INSTITUTIONAL MANAGEMENT PRACTICES, SUSTAINABILITY STRATEGIES AND PERFORMANCE OF CHARTERED PUBLIC UNIVERSITIES IN KENYA

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A THESIS SUBMITTED TO THE SCHOOL OF BUSINESS IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE CONFERMENT OF THE DEGREE OF DOCTOR OF PHILOSOPHY (STRATEGIC MANAGEMENT OPTION) IN BUSINESS MANAGEMENT OF KARATINA UNIVERSITY.

OCTOBER, 2023

DECLARATION

This thesis is my original work and has not been presented for conferment of a degree in any other University or for any other award.

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Student Declaration

We confirm that the work reported in this thesis report was carried out by the candidate under our supervision and has been submitted with our approval as University supervisors.

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DEDICATION

I dedicate this work to my spouse Rhoda for her moral and financial support towards completing my PhD. My Children, Andrew, Melvin and Mariana for their encouragement and for always asking when I would be done. To my brothers and sisters for numerous support and inspirations.

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ABBREVIATIONS AND ACRONYMS

AAPAM:	African Association for Public Administration and Management
ACE:	American Council On Education
AG:	Auditor General
AIDS:	Acquired Immunodeficiency Syndrome
AU:	African Union
CBC:	Competency Based Curriculum
CEO:	Chief Executive Officer
CG:	Institutional management practices
CHE:	Commission for Higher Education
CIPD:	Chartered Institute of Personnel and Development
CMA:	Capital Market Authority
CoK:	Constitution of Kenya
COVID 19:	Corona Virus Disease 2019
CUE:	Commission for University Education
DeKUT:	Dedan Kimathi University of Technology
DVC:	Deputy Vice Chancellor
EPS:	Equity Per Share
EU:	European Union
EUA:	European University Association
FSSG:	Financial Sustainable Strategy Group
GoK:	Government of Kenya
HE:	Higher Education

HE:	Higher Education
HEI:	Higher Education Institutions
HIV:	Human Immunodeficiency Virus
HRM:	Human Resource Management
I.T:	Information Technology
IBM:	Institute of Business Management
IMF:	International Monetary Fund
IUCEA:	Inter University Council of East Africa
JKUAT:	Jomo Kenyatta University of Agriculture and Technology
JSE:	Johannesburg Stock Exchange
KCPE:	Kenya Certificate of Primary Education
KCSE:	Kenya Certificate of Secondary Education
KHDR:	Kenya Human Development Report
KMO:	Kaiser Meyer Olkin
KNBS:	Kenya National Bureau of Statistics
KRA:	Kenta Revenue Authority
KU:	Kenyatta University
KUCCPS:	Kenya Universities and Colleges Placement Services
MHE:	Ministry of Higher Education
MHEST:	Ministry of Higher Education Science and Technology
MoE:	Ministry of Education
MoHE:	Ministry of Higher Education
MoU:	Memorandum of Understanding

NACOSTI:	National Commission for Science, Technology & Innovation
NESC:	National Economic and Social Council
NGO:	Non-Governmental Organization
NRF:	National Research Fund
NT:	National Treasury
OECD:	Organization of Economic Cooperation and Development
P/E:	Price Earnings Ratio
PBF:	Performance Based Funding
RBA:	Retirement Benefit Authority
RBV:	Resource Based View
RCUK:	Research Council of University in UK
ROA:	Return on Asset
ROCE:	Return on Capital Employed
ROE:	Return on Equity
SA:	South Africa
SCAC:	State Corporation Advisory Committee
SDHE:	State Department of Higher Education
SME:	Small micro and Enterprises
SPSS:	Statistical Package for Social Sciences
SRC:	Salaries and Remuneration Commission
SS:	Sustainability Strategies
TEVET:	Technical Education and Vocational Technology
THES:	Times Higher Education Supplement

TIVET: Technical, Industrial, Vocational and Entrepreneurship Training

TRAC: Transparency Approach to Costing

TUK: Technical University of Kenya

TUK: Technical University of Kenya

UK: United Kingdom

UK: United Kingdom

UNESCO: United Nations Educational, Scientific and Cultural Organization

UNISA: University of South Africa

UON: University of Nairobi

VC: Vice Chancellor

VIF: Variance Inflation Factor

WB: World Bank

ABSTRACT

The performance of public universities is a global concern over the last few decades. In Kenya, this has been demonstrated by challenges such as financial constraints evidenced by inability to meet their debt obligations and statutory remittances; poor academic quality marked by low global ranking; inadequate research funding and limited community engagements. Universities have in the past intervened through Institutional management practices with little improvement in performance. The specific objectives of the study were to determine influence of transparency; adherence to management guidelines; level of public participation and to establish the moderating influence of sustainability strategies on the relationship between Institutional management practices and performance of public universities in Kenya. The study was anchored on resource based and social network theories. The study used a pragmatic philosophy and mixed research method with a target population of 31 chartered public universities. This was a census study and the respondents were 230 university top managers. Primary data was collected using a structured questionnaire and an interview guide. Quantitative data was analyzed using descriptive and inferential statistics, while qualitative data was analyzed using content analysis. Findings revealed that Institutional management practices had a statistical significant influence on performance of public universities in Kenya (adjusted R^2 0.37, P 0.000) with level of transparency adjusted R^2 0.307, P 0.000; adherence to management guidelines R^2 0.309, P 0.000 and level of public participation adjusted R^2 0.226, P 0.000. The study also established that sustainability strategies moderated the relationship between Institutional management practices and performance of public universities in Kenya. The regression analysis revealed that Institutional management practices alone accounted for 52% of the variation in performance of public universities (adjusted R^2=0.52). Sustainability strategies accounted for 39% (adjusted R^2=0.39). The interaction term (Institutional management practices and sustainability strategies) accounted for 72 % of the variation in performance of public universities. These results were in agreement with the findings of qualitative data analysis. The study concluded that implementation of sustainability strategies combined with adherence to good Institutional management practices are essential strategies that public universities can adopt to improve their performance. The study recommended that public universities should implement sustainability strategies alongside good Institutional management practices so as to remain competitive and relevant.

CHAPTER ONE

INTRODUCTION

This chapter discusses the background of the study, the problem statement, the objectives of the study, research questions and hypothesis tested. The chapter further covers significance of the study, scope of the study, limitations and finally gives the operational definition of terms.

1.1 Background of the Study

In the recent years, the performance of Universities has been a global concern as demonstrated by challenges such as financial constraints evidenced by inability to meet their debt obligations and statutory remittances; poor academic quality marked by low global ranking; inadequate research funding and limited community engagements. This position of preeminence may be showing signs of weakness, among the Organization for Economic Co-operation and Development (OECD). Recent research shows that overall completion rate of graduates globally fell by 13 % in the past decade with a decline of over 827,000 students since the start of the pandemic. There has been marked decline of research grants and community engagement resulting to their inability to play the dynamic and lively role in the academic and professional success of a growing economy (OECD, 2022).

In a recent U.S. Census report, it showed that after a period of sustained growth, both undergraduate and graduate completion rates declined by 5% at the national level. The state of U.S. public universities and the preeminence of U.S. universities continues to be a topic of discussion among educators, students, policy makers and other stakeholders, especially given challenging economic conditions, limited resources and increased competition (U.S.

Census Bureau, 2022). The challenges facing U.S. higher education include structural challenges in terms of declining government funding, declining support for research, increased competition from private universities, and a questioning of the purpose and worth of a university education. These challenges place demand on factors at the institutional level and may affect the performance and operation of even the most preeminent universities (Kiener,2016).

Regionally, Universities are recognized as the engines of economic development dedicated to developing a skilled workforce. They teach, perform research to advance knowledge and encourage creativity and innovation. Public universities play a fundamental role in the advocating of civic education, since it is accessible to all and affordable as compared to private universities. Universities' declining performance in Zimbabwe, Zambia and Mozambique has become the new normal, with main causes including low research writing for grants, few community engagement activities and reduced graduate completion rates. There are concerns that the deterioration of the education system and the standard of education at the publics Universities in those countries may continue if redress of these factors are not addressed (UNESCO ,2015).

In its Poverty Reduction Strategy Paper, the Government of Malawi reports difficulties with inadequate research facilities, weak links to industry and community engagement that lead to high graduate unemployment, and declining graduation rates by the University of Malawi. Despite its low enrollment ratio, Mauritania has problems dealing with over-crowding on campuses. Also, because curricula stress theory rather than skill competencies and are only weakly tailored to the country's labor force needs, graduate unemployment is high. Mozambique reports cases of students not completing their studies. The high cost of tertiary schooling, means many potential candidates cannot attend. As a result, more than 3 per cent did not complete their studies on time. Education (UNESCO, 2015).

In Kenya, public University system has experienced very high rates of growth which have not been accompanied by a commensurate rise in the level of funding. This growth of Universities in the face of budgetary deficits are largely a product of the insatiable demand for higher levels of education. The government seems to have exploited such demand and politicized decision-making in the expansion of University education whose effect appears to be a serious decline in the performance of Public Universities as measured by the amount of research grants, community engagement and completion rate of graduates (Ng'ethe, Iravo & Namasonge, 2014).

Further, public universities in Kenya are currently faced with major challenges that include an uncertain future stability, political changes and a globalized market (Nafukho et al., 2016). Specifically, they encounter challenges that relate to the rapid expansion of university education, reduced government funding, low attraction of research grants, reduced completion rate of students and the spread of HIV/AIDS. As a result of these challenges, there is need for reforms in the management of the said institutions The declining performance by public universities, has resulted to concerted efforts at improving the quality of teaching and learning and developing capacity to compete in the global arena over the last decade. Universities need to ensure that they adhere to Institutional management practices by ensuring transparency in their activities, adherence to management guidelines and policies and further ensure that stakeholders are involved in decision making on the policies and laws affecting them though public participation (Ng'ethe et al., 2014).

Institutional management practices have been advocated over the centuries (McNutt, 2018). However, the concept gained prominence in the nineteenth century especially the 1980s following a series of corporate collapses, board level excesses and detrimental effects of dominant chief executives (Tricker,2015). As a result, various governments sought to use legislations to reverse this trend and to improve the governance of corporations (Vinten, 2016). Notable legislations include the Companies Act (2015) enforced by Capital Market Authority, Institutional management practices Council (2018), the Cadbury (2022) Report and the FRC (2019). An analysis of these legislations indicates that they advocate the need for transparency, adherence to management guidelines, public participation and governance matters in a timely and accurate manner. They also advocate the effective monitoring of management teams and making boards accountable for their activities, dealing with employees fairly, making decisions responsibly, maximizing the value of assets, operating ethically and recognizing the legitimate interests of stakeholders (Petra, 2021).

University reforms in regard to Institutional management practices, is said to involve the management to make decisions about key policies and practices in several critical areas concerning the University: being transparent in the activities, adhering to the management guidelines and allowing for public participation. (Millet,2018). Universities have also tried to improve their performance with little effort in pursuing other interventions such sustainability strategies. Sustainability strategies (SS) are regarded as a tool of improving the performance of Universities and play a fundamental role in determining their future. Good implementation of sustainability strategies is considered an important step for building University confidence that encourages more stable and long term survival. The common sustainability strategies used are; cost reduction, diversification and collaboration (Fourier, 2023).

Strategy implementation is a key requirement for superior University performance. The concept of sustainability strategies in Universities started in early twentieth century (Cappelli, 2021) and its strategic importance was realized when McKinsey Consultants Group conducted a study on sustainability in late 1990’s as cited by (Collings ,2021). The study was prompted by the realization that sustainability shortages were increasingly becoming one of the biggest concerns for Universities. Sustainability enables those individuals who can make a difference to organizational performance, either through their immediate contribution or in the longer-term by demonstrating the highest levels of potential (Collings, 2021).

Sustainability of Universities has been widely seen as a solution for the challenges in today’s higher education sector (Lewis & Heckman, 2017). According to Fulmer and Conger (2014), the purpose of sustainability strategies is to provide relevant and emerging skills valuable throughout the institutions. Collings and Mellahi (2018) observed that sustainability strategies are important competitive weapon; hence, sustainability needs to be recognized and natured as one of the discrete source of organizational competitive advantage. While most may acknowledge the importance of sustainability, few Universities have established formal sustainability strategy programme and provided the budgetary provisions for it, yet they are expected by the regulators and governments to value and even have a competitive edge in this realm. The common strategies used by universities are; cost reduction, diversification and collaboration (Lynch, 2019).

The United Nations most recent Sustainable Development Goals (SDGs), which form part of the 2030 Agenda for Sustainable Development, specifically mention university for the first time. Sustainable Development Goal 4 is focused on education, and states the aim that "By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university." In addition, universities have a centrally important role in delivering a number of the other SDGs. In order to fulfil this role, and provide inspiration for future action, two global networks; the International Sustainable Campus Network (ISCN) and the Global University Leaders Forum (GULF) have published a report to showcase some best practice examples of actions universities are taking to deliver sustainable development (EAIE, 2018).

The report, Educating for sustainability, summarizes some of those examples, based on the different types of actions that are being undertaken. At Anglia Ruskin University (UK), sustainability strategies are now a required element of Institutional management practice and is also integrated into a number of other aspects, including library resources, student art exhibitions and volunteer programmes. The Stuttgart University of Applied Sciences (Germany) has developed a specific centre for sustainability of the university that undertakes projects focused on a number of areas, including: teaching, research, operations and governance to empower students as change agents. Another institution that has positioned the SDGs at the heart of all programmes is Imperial College London, featured in Winter Forum. Imperial, a world-leading STEM institution, makes a point to instill within all of its students the importance of implementing and sustaining sustainability strategies in their operations. The strategies adopted are; cost reduction, diversification and collaboration (EAIE, 2018).

Ng'ethe et al., (2014) observed that traditional sustainability programmes that are in use today became less useful in the 1980's, a factor attributable to the turbulence in operating environments. Modern developments in the world have engendered the use of sophisticated models in sustainability and development. According to Ng'ethe et al., (2014) most of the Public Universities are relying on managers who have not acquired the training in strategic management and Institutional management practices hence are not able to advice on matters of sustainability of the Universities. To improve efficiency and effectiveness in delivery of services, the University top management must be innovative to be relevant to handle emerging areas and issues affecting their universities. It is therefore prudent for Universities to ensure sustainability strategies are budgeted and implemented properly, in order to ensure their performance for future survival Ng'ethe et al., (2014).

In this study, the level of transparency, adherence to management guidelines, public participation combined with cost reduction, diversification and collaborations are used to prove that the strategies if implemented would improve the performance of the universities.

For the purpose of this study, performance of public universities was defined in terms of completion rate of graduates, attraction of research grants and community engagements, in that order. These performance measures have been used in previous studies by Altbach and Salmi (2016), (Lynch 2019) and Ng'ethe et al., (2014). These performance measures have been used by previous studies as indicators of a university's performance and it was established that they have impact on performance (Salmi, 2016).

This study was based on Resource Based View Theory, which posits that performance is based on resources that are rare, valuable, inimitable and are non- substitutable to brings about a competitive edge. Superior performance in an organization is driven by its resource profile and possession and deployment of distinctive, non-substitutable resources that are difficult to imitate (Rothaermel, 2012).

1.1.1 Performance of Public Universities in Kenya

Globally, top performing universities are commonly referred as World Class Universities (WCU). Salmi (2016) observe that the title "World Class University" has been in use as a key phrase by the universities in the last decade aiming at improving on their quality of teaching and learning and developing capacity to compete in the global arena. Salmi (2016) asserts that, university's global standing is increasingly becoming a salient element as it informs potential students seeking to enroll for studies in the best possible universities globally.

According to Altbach and Salmi (2016), the influential status of the WCU is known through international recognition and not through self-declaration. Different universities and nations globally have adopted a number of strategies in an effort of acquiring world-class status and building their global competitiveness. Though different nations have different cultural, social and economic backgrounds common strategies can still be recognized, Salmi (2016) summarizes WCU as having good completion rate of graduates, high level of attraction of research grants and community engagements. These strategies support strategic vision, innovation and creativity, flexible governance that give room for decision making and efficiency in management of the resources.

Similarly, Altbach (2015) and Khoon et al., (2017) identify community engagement and linkages as part of the key drivers of building and excellence University. Excellence model such as European foundation quality model (EFQM) also identifies attraction of research grants as one the enabler to achieving excellence results (EFQM, 2022). Among the world's top 2,000 universities in the latest rankings, the University of Nairobi is the only Kenyan university listed at position 1425. The educational quality gap between the global "best of the best" and Kenyan universities might continue to expand if purposeful strategic measures are not put in place urgently (CUE, 2022).

Regionally, the declining performance of the public universities has been a concern of governments (Pillay, 2014). These discussions come against the recognition that universities play valuable role to the economic development of a country; they are mandated with impacting and disseminating knowledge and ideas required as resource for the national development through student education, they are primary source of knowledge which is the most valuable assets in the knowledge economy (Lester, 2013; Cloete, Bailey & Pillay, 2014). These institutions are significantly recognized for their level of contribution to any country's gross domestic product (GDP) (Hatakenaka, 2014). According to Bloom, Canning and Chan (2014), education is globally accepted as a driver of the economic development and determinant of countries economic position in world economy.

The African Foundation Quality Management excellence model (AFQM) is one of the model that advocate for completion rate of graduates, attraction of research grants and community engagements as one of the drivers of performance excellence. Similarly, some researchers have also identified collaboration and linkages as key driver to performance of Universities (Bothwell, 2016). Though the growth of universities has been growing regionally, performance trends in world university ranking has shown South Africa based universities dominating on the lead followed by Egpyt with Kenyan universities trailing far behind (Parr, 2014; Bothwell, 2016).

In Kenya, public universities are currently faced with major challenges that include an uncertain future stability and a globalized market (Nafukho et al., 2016). Further, Universities have experienced very high rates of growth which have not been accompanied by a commensurate rise in the level of funding. This growth of Universities in the face of budgetary deficits and manpower surpluses is largely a product of the insatiable demand for higher and higher levels of education. The government seems to have exploited such demand and politicized decision-making in the expansion of University education whose effect appears to be a serious decline in the performance of Public Universities measured by the research grants, community engagement and completion rate of graduates coupled with acute shortage of facilities and teaching personnel (Ng'ethe et al., 2014).

The Retirement Benefits Authority in the year 2021, said it was preparing to dissolve TUK's Sh. 900 million pension scheme, a move that would leave more than 1,500 employees without social protection. JKUAT's current liabilities during the year under review stood at Sh 2.4 billion against current assets of Sh1.65 billion while Laikipia University had current liabilities and assets worth Sh368 million and Sh205.9 million respectively. Machakos University was cited as having overdrawn its accounts to the tune of Sh131.5 million and reduced its general reserves from a surplus of Sh 21.7 million in the year to June 2014 to a deficit of Sh. 153.2 million a year later. The University of Eldoret closed the financial year to June 2017 with trade and other payables of Sh754.3 million compared to Sh556.2 million the previous year. Subsequently, Universities in Kenya are challenged in delivering the core mandate of not only producing quality graduates to meet industry demands, but also lack credibility to spearhead research and innovations (OAG, 2021).

Subsequently, Universities in Kenya are challenged in delivering the core mandate of not only producing quality graduates to meet industry demands, but also lack credibility to spearhead research and innovations (CHE, 2022). Statistics about the graduation rates at Universities reveal that the situation has deteriorated in recent years. The dropout rates have been increasing from 2017/18 64 % , 2018/19 73% ,2019/20 82% (Salmi, 2016). Kenya has particularly recorded a 21% increase in the number of Universities and University colleges between the year 2012 and 2018 (CUE, 2018), attributable to the advances made in primary and secondary school enrolments around the country. The rapid expansion of public university education in Kenya in the midst of limited financial resources has led to deterioration of public universities in areas such as the quality of teaching and research, library facilities, halls of residence and student and staff representation (Salmi, 2016). Challenges being experienced in Kenya's Universities create an obstacle to the realization of her dream of transforming the country from a subsistence economy towards a knowledge based economy as articulated in the Vision 2030 (Republic of Kenya, 2007). Nyanga'u (2014) observes that, many other newly-industrialized countries such as China, Brazil, Taiwan, Singapore and Korea have gone through similar challenges but eventually managed to record good success. This has been possible through continuously identifying drivers of performance excellence in their Universities. Completion rate of graduates, attraction of research grants and community engagements have been one of the drivers for most of the leading universities (Salmi, 2016). Similarly, the performance gaps facing Kenya's universities can also be addressed through identifying strategies that are essential to surmount the problem facing them. The poor performance of Kenyan universities has thus been disquiet for Kenyan leaders.

1.1.2 Institutional Management Practices

Institutional management practices in the University education globally has risen over the years as a result of the emerging trends and challenges that have impacted directly or indirectly on performance of Universities Fielden (2018). Salmi (2016) observes that high-ranking universities in the world for example had acquired their standings as a result of appropriate Institutional management practices they had practiced over time.

Salmi (2016) observes that high-ranking Universities in the world for example had acquired their statuses as a result of appropriate Institutional management practices they had practiced over time. Harvard University, Stanford, University of Chicago and University of oxford have adopted transparency, adherence to management guidelines and public participations in their systems to guide on the way the universities are managed, objectives are set and achieved, risk is monitored and assessed and performance is optimized (Hamilton, 2016). Institutional management practices provide a framework through which a university set objectives and the means for achieving those objectives and their implications to performance are put in place. This is therefore an important indication of an existing relationship between Institutional management practices and organizational performance (OECD, 2015).

According to Fielden (2018), recognition of the need for good Institutional management practices in University education globally has risen over the years as a result of the emerging trends and challenges that have impacted directly or indirectly on performance of Universities. Indeed, internalization and rapid expansion of University education are major challenges that have attracted the attention of governments to put in place Institutional management practices frameworks that would ensure transparency, adherence to management guidelines and allowing for public participation in Public Universities in order to improve on their performance.

Strategic management literature strongly acknowledges the existence of a relationship between Institutional management practices and the overall organizational performance, (Okeyo et al., 2017; Kamau, 2018 & Ndwiga, 2018). Some studies have advocated for implementation of Institutional management practices which show positive, relationship between Institutional management practices and firm performance. (Ndwiga, 2018).

A study by Waduge (2015) among 37 Australian public universities to examine the relationship between Institutional management practices structures, practices and the performance of the university sector using data from annual reports of the universities and other university education sector bodies found a positive relationship between various aspects of Institutional management practices and performance of the universities. Paramitha, Agustia and Soewarno (2017) reported a conceptual relationship between good Institutional management practices and performance of universities in a literature review research in Indonesia.

Garaika, Siswoyo and Zainal (2018), in a quantitative study among 240 lecturers found a strong relationship of Institutional management practices on performance of private universities in the same country. In the study, Institutional management practices was conceived based on transparency, accountability and disclosure. Performance was measured based on financial, customer satisfaction, internal processes and innovation and growth perspectives borrowed from Kaplan and Norton (1996) balance scorecard theory. In Nigeria, Udeh, Abiahu and Tambou (2017) carried out an ex-post facto research study to examine the impact of board composition on firm performance among 7 quoted Nigerian banks covering the period 2003 to 2014.There was a strong relationship of Institutional management practices on performance.

There is increasing indication that the Institutional management practices of Public Universities in Kenya is in a state of crisis. Despite the fact that the system of University Institutional management practices is now well established with its components of

Chancellor, University Council, Vice-Chancellor, Senate, staff and students. Universities, whether political or administrative are being emptied of their substance, their Statutes are ignored and their governing rules are side-stepped and therefore unable to implement their sustainability strategies outlined in their strategic plans (Salmi, 2016).

Ndwiga (2018) conducted a cross sectional research study in Kenya among 56 companies listed on the Nairobi Securities Exchange to investigate the relationship between Institutional management practices and firm performance among the listed companies. Another study by Kamau (2018) using both descriptive and explanatory research designs among 162 financial institutions in Kenya to establish the influence of Institutional management practices on firm performance revealed that Institutional management practices overall, Institutional management practices had a significant influence on firm performance.

Another study by Okoko (2017) to investigate the relationship between Institutional management practices and firm performance among 40 insurance companies in Kenya revealed using panel data that overall, there exists a relationship between Institutional management practices and firm performance. Various attributes of the board however produced varying nature of relationships with firm return on assets used as the measure of performance.

This inconsistency among studies point to the need for further investigations on the ongoing debate about the relationship between the two variables. Additionally, while studies investigating the effect of Institutional management practices on performance of corporate entities appear to have dominated Institutional management practices literature, the relationship between the two variables among public universities is still underexplored.

1.1.3 Sustainability Strategies

Globally the role of university in shaping the future is widely recognized. Universities are becoming more complex, interdependent and unsustainable and this calls for a change in management. Thus, university for sustainability is given increased attention worldwide. Transformation of universities into sustainable systems implies systemic thinking and interdisciplinary approaches (Strickland, 2013). It requires visionary new strategies where people are committed to implement them and follow. There is always a period of "boiling" which is necessary to develop and transmit ideas, to launch extensive discussions and adjust them. Top performing universities across the world have tried cost reduction, diversification and collaboration as new educational approaches to improve on their performance (Selby, 2022). Some of these strategies work in certain locations, but not yet tested in other locations, we do not know if they have more application or if they must be adapted to each new cultural or geographical context. By sharing experiences learned in different contexts, it is anticipated that we will all learn many things that will help our universities to develop the skills to make progress towards sustainability (Thompson, 2013).

An important attempt to define what "sustainable university" means was made in 2020, by the Declaration of Talloires, Tufts University who convened 22 university leaders in Talloires, France, to express their concerns about the state of the universities with an aim of developing a document which identified the key actions that universities must make to be sustainable. Universities educate individuals most responsible for developing and organizing social institutions. For this reason, universities have huge responsibility to raise awareness, knowledge, technology and development strategies needed to create a sustainable future of universities (Selby, 2022).

The Talloires Declaration (TD) is a ten-point action plan for incorporating sustainability strategies in Institutional management practices. It has been signed by over 350 university presidents and chancellors in over 40 countries. The signers of the Talloires Declaration committed themselves to take the following actions; to implement sustainability strategies that include cost reduction, diversification of programs, enhancing collaborations and linkages (Selby, 2022).

Sustainability strategy is the search for a favorable competitive position in the industry and aims at establishing a profitable and sustainable position against forces that determines industry competition (Porter, 2014). An organization is said to have a competitive advantage whenever it has an edge over its rivals in securing customers and defending against competitive forces (Thompson & Strickland, 2013). Competitive advantage comes from the value that organizations create for their customers that exceed the cost of producing it. Organizations create value by performing a series of activities that he identified as a value chain (Porter, 2014).

According to the Strickland (2013), Universities are influential institutions that should actively integrate cost, diversification and collaboration strategies into their plans, actions and activities, including systems that govern the operation of university. According to

Thompson (2013) a University is said to be sustainable when it is implementing a value creating strategy not simultaneously being implemented by any current or potential competitors and when these other universities are unable to duplicate the benefits of this strategy. Porter (2014) contributed to the construct by proposing that in order to be sustainable, consumers must perceive some difference between a firm's product offering and the competitors' offering. This difference must be due to some resource capability that the firm possesses and competitors do not possess.

The concept of sustainability for Universities and other public institutions is essential in the light of the increasing importance of the public sector contribution to economic growth. Despite this important role during recent years, the public funding of the Public Universities in most countries has not increased, or at least not increased sufficiently to finance new investments. This seems strange but is comprehensible when considering that Universities have to compete with other priorities in public. Budgetary restrictions have been imposed by national governments as well as the aspiration of policy makers to introduce more "rational" management with the main objective of improving efficiency, effectiveness, and accountability (Bogt & Scapens, 2012).

Bogt and Scapens (2012) indicated that the concept of sustainability for Universities and other public institutions is essential in the light of the increasing importance of the public sector contribution to economic growth. Despite this important role during recent years, the public funding of the Public Universities in most countries has not increased, or at least not increased sufficiently to finance new investments (Porter, 2014). This seems strange but is comprehensible when considering that Universities have to compete with other priorities in public. Budgetary restrictions have been imposed by national governments as well as the aspiration of policy makers to introduce more “rational” management with the main objective of improving efficiency, effectiveness, and accountability (Bogt & Scapens, 2012).

Sustainability strategies are the biggest challenge to universities in the twenty-first century. Since there are many different definitions and interpretations of the concept, the strategies of the universities that are beginning to strive for sustainability show some differences. Various universities have already become engaged in the process of integrating sustainability strategies of cost reduction, diversification and collaboration in their activities and operations. The sustainable university is not easy to be achieved, but all the efforts, energy, resources and time invested in many universities around the world show progress (Scapens, 2012).

There is increasing indication that sustainability strategies in Public Universities in Kenya is in a state of crisis. Despite the fact that the system of Universities governance is now well established with its components of Chancellor, University Council, Vice-Chancellor, Senate, staff and students. Universities efforts to implement cost reduction, diversification and collaboration strategies have been ignored and their governing rules are side-stepped and therefore unable to implement their strategic plans (Mwebi & Simatwa, 2017).

1.1.4 Universities Reforms

University education in Kenya has had strides and trends. Among these, reforms to improving the standards and quality of University education for sustainability. The sector faces multiple challenges; lack of sustainability strategies, lack of adequate resources, a mismatch between industry needs and graduate skills, unbalanced faculty to student ration, budget shortfalls and massive Universities expansions. These challenges hurt quality and relevance of University education to remain afloat (Maobe, 2020).

Currently, the country has outlined four main development agendas for the country: affordable housing, manufacturing and industry, health sector and food security. All these agendas commonly dubbed as Kenya' Big Four Agenda (B4A) require the support of University education in the form of skilled human capital to advance the national goals. If higher education is not strengthened enough, the achievement of the national goals will be a pipe dream. (GoK, 2020).

According to the World Bank Report (2019), the funding by the government is low and unsustainable. There are also high expectations from the stakeholders Universities, students, parents and the public. The expectations are laced with manifestos, favours, politics, misappropriation of funds by Universities and unclear relationship with other funds as; Technical Vacation Education Training (TVET), National Research Fund (NRF) and County Governments demands. The government, for years bore the burden of providing University education. In the 1980s and 1990s, donor agency pressures based on concerns over Institutional management practices led to a reduction in aid to Kenya, adversely affecting what Kenya could invest in education. One of the key challenges to access, equity and relevance in Kenya's University education, that is equally a challenge to leadership and Institutional management practices has been a matter of funding. Without adequate funding, resource mobilization becomes an insurmountable hurdle, leading to poorly equipped institutions and inadequate numbers and cadres of personnel. The influence of donor agencies on Kenya's educational policies are reported to have been substantial at times (WB, 2019).

Funding not only affects what is offered in the curriculum but also how it is offered, a factor of who teaches and the resources they utilize for teaching, as well as the teaching related support activities that they engage in. Tasked with teaching and research, the University, for example, requires academic staff to engage in both activities, so that newly generated information, the outcome of research, can impact on teaching and the assimilation of that information. Successful economies are however deemed to be those which can develop and exploit new knowledge for 'competitive advantage and performance through investment in collaborations, diversification and cost reduction measures, diversifications and Institutional management practices and human and organizational capital' (GoK, 2020).

In 2019, the government formulated a new five-year Education Plan (2018-22), which includes priority areas for investments in University education. According to World Bank, among the reform expected is to stop establishment of new public universities and satellite campuses to rebuild robust institutions aimed at improving quality in the sector. Further, the government is considering under the reform agenda to downsize the staff to ensure proper staffing norms and the rationalization of academic programmes and institutions, with a view to realizing the full potential of the existing universities and campuses. This could see programmes and even universities and campuses being consolidated to maximise existing resources, establishment of a skills inventory system to help align university education with labour market needs and implementation of management information system which will provide information on the skills that employers need, allowing universities and industry to work more closely not only to meet employment demands but also anticipate future growth. (WB, 2019)

Table 1.0: Expenditure for the Ministry of Education, 2017/18 - 2020/2021

Development Expenditure for Ministry of Education (Billon Shillings)				
	2017/18	2018/19	2019/20	2020/21**
State Department of Basic Education	8,843.94	11,156.42	5,258.23	8,023.8
Teachers Service Commission	-	100.00	6.34	118.00
State Department for University Education	9,595.41	5,002.01	7,930.17	5,435.85
State Department for Vocational and Technical Training	1,866.95	4,248.17	4,746.18	16,463.28

Source: The National Treasury, 2022**-Estimates

In the table above, the current focus on funding the education sector is in free primary and secondary schools. Similarly, there is increased budgetary allocation for TVET compared to the Universities. Further, the government funds heavily other reforms undertaken in the two sectors focusing on the management of national examinations and development of competency based curricula (CBC) (NT, 2019).

The COVID 19 caused abrupt closure of Universities in March, 2020 resulting to significant decline in revenue generation initiatives. Public Universities, over the years largely depend on revenue generated from fees payment by students, particularly the self-sponsored students, to meet their financial obligations including recurrent and development expenditures. This is on top of the capitation that they receive from the Government. However, with the outbreak of COVID-19, Universities have witnessed a significant decline in the internally generated revenues. Universities therefore, need to start establishing strategic mechanisms to enhance income generation. These initiatives include; Integrated agribusiness, consultancy and partnerships, private consultancy and strategic consultancy (UNESCO, 2020).

The Presidential Working Party on Education Reform (PWPER) report (2022) to addressed the concerns of access, relevance, transition, equity, governance, finance and quality in education, training and research. The Report is premised on the effective implementation of Competency Based Education that promotes an individual's wellbeing and acquisition of capabilities, skills and values in order to contribute meaningfully to the economy and society at large. On the basis of the findings for the universities, the PWPER concludes that there is need to strengthen governance of the University sector, undertake amendments to the Universities Act to amongst others, exclude Public Service Commission (PSC) in the appointment process of Chancellors, provide for a selection panel in the appointment of Chancellors and Council members, and empower Councils to be responsible for appointment of Vice-Chancellors and other top management of Universities (PWPER Report, 2022).

1.2 Statement of the Problem

There has been a global concern over the performance of public universities. Recent research shows that overall enrolment fell by 13 % in the past decade with a decline of over 827,000 students since the start of the pandemic. There has been marked falling student retention and completion rates consequently resulting to their inability to play the dynamic and lively role in the academic and professional success of a growing economy (Salmi, 2016).

The performance of public universities in Kenya has deteriorated over the recent academic years. The academic staff to student ratio of 1:30 against the recommended ratio of between 1:18 and 1:10 has also compromised performance of public universities in terms of quality of graduates who meet industry demands and spearhead research and innovations. Statistics about the graduation rates at public Universities reveal that the situation has deteriorated in recent years. The dropout rates have been increasing from 2017/18 64 % 2018/19 73%, 2019/20 82% (Salmi, 2016). Public Universities had accrued pending bills amounting to Ksh 62 billion as of February 2022. Most public universities are unable to meet their financial obligations as evidenced by overdrawn account and unserviced statutory remittances (Okioga, Onsongo & Nyaboga, 2012).

Subsequently, Universities in Kenya are challenged in delivering the core mandate of not only producing quality graduates to meet industry demands, but also lack credibility to spearhead research and innovations (CUE, 2022). Statistics about the graduation rates at Universities reveal that the situation has deteriorated in recent years. The dropout rates have been increasing from 2017/18 64 % , 2018/19 73% ,2019/20 82% (Salmi 2016). This poor performance in public Universities has also been demonstrated by their inability meet their debt obligations and statutory remittances; low global ranking; inadequate research funding and limited community engagements. This has resulted to concerted efforts at improving the quality of teaching and learning and developing capacity to compete in the global arena over the last decade. Universities have in the past intervened through Institutional management practices with little improvement in performance. Previous research has focused more on challenges facing universities creating a gap on then what drives their performance. There has been little effort in pursuing other interventions such sustainability strategies (GoK, 2020).

This study therefore sought to explore the influence of transparency, adherence to management guidelines and public participation on performance of public universities in Kenya. Further, the study sought to establish the moderating influence of sustainability strategies on the performance of public universities and recommend strategies that can be applied to achieve and higher performance.

1.3 Objectives of the Study

1.3.1 General Objective

The general objective of this study was to establish the moderating influence of sustainability strategies on the relationship between Institutional management practices and performance of Public Universities in Kenya.

1.3.2 Specific Objectives

The study was guided by the following specific objectives:

i. To determine the influence of the level of transparency on performance of Chartered Public Universities in Kenya.

ii. To determine the influence of adherence to management guidelines on performance of Chartered Public Universities in Kenya.

iii. To determine the influence of the level of public participation on performance of Chartered Public Universities in Kenya.

iv. To establish the moderating influence of sustainability strategies on the relationship between Institutional management practices and performance of Chartered Public Universities in Kenya.

1.3.3 Research Hypotheses

Research null hypotheses of this study was be as follows;

$H0_1$: There is no significant influence of the level of transparency on performance of Chartered Public Universities in Kenya.

$H0_2$: There is no significant influence of the level of adherence to management guidelines on performance of Chartered Public Universities in Kenya.

$H0_3$: There is no significant influence of the level of public participation on performance of Chartered Public Universities in Kenya.

$H0_4$: There is no significant moderating influence of sustainability strategies on the relationship between Institutional management practices and performance of Chartered Public Universities in Kenya.

1.4 Justification of the Study

The timing of this study coincides with the declining performance of Public Universities in Kenya and the recent debates by national government and education stakeholders on their sustainability and quality of teaching and research they conduct. This research study has far reaching significant in terms of theory, policy and practice. In terms of theory, the research led to identification of new areas and the generation of new framework to prompt further research on the subject of Universities sustainability and Institutional management practices. The study therefore, contributes immensely to the building of knowledge in the field of strategic management which is backed by evidence.

Policy wise, Universities will highly benefit from the report in terms of gauging their sustainability levels and formulating the necessary strategies to be adopted. Additionally, the State Department for University Education, the Commission for University Education (CUE) and Salaries and Remuneration Commission (SRC) will have a guide in coming up with relevant policies and procedures required by Public universities in managing their institutions which include working conditions to ensure staff are motivated to offer their services to students in an efficient and effective manner. This will hence improve the performance of Public universities for sustainability.

Stakeholders like scholars will use the finding of the study as a source of reference. Universities self-reliance has elicited interest in the strategic management professional and more so following the upgrading of several Universities that were initially colleges. Therefore, the study adds to the body of knowledge for academicians. Indeed, it will help local and international organizations like World Bank (WB) who spend huge amount of their resources to advocate for quality education in Universities.

1.5 Scope of the Study

The study was conducted in Public Universities in Kenya which were chattered in the year 2012 and 2017 by the Commission for University Education. Public Universities have the same characteristics since apart from being regulated by Commission for University Education, they rely heavily on government funding. Public Universities are under the Public Service Commission (PSC) and State Corporation Advisory Committee (SCAC) which guides and approves Institutional management practices structures of Public Universities in addition to giving direction on policies. Their uniqueness set them aside from private Universities (Okioga et al., 2012) alludes that in any research, firms being investigated should be guided by same policies on management, same financial customs and should have market rules that are comparable. Due to this, the study focused on 31 Public Universities in Kenya.

The scope of the study was limited to: adherence to Institutional management practices on transparency, management guidelines and public participation as independent variables. Further, performance of Public University as dependent variable measured on research grants, completion rate of graduates and community outreach and lastly the moderating variable was guided by sustainable strategies which are; cost reduction strategies, collaboration strategies and diversification strategies.

1.6 Limitation of the Study

This research was done during the COVID 19 period when there were regular restrictions on movements from one area to another. This was however mitigated by utilizing the online platform and mobile phone which worked well and efficiently. The data was obtained from the top Universities officials and key respondents who were Vice Chancellors. In fact, majority of the respondents were comfortable and ready to assist through online services using telephone, emails and google video conferencing meeting. Secondly, Public Universities in Kenya are spread across the country making their access difficult.

There were some of the respondents who found it difficult to fill the questionnaire because they felt giving the information required might jeopardize their jobs; however, this was overcome by assurance that the information was not to be divulged and that it was for academic purpose only. Due to the busy schedules by the Vice Chancellors, the researcher made telephone calls and where it was not possible to get the VC, they delegated to their deputies to provide the information requested. Some VCs further made follow-up call to me to confirm if the information was given. The study did not obtain 100% response rate due to unwillingness and unavailability of some targeted respondents given the nature of information to be collected.

The conceptual underpinning this research came from studies conducted largely in the western and developed world context. In view that the culture and human behavior differ from country to country further studies should be carried out in developing countries context. To overcome this challenge, a three-factor model was tested giving rise to a set of empirically tested variables. The other challenges faced was resource limitations during the entire period of the research ranging from time, finances and technical support during the data analysis and thesis development. The researcher had to hire assistant, who had to be trained first, to assist in data collection. Despite the limitations experience, the quality of the study was not compromised. The study was designed in highly scientific manner following a thorough literature and theoretical review. The study was rigorous in its approach analysis, interpretation and reporting of the findings. The implications discussed did not therefore have any material effect on the results and findings of the study

1.7 Definition of Key Terms

The following key terms have been used as explained;

Collaborations: The Collaboration was initially conceptualized by Cappelli (2021) as the development of an international, professional relationship between two institutions where those involved in the leadership and facilitation of educational leadership programmes would have key roles. Paul's strong conviction that pooling our respective knowledge and understandings about educational leadership would prove beneficial to our institutions, academics, and students (Cappelli, 2021).

Cost Reduction Strategy: The usage of cost reduction strategy in this study, is borrowed from the definition by (Richardson, 2018) which indicate that cost leadership involves the lowering of costs as well as providing value for customers to gain competitive strategy in an extremely competitive environment. The firms adopting this strategy often offer relatively standardized products with acceptable to customers with minimal differentiation (Richardson, 2018)

Institutional Management Practices: The usage of Institutional management practices in this study borrows from (OECD, 2017) who defines it as structures, relationships and processes through which policies are implemented and reviewed. Institutional management practices comprise a complex legislative framework, the characteristics of the institutions and how they relate to the whole system, how money is allocated to institutions and how they are accountable for the way it is spent, as well as less formal structures and relationships, which steer and influence behavior (OECD, 2022)

Diversification: In this study, diversification mean other sources of income which include; consultancy services, hiring out of physical facilities, manufacturing of products and alumni donations. The untapped area of diversification includes tuition fee charges, industry related research services, technology transfer through patenting and philanthropic donations. (CUE, 2022).

Sustainable University: The sustainable University has been defined by Richardson (2018) as a higher educational institution that is able to use effectively the resources generated in order to fulfil its functions of teaching, research, outreach and Collaboration, and stewardship in ways to help society make the transition to sustainable life-styles (Richardson, 2018)

Sustainability Strategies: Also referred to as corporate responsibility **s**trategy is a prioritized set of actions. It provides an agreed framework to focus investment and drive performance, as well as engage internal and external stakeholders (Collings, 2018)

University Performance: It is referred to the manner in which the resources available to the University are used to achieve output in form of productivity, effectiveness, employee satisfaction and profitability (Collings, 2018).

The term means deliberately choosing a different set of activities to deliver a unique mix of value (Adams et al., 2014).

Sustainability: This refers to ability for creating long-term value by taking into consideration how a given organization operates in the business environment. Sustainability is built on the assumption that developing such strategies foster company longevity (Adams et al., 2014)

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents empirical literature, theoretical review and conceptual framework linked to the key constructs of the study. First, the empirical literature underpinning the study is presented and discussed. The dependent variables are discussed individually, followed by key sub variables in comparison with independent variable. The discussions bring to the front the key knowledge gaps and help in understanding how the constructs influence performance of public universities in Kenya. The chapter further presents the conceptual framework used to address knowledge gaps. It also presents a summary of selected empirical studies on study variables identifying specific knowledge gaps.

2.2 Theoretical Framework

Theory is a set of statements or principles devised to explain a group of facts or phenomena, especially one that has been widely accepted or repeatedly tested and can be used to make predictions about natural phenomena (Kombo & Tromp, 2011). A theory explains a relationship among phenomena. While carrying out research, it is important that the researcher is conversant with the theories related to the area of the study (Kombo & Tromp, 2011). With the understanding of the theories under the area of research, the researcher is able to determine the variables to measure, the statistical relationship expected from the variables in the area of study (Kombo & Tromp, 2011). The theories informing this study are; resource based theory and social network theory.

2.2.1 Resource Based Theory

Resource-Based View Theory postulates that internal organizational resources that are valuable, rare, inimitable and without a substitute are a source of sustainable competitive advantage and therefore enhance performance. The Resource-Based View Theory suggests that performance is driven by the resource profile of the firm, whereas the source of superior performance is embedded in the possession and deployment of distinctive resources that are difficult to imitate (Theuven, 2004).

The traditional model of Resource Based View (RBV) was theorized in 1991 and is still acknowledged as one of the most capable models for studying and analyzing resource strategy relationships (Barney, Ketchen & Wright, 2011). The view of the theory is that each organization is a collection of unique resources and capabilities. Resources are fundamental in explanation of sustainability of Universities. The resources of a University can be categorized into four; physical, financial, human and organizational. These resources should be valuable, rare, inimitable and non-substitutable to enable a University to attain sustainability (Wright, 2011). The perspective of RBV is that the growth of a university requires a balance between exploiting the already existing resources in a University and developing new ones. RBV leans towards the University's sustainability, since it focuses on exploitation of its unique resources (Barney, 2011).

Public Universities have capabilities, which can be shared among themselves by transferring them from one department to another thus achieving synergy and hence improving the performance. Public Universities capabilities are complex bundle of skills and knowledge that have been accumulated over time and are exercised through processes that enable them to coordinate their activities and make use of their assets (Day & Nedungadi, 2015).

Resource Based View theory as postulated by Rothaermel (2012) aids this study in contextualizing the resources of a University as fundamental determinants of performance. This theory further played a role in evaluating and explaining how utilization of university resources in a sustainable manner consequently enhances performance (Rothaermel, 2012). Barney (2015) advanced that sustainability strategies in general include the following: cost reduction, diversification and collaborations. In this study University resources are conceptualized to include strategic endowments in this case (cost reduction, diversification and collaborations) and therefore a predictor of performance. Sustainability strategies are the firm's strengths that enable it to better differentiate its products or service quality by building technological system to respond to customer's needs, hence allowing the firm to compete more efficiently and successfully than other firms (Anderson, 2011).

Resource Based View has been used to explain strategic management through its emphasis on firm-specific sustainability strategies as bona fide source of CA and high performance (Mckelvie & Davidsson, 2009). According to Lockett, Thompsons and Morgensrern (2009) on strategic management, RBV scrutinizes the strategies and abilities that facilitate how the firm will produce above the ordinary rates of return and higher performance benefits. The theory of RBV contributes in enabling the top managers to check whether factors relevant to superior performance exist or not. This enables them to be in a position of exploiting market imperfection to advance their performance. That way, managers are put in a place where they can combine resources to sustain their performance advantage.

Resource Based View theory provides the benefit to the firm specifically highlighting factors that create superior performance for a firm (Locket, Thompson & Morgenstern, 2009).

Resource Based View allows top managers of the organization to choose the most important strategic factors to invest in from a given range of probable strategic factors in the university. For a firm to have CA and superior performance, resources and capabilities have to qualify as exceedingly valuable, rare, inimitable, and non-substitutable. Resources that are valuable add to advancing the firm's performance. Rareness creates ideal competition in view of the fact that resources in that category are possessed by fewer firms. Inimitable resources are costly to duplicate and non-substitutable, meaning that there is no alternative to accomplishing an equal function instantly available to competitors (Morgenstern, 2009).

Diversification is one the strategy advocated for sustainability of universities (Thompson, 2009). The strategy allows the universities to start other revenue streams through commercialization, consultancies and customized courses. On the other hand, collaboration strategy involves sharing of facilities and manpower and aims at increasing the share of the market thus economies of scale can be achieved. It can also be achieved through use of related facilitates to assemble a mutually reinforcing business portfolio since resources that are critical can be shared among the units and partners (Thompson, 2009).

According to Prahalad and Hamel (2020), combined sustainability strategies leads to higher University performance compared to single strategy as the Universities can maximize their resources across business units to realize additional returns. Universities using combined sustainability strategies can outperform those using unrelated and single strategies (Hamel, 2020). This is to the extent that the key to superior performance from a sustainability strategy depends on the University's ability to share resources; an unrelated diversified University is unlikely to have resources that can be useful to all its business units. Asset specificity in a University's resources may bring sustainable competitive power to their owner relative to competitors, but also create a challenge on the other hand especially on the University's ability to transfer these resources to new application (Hamel ,2020). Previous studies have revealed that analysis of internal resources can enable Universities to determine their potential or realize sources of competencies and capabilities, and thus a University can achieve sustainability if its resources are not inimitable by its competitors (Barney, 2011).

This theory informs the sustainability strategies as suggested by Anderson that the type of sustainability strategy depends on the University's resource specificity as this dictates which strategy a University can adopt. It can adopt either related or unrelated strategies. If the University is well endowed with physical resources, then this implies that it can only venture in related products. However, finances are highly flexible and this would allow a University to venture in both related and unrelated (Anderson, 2011).

Finally, a strategy that can only be used in one product is not suitable for diversification into unrelated businesses but rather in related businesses. In the resource-based approach, managerial expertise has the potential to create value when shared across businesses This expertise if well managed can benefit the different business units of a University. Collaboration strategy can also be adopted especially by a University that is well endowed with facilities and manpower as it can share with its competitors with the aim of increasing its market share which in turn enables a University to achieve economies of scale (Lynch, 2019).

As a result of the forerunning, this theory was deemed fit to underpin the study in its endeavor to investigate a relationship that involves sustainability and performance constructs. However, there was need to tie this relationship with the independent variable (Institutional management practices practices). The study then sought support from a second theory, in this case social network theory.

2.2.2 Social Network Theory

This study was also anchored on social network theory advanced by (Cyton,2016) to conceptualize the relationship between Institutional management practices and performance of public Universities in Kenya. The theory was found appropriate for the study because of it philosophy and patterns which are based on the interaction among stakeholders and various forms of cooperation between ownership and control as suggested by (Visconti, 2019). According Barako (2008), social network posits that University setting is complex in nature and should run as an institution in line with the prescribed management practices (in this study's case, transparency, adherence to management guidelines and public participation). Brown (2008) indicate that social network theory is a sociology-based theory that build upon the relational dimension. It is built on the conceptualization of nodes, the actors in a network, and ties, and the relations existing between those actors.

The theory links to Institutional management practices issues for instance ownership structure and the link between many or few nodes of shareholders with the University and other stakeholders (Barako, 2008). Each shareholder represents a node that is linked to other edges with other nodes. Nodes have different degree of importance (Visconti, 2019). Figure 1 below show different social networks that exist in the Universities.

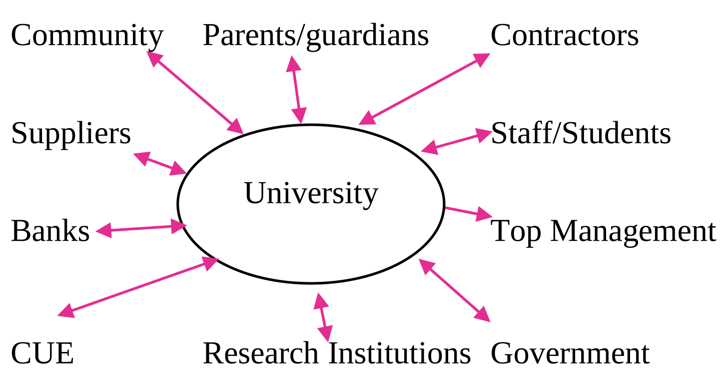

Figure 2.1: University External and Internal Stakeholder's Network
Source: Author (2021)

According to Barako (2008), the social network theory emphasizes socialization and teamwork that result to strong internal Institutional management practices structures that help improve University performance. It holds that there is need for the setting up of rules and incentives to align the behaviour of managers to the desires of owners (Brown, 2008), thus it determines the institutional management mechanisms to be adhered through formulation of codes of Institutional management practices in order to reduce firm conflicts and attain wealth maximization through enhanced performance.

The social network theory therefore enriched the study by creating an understanding of the need to adhere to management guidelines, being transparent and people involvement in decision making for superior University performance. Social network theory acknowledges that Universities do not only exist merely to teach, but has a responsibility to serve a wider social purpose and interests (Cyton, 2016). Thus, there is need to take all their interests into consideration while making corporate strategic decisions (Lawal, 2012). It argues that Universities are expected to extend their fiduciary duty and social responsibility to the local community and the environment in which they operate (Lawal, 2012) hence providing a mechanism for collaborations. As such, corporations that conscientiously strive to serve the interests of all stakeholders build more value overtime translating to high performance (Brown,2008). The social network theory therefore is useful in the study for promoting an understanding of the relationship between University stakeholders and the overall University performance. Even through both Institutional management practices and network science are well grounded theories, their possible connection has been hardly investigated (Barako, 2008).

2.3 Empirical Review

Empirical literature review is a search of published works, including books and periodicals that looks at the theory and provides empirical results that are relevant to the topic being studied (Zikmund et al., 2010). This review allows the researcher to bring out the intellectual and historical context of the area of the study and help indicate why the research is important (Kaifeng & Miller, 2017).

2.2.1 Institutional Management Practices and Performance of Public Universities in Kenya

Studies examining the association between Institutional management practices and University performance so far point to a lack of consensus on the effect of Institutional management practices on University performance majorly attributable to the existing conceptual, empirical and theoretical gaps inherent in the studies, thus making it hard to form a conclusive opinion as to whether there truly exist some reliable linear relationships between the two variables. Evidence in the empirical literature is largely contradictory and debatable. A study by Waduge (2011) among 37 Australian Public Universities to examine the relationship between Institutional management practices structures, practices and the performance of the University sector using data from annual reports of the Universities and other University education sector bodies found mixed results on the relationship between various aspects of Institutional management practices and performance of the Universities. Establishment of council committees was found to have a strong positive relationship with overall research and financial performance of the Universities. Nonetheless, council size and the number of council meetings were found not to have any statistically significant relationship with the overall performance of the Universities. Council independence was also reported to have a negative correlation with performance. Moreover, the relationship between transparency in reporting and performance was found to be statistically insignificant during the period of the study. Paramitha, Agustia and Soewarno (2017) reported a conceptual relationship between good Institutional management practices and performance of Universities in a literature review research in Indonesia. The study recommended that further research on the relationship between Institutional management practices and performance needed to be conducted based on the author's conceptualization to prove whether such a relationship was significant or not.

Garaika, Siswoyo and Zainal (2018), in a quantitative study among 240 lecturers found no effect of Institutional management practices on performance of private Universities in the same country. In the study, Institutional management practices was conceived based on transparency, accountability, credibility and fairness. Performance was measured based on financial, customer satisfaction, internal processes and innovation and growth perspectives borrowed from Kaplan and Norton (1996) balance scorecard theory. In Singapore, an inverse association between board size and firm performance was reported by Hong Vu and Nguyen (2017) in a quantitative study using panel data from 137 listed Singaporean companies. A non-significant relationship between board independence, CEO duality and company financial performance was also reported by the study.

In another study, Institutional management practices was measured by the dual role CEO, board size and board independence while financial performance was used as the basis for measuring firm performance whose indicators included return on assets and equity and Tobin's Q. In a quantitative study to examine the impact of various aspects of Institutional management practices; board size, composition, and CEO/Chairman duality on firm performance measured by return on asset (ROA) using panel data among 12 listed sugar milling companies in Pakistan, Latif, Shahid, Ul Haq, Waqas and Arshad (2013) found that overall, Institutional management practices had a significant impact on firm performance. The study revealed that board size, board composition and CEO/Chairman duality had a significant impact on ROA of sugar milling companies.

A related quantitative study to examine the relationship between Institutional management practices and firm performance in Vietnam by Duc Vo and Nguyen (2014) found mixed results on the impact of various components of Institutional management practices on firm performance using panel data from 177 listed companies. For example, CEO duality was found to be positively correlated with firm performance while board independence was reported to have negative impacts on firm performance. Furthermore, board size was found not to have any statistically significant relationship with firm performance.

In Nigeria, Udeh, Abiahu and Tambou (2017) carried out an ex-post facto research study to examine the impact of board composition on firm performance among 7 quoted Nigerian banks covering the period 2003 to 2014. Using secondary data, analysis revealed that board composition as a component of Institutional management practices had negative and insignificant impacts on the banks' financial performance measured by return on capital employed (ROCE).

Okoye, Evbuomwan, Achugamonu and Araghan (2016) had reported in a related study on profitability of the Nigerian banking sector that generally, Institutional management practices had a significant effect on the profitability of banks in Nigeria. Sarpong et al., (2018) investigated the effect of board gender diversity, board independence and size on performance of listed manufacturing firms in Ghana using panel data between the period 2009-2013. The study revealed that both board gender diversity and independence had a significant positive effect on the firms' return on asset (ROA) and return on equity (ROE). Board size was however found to have no significant relationship with firm performance as measured in terms of ROA and ROE.

A cross sectional descriptive survey by Tusubira and Nkote (2013) to examine the relationship between Institutional management practices and financial performance among private Universities in Uganda revealed that council and senate size negatively affected the financial performance of private Universities while policy and decision making were found to significantly affect the financial performance of the Universities measured by actual revenue/budget revenue ratio and actual expenditure/budget expenditure ratio. A related study by Ndiwalana, Ssekakubo and Lwanga (2014) among 59 savings, credit and cooperative societies in the same country found that Institutional management practices did not have any effect on the financial performance of savings, credit and cooperative societies in Uganda and therefore the study concluded that there is no relationship between Institutional management practices and firm performance, effectively demonstrating inconsistency with the conclusions made by Tusubira and Nkote (2013) among other researchers.

To establish the impact of Institutional management practices on firm competitiveness and performance among SMEs in South Africa, Hove-Sibanda, Sibanda and Pooe (2017) conducted a cross sectional research study that revealed that implementation of Institutional management practices among SMEs positively and significantly affected their performance. Also conducted in South Africa is a study by Mashonganyika (2015) to examine the impact of Institutional management practices on performance of publicly listed firms on the Johannesburg Stock Exchange (JSE) in South Africa between 2009 and 2013. Using return on asset (ROA), return on equity (ROE) and Tobin's Q as proxies for firm performance, the study found that board size as an aspect of Institutional management practices did not have any impact on firm performance. Frequency of board meetings, board gender and age diversity, board independence and CEO non-duality were however found to have significant effect on performance of publicly listed firms on the Johannesburg Stoke Exchange.

Ndwiga (2018) conducted a cross sectional research study in Kenya among 56 companies listed on the Nairobi Securities Exchange to investigate the relationship between Institutional management practices and firm performance among the listed companies. Using board size, board gender diversity and CEO duality, board leadership, board ethics and operations as proxies of Institutional management practices, regression analysis results revealed that Institutional management practices had positive relationship with firm performance. Firm performance was measured by Tobin's Q, return on assets (ROA), return on equity (ROE), equity per share (EPS) and other non-financial performance indicators such as customer satisfaction, learning and growth and internal processes.

Another study by Kamau (2018) using both descriptive and explanatory research designs among 162 financial institutions in Kenya to establish the influence of Institutional management practices on firm performance revealed that Institutional management practices had a significant influence on firm performance. Individual components of Institutional management practices however produced mixed results regarding their influence on firm performance. Board skills and committees were found to have significant and positive influence on performance of the financial institutions while board independence, board size, board diversity and codes of Institutional management practices (accountability, transparency, ethics, and fairness) were found to have no significant influence on firm performance among the financial institutions, thus demonstrating inconsistencies and similarities with other studies in equal measure (Kamau, 2018).

Study by Okoko (2017) to investigate the relationship between Institutional management practices and firm performance among 40 insurance companies in Kenya revealed using panel data that overall, there exists a relationship between Institutional management practices and firm performance. Various attributes of the board however produced varying nature of relationships with firm return on assets used as the measure of performance. Board composition and frequency of board meetings were found to have positive relationship with performance while board size showed a negative relationship with firm performance among the insurance companies. A synopsis of these prior studies suggests that the debate on the relationship between Institutional management practices and organizational performance remain inconclusive. General consensus is yet to be reached as to the influence of Institutional management practices on organizational performance, pointing to the need to carry out further research on the relationship between the two variable.

2.2.1.1 Level of Transparency and Performance of Public Universities

Transparency is among the major principals of institutional management and form a common basis for all internationally accepted institutional management guidelines and codes (Cadbury Report, 1992; Africa Development Bank, 2007; ASX Institutional Management Council, 2007). This principle corresponds to best institutional management practice globally. According to Transparency International (2021), transparency involves clear and public disclosure of information, integrity and accountability of organizations and individuals. It is operating in such a way that it is easy for others to see what actions are performed by an individual or institution (Schnackenberg, Andrew & Edward, 2014). Florini (2017) has observed that transparency is one of the practical measures taken to improve on performance of institutions.

University education is globally regarded as the most effective tool for socioeconomic transformation of any society. This is because it stimulates scientific research that results in modernization (Ogom, 2017) and generates significant and multiple direct, indirect and catalytic economic impacts which result in well-established benefits pertaining to both individuals and wider economies (British Council, 2018). Sustainability of universities is therefore of great importance to the global community. Over the years, the world has experienced unprecedented expansion in university education both in terms of student enrolment and number of emerging institutions. Currently, there are approximately 1,730 universities in the United States of America and Britain alone (Webometrics, 2021; Universities UK, 2020). India whose education sector is ranked among the fastest growing globally has about 819 Universities offering various degree programmes (Universities Grant Commission, 2021). There are about 200 million university students in the world today up from approximately 90 million in the year 2000 (World Bank, 2017).

Indeed, one of the major factors that contribute towards success of Public Universities is transparency and fairness particularly in the administration of funds. In this regard, these institutions are viewed as being efficient in the acquisition of both human and financial resources, and also being effective on how the limited facilities at their disposal are utilized (Abagi et al., 2015). According to Ernst and Young (2013), institutions of higher education are expected to be absolutely transparent in regard to their financial performance by putting up their financial statements on-line. These institutions should also have a transparent Institutional management practices framework that can enable them to be autonomous and self-regulatory. These frame work can also enable them to evaluate performance of faculty members. There should also be a transparent and effective performance-based remuneration system. In addition, it is advisable to appoint independent committees with the view of ensuring that there is accountability and transparency in implementing of institutional initiatives (Ernst & Young, 2013).

Failure to ensure transparency at every level of the administrative ladder in university is bound to occasion opportunities for financial malpractices. It is exemplified that lack of supervisory and disciplinary matters advances financial misappropriations (Hallak &

Poisson, 2005). In the same vain, it is held that lack of transparency has created a suitable ground for staff to utilize every possible opportunity to benefit from university funds. This may be achieved through inflation of budgets for operations activities and travelling allowances with the object of maximizing their gains where possible (Mobegi, Ondigi & Simatwa, 2012).

Kenya has particularly recorded a 19% increase in the number of universities between the years 2012 and 2021 (CUE, 2021). Questions have however been raised in the recent past about the quality of transparency practiced in these institutions of higher learning in both global and local spheres (Fielden, 2018; Varghese, 2016). A significant proportion of the challenges facing universities in Kenya today including unchecked expansion of university education, gender inequality, low research capability, poor living conditions for students, the spread of HIV/AIDS, crumbled infrastructure, poorly equipped laboratories and libraries, frequent student unrest and shortage of quality faculty have been can be attributed to questionable transparency systems in the institutions (Mwiria, 2007; Mwiria and Ngethe, 2007; Sifuna, 2010; Mulili, 2011; Nyangau, 2014 & Okeyo, 2017).These challenges have significantly undermined the quality of education offered in Kenyan institutions of higher learning (Inter-University Council of East Africa, 2014; British High Commission, 2015; Gateru and Kiguru, 2015; British Council, 2015; CUE, 2017).

Recognition of the need for good institutional management which entail transparency in higher education globally has risen over the years as a result of the emerging trends and challenges that impact directly or indirectly on the quality of training offered by the sector. According to Fielden (2008), internalization and rapid expansion of the sector are major challenges that have attracted the attention of governments to put in place institutional management frameworks that would entrench transparency and ensure quality education in both public and private universities. Waswa and Swaleh (2012) observe that the fusion between internationalization of higher education, globalization and increased demand for democratization has fueled a growing demand for transparency in in the management of universities, since this guarantees institutional stability in the long run.

2.2.1.2 Adherence to Management Guidelines and Performance of Public Universities

Public universities are established through an Act of Parliament under the Universities Act, 2012. The Act provides for the advancement of education in University, the creation, accreditation and Institutional management practices of universities. The Commission for University education accredits public universities in Kenya. The Commission has a duty of ensuring compliance with guidelines for registering and operation of Universities in Kenya (CUE,2022). In the past 40 years, the focus on reducing public spending has impacted universities in specific ways. Concepts like value for money (Townley, Cooper & Oakes, 2003) have subjected universities to demands for the accountable and transparent use of public funds. Universities have responded by formalizing their management guidelines and increasing administrative capacities (Lodge & Wegrich, 2014).

In the current situation, theoretical approaches have positioned adherence to management guidelines to improved performance of universities. There are various attempts to explore the psychological factors that make people adhere, yield or acquiesce to rules (Carr, 2018). Overall, there is a growing awareness that adherence to management guidelines is not just yielding to power but has also a degree of increasing performance of universities (Ybema & Horvers, 2017). One area in the study of adherence to management guidelines is on professionals who are usually regarded as difficult to control. Despite their professional expertise, which in theory provides them with some freedom from organizational control, knowledge-intensive workers such as scientists, medical professionals or academics are often found to comply. Kamoche et al., (2014) present a study of Research and Development (R&D) scientists who “channeled resistance by reconstituting adherence to management guidelines in line with their sense of identity as creators of knowledge”. In their case, adherence to management guidelines assumed form of resistance where by professionals manage to shape adherence to management guidelines in their own terms.

Kamoche et al., (2014) argue that adherence to management guidelines may also play a significant part in control strategies. The specific form of adherence to management guidelines emerging in their case is a form of compromise between management’s demands for control and the upholding of professionals’ identities. In the study of performance of public institutions in French business schools, Boussebaa and Brown (2016) also see adherence to management guidelines as a form of willing engagement with external demands, supplementing traditional control mechanisms of discipline and surveillance. In a similar vein, Brown (2016) shows that adherence to management guidelines with standards, policies and procedures can take either tightly coupled or decoupled forms. Decoupled adherence to management guidelines refers to a consciousness discrepancy between talk and action, while maintaining the appearance of complying with rules. In these studies, adherence to management guidelines is multifaceted in that it offers the possibility of successes.

Simultaneously, adherence to management guidelines has a tenacious component of willingly surrendering professional autonomy, hollowing out its potential for resistance. Bristow et al., (2017) summarize this ambiguity as dialectics of resistance and adherence to management guidelines. While their dialectical approach overcomes the binary opposition of resistance and adherence to management guidelines, it conflates the two concepts to the point where it becomes difficult to study the role and effects of adherence to management guidelines as a social practice in its own right. Generally, although resistance has been well-developed as a concept (Brown, 2016), much less is known about what adherence to management guidelines actually is and how its dialectics with resistance and power play out.

2.2.1.3 Level of Public Participation and Performance of Public Universities

The Constitution of Kenya (2010) makes public participation a key and integral aspect of Kenya's Institutional management practices system. Participation is recognized in Article 10 of the Constitution as a national value and key principle in Institutional management practices. The International Association of Public Participation (IAP2) defines public participation as 'any process that involves the public in problem-solving or decision-making and that uses public input to make better decisions' while recognizing the public to be stakeholders who do not form part of the decision-making entity.

Ronoh (2012) notes that public participation entails a wide range of activities such as providing information, consultation, empowerment and direct involvement in decision-making. Participation is an exercise where stakeholders come together in matters that concern them to ensure priority setting, resource allocation, policy making and access to public goods and service in an aim to achieve growth and development in their particular sector of concern (World Bank, 2011).

According to (Creighton, 2015) Public participation in universities therefore, involves the process in which staff, who are referred to as the public, raise their concerns, needs and values which are then incorporated into management decision-making. This means that the staff influence most decisions made by those in management. In the recent past, it has been interesting to note that most universities have tried to incorporate public participation to ensure consultations, involvement and empowerment of staff in delivering public services. It is in this regard that there has been a raise in awareness and empowerment on the importance of public participation in Institutional management practices and public University at large (Creighton, 2015).

According to Sharma (2018), Public participation applies to administrative decisions and it does not only include providing information to the public. There has to be a direct involvement and empowerment to support between those making decisions and those who want to participate in helping make the decisions. In making these decisions together, there should be an organized process for involving the staff in the process and when there is lack of an organized process, there leads to an ineffective and inefficient participation. The participants also should have some level of influence on the decision being made. The potential of delivering good Institutional management practices through the incorporation of public participation modalities in government is becoming increasingly adopted and is fully recognized in most countries (Sharma, 2018).

There has been a lack of knowledge on how to go about public participation in most levels of government. This has led to most countries drawing up a robust legal framework, policies, and guidelines on how to effectively carry out public participation (Sharma, 2018). For effective participation to realize good Institutional management practices, therefore, there is need for empowerment from both citizens and public leadership. Countries have in turn provided for legal structures and frameworks; institutional, financial and human resources to ensure its effective implementation to achieve this goal of good Institutional management practices (United Nations, 2019).

Public participation can be practiced directly by citizens or indirectly through elected representatives (Omolo, 2017). The public is expected to participate in identifying their community development needs, implementing, monitoring, and evaluating county development projects, budget, policy and law making (Omolo, 2017). To enhance public participation, public universities in Kenya use various mass media and forums to disseminate information to citizens (Transparency International (TI) Kenya, 2014).

The information provided educates and mobilizes citizens for participatory development and helps them in their watchdog role over public universities. In spite of the foregoing, there is limited public participation in public universities in Kenya (Gitegi & Iravo, 2016; Kanyinga, 2017 & Mitullah, 2016; This may be caused by inadequacy of provision of platforms for public participation by public universities (Mitullah, 2016). Past studies have shown that shortcomings in information dissemination and access by public universities and citizens respectively have contributed to this problem (Gitegi & Iravo, 2016)

2.2.2 Sustainability Strategies and Performance of Public Universities

A firm possesses sustainability strategies when it has value creating processes and positions that cannot be duplicated or imitated by other firms that lead to production of above normal returns. It refers to the determination of the purpose and the long term objectives of an enterprise to have and adapt courses of action and allocation of resources necessary to achieve desired lead in the market (Thompson & Strickland, 2013).

Sustainability is recognized as one of the biggest societal challenges of the twenty-first century. Universities have the vision, the knowledge and the power to lead this transition, and to induce the changes towards this new paradigm. As a result, sustainability strategies need to be incorporated in university's mission and practice. Although some successful case studies have been reported, there is a lack of consolidated methodologies to support an integrated and holistic implementation of sustainability strategies in universities, as well as to identify the opportunities associated with this process (Strickland, 2013).

Although sustainability is now recognized as one of the biggest challenges of the twenty-first century, a long and controversial path has led to this recognition. The 20th century development model was based exclusively on economic growth and social development This concept was proposed after the World War II, where the necessity for peace and security was formally understood by the international community, after the creation of the United Nations. Conceptualization of sustainability was based on three issues (cost reduction, diversification and collaboration), was formally and most widely disseminated by the Brundtland Report (WCED, 2022).

This Report, launched after the first major global United Nations Conference on the Human Environment in 2022, exposed the growing challenges universities were undergoing. Conceptually, a new model emerged as the result of worldwide concerns about the unpredictable social, environmental, and economic consequences of rapid growth of universities. The Millennium Development Goals (from 2015 to 2020) and the Global Goals for Sustainability Development (United Nations, 2020) have been acting as a global and inclusive framework for the implementation of this model. The relevant role of Universities for a sustainability was formally recognized in the 2020 United Nations Conference on Human Environment (WCED, 2022).

Some years later, the Agenda and the Rio Declaration on sustainability in 2019), presented the need for a societal engagement by “establishing innovative strategies and global partnerships through the creation of new levels of cooperation among States, key sectors of society and general population” (UNCD, 2019). Taking that into account, the United Nations has declared the 2005-2014 period as the decade for "Education for sustainability, establishing an international mandate to incorporate sustainability strategies, values and practices, into all aspects of university education processes”. This mandate requires the integration of sustainability into education, research, operation and evaluation (UNESCO, 2020).

In response to this societal challenge, worldwide Higher Education Institutions (HEI) have begun to adapt their mission and current practices to incorporate sustainability as a disruptive theme of their activity. Asset of declarations, charters, and partnerships have demonstrated this commitment and provided guidelines and frameworks to embed sustainability strategies (Stephens & Graham, 2017).

2.2.2.1 Cost Reduction and Performance of Public Universities

All around the world, the pace of change in University education is accelerating. In the face of continued increases in participation, demographic change and profound fiscal crises, University education institutions are increasingly being required to raise funds from students and within as opposed to relying on funding from governments. Indeed, the face of policy change is coming so quickly that it is difficult to keep track of all the relevant developments in different parts of the world " (Marcucci & Usher, 2011).

The cost reduction strategy has been adopted by universities across the world with a view to be sustainable. This strategy involves the lowering of costs as well as providing value for customers to gain competitive strategy in an extremely competitive environment. The firms adopting this strategy often offer relatively standardized products with acceptable to customers with minimal differentiation (Mnjala, 2014). For the cost leadership strategy to be sustainable, the firm must reduce on the operational costs, faster mover advantage, winning of the price war, and market dominance (Anyim, 2012). The cost reduction strategies that the firms can utilize include building efficient-scale facilities, establishing tight control of production and overhead costs, minimizing the costs of sales, product research and development, reduced margins and investing in state-of-the-art manufacturing technologies (Riungu, 2013).

The firm must also link the primary and secondary value creating activities through simplification of processes and procedures, achieving efficiency and effectiveness, reducing costs, monitoring the costs of activities provided by others that interface with the company's inbound and outbound logistics (Sirengo, 2009). The activities that constitute the value chain must be undertaken in manner that utilizes the available resources effectively through aggressive construction of efficient–scale facilities, vigorous pursuit of cost reductions from experience, tight cost and overhead control, avoiding of marginal customer accounts and cost minimization in areas of research and development, service, sales force and advertising (Chepkiyeng, 2009). In summary, the cost leadership is a strategy used by businesses to create a low cost of operation within their niche with the primary objective of gaining advantage over competitors; this is achieved by reducing operating costs below that of others in the same industry.

Cost consciousness and the ability of senior officers to manage costs well and to utilize strategies to close budgetary gaps are essential to ensure the longer-term financial sustainability of Public Universities. Despite this importance and recent developments within the higher education landscape which have seen Public Universities struggling with reduced government funding, spiraling costs and increased enrolments, there is scant research evidence focusing on this issue. Studies investigating the perceptions of senior

HEI officers with regard to cost management strategies are limited and appear to be confined to the more developed Western countries. (Marcucci & Usher, 2011).

The shift in the financial sustainability landscape of Public Universities is timely. The global financial constraint phenomenon necessitates all Public Universities to give emphasis on value of money spending. It is reported that there was a steady increase of 7% of cost per student in higher learning from 2015 to 2011 (MoHE, 2015). Traditionally, around 90 percent of expenditures of Public Universities in Malaysia are funded by government while the remainder of 10 percent paid by students' tuition fees and other sources of funds. The Blueprint argued that it is the time for Public Universities to reduce their dependencies on government funding, and instead seeking other sources of funds to make them competitive, flexible, stronger and more importantly financially sustainable. Thus a new funding model which addresses the ideals of the Blueprint is required to materialize the financial sustainability mission of the Malaysian government for Public Universities. The ideals comprise improving funding formulae which is based on performance, enhancing performance and sustainability as well as creation of endowment funds (Webb, 2015). Economic recession had hit hard the education sector globally. Governments and higher institutions had responded in various manners such as downsizing and restructuring (Cameron & Smart, 1998), reduced funding (Liefner, 2011) while some higher institutions have bad experience of declining revenues. (Cameron & Smart, 2011) and even closure (Webb, 2015).

There are two types of higher learning institutions in terms of funding; one is private-oriented in which the tuition fees are the major financial resources and the other is state-oriented that is funded significantly by government and tuition fees contribute very little to finances of institutions. State-oriented institutions in particular was be mostly affected by the economic recession in the form of budget cuts. Johnstone (2007) in Ahmad, Farley and Kim-Soon (2013) argued there were countries that had undertaken funding reforms or restructuring resources for financing higher education when experiencing fiscal pressure. Malaysian government, for instance, has opted to reduce its funding to all Public Universities. These Universities are expected to pay their operational expenditures up to a maximum of 30 percent by year 2020 (Ahmad, Farley & Naidoo, 2012).

In the context of Malaysia, Public Universities which have been so far heavily subsidized by the government (Ahmad, Farley, and Naidoo, 2012) are facing with challenges of a drastic reduction in the funding. The introduction of performance-based funding (PBF) is one of the Blueprint financial sustainability ideals aimed at link funding and performance of Public Universities. The funding based on achievements of the key performance indicators and gradual autonomy would be expected to provide a catalyst for them to improve performance as well as providing transparent funding (Ahmad, Farley & Kim-Soon, 2013).

The traditional practice of budget allocation mechanisms in Malaysia still depends on negotiations between Public Universities and MoHE, and is deemed not a suitable system in the current challenging economic environment. On another important note, reforms in the funding of Malaysian Public Universities are not only to reduce the dependency on government but also as a respond to a demand for greater accountability and demand for greater quality and efficiency (Ahmad, Farley & Naidoo, 2012 & Michael, 2016).

Changes in funding style such as shifts in income sources, or in the forms of resource allocation also are argued to have a major impact on the behaviour of Universities as well as their internal process of resource allocation (Liefner, 2011). In some cases, they may involve changing internal processes, downsizing, business process improvement, shutdown, reorganization and structures and goal displacement. Cost cutting is another potential endeavour for Public Universities to address the reforms in funding. However, which and what extent of the cutting have to be cautiously selected and formulated.

Kenyan public universities have to adapt with restricted funding from governments. It is therefore important for the universities to reduce they operations costs to ensure they remain sustainable (Webb, 2015). The adoption of mixed funding structure, which assimilates a hybrid of state–oriented control and market oriented pushes public universities to be more innovative and responsive to changes in demand in the ecosystem (Liefner, 2011). For instance, Public Universities are expected to be competitive by producing quality research outputs to secure external grants to finance their activities especially research programmes (Amran et al., 2016).

Based on the above discussion, exploration in cost reduction of public higher learning institutions were conducted in the Western countries, with Malaysian studies being limited to funding framework. To date, an investigation on effect of cost reduction on sustainability strategies and Institutional management practices in Public Universities is yet to be undertaken (Amran et al., 2016). Further, this study makes emphases on the need for Public Universities in Kenya to adopt cost reduction strategies.

2.2.2.2 Collaborations and Performance of Public Universities

According to Etling, (2016), it is becoming difficult for the Universities to go it alone in terms of serving as a citadel of learning, coping with the huge wage bill and competing with their peers in other parts of the world, due to competitive, economic and other pressures. As a consequence, Universities are left with no option than to carry their industrial partners along in terms of research and development through the formation of collaborations for their mutual benefit. Since the industries are established for profit making and the Universities for knowledge enhancement, such collaborations would help in spreading the costs in terms of provision of knowledge and costs of research (Etling, 2016). University collaborations are usually considered as being to strengthen the efforts of Universities in globalizing their programmes to help academics, students, and their faculties become more competitive in global markets (Etling, 2016). This requires the breaking of barriers amongst countries around the world and building ties that requires Universities to collaborate on educational and research initiatives (Khalifa & Sandholz, 2012).

Academic collaboration and cooperation have the potential to increase the capacity of both individuals and their institutions in sustainable ways. Significant economic benefits frequently arise from inter- University collaborations and are usually crucial for maintaining them. (Carey et al., 2016) point out, however, that while “financial incentives may be sufficient to lead to collaboration” between Universities, they do not “assure a successful collaboration”. It becomes incumbent upon academics, therefore, to assume the mantle of leadership in the search for new and different ways to reach out and collaborate.

Many Universities use the memorandum of understanding (MOU) to develop Collaborations although as Etling (2016) has emphasized, the use of a standard format can mean limited flexibility and a less effective approach. Indeed, our experiences to date have demonstrated that in the absence of a MOU and the constraints it might impose, an inter-University collaboration such as the one discussed in this paper can increase the opportunities to shape and sustain a strong and purposeful Collaboration (Etling, 2016). he essence of the collaboration from its inception was embedded in the shared goals, values, and visions of two Universities’ educational leadership programmes as well as those of the participants who wanted to share their knowledge, understandings, reflections, practices, and research. Notably, as the collaboration has evolved, we have become aware that our leadership has contributed to, and influenced, its development in this early phase (Etling, 2016). University collaborations described by (Sandholz, 2012) have affirmed our leadership focus in the development of the collaboration. While the first three aspects involve structural factors that “favor or inhibit collaboration”. Due to the high cost of research infrastructure, it is becoming vitally important for Universities to develop collaborations that bring together research teams of equal strength, across University, government and business sectors globally (Mathooko & Ogutu, 2016).

Going forward, the development of deeper, genuinely collaborative relationships was become more crucial for those Universities wanting to be successful on the global stage as much of the equipment required in research is so costly that purchase through consortia and networks was be the only way to function at optimum levels. (Mathooko & Ogutu, 2016). Ultimately, a University's ability to differentiate itself in market; recruit a diverse student body; attract and retain staff of international distinction; secure multifaceted Collaborations and generate philanthropic support was will be key to surviving the challenges the sector faces (Ogutu, 2016).

University research centres can be beneficial to industrial firms by providing them with a number of relationship alternatives that facilitate the advancement of knowledge and new technologies (Mathooko & Ogutu, 2016), and also the foundation of scientific and technological literacy that is required in research and development, manufacturing, and support functions (Etling, 2016). To create the business leaders of the future, Universities need access to significant resources that enable them to impart a quality education. These resources include personnel (faculty and support); infrastructure and equipment; training and professional development; industry advisors and other technology-based needs that are expensive to acquire (Amran, 2016).

Goetsch and Davis (2016) states that, in this dispensation of lowered funding for the educational sector in Kenya which had consistently remained below the UNESCO approved minimum, Universities are increasingly faced with budget constraints, late release of allocations from the National Treasury, increasing staffs overhead which all limit their abilities to acquire these resources. The four main strands of activity that Universities engage in where there is significant potential for developing collaborations are: - teaching and learning, contract, outsourcing, research and development, innovation and Knowledge Transfer, Training and Retraining of students on Information Technology (IT) placements (Goetsch & Davis, 2016). The simplest way to understand the concept of Collaboration is to think of it as working together for mutual benefit (Goetsch & Davis, 2016) such as adding diversity, bringing in new ideas, concepts, technologies and market access (Davis, 2016). They also result in reduced spending by the individual partners compared to if they did the task on their own, as well as reduced risk of failure.

Universities in Kenya are also businesses in the service of educating and training people, while increasing the Nation's base of intellectual property through research efforts. Just as corporations today are under serious pressure to shore up their capital base, attract quality investments from within and outside the country and retain qualitative manpower. There are long established and natural links between Universities and industries, not least because Universities produce a pool of well-educated graduates and postgraduates from which the professional workforce is recruited. With the people come the ideas, skills and knowledge from which many companies derive their competitive edge (Davis, 2016).

Davis (2016) indicate that in an Industry- University collaboration, the following are areas that collaborations can be formed: - physical assets/ resources, laboratories, equipment and facilities, human resources, highly skilled and experienced staff, other knowledge resources: - information, database, libraries, processes, ideas, contacts, -financial resources, own research funds or access to public funds (Davis, 2016).

The Commission for University Education observed that Kenyan Universities do not have the required collaborations) acknowledged that the Universities cannot play the expected role without relevant collaborations for today and for the future. Hence, there is need for Public Universities to have collaborations with other institutions. This study proposes that the Universities come up with collaboration programmes with other institutions in order to share the ideas and challenges that affect them on their daily operations (CUE, 2021).

2.2.2.3 Diversification and Performance of Public Universities

Universities institutions all over the world have been facing a demanding and complex financial constraints. The growth in student numbers, financial austerity, and increased competition, rethinking the role of the state and public services in general, have contributed, if not to a reduction in public budgets devoted to Universities in general, but to a tendency towards declining institutional budgets and lower per student spending. The current situation has forced many countries to rethink the way Universities is funded and to discuss the potential diversification of sources of funding (Teixeira & Koryakina 2012). niversity revenue diversification has become one of the proposed solutions to the growing government austerity and the need to supplement public funding with private financial resources, as well as with competitive public ones. It has been defined as generation of income beyond government appropriation through commercialization of research, technology transfer, consulting, lifelong learning, and customized courses, generating funds from assets and alterations in financial decision-making and management as well as other activities (Koryakina, 2012).

In Europe, revenue diversification for Universities has been raised to a policy level in connection with the Lisbon Strategy and the Modernization Agenda. The Lisbon Strategy has identified several areas where Europe was lagging behind its main competitors, especially, the United States: low research and development investment, a low rate of innovation, a low rate of entrepreneurship, lack of venture capital, and low information and communication technology adoption. In the area of research and development, the funding gap between the United States and Europe was especially related to low private contributions. Policy recommendations therefore have been to increase these contributions by engaging in University industry collaborations, technology transfer, and other Collaborations with the larger society (Teixeira & Koryakina, 2012).

In relation to both Europe and the United States, the ability of Universities institutions to engage in revenue diversification activities has also been fueled by opportunities provided by a more technologically sophisticated, knowledge based economy (Bok, 2011). The growing importance and demand for knowledge is driven by intensified international competition in business and industry. That is why the role of higher education and its ability to “connect” with the outside world has gained importance. Higher education is believed to help countries build globally competitive economies by developing a skilled, productive, and flexible labor force and by creating, applying, and spreading new ideas and technologies (Teixeira, 2012).

University revenue diversification can be achieved through a vast range of activities (Hearn, 2011) Instructional initiatives, test-preparation courses, lifelong learning programs, workforce retraining, distance and online education. Pricing initiatives: differentiated pricing of tuition fees, research and analysis initiatives: technology transfer offices, business Collaborations, fee based information services. Franchising, licensing, sponsorship, and partnering with third parties (Teixeira & Koryakina, 2012). University research initiatives can generate extra income from their research potential through technology transfer, commercial exploitation of knowledge, and Collaborations with industry. Issues associated with the development of University industry relations and the role of government in enhancing the linkages between the two sectors have been addressed by research on the so-called triple helix model of University industry-government relations (Teixeira & Koryakina, 2012).

In the United States, a turning point in the commercialization of research was the BayhDole Act of 2021, which gave Universities ownership of patents arising from federally funded research grants. A study by the OECD found that most of its member nations had adopted, or were in the process of evaluating, regulatory systems that made it easier for Universities to claim title to and license inventions arising from government-sponsored research (OECD, 2021). Another way to form a basis for University–industry Collaborations and to earn additional income is through the creation of spin-off and start-up companies, incubators, and science parks (OECD, 2021).

University education in Kenya is currently experiencing serious financial crisis. This is apparent because budgetary allocation for the educational sector has been on the decline. The government has not been able to meet the 26% recommended by UNESCO. The situation has been aggravated largely due to the economic recession that the nation is facing and more so with increasing competition of education with other sectors for public monies. Budgetary allocation to education sector during the period 2006-2015 indicate the following fluctuations 2015, 10.5%: 2014, 9.3%; 2013, 11.00%; 2012, 8.09%; 2011, 13.0%; 2010, 6.54%; 2009, 6.40%, 2008, 1.69; 2007, 10.0% and 2006, 8.70%. (UNESCO, 2015); Adequate funding is a prerequisite to sustainability of University education in Kenya. Inadequate funding can seriously destabilize the University system in realizing sustainability of its progammes and other activities. Revenue diversification according to World Bank is one mechanism that could be used to improve sustainability of Universities institutions. Sustainability refers to the ability to support, maintain and keep something intact and functioning properly. For the University system, their sustainability involves the need to maintain and enhance academic programmes, the learning environment and the school curriculum as they are major instruments through which Universities carry out their functions of inculcating knowledge, values and skills, in order to equip their product to cope with future challenges. (World Bank, 2019).

Alternative sources of funding University education have been extensively researched by many scholars. However, there is little or no empirical research findings on the influence of sustainability strategies on the relationship between Institutional management practices and performance of Kenyan Universities. This study therefore seeks to fill this gap. This study proposes that if the Universities could diversify their products and programmes, they will increase their revenue base and therefore be financially sustainable to carry out their mandate (World Bank, 2019).

2.4 Conceptual Framework

Conceptual framework in Figure 2.1 highlights descriptive categories which was be systematically placed in broad structure of explicit propositions, statements of relationships between two or more empirical properties, to be accepted or rejected (Nachamias & Nachiamias, 2017). Conceptual framework consists of independent variables and the dependent variable.

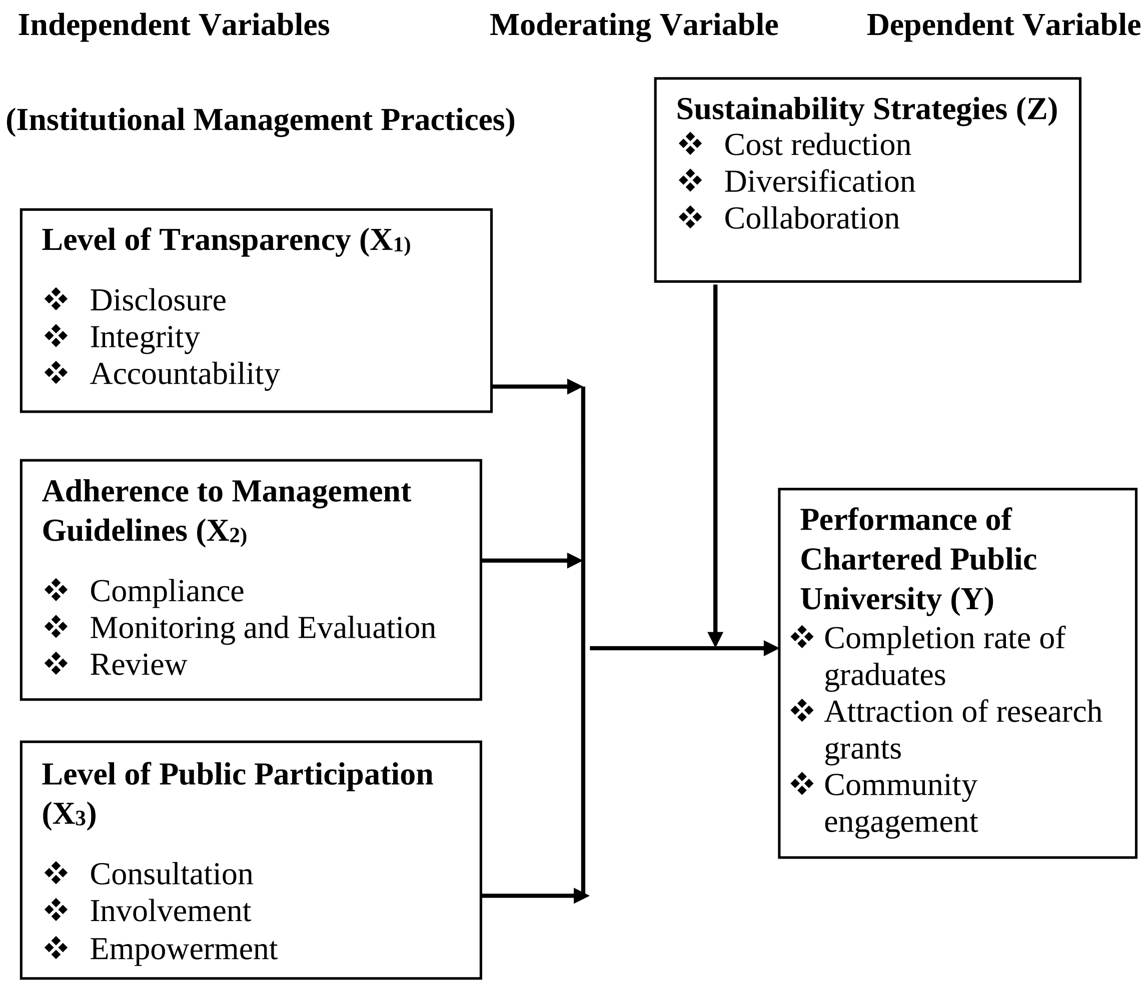

Figure 2.2: **Conceptual Framework**

Source: Author, 2021

2.5 Research Gaps

Majority of the literature reviewed generally indicates that not much has been done to examine whether the expected results of sustainability strategies are well grounded in demonstrable or replicable cause-effect relationships (Thompson and Strickland, 2013) From the literature reviewed it is difficult to generalize about the impact of sustainability strategies, to understand what contributes to success, or to predict with any accuracy the impact of sustainability strategies. Methodologically, (Strickland, 2013 recommend that research on sustainability strategies incorporate a mixed-method approach to study stakeholders' experiences by pairing open-ended questions with likert-type. Moreover, although social sustainability strategies are becoming acceptable, key aspects of sustainability have received limited attention than the economic and ecological dimension, both in policy circles and in academic writings (Stephens & Graham, 2017).

Sustainability strategies have for a long time remained quiet in the debate on performance of the institutions. Even where it has been discussed, these have been hardly in strategic management. Yet strategic management is recognized as key elements of sustainable development. And as (Graham, 2017) observes, socio-scientific analyses of how social values such as sustainability strategies, equal opportunities, justice among others influence sustainable development can provide some strong arguments in the debate about sustainability. It is these assertions that have motivated this study.

A study by Christensen, Raynor and McDonald (2015) established that strategic choice was deliberate on winning, and concerned with creating and sustaining growth and other indicators of organizational performance. Being a case study, the study results relate exclusively to the organization concerned, with inferential statistics rendered irrelevant. A study by Wheelen and Hunger (2012) concluded that strategic actions are within the realm of strategy implementation, and that the performance of an organization is critically dependent on how well its chosen strategies are implemented but not of how great the strategy is. They further found that strategy implementation addressed the who, where, when and how of reaching desired levels of organizational performance. A similar determination was arrived at by Simerly and Mingfang (2018) who established that effective strategic choices and action were key antecedents of organizational performance. Nevertheless, neither of the two studies has focused on the influence of sustainability strategies and performance of universities context.

2.6 Chapter Summary

Generally, this chapter addressed theories relevant to the study that is, resource based theory and social network theory. According to Rothaermel (2012) Resource Based View theory emphasizes resources of a University as fundamental determinants of performance and sustainability. This theory further played a role in evaluating and explaining how utilization of university resources in a sustainable manner consequently enhances performance (Rothaermel, 2012). As a result of the forerunning, this theory was deemed fit to underpin the study in its endeavor to investigate a relationship that involves sustainability and performance constructs. However, there was need to tie this relationship with the independent variable (Institutional management practices practices). The study then sought support from a second theory, in this case social network theory.

Social network theory was found appropriate for the study because of it philosophy and patterns which are based on the interaction among stakeholders and various forms of cooperation between ownership and control as suggested by (Visconti, 2019). According Barako (2008), social network posits that University setting is complex in nature and should run as an institution in line with the prescribed management practices (in this study's case, transparency, adherence to management guidelines and public participation).

The chapter also looked at the Institutional management practices and this study they were; transparency, adherence to management guidelines and public participation as advanced by (OECD, 2021). A review of the literatures examining the association between Institutional management practices and University performance so far point to a lack of consensus on the effect of Institutional management practices on University performance. This is attributable to the existing conceptual, empirical and theoretical gaps inherent in the studies, thus making it hard to form a conclusive opinion as to whether there truly exist some reliable linear relationships between the two variables. Evidence in the empirical literature reviewed is largely contradictory and debatable. A study by Waduge (2011), Paramitha, Agustia and Soewarno (2017), Garaika, Siswoyo and Zainal (2018) and Okoko (2017) among others found mixed results on the relationship between various aspects of Institutional management practices and performance of the Universities.

Finally, the chapter looks at the sustainability strategies which were conceptualized of based on three issues (cost reduction, diversification and collaboration), which are formally and most widely disseminated by the Brundtland Report (WCED, 2022). Sustainability is recognized as one of the biggest societal challenges of the twenty-first century. As a result, they need to be incorporated in university's mission and practice. (Strickland, 2013).

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter details the basic plan of the study. It begins by giving details of research philosophy, research design, target population, data collection instruments, the pilot study is pointed out together with validity and reliability of data collection instruments. Further, data analysis and presentation is covered alongside diagnostic test and statistical assumptions. Finally, ethical considerations are discussed and method of data presentation.

3.2 Research Philosophy

This study adopted a pragmatic research paradigm as the philosophical underpinning. This paradigm assumes that knowledge arises from actions, situations, and consequences rather than antecedent conditions (Creswell, 2018). The philosophy was found suitable because it is flexible in its investigative techniques. Pragmatic researchers have a positive attitude towards both qualitative and quantitative techniques, they use qualitative research to inform the quantitative portion of research studies (Morgan, 2017; Onwuegbuzie & Leech, 2015). Likewise, this philosophy allowed the study to collect both quantitative and qualitative data on the constructs that were investigated, namely universities performance, institutional management practices and sustainability strategies. The study aimed at deriving benefits from combining different knowledge systems and further helped in understanding the relationship among the three variables (Olsson, 2017).

According to Patton (2002), a pragmatic research paradigm allows focusing attention on the research problem in social science research and then using pluralistic approaches to derive knowledge about the problem. Pragmatism also provides a good philosophical basis for social science research since it is not committed to any one system of philosophy and reality. Pragmatists believe that knowledge is not only developed through careful observation and measurement of the objective reality that exist (quantitative approach) but by also seeking an understanding of the world by developing subjective meanings from the researchers own experiences and those of his subjects on the situation under study (qualitative approach). The study variables namely institutional management practices, sustainability strategies and performance of universities required to be investigated both qualitatively (the perception of respondents) and quantitatively (the state of this variables evaluated objectively). Some indicators of institutional management like public participation needed to be assessed both qualitatively and quantitatively.

3.3 Research Design

Research design refers to the overall strategy that is used to integrate the different components of a study in a coherent and logical way in order to effectively address the research problem. It ensures that the evidence obtained in a study enables it answer to the issues being investigated as unambiguously as possible (Yin, 2014). The study adopted a mixed method research and in particular, a convergent parallel design. The design enabled the researcher to simultaneously collect both quantitative and qualitative data, merge the data, and use the results to understand a research problem (Creswell, 2018). The justification for this design is that one data collection method compliments the other, and that this gives a better insight of a study results (Tashakkori & Teddlie, 2010). In this case, qualitative, in-depth observation made through interview guides administered to a few respondents (the Vice Chancellors who served as the key informants) offered strength to quantitative data (collected through questionnaires) that could not adequately provide detailed information and the vice versa (Teddlie, 2010).

This methodology has worked favorably in previous empirical studies (Bakalis & Joiner, 2006; Gallagher & Connelly, 2004; Jacobsen, 2000; Lebatmediene et al., Kipkebut, 2010; Murphy, 2009; Chunghtai & Zafar, 2006; Shirbagi, 2007). In all these studies, the convergent parallel mixed method design was used. This study adopted a similar methodology to enhance the comparability of findings across the board. Specifically, data sets were collected separately, analyzed separately (parallel) and converged for comparison of findings.

3.4 Target Population

The target population is the entire set of units for which the study data are to be used to make inferences (Cox, 2013). The study population was thirty-one (31) chattered Public Universities in Kenya. According to (CUE, 2021), there were 31 accredited Public Universities in Kenya by the time of this study. The accredited Public Universities are as shown in (appendix 1). The respondents were 230 made up of Vice Chancellor, Deputy Vice Chancellors, Registrars, Finance Officers and Quality Assurance Officers. The choice of Public University in Kenya, was informed by the ranking by KUCCPS in student's absorption rate and had substantial numbers of employees in management. Public Universities are funded by the government of Kenya and have been accredited and regulated by the Commission for University Education. The Universities have post graduate and undergraduate programmes that run for at least four years (CUE, 2020).

Table 3.1: Target Population

VC	DVC	Registrars	FO	QA	TOTAL
31	68	69	31	31	**230**

Source, CUE (2021)

The study adopted a census design, which is a complete enumeration of all items in the population (Kothari, 2004). The number of public universities is small then census approach was deemed fit for the study.

3.5 Data Collection Instruments

A semi structured survey questionnaire facilitated collection of primary data **(Appendix I).** The questionnaire contained likert type scale questions developed in tandem with the objectives of the study and comprised responses on general information in section one to generate background information of the Universities and the respondents while sections two, three, four and five sought information on performance of public universities, institutional management practices and sustainability strategies respectively.

The responses were given scores that ranged from 1to 5. Additionally, an interview guide was used to collect data from the key respondents **(Appendix II).** Researcher provided an introductory letter seeking authorization to collect data from respective Universities

(Appendix III). Thereafter, the researcher dropped the questionnaires to the respondents and made telephone calls after two weeks to confirm the respondents had indeed received them. The questionnaires contained an introductory letter **(Appendix IV)** from Karatina University, School of Business indicating the intent of the study. Additionally, there was a letter from the CEO of the National Commission for Science, Technology and Innovation (NACOSTI), who approved the research proposal as a subject of serious concern to the universities (**Appendix V).**

Drawing from Cooper and Schindler (2008), a self-administered survey method is appropriate to allow the respondents adequate time to consider their responses. Questionnaires not returned within four weeks, a follow up was undertaken by a way of telephone calls, e-mails and visits to the respective universities. The study was done during COVID pandemic period whereby there was movement restrictions, hence the questionnaires that were not returned were deemed non responsive. The respondents were the Vice Chancellors who were treated as key informant respondents, Deputy Vice Chancellor, Registrars, Finance Officers and Quality Assurance Officers. The choice of the respondents is consistent with studies by Cabrita and Bontis (2008) and Shabaratiet al.,. (2010) who argued that organization characteristics measured were known to selected members in upper echelons, thus they were likely to provide more reliable information. The targeted respondents were deemed knowledgeable about issues under investigation for which they are directly responsible. Secondary data was obtained through a review of online data reports from Commission for University Education, Salaries and Remuneration Commission, Ministry of Higher Education and Public Service Commission.

3.6 Pilot Study

Connelly (2009) indicates that a pilot test is conducted to detect weaknesses in design and instrumentation and to provide proxy data for selection of a probability sample. Questions content, wording, sequence and instructions was pilot tested to identify and eliminate any problem that may exist in the questionnaire design. The decision rule is that 10% of the sample should constitute the pilot test (Cooper & Schilder, 2011). This translated to 3 Universities not included in the study. The pilot test was carried out at Tharaka University, Alupe University and Kaimosi Friends University that were not chartered during the time of study. This ensured that the respondents in the pilot study were not included in the main research to avoid distortion of the data. (Leedy & Ormrod, 2005). The respondents were voluntary asked to complete a questionnaire to indicate any ambiguity or difficultly in responding to the questions and to offer any suggestions they think appropriate. Changes suggested and adopted in the pilot study included reduction in the number of questions. Further, filling of the questionnaire was researcher assisted considering the busy schedules of the respondents. Since most of the questions were on compliance by the universities, respondents would be unwilling to rate their organizations low in an attempt to present their organizations in the best light possible. In that case, the researcher utilized the telephone interview with an interview guide where respondents were assured of the confidentiality of the information shared.

3.6.1 Validity of Data Collection Instrument

Validity refers to the accuracy and meaningfulness of research components in terms of whether they actually measure what they are intended to measure (Drost, 2011). The content validity of the instruments was established through the review of literature to see evidence of content validation. Experts in strategic management from public universities and supervisors were also engaged to review the test specifications and the selection of items. Reviews generally agreed with the representativeness of the items in the study area.

To ascertain construct validity, Cronbach's Alpha was used to check the reliability of the instruments and the results are presented in Table 3.3 below. The results show that all variables had a reliability of Cronbach's Alpha of 0.7 and above, hence were acceptable. Mugenda and Mugenda (2003) posit that a high coefficient implies that there is high correlation among items and indicates that there exists consistency among the items in measuring the concept of interest. Further, questionnaires were organized according to themes in line with objectives. It was further enhanced through operationalization of research variables that ensured translations reflected the true meaning of the constructs. This was in line with (Zohrabi, 2013) who postulates that construct validity is how research translate or transform a concept or an idea into functional and operating reality. University supervisors were also consulted in validating the operationalization of research variables. Comments received were used to improve the instruments on the items covering the objectives of the study.

Factor analysis on all the variables was conducted. Factor analysis can be used to reduce a large number of related variables to a more manageable number prior to using them in other analyses such as multiple regression or multivariate analysis of variance (Tabachnick & Fidell, 2001). According to Beaumont (2012) a correlation matrix is the starting point for factor analysis, the purpose was to check the strength of the inter-correlations among the items (factors).

Table 3.2 Appropriateness of Factor Analysis

	Performance of chartered public universities	**Level of Transparency**	**Adherence to manageme**	**Level of public participation**
KMO	0.768	0.722	0.762	0.688
Bartlett's Test of Sphericity	211	29	37	23
Sig. p<0.001	0.000	0.000	0.000	0.000

Source: Author (2021)

The results in Table 3.2 indicates A test of appropriateness for factorization revealed Kaiser-Meyer-Olkin (KMO) Measure of Sampling on Performance of chartered public universities, level of transparency, adherence to management guidelines and level of public participation had reached values of above 0.5 as recommended by (Kaiser, 1974). The Bartlett's Test of Sphericity was significant at p <0.001 for all the variables.

3.6.2 Reliability of Data Collection Instrument

Reliability refers to the degree to which a research instrument produces consistent data after repeated trials on the same group of persons or an individual (Heale, 2015). Reliability measures the degree to which the assessment tool produces stable and consistent results across time and across items in the instrument (Sekeran 2010). According to Bonett (2003), reliability measures the consistency and correctness of results representing the total population under study. Test of reliability aims to show if the survey can be relied upon to provide the same values if the survey were to be administered repeatedly under similar conditions. If the results can be replicated under similar conditions, then the research instrument is deemed reliable. The study considered equivalent reliability and internal consistency perspectives. Equivalent reliability ascertains the degree to which alternative forms of the same measure produce same or similar results administered simultaneously without a delay.

To ensure reliability, a pilot study was conducted which pretested the instruments to at least 10% of parent sample, in this case respondents from three public universities were subjected to a study in which the precisions of their responses indicated how closely they were to real characteristics. The scores were subjected to Cronbach's alpha coefficients (Bryman, 2011).

A test score of above 0.7 is prescribed as a good measure of reliability (Cronbach and Richard 2004). High correlation between the findings of both tests in the test retest method indicate a high reliability of instruments. According to Hair et al., (2010); Nunally (1978); Sekeran and Bougie (2010) an instrument with coefficient of 0.6 is considered to have an average reliability while coefficients of 0.7 and above reveal that the measurements have a high reliability. This study adopted 0.5 as the lower limit. This is in agreement with Nunally's (1978) conceptualization and consistent with previous studies in sustainability strategies and institutional management practices which used same measurement and revealed reliable and valid results (Mbalwa et al., 2012; Farhat, 2014 & Okiro, 2014). According to Churchill (1979) this calculation should be the first measure that a researcher should use to assess the quality of the instrument used in a study. Table 3.3 shows the results of the reliability test derived from responses in the questionnaires.

Table 3.3: Reliability Test Results

Variables	Number of Items	Cronbach's Alpha	Comments
Institutional Management Practices	9	0.806	Accepted
Sustainability Strategies	9	0.881	Accepted
Performance Measures	9	0.787	Accepted
Average score		0.824	Accepted

Source: Researcher (2021)

The results in Table 3.3 show that Cronbach's Alpha coefficient ranged between 0.787 (performance measures) and 0.881 (sustainable strategies). The average score was 0.824 which indicate that the measurement scales used were sufficiently reliable and measured the study variables adequately. The reliability coefficient for all the constructs used in this study by far exceeded the 0.5 minimum level of acceptability recommended by Hair et al. (1998) and are above the 0.7 range advocated by Nunally (1978); thus are reliable and acceptable for further analysis.

3.6.2.1 Analysis of Likert-Scale Data

The study used a questionnaire to collect quantitative data. The questionnaire was designed in a Likert format. The Likert scale were coded in such a way that it indicated the magnitude of difference between items. Each Likert item generated a response from an ordinal 5-point categories; where 5 = Strongly Agree, 4 = Agreed, 3 = Not sure, 2 = Disagree, 1= Strongly

Disagree. In order to fulfill the equidistance assumption in the Likert scale the distance between the Likert scales was divided into 5 this resulted to equidistance of 0.8. The equidistance was distributed across the Likert resulting to the following intervals. 1.0 < 1.8, 1.8< 2.6, 2.6< 3.4, 3.4 < 4.2, 4.2< 5.00. The decision rule was that 1.0 <1.8 considered Strongly Disagree or Very Low, 1.8 < 2.6 Disagree or Low, 2.6 < 3.4 Neutral or Moderate, 3.4 < 4.2 Agree or High and 4.2< 5.00 as Strongly Agree or Very High.

The researcher went further and obtained the mean of each statement in the Likert scale which was analyzed to get an aggregate scores. Using convergence research design, the two sets of qualitative and quantitative data was compared and discussed on the basis of convergence or divergence.

3.7 Data Analysis and Presentation

This section entailed data preparation, analysis and reporting. Data preparation encompassed questionnaire checking, editing, coding and data cleaning. Data were analyzed using both descriptive (mean, percentages and measures of dispersion) and inferential statistics (regression analysis). Descriptive statistics were used to present the demographic characteristics of the respondents, directors' and organizations' characteristics. Quantitative data was analyzed using descriptive and inferential statistics while qualitative data was analyzed using content analysis method.

3.8 Diagnostic Tests

Before conducting the regression analysis, several diagnostic tests were done to establish the appropriateness of the data for making inference (Field, 2009). The assumptions tested in this study included; outliers, linearity, normality, heteroscedasticity, homogeneity, multicollinearity. Outliers as defined by Hair et al., (2006) are observations that are substantially different from other observations obtained from specific sample and include errors during entry of data. The data was screened for this purpose. Normality assumption was tested using Shapiro – Wilk Test. Hair et al., (2006) argued that heteroscedasticity is related to the assumptions of normality because when the test of normality assumption is met, the relationships between the independent variables are also heteroscedastic. This was tested using Variation Inflation Factor (VIF). Homogeneity was tested by the use of Levene's Test (1960) of Homogeneity of Variances.

Multicollinearity in this study was tested using the VIF.The cut-off points for determining the presence of multicollinearity as suggested by O'Brien (2007) were VIF values below 20. Test for moderation was done following steps wise regressions. Further, it was noted that violations of assumptions of simple and multiple regression analysis may result in biased estimate of relationships, over- or under confidence of regression of the precision coefficients and untrustworthy confidence interval and significance tests. In this study, hypothesis testing was done using simple and multiple regression which revealed that no assumption was violated in the study (Chatterjee & Hadi, 2012).

3.8.1 Test for Linearity

		University Performance
Level of Transparency	Pearson Correlation	Pearson Correlation 0.532**
	Sig. (2–tailed)	0.05
	N	103
Adherence to Management Guidelines	Pearson Correlation	0.323**
	Sig. (2–tailed)	0.05
	N	103
Public Participation	Pearson Correlation	0.341**
	Sig. (2–tailed)	0.05
	N	103
****p< 0.05**		

Linearity assumption was checked by Pearson's Correlation depicting association between dependent variables and independent variables. Pallant (2005) advocated linearity diagnostics on predicator variables as part of the multiple regression procedure. Linearity test was important to ensure that the relationship between the independent and dependent variables is linear. This test was done using Pearson's moment correlation coefficient between university performance, level of transparency, adherence to management guidelines and level of public participation (O'Brien, 2020. The results are as shown in Table 3.4.

Table 3.4: Linearity Test

Source: Researcher (2021)

Table 3.4 indicates that there is a positive and significant linear relationship between university performance, level of transparency, adherence to management guidelines and level of public participation, at 5 percent level of significance. The results indicate that level of transparency is ($r=0.532$, $p< 0.05$); thus, as the level of transparency increases, so does the university performance.

3.8.2 Test for Normality

To test for normality, Shapiro–Wilk test was used to detect departure from normality due to skewness or kurtosis or both. Its statistic ranges from zero to one and figures $p > 0.05$ indicates the data is normal (Razali & Wah, 2011). Shapiro-Wilk test assesses whether data is normally distributed against null hypothesis (H_0) that the sample does not follow a normal distribution. The results for this study are as presented in Table 3.5.

Table 3.5: Shapiro – Wilk Test

Variables	Statistic	df	Sig.
Institutional Management Practices	0.755	169	0.200
Sustainability Strategies	0.830	169	0.385
Performance	0.876	169	0.454

Source: Researcher (2021)

Table 3.5 shows that the results of the Shapiro tests for the research variables ranged from 0 to 1. Performance had the highest value of calculated probability (= 0.876), whereas institutional management practices had the lowest value of calculated probability (=0.755). In this case, the resulting calculated probability values for all the research variables are greater than 0.05; therefore, at 5% level of significance the sample follows a normal distribution as recommended by Razali and Wah (2011). Normality was also met since there was a good representation of participants (169 respondents) were used.

3.8.3 Test for Heteroscedasticity

This test was done to ensure the residuals were not evenly scattered around the horizontal line. Heteroscedasticity occurs when there is variance of the error term. It occurs when the variance of errors differs at different values of the independent variables. When heteroscedasticity is marked, it can lead to serious distortion of findings and seriously weaken the analysis thus increasing the possibility of a type I error (Tabachnick & Fidel, 2001). In this study, assumption of heteroscedasticity was measured using the Variation Inflation Factor (VIF). The VIF values for this study as shown on table 3.6 are below the value of 20 as recommended by O'Brien (2020).

Table 3.6: Heteroscedasticity Results

Variables	VIF	df	Sig.
Institutional management Practices	1.094	169	0.000
Sustainability Strategies	1.276	169	0.000
University Performance	1.391	169	0.000

Source: Researcher (2021)

Table 3.6 indicate that the VIF of the study variables was between 1.094 and 1.391 an indication that there was no heteroscedasticity.

3.8.4 Test for Homogeneity

Homogeneity test was important in the study to measure the equality of variances for the variables. Homogeneity of variances assumes that the dependent variable exhibits equal variance across the range of predictor variables. If the test is significant (calculated probability > 0.05), the two variances are not significantly different and are thus approximately equal (Gastwirth, Gel & Miao, 2009). Homogeneity was tested by the use of Levene's Test (1960) Results are as tabulated in Table 3.7.

Table 3.7: Levene Test

Variables	Levene Statistic	Df	Sig.
Level of Transparency	8.743	1	.074
Adherence to Management Guidelines	4.322	1	.714
Level of Public Participation	7.420	1	.132
Sustainability Strategies	6.235	1	.195
University Performance	7.506	1	.071

Source: Researcher (2021)

Table 3.7 reveals that the calculated probability is $p > 0.05$ for all the variables. The calculated probability values generated from this test ranged between 0.071 for university performance and 0.714 for level of transparency. The result shows that the significance level of Levene Test is greater than 0.05, indicating variance homogeneity (Gastwirth et al., 2009).

3.8.5 Test for Multicollinearity

Collinearity implies the non-independence of predictor variables, especially in regression type analysis. Multicollinearity, exists when two or more independent variables are inter-correlated. In all studies, with an exception of certain designed experiments, the existence of collinearity or multicollinearity will always occur. What is of concern to scholars is not its presence but its influence on analysis (Baguley, 2012).

Pedace (2013) noted that multicollinearity will have a significant influence only when the correlation coefficient of the interacting predictor variables is equal to or greater than 0.7. Whereas multicollinearity has no influence on the overall regression model and associated statistics such as $R^2$and *p* values, or the general predictions made using the overall model, it is a problem if a scholar is interested in assessing the effects of individual predictor variables on the dependent variable when performing multiple regression, unless their degree is small or the sample size is very large (Gujarati & Porter, 2009; Baguley, 2012). When high multicolli1nearity occurs, the predictor variables tend to share substantial amounts of information and compete to explain a similar variance making it difficult to assess the effect of an individual variable on the dependent variable (Kutner *et al.,* 2005, Meloun *et al*., 2002). Additionally, extrapolation is likely to be erroneous since the parameter estimates may be unstable and standard errors on estimates exaggerated leading to erroneous tests of significance for the predictor variables and prejudiced inferential statistics (Ohlemuller *et al*., 2008; Wheeler 2007).

However, this may be remedied by either by doing away with one of the collinear variable *(*Gujarati & Porter, 2009), combining the highly correlated predictor variables into a single variable (Allison, 1999) or eliminating multicollinearity source variables (Zainodin *et al.*, 2011). It may also be overcome by detecting, quantifying and adjusting the regression coefficients for the effects of multicollinearity in a data base using principal components analysis technique (Lafi & Kaneene, 1992) or by modifying the method of least squares to allow biased estimators of the regression coefficients to remedy the multicollinearity problem using ridge regression technique (Kutner *et al.*, 2005). Unless remedied, most statistical programmes will estimate the effect of an individual independent variable by holding the other correlated variable constant, ignoring the shared variance between them. This effectively reduces the variability of the predictor variable of interest and its influence, the effective amount of information available to assess the unique effects of the variable, the effective sample size for the effects of individual independent variables and the statistical power for estimating the individual independent variable (Baguley, 2012). In this study, pair-wise collinearity of the independent variables was performed and the resultant correlation matrix is presented on Table 3.8.

Table 3.8: Multicollinearity Matrix of Independent Variables

	Level of Transparency	Adherence to Management Guidelines	Level of Public Participation	Sustainability Strategies
Level of Transparency	1.000	0.304	0.365	0.280
Adherence to Management Guidelines	0.304	1.000	0.420	0.122
Level of Public Participation	0.365	0.453	1.000	0.365
Sustainability Strategies	0.280	0.122	0.365	1.000

Source: Author (2021)

Table 3.8 shows that when level of transparency was correlated with adherence to management guidelines it yielded 0.304, it produced 0.365 with level of public participation, 0.280 with sustainability strategies. Similarly, the correlation between adherence to management guidelines and level of public participation yielded 0.420 and sustainability strategies produced 0.122. All the correlations were below 0.7, the lower limit for significant multicollinearity of independent variables (Pedace, 2013), it indicated that the independent variables shared no significant amount of information that would make them compete to explain a variance in the dependent variable. It was thus possible to assess the influence of each independent variable on the dependent variable without the risk of factoring in shared variance between the independent variables. The research concluded that the independent variables were independent of each other and appropriate for entry in the regression analysis model.

3.9 Test for Moderation

According to Baron and Kenny (1986) a moderating variable is a qualitative or quantitative variable that affect the direction or strength of the relation between a predictor variable and the criterion variable. In a correlational analysis context, a moderator is a third variable that affects the zero-order correlation between two other variables.

Moderating variables specify when certain effects will hold, mediating variable address how or why such effects occur, Baron and Kenny (1986). A moderator variable is one that influences the relationship between two other variables. In this case sustainability strategies were considered to be a moderating variable since they are likely to affect the strength of the relationship between the institutional management practices and performance of public universities.

In the analysis of variance, a basic moderator effect can be represented as an interaction between a focal independent variable and a factor that specifies the appropriate conditions for its operation, Baron and Kenny (1986). To establish the effect of sustainability strategies' as a moderating variable on the relationship between institutional management practices and performance of public universities or determine whether it is simply an explanatory variable, the following steps wise regressions were estimated. First, Model

(3.1) was estimated as the base model to determine the relationship between the institutional management practices and the performance of Public Universities.

$Y = \beta_0 + \beta_1 X + \varepsilon$.. (3.1)

Y= Performance of Public Universities

X = Institutional management practices

Second, Model (3.2) which included sustainability strategies as the moderating variable was estimated.

$Y = \beta_0 + \beta_1 X + \beta_2 Z + \varepsilon$.. (3.2)

Where;

Y= Performance of Public Universities

X= Institutional management practices

Z= Sustainability strategies

Finally, Model 3.3 was estimated to give the direction and effect of the sustainability strategies (moderator) on the institutional management practices (Independent Variable) and its total effect on the performance of public universities (Dependent Variable).

$Y = \beta 0 + \beta_1 X + \beta_2 Z + \beta_3 X * Z + \varepsilon$……………………………… (3.3)

Where, $\beta_3 X * Z$= institutional management practices * sustainability strategies (Interaction term). If sustainability strategies were significant when introduced into Model (3.1), then it explains the first condition of explanatory where all variables should be significant (Mackinnon *et al*., 2007). Model (3.2) was estimated where results of sustainability strategies and institutional management practices were used to estimate the moderating effects. If the coefficients in Model (3.2) are not significant and sustainability strategies in Model (3.3) is significant, there is no moderating effect. Thus, sustainability strategies are just an explanatory variable.

Table 3.9: Decision Making for Moderation

Model 3.2	Model 3.2	Total effect	Conclusion
β_1 is not significant ($p>0.05$)		_	No overall effect to moderate
β_1 is not significant ($p>0.05$)	β_2 is not significant ($p>0.05$)	β_3	Moderating variable is an explanatory variable
β_1 is not significant ($p>0.05$)	β_2 is significant ($p>0.05$)	_	Moderating variable has a moderating variable

Source: Author,2021

Table 3.9 indicates that in case moderation is significant, the coefficient (β_3) of the interaction term (Institutional management practices * sustainability strategies) in model 3.2 would yield the strength and direction of the moderating variable.

3.10 Hypothesis Testing

To establish the factors that can be used to predict the performance of public universities, the study utilized regression analysis. The independent variables which are adherence to institutional management practices standard in terms of level of transparency, adherence to management guidelines and level of public participation were first inter-correlated with the dependent variable which is the performance of public universities. Multiple regression analysis using step wise approach was used to test the moderating influence of sustainability strategies on the relationship between institutional management practices and performance of public universities.

In order to correctly interpret the subsequent statistics, the following considerations were made. When: r= -1 implied a perfect negative linear relationship r= -0.70 implied a strong negative linear relationship= -0.50 meant a moderate negative relationship, r= -0.30 indicated weak negative linear relationship, r= 0 meant that there is no linear relationship, where r= +0.30 meant a weak positive linear relationship, r= +0.50 meant a moderate positive linear relationship= +0.70 indicated a strong positive linear relationship and r = +1 implied a perfect positive linear relationship. For *t*-value of greater than 1.96 with *p* less than 0.05 indicates that the independent variable is a significant predictor of the dependent variable. The greater the *t*-statistics, the greater the relative influence of the independent variable on the dependent variable. A *t*-statistics of less than 1.96 with *p* significance greater than .05 indicates that the independent variable is not a significant predictor of the dependent variable beyond the sample and Coefficient of Determination R^2= 1 meant a perfect fit and R^2= 0 implies no variation.

a) Analysis of Influence of Institutional management practices on Performance of Public Universities

The study sought to establish the influence of institutional management practices on performance of public universities. Institutional management practices were measured in terms of level of transparency, adherence to management guidelines and level of public participation.

This was expressed in the following equation.

Equation 1

$Y = \beta_0 + \beta_1 X + \varepsilon$ Where

Y- Performance of Public Universities

β_0 = The intercept

β_1 = Regression coefficients shows the change in the value of Y from a unit change in

X- Level of adherence to institutional management practices

ε = Random error

b) Analysis of Influence of Sustainability Strategies on Performance of Public Universities in Kenya

The study sought to establish the influence of level of implementation of sustainability strategies on performance of public universities in Kenya. Performance of public universities was measured in terms of completion rate of graduates, attraction of research grants and staff retention ratio.

This was expressed in the following equation.

Equation 2

$Y = \beta_0 + \beta_1 X + \varepsilon$ Where

Y- Performance of Public Universities

β_0 = The intercept

β_1 = Regression coefficients shows the change in the value of Y from a unit change in

X_{1a}

X- Level of implementation of sustainability strategies

ε = Random error

c) Analysis of Moderating Influence of Sustainability Strategies on the Relationship between Level of Adherence to Institutional management practices and Performance of public Universities.

The study sought to establish the moderating influence of sustainability strategies on the relationship between level of adherence to institutional management practices and performance of public universities. To establish the level of adherence to institutional management practices, respondents were requested to answer a set of nine questions. These questions were corresponding to the key areas of institutional management practices presented in five point Likert type and respondents requested to give their opinion on the level of adherence.

To establish the level of performance of public universities, respondents were requested to answer a set of nine questions. These questions covered three areas that determine the level of performance of public universities. The items were presented in five point Likert type and respondents were requested to give their rating on the level of the performance of public universities using the three measures. The first item sought information on respondents rating of the sustainability strategies of the public universities, the second sought for information on respondents rating of the institutional management practices of the public universities and the last question sought information on respondents rating of performance of public universities to customers including completion rate of graduates, attraction of research grants and community engagement.

Data analysis was done in steps. Firstly, preliminary data analysis involved calculation of the mean and standard deviation for every questionnaire item, and then the mean of means and mean standard deviation for each study variables. This was followed by running simple regression and then multiple regression models which were used to test the fourth hypothesis using the step by step approach.

3.11 Ethical Considerations

This study adhered to ethical issues by undertaking the following measures. First, a research permit was sought from the Ministry of Education Science and Technology (MOEST), Department of National Commission for Science, Technology and Innovation (NACOSTI). It is only after the approval was given that data collection process commenced. Second, participation in the study by all participants was voluntary, confidential and anonymous. Third, the respondents were informed about the objectives of the study and then requested to consider participating in the research. Fourth, the principle of informed consent aimed at protecting the research participants on issues of personal disclosure and personal privacy. The identities of the participants were not disclosed in the entire study process. Fifth, participants were accorded the liberty to respond to any questions or pull out of the process at any stage. Moreover, this study did not offer inducement to participants, contact them at unreasonable time and place, subject them to any attempt to prolong the duration beyond the previously agreed duration unless the participants freely propose this as an option.

3.12 Data Presentation

Saunders, et al. (2017), stated that after data entry, and checking for errors, the next stage is analysis. Tables were used to present the result for easy interpretation and understanding. The use of computer packages such as SPSS (Version 20) further made it easier to present data. Each table was well labeled and saved electronically. Quantitative data are well presented by using statistical tables while qualitative data is well presented descriptively (Saunders et al., 2017; Sekaran & Bougie, 2017).

CHAPTER FOUR

DTA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter presents preliminary findings of the study variables. Quantitative data was analyzed using descriptive and inferential statistics and was presented in frequency tables, mean and standard deviation. Qualitative data from interviews was analyzed using content analysis. Since the study was based on convergence research design, the two sets of qualitative and quantitative data was compared and discussed on the basis of convergence or divergence.

4.2 Response Rate

The study investigated the influence of sustainability strategies on the relationship between institutional management practices and performance of Chartered Public Universities. This was necessitated by the fact that majority of Kenyan Universities are struggling with performance. Questionnaires were distributed to the 230 top managers of the 31 Public Universities and 169 officers gave complete responses.

Table 4.1: Response Rate

	Questionnaire administered	Questionnaire filled and returned	Percentage
Respondents	230	169	73.47

Source: Researcher (2021)

As indicated in table 4.1, the response rate was 73.47 % which compares well with similar previous studies; Cook et al. (2014) 65.6%, Ballantyne (2015) 61%, Ogier (2016) 69%, Nair et al. (2018) 71% and Kamau (2018) 72%. Although there is no consensus among scholars on response return rate, Richardson (2015) and Baruch and Holtom (2018) posit that a response rate of 60% and 52.7% or more in social research respectively is acceptable for analysis. Saunders et al. (2009) argue that response rates vary depending on the attributes of the chosen questionnaire. The researcher, therefore, found the study response return rate acceptable for analysis and presentation of results based on Richardson (2015) and Baruch and Holtom (2018). Some respondents did not participate in the study citing lack of time to fill the questionnaires while others refused to participate without giving any reasons.

4.3 Background Information of the Public Universities Demographic

The background information of the top management officers in Public Universities was studied in terms of age, gender, work experience, level of education and the department they serve in the Public Universities. This was aimed at investigating how the top management officers in Public Universities were distributed along their demographic characteristics and how this was in line with the government guidelines establishing public universities in Kenya.

4.3.1 Gender of the respondents

This study investigated the top management officers in Public Universities in terms of whether they were male or female. The study sought to establish the gender diversity by determining the number in top management positions in 31 Chartered Public Universities. A common measure to establish diversity is enumerating female managers. Studies on gender diversity have however shown mixed results. Cater et al. (2018) did not find any correlation between women on the management and the performance nexus, while Devillard et al., (2014) and Curtis et al., (2016) found a positive relationship, whose results were the exact opposite from the study of Shraderet al., (2015) who found a negative association. The results of the analysis are presented in Table 4.2

Table 4.2: Gender of the Respondents

Gender of the respondents	**Frequency**	**Percentage**
Female	29	17.2
Male	140	82.8
Total	**169**	**100.0**

Source: Field Data (2021)

According to Table 4.2, the study revealed that 140 (82.8%) were male while 29 (17.2%) of the respondents were female. The results implied that the employment in the Chartered Public Universities in Kenya was gender biased at the top management level since more male were employed as the departmental or section heads. It also confirmed Public Universities had not adhered to the constitution promulgated in 2010 that stipulated that both private and public sector institutions should ensure women are one third of the total staff in their employment. These findings showed a significant increase in gender disparities as reported by Suda (2014) whose study findings revealed the existence of gender disparity in the Kenyan Public Universities where key decisions are made. The findings also implied that one gender dominated top level employment in the Public Universities therefore there was major disparity in gender distribution.

According Suda (2014) to have women at management level should not be for the sake of attaining statutory numbers or about fulfilling women's rights. When decisions are being made at top level the absence of women means that those issues that would help the company that can only be succinctly articulated by a woman remain unheard especially in view of the fact that women as customers represent at least half of the population. This omission happens at a time of increasing buying power of women brought about by rising incomes and the shift in decision-making both at the domestic front as well at the place of work. Women as managers bring about diversity and enhance the quality of decisions that are made as they bring on board different viewpoints needed as the business landscape has become complex and more challenging. However, gender diversity in this study assumed to have no implication on the performance of Public Universities in Kenya as it was an inquiry to find out whether Public Universities had both genders employed at the top level management.

4.3.2 Age of Top Management Officers in Public Universities

The study sought to establish the age of top management officer's in the Public Universities. This was meant to establish the age disaggregation. The results of the analysis are presented in Table 4.3.

Table 4.3: Age of Top Officer's Public Universities

Age of the respondents	Frequency	Percentage
Below 40 years	1	0.59
41-50 years	7	4.10
51-60 years	42	24.7
51-60 years	52	31.0
Above 61 years	67	39.6
Total	**169**	100.0

Source: Field Data (2021)

Table 4.3 revealed that 49% of the top level management officers were above 61 years of age. The results implied that the respondents in this study were from different generations hence the study took into consideration the generation bias. The study findings concurred with Yuliani et al., (2015) that majority of top lever managers are above 61 years of age. These results are further consistence with Duong's (2014) findings with the majority (66%) of respondents consisting of ages from 55 to 65 years old. Similarly, Macharia and Nyakwende (2016) found ages between 60 to 65 years in their study to be the majority (68.3%).

According to Kang et al., (2017) the differences in age of top management officers can bring different perspectives because those more advanced in age bring wisdom, knowhow and particularly finances directly or through their numerous contacts. Those in the middle age hold demanding senior executive roles while new entrants are usually youthful and full of energy. The retirement age of employees in Kenya is 60 years. It however appears that this rule is not strictly observed particularly because most Top Managers are hired on contract. This also points to the apparent shortage of experienced but younger persons to take up the role of a Manager. The older Managers have more experience to articulate institutional management practices issues. These results are consistence with studies by Macharia and Nyakwende (2020) and Carter et al., (2018), which found that young leaders between 41 to 50 years were employed as technical managers despite their valuable experiences. Age in this study was assumed to have no implications on the performance of Chartered Public Universities in Kenya as it was an inquiry to find out the age structure of respondents in the Universities employed as at the top level management.

4.3.3 Employee Academic Qualifications in the Public Universities

The study sought to establish the academic qualifications of top level management in the Public Universities at the level of decision making.

Table 4.4: Academic Qualifications of Top Management Officers in the Public Universities

Age of the respondents	Frequency	Percentage
PhD	160	94.67
Masters	6	2.36
Bachelor	2	1.18
Others	1	1.79
Total	**169**	100.0

Source: Field Data (2021)

Table 4.4 results revealed that majority of top management officers 160 (95) had PhD qualifications. The results signified the ability of the respondents to respond to survey items on management decisions. The highest level of education attained was captured by categorizing the level of education into four categories with a PhD as the highest level and secondary education as the lowest level. The choice of the top management as respondents was informed by the need to have respondents who had knowledge on the institutional management practices and performance of the Universities. According to Carter et al., (2018), divergent thinking that comes from people with diverse educational backgrounds produces more innovation and creativity.

Hilmanet al., (2019) argue that, organizations that are small and those in earlier lifecycle-stages are more likely to benefit from increased diversity in qualifications in comparison to much older organizations. Lynallet al., (2014) suggest that management composition should be adjusted to meet the specific needs of the firm, because firms are in need of different resources at different times. The level of education and education background are significant factors in management diversity and as a mix of skills and knowledge can have on capacity and ability of the management. The levels of education highlight diversity in areas such as engineering, law, management, marketing, business and actuarial science.

Diverse academic backgrounds enable managers to be efficacious in suggesting innovative ideas. According to Hermalin and Weisbach (2021) firms increase their performance by having a well-diversified management. Tettey (2019) had the same observation where the findings indicated presence of young managers in higher institutions of learning, further, most of them had attained doctorate degrees. These findings are in agreement with the study of (Lewa, 2019; Elegbe, 2012). This implied that the employees in the Chartered Public Universities had the requisite skills for the implementation of sustainability strategies and institutional management practices to improve performance of Public Universities. The respondents were able to competently respond to issues on institutional management practices, implementation of sustainability strategies, and performance of Chartered Public Universities as required by the study.

4.3.4 Work Experience of the Employees in the Public Universities

The study sought to establish the work experience of top management staff in the Chartered Public Universities. Tenure is deemed as a critical aspect of evaluating the respondents' suitability. Length of service measures the ability to articulate a firms issues especially top management issues which require one with institutional memory. The results of the analysis are presented in Table 4.5.

Table 4.5: Experience of Top Management Officers in the Public Universities

Age of the respondents	Frequency	Percentage
Below 10 yrs	51	30.17
11-20 years	52	30.76
21-30 years	47	27.81
More than 30 yrs	19	11.24
Total	**169**	100.0

Source: Field Data (2021)

Table 4.5 shows that 51 (30.76%) of respondents had served in the current positions for more than 10 representing almost half of the respondents, which concur with the assertion that tenure is deemed as a critical aspect of evaluating the respondents' suitability to articulate a firms issues especially top management issues. Most of the respondents however had served in similar or equivalent roles before joining the current Universities and needed just enough time to acquaint themselves with operations of their current employers. The shorter duration of service of the respondents is attributed to mobility of the young managers.

The experienced and older people are staying longer at work, which has made the young feel their promotion and advancement opportunities are limited and opt to leave to seek better benefits, greater appreciation and new challenges (Benson and Mitchell, 2016). Notwithstanding the foregoing, the study was guided by knowledgeable experienced managers who were able to respond to issues of institutional management practices, sustainable strategies and performance of the Universities. Further, majority of the respondents had covered strategic planning period while serving in their current positions and therefore had most likely undertaken strategic decision making roles within the framework of institutional management practices and organizational performance.

These research findings concur with Ghafoor's (2014) study on the role of demographic characteristics on performance of Universities. The study found out that 70 % of the top level managers in Public Universities had above 15 years' management experience. This implied that the officers in the Public Universities had the necessary experience to implement the sustainability strategies and adhere to institutional management practices to improve the performance of universities for sustainability.

4.4 Descriptive Statistics

4.4.1 Performance of Chartered Public Universities

The study assessed the performance of Chartered Public Universities which is the independent variable of the study. Data relating to these indicators was obtained from the top management officers in the Chartered Public Universities, in which case they were requested to rate the performance of the Chartered Public Universities in terms of completion rate of graduates, attraction of research grants and community engagement. The results of the analysis of aggregate mean scores are presented in Table 4.6 below.

Table 1.6 Performance of Public Universities

Descriptions Items	N	Mean	Std. Dev
Completion rate of graduates			
The students graduate within the required timelines	169	2.1	0.7
University produces graduates in line with the current market demand .	169	2.1	0.6
The university academic programmes are attracting the reasonable number of students	169	2.1	0.4
Attraction of research grants			
The University has a research policy properly pursued by all stakeholders	169	2.3	0.7
The University has been receiving research grants	169	2.3	0.4
The Staff and students conduct fundable research proposals.	169	2.3	0.6
Community engagement			
The university has a well-articulated community engagement policy	169	2.3	0.6
There are enough efforts made by the university to assist in alleviating societal problems	169	2.3	0.6
There is enough initiatives by the university in pursuing collaboration and linkages with the local communities and industries	169	2.4	0.9
Aggregate mean scores	169	2.3	0.6

Source: Field Data (2021)

Description items in Table 4.6 assessed the performance of Chattered Public Universities in Kenya. The results recorded an aggregate mean score of 2.3 and a standard deviation of 0.6. The results indicated that the level of performance of Public Universities was low. Indeed, it is notable from the results on Item No. 1 that completion rate of graduates in low with a mean score of 2.1 and standard deviation of 0.7. Similarly, attraction of research grants on Item No. 5 is generally low with a mean score of 2.3 and a standard deviation of 0.4. The table show that responses that there are enough initiatives by the university in pursuing collaborations and linkages with local communities and industry had the highest score with a mean of 2.4 and standard deviation of 0.9. This low performance by Public Universities were clearly explained by some key respondents in their response to interview questions on performance of public universities.

''We can't say we are not doing well. We are struggling. How can we claim so if several of our programs are not attracting enough applicants? The main effort is to make ends meet!'' (Key Respondent 1).

Another key respondent also concurred with the above finding when asked how the performance of his University has been, he responded:

''There has been no planning in university education for a considerable length of time. The last planning effort in university education was there before rapid expansion started. Since then, planning was thrown in a state of confusion rendering to poor performance in areas of research grants, collaborations and completion rate of graduates. University development seems to be guided by directives from sections of the Ministries of Education or National Treasury and the Chancellor of the Public Universities''. (Key Respondent 2).

Some key respondents were however, of contrary view when asked about the performance of their Universities in areas of research grants, completion rate of graduates and community engagement. They stated as follows;

"All our students graduated recently online, in fact the graduation was very good and parents have been calling to appreciate the work we are doing. The university is doing very well on areas of research, when there is something to be decided on or done, the management committee sits. They then look at what needs to be done, then invites the other members to come and have a discussion. If the members approve; the plan is implemented" (Key Respondent 3).

According to Odhiambo (2014), while in most cases, the teams discuss the performance of Universities. A head of department or top management officer has to first generate the issues before they are fronted for discussion and consideration by the University Management Board, in others it is the management that comes up with issues for discussion. The issues or plans are then subjected to committee approval which include Senate and the Council. The plans or the issues are only adopted once they have been approved by the Senate or Councils One key respondent had this to say;

"The performance of the University had been decreasing, the government seem to have neglected the universities because they think we generate a lot of money from school fees, the students don't pay fees on time. How can university do community engagement without money? Look at what the unions are doing, instead of assisting the management and

lobbying for funding they are always on the street. We need to change the way do our things" (Key Respondent 4).

Odhiambo (2014) observes that the performance of Public Universities in Kenya for sustainability attracts divergent responses from different people. Some argue that higher education yields huge dividends and thus should be financed privately, while others perceive it as a public good that ought to be funded by the state. Prior to 1970, the Kenyan government paid fully for University education (Munene & Otieno, 2018). The idea was to create a highly trained workforce that could replace the departing colonial administrators and which was achieved by bonding the graduates to work in the public service for three years (Weidman, 2015).

However, Wangenge-Ouma (2017) points out that the free model of financing University education in Kenya soon proved unsustainable amid rising demand and the economic difficulties of the early 1970s caused by soaring oil prices. This triggered a paradigm shift in which cost-sharing was introduced in the 1974/75 academic year in the form of loans given to students for meeting personal expenses while the government continued paying for tuition. In 1988, further cost-sharing was introduced on tuition fees following high pressure sustained on the government by supranational institutions namely the World Bank (WB) and International Monetary Fund (IMF). This was collaborated by respondent who had this to say:

''I agree that for University to perform well and be sustainable, we have to scale up research grants, community engagement and partnerships which are the most common income generation activities in many international Universities'' (Key Respondent 5)

These views are supported by Munene and Otieno (2018), who points out that government sponsorship for higher education may not be sustainable in the long run. They advocate for attraction of research grants and community engagement as a source of funding public universities for sustainability. Since the introduction of a cost-sharing system in financing University education in Kenya, there has been a steady reduction in government funding (Odhiambo, 2014). Wangenge-Ouma (2018) points out that the diminishing state capitation has subjected Public Universities to severe financial difficulties. Ndirangu and Udoto (2015) observe that inadequate and unreliable funding in Public Universities in Kenya has led to challenges of access, relevance and quality of higher education. Another Vice Chancellors said.

''Not many academic staffs have the capacity to be involved in writing proposals for attraction of grant, ask them they have to be trained first, it is not a simple task'' (Key Respondent 6).

Noticeable from the research, it explores that all the respondents agreed to the extent that autonomy of oneself to ease those academic staffs in the activities of income generation is another motivator. For instance, the autonomy for an academician in negotiating the commercial products in terms of price and contracts details as mentioned by one Respondent.

"In terms of freedom of negotiation, the researcher should be given more freedom to negotiate directly with the interested parties. Because some industries they do not like the complicated exercise from third parties especially when negotiating about the project costs." (Key Respondent 7).

Maweu (2016) alludes that completion rate of graduates in Kenyan Public Universities was low due to mass failure in KCSE and unemployment in Kenyan labour market. A study by Oyat and Aleni (2018) on growth of Public Universities in Uganda made similar observations that graduation rate in Public Universities had dropped by 7.7%. As Ng'ethe, Iravo, and Namusonge, (2019) pointed out, opportunities for employment in Kenyan labour market was decreasing at an alarming rate among students completing the Universities which discourage the other students from completing their studies. Further, they pointed out intuitional factor like missing marks as the cause of low graduation rates.

The findings are supported by Nyaigotti-Chacha (2016) who attributes the poor performance by public universities to low levels of research grants and publication. Mutula (2017), Rwomire (2019) and Sifuna (2019) all blame deteriorating conditions of facilities in the Universities to the poor implementation of sustainability strategies. When asked about the completion rate of graduates, a respondents responded:

''We aim to boost postgraduate completion rates from the current 56% to more than 60%. We have found it a must to adopt a new system to enhance efficiency in the supervision process, progress and to track the completion rate'' (Key Respondent 8)

According to Mark (2019) community engagement in Public Universities mean to have a sustainable network, partnerships, communication media, and activities between University and communities at local, national, regional, and international levels. Engagement activities between communities and higher education may be formal or informal. Engagement initiatives include establishing relationships; collaboration initiatives; business ventures; co-sponsored meetings, conferences, sports events, research projects; and a thousand other activities. While core University education functions have traditionally centered on; research and innovation, teaching and training, essential note is the role University play in community development (Goddard 2017; Duke 2018).

Some of the respondent agreed that the action of community engagement and collaboration with developed countries and universities can help to obtain more funding to the university by completing certain projects or international conferences as stated by a respondent:

"We are not doing well on community engagement, however, outside countries could also help the developing countries. Like in the public university, the researchers have to take effort to apply to work with the overseas universities to form collaboration in order to get the fund from local or international..." (Key Respondent 9).

In conclusion, it is evident from quantitative data that performance of public universities is low. This low performance by public universities is marked by students not graduating within the required timelines, poor attraction of research grants and few community engagement initiatives and programs. This is comparable to the remarks by Key Respondents (KR) interviewed; (KR 1, KR 2, KR 3, KR 4, KR 5, KR 6, KR 7, KR 8 and KR 9). The qualitative and quantitative findings are clearly seen to be agreeable. The findings suggest that completion rate of graduates, attraction of research grants and community engagements are indicators of the poor performance of public universities.

4.4.2 Institutional Management Practices

The first three objectives of the study were: to determine the influence of the level of transparency on performance of Chartered Public Universities in Kenya, to determine the influence of adherence to management guidelines on performance of Chartered Public Universities in Kenya and to determine the influence of the level of public participation on performance of Chartered Public Universities in Kenya. The study conducted a survey on how the Public Universities adhere to institutional management practices which were measured in terms of the level of transparency, adherence to management guidelines and level of public participation.

4.4.2.1 Descriptive Analysis on Level of Transparency

The study sort to find out the level of transparency in public universities which was operationalized as the first independent variable and for the purpose of this study was measured using; disclosure, integrity and accountability as its indicators. The findings of quantitative data are as shown in Table 4.7.

Table 4.7: Level of Transparency

Descriptions Items	N	Mean	Std. Dev
Disclosure			
The University operate an open door policy on all management issues	169	2.6	0.4
Stakeholders have access to university information	169	2.6	0.2
The university allow for freedom of expression	169	2.6	0.2
Integrity			
The university adheres to values and principles spelt out in the Constitution of Kenya, 2010	169	2.6	0.4
There is strong moral and ethical practices in the university	169	2.3	0.4
Employees are honest in their duties and conduct	169	2.6	0.2
Accountability			
There is clear evaluation of the university performance and individuals	169	2.3	0.1
The universities management is accountable to their decisions	169	2.3	0.1
The level of accountability in the University is good.	169	2.4	0.1
Aggregate mean scores	169	2.5	0.2

Source: Field Data (2021)

The results in table 4.7 recorded a mean score of 2.5 and a standard deviation of 0.2 on transparency. The study found out that the level transparency in public universities was low. However, some responses were moderate on their views in regard to the transparency in their respective universities. The statements were; that universities operate open door policy (Mean- 2.6, SD - 0.4), stakeholders have access to universities information (Mean - 2.6, SD - 0.2), the university allow for freedom of expression (Mean - 2.6, SD - 0.2), and that the university adheres to values and principles spelt out in the Constitution of Kenya, 2010 (Mean- 2.6, SD - 0.4), and finally that employees are honest in their duties and conduct (Mean- 2.6, SD - 0.2).

The study further collected qualitative data using interview items. The findings are as shown below.

‘‘I feel very sorry and disappointed by the university not following the code of ethics. This university lack effective ways of adhering to institutional management practices established. However, the Commission for University Education should enhance surveillance on university managers to ensure compliance with the Universities Act, 2012 and the Universities Standards and Guidelines, 2014 which provide transparency as a key institutional management practice for all universities in Kenya. (Key Respondent 10

This agrees with previous findings by Goddard (2017) and Duke (2018), that the expansion of university education has brought about a shift of emphasis from mutual approaches of horizontal institutional management practices by communities of scholars towards models of combining greater autonomy with top-down features such as increased transparency and accountability. Another key respondent had this to say:

‘‘I confirm my commitment to this university by maintaining public responsibility. We have acknowledged the need for open disclosure and accountability in our institution. (Key Respondent 11)

The results are consistent with observations by Monyoncho (2015) that lack of transparency in Kenyan Universities had created fertile grounds for corrupt and unethical tendencies and inefficiencies in the appointment and selection of University leaders and delivery of academic programmes which in turn negatively impacted on performance of the institutions in general. Rockoff and Turner (2016) found that a transparent system that evaluated schools based on a set of continuous metrics with focus on Mathematics and English subjects significantly increased student achievement in Math and English. Another key informant had the following response on transparency.

‘‘We receive very many complaints from clients, on staff being not open to the customer on issues they feel are official secrets. (Key Respondent 12)

During the interviews another with key respondent had this to say:

‘‘We don’t take these things seriously. Unethical conduct like lack of transparency, not following rules and regulations is a major issue in our universities. Stakeholders feel we are not accountable enough. they raise issues on the integrity of members of university management. (Key Respondent 13)

In conclusion, it is evident from quantitative data that the level of transparency in public universities is low. This low level of transparency is indicated by poor disclosure of the information required by stakeholders, poor integrity by the officers in the universities and weak system and institution’s accountability. This is comparable to the remarks by Key

Respondents (KI) interviewed (KI 10, KI 11, KI 12 and KI 13). The qualitative and quantitative findings are clearly seen to be mostly compatible. The findings indicate that respondents revealed that the level of transparency in public universities was low.

4.4.2.2 Descriptive Analysis on Adherence to Management Guidelines

The study sort to adherence to management guidelines public universities which was operationalized as the second independent variable and for the purpose of this study was measured using; compliance, monitoring and evaluation and reviews. The findings of quantitative data are as shown in Table 4.8.

Table 4.8: Adherence to Management Guidelines

Descriptions Items	N	Mean	Std. Dev
Compliance			
The University top managers comply/implement policies and guidelines set out	169	2.3	0.1
There are regular meeting in the university to ensure compliance with policies and guidelines	169	2.3	0.2
The university has clear sanctions on noncompliance officers	169	2.3	0.2
Monitoring and evaluation			
Policies and guidelines in the university are regularly monitored and evaluated on their effectiveness	169	2.1	0.1
Regular internal audits are conducted for monitoring policies implementation	169	2.1	0.2
The university has a team to ensure evaluation of policies	169	2.1	0.2
Reviews			
Polices and guidelines are regularly reviewed to remain relevant	169	2.3	0.1

The universities management has committee set out to review policies	169	2.3	0.1
Staff are informed when policies are reviewed	169	2.4	0.1
Aggregate score	169	2.2	0.1

Source: Field Data (2021)

The results in table 4.8 recorded a mean score of 2.2 and a standard deviation of 0.1 on adherence to management guidelines. The study found out that the respondents disagreed that the Public Universities adhere to management guidelines. The responses on staff being informed when policies are reviewed recorded the highest mean score (Mean - 2.4 and SD - 01). Notably, the following statements also recorded low scores; respondents disagreed that university top managers comply/implement policies and guidelines set out (Mean - 2.3 SD - 0.1), that there are no regular meeting in the university to ensure compliance with policies and guidelines (Mean -2.3 SD - 0.2), that the university does not set clear sanctions on noncompliance officers (Mean - 2.3 SD - 0.2), that the universities management does not have committees set out to review policies and guidelines (Mean-2.3 SD -0.1).These findings were collaborated by some key respondents. For instance, one had this to say about adherence to management guidelines in the university;

The study further collected qualitative data using interview items. The findings are as shown below.

‘‘*Members do not comply with management policies and many government circulars that are issued from time to time. There is no monitoring that is done to ensure adherence.* (Key Respondent 14).

’’University top management should ensure review of policies and guidelines whenever some changes happen. Policies have a provision at the end for review to remain relevant to modern situations’’ (Key Respondent 15).

This agrees with previous findings by Agiri (2020), Universities in Kenya have not emphasized to their staff the need to adhere to management guidelines especially on matters compliance, the need for monitoring and evaluation and regular review of policies and guidelines to propel effective performance of the universities. Compliance to guidelines among Kenyan Universities is still weak.

In conclusion, it is evident from quantitative data that adherence to management guidelines is low. This low level of adhering to management guidelines is necessitated by low compliance to policies and guidelines, failure to conduct monitoring and evaluation and not reviewing policies and guidelines as required. Further collaborated by the remarks by Key Respondent (KR14 and KR15) interviewed. The qualitative and quantitative findings are agreeable. The findings indicate that respondents revealed that the adherence to management guidelines in public universities was low.

4.4.2.3 Descriptive Analysis on the level of public participation

The study sort to find out the level of public participation which was operationalized as the third independent variable and for the purpose of this study was measured using; consultation, involvement and empowerment as its indicators. The findings of quantitative data are as shown in Table 4.9.

Table 4.9 Public Participation

Descriptions	N	Mean	Std. Dev
Consultations			
There are consultations in the university in regard to issues affecting the staff	169	2.3	0.1
There are regular meeting in the university	169	2.3	0
Feedback is given when matters are raised to the management and committees	169	2.3	0.1
Involvement			
Staff are involved in matters affecting the university	169	2.1	0
Staff are incorporated in various university committee	169	2.1	0.1
Staff are allowed to access the information in the university	169	2.1	0
Empowerment			
Staff are sensitized well on matters affecting the university	169	2.3	0
The university has uploaded policies and guidelines in the staff portal for access by staff	169	2.3	0
The university sponsor staff to participate in development of government policies and guidelines	169	2.4	0.1
Aggregate mean scores	169	2.1	0.0

Source: Field Data (2021)

The results in table 4.9 recorded a mean score of 2.1 and a standard deviation of 0.0 on public participation. The study found out that the respondents disagreed that there was public participation in Public Universities. The study respondents further disagreed with the statements that there are consultations in the university in regard to issues affecting the staff (Mean -2.3 SD - 0.1), that there are regular meeting in the university (Mean - 2.3 SD -0), that feedback is given when matters are raised to the management and committees (Mean- 2.3 SD - 0.1), that staff are sensitized well on matters affecting the university (Mean -2.3 SD - 0) and that the university has uploaded policies and guidelines in the staff portal for access by staff (Mean -2.3 SD - 0). A key respondent had this to say;

The study further collected qualitative data using interview items. The findings are as shown below.

‘‘The university does not consult us when developing policies affecting us. They only issue circulars for members of staff to comply’’ (Key Respondent 16).

‘‘*Members of staff are not involved in any decision making, we are only informed once an issue becomes a policy’’ (Key Respondent 17).*

‘’I have not been involved any way. There are several committees but we are never consulted, no empowerment or sensitization on many guidelines and circulars from government. Yet we are required to follow them’’ (Key Respondent 18).

The findings are consistent with Vinten (2016) that lack of public participation could be due to the missing link among various stakeholders in identifying the most critical factor in the pursuit of organizational performance. Many university administrators adopt counterproductive management practices that do not involve members of the university community in decision making process and formulation of institutional plans. This they do in a pretext to avoid beauracratic bottlenecks, delay and unnecessary waste of time. Therefore, most plans and decision meet stern resistance from stakeholders due to dissatisfaction (Petra, 2021). This leads to lack of commitment and poor performance thus dwindling the attainment of the goals of the universities. This could be attributed to the failure of managers to adopt modern public participation that emphasize democratic principles of inclusion, collaboration, and collective participation (Vinten, 2016).

It is therefore concluded, that both qualitative and quantitative data indicate that the level of public participation in public universities is low. Further, it is highly being influenced by lack of consultations, failure to involve and empower stakeholders to make informed contributions to the growth of the institutions. This is comparable to the remarks by KR 16, KR17 and KR 18. It is clear therefore that the qualitative and quantitative findings are compatible. The findings indicate that respondents revealed that the level of public participation in public universities was low.

4.4.2.4 Descriptive Analysis of Sustainability Strategies

The study sort to find out the level of sustainability strategies implemented in public universities which was operationalized as the moderating variable and for the purpose of this study was measured using; cost reduction, collaboration and diversification as its indicators. This is in line with Kamoche et al., (2014) and Kiptebut's (2018), who used cost reduction, diversification and collaboration as measures of sustainability strategies of Public Universities in Kenya.

The findings of quantitative data are as shown in Table 4.10.

Table 4.10: Sustainability Strategies

Descriptions	**N**	**Mean**	**Std. Dev**
Cost reduction			
The University has merged some departments/centers and institutes	169	4.2	1
The University has rationalized courses to remain relevant as required in the market	169	3.7	0.9
The University has carried out business reorganization by closing some Campuses and automated core functions as a way of improving business processes	169	3.7	0.9
Collaboration			
The University has a well laid down framework to work with other government agencies	169	3.9	0.8
The University has outsourced none core functions	169	3.7	0.9
The University has MoUs with other institutions on facility sharing.	169	3.7	0.8
Diversification			
The University has ventured in income generating units	169	3.9	0.9
The University has launched customized courses that are market driven	169	4.1	0.9
Staff are allowed to participate in consultancies services as a way of generating income for the university	169	3.7	0.9
Aggregate mean scores	169	3.8	0.9

Source: Field Data (2021)

The results in table 4.10 recorded a mean score of 3.8 and a standard deviation of 0.9. The results indicated that the level of implementation of sustainability of strategies was high. This implied that the Public Universities have made enough efforts to implement sustainability of strategies. The statement form responses that universities have merged some departments/centers and institutes had the highest score (Mean - 4.1 SD -1.0). Similarly, the responses for the statements that the University has ventured in income generating units had a (Mean -3.9 SD - 0.9), university has a well laid down framework to work with other government agencies (Mean- 3.9 SD - 0.8). Generally, from the results, respondents agreed that public universities had made great efforts to reduce on cost, diversify their revenue streams and initiate collaborations and linkages. The mean scores for the statements were above 3.5. The results imply that the implementation of sustainability strategies are important to the performance and sustainability of the public universities.

The study further collected qualitative data using interview items. The findings are as shown below.

‘‘The university has implemented various sustainability strategies to remain afloat, in order to reduce cost, we merged some department and crossed our satellite campuses’’ (Key Respondent 19)

‘‘We have diversified our revenue streams. recently the university approved consultancy policy to enable members of staff to do consultancies. We have also initiated collaboration with other government agencies to enable us share the facilities which the university does not have’’. (Key Respondent 20).

“The pressing challenge of sustainability is a huge global concern. As a university, we are going to leverage on our many strengths like our current networks with our global partners. This will make significant contributions to the complex problems facing us” (Key Respondent 21).

These findings are collaborated by Thompson and Strickland (2013) who observed that implementation of sustainability strategies in European universities was high. This lead to competitive advantage over private universities in securing customers and defending against competitive forces. It was achieved by leveraging on university’s strengths and focusing on cost leadership and product diversification strategies.

According to Grant (2006) universities in India started implementing sustainability strategies by reducing the cost of doing business, diversification of revenue streams and collaborations with others institutions of higher learning. Competition had intensified in almost all industries threating their sustainability.

It is concluded therefore, that both qualitative and quantitative data regarding implementation of sustainability strategies in public universities is high. This is an impression that the public universities have made enough efforts to implement sustainability strategies. Further, it is noted that the common sustainability strategies practiced are cost reduction, diversification and collaboration. That the highest level of implementation of sustainability strategies was on cost reduction (Mean - 4.2 SD-1.0). This is comparable to the remarks by KR 19, KR 20 and KR 21. It is clear therefore that the qualitative and quantitative findings are agreeable. These findings suggest that the level of implementation of sustainability strategies in public universities is generally high.

4.5 Regression Analysis Results

The first three objectives of the study were: to determine the influence of the level of transparency on performance of Chartered Public Universities in Kenya, to determine the influence of adherence to management guidelines on performance of Chartered Public Universities in Kenya and to determine the influence of the level of public participation on performance of Chartered Public Universities in Kenya. The following hypothesis was formed for testing the hypothesis. First, the influence of individual variables of institutional management practices that is transparency, adherence to management guidelines and public participation on performance of public universities in Kenya was tested. This followed composite indicator of institutional management practices and effect on the performance of public universities.

4.5.1 Influence of the level of transparency on performance of Chartered Public Universities in Kenya

The study tested hypothesis one

$H0_1$: There is no significant influence of the level of transparency on performance of Chartered Public Universities in Kenya. The results are shown below;

Table 4.11: Model of Fit between Transparency and Performance of Chartered Public Universities in Kenya

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.561	.319	.307	.310

Source: Field Data (2021)

According to results in table 4.11, adjusted R^2 was 0.307 meaning that 30.7 % of variance in performance accounted for by the level of transparency. 69.3 % was explained by other factors not considered in the study. R squared indicates how much of dependent variable (performance of public universities) can be explained by independent variable transparency. Tabachnick and Fidell, (2001) suggested the use of adjusted R square since R square tends to overestimate the true value.

Table 4.12: Anova

Model		**Sum of Squares**	**df**	**Mean**	**F**	**Sig**
1	Regression	134469.095	1	33617.27	100.437	.000
	Residual	4287.350	224	17.499		
	Total	138756.445	225			

Source: Field Data (2021)

Table 4.12 shows the test of significance of the regression model in predicting the outcome variable. The null hypothesis tested was that transparency in the regression model is not statistically fit to predict the outcome variable. The results indicate that the regression model is statistically significant at F (1,224) = 100.437, p< 0.05. Pallant (2005) noted that a significant test is at p< 0.05 with a 95% level of confidence. This indicates that the regression model can predict the outcome variable significantly at 0.0001 hence the null hypothesis was rejected. The conclusion was that transparency can predict the outcome variable (performance of chattered public universities) at p = 0.0001 level of significant.

Table 4.13: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.860	.132		14.07	.000
Level of Transparency	.377	.038	.556	10.022	.000

Source: Field Data (2021)

Table 4.13 indicates goodness of fit for the regression model and producing a statistically significance beta coefficient of β=0.556, (t=14.074, p<0.05). The results reveal a unit increase in level of transparency is responsible for increasing performance of public Universities by 55.6%. These can be summarized using the following equation.

Performance of chattered public universities = 1.860+0 .377 level of Transparency + e

The t-statistic for the regression model was 14.074 which was greater than 1.96 with p less than 0.05. Therefore, for the hypothesis that there is no significant influence of transparency on performance of chattered Public Universities in Kenya, the study found the relationship to be statistically significant. Therefore, rejecting the null hypothesis and accepting the alternative hypothesis that there is significant influence of transparency on performance of chattered Public Universities in Kenya

These findings are collaborated by Duke (2018) who found that transparency enhance performance of public universities. Indeed, it is a basis for setting performance measures and an enabling environment to facilitate superior performance thus lowering the risk of poor performance. Strategic planning management gives rise to strategic options which are useful in building sustainability and competitiveness in the environment.

The findings are in line the Constitution of Kenya 2010, Chapter 13 (232) on values and principles of Public Service that require all public officers and more so the leaders to be transparent, accountable and of high integrity. Officers are required to provide information to the public in a timely and accurate manner. The Constitution requirement is consistent with the findings by Andrabi et al., (2017) who found that transparency had caused an improvement in learning in public schools in India while an investigation by Sabas and Mokaya (2016) on the influence of transparency on students' performance in public secondary schools in Uganda revealed that transparency contributed significantly to student's academic performance which consequently improved school performance ratings. Achoki, Kule and Shukla (2016) found that voluntary disclosure of financial information to stakeholders had a positive effect on performance among commercial banks.

Study by Makanyeza, Kwandayi and Ikobe (2013) also reported that lack of transparency and inadequate citizen participation were among the major causes of poor service delivery in County Councils in Kenya. In an intervention that disclosed test scores and admission rates for schools, Hastings and Weinstein (2018) reported that parents were significantly more likely to select high-performing schools against low performing ones, and that their children's test scores increased as a result. Waduge (2015) however found a statistically insignificant relationship between transparency in reporting and performance of among Australian universities, indicating inconsistency of findings regarding the relationship and effect of transparency on organizational performance.

The study further collected qualitative data using interview items. The findings are as shown below.

"Transparency in our universities is very important, management should always disclose what they do and this ensures their accountability for what they do, for example, if they intend to promote staff there should be a clear set out criteria communicated to the staff"' (Key Respondent 22)

"I am one person who advocate for senior management staff to be transparent in their actions. After all this is a constitution requirement that all public officers be transparent. In fact, we are required to disclose our wealth regularly as part of accountability and integrity." (Key Respondent 23)

It is concluded, that both qualitative and quantitative data regarding transparency in public universities is critical for superior performance. This is an indication that an increase in the level of transparency in public universities, the performance increase by 55.6%. This is collaborated to the remarks by Key respondent interviewed. It is clear therefore that the qualitative and quantitative findings are agreeable. These findings suggest that the level of transparency influence the performance of Chartered Public Universities in Kenya.

4.5.2 Influence of Adherence to Management Guidelines on Performance of Chartered Public Universities in Kenya

The study tested hypothesis two;

$H0_2$: There is no significant influence of adherence to management guidelines on performance of Chartered Public Universities in Kenya. The results are shown below;

Table 4.14: Model Fit Between Adherence to Management Guidelines and Performance of Chartered Public Universities in Kenya

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.559	.312	.309	.593

Source: Field Data (2021)

According to results in table 4.14, adjusted R^2 was 0.309 meaning that 30.9 % of variance in performance accounted for by the level of adherence to management guidelines. 69.1 % was explained by other factors not considered in the study. R squared indicates how much of dependent variable (performance of public universities) can be explained by independent variable transparency. Tabachnick and Fidell, (2001) suggested the use of adjusted R square since R square tends to overestimate the true value.

Table 4.15: Anova

Model		Sum of Squares	df	Mean	F	Sig
1	Regression	134469.095	1	33617.27	100.437	.000
	Residual	4287.350	224	17.499		
	Total	138756.445	225			

Source: Field Data (2021)

Table 4.15 shows the test of significance of the regression model in predicting the outcome variable. The null hypothesis tested was that the adherence to management guidelines in the regression model is not statistically fit to predict the outcome variable. The results indicate that the regression model is statistically significant at F (1,224) =100.437, $p< 0.05$. Pallant (2005) noted that a significant test is at $p< 0.05$ with a 95% level of confidence. This indicates that the regression model can predict the outcome variable significantly at 0.0001 hence the null hypothesis was rejected. The conclusion was that adherence to management guidelines can predict the outcome variable (performance of chattered public universities) at p = 0.0001 level of significant.

Table 4.16: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.565	.150		11.004	.000
	Adherence to management Guidelines	.436	.042	.557	10.079	.000

Source: Field Data (2021)

Table 4.16 revealed goodness of fit for the regression model and producing a statistically significance beta coefficient of $\beta=0.557$, ($t=11.004$, $p<0.05$ The results reveal a unit increase in level of adherence to management guidelines is responsible for increasing performance of public Universities by 55.7%. These can be summarized using the following equation.

Performance of chattered public universities = 1.565+0 .436 Adherence to Management Guidelines + e

The t-statistic for the regression model was 11.004 which was greater than 1.96 with p less than 0.05. Therefore, for the hypothesis that there no significant influence of adherence to management guidelines on performance of chattered Public Universities in Kenya, the study found the relationship to be statistically significant. Therefore, rejecting the null hypothesis and accepting the alternative hypothesis that there is significant influence of adherence to management guidelines on performance of chattered Public Universities in Kenya.

The results in table 4.16 are consistent with the Code of Conduct and Ethics for Public Universities 2003, Cap 193, Part II, 6:1-2 states that: “An officer who is a member of the academic staff of a University shall organize his/ her instruction, assessment and examination in a manner that complies with all institutional requirements and expectations. And, an officer who is a member of the academic staff of a university shall ensure that the examinations are delivered to the students as scheduled and that the result thereof is processed without undue delay”. The statement concurs with observations by Kamau, (2018) that cases of admission of students into universities in Kenya without meeting the minimum entry requirements and contracting fellow students to help them do their academic work like writing research theses and projects were as a result of not adhering to management guidelines on admissions and examinations. His findings are reinforced by sentiments from Akaranga (2013) that lack of adherence to management guidelines had caused some students in universities to miss graduation because some academic staff failed to mark their assignments or scripts on time or lost student marks altogether.

The study further collected qualitative data using interview items. The findings are as shown below.

"The university is governed by policies and guidelines set. The commission for university education has also set out the standards and regulations that are supposed to followed. We all must adhere to these guidelines because we are audit on compliance. One of the key document is the code of ethic for staff which need to be followed all the time. (Key Respondent 1)

"Indeed, compliance to the management guidelines is not optional, those who choose not to follow finds themselves in a lot of problems with auditors. This require us to keep reviewing all the policies we have to ensure they are relevant to the current situations." (Key Respondent 2)

It is concluded therefore, that both qualitative and quantitative data regarding adherence to management guidelines in public universities is critical for superior performance. This is an indication that an increase in the level of adherence to management guidelines in public universities, the performance increase by 55.7%. This is collaborated by the remarks by Key Respondents interviewed. It is clear therefore that the qualitative and quantitative findings are agreeable. These findings suggest that adherence to management guidelines influence the performance of Chartered Public Universities in Kenya.

4.5.3 Influence of the Level of Public Participation on Performance of Chartered Public Universities in Kenya

The study tested the hypothesis three;

$H0_3$: There is no significant influence of the level of public participation on performance of Chartered Public Universities in Kenya. The results are presented below;

Table 4.17: Model Fit Between Public Participation on Performance of Chartered Public Universities in Kenya

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.779	.249	.226	.624

Source: Field data (2021)

According to results in table 4.17, adjusted R^2 was 0.226 meaning that 22.6 % of variance in performance accounted for by the level of public participation. 77.4 % was explained by other factors not considered in the study. R squared indicates how much of dependent variable (performance of public universities) can be explained by independent variable public participation. Tabachnick and Fidell (2001) suggested the use of adjusted R square since R square tends to overestimate the true value.

Table 4.12: Anova

Model		Sum of Squares	Df	Mean	F	Sig
1	Regression	134469.095	1	33617.27	70.360	.000
	Residual	4287.350	225	17.499		
	Total	138756.445	226			

Source: Field Data (2021)

Table 4.18 shows the test of significance of the regression model in predicting the outcome variable. The null hypothesis tested was that public participation in the regression model is not statistically fit to predict the outcome variable. The results indicate that the regression model is statistically significant at F (1,225) =70.360, p< 0.05. Pallant (2005) noted that a significant test is at p< 0.05 with a 95% level of confidence. This indicates that the regression model can predict the outcome variable significantly at 0.0001 hence the null hypothesis was rejected. The conclusion was that public participation can predict the outcome variable (performance of chattered public universities) at p = 0.0001 level of significant.

Table 4.19: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.897	.141		14.204	.000
Public Participation	.345	.041	.779	8.388	.000

Source: Field Data (2021)

Table 4.19 results revealed goodness of fit for the regression model and producing a statistically significance beta coefficient of β=0.779, (t=14.20, p<0.05). The results reveal a unit increase in level of public participation is responsible for increasing performance of public Universities by 77.9 %. These can be summarized using the following equation.

Performance of chartered public universities= 1.897+0 .345 public participations + e

The t-statistic for the regression model was 14.20 which was greater than 1.96 with p less than 0.05. Therefore, for the hypothesis that there no significant influence of public participation on performance of chattered Public Universities in Kenya, the study found the relationship to be statistically significant. Therefore, rejecting the null hypothesis and accepting the alternative hypothesis that there is significant influence of public participation on performance of chattered Public Universities in Kenya.

The results in table 4.19 are in line with the Article 10 of the Constitution that lists public participation as one of the national values and principles of institutional management practices that binds all state organs, state and public officers, and all persons in Kenya whenever any of them applies or interprets the Constitution, enacts, applies or interprets any laws, or makes or implements public policy decisions. To operationalize the requirement, the Public Service Commission in 2019 developed framework for public participation. In the policy, public participation is conceptualized as the process by which citizens, as individuals, groups or communities also known as stakeholders, take part in the conduct of public affairs, interact with the state and other non-state actors to influence decisions, policies, programs, legislation and provide oversight in service delivery, development and other matters concerning their institutional management practices and public interest, either directly or through freely chosen representatives.

Further, The Constitution of Kenya promulgated in 2010 restructured and transformed the state-society relations in several positive ways. It states that the country's institutional management practices are based on social contract, an arrangement in which the citizens only delegate their power to the government but retain the sovereign power. The Constitution places the citizens at the centre of development and related institutional management practices processes; it provides for public participation as one of the principles and values of institutional management practices. The results and the constitution requirements are consistent with observations by (Cooper, 2011) that public participation is the process of engagement in institutional management practices, in which people participate together for deliberation and collective action within an array of interests, institutions and networks, developing civic identity, and involving people in institutional management practices processes.

According to Arnstein (2016) the importance of public participation cannot be overstated. Its contribution in anchoring democracy is significant because it ensures inclusivity and transparency in the institutional management practices process, with citizens and government agencies sharing power among themselves). It ensures government responsiveness to citizen needs and increases the legitimacy of the government's decisions and institutions. Further, at the individual level, public participation increases patriotism and trust in public institutions. This in turn increases social inclusiveness and social capital (Raimond, 2017), making public participation a process and not a single stand-alone event.

The study further collected qualitative data using interview items. The findings are as shown below.

"This University has put in place enough emphasis on public participation. We ensure stakeholders are involved and consulted in decision making. Before we do that we ensure that they are sensitized and empowered to be able to contribute as required'' (Key Respondent 3)

''Public participation among staff members is still generally weak and therefore require strengthening because it is positively and significantly related to University performance'' (Key Respondent 4).

''I have noted that lack of public participation and accountability in the Universities have created fertile grounds for corrupt and unethical tendencies and inefficiencies in the appointment and selection of University leaders and delivery of academic programmes which in turn negatively impacted on performance of the institutions in general'' (Key Respondent 6).

''Indeed, this university have benefited immensely because of ensuring we do public participation especially in decision making including the processes and sharing the knowledge across the university'' (Key Respondent 16)

It is concluded therefore, that both qualitative and quantitative data regarding public participation in public universities is critical for greater performance. An increase in the level of public participation in public universities, the performance increases by 77.9 %. This is collaborated by the remarks by Key Respondents interviewed. It is clear therefore that the qualitative and quantitative findings are agreeable. These findings suggest that the level of public participation influence the performance of Chartered Public Universities in Kenya.

4.5.4 Influence of Institutional Management Practices on Performance of Chartered Public Universities in Kenya

The study tested the composite influence of institutional management practices on performance of Public Universities in Kenya. The results are presented below;

Table 4.20: Model Fit Between Institutional Management Practices and Performance of Chartered Public Universities in Kenya

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.61	0.52	0.37	0.90

Source: Field Data (2021)

According to results in table 4.20, adjusted R^2 was 0.37 meaning that 37 % of variance in performance accounted for by the level of institutional management practices. 63 % was explained by other factors not considered in the study. R squared indicates how much of dependent variable (performance of public universities) can be explained by independent variable institutional management practices. Tabachnick and Fidell, (2001) suggested the use of adjusted R square since R square tends to overestimate the true value.

Table 4.21: Anova

Model		Sum of Squares	Df	Mean	F	Sig
1	Regression	134469.095	1	33617.27	70.360	.000
	Residual	4287.350	224	16.337		
	Total	138756.445	225			

Source: Field Data (2021)

Table 4.21 results indicate that the regression model is statistically significant at F-(1,224) =70.360, $p< 0.05$. Pallant (2005) noted that a significant test is at $p< 0.05$ with a 95% level of confidence.

Table 4.22: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.94	0.109		0.00	1
Institutional Management Practices	0.61	0.11	0.61	5.54	0.00

Source: Field Data (2021)

Table 4.22 results reveal goodness of fit for the regression model and producing a statistically significance beta coefficient of $\beta=0.61$, ($t=5.54$, $p<0.05$). The results reveal a unit increase in level of institutional management practices is responsible for increasing performance of public Universities by 61%. These can be summarized using the following equation.

Performance of chartered public universities= 2.94+0 .61 Institutional Management Practices + e

The findings are consistent with the observations by Bechker and Garhart (2016) that synergetic effect rather than independent practice leads to superior performance by institutions. The studies by (Ndwiga, 2018 and OECD, 2004) reported a positive and significant relationship between institutional management and organizational. Paramitha, Agustia and Soewarno (2017) also reported a conceptual relationship between institutional management on performance of Indonesian universities.

The study further collected qualitative data using interview items. The findings are as shown below.

''If you look at the constitution of Kenya 2010, transparency, compliance which generally means adherence to the guidelines and policies and public participation are required very critical and they go together. It is therefore clear that university that combine all of them then stand out''. (Key Respondent 2).

It is concluded that combined effect of institutional management practices components has a greater effect on performance of chattered public universities in Kenya than isolated effect of transparency, adherence to management guidelines and public participation. This was collaborated by the key respondent interviewed. It is clear therefore that the qualitative and quantitative findings are agreeable.

4.5.5 Effect of Sustainability Strategies on the Performance of Chartered Public Universities in Kenya

The study established the influence of sustainability strategies on performance of chartered public universities in Kenya. First, the influence of individual variables of sustainability strategies that is cost reduction, collaboration and diversification on performance of public universities in Kenya was tested. This followed composite indicator of sustainability strategies and effect on the performance of chartered public universities. The results are presented below;

4.5.6 Effect of Cost Reduction on Performance of Public Universities in Kenya

Table 4.23: Model Fit Between Cost Reduction and Performance of Public Universities in Kenya

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.720	.518	.447	0.31

Source: Field Data (2021)

According to results in table 4.23, adjusted R^2 was 0.447 meaning that 44.7 % of variance in performance accounted for by the level of cost reduction. 55.3 % was explained by other factors not considered in the study. R squared indicates how much of dependent variable (performance of public universities) can be explained by independent variable transparency. Tabachnick and Fidell, (2001) suggested the use of adjusted R square since R square tends to overestimate the true value.

Table 4.24: Anova

Model		**Sum of Squares**	**Df**	**Mean**	**F**	**Sig.**
1	Regression	2245.240	1	33617.27	77.26	.000
	Residual	3456.350	224	17.499		

Total	138756.445	225

Source: Field Data (2021)

Table 4.24 results indicate that the regression model is statistically significant at F (1,224) =77.26, $p< 0.05$. Pallant (2005) noted that a significant test is at $p< 0.05$ with a 95% level of confidence. The conclusion was that cost reduction can predict the outcome variable (performance of chattered public universities) at p = 0.0001 level of significant.

Table 4.25: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.515	.135		18.07	.000
Cost Reduction	.534	.039	.723	8.022	.000

Table 4.25 results revealed goodness of fit for the regression model and producing a statistically significance beta coefficient of β=0.534, (t=18.07, p<0.05).). The results reveal a unit increase in level of cost reduction is responsible for increasing performance of public Universities by 72.3%. These can be summarized using the following equation

Performance of chartered public universities = 1.515+0 .534 Cost Reduction + e

The results are consistent with the study by Salas and Cannon-Bowers (2011) which indicated that cost reduction strategy generates competitive benefits for an organization but also delivers innovations and openings to learn new technologies and advance employee knowledge, skills and organization performance. Similarly, the findings are consistent with Ogolla (2013) which noted that when organizations implement cost reduction strategies it improves its performance by increasing its productivity, being flexible in some other function, quality products, reduction of operating cost, advancement of technology and customer satisfaction as well as the findings of Maina (2013) that cost cutting measures improves performance.

The changing business environment has brought about so many changes in organizations including policies on cost management (Richtel, 2008). Robert (2021) stated that a company with adequate cost structure possesses the higher chance of attaining its profit target. The increasingly competitive global economy pushes firms to exploit all of their available resources as a means of achieving competitive advantage (Andersen, 2019). Innes et al., (2013) assert that the survival triplet today for any company is how to manage product or service cost, quality, and performance.

The study further collected qualitative data using interview items. The findings are as shown below.

‘‘As a university, we started reducing on cost sometimes back. We have adopted austerity measures like having trainings in our facilities, doing meetings online, reduced the travels and buying of newspapers’’. (Key Respondent 9).

The university have merged some of the academic programmes that are similar in order to be taught by one lecturer. This rationalization of the programmes have enabled us to reduce on the cost and that money saved is used to buy teaching materials and equipment. The students are very happy.’’ (Key Respondent 10).

Sometime back the university closed all the satellite campuses. We had campus outside the country which we spent a lot of resources. After closing the campuses, our revenues increased and now we are able to pay our staff on time'' (Key Respondent 13).

It is concluded therefore, that both qualitative and quantitative data regarding cost reduction in public universities is critical for improved performance. An increase in the level of cost reduction in public universities, the performance increases by 72.3 %. This is comparable to the remarks by Key respondent interviewed. It is clear therefore that the qualitative and quantitative findings are agreeable. These findings suggest that the level of cost reduction affect the performance of Chartered Public Universities in Kenya.

4.5.7 Effect of Collaboration On Performance of Public Universities

Table 4.26: Model Fit Between Collaboration and Performance of Public Universities

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.620	.418	.347	.2101

Source: Field Data (2021)

According to results in table 4.26, adjusted R^2 was 0.347 meaning that 34.7 % of variance in performance accounted for by the level of collaboration. 65.3 % was explained by other factors not considered in the study.

Table 4.27: Anova

Model		Sum of Squares	df	Mean	F	Sig
1	Regression	134469.095	1	33617.27	70.360	.000
	Residual	4287.350	224	17.499		
	Total	138756.445	225			

Source: Field Data (2021)

Table 4.27 indicate that the regression model is statistically significant at F (1,224) =70.360, p< 0.05. Pallant (2005) noted that a significant test is at p< 0.05 with a 95% level of confidence. The conclusion was that collaboration can predict the outcome variable (performance of chattered public universities) at p = 0.0001 level of significant.

Table 4.28: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.432	.122		12.07	.000
Collaboration	.565	.029	.557	2.766	.000

Table 4.28 results revealed goodness of fit for the regression model and producing a statistically significance beta coefficient of β=0.565, (t=12.07, p<0.05).). The results reveal a unit increase in level of collaboration is responsible for increasing performance of public Universities by 56.5%. These can be summarized using the following equation**.**

Performance of chartered public universities = 1.432+0 .565 Collaboration + e

The findings imply that an increase collaboration leads to a significant increase in performance of public universities. The findings are consistent with Huselid (2015) who argued that for public universities to improve on their performance in terms of research grants, productivity, enhanced quality and market share, absence and conflict, reduced turnover, they need to have many collaborations and networks. The findings also agree with Bhatt (2019) that collaboration and partnerships can improve business process and plays a critical role in an organization as well as the argument by Bolat and Yilmaz (2019) who noted that networking is the key to the success of an organizational performance.

The study further collected qualitative data using interview items. The findings are as shown below.

''At this modern age one cannot operate alone, we have therefore initiated and signed several collaborations with local and internally universities and other institutions. Some of the areas the university benefit is in facilities sharing, the labs and equipment.'' (Key Respondent 12).

''We a division that deals with collaborations and networks in the university. This we do to enable students link with the industries for attachments as required. These collaborations also have components on staff exchange programes'' (Key Respondent 13).

It is concluded therefore, that both qualitative and quantitative data regarding collaboration in public universities is critical for improved performance. This is an indication that an increase in the level of collaboration in public universities, the performance increase by 55.7 %. This is comparable to the remarks by Key respondent interviewed. It is clear therefore that the qualitative and quantitative findings are agreeable. These findings suggest that the level of collaboration affect the performance of Chartered Public Universities in Kenya.

4.5.8 Effect of Diversification On Performance of Public Universities

Table 4.29: Model Fit Between Diversification and Performance of Public Universities

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.320	.347	.218	.2101

Source: Field Data (2021)

According to results in table 4.29, adjusted R^2 was 0.218 meaning that 21.8 % of variance in performance accounted for by the level of diversification. 78.2 % was explained by other factors not considered in the study.

Table 4.30: Anova

Model		Sum of Squares	df	Mean	F	Sig
1	Regression	134469.095	1	33617.27	3.26	.000
	Residual	4287.350	225	17.499		
	Total	138756.445	226			

Source: Field Data (2021)

Table 4.30 results indicate that the regression model is statistically significant at F (1,225) =3.26, p< 0.05. Pallant (2005) noted that a significant test is at p< 0.05 with a 95% level of confidence. The conclusion was that diversification can predict the outcome variable (performance of chattered public universities) at p = 0.0001 level of significant.

Table 4.31: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.225	.1111		0.766	.000
Diversification	.265	.018	.265	8.07	.000

Source: Field Data (2021)

Results in Table 4.31 revealed goodness of fit for the regression model and producing a statistically significance beta coefficient of β=0.265, (t=8.07, $p<0.05$).). The results reveal a unit increase in level of diversification is responsible for increasing performance of public Universities by 26.6%. These can be summarized using the following equation

Performance of Charted Public Universities = 1.225+0 .265 Diversification + e

Public University education in Kenya is currently experiencing serious financial crisis. This is apparent because budgetary allocation for the higher educational sector has been on the decline. The government has not been able to meet the 26% recommended by UNESCO. The situation has been aggravated largely due to the economic recession that the nation is facing and more so with increasing competition of education with other sectors for public monies. (UNESCO,2019)

This study is collaborated by Babalola (2013), emphasizing the need for diversifying sources of funding tertiary education, noted that today's world requires that higher institutions of learning seek innovative ways of financing responsibilities. Koryakina, Teixeira and Sarrico (2012), averred that revenue diversification activities were recognized as drivers of institutional dynamics and development. Also, Maisaiti (2019) argued that diversification of revenue sources has the potential of stabilizing universities by reducing their vulnerability to fluctuations associated with government financing. Similarly, Todowede (2014), supporting the need to diversify the financing of higher education, observed that the political, social and economic factors, which are currently having significant impact on the world economy have necessitated the need to diversify the resources of education funding, since the reliance on a single source of revenue can inhibit educational growth. However, sustenance of higher education in Kenya requires all stakeholders which include parents, guardians, students, the civil society, the private sector and non-governmental agencies and the general public to be involved.

Further, adequate funding is a prerequisite to sustainability of university education in Kenya. Inadequate funding can seriously destabilize the university system in realizing sustainability of its progammes and other activities. Revenue diversification according to World Bank (2019) is one mechanism that could be used to improve sustainability of higher educational institutions. Sustainability of public universities in Kenya is a necessity, even more so in the present times, due to the dynamics of our changing society. This need is borne out of the desire to respond to the demands of globalization of equipping present and future generations with the knowledge, attitudes, values and skills to cope with the challenges which lie ahead of them in the era of global competiveness. Ekpoh (2017).

The study further collected qualitative data using interview items. The findings are as shown below.

''The government has reduced our capitation by half. We now receive also most 40% from 80%. We have therefore diversified our revenue streams first by developing necessary policies to support. The university has a company that enable us to do business like consultancies, selling university coffee and tea. staff are encouraged to do research proposals with revenue sharing formula to attract and motivate them'' (Key Respondent 16).

It is concluded therefore, that both qualitative and quantitative data regarding diversification in public universities is critical for improved performance. This is an indication that an increase in the level of diversification in public universities, the performance increase by 26.6 %. This is comparable to the remarks by Key respondent interviewed. It is clear therefore that the qualitative and quantitative findings are agreeable. These findings suggest that the level of diversification affect the performance of Chartered Public Universities in Kenya.

4.5.9 Influence of Sustainability Strategies on Performance of Public Universities

in Table 4.32: Model Fit Between Sustainability Strategies and Performance of Public Universities

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.73	0.53	0.52	0.69

Source: Author (2021)

According to results in table 4.32, Adjusted R^2 was 0.52 meaning that 52 % of variance in performance accounted for by the level of sustainability strategies. 48 % was explained by other factors not considered in the study.

Table 4.33: Anova

Model		Sum of Squares	df	Mean	F	Sig
1	Regression	134469.095	1	33617.27	60.120	.000
	Residual	4287.350	225	17.499		
	Total	138756.445	226			

Table 4.33 results indicate that the regression model is statistically significant at F (1,125) = 60.120, p< 0.05. Pallant (2005) noted that a significant test is at p< 0.05 with a 95% level of confidence. The conclusion was that sustainability strategies can predict the outcome variable (performance of chattered public universities) at p = 0.0001 level of significant.

Table 4.34: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.84	0.09		0.00	1
	Sustainability Strategies	0.73	0.10	0.73	7.68	0.00

Source: Field Data (2021)

Result in table 4.34 revealed statistically significant results for the independent effect of sustainability strategies on performance (p-values < 0.05). R^2 = 0.53, p<0.05) indicating goodness of fit for the regression model and producing a statistically significance beta coefficient of β=0.73, (t=7.68, p<0.05). The results reveal a unit increase in level of implementation of sustainability strategies is responsible for increasing performance of public Universities by 73 %. These can be summarized using the following equation.

Performance of chartered public universities = 1.84+0 .73 Sustainability Strategies + e

The findings are consistent with the observations by Millet (2006) that combined effect strategies rather than individual practice leads to more performance and productivity of an institution. The findings concur with Ravichandran and Bhaduri's (2015) study on firms in the Indian manufacturing sector whose results showed that highly diversified firms performed better on account of horizontal diversification which had a positive effect on their performance. It was also in agreement with findings of Kimani et al., (2016) which evidenced that implementation of sustainability strategies contributed significantly to the competitive performance of firms in the rabbit industry while diagonal integration was found to be insignificant. Further, the findings concur with arguments by Besanko et al. (2007) who allude that Universities that choose to implement the sustainability strategies by cost reduction, diversification and collaborations have a very high chance of remaining afloat.

The study further collected qualitative data using interview items. The findings are as shown below.

''if you look at the constitution of Kenya 2010, transparency, compliance which generally means adherence to the guidelines and policies and public participation are required very

critical and they go together. It is therefore clear that university that combine all of them then stand out''. (Key Respondent 10).

It is therefore concluded that combined effect of sustainability strategies components has a greater effect on performance of public universities in Kenya than isolated effect of cost reduction, collaboration and diversification. It is clear therefore that the qualitative and quantitative findings are agreeable.

4.5.10 Moderating Influence of Sustainability Strategies on the Relationship Between Institutional Management Practices and Performance of Chartered Public Universities in Kenya.

The forth objective was to establish the moderating influence of sustainability strategies on the relationship between institutional management practices and performance of Chartered Public Universities in Kenya. The study tested the hypothesis that there is no significant moderating influence of sustainability strategies on the relationship between institutional management practices and performance of Public Universities. To test this hypothesis, the moderating effect was computed using the method proposed by Baron and Kenny (1986). A moderator is a variable that specifies conditions under which a given independent variable is related to an outcome. The moderating effect is measured in terms of how the effect of the explanatory variables changes when the moderator variable is introduced. The following hypothesis was formulated:

H_{o4}: **There is no significant moderating influence of sustainability strategies on the relationship between institutional management practices and performance of Chattered Public Universities in Kenya**. A three-step stepwise regression analysis was then used to test this hypothesis

Step 1: Dependent variable is regressed on the independent variable.

Step 2: Moderating variable is added to the regression equation.

Step 3: The interaction term between independent and moderator variables was introduced to the regression model. All the variables comprising institutional management practices, sustainability strategies and the interaction term were entered in the regression model. To ascertain the moderation, the interaction term should be significant ($p<0.05$). The results of stepwise regression predicting that the influence of institutional management practices on performance of Public Universities is moderated by sustainability strategies are presented below;

Table 4.35: Model Fit Between Moderating Influence of Sustainability Strategies on the Relationship Between Institutional Management Practices and Performance of Chattered Public Universities in Kenya.

Model		R	R Square	Adjusted R Square	Std. Error of the Estimate
1	(IMP)	91	0.83	0.52	0.42
2	(SS)	97	0.94	0.39	0.25
3	IMP*SS	97	0.94	0.72	0.25

According to the results in table 4.35, in step 1, adjusted R^2 =0.52 indicating that institutional management practices alone accounts for 52% of the variation of performance of Public Universities. In step 2, adjusted R^2=0.39 indicating that sustainability strategies account for 39% of variations in performance of Public Universities. In step 3, the result for institutional management practices and sustainability strategies (institutional management practices * sustainability strategies) were included in the model to determine whether sustainability strategies moderates the relationship between institutional management practices and performance of Public Universities. The interaction term (institutional management practices and sustainability strategies) accounted for 72 % of the variations in performance of Public Universities. The results in step 2 showed that when the interaction term was entered into the model, this lead to an increase in performance of Public Universities as the variation increased from 0.52 to 0.72. This implied that institutional management practices, and the interaction term (institutional management practices *, sustainability strategies) causes variation of 72 % on performance of Public Universities.

Table 4.36: Anova

Model		**Change Statistics**			
	R Square Change	**F Change**	**df1**	**df2**	**Sig. F Change**
1	0.83	247.98	1	52	0.00
2	0.11	94.58	1	51	0.00
3	0.00	0.01	1	50	0.00
Total	0.94	342.57	3	153	0.00

Table 4.36 shows the test of significance of the regression model in predicting the outcome variable. There is no significant moderating influence of sustainability strategies on the relationship between institutional management practices and performance of Chattered Public Universities in Kenya. The results indicate that the regression model is statistically significant at F (1,1,1) =247.98, 94.58 and 0.01, p< 0.05. Pallant (2005) noted that a

significant test is at $p< 0.05$ with a 95% level of confidence. This indicates that the regression model can predict the outcome variable significantly at 0.0001 hence the null hypothesis was rejected.

Table 4.37: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	4.11	0.06	0.52	15.75	1.00
2	(Constant)	6.86	0.03	0.52	9.73	0.00
3	(Constant)	0.00	0.04	0.39	1.0	0.00
		0.00	0.04	0.00	0.01	0.72

Source: Field data (2021)

Table 4.37 results show a statistical significance for the effect of institutional management practices on performance of Public Universities ($t= 15.75$, $p<0.05$). At step 2, the model of sustainability strategies and performance of Public Universities was statistically significant $t=9.73$, $p<0.05$). In step 3, the overall model was statistically insignificant ($t=1.0$, $p>0.05$). Regression coefficients for the test of hypothesis three are presented in table 4.23, the regression coefficient was significant at all the three steps of the analysis. Of importance is the fact that the effect of interaction term between institutional management practices and sustainability strategies on performance of Public Universities was significant ($t=0.01$, $p<0.05$), implying that for every unit change in interaction between level of implementation of sustainability of strategies and adherence institutional management practices, there is a significant corresponding change in performance of Public Universities. These results provided sufficient evidence to reject the hypothesis that there is no significant influence of sustainability strategies on the relationship between institutional management practices and performance of chattered Public Universities in Kenya. Therefore, the alternative hypothesis that there is a significant moderating influence of sustainability strategies on the relationship between institutional management practices and performance of chattered Public Universities was accepted.

The study findings are consistent with those of Militao (2015) as the reseacher's arguments are that sustainability strategies moderated the relationship between institutional management practices and firm performance in the sense that equity capital was preferred for related diversification while debt for unrelated diversification. However, they in contrast with findings of Menendez –Alonso (2017) established that diversification did not influence the leverage ratios which means that capital structure did not moderate this relationship ad also that product diversity in unconnected to debt as revealed by Singh et al., (2016) though there are some circumstances where the two are negatively related.

Additionally, concurs with those of earlier studies (Ndwiga, 2018 and Kamau, 2018); that have reported a positive and significant relationship between sustainability strategies and institutional management practices on organizational performance and found a significant effect of sustainability strategies on organizational performance. Paramitha, Agustia and Soewarno (2017) also reported a conceptual relationship between sustainability strategies on performance of Indonesian Universities but recommended that a study to establish whether such a relationship was significant or not needed to be carried out. Indeed, the results concur with that of a study by Garaika, Siswoyo and Zainal (2018) who found that sustainability strategies had an effect on performance of private Universities in Indonesia, although performance was measured based on the balanced score card theory.

Further, the study findings are in agreement with the findings of a study done by Jouida and Hellara (2017) whose results established a negative relationship among the diversification, cost reduction and collaborations and firm performance of 412 French financial institutions. These findings implied that these firms may have problems of information processing and coordination of activities which would in turn impair firm performance.

The study further collected qualitative data using interview items. The findings are as shown below.

''I think as a university we have achieve more when we combine both institutional management practices and at the same time implement the sustainability strategies.one aspect is compliance and the other one is to ensure the university sustainable.'' (Key Informant 10)

It is concluded therefore that the qualitative and quantitative findings are comparable. These findings suggest that sustainability strategies moderate the relationship between institutional management practices and performance of Public Universities. The interaction term (institutional management practices and sustainability strategies) accounted for 72 % of the variations in performance of Public Universities. That there is strong positive relationship between sustainability strategies and performance of public universities. Key Respondents interviewed concurred that sustainability strategies combined with institutional management practices contribute significantly to the performance of public universities.

4.6 Correlation Analysis

To establish the relationship between institutional management practices and performance of Public Universities in Kenya. Pearson product moment correlation coefficients were used. To start with the three dimensions of institutional management practices were correlated with performance of Chartered Public Universities. All the correlation was deemed significant at a set value of 0.01 the results are presented in Table 4.38.

Table 4.38: Institutional Management Practices and Performance of Chartered Public Universities in Kenya.

	Performance of Chartered Public Universities	Level of Transparency	Adherence to mgt guidelines	Level of Public participation
Performance of Chartered Public Universities	1			
Level of Transparency	.444**	1		
	0.01			
Adherence to management guidelines	.529**	0.325	1	
	0.01	0.106		
Level Public Participation	.609**	.432*	.553**	1
	0.01	0.016	0.001	

Source: Field data (2021)

Table 4.38 show that public participation had the highest positive relationship with performance of Public Universities (r=0.609, p=0.00) followed by adherence to management guidelines (r=0.529, p=0.00) and transparency had the lowest positive relationship with the performance of Public Universities (r=0.444, p=0.00). These results show that there is a strong positive correlation between performance of public universities in Kenya and institutional management practices. This implied that the three dimensions on the adherence to institutional management practices leads to increased performance of Public Universities. Further, the results indicate that public participation is the most efficient way of improving performance of public universities for sustainability.

The correlations results concur the study by Okoko (2017) on the relationship between institutional management practices and firm performance among 40 insurance companies in Kenya revealed using panel data that overall, there exists a relationship between institutional management practices and firm performance. Further, Rezende (2017) observed that the institutional management practices policy had improved University and college quality, increased the ratio of applicants for admissions and further increased the number of faculty members in institutions of higher learning. Nguyen and Lassibille (2018) found that a transparent system implemented among district and sub-district schools in Madagascar caused an improvement in various observable performance measures among schools where monitoring was implemented.

The study further collected qualitative data using interview items. The findings are as shown below.

''We have no otherwise but to adhere to institutional management practices, before you implement any policy, you have to do public participation as required by the law. The

Public Service Commission published the guidelines which the universities are supposed to customize'' (Key Informant 15).

''I think we have done well, we have adhered to constitutional requirements, that require institutions be transparent, comply with the policies and guidelines and allow for public participation., (Key Informant 16)

It is clear therefore that the qualitative and quantitative findings are agreeable. These findings suggest that there is strong positive relationship between institutional management practices and performance of public universities. Public participation was found to be the most efficient way of improving performance of public universities for sustainability. The Key Respondents interviewed concurred with assertion that public participation is provided for in the Constitution of Kenya, 2010.

4.6.1 Sustainability Strategies and Performance of Chartered Public Universities in Kenya.

To establish the relationship between implementation of sustainability strategies and performance of Public Universities in Kenya. Pearson product moment correlation coefficients were used to establish whether a relationship existed between the level of implementation of sustainability of strategies and performance of Public Universities. To start with the three dimensions of implementation of sustainability of strategies were correlated with performance of Public Universities. All the correlation was deemed significant at a set value of 0.00 the results are presented in table 4.39.

Table 4.39: Sustainability Strategies and Performance of Chartered Public Universities in Kenya

	Performance of Public Universities	Cost reduction	Collaborations	Diversifications
Performance of Public Universities	1			
Cost reduction	.744**	1		
	0.00			
Collaborations	.729**	0.225	1	
	0.00	0.102		
Diversifications	.609**	.332*	.453**	1
	0.00	0.014	0.001	

Source: Field data (2021)

Table 4.39 show that cost reduction had the highest positive relationship with performance of Public Universities (r=0.744, p=0.00) followed by the degree of collaborations (r=0.729, p=0.00) and diversification had the lowest positive relationship with the performance of Public Universities (r=0.609, p=0.00). These results show that there a strong positive correlation between performance of public universities in Kenya and implementation of sustainability strategies. This implied that an increase in the level of implementation in all the three dimensions of the of sustainability of strategies leads to an increase in performance of Public Universities. Further, the results indicate that cost reduction is the most efficient way of improving performance of public universities for sustainability.

The findings of this study concurs with findings by Forbes and Lederman (2019) on the US airline industry which revealed that sustainability strategies had a positive effect on the operational performance of the large US airlines. They also concurred with study findings of Kimani et al. (2016) whose findings revealed that sustainability strategies contributed significantly to the competitive performance of the firms.

‘‘The university has adopted cost reduction, recently we closed some of our campuses and merged departments that share some commonalities. We have very many collaborations with local and international partners who have been, some of the partners have been assisting us with their facilities for students to carry their research work’’ (Key Informant 17)

I think we have done well, we have implemented all those strategies, if you look at our strategic plan, you will find cost reduction as a strategy, collaborations, and increasing revenue streams which is basically what you are asking on diversification. although we may be having challenges here and there, we have done our best in implementing those strategies’’ (Key Informant 18)

Further, the findings concur with studies done by Delios and Beamish (2019), Tallman, and Li (2018) which found a positive relationship between sustainability strategies and firm performance. However, the study findings contradicted those of Kumar (2016) and Njuguna (2014) which revealed that sustainability strategies and firm performance had a negative relationship. This is alluded to the fact that the regional and global expansion may have to take some time to break even and therefore net income of firm’s branches would result into a negative relationship. The current study findings are also in contradiction with Wan (2014) as his study findings showed that sustainability strategies had no effect on the firm performance.

The study also explored the relationship between implementation of sustainability strategies and performance of Public Universities in Kenya. Discussions with key respondents revolved around cost reduction, diversification and collaborations.

‘‘University education needs to transform itself if it is to assist societal transformation for a more sustainable future. Good strategies for University sustainability with no ideas on how to implement them are wasted ideas. Change doesn’t just happen but must be led and deftly. The key to progressing sustainability in Universities is to implement cost reduction, collaboration and diversifying revenue streams while building viable leadership capabilities, competencies, support systems and pathways’’ (Respondent 19)

It is concluded therefore that the qualitative and quantitative findings are comparable. These findings suggest that there is strong positive relationship between sustainability strategies and performance of public universities. Cost reduction strategy was found to be the most common way of improving performance of public universities for sustainability. Key Respondents 17,19 and 19 concurred that sustainability strategies contribute significantly to the performance of public universities.

CHAPTER FIVE

SUMMARY OF RESULTS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This is the final chapter of the study. The results are summarized, conclusions drawn and recommendations provided in view of the research objectives. The chapter begins with a summary of the general findings followed by major findings covering the four objectives. The chapter also presents the major conclusions derived from summaries. Finally, a presentation is made of the main recommendations from the study including the implication of the study on theory, policy and practice.

5.2 Summary of Findings

This section presents a summary of the findings of the study. There were four objectives out of which four hypotheses were developed and tested. The findings are presented based on the objectives and are summarized below. The response rate was 73.47 % which compares well with similar previous studies. The study revealed that 140 (82.8%) were male while 29 (17.2%) of the respondents were female. The results implied that the employment in the Chartered Public Universities in Kenya was gender biased at the top management level since more male were employed as the departmental or section heads. In terms of age, 49% of the top level management officers were above 61 years of age. The results implied that the respondents in this study were from different generations hence the study took into consideration the generation bias. Results further revealed that majority of top management officers 160 (95) had PhD qualifications which signified the ability of the respondents to respond to survey items on management decisions. Finally, 51 (30.76%) of respondents had served in the current positions for more than 10 representing almost half of the respondents.

The study aimed at establishing the influence of sustainability strategies on the relationship between institutional management practices and performance of chartered Public Universities in Kenya. The dependent variable was performance of chartered public universities in Kenya which was represented by completion rate of graduates; research grants and community engagement. The independent variable was institutional management practices represented by transparency, adherence to management guidelines and public participation. The moderating variable was sustainability strategies represented by cost reduction, collaborations and diversification. The study revealed that all the independent variables such as the level transparency, adherence to management guidelines and level public participation all played a significant role in the performance of chartered public universities in Kenya. Sustainability strategies moderated the relationship between institutional management and performance of chartered public universities.

5.2.1 Influence of The Level of Transparency on Performance of Chartered Public Universities in Kenya

The first study objective sort to determine the level influence of transparency in Chartered Public Universities in Kenya. This objective was measured using; disclosure, integrity and accountability as its indicators. Findings from descriptive statistics reveled that level of transparency in public universities was low. This low level of transparency was indicated by poor disclosure of the information required by stakeholders, poor integrity by the officers in the universities and weak system and institution's accountability.

Regression analysis results reveled that, R^2 was 0.307 meaning that 30.7 % of variance in performance accounted for by the level of transparency. 69.3 % was explained by other factors not considered in the study. Further, the results revealed statistically significant results for the independent effect of transparency on performance (p-values < 0.05), $R^2 = 0.307$, $F=100.437$, $p<0.05$), indicating goodness of fit for the regression model and producing a statistically significance beta coefficient of $\beta=0.556$, ($t=14.074$, $p<0.05$). The results revealed that a unit increase in level of transparency is responsible for increasing performance of public Universities by 55.6%.

5.2.2 Influence of Adherence to Management Guidelines On Performance of Chartered Public Universities in Kenya

The second objective sort to determine the influence of adherence to management guidelines in Chartered public universities in Kenya. The objective was measured using; compliance, monitoring and evaluation and reviews. The study found out that the respondents disagreed that the Public Universities adhere to management guidelines. This low level of adhering to management guidelines was necessitated by low compliance to policies and guidelines, failure to conduct monitoring and evaluation and institutions not reviewing their policies and guidelines as required.

Regression analysis results revealed that R^2 was 0.309 meaning that 30.9 % of variance in performance accounted for by the level of adherence to management guidelines. 69.1 % was explained by other factors not considered in the study. Further, the results showed statistically significant results for the independent effect of adherence to management guidelines on performance (p-values < 0.05). $R^2 = 0.309$, $F=101.589$, $p<0.05$), indicating goodness of fit for the regression model and producing a statistically significance beta coefficient of $\beta=0.557$, ($t=11.004$, $p<0.05$ The results meant that a unit increase in level of adherence to management guidelines is responsible for increasing performance of public Universities by 55.7%.

5.2.3 Influence of The Level of Public Participation on Performance of Chartered Public Universities in Kenya

The third study objective was to determine the level of public participation which was measured using; consultation, involvement and empowerment as its indicators. The study found out that the respondents disagreed that there was public participation in Public Universities. Findings showed that this low performance was caused by lack of consultations, failure to involve and empower stakeholders to make informed contributions to the growth of the institutions.

Regression analysis results indicated that R^2 was 0.226 meaning that 22.6 % of variance in performance was accounted for by the level of public participation. 77.4 % was explained by other factors not considered in the study. Further, the results revealed statistically significant results for the independent effect of public participation on performance (p-values < 0.05). $R^2 = 0.226$, $F=70.360$, $p<0.05$) indicating goodness of fit for the regression model and producing a statistically significance beta coefficient of $\beta=0.779$, ($t=14.20$, $p<0.05$). The results mean that a unit increase in level of public participation is responsible for increasing performance of public Universities by 77.9 %.

5.2.4 Influence of Sustainability Strategies on the Relationship Between Institutional Management Practices and Performance of Chartered Public Universities in Kenya

The forth objective was to establish the moderating influence of sustainability strategies on the relationship between institutional management practices and performance of Chattered Public Universities in Kenya. Pearson product moment correlation coefficients were used to establish whether a relationship existed between the level of implementation of sustainability of strategies and performance of Public Universities.

Regression analysis results indicated that sustainability strategies significantly moderated the relationship between institutional management practices and performance of Public Universities. The interaction term (institutional management practices and sustainability strategies) accounted for 72 % of the variations in performance of Public Universities. The results in step 2 showed that when the interaction term was entered into the model, this lead to an increase in performance of Public Universities as the variation increased from 0.52 to 0.72. This implied that institutional management practices, and the interaction term (institutional management practices *, sustainability strategies) causes variation of 72 % on performance of Public Universities.

The overall regression for moderating effect revealed that sustainability strategies significantly moderated the relationship between institutional management practices and performance of Chattered Public Universities in Kenya.

5.3 Conclusion of the Study

The study examined the influence of sustainability strategies on the relationship between institutional management practices and performance of chartered Public Universities in Kenya. A conceptual model was developed to empirically test these relationships. Data was collected from a cross section of top management officers of chattered public universities in Kenya that facilitated the testing of the model.

The first objective was to determine the level influence of transparency in Chartered Public Universities in Kenya. This objective was measured using; disclosure, integrity and accountability as its indicators. The results indicate a statistically significant relationship between the level of transparency and performance of chartered public universities in Kenya. The results indicated that disclosure, integrity and accountability were rated highly and therefore, they were important for performance of chartered public universities in Kenya.

These results indicate that top university managers should focus on key sustainable strategies as not all strategies influence performance equally. They should also know how to combine these sustainable strategies to gain maximum benefits. Focus should be in combining sustainability strategies as compared to using them individually. If these sustainability strategies are bundled in the right manner, then public universities will experience improved performance.

The second objective was to determine the influence of adherence to management guidelines in Chartered public universities in Kenya. The objective was measured using; compliance, monitoring and evaluation and reviews. The results indicate a statistically significant relationship between adherence to management guidelines and performance of chartered public universities in Kenya. The results indicated that compliance, monitoring and evaluation and reviews were rated highly and therefore, they were important for performance of chartered public universities in Kenya. These results are important to practice as university top managers should ensure they comply with management guidelines, monitor the implementation and review them when necessary for improved performance. These findings thus support previous studies that have found that adherence to management guidelines improved the performance of institutions.

The third objective was to determine the level of public participation in Chartered public universities in Kenya. It was measured using; consultation, involvement and empowerment as its indicators. The study found out that the respondents disagreed that there was public participation in Public Universities. Findings showed that this low performance was caused by lack of consultations, failure to involve and empower stakeholders to make informed contributions to the growth of the institutions. Further, Findings revealed that public participation had statistical significant influence on performance of Chartered public universities in Kenya. Based on the strength of the findings of the study, it was concluded that public participation practices such as consultations, staff involvement in planning and decision making in university has statistically significant relationship with performance of universities and goals attainment. In other words, the effective involvement of staff members in planning and institutional decision-making process enhance the goal attainment because, it facilitates self-worth thus promoting a sense of responsibility and commitment to the pursuit of universities objectives and plans.

The forth objective was to establish the moderating influence of sustainability strategies on the relationship between institutional management practices and performance of Chattered Public Universities in Kenya. Results indicated that sustainability strategies significantly moderated the relationship between institutional management practices and performance of Public Universities. This study concluded that implementation of sustainability strategies combined with adherence to good institutional management practices are essential strategies Public Universities can use to improve their performance.

Finally, the study contributes to strategic management literature and specifically on sustainability strategies and institutional management practices across the Universities for superior performance by providing empirical evidence.

5.4 Recommendations

Several reasons were advanced as a justification of the significance of the proposed findings of this study. These form the basis for the recommendations of this study.

5.4.1 Transparency

Transparency is among the major principals of institutional management and form a common basis for all internationally accepted institutional management guidelines and codes (Cadbury Report, 1992). The study strongly recommends that both the government and the individual university top managers in Kenya should seek to transparent in their activities as of the institutional management practices. To improve on the level of transparency, universities should facilitate disclosure of the information required by stakeholders, review and monitor the integrity of the officers in the universities and ensure strong system and institution's accountability. The government through the Commission for University Education should enhance surveillance on university managers to ensure compliance with the Universities Act, 2012 and the Universities Standards and Guidelines, 2014 which provide transparency as one of the institutional management practices framework for all universities in Kenya.

5.4.2 Adherence to Management Guidelines

Public universities are established through an Act of Parliament under the Universities Act, 2012. The Commission for University education accredits public universities in Kenya. The Commission has a duty of ensuring adherence with guidelines for registering and operation of Universities in Kenya (CUE, 2022). The study recommends that both the government and the individual university top managers in Kenya should seek to adhere to the management guidelines set for compliance. indeed, adherence to management guidelines in public universities is critical for superior performance. Particularly, they should ensure compliance to policies and guidelines, conduct monitoring and evaluation and review policies and guidelines as required.

5.4.3 Public Participation

The Constitution of Kenya (2010) makes public participation a key and integral aspect of Kenya's Institutional management practices system. Participation is recognized in Article 10 of the Constitution as a national value and key principle in Institutional management practices. This study therefore recommended that University Top Managers should promote public participation practices to enhance high morale, commitment and enthusiasm among staff in the pursuit and attainment of universities goals. They should avoid non-democratic management practices that could negate the achievement of the overall goals of their institutions. Further, the government through the Commission for University Education should enhance surveillance on University managers to ensure compliance with the Universities Act, 2012 and the Universities Standards and Guidelines, 2014 which provide public participation framework for all Universities in Kenya.

5.4.4 Moderating Effect of Sustainability Strategies on the Relationship Between Institutional Management Practices and Performance of Chattered Public Universities in Kenya

The study established that sustainability strategies significantly moderated the relationship between institutional management practices and performance of public universities in

Kenya. The study recommended that management of Universities should consider an optimal implementation of cost, collaboration and diversification strategies and adhere to institutional management practices with a view to improve the performance of the Universities for sustainability. Further, University top managers that are yet to implement sustainability strategies should do so to remain competitive and relevant in this turbulent business environment.

5.5 Implications of the Study

The study examined the influence of sustainability strategies on the relationship between institutional management practices and performance of chartered Public Universities in Kenya. sustainability strategy was hypothesized as the moderating variable. The study was able to establish the aspects of institutional management practices and sustainability strategies that contribute to performance of chartered public universities in Kenya. The study came up with findings that will enhance the understanding of the drivers of performance in public universities in Kenya. The results have implications on theory, policy, practice and methodology.

5.5.1 Theoretical Implications

The results of this study contribute to strengthening the existing body of literature by confirming empirically that organizational resources influence performance of universities in Kenya both directly and indirectly through moderation and intervening influence. The study contributes to strategic management theory by establishing the specific strategies and their influence on both public and private universities performance. The results further extended the theoretical discourse on the RBT of competitive advantage and the social network theory by empirically illustrating the magnitude of the relationships among institutional management practices and sustainability strategies and performance as viewed by universities in Kenya. By establishing the moderating influence of sustainability strategies on the relationship between institutional management practices and performance of chartered public universities in Kenya be combined for improved performance. The results have demonstrated the vital role played by institutional management practices in enabling universities to perform better in this turbulent business environment.

5.5.2 Implications on Policy

Findings of this study have policy implications for universities in Kenya. University education is one of the key sectors identified to help spur economic growth and help achieve the country's Vision 2030. The performance of the universities is important and therefore the results of this study will assist policy makers to make sound decisions regarding which variables to focus on in order for universities to performance better and be sustainable. Top university Managers of universities should be encouraged to adhere to institutional management practices and implement sustainability strategies to propel universities to better performance. From the descriptive statistics, the study established that universities did not adhere to transparency, management guidelines and public participation. The results suggest that universities need to adhere to good institutional management practices and implement sustainability strategies in order to attain better performance. This will no doubt ensure they are sustainable following reduced government capitation.

5.5.3 Implications on Practice

While the commission for university education has set guidelines and policies for universities in Kenya, interview results indicated that some universities do not adhere to these regulations. This has been the source of disquiet among staff that has led to low morale with negative impact on the performance of universities. The Commission should strengthen audits and monitoring to deal with universities found floating the rules and guidelines. Sustainability strategies and adherence to institutional management practices have been proposed to be important drivers of a university's success. The study suggests that the key success factors or drivers of better university performance are owned and controlled by the universities. This study suggests that it is imperative for universities to have sustainability strategies that are rare, valuable inimitable and non-substitutable. Further, the results show that university top managers need to focus on sustainability strategies combined with adherence to good institutional management practices since they contributed more to performance as compared to individual strategies. In particular, top managers should focus on being transparent, adhere to management guidelines and ensure public participation in decision making. In addition, they should ensure they implement cost reduction, diversify their revenue streams and ensure they initiate collaborations with others. The results of the study indicated that public participation and cost reduction had the highest positive and significant contribution to performance of universities.

5.5.4 Implications for Methodology

To carry out this study, both quantitative and qualitative data were used. Similarly, the study utilized both tangible and nontangible measures of performance. In this light, the study used qualitative variable to measure performance of chartered public universities. When regression analysis was carried out, the results provided statistically significant results for all the hypotheses. This study provides a platform for testing theoretical foundations to provide quantitative support for theory. The study proposes that a stakeholder approach should be used when measuring performance to ensure a holistic approach. Scholars have argued that using mixed methods in carrying out research is beneficial as it avoids the two extremes and prevents the limitations that occur when a researcher uses one method. By using the convergent parallel design, the study has demonstrated that researchers can overcome the shortcomings of a single design. The convergent parallel design was very useful for the success of this study since it enabled the researcher to compare the qualitative and quantitative data for analysis.

5.6 Limitations of the Study

This study had a number of limitations; the study used a census design and out of 230 top managers of the 31 Public Universities 169 officers gave complete responses. The response rate was therefore 73.47 % which was considered acceptable. The results of this study can thus be generalized to other similar contexts. The study lacked comparison of other similar studies done locally and had to rely on studies carried out in other countries making it hard to generalize findings. The study utilized a mixed method research and in particular convergent parallel design because it was the most appropriate method available to address the issues of time and financial constraints. Future researchers could consider using other approaches like longitudinal studies that will give the change in performance of universities over time.

The study was only able to capture the response of one key respondent per university at a given point in time. Using a single informant for research has limitations as there is a possibility of common method bias. Despite the fact that respondents are thought to give objective responses, they could have their own perceptions which could lead to misleading responses. It therefore becomes difficult to tell whether the perception was the respondents' or the university's'. Future researchers could consider using other key respondents so as to be able to compare views of other key respondents in the universities. The study focused on chartered public universities. Similar studies could be carried out in the private universities to determine if the same results will be achieved. The study can also be replicated in developed countries like South Africa to determine the validity of the results. The study was carried out in higher education sector; future research could be carried out in other sectors that deal with research and innovation to establish if similar results can be obtained. Lastly, the study used graduation rate of graduates, community engagement and attraction of research grants as performance indicators. Future researchers could use other measures like staff retention to establish if similar results will be obtained.

5.7 Suggestions for Further Research

As an area for further research, this study can be replicated in different sectors of the education and research. The study can also be carried out in the higher education sector in different years to establish if the same results hold as well as carry out this research in developed countries like South Africa in - order to compare results. The study was only able to capture the response of one key respondent per university at a given point in time. Future research should consider using multiple respondents to enhance the findings and address the common bias method that occurs when one respondent is interviewed. Further, future researchers could include factors not covered in this study to establish drivers of variation in university performance. The study utilized a mixed method research and in particular convergent parallel design because. Future research could use other methods to be able to provide a better understanding of the variables relationship over time.

5.8 Contribution to Knowledge

This study has contributed to strategic management knowledge by empirically establishing the extent to institutional management practices and sustainability strategies influence the performance of universities. The current study findings add to knowledge by demonstrating empirically that institutional management practices and sustainability strategies are important to a university's success and that when they are combined, the performance is enhanced. Another notable contribution of the study is that it has provided empirical evidence on the extent to which the study variables influence performance. This enhances knowledge by providing empirical validity of the relationships among study variables. By establishing that university's performance is a function of several variables is a confirmation that universities should focus on drivers of performance identified. The study results revealed that sustainability strategies had a moderating influence on the relationship between institutional management practices and performance of chartered public universities in Kenya. This finding also provides empirical validity on the importance of institutional management practices as it is an avenue through which universities can enhance their performance. The joint influence of institutional management practices and sustainability strategies on performance of public universities was greater that the individual influence. This indicates that combining resources has a multiplicative effect and enhances firm performance.

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APPENDIX I: INTRODUCTION LETTER- KARATINA UNIVERSITY

Inspiring Innovation and Leadership

KARATINA UNIVERSITY

SCHOOL OF BUSINESS

OFFICE OF THE DEAN

Email: deansob@karu.ac.ke

Tel: +254-(0) 0729 721200

P.O. BOX 1957 - 10101
KARATINA
KENYA

1st February, 2021

TO WHOM IT MAY CONCERN

RE: PETER WANDURUA KARIUKI – REG. NO. B300/2041/P/13

This is to confirm that the above named is a bonafide student at Karatina University School of Business; he is pursuing a PhD in Strategic Management.

Mr. Kariuki has successfully defended his PhD proposal and he has been permitted to collect data on his thesis titled: ***"Sustainability Strategies, Corporate Governance and Performance of Public Universities in Kenya"***.

Any assistance accorded to him will be highly appreciated.

Thank you.

Dr. David Gichuhi
DEAN, SCHOOL OF BUSINESS

DEAN,
SCHOOL OF BUSINESS
01 FEB 2021
KARATINA UNIVERSITY
P. O. Box 1957-10101, KARATINA

APPENDIX II: RESEARCH PERMIT

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **287925**

Date of Issue: **10/February/2021**

RESEARCH LICENSE

This is to Certify that Mr.. Peter Kariuki Wandurua of Karatina University, has been licensed to conduct research in Baringo, Bomet, Bungoma, Busia, Embu, Homabay, Kajiado, Kakamega, Kericho, Kiambu, Kilifi, Kirinyaga, Kisii, Kisumu, Kwale, Laikipia, Machakos, Meru, Migori, Mombasa, Muranga, Nairobi, Nakuru, Nandi, Narok, Nyeri, Taita-Taveta, Tharaka-Nithi, Transnzoia, Uasin-Gishu on the topic: SUSTAINABILITY STRATEGIES, CORPORATE GOVERNANCE, AND PERFORMANCE OF PUBLIC UNIVERSITIES IN KENYA for the period ending : 10/February/2022.

License No: **NACOSTI/P/21/8905**

287925

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

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APPENDIX III: RESEARCHER'S INTRODUCTION LETTER

My name is Peter Kariuki a PhD student at Karatina University. I am currently carrying out a research study on sustainability strategies, institutional management practices and performance of chartered public universities in Kenya. The findings will help to address the sustainability and institutional management of the universities in Kenya. You have been selected as one of the respondents. I assure you of the confidentiality of the information you will give, it will not be shared by third parties. This information is only needed for the purposes of this study.

Kindly respond by placing a tick in the appropriate box depending on how you view the situation. Please do not write your name nor identify yourself as that is not part of the research. Please contact me on **0725414161** or email at **peter.kariuki@dkut.ac.ke** for any clarification on the questions or any other matter related to this study.

Thank for your participation.

Peter Wandurua Kariuki

APPENDIX IV: RESEARCH QUESTIONNAIRE

This questionnaire is designed to obtain information for academic purpose only. The accuracy of the responses you provide will be very crucial for the success of this project. Kindly respond to questions in all sections with utmost good faith.

SECTION A: GENERAL INFORMATION

1. What is your age?

   Below 40 ( )

   41 – 50 ( )

   51 – 60 ( )

   Over 61 ( )

2. What is your gender?

   Male ( )

   Female ( )

3. What level of education have you attained to date?

   Degree ( )

   Masters ( )

   PhD ( )

   Other ……………………………….

4. State the number of years you have worked at the University

   Below 10 years ( )

   11 – 20 years ( )

21 – 30 years ( )

Above 30 years ( )

<u>SECTION B: PERFORMANCE OF CHARTERED PUBLIC UNIVERSITIES</u>

Introduction

Top performing universities are commonly referred as World Class Universities. To gain the title "World Class University", universities must aim at improving on their completion rate of graduates, attract research grants and engage with community and industry to compete in the global arena. Please indicate the agreement with the following about your University indicating your position with a tick on the scale ranging from "strongly agree" to "strongly disagree". **Where 5 = Strongly Agree, 4 = Agreed, 3 = Not sure, 2 = Disagree, 1= Strongly Disagree.**

Questions	**5**	**4**	**3**	**2**	**1**
Completion Rate of Graduates					
1. The students graduate within the required timelines					
2. University produces graduates in line with the current market demand .					
3. The university academic programmes are attracting reasonable number of students					
Attraction of Research Grants					
4. The University has a research policy properly pursued by all stakeholders					
5. The University has been receiving research grants					
6. Staff and students conduct fundable research proposals.					

Community Engagement						
7.	The university has a well-articulated community engagement policy					
8.	There are enough efforts made by the university to assist in alleviating societal problems					
9.	There is enough initiatives by the university in pursuing collaboration and linkages with the local communities and industries					

SECTION B: LEVEL OF TRANSPARENCY

Transparency is the degree to which information is available to stakeholders that enables them to have informed voice in decisions and/or assess the decisions made by insiders and is advocated as a good practice of institutional management. Please indicate the level of agreement with the following about your University indicating your position with a tick on the scale ranging from "strongly agree" to "strongly disagree". **Where 5 = Strongly Agree, 4 = Agreed, 3 = Not sure, 2 = Disagree, 1= Strongly Disagree.**

Questions		**5**	**4**	**3**	**2**	**1**
Disclosure						
1.	The University operate an open door policy on all management issues					
2.	Stakeholders have access to university information					
3.	The university has created a space for freedom of expression					
Integrity						
4.	The university adheres to values and principles spelt out in the Constitution of Kenya, 2010					

5.	There is strong moral and ethical practices in the university					
6.	Employees are honest in their duties and conduct					
Accountability						
7.	There is clear evaluation of the university performance and individuals					
8.	The universities management is accountable to their decisions					
9.	The level of accountability in the University is good.					

SECTION C: ADHERENCE TO MANAGEMENT GUIDELINES

The university has a duty of ensuring compliance with guidelines set out internally and externally. Please indicate the level of agreement with the following about your University indicating your position with a tick on the scale ranging from "strongly agree" to "strongly disagree". **Where 5 = Strongly Agree, 4 = Agreed, 3 = Not sure, 2 = Disagree, 1= Strongly Disagree.**

Questions		**5**	**4**	**3**	**2**	**1**
Compliance/implementation						
1.	The University top managers comply/implement policies and guidelines set out					
2.	There are regular meeting in the university to ensure compliance with policies and guidelines					
3.	The university has clear sanctions on noncompliance officers					
Monitoring and Evaluation						
4.	Policies and guidelines in the university are regularly monitored and evaluated on their effectiveness					
5.	Regular internal audits are conducted for monitoring policies implementation					

6.	The university has a team to ensure evaluation of policies					
Review						
7.	Polices and guidelines are regularly reviewed to remain relevant					
8.	The universities management has committee set out to review policies					
9.	Staff are informed when policies are reviewed					

SECTION C: LEVEL OF PUBLIC PARTICIPATION

Public participation can be any process that directly engages the public in decision-making and gives full consideration to public input in making that decision. Please indicate the level of agreement with the following about your University indicating your position with a tick on the scale ranging from "strongly agree" to "strongly disagree". **Where 5 = Strongly Agree, 4 = Agreed, 3 = Not sure, 2 = Disagree, 1= Strongly Disagree.**

Questions		**5**	**4**	**3**	**2**	**1**
Consultations						
1.	There are consultations in the university in regard to issues affecting the staff					
2.	There are regular meeting in the university					
3.	Feedback is given when matters are raised to the management and committees					
Involvement						
4.	Staff are involved in matters affecting the university					
5.	Staff are incorporated in various university committee					

6.	Staff are allowed to access the information in the university					
Empowerment						
7.	Staff are sensitized well on matters affecting the university					
8.	The university has uploaded policed and guidelines in the staff portal for access by staff					
9.	The university sponsor staff to participate in development of government policies and guidelines					

<u>SECTION D: SUSTAINABILTY STRATEGIES</u>

In this study, these strategies are represented by cost reduction, collaboration and diversification.

In answering the questions in this section, please use such decisions made by your University as the point of reference.

Please indicate the agreement with the following about your University indicating your position with a tick on the scale ranging from "strongly agree" to "strongly disagree". **Where 5 = Strongly Agree, 4 = Agreed, 3 = Not sure, 2 = Disagree, 1= Strongly Disagree.**

Questions		**5**	**4**	**3**	**2**	**1**
Cost Reduction						
1.	The University has merged some departments/centers and institutes					
2.	The University has rationalized courses to remain relevant as required in the market					
3.	The University has carried out business reorganization by closed some Campuses and automated core functions as a way of improving business processes					
Collaboration						

4.	The University has a well laid down framework to work with other government agencies					
5.	The University has outsourced none core functions					
6.	The University has MoUs with other institutions on facility sharing.					
Diversification						
7.	The University has ventured in income generating units					
8.	The University has launched customized courses that are market driven					
9.	Staff are allowed to participate in consultancies services as a way of generating income for the university					

APPENDIX V: INTERVIEW GUIDE

Institutional Management Practices, Sustainability Strategies and Performance of Chartered Public Universities in Kenya

<table>
<tr><td></td><td colspan="2">INTERVIEW GUIDE FOR KEY INFORMANTS
(VICE CHANCELLORS)</td></tr>
<tr><td>1.</td><td>Time</td><td></td></tr>
<tr><td>2.</td><td>Venue</td><td></td></tr>
<tr><td>3.</td><td>Name of the university (Optional)</td><td></td></tr>
<tr><td>4.</td><td>Introductions</td><td>• Brief description of the Researcher
• Ask the key informant to introduce himself/herself
• Introduce the study</td></tr>
<tr><td colspan="3">Q 1: Performance of Chartered Public Universities</td></tr>
<tr><td></td><td colspan="2">1. Completion rate of graduates
a) Please comment on the completion rate of your graduate
b) Doses the University produces graduates in line with the current market demand?
c) Has the university academic programmes been attracting the reasonable number of students?
2. Attraction of research grants
a) Does the University have a research policy properly pursued by all stakeholders?
b) Has the University been receiving research grants?</td></tr>
</table>

	c) Do staff and students conduct fundable research proposals? **3. Community engagement** a) Does the university have a well-articulated community engagement policy? b) Are there enough efforts made by the university to assist in alleviating societal problems? c) Are there enough initiatives by the university in pursuing collaboration and linkages with the local communities and industries?
Q 2: Institutional Management Practices	
	1. Level of Transparency a) Please comment on the level of transparency in the university in terms of; ✓ Disclosure of information ✓ Integrity of the staff ✓ Accountability of the staff **2. Adherence to Management Guidelines** a) Please comment on the university adherence to management guidelines in relation to the following matters; ✓ Compliance/implementation of guidelines and polices ✓ Monitoring and evaluation of guidelines and policies ✓ Review of university guidelines and policies **3. Level of Public Participation** b) Please comment on the level of public participation in the university in relation to the issues listed;

	✓ Consultations of staff in policy and decision making ✓ Involvement of staff in development and growth of the university ✓ Staff empowerment to enable them make informed decisions/contribution
Q 3: Sustainability Strategies	
	a) Please comment on the level of implementation of sustainability strategies listed below; ✓ Cost reduction ✓ Diversification ✓ Collaborations **b)** Are there other strategies the university has adopted to remain sustainable?
Q 4:	**Other comments** Please give other suggestions and comments in regard to the challenges public universities are currently undergoing and ways of solving them for sustainability.
THANK YOU FOR YOUR TIME	

APPENDIX VI: LIST OF PUBLICATIONS FROM THESIS

1. Moderating Influence of Sustainability Strategies on the Relationship between Institutional Management Practices and Performance of Chartered Public Universities in Kenya. Link: **http://dx.doi.org/10.6007/IJARBSS/v12-i9/15133**
2. Public Participation and Performance of Chartered Public Universities in Kenya. Link: **http://dx.doi.org/10.6007/IJARBSS/v12-i9/15138**

APPENDIX VII: LIST OF CHARTERED PUBLIC UNIVERSITIES

S/NO.	UNIVERSITY	VC	DVC	REG	QA	FO
1	University of Nairobi	1	4	6	1	1
2	Kenyatta University	1	3	5	1	1
3	Jomo Kenyatta University of Agriculture and Technology	1	3	4	1	1
4	Moi University	1	3	3	1	1
5	Egerton University	1	2	2	1	1
6	Technical University of Kenya	1	2	2	1	1
7	Murang'a University of Technology	1	3	2	1	1
8	Maseno University	1	2	2	1	1
9	Kibabii University	1	2	2	1	1
10	Kisii University	1	2	2	1	1
11	Technical University of Mombasa	1	2	2	1	1
12	Dedan Kimathi University of Technology	1	1	1	1	1
13	Masinde Muliro University of Science and Technology	1	3	2	1	1
14	Chuka University	1	2	2	1	1
15	Pwani University	1	2	2	1	1
16	Meru University of Science and Technology	1	2	2	1	1
17	South Eastern Kenya University	1	2	2	1	1
18	University of Eldoret	1	2	2	1	1
19	Karatina University	1	2	2	1	1
20	University of Embu	1	2	2	1	1
21	Multimedia University of Kenya	1	2	2	1	1
22	Machakos University	1	2	2	1	1
23	Maasai Mara University	1	2	2	1	1
24	The Co-operative University of Kenya	1	2	2	1	1
25	Jaramogi Oginga Odinga University of Science and Technology	1	2	2	1	1
26	Laikipia University	1	2	2	1	1
27	University of Kabianga	1	2	2	1	1
28	Kirinyaga University	1	2	2	1	1
29	Rongo University	1	2	2	1	1
30	Taita Taveta University	1	2	2	1	1
31	Garissa University	1	2	2	1	1
Total		**31**	**68**	**69**	**31**	**31**
Grand Total						**230**

Source, CUE (2021)