large extent, 3.1-4.0 – very large extent and 4.1-5.0- None. Seventeen dimensions of innovation were considered as represented in the table above.

It shows that the responses obtained on the innovation in universities greatly supported that the universities continuously engage in branding and marketing activities. This had the highest mean of 3.43 which was Continuously involved in hosting tech events and seminars open to the public meaning that the majority of the university do so to a very large extent. This had a standard deviation of 0.852 meaning that if the study was carried out on the entire population rather than on the sample, the results obtained would be slightly different. The lowest mean obtained was 2.86 which was Regularly reviewed and renewed its tech content objectives. This had a standard deviation of 1.027 which also indicated that there could be a slight difference on the mean response obtained if the study was carried from the entire population. Generally, the results in the table indicate that the responses obtained on all the mentioned strategies were largely accepted and supported by the means obtained as all the means lie between 2.1-4.0 which implies a large extent of agreement.

## **3.6 Innovation and Performance of the Public Universities**

The objective of the study was to analyse the influence of innovations on the performance of the capital of Kenya public universities. This section presents the findings of the study on the influence of innovation on the performance of the chosen universities within the study.

Through hierarchic multiple correlation at ninety fifth confidence the character of the innovation result (positive or negative) on every of the structure performance indicators resolve. The outputs for the analysis were multiple R, R<sup>2</sup>, F test, among different outputs for the multiple result of the innovation on every of the performance indicators. The regression outputs for the freelance result of the innovation on the structure performance indicators area unit the standardized coefficients, beta weights and t take a look at among others. The t take a look at assesses the importance of the experimental variable on the variable quantity. The multiple R shows the strength of the connection between every of the performance indicators and also the innovation indicator. R<sup>2</sup> is that the proportion of variance within the variable quantity explained severally or together by the independents variables. The F take a look at is employed to gauge the importance of the regression model as an entire.

The multivariate analysis results for every of the innovation indicators and also the structure performance indicators area unit given and mentioned below. The analysis assess the result of the joint innovation indicators additionally because the freelance result of the innovation indicators on resource generation.

### **3.6.1 Innovation and Resource Generation**

To establish the influence of the innovation on the resource generation of the colleges elect, a multiple correlation analysis was undertaken. The indices for the market performance were calculated from the varied responses from the four resource



generation indicators from the Likert scale form. the indications of resource generation were fund levels, costs/cost saving, ICT facilities, physical facilities and equipment's, performance appraisals for the workers, worker satisfaction and client satisfaction. The joint impact of the innovation indicators on the resource generation is bestowed below:

N	R	R <sup>2</sup>	F	Sig.
5	0.81	0.88	45.32	0.022

Table 3.5: **Joint effect of Innovations indicators on Resource Generation**

1. Dependent variable: Resource generation
2. Predictor variable: Organization Innovation, Process Innovation, Product innovation.

The results show that there's sturdy positive relationship between combined innovation indicators and resource generation of the general public universities ( $R = 0.81$ ). The analysis reveals that eighty-six of the resource generation may be accounted for by the innovation ( $R^2 = 0.88$ ). The results any shows that the check of confidence ( $p$  value) is a smaller amount that the check level of 0.05 ( $p < 0.05$ ). this implies that the study results square measure statistically important thence may be relied on to elucidate the resource generation of the general public universities. Independent indicators of innovation were regressed to determine their result on resource generation. The results for the gradable multiple regressions for the freelance result of innovation on resource generation are shown below:

Model	Unstandardized coefficients		Standardized coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	3.589	.475	1.122	4.154	.055
Budgetary Level	-.455	.113	-1.122	-3.486	.065
Cost Saving	-.0697	.134	-.673	-.673	.564
ICT Facilities	.0896	.105	.207	.575	.255
Physical Facilities and Equipment	-.505	.123	-.354	-1.867	.119
Performance appraisals for the staff	.043	.113	.127	.468	.001
Employee Satisfaction	.180	.095	.652	1.835	.205
Customer Satisfaction	-.450	.111	-.167	-.576	.035

Table 3.6: **Independent Effect of Innovations on resource generation**

The results show that there's positive result between the innovation indicators of ICT facilities model ( $\beta = 0.207$ ), performance appraisals for the employees ( $\beta = 0.127$ ) and worker satisfaction ( $\beta = 0.652$ ) additionally were found to own a positive result. Negative result is recorded for the remaining innovation indicators. Physical facilities and equipment's ( $\beta = -.354$ , client satisfaction ( $\beta = -0.167$ ), price saving ( $\beta = -0.673$ ), and monetary fund level at ( $\beta = -1.122$ ) registered negative result. The study reports statistically not vital results for all the freelance innovation indicators. The analysis any reveals that resource generation will increase by 3.597 variances once innovation will increase by one purpose once alternative variables area unit unbroken constant.

The freelance result of the innovation indicators on resource generation of the general public universities generates a regression model below. The variables within the model area unit given in chapter 3 below the info analysis sub section.

$$Y_1 = a_1 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7$$

$$Y1 = 3.589 - .455X1 - 0.0697X2 + 0.0896X3 - 0.505X4 + 0.043X5 + 0.180X6 - .450X7$$

The multivariate analysis results for the innovation and resource generation indicate that the multiple indicators of the innovation have a major important result on the resource generation however severally the result isn't statistically significant. this suggests that innovation will solely be relied upon to buffer generation of resources once it's pursued as an entire as critical individual implementation of the one indicator.

### 3.7 Discussions

The researcher was able to capture 60% response rate as he was only able to sample 3 universities out of the total 5 universities targeted in the study. From the study, it was found that most of the public universities in Nairobi have been in existence for about 1 and 5 years, followed by those that had been in existence for over 21 years. It was also established that the longer the university had been in existence, the larger the number of students it contained, since majority of the university had been in existence for 1-5 years, this group had a population of 10,000 and less. The group of universities that had been in existence for over 21 years had a student population of over 25000. There was also a relationship between the duration of existence and the expansion of the university. Universities with over 21 years of existence were found to have 7 and more campuses/ branches while those that had had a short period of existence had less than 7 with some even having none.

The researcher also established from the study that Nairobi public universities continuously introduced and implemented innovation practices such as introducing new programs, rolling out tech projects by students to the industry, aligning its academic programs to vision 2030 and the new constitution.

## **Chapter 4**

### **Conclusion of Study and Future Works**

#### **4.1 Introduction**

This chapter presents conclusions, future works within the field of innovation within the performance of public universities in Nairobi.

#### **4.2 Conclusion**

This study geared toward finding the link between innovation and performance of public universities in capital of Kenya. the particular objectives of the study were to determine the character of innovative enhancements with within the general public universities, in capital of Kenya and confirm the have a bearing on of innovative enhancements on the performance of public universities in capital of Kenya. The population for the study was the general public universities in capital of Kenya from that the sample was designated. The scientist adopted descriptive survey style. knowledge to determine the link was obtained with the utilization of structured questionnaires. Data analysis was done using multi hierarchical regression model.

The universities had deviated from the normal ways in which to giving education and engaged in creation of latest and important informative ways in which. The study results reveal that there's a robust positive relationship between innovation indicators and also the performance of the general public universities. The results more demonstrate that an out sized proportion of the general public universities performance is accounted for by combined impact of innovation.

The study results reveal that there's a robust positive relationship between innovation and also the resource generation of the colleges. this means that the symptoms of resource generation like fund levels, costs/cost saving, ICT facilities, physical facilities and equipment's, performance appraisals for the workers, worker satisfaction and client satisfaction are determined by the innovations of the general public universities. It reveals that a rise within the level of technology like ICT facilities results into adequate resource allocation since the potency is increased.

### **4.3 Future Works**

There is would like for future analysis to incorporate different universities that weren't sampled during this study. Non-public universities ought to even be studied within the same study space. Another potential space of study would get on the factors that have an effect on the performance of public universities different that innovation.

The study used the cross sectional survey style. Future analysis will adopt completely different styles like longitudinal survey that might trace the influence of innovation on the structure performance over a amount of your time. The research worker will adopt case study so as to urge deeper info on the influence of innovation on structure performance. Future studies might also adopt different analysis tools to reveal the connection established during this study.

# Appendix A

## Appendix Lists:

### A.1 LATEX Code Link

*Down below is the Github LATEX code link that outlines how the docmunet was created:*

<https://github.com/NatashaGichira/Reserach-Methodology-LATEX-Code.git>

### A.2 List of Public Universities in Nairobi

1. University of Nairobi
2. Kenyatta University
3. JKUAT
4. Technical University of Kenya
5. Multimedia University of Kenya

### A.3 Questionnaire on Demographics

#### *Instructions*

*This questionnaire is designed to collect data that will help in better understanding the Influence of innovation on the Performance of Public universities in Nairobi. The data provided by this questionnaire will be treated in strict confidence.*

#### **SECTION A: DEMOGRAPHICS**

1. Name of your University
2. How long has your University been in existence in Nairobi?
  - (a) 1 – 5 years ( )

- (b) 6- 10 years ( )
- (c) 11 – 15 years ( )
- (d) 16 - 20 years ( )
- (e) Over 21 years ( )

3. Kindly indicate below how you would rate your university in terms of student population.

- (a) Over 25,000 ( )
- (b) 10,001 - 25,000 ( )
- (c) 10,000 and Less ( )

4. Please indicate how you would rate your university in terms of expansion (campuses/branches).

- (a) 7 or More ( )
- (b) 4 - 6 ( )
- (c) Less than 4 ( )

## A.4 Questionnaire on Innovation

### SECTION B: INNOVATION

*To what extent do the following statements on the state of innovation apply to your University on the scale of 1- 5? (1 –Less extent, 2 Moderate extent, 3- Large extent 4 – Very large extent, 5 - none)*

		1	2	3	4	5
1	My institution is continuously engaged in introducing new Technologically advanced equipment					
2	My institution is continuously aligning its academic programs to Vision 2030 and the new constitution					
3	The University is continuously engaged in rolling out of tech projects by students to the industry					
4	The University regularly reviews and renews its tech content objectives					
5	The University continuously reviews its tech systems					
6	The University is continuously involved in hosting tech events and seminars open to the public					