

**ORGANIZATIONAL AGILITY AND PERFORMANCE OF SELECTED PUBLIC
UNIVERSITIES IN KENYA**

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**A THESIS SUBMITTED TO THE SCHOOL OF BUSINESS, ECONOMICS AND
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DECEMBER, 2024

DECLARATION

This is my original work and it has not been presented for degree in any other University.

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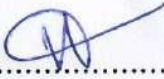
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DEDICATION

This thesis is dedicated to my wife Catherine, my three sons Emmanuel, Seth and Joel who have provided me with motivation, support and strength during my pursuit of knowledge.

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OPERATIONAL DEFINITION OF TERMS

Agility Enabler:	The resources or features an organization has that can make it attain agility. In this study, this refers to human resource, technology and Organization structure.
Agility Practice:	The efforts and actions carried out by an organization either before or after its periods of becoming agile. This includes creating new strategies, collaboration with stakeholders and innovations.
Change Commitment:	State of being dedicated to a cause by an organization facing change.
Change Efficacy:	The ability and belief of the organizational members to engage in courses of action necessary to produce a desired or intended result.
Change implementation:	Refers to adopted strategy to effect desired change either by exploitation or exploration.
Institutional Environment:	Identifiable aspect of external environment that has an influence on University performance. This refers to aspects that may affect the connection between the independent and dependent variable. They involve ministry of education policies, commission of university education standards and Kenya University and colleges' central placement service conformance.
Leadership:	A dynamic process via which leaders can influence their followers through engagements to accomplish desired outcomes.
Leadership Style:	An approach to leadership that exhibit influence on the followers with new behaviours when directing, motivating,

guiding and managing groups of people. In this study, this refers to laissez-faire, democratic and autocratic styles of leadership.

Organizational Performance: An organizational ability to effectively attain set objectives unique to its mission through people. In this study, university is an organization.

Organizational agility: The organization ability to respond effectively and efficiently to uncertain environmental change that will improve on its performance over others. In this study, this refers readiness to change, agility enabler, responsiveness and agility practice.

Readiness to change: The commitment and efficacy of organizational members to adapt to the organizational change and effect it. In this study, this refers to change commitment, change efficacy and change implementation.

Responsiveness: The capacity of an organization to quickly and effectively respond to changes in both its internal and external environment through appropriate action. This refers to competence, communication and speed.

Top Management Team: The senior executive members of university with the core responsibility of altering organization direction positively or negatively. This includes the DVCs and Deans of Schools.

Public University: A public institute of higher learning and Research that grants degrees in a range of academic fields in Kenya

University Performance: The outcome of university ability to effectively and efficiently achieve level of achievement of its objectives as facilitated by set strategies. This covers the non-financial and financial outcomes of achieving the university objectives as shown by levels of self-sponsored students' enrolment levels,

university-industry partnerships, research work, and university global ranking and government capitation.

ABBREVIATION & ACRONYM

ANOVA	Analysis of Variance
BSC	Balanced Scorecard model
CEO	Chief Executive Officer
CUE	Commission of Higher Education
DC	Dynamic Capability
DCT	Dynamic Capability Theory
IBRIC	International Business Research and Innovation Conference
ISO	International Organizations for Standards
IT	Institutional Theory
JKUAT	Jomo Kenyatta University of Agriculture and Technology
KIBU	Kibabii University
KUCCPS	Kenya University and Colleges Central Placement Service
KYU	Kirinyaga University
LOT	Learning Organization Theory
LU	Laikipia University
MMUST	Masinde Muliro University of Science and Technology
MOE	Ministry of Education
NACOSTI	National Commission for Science, Technology and Innovation
PU	Pwani University
RBV	Resource Based View
SEKU	South Eastern Kenya University

SEM	Structural Equation Modelling
SPSS	Statistical Package of Social Scientists
TMT	Top Management Team
UFB	University Funding Board
UoEld	University of Eldoret
UoK	University of Kabianga
UON	University of Nairobi
VUCA	Volatile, Uncertain, Complex and Ambiguous.

ABSTRACT

Public universities in Kenya have been operating in an environment that has been changing over the past few years, and the numerous uncertainties have made survival challenging. The unprecedented challenges such as ineffectiveness and inefficiencies due to reduced enrolment of self-sponsored students who form a greater portion of population in the public universities in terms of fees payment to support effective processes, low global ranking of public universities, low research output and the weak university-industry partnerships due to the closed system nature of public universities and other internal and external factors have continued to affect university performance. The application of the organizational agility concept may be viewed as a panacea to addressing the above pertinent issues and bring the public universities to a higher level of performance in uncertain changing environment. Therefore, the goal of this study was to examine the relationship between organizational agility, Leadership style, Regulatory environment and performance of selected Kenyan public universities. The study intended to specifically determine the effect of readiness to change, agility enabler, responsiveness and agility practice on performance of selected Kenyan public universities. The study also intended to evaluate the moderating effect of regulatory environment and mediating effect of leadership style on relationship between organizational agility and performance of selected Kenyan public universities. The study was based on five theories: Dynamic Capability theory as lead theory, Resource based view theory, learning organization theory, Institutional theory and Balanced Scorecard model as relevant in underpinning the various variables in the study. Pragmatism philosophical approach guided the study and semi-structured questionnaires were used to measure both quantitative and qualitative data, using mixed research methodologies for empirical analysis. Content analysis was used to analyze the qualitative data, and the results presented in accordance with patterns and themes. The target population was the 31 fully fledged public universities in Kenya out of which 10 were sampled systematically from best to worst ranked institution based on January and July 2023 web metrics global university ranking scale. The study targeted 220 respondents comprising of Deputy Vice Chancellors, Deans of schools and faculty, academic department heads and key senior staff in administration. Out of this, only 207 returned the questionnaire accounting for 94.1% success rate. Due to the characteristics of the respondents and the goal of the investigation, a proportionate stratified random sampling technique was employed to choose the respondents for the study. A drop-and-pick methodology was used to collect data by trained research assistants. The questionnaire was subjected to both validity and reliability tests by carrying out a pilot test on different group from the study group but with similar characteristics and use of SPSS version 27 to process the data. Using a multiple regression analysis approach, descriptive and inferential statistics were employed to analyze the data in accordance with the specific research objectives and hypotheses. Results from quantitative data analysis were presented using figures and tables while qualitative data was analyzed based on common themes and presented in narrative form. The findings of the study established that organizational agility positively influenced university performance. Moreover, organizational readiness to change, agility enabler and responsiveness were found to be statistically significant except agility practice. Leadership style and institutional environment were found to fully mediate and moderate the relationship between organizational agility and university performance respectively. The management of public universities can use these findings to enhance utilization of the concept of organizational agility in their institutions in the face of uncertainty. Furthermore, these findings are expected to provide a framework for enhancing performance of public universities in the midst of adverse environmental circumstances by forming appropriate policies and strategies.

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

In the world, university education has continued to play a crucial role in social and economic growth by supplying skilled manpower and disseminating information through research. The twenty first century has been declared knowledge era century by most universities in the world (Wasike & Ogollah, 2014). Thus, through university education many individuals have enabled development of their capabilities and skills to the highest potential level (Okioga, Onsongo, & Nyaboga, 2012). However, in Africa, improving university performance has continually proven to be a difficult and elusive task (Odhiambo, 2011).

In Kenya, the University of East Africa was abolished in 1970 by an act of parliament, and the University College of Nairobi was transformed into the University of Nairobi by the passage of the University of Nairobi Act (Sifuna, 2013; Odhiambo, 2011 and Nyangau, 2014). Since then, a large number of further public universities have grown in Kenya, serving as a hub for the many scholars working in the world today and as a source of intellectual ability. These include, Moi University (1984), Kenyatta University (1985), Egerton University (1987), Jomo Kenyatta University of Science and Technology (1994), Maseno University (2000), Masinde Muliro University of Science and Technology (2007), and many others. (Appendix III),

Even though there are currently more public universities in Kenya than ever before, the number of students seeking a higher education has increased steadily over time. This necessitated the development of more universities. According to Mbijiwe, Pallavi, Kalama, and Member (2014), African nations have long struggled to provide their expanding populations with quality higher education. Even though East Asia, Latin America, and former Soviet republic nations took the lead in the development and expansion of private universities around the world, African nations, including Kenya, have come to see it as inevitable due to their expanding populations (Sifuna, 2013; Mutahi & Busienei, 2015). Examples of some of the old established fully fledged private universities in Kenya include Daystar (1989), USIU (1989), Strathmore (2002) and Kabarak (2002). In Kenya, there were 34 private universities as of 2019. Of them, 16 were fully chartered

universities, 5 were university component colleges, 13 had letter interim authority, and one was a registered institution.

It has been increasingly challenging for Kenya's public universities to survive in the recent years due to a number of uncertainties in their operating environment. The unprecedented challenges such as ineffective internal processes leading to reduced enrolment self - sponsored students who form a significant portion of population in the public universities, low global ranking of public universities due to reduced research uptake, weak university-industry partnerships due to the closed system nature of public universities and low government capitation slow pace for income generating activities have continued to affect university performance over time bringing the university leadership back to the drawing boards. This raises the issue of how organizational agility might be used as a panacea to addressing these pertinent issues and bring the public universities to a higher level of performance in uncertain changing environment.

However, the organization agility concept alone may not be a complete solution to problem facing public universities without considering other mediating and moderating factors to this relationship. In this study the type of leadership style in existence provided the mediating effect while the Regulatory environment provided the moderating effect to the study.

1.1.1. Organizational Agility

Iacocca Research Institute developed agility as a strategy for firms in the 21st century to successfully adjust to ambiguous changes in the environment in 1991 (Moubed & Rafi, 2022). Later, a large number of scholars proposed various frameworks and dimensions for organizational agility (Sarlak, Delangizan, & Real 2016). Others have linked organizational agility to a concept of organizational strategic thinking that, at the time of realization, is a component of strategic management. Strategic thinking, monitoring and decision making functions have been found as key management activities that play a fundamental role in implementation of organizational agility in an organization (Khoshlahn & Ardabili, 2016; Williams, Lawler, & Worley, 2014; Alzoubi, Al-Otoum, & Albatainh, 2011).

It can be argued that the idea of organizational agility derives from the idea of strategic thinking by using perspectives from the model of 'thinking in time' by organizations' leadership, as

attributed by Liedtka (1998), and the uncertain change occurring in the environment and affecting universities all over the world. According to Mbaya (2021), strategic thinking entails generating fresh concepts and acting on potential solutions that will increase performance. Based on this thoughts, organizational agility is therefore a key constructs for an organization facing challenges of performance in uncertain changing environment. Study done by Salih and Alnaji (2014) on performance of insurance companies in Jordan showed that agility and strategic thinking greatly influenced in a positive manner the performance of those organizations. Weiner (2020) asserts that organizational leaders must adopt an innovative and strategic thinking mindset with zeal to exploit change and take advantage of arising opportunities in the environment. A conceptual framework that describes the real meaning of agility in an organization as well as how the many agility dimensions interact is currently lacking, according to Walter (2020).

Since it describes how businesses may stay competitive in a certain business environment, organizational agility is a complicated and multifaceted term that presents a potential prospect (Harraf & Wanasika, 2015; Rima & Mindaugas, 2018). Different academics have characterized this idea of agility in different ways. Li & Holsapple (2018) defines agility as a measure of responsiveness to external stimuli giving an organization an overall flexibility and adaptability in pursuit of achievement of its planned goals and future survival. Organizational agility is defined by Hamad & Yozgat (2017) as the ability of an organization to proactively recognize and respond swiftly and effectively to abrupt and unpredictable changes in the business environment.

According to Nafei (2016), an organization's capacity to realize its goals and plans through better understanding of its people resource, the creation of new products, and overall organization development in a quickly changing environment. Alamro, Hosseini, and Farooq (2019), asserts that agility is the capacity of an organization to adapt and change in response to environmental changes. Rima & Mindaugas (2018), defines organizational agility as the capacity to identify sudden changes in the environment and adapt correctly, quickly, and efficiently by repurposing internal resources, giving the organization an improved performance. Earlier definitions of agility focused on specific functional areas of the organization because most researchers concentrated on a specific sector of the business, particularly the manufacturing sector where the roots of agility originated with the belief that this enhanced the performance and abilities of the

business organizations (Panda & Rath, 2018). This contrasts with the above definitions of agility, which provide an overall picture of the entire enterprise.

A study done by Rima and Mindaugas (2018) revealed that earlier researchers in the manufacturing sectors narrowed the understanding of agility concept further to different business segments in the organization such as human resource agility (Breu, Hemngway, Strathern, & Bridger, 2003), supply chain agility (Ren, Yusuf, & Burns, 2010), strategic alignment (Tallon & Pinsonneault, 2011), Knowledge management (Lu & Ramamurthy, 2011; Singh, Sharma, & Hill, 2013), business process and market orientation (Arteta & Giachetti, 2004), while Lin, Desouza, & Sumit (2010) focused on agility properties within the organization. Further understanding of organizational agility has over time been realized with the increased focus on effects of IT, innovations, organizational learning and leadership on agility levels and its impact in organizations and their performance (Khoshlahn & Ardabili, 2016; Ravichandran, 2017), agility effects on competitive advantage (Mikalef & Pateli, 2017), and agility levels due to effects of information technology capabilities (Panda & Rath, 2018; Felipe, Roldan, & Leal-Rodriquez, 2016). Yusuf, Sarhadi, & Gunasekaran (2014) measured agility by emphasizing customer sensitivity, process integration, network integration, and harnessing the impact of information and people.

Understanding the causes and motivations for building organizational agility in organizations is crucial to being able to comprehend the idea of organizational agility and its influence in organizations (Mikalef & Pateli, 2017). Key pertinent question arise that needs to be addressed to make an organization agile and realize its competitiveness in the turbulent environment; what makes an organization desire to go agile? According to Rima and Mindaugas (2018) key factors in the environment may force an organization to become agile. These includes the change in the market, change in technology, change in customer preferences and other social economic factors. An organization must therefore determine its level of readiness for the change, establish its available resources to address the change, assess the type of responsiveness an organization should adopt to institute the changes, examine the agility practice an organization should undertake to achieve the required agility? This paradigm shift is expected to cause a fundamental change in management of organizations including universities to sustainable performance in uncertainty in the environment while committed to their purpose of existence (Walter, 2020).

The above foregoing thoughts bring out four critical indicators of organization agility namely: organization readiness to change, Agile Enabler, Responsiveness and agility Practice that form the basis for analyzing the effects of organizational agility on university performance in a changing environment (Rima & Mindaugas, 2018).

There is a dearth of literature on organizational agility indicators, and it appears that readers are having trouble grasping the concepts as they have been articulated by different authors. According to Harraf & Wanasika (2015), organizational agility focuses on the organization's future and is based on an examination of its current state of operations and the direction of its strategic aim in terms of responding to ambiguous change in the environment. Therefore, the concept of organizational agility enables efficient change response to penetrate throughout all functional levels and regions of a company. This is accomplished by identifying the important factors that organizational leaders should pay attention to or take into account for the successful accomplishment of their strategic objectives and long-term organizational sustainability, such as in higher education institutions (Varouchas, Sicilia, & Alonzo, 2018). According to Ahmadzadeh and Aboumassoudi (2020), this is improved by the relationship between organizational agility and strategic business strategy thinking.

The indicators of organizational agility have been defined differently by various scholars. According to Rene & Mindaugas (2018), the indicators of organizational agility include; the agility drivers, enablers, capabilities and organization practices. Ahmadzadeh & Aboumassoudi (2020) and Menon & Suresh (2020) found readiness for change, organization practices and agility providers as agility indicators while Tallon & Pinsonneault (2011) and Khoshlahn & Ardabili (2016) identified agile leadership, strategic alignment and organizational learning as organizational agility indicators.

Considering the challenges faced by public universities in Kenya and their importance to the country economic and social development, four key indicators of organizational agility will be appropriate towards achieving the required performance. The current study therefore adopts readiness to change, agility enabler, responsiveness and agility practice as key indicators of organizational agility under the current scenario facing these universities. The organizational elements of agility assist leaders in achieving their goals and provide momentum for the

organization's strategic aim in terms of responding to unexpected change (Walter, 2020). However, without careful evaluation of other variables that either mediate or moderate the relationship link between organizational agility and organization performance, these indicators alone cannot accomplish planned future university performance. According to the conceptual framework, leadership style and institutional environment were identified as factors that mediate and moderate this relationship.

The first dimension of organizational agility is readiness to change. This has to do with a company's capacity to initiate and handle change in a way that leads to better performance (Miles & Van-Cleaf, 2017). According to Amis & Aissaouli (2013) and Weiner (2020), three factors—change commitment, change efficacy, and change implementation effort—can be used to assess university preparedness for change. Change efficacy is the degree to which organization members share a sense of confidence that as a group they can implement a complex organizational change, while change implementation effort is the desired strategy to implement the change (Weiner, 2020). Change commitment is the degree to which organization members exhibit shared determination to implement the change. This integrated and ongoing approach to change requires coordinated participation from all organization members, not just a select group of change agents or change leaders. The way an organization is currently operating and where it is focusing its change implementation effort, such as exploitation or exploration strategy, both have an impact on how that organization approaches readiness to change. Holzmann & Golan (2016) claim that the purpose of exploitation strategy is to increase, upgrade, or enhance efficiency by concentrating on existing organizational resources and skills. On the other hand, the exploration strategy aims to provide newly developed goods, practices, or capacities.

Most researchers have identified readiness to change as a key requirement for organization intending to go agile due to uncertain changes in the external environment (Lu & Ramamurthy 2011; Gunasekaran, 1998). The agility drivers such as market changes, globalization and technological changes (Gunasekaran, Yusuf, Adeleye, & Papadopoulus, 2018) and changes in customer demand or preferences (Vickery, Droge, Setia, & Sambamurthy, 2010) make many organization members to adopt readiness to change concept in order to improve on their performance. These changes from the environment have made many organizations including institutions of higher learning embrace this agility paradigm.

The way an organization handles members' commitment for change in today's environment is heavily influenced by how it views the change. According to Amis & Aissaoui (2013) changes in technology, economic, social and geopolitical environments in which organization operate have made many organizations all over the world to think otherwise about their commitment to effect change aimed to improve on performance. It is important to consider whether an organization views change management as an ongoing, cyclical process of adapting to changing environmental conditions or as innovation management, in which case the organization shifts from a reactive to a proactive culture of innovation by actively seeking out new ideas to become more efficient, competitive, and future-focused (Breu, Hemngway, Strathern, & Bridger, 2003; Valentini, 2004).

According to Vakola, Oreg, and Armenakis (2013), an organization's readiness level may vary depending on how its members weigh the advantages of continuing an ingrained behavior against those of accepting a change. The explanation for this is that preparedness is an attitude that organization executives and employees have while the change process is being implemented. The idea of preparedness for change is intriguing, according to Oreg, Vakola, and Armenakis (2013), because employees' responses to change are crucial in any organizational shift. Kilika (2012) used readiness for change as a measure for university performance while (Muathe, 2010) used organizational readiness as an independent variable indicator. This study will adopt change commitment, change efficacy and change implementation effort as key elements to measure readiness to change in the public universities.

Agility enabler is the second aspect of organizational agility. This agility component is crucial in establishing the critical path for organizational agility development (Charbonnier-Voirin, 2011). The agility enabler provides means of reaching and sustaining university performance. They are the pillars or tool box that provides a working framework of agility. They complement and strengthen one another while working together with agility by providing answers to two key issues; What tools does the company have at its disposal to deal with the upcoming environmental changes? Does the company possess the skills required to make the most use of the resources and adjust to these changes?

An enabler is therefore an adjustable leverage used by the organization to accomplish successful implementation of agile practices when the environment changes. Various researchers have

identified different of measuring agility enabler. This include; effective structure and organization, information communication & technology, human resources strategies, organizational processes, and networking (Sharif & Zhang, 2001 and Charbonnier-Voirin, 2011); organization structure, operational team partnership, leadership, agile values, continuous improvement, coherence and coordination (Ahmadzadeh & Aboumassoudi, 2020), readiness to change, ability to sense the environment, human resource strategies, adoption of technology, organization structure, agile values, organization learning, leadership and collaboration with stakeholders (Menon & Suresh, 2020); trained human resource, information technology and organization structure (Rima & Mindaugas, 2018); information technology, intranet connections, ERP systems and concurrent engineering (Nejatian, Zarei, Rajabzadeh, Azar, & Khadivar, 2019). However, these elements of agility enabler should possess attributes that make them more agile with flexible characteristics that are adaptable to the shifting business environment and consistent with agile organization. From the above elements, this study will adopt trained human resource, technology and organization structure as components to measure agility enabler in the selected public universities.

Responsiveness form the third component of organizational agility and work together with agility enabler through interdependency. Responsiveness refers to capability of the organization to respond swiftly to shift in the business environment by utilizing the available resources and efficiently cope with customers' dynamics and intensive global competition (Charbonnier-Voirin, 2011). Li, Chung, Goldsby, & Holsapple (2008) and Bottani (2010) identified competency, flexibility and speed as requisite responsiveness of an agile organization. According to Akkaya & Tabak (2020) organizations that adapt to this nature of capabilities dynamics have a competitive edge over others. In the modern business environment, organization agility—a combination of speed and flexibility has emerged as a critical tool for innovation and competitive performance (Gao, Zhang, Gong, & Li, 2020). The ability of universities to adapt quickly and flexibly to shifting environmental dynamics in order to enhance their performance is another aspect of responsiveness. According to Rashke (2010) and Mukerjee (2014), this response to change may involve adjusting the existing practices and processes through reconfiguration and realignment of resources.

Various authors have identified elements to measure responsiveness. This include: resource reconfiguration, coordination and cooperation, learning capabilities (Teece, 2010), employee empowerment, change management, communication, market analysis and response, strategic direction (Harraf and Wanasika, 2015), flexibility, competency analysis and speed (Seyyid & Sarani, 2012). Literature studies have found that the adoption of appropriate responsiveness in a university setting has an effect towards improving performance of key functions of the institutes of higher learning. (Voolaid & Ehrlich, 2017; Freidman & Freidman, 2018 and Menon & Suresh, 2020). This study therefore shall consider competence, communication and speed as elements to measure responsiveness as indicator of organizational agility as cited by various scholars above.

Agility practice form the fourth component of organizational agility taken by the decision makers of the organization. Agility practice refer to the action taken by the organization once the change is sensed and recognized after carrying out a thorough analysis of the readiness for change, enabler and responsiveness. Agility practice also refer to adopting a systematic procedure or action in moving an organization to agile levels. Whereas agility enabler refers to what an organization has in order to address the uncertain changes, agility practice answers what an organization does to be agile (Rima & Mindaugas, 2018). According to Sidky, Arthur, & Bohner, (2007) agility practices are concrete and practical techniques and activities or actions in the organization that are applied to manage, develop and support organizations going agile in line with set goals.

According to Seyyid & Sarani (2012) and Harraf &Wanasika (2015) once the inventory is well established, decisions are made to counter the anticipated changes in the environment such as development of new product development, customer enrichment, employee empowerment, change in work procedures, collaboration and cooperation practices. Other authors have identified other elements of agility practice such as innovations, creating new strategies, technology change, people management and organizational learning (Sharini & Suresh, 2020). Research has shown that practices developed in an organization that may lead to agility and enhance sustainability of performance measures require more clarification in understanding (Gey, Yusuf, Menhat, Abubakar, & Ogbuke, 2020). Mindaugas (2018) asserts that the concept of agility is not that new and hence the connection between agility practice and organization performance and sustainability in unpredictable environment situations is still an area of interest.

According to Harraf (2013), a business as a whole need to encourage an internal willingness to find fresh prospects for innovation, be proactive in actually looking for these, and take use of the opportunities found. An organization must also be prepared to take advantage of new chances by searching out competitive positions in the marketplace, adopting an openness to new experiences, and maintaining innovation. Muraguri, Kimencu, and Thuo (2017), posits that the ability of a business to develop clear strategies, empower its workers, provide resource support, collaborate, and innovate are crucial indicators of agility practice. The concept of collaborations and innovations has become a major strategic thinking for most organizations today due to unpredictable changing environment and many scholars assert that these concepts increase performance in organizations (Chen & Ro, 2011; Idua, 2017). According to Desksnys (2018), agility practice is an action-oriented component of organizational agility since it highlights the use of enablers and capabilities by concentrating on activities that make an organization agile. As a result of the foregoing comprehension, this study will embrace developing clear strategies, collaboration with stakeholders, and innovations as crucial elements to measuring the agility practice required at public institutions.

1.1.2. Leadership Style

Since the dawn of civilization, the study of leaders and their leadership philosophies has attracted considerable attention and is today a topic of ongoing research. Kouzes & Posner (2007) described leadership as a dynamic process in which leaders can inspire followers to take extraordinary actions through engagements. Leaders may engage in these behaviors by serving as role models, communicating their vision, encouraging people to take action, and disclosing process obstacles. Day and Leithwood (2015) described leadership style as the motivation behind any strategy that is implemented and a description of how it will function in the short- and long-term. These include activities like developing the organization's vision, finding individuals to help realize it, setting goals and objectives, and eventually putting up a thorough action plan with quantifiable criteria. However, due to the unpredictability of the dynamic environment in which these firms operate, a particular distinctive leadership style that gives an organization a competitive edge over others has remained a significant conundrum (Varouchas, Sicilia, and Alonzo, 2018; Azma, 2010).

Although there is a wealth of literature on leadership, many organizations still struggle to understand what it means, particularly in light of how important leadership is to the success of institutions like universities (Jalaliyoon & Taherdoost, 2012). Given the current state of the literature and previous conceptualizations of the construct, it appears to be unclear how to look for evidence of the existence of a single leadership style inside organizational systems (Muthimi & Kilika, 2018). There are still important issues that need to be resolved, like: Is a leadership style a person? Is it an office or a position? Where in a university can we find it? What role does it play in the university system? How can we hold it responsible for the outcomes of the organization? How can we relate it to a university's performance in the face of ambiguous operational environment changes?

In conclusion, there is a need for a concerted effort in strategic management to broaden the understanding of the construct of leadership as applied in organizational systems by incorporating key leadership styles. This is because there are still unanswered questions about what constitutes an appropriate leadership style, where to trace it, and how to link it to the success or failure of an organization. Different academics have addressed these gaps in different ways. For instance, Pasmore's (2014) work fills in this vacuum by emphasizing leadership development strategy in order to inject a conceptualization that addresses the unresolved issues around how to identify the best leadership style for a company during an uncertain period of environmental change. Others have responded by creating enduring leadership traits to fill the gap quickly and effectively while maintaining the competitiveness and survival of their organizations (Mastrangelo, Eddy, & Lorenzet, 2014; Bass, 1990; Bass, Avolio, Jung, & Berson, 2003; Shahbazi & Korejan, 2016).

Therefore, to enable organization leadership thrive successfully in uncertain circumstances and ensure business continuity, organizational leaders must adhere to develop leadership styles in view of the unexpected changes in the environment. O'regan & Ghobadian (2004) state that the effectiveness of leadership is seen as crucial to preserving and enhancing organizational competitive advantage. In order to successfully combat the ongoing emergence of new problems, organizational leaders need to accumulate new knowledge, such as organizational agility principles that they can investigate and use to generate or improve competencies (Kumar & Kumar, 2017). However, due to the authority it wields, management's leadership style is

essential to the company's performance in order to achieve the efficacy of leadership in an organization. In order to measure three different leadership styles, democratic, laissez-faire, and autocratic leadership styles will be examined in this study. Their mediating effects on the relationship between organizational agility and performance of public universities will be investigated.

The three leadership types have been examined in various literary studies from various angles. The autocratic leadership style is the first kind of leadership style. Iqbal, Anwar, and Haider (2015) assert that in an authoritarian leadership style, plans and policies are formed independently from the group and only the leaders provide commands that are unexplained. According to Chukwusa (2018), an authoritarian leadership style discourages individuals of an organization from using their creative ideas to address challenges. He goes on to say that in order to effectively apply this style of leadership in managing institutions of higher learning, leaders should learn to practice restraint. Because of this, any firm must have an effective leadership style to survive in today's unstable settings. According to Joana and Tomasz (2018), a company is difficult to thrive in the modern market if it does not view human capital as a key success component.

According to Malos (2012), democratic leaders seek consensus by speaking with their subordinates before making important choices, in contrast to authoritarian leaders who act on their own. They also encourage commitment from subordinates, which makes these empowered workers feel more accountable for achieving corporate objectives (Inandi, Uzun, and Yesil, 2016). These studies shows that while in autocratic leadership, the power is vested in the leader within a centralized decision making, in democratic leadership, the power is vested in the team. Cheah (2018) argue that autocratic leadership emphasizes on punishment and rewards with little influence on goals and objectives setting by the subordinates. In this leadership style, the decisions and controls are centralized and made person to person with stress on a top-down communication model. Other studies show that autocratic leadership has little influence on job performance and all authority emanates from the leader and ends with him or her by monopolizing the decision making process without taking interests of the employees into consideration (Akor,2014).

Democratic leadership is the second category of leadership style. Alfafchi (2017), asserts that democratic leadership style depicts paying attention with care to the needs of employees through good work relationship. Democratic leadership was conceptualized in 1960's by White and Lippitt and emphasized encouragement of group involvement in decision making process. This style of leadership also enhances a participation approach with a caring consideration for subordinate staff. Bass (1990) postulated that democratic leadership is characterized by a sense of responsibility and more attachment to followers. According to Lawler (1986), this leadership style enhances increased autonomy of employees with a sense of information sharing and power sharing. Democratic leadership gives employees the confidence in carrying out duties, make changes and enhance creativity (Raupu, Maharani and Mahmud, 2021).

Democratic leadership, according to Bhatti, Maitla, and Shaikh (2012), empowers the leader to make the ultimate decision after inviting the other team members to contribute to the decision-making process. The decisions made are within teams in democratic leadership with each member having equal inputs. This increases job satisfaction among the employees to exercise their creativity and innovative mindset hence developing their skills by feeling in control of their own destiny. Alfafchi (2017) postulates that democratic leadership boost motivation of subordinates by involving them in consultative opinions during planning, setting goals and policies and thus enhance communication and loyalty creation. Such members' opinion is key to organizational success and leaders in organization should recognize these members across the multiple disciplines. In addition, democratic leadership style promotes teamwork, collaboration and respect for each other's expertise in solving complex problems and challenges (Jones and Rudd, 2008).

Laissez-faire leadership is the third type of leadership. The laissez-faire style of leadership allows for complete freedom for all employees with no specific method of achieving goals, despite the contingency theory's assertion that there is no best style of leadership that is applicable in all situations as this depends on the circumstances at hand within the organization (Bhatti, Maitla, and Shaikh, 2012). Laissez-faire leadership, according to Sharma, Kumar, and Keshorjit (2013), offers little to no direction. By providing them the opportunity to set their own objectives, make independent choices, and resolve issues, this leadership style gives employees as much independence as possible.

Numerous studies in the literature demonstrate that laissez-faire leaders put off making decisions, postpone taking action by shunning their duties, and decline to exercise the necessary authority that comes with their most important tasks (Avolio, 2011; Bass and Bass, 2008). According to Yukl (2010), these leaders avoid dealing with work related problems by ignoring employees needs and disorganized when dealing with matters of priorities. This leadership style is characterized by avoidance and in-action of key decisions leading to problems in the organization (Hinkin and Schriesheim, 2008). Since it fails to give the necessary resources, such as information and answers to difficult work assignments, laissez-faire leadership style is not only unsuccessful in organization management but also damaging (Chen, He, and Wung, 2018). According to Robert and Vandenberghe (2021), workers who have stronger relational self-concepts are more likely to be negatively impacted by laissez-faire leadership since such leaders fail to foster cohesion among their workgroups, which lowers their contributions to goals.

1.1.3. Regulatory Environment

The regulatory environment in which an organization operate plays a key role to its success and has been identified as a significant component in performance studies by research (Chadee & Roxas, 2013; Pirzada, Mustapha, & Wickramasinghe, 2015). According to Helfat & Peteraf (2014) complex and rapid changes, extremely demanding clients, significant rivalry, and technical improvements characterize the predicament facing many organizations today.

Various studies done in organizational studies have associated the existence and survival of organizations with the needs of the society that require satisfaction through provision of products and services. According to (Daft, 2011) and Kilika (2012), environmental influences lead to organizational uncertainty, which makes it challenging for them to manage the flow of resources required to safeguard and expand their organizational domains. Hogan & Coote (2014) argue that for an organization to succeed competitively it must understand the context in which it operates by taking into considerations all issues affecting it from its environment. Therefore, the purpose of this study is to identify the regulatory environment's moderating influence on the link between organizational agility and university performance in Kenya. Muraguri (2017) used institutional environment as a moderating variable with university policies and university culture as indicators. Kilika (2012) used institutional context as a moderating variable with

responsiveness to national culture and institutional characteristics as key indicators. Regulatory environment is still an area of further research.

Despite the notion that organizations are distinctive entities, research in organizational studies and strategic management has revealed that these environments are highly unpredictable and constantly changing (Hitt, Arrese, & Holmes, 2020). This supports arguments made in the context of dynamic capacity theory, which contends that the environment in which businesses function is dynamic and constantly shifting. According to Murad & Gill (2016), organization leadership should be flexible and develop agility principles that will enable these organizations to adapt, thrive and survive in a dynamic changing environment.

Therefore, it is crucial to comprehend the problems caused by the surroundings that have an impact on performance and methods of doing things, including management of the resources of the business and the individuals under its control (ISO 9001:2015). Stajonovic (2014) asserts that it is a requirement for organizations to observe issues arising from the dynamic environment in which they exist that have an impact on their performance and future survival and sustainability. In addition, be able to develop appropriate agility strategies to counter such uncertain changes.

In order to attain desired quality objectives, an organization's leadership will be better able to concentrate on areas that are pertinent to its stated purpose and direction by being aware of the environment in which it operates. It is important to keep in mind that the external environment can be defined by many factors such as legal and regulatory requirements, the competitive landscape, the demands and expectations of stakeholders, and sociocultural, technological, political, commercial, and economic systems. (Muraguri, 2017; Muthimi & Kilika, 2018).

In Kenya, public universities as part of government organizations operates under guidance of various institutions that have a serious impact on their performance and form part of their regulatory environment. These includes the Ministry of Education (MOE), Commission of University Education (CUE), Kenya University and College Central Placement Service (KUCCPS), University Funding Board (UFB), Higher Education Loan Board (HELB) and Public Service (PS). These institutions having different mandates are performing dismally low due to many factors arising from the changing and unpredictable environment that tend to affect

their performance. In this study, the MOE policies, CUE standards and KUCCPS conformance formed the element to measure the regulatory environment.

Munene (2016) asserts that the Ministry of Education has the responsibility of handling issues relating to higher education policy. As an illustration, the recently implemented curriculum-based competency (CBC) system has revealed that institutions are not ready. The institution will need to build up development initiatives to educate its academic personnel about the evolving requirements and complex nature of the new academic career path. These training sessions will familiarize Kenyan academics with cutting-edge competency-based curriculum teaching practices that are compatible with the evolving educational landscape. Second, interferences by the ministry in micro managing changes and agendas at public universities through competing responsibilities with long-standing university councils represent a threat to the long-term viability of these institutions of higher learning. In this study, it is discovered that the ministry of education is a significant element of the regulatory environment.

The Commission of University Education (CUE), which was established by the University Act No. 42 of 2012, is the second element and an important regulator for the universities. Its purpose is to regulate issues pertaining to the quality of university education in Kenya by establishing necessary standards and guidelines on teaching, research, and outreach as well as ensuring compliance to achieve global competitiveness (CUE, 2018). Despite having the legal authority to unite all public and private universities under one roof, studies reveal that the CUE lacks the organizational, human, and technical resources necessary to enforce and monitor quality compliance (Odhudho, 2016). The commission needs enough funding to efficiently use its technical expertise and human resources to monitor and enforce quality standards through both internal university quality assurance units and professional organizations.

However, Kenya's rapidly expanding public and private university system and its rapidly shrinking student body for self-sponsored stream have raised serious concerns among stakeholders. Additionally, there has been concerns about the quality of graduates being channeled from these universities into the job the market (Ochudho, 2016; Odhiambo, 2011). The universities through CUE needs to enhance more collaboration with other African regional universities and the industries for the scarce labour market. Odhudho (2016) asserts that for the university to improve on quality of graduating graduates and timely completion of their degree

programs, the allied institutions such as CUE and the universities should be better funded with adequate resources. However, this is still a challenge since the government has urged universities to manage inadequacies through innovation practices and other income generation activities.

Kenya University and Colleges Central Placement Services (KUCCPS) as a third component of institutional environment came into existence during the enactment of the University Act 2012. It has faced many challenges of placing or admitting students to degree courses and universities that they did not choose yet are qualified. This has led to production of poor quality graduates to the industry and a number opting for other middle colleges for lesser but marketable courses. Nyambura and Nyamache (2013) argues that to realize Kenya's economic development towards achievement of vision 2030, the industry and the universities should work hand in hand to address unemployment challenges. This calls for appropriate placing of students to courses that address the industry needs.

An inclusion of the concept of institutional environment in an organization has given it a new strategic thinking approach into its future survival by responding to the many limitations arising from its traditional corporate perspectives or foresights. Organizational leaders need the skills and expertise required by the organization to effectively manage the unexpected changes from the environment that have a serious impact on organizational productivity (Hitt, Arrege, & Holmes, 2020; Mwasiagi, Jagongo, & Ogutu, 2020). This further reduces uncertainties facing the organizational future survival by re-designing and assessing its development trajectories in action plans, innovations and creating strategic alliance with others (Weiner, 2020). Regulatory environment therefore acts as a mechanism of integration between internal and external exploitative and explorative units within the organization and thus opening a new research path in area of strategic management (Garcia, Cortes, Lajara, & Saez, 2019).

According to previous studies, the impact of regulatory environment on an organization's performance is still a topic of interest for researchers and is important to businesses (Weiner, Gattringer, & Strehl, 2017). Numerous additional researchers have measured institutional atmosphere using various factors. In Kinyua's (2015) study, company culture was utilized as an example of a moderator to the association between knowledge management and organizational performance. Muraguri (2017) employed institutional environment indicators such as university policies and culture to mediate between execution of strategy aim and university performance.

Mbaya (2021) used firm age and size as indicators of company characteristics as the study's moderating variable. The association between firm growth and performance of small and medium-sized firms in Japan was found to be reduced by firm age, according to Anderson & Eshima (2013). A study on small and medium-sized dairy processing businesses in Kenya revealed that age and firm size had a strong positive impact on business success (Mbaya, 2021).

More interactive empirical research is required to capture potential organizational contextual factors, as doing so will help firms increase their organizational agility and achieve better performance with a lasting competitive edge. The primary regulatory environment factors used in this study to mitigate the association between organizational agility and university performance are KUCCPS conformance, CUE standards and MOE policies

1.1.4. Public Universities in Kenya

Universities in Kenya significantly contribute to the growth of the country's economy by giving many individuals access to higher education and job possibilities in both the formal and informal sectors (Muraguri, 2017). These institutions of higher learning also provide a leading edge in research work that results in innovations hence contributing to the successful attainment of the country's vision 2030 (Ayuya, Awino, Machuki, & Wainaina, 2017). Since independence, there have been 62 universities established in Kenya, including private universities, constituent colleges, and organizations with official temporary letter of interim authority. Previously, there was only one public university. Out of these, 31 are fully fledged public universities. The leadership in these institutions has continued to fight for survival with the limited resources available despite the fact that demand for higher education in Kenya has grown significantly over the years. This is due to a number of challenges, including, among others, ineffectiveness and inefficiencies due to inadequate enrolment of self-sponsored students, lack of proper service charters and lack of certification to international standards such as ISO, weak university-industry partnerships, a low level of research activity and a low global ranking,

Several scholars in organizational studies have made various efforts to operationalize the measures of university performance in many ways. Kilika (2012) operationalized it in terms of innovation, knowledge creation, corporate reputation, and ability to adapt to change (agility) and university industry collaboration as a mediating variable (Kilika, K'Obonyo, Ogutu, & Munyoki,

2016). Muraguri (2017) operationalized it in terms of teaching effectiveness assessed by student enrollment levels, teaching resources and the number of new academic programs, community outreach assessed by university reputation, public-private partnerships, community service and linkages, and finally research uptake assessed by the level of university ranking, innovation, knowledge dissemination and the amount of research grants won. Muthimi, Kilika, and Kinyua (2021) evaluated the performance of universities in three areas: research uptake (measured by innovation, publications, and dissemination), and community outreach (measured by university-industry collaboration, corporate social responsibility, and civic engagement). Teaching quality was evaluated by curriculum reviews and academic audits.

However, as times passed, there has been a change of drift since the year 2016 due to economic hardships and as a result of reduced students' availability for intakes especially for self-sponsored programmes which had been the major source of income generation for the universities. In the year 2016, only 69,000 students qualified for the University education in Kenya. These were less than 20% of the total KCSE candidates during that year after the Kenya National Examination Council (KNEC) set up reforms to curb cheating of examinations compared to 170,000 students in the previous year 2015. The subsequent years have not been better anyway for the universities since only 70,073 students qualified in the year 2017, followed by 90,775 students in the year 2018, 125,463 students in the year 2019 and 143,140 students in the year 2020 accounting for only 19.2% of total KCSE candidates as per the KNEC website.

Since the introduction of education reforms at KNEC in 2016 to limit exam-cheating, the effectiveness and efficiency at public universities as evaluated by the levels of enrolment has changed over time. Despite these changes, table 1.1 below shows that since 2016 there has been a consistent rise in the number of students who qualify for a university education.

Table 1. 1: Qualifying students for University education in Kenya since 2016.

KCSE year	2016	2017	2018	2019	2020
Students qualifying for University	69000	70073	90775	125463	143140

Source: Kenya National Examination Council (KNEC) 2021

However, when compared with the enrollment levels for universities in Kenya under KUCCPS in Table 1.2 below, there exists an opportunity for universities to acquire more students not absorbed by KUCCPS under self-sponsored programs. However, this depend on how efficient respective public universities will respond to the opportunity to increase on student enrollment levels and improve on their effectiveness and efficiency as a measure of performance.

Table 1. 2: student enrollment for Universities in Kenya under KUCCPS since 2016

Academic year	2016/17	2017/18	2018/19	2019/20	2020/21
Public universities	72126	70961	55894	71977	95075
Private universities	10984	17362	12656	17511	27756
Total	83110	88323	68550	89488	122831

Source: Kenya Universities and Colleges Central Placement Service (KUCCPS) 2021.

With this grim statistic on available qualified KCSE candidates, the universities that largely depend on students’ fees to remain a float have been struggling to survive. Because of the low growth in government funding in recent years and the decline in the number of self-sponsored students in relation to the available resources, public universities in Kenya are under severe financial strain as they work to provide students with quality education and conduct research in comparison to private universities.

Kilika (2012) asserted that a sustainable university-industry collaboration program requires a strategic response by the collaborating institutions either through cluster building or strategic alliance approaches. Muraguri (2017) asserts that the closed system nature of universities due to formulated policies make their collaboration with the industrial world narrow. These academic experts concur that science has made a significant contribution to both the economic and technological change in industries, along with other economic elements like labor and capital inputs. This need institutional changes that will enable them to collaborate with the industry on development.

Therefore, since the universities house the academia that has a significant impact on the advancement of science, their contribution towards economic and technological change through

knowledge transfer will have a profound effect on industrial development (Rossi and Rosili, 2015; Muthimi, Kilika & Kinyua, 2021). Due to the current unpredictable and constantly changing dynamic environment in which the university operates, this study makes use of research work and university-industry relationships as a crucial university success indicator. Kilika (2012) used university industry collaboration as a mediating variable indicator while study done by Muthimi, Kilika & Kinyua (2021) and Muraguri (2017) used university-industry collaboration as measure for university performance.

Further to challenges of ineffectiveness and inefficiencies, inadequate research work and weak university-industry collaboration, Kenyan universities continue to have a low global ranking when compared to other institutions throughout the globe. According to the ranking statistics, older universities have a history of having lower global rankings than more recently formed universities (Appendix III). This calls for further need for increased research and publications by the university academia with aim to improve the university performance and enhance industrial collaboration. Sifuna (2013) asserted that research uptake has been low due to lack of adequate funding from the government to the public universities making them rank low across the world. The amount of government capitation to the public universities is low and only used to run the recurrent and capital expenditures as seen in table 1.3 below. This low amounts have a serious impacted on research output of these universities.

Table 1. 3: Government Capitation to public universities

Financial year	2018/19	2019/20	2020/21	2021/22	2022/23
Government Capitation (Ksh)- Billion	38.15	41.18	41.97	43.84	44.02

Source: University Funding Board (2022)

Borrowing from the above cited indicators of the various research works, this study adopts four indicators relevant to the study objectives to operationalize university performance namely; effectiveness and efficiency measured by self-sponsored student enrolment levels, adoption of a service charter and compliance with ISO certification, university-industry partnerships, research uptake and global university ranking. The four elements are considered adequate measure of

university performance in addressing the response to environmental uncertainty facing institute of higher learning in their efforts to maintain performance. This uncertain change in the business environment has led to many institutions including universities around the world to revise their business models, priorities, strategic plans and viability of their conventional methods of doing business in order to survive and thrive (Rima & Mindaugas, 2018). A key strategy that many organizations and institutions have adopted in recent times is the concept of organizational agility.

According to Muraguri (2017), the Chief Executive Officers (CEOs) of these universities are unsure of their institutions' capacity to realize the full potential of their planned strategies, despite the fact that the universities in Kenya are under strong pressure to fulfill their strategic mandates. With the current environmental uncertainty in which these institutions function, this is only going to get worse. The solution may lay in prompt action plans put in place to capitalize on the untapped opportunities in the environment to ensure their survival and performance. These uncertain changes in the environment call for development of appropriate organizational agility measures by the university leadership that will address these pertinent issues and bring these institutions to higher levels of performance.

According to Walter (2020), firms that want to succeed in a volatile, uncertain, complex, and ambiguous (VUCA) environment have organizational agility as a choice. There is widespread agreement that organizational agility concepts are critical components for achieving long-term performance, particularly given the halting economic changes affecting many organizations in the 21st century (Bundtzen & Hinrichs, 2021). However, according to a review of the literature, most of the studies have either concentrated on a specific industry or at organizational agility itself from a limited perspective (Ekweli & Hamilton, 2020; Button, 2017).

1.2. Statement of the problem

Even though universities in Kenya play an increasingly significant role in delivering the country's economic and social development in order to realize Vision 2030, these institutions particularly public universities are now dealing with new issues as a result of shifting environmental conditions that endanger their sustainability (Mathooko & Ogutu, 2014; Muthimi, Kilika and Kinyua, 2021). Additionally, improving the performance of Kenya's public

universities has consistently shown to be a difficult and illusive endeavor (Odhiambo, 2011; Okioga, 2012 & Muraguri, 2017). These universities have been less agile compared to their industrial counterparts due to being complacent with their achievements and showing very few initiatives towards change over the years in existence (Shalini & Suresh, 2020).

In Kenya, there has been a remarkable increase in the number of universities during the past 20 years, from 7 to 31 by 2021 (Appendix III). It's crucial to remember, nonetheless, that the trend in the number of students placed by KUCCPS is primarily responsible for the capacity expansion at public universities. Prior to the year 2016, the placement trends were increasing every year and the private universities were not part of the placement equation; which could be attributed to the capacity growth witnessed hitherto. A greater portion of the difficulties with the performance of the public universities in Kenya can be attributed to the decline in the number of students with university entry grades and the policy change made by the ministry of education in response to the government directive through Sessional Paper No. 14 of 2012 to place government sponsored students in private universities. Since 2016, private universities in Kenya have absorbed more than 14.8% of all government-sponsored students until the year 2023 when the government has reversed the trend. This has caused some courses that had few students to be dropped in public universities, which has had a negative impact on their effectiveness and efficiency especially in absorption of self-sponsored students who play a key role in university financial stability.

The KUCCPS (2021) report on students' enrollment to public universities relative to the students qualifying for the university education has been showing a decline trend since the year 2016. For example, in the year 2018, only 61% of the qualified students were enrollment in public universities, 57% in year 2019 and 66% in year 2020 with the private universities taking 14% in year 2018, 14% in 2019 and 19% in 2020. This shows that each year has had surplus of students not absorbed by KUCCPS hence an opportunity for self-students sponsored programs for the public universities in order to be effective and improve on their efficiencies. The other unprecedented challenges facing these universities is the low global ranking of Kenyan public universities, weak university-industry partnerships due to the closed bureaucratic system of governance of public universities that hinder their performance and low research uptake due to lack of adequate capitation and the poor performing income generating activities (Jalaliyoon & Taherdoost, 2012). The question of whether these institutions will or not maintain their performance in unpredictable

environment is therefore of great concern (Muraguri, Kimencu & Thuo, 2017; Mbirithi, 2013 and Sifuna, 2012)).

To survive under this VUCA environmental circumstances, the universities need to develop appropriate strategies that will enable their leadership explore and exploit potential opportunities in the environment faster than their rivals to make them more agile, stable and competitive. This brings out consideration of the idea of organizational agility as a possible determinant of performance for these universities in this era of unpredictable environment.

Although there has been little written about organizational agility at the conceptual and theoretical levels, the situation is still worse at the empirical level, particularly in the business and service sectors where the concept is still new and relatively young in its development and conceptualization (Shalini & Suresh, 2020). Walter (2020) found that studies on organizational agility have concentrated more on Asian and European markets compared to African nations and focused more on the manufacturing and IT software industries at 79%. For example, in Kenya agility researches are still scanty at 3% compared to Asia (22%), Indian markets (13%), UK markets (8%), US markets (5%) and 61% of studies with no indication of a specific region of concentration (Menon & Suresh, 2020).

Agility studies have centered on organization development (19%), agility enablers (15%), organizational agility measurement (15%) and organizational agility in general (12%) with little research on organizational agility and performance (Sangari & Razmi, 2015). Furthermore, agility researches on the service and business sector including the institutes of higher learning such as the universities still remains under emphasized at 3% (Sangari & Razmi, 2015; Malik, Sarwar, & Orr, 2021; Shalini & Suresh, 2020; Walter, 2020). This results in a gap that this study aims to remedy.

Other independent variables besides organizational agility has been discussed in various studies as positively affecting university performance from a wider perspective with varying conceptual and contextual features. A few of these studies includes Inspirational motivation (Muthimi, Kilika and Kinyua, 2021), employee empowerment (Ibua, 2017), curriculum orientation (Ngala, 2018) and dimensions of strategic intent (Muraguri, 2017). However, these studies do not

address how universities might improve on their performance in light of the ambiguous environmental circumstance that has affected them.

In light of the aforementioned ideas, the current work is believed to provide a substantial contribution to both general and strategic management research. By concentrating on the construct of organizational agility, which has gotten minimal attention in both theoretical and empirical literature, the study will fill many gaps in the literature that deserve scholarly attention. In order to explain and assess the strength of the relationship between organizational agility and performance of selected public universities in Kenya, the study will also include leadership style and institutional environment as supportive variables to mediate and moderate the relationship respectively. Last but not least, the implementation of the organizational agility concept will address the important concerns now causing institutions of higher learning to underperform and raise their level of performance (Shalini & Suresh 2020). The results of this study will be helpful in formulating strategies and frameworks for public universities in Kenya to perform better.

1.3. Objectives of the study.

This study was guided by a general objective and six specific objectives.

1.3.1. General Objective.

This study's main general objective was to investigate the effect of Organizational agility on performance of selected public universities in Kenya.

1.3.2. Specific objectives

The study was based on the following specific objectives;

- i. To ascertain the effect of organizational readiness to change on performance of selected public universities in Kenya.
- ii. To determine the effect of agility enabler on performance of selected public universities in Kenya.
- iii. To assess the effect of responsiveness on performance of selected public universities in Kenya
- iv. To investigate the effect of agility practice on performance of selected public universities in Kenya.

- v. To evaluate the mediating effect of leadership style on relationship between organizational agility and performance of selected public universities in Kenya.
- vi. To examine the moderating effect of regulatory environment on relationship between organizational agility and performance of selected public universities in Kenya.

1.4. Research Hypotheses

The following research hypotheses were tested in accordance with the above specific objectives,

H01: Organizational readiness to change has no significant effect on performance of selected public universities in Kenya.

H02: Agility enabler has no significant effect on performance of selected public universities in Kenya.

H03: Responsiveness has no significant effect on performance of selected public universities in Kenya.

H04: Agility practice has no significant effect on performance of selected public universities in Kenya.

H05: Leadership style has no mediating effect on relationship between organizational agility and performance of selected public universities in Kenya.

H06: Regulatory environment has no moderating effect on the relationship between organizational agility and performance of selected public universities in Kenya.

1.5. Significance of the Study.

The study is anticipated to help people comprehend the value of deploying suitable organizational agility on the performance of public universities in Kenya, a vital sector of the nation's education system that faces many difficulties. This implies that the study on organizational agility unveiled potential improvement on performance of these institutions of higher learning aimed to make them efficient and competitive in an environment of many uncertainties. The study's findings are anticipated to expand the body of information already known about visionary leadership, organizational change management, and the success of public institutions while also sparking new inquiry into these topics. Organizational agility's role in the success and survival of universities in the environment in which they operate is more understood by managers, researchers, and strategic management theorists.

The study is anticipated to spur the government policy makers, management strategists and practitioners and academicians in the public universities on development of a new, unique way of thinking on how to manage universities in Kenya efficiently given the numerous issues they face. Upon further empirical study and proof, the study is expected to provide a framework for enhancing performance of these universities towards realization of the country's vision 2030 and in making appropriate policies on good governance and management of change. Finally, scholars in management, strategy, and organizational studies will discover a solid theoretical foundation on desired appropriate organizational agility principles that will serve as the cornerstone of the transformation of universities in Kenya for improvement of their performance in an ever-changing environment of many uncertainties and igniting future theory and practice-based research.

1.6. Scope of the Study.

This study ascertained how performance at a few Kenyan public universities was impacted by organizational agility. Out of the 31 fully operational public universities in Kenya, ten (10) public universities were chosen systematically from the best to worst ranked institution locally, regionally, and internationally based on the January 2023 Web Metrics World University Ranking scale. This nature of sampling brings up a uniform distribution from the overall population of all established public universities in Kenya with a balanced regional outlook and with adequate structures to support quick response in uncertain and unpredictable environmental circumstances. This criterion provided ten (10) public universities for the study as shown in Appendix III. These included Nairobi University (UON), Jomo Kenyatta University of Agriculture and Technology (JKUAT), Masinde Muliro University of Science and Technology (MMUST), South Eastern Kenya University (SEKU), Pwani University (PU), Kabianga University (UOK), Kibabii University (KIBU), Laikipia University (LU), University of Eldoret (UoEld), and Kirinyaga University (KYU).

The organizational agility components comprised of; organizational readiness to change, agility enabler, responsiveness and agility practice. The university performance measurements included; effectiveness and efficiency measured by self-sponsored student enrolment levels, presence of a service charter and ISO certification, university-industry partnership to measure community outreach and measured by strength and support from university, research uptake measured by

support by university and staff involvement and university rankings measured by level of improvement. The following theories served as the study's pillars: the dynamic capacity theory as the lead theory, the resource-based view theory, the learning organization theory, the institutional theory, and the balanced scorecard model. The study focused on selected top and middle level senior staff in public universities in Kenya that included, Deputy Vice-Chancellors, Deans of faculties or schools, heads of academic departments and senior administration staff.

1.7. Limitation of the Study

The researcher encountered difficulties in getting access to secret material and finding senior individuals physically. In order to allay these concerns, the researcher guaranteed the confidentiality of the data obtained and apply for a study authorization from NACOSTI. Drop and pick technique for questionnaire was adopted but in some cases availability was a serious challenge. Second, there is a dearth of empirical research in the field of organizational agility that would be useful for the current study. To overcome this, the researcher made reference to research done in area of agility from both developed and developing countries despite the fact that the studies differed in conceptual and contextual aspects. Since universities are competing among themselves on performance, some respondents were hesitant to offer the requested information adequately, which formed another restriction encountered by this study. The researcher addressed this issue by informing responders, via the questionnaire cover letter, that the study's objective would be strictly for academic purposes (Appendix I). leadership style was regressed as a composite index on performance. The three leadership styles were not regressed separately leading to a limitation on the evaluation of impact of each style of leadership on performance of the selected public universities. To overcome this, recommendations for considerations has been proposed for future research.

1.8. Organization of the Study.

The research proposal consists of five different chapters. The research variables and concepts were introduced in Chapter 1 in terms of the background knowledge of the study, the problem statement, the general and specific objectives, and finally the significance and scope of the study. The second chapter reviewed the theoretical and empirical research that supports the concepts of organizational agility and university performance on a global, regional, and national level. It then

drew conclusions about the knowledge, contextual, conceptual, theoretical, and methodological gaps that were found in the study area. A conceptual framework connecting the constructs of organizational agility, leadership style as mediating variable, institutional environment as moderating variable, and performance of selected public universities in Kenya was also covered in this chapter. The concepts of the study's research approach were presented in chapter three, discussed in chapter four and conclusion and recommendations done in chapter five.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

This chapter reviewed the research on numerous organizational agility indicators and how they related to academic achievement at universities. The review looked at the underlying theories of the research as well as the empirical results of related studies that provided a foundation for the current examination into the connection between organizational agility and university performance in Kenya. The chapter concludes with a conceptual framework that show how the study's conceptualization of the study variables are interconnected.

2.2. Theoretical literature review

The pertinent theories that supported the study's constructs was covered in this section of the study. These included the Balanced Scorecard (BSC) model, Learning Organization Theory, institutional theory, Resource Based View (RBV), and Dynamic Capability (DC) as the lead theory. A theory, according to Torraco (2016) and Post, Gatrell, & Prescott (2020), is a set of guiding principles that explains a phenomenon or how it is thought to operate.

2.2.1. Dynamic Capabilities Theory.

Teece, Pisano, and Shuen in 1997 established the dynamic capabilities theory, which describes an organization's capacity to combine, develop, and reconfigure internal and external competences to respond to quickly changing circumstances. The theory explains the interactions between organizational resources and product markets and how they relate to organizational survival and performance. The DC theory focuses on an organization's internal and external qualities that help it function better than competitors. Over the years, dynamic capabilities have grown significantly in prominence in strategic management studies throughout time (Rashidirad & Salimian, 2020). Teece (2017) and Kuuluvainen (2012) noted that though a strong DC are owned by few in the organization and are indicative of organizational exposure, the uncertain change in the environment has necessitated application of these capabilities to enhance unique

business models and rapid innovations. This has made many organizations ahead of others in their performance (Schoemaker, Heaton, & Teece, 2018).

Many scholars (Penrose 1959, Wernerfelt 1984, and Barney 1991) postulated that resources and capabilities provide an organization a competitive edge through the RBV lens. However, by offering a more enriched evolutionary perspective on the organization's resources and capabilities, dynamic capabilities (DC) have a tendency to improve the reasoning of the RBV (Wang & Ahmed, 2007). As seen through the RBV lens, DCs are therefore an organization's capacity to alter or reconfigure its standard capabilities (Arend, 2014, Davis & Bendickson, 2020). According to Teece & Pisano (1994), DCs are higher order capabilities that grow through time and allow an organization to quickly adjust to uncertain, changing environmental conditions. The dynamic capability theory was developed as a result of this way of thinking.

This idea is predicated on three key tenets, according to Teece (2007): first, the capacity to identify and shape possibilities. Second, take advantage of the chances. Maintaining their competitiveness through organizational resource reconfiguration is the third step. Teece (2007) goes on to state that dynamic capabilities allow organizations to develop, use, and protect their assets, particularly those intangibles that support the long-term success of the company, such as unique skills, patents, talents, decision rules, procedures, and employee dispense.

These assumptions allow for the observation of the relationship between the theory and this investigation. An organization is said to be agile if it can quickly and readily identify dangers, opportunities, and unknown changes in the environment and then seize those possibilities and repurpose them to stay competitive. Strong dynamic capacities are necessary, according to Teece, Peteraf, and Leih (2016), to promote the organizational agility needed to deal with profound uncertainty, such as that produced by innovation and the dynamic rivalry that goes along with it. As a result, organizations that are more agile are better able to function, maintain their operations, and survive (Emejulu, Chukwunonso, & Obianuju, 2020)

Due to the diversification or reconfiguration of organization activities that increase their relevance in a volatile, uncertain, complicated, and ambiguous environment, businesses have recently come to appreciate the concept of dynamic capabilities (Kuuluvainen, 2012; Teece,

2017). There are numerous benefits to firms being agile when the principle of dynamic capabilities is applied within the organization. Rezazadeh, Karami, & Karami, (2016) assert that dynamic capabilities enable an organization to restructure or reconfigure its current resources or acquire new resources in order to maintain their performance in a rapidly changing environment.

The dynamic capability theory is the lead theory in this study and it enables an organization with the ability to integrate, build and reconfigure both its internal and external competencies to address the rapid changing environment and make it agile. This depends on the capabilities of the leadership in place in spearheading the changing process to enable organization attain agility, hence still an area of concern to many organization leaders This theory anchors only three elements in the independent variable namely technology, competence and innovations, creating a theoretical gap for the other elements not supported in this study.

2.2.2. Resource Based View Theory

In 1959, Penrose put forth the Resource Based View (RBV) hypothesis, which emphasized the importance of internal organizational resources in enhancing overall performance. Later, Wernerfelt and Rumelt (1984), who examined an organization from the perspective of its vital resources, developed this theory and named it Resource Based View (RBV), which provides an organization with a long-lasting competitive edge. Later, Barney (1991) asserted that an organization doesn't achieve sustainable performance by merely acquiring resources, but rather by combining and effectively utilizing its organizational resources in a way that adds unique value and is challenging for competitors to copy because of their value, rarity, immutability, and non-substitutable nature.

Hamel and Prahalad (1990) termed RBV a core competency for the organization and referred it as an organization capability. On the other side, Corner (1991) argues that RBV is a development of the theory of the firm and a source of competitive advantage for organizations. According to Madhani (2010), RBV adopts a 'inside-out' perspective on why businesses win or fail in the market and views resources and capabilities as static. Since then, the RBV theory has predominantly been used by various strategic management and human resource scholars in their research (Muchemi, 2014; Kinyua, 2015; Kiiru (2015).

The early works of behavioural management theorists served as the inspiration for Resource Based View (RBV) theory. For example, Elton Mayo and Fritz Roethlisberger during the Hawthorne experiments in the year 1927 to 1932 addressed the importance of human behaviour dimensions at workplace by highlighting the shortcomings of the original neo-classical management theory. Later, studies on human motivations by Abraham Maslow in 1948 and Douglas McGregor in the 1960's on theory X and theory Y managers in an organization contributed heavily to the concept of the significance of employees as a strategic and valuable resource at workplace.

According to proponents of the RBV hypothesis, organizations are heterogeneous because they have resources that are also diverse. These resources must be VRIN—valuable, rare, unchangeable or immutable, and not-substitutable. Resources are referred to as immutable if they are either legally protected by trademarks, patents, or copyrights or are extremely difficult to copy as a result of unique features established by the organization. Resources are valuable or rare when they are relatively high cost or quality in acquiring them, such as professional, specialized, and experienced workforce in an organization. When competitors are unable to get substitute resources that can deliver the same advantages as the original resource, the latter is said to as non-substitutable. Consequently, the emphasis is on the organization's leadership to leverage internal resources to the fullest extent possible in order to maximize generated advantages by identifying assets, skills, and capabilities that have the potential to give an organization a performance edge over rivals.

According to the RBV theory, an organization's performance is greatly influenced by its organizational, physical, and human resources. As a result, it provides justification for elaborating on an argument for the impact of agility on an organization's performance. This is in line with Barney's (1991) hypothesis that an organization can gain a significant competitive advantage over its rivals by managing specific and unchangeable bundles of resources and dynamic capabilities. Barney further posited that this advantage can be achieved by reconfiguring both the available internal and external competencies in order to address the uncertain changes resulting from the dynamic environment.

The ability of the organization to outperform its competitors depends on the uniqueness of its resources in terms of their value, rarity, immutability, and non-substitutability, according to RBV

theory. The resources might be material or intangible. According to Barney (1991), the management's access to physical, human, and organizational resources has a big impact on how well a company performs. An organization ability to manage unanticipated change successfully in a dynamic environment is an intangible resource in nature, and capable of improving performance for the organization (Kimani & Kilika, 2019). This introduces the idea of organizational agility as a vital resource to allow the organization to react quickly and swiftly to the ambiguous change in the environment.

Although the notion of RBV is still very important for today's firms, some scholars have tended to critique the theory as being too nebulous and static to help an organization gain a competitive edge in a changing, dynamic environment (Priem & Butler, 2001). According to Nanda (1996), RBV research's applicability in the field of strategic management is constrained by the absence of terminology overlap. While some scholars provide unique definitions for the key terms resources, capabilities, and competencies (Helfat & Peteraf, 2003), others (Ray, Barney, & Muhanna, 2004) use the terms interchangeably. Furthermore, the theory is restricted in that it does not sufficiently address how to rejuvenate either the existing stock of resources that are VRIN or inadequately sustainable resources in an unfavorable environment, or when to encourage additional valuable resources into the organization. RBV has been described as substantially tautological or circular in nature by other academics (Porter, 1991). According to (Hoopes, Madsen, & Walker, 2003), RBV lacks clarity in its fundamental components, which hinders the theory's advancement.

Despite the aforementioned criticism, RBV's contribution to the performance of Kenya's public universities is still very relevant and necessitates that these institutions manage the resources at their disposal effectively and efficiently in order to enhance performance in a dynamic and changing environment. Thus, based on the organizational resources available, these resources may be linked with environmental elements to produce a sustainable performance (Grant, 1991). The theory of RBV is relevant to this study since it articulates the nature and maximization of use of internal resources within the university control that gives it an improved performance in times of uncertainties in the unpredictable environment

Resource based view theory narrative contends that organization resources are heterogeneous in nature giving the organization a higher performance index over others due to valuability, rarity,

immutability and non-substitutability (VRIN) of these resources making it hard for competitors to copy. One of the key resources in an organization is its trained human resource, technology and organization structure and this calls for a serious investment. Therefore, whether an organization can maximize or not on its internal resources that are VRIN to explore and exploit the influencing factors in the environment and make the organization agile is still an area of concern. This theory forms the foundation of the dynamic capability theory and in this study it supports, human resource, organization structure, technology, communication and creating new strategies elements and government capitation creating a theoretical gap for the other elements not supported in this research.

2.2.3. Learning Organization Theory

The theory was created in 1973 by Chris Argyris and Donald Schon, who offered a theoretical framework connecting the experience of living in a situation of increased change with the need for learning. They also suggested that learning occurs through the process of identifying and fixing errors in an organization (Argyris & Schon, 1978). According to these two scholars, institutions are in a continuous process of transformation and appropriate leadership style is pre-requisite in guiding, influencing and managing these transformations. This is achieved by becoming adept at learning through inventions and development of institutions that form the learning systems.

Secondly, according to Fauske & Raybould (2005), many other scholars have made contributions to the understanding of this theory in organizations. These include the work of the Fayol School of Administrative Theory, Weber's Bureaucracy and Organization Structure, Simon's Administrative Behavior, and the Tylor School of Management. The concept of a "learning organization" describes how knowledge is created, shared, and used inside an organization to alter its strategy. Leadbeater (2000) asserts that as an organization grows and gains experience and expertise in its operations, it should integrate the developed new learning into its overall work process for improved performance. A learning organization, according to Peter Senge's 1990 theory, necessitates a fresh perspective on leadership through the five essential disciplines of personal mastery, mental models, shared vision, team learning, and system thinking.

According to Liedtka (1990), the system thinking notion is a key discipline that serves as a catalyst in creating a learning organization. It is a subset of strategic thinking.

It has been suggested that learning is the ideal mechanism through which organizations should change in order to adapt to the varied challenges from their environment. It is defined by the understanding that better performance in an organization depends on both individual and group learning (Finger and Brand, 1999; Anders, 2001). To achieve the objective of a learning organization, an institution must engage in and go through this process. With the continuous changing environment, institutions such as universities have to exhibit learning organization characteristics by involving their whole employees in a collective accountability directed towards shared values that will lead to improved performance (Watkins and Marsik, 1993). This is supported by Leadbeater (2000), who suggested that organizations should also invest in the flow of knowledge that will support the entity in addition to machinery to increase production efficiency.

Similar to this, institutions of higher learning should be adept at knowledge creation, appropriation, and exploitation to improve their performance in unpredictable environments (Fauske and Raybould, 2005). Failure to do so could spell disaster for the organization. Pedler, Burgoyne, and Boydell (1991) assert that learning organizations help their members learn and continuously develop into thriving institutions. Synthesis from previous studies on organizational studies and the extension of the theory of learning organization in institutions of learning has led to various assumptions about the theory. The first assumption is that the theory seeks to leverage an understanding of the shared mental models conceptual frameworks and routines for action within organization members (Garvin, 2000). It aims to answer questions that arise such as; how learning organization is influenced by the nature of an organizations work and the degree to which that work is measured, the extent to which the theory of individual learning applies to groups within the organization and also how the emerging leadership style in place impact on learning in the organization.

According to Fauske & Raybould (2005), the theory also assumes that the leadership mental models that include the beliefs, values, norms and assumptions as well as their routine actions and behaviours though closely connected can easily change independently of one another. Thirdly, it assumes that a level learning in an institution begins to emerge when mental models

are shared across various individuals and at strategic levels in the organization. However, learning organization will not be attained if these mental models are not shared. Another assumption is that improved performance of an organization is observed when individual leader's mental models and the shared organizational mental models are similar for auctioning. The theory also assumes that the interpretation and measurement of mental model frameworks and auctioning at both group learning and organization learning go beyond the individual institution members.

Even while most organizational managers today recognize the importance of creating a learning organization with the goal of using knowledge as a corporate asset, Garvin (2000) claims that most are still unsure of where to begin. He continues by saying that any learning organization is built on a set of processes that can be created, implemented, and managed. These involves processing acquiring, interpreting and applying knowledge. That learning is achieved through effective leadership style by focusing and effectively deploying the three modes of learning-intelligence gathering, experience and experimentation. This theory is important to this study since the present environment is ever changing with a lot of uncertainty and new knowledge and ideas are a pre-requisite for improved performance for the public universities that fail to qualify at application of knowledge through academia-industry interlink.

Learning organization theory articulates that we learn from mistakes and learning is still in a continuous transformation process and takes place through detecting and correcting errors in an organization. An appropriate leadership style is a pre-requisite in guiding, influencing and managing any organizational transformations. This theory anchors the three element measuring the mediating variable namely autocratic, democratic and laissez-faire leadership styles, creating a theoretical gap for other elements not supported in the study.

2.2.4. Institutional Theory

The development of institutional theory was done in the late 1970s by John Meyer and Brian Rawan as a means to explore how organization fit with or related to the environment in which it exists. The theory not only explains why organization structures and practices become firmly established but also explains why and how the change occur in organizations (Meyer & Rawan, 1977). Kilika (2012) argues that institution theory explains how an organization tends to survive

and prosper by agreeing with its expectations from the environment in which it exists and by carrying out its operations in a particular manner. The institution environment in which an organization exists is composed of norms, values and beliefs of various stakeholders that includes the organization customers, government, investors and other collaborating organizations.

Tsai & Wang (2011) asserts that institutional theory provides a strong argument about why and how an organization do the things they do over time. The theory therefore puts the organization at the core of the analysis of its design and conduct by enabling examination of alternative questions relating to the form and design of the organization such as universities. This brings up three fundamental social factors in the institutional environment that needs to be addressed in this study. First is the policies established by the Ministry of Education (MOE) regarding university education and how they impact on success of these institutions in Kenya in partnering with industries and improvement in teaching effectiveness. Second, the quality standards set up by Commission of University Education (CUE) and their influence on university performance in improving the institution processes and university ranking on global arena. Last but not least, the standards established by Kenya Universities and Colleges Placement Services (KUCCPS) to guarantee that the appropriate student receives the appropriate course and that nearly all students are enrolled by the appropriate institutions for knowledge production and dissemination.

Various authors have found that organizations do adopt a variety of structures that is prevalent in their environment such as organization roles, procedures and policies and specific job titles that have impact on their performance. The institutional theory, on the other hand, is more concerned with the organization's more robust and deep-seated social characteristics that conforms to the institution rules in the institutional environment that lead to organization improved performance and survival (Powell & Di Maggio, 1991; Smith, 2010 and Tsai & Wang, 2012). The institution theory to-date still remains a crucial and relevant theory to this study since it provides the basis for the analysis of importance of factors arising in the institutional environment that contributes towards performance of universities in a dynamic changing environment (Geels, 2010).

The institutional theory explains how an organization fit with or relates with its environment in which it exists. This notion generally explains how an organization manages to thrive in a challenging environment. In addition to explaining why structures and processes of an

organization become established but also how change occur in transformation. In this study, the theory anchors the elements measuring the moderating variable namely; MOE policies, CUE standards and KUCCPS conformity, creating a theoretical gap for the other elements not supported in the study.

2.2.5. Balanced Scorecard (BSC) Model

This model was coined in the year 1992 by Kaplan and Norton as a tool for assessment of performance management. However, over the decades the tool has been adopted and embraced by many organizations as a performance management tool including in universities (Papalexandris, Ioannou, Prastacos, & Soderquist, 2005). Universities and other academic institutions have realized the value of utilizing Kaplan and Norton's Balanced Scorecard model to convert strategic goals like excellence in research and teaching into performance measures (Silvia, 2009; Pietrzak, Paliszkiewicz, & Klepacki, 2015). According to studies in strategic management, this tool makes it simple for managers to adopt new business strategies that enable firms to effectively respond to market change, new opportunity, as well as consumer preferences and tastes (Chen, Lee, & Lay, 2009).

The BSC tool employs four performance aspects, namely financial perspectives, internal processes perspectives, customer viewpoint, and learning and growth perspectives, to measure both financial and non-financial performance indicators. The tool's proponents, Kaplan & Norton (1990), claim that the organization's vision, mission, and strategies are all translated into these four perspectives, which results in clearly defined employee skill and knowledge needs (learning and growth), as well as necessary capabilities and competencies through internal processes. This, in turn, leads to the creation of the right value for the organization's customers, which improves financial performance and organizational performance.

This idea consequently makes sense in the context of this research, as the majority of firms that compete in a changing, dynamic environment seeks to outpace their rivals in the market by creating strategies that are consistent with both their short- and long-term goals. In a same way, the ultimate goal of agility is for organization to increase its market share and cope quickly with change in a dynamic competitive environment. Due to the success indications it offers, BSC is a useful tool for firms working in a dynamic and competitive environment. Therefore, using the

BSC ideas to find gaps in organizational processes can not only hasten the achievement of organizational goals and strategies but also greatly increase the organization's level of agility (Nejatian & Zarei, 2013).

Therefore, by concentrating on key performance indicators, the integration of BSC into this study will aid in identifying and evaluating any gaps between the current and intended levels of agility in university organizations. Due to the uncertain changes in the environment in which the company operates, this will help to better understand the business's shortcomings and identify areas for concentration (Bottani, 2009; Bottani, 2010). Second, the adoption of BSC in this situation will lessen the risks of implementing ineffective agile enablers that might not have an influence on the organization's actual needs for managing unforeseen change and pressures from the business environment. Thirdly, the performance of the public universities, which is the dependent variable in this study, will be measured using the non-financial and financial indicators provided by the BSC model.

The Balanced Score card model articulates that the organization can maximize on its finance and non-finance performance measures through four key performance dimensions namely customer, financial, internal processes and learning and growth perspectives. The achievement of these dimensions is by translating the organization vision, mission and strategies into these four perspectives to enable organization move towards agility position. However, this purely will depend on the capability of the organization leadership in place and the uncontrolled factors in the environment towards attaining agility. This model anchors some of the non-financial and financial elements measuring the dependent variable, namely efficiency, research uptake, university-industry partnership and university ranking, creating a theoretical gap for the other elements not supported in this study.

2.3. Empirical Literature Review

Many organizations are facing change due to the fast technological advances, globalization, emerging new markets and so on. This has puzzled many business practitioners and university scholars on appropriate approach that will enable organizations stay adaptive and on competitive lane in a turbulent environment. Organizational agility has been found as one key idea for an organization that seems to offer a solution. However, this idea is still novel and multifaceted in

character, and its significance as a crucial organizational tool for achieving and sustaining a competitive advantage for an organization in a rapidly evolving and dynamic environment continues to expand. Various dimensions that are utilized to analyze this organizational agility are revealed through literature reviews in strategic management, as detailed below.

2.3.1. Readiness to change and performance

Garden & Mikkelsen (2020) conducted a study on Readiness to change and translations of organization ideas and practices in a hospital in Norway. The goal of the study was to find out how the concept of readiness to change increases comprehension of the procedures and results of implementing new management concepts and procedures in a hospital setting. The study used a longitudinal design and 31 semi-structured questionnaires with participants at the regional hospitals and department levels to gather data during a three-year period (2013–2016).

The study found that strategic translations and practices foster readiness to change by using editing practices and translation rules for quality outcomes. This is consistent with Rovik's (2016) assertion that a new version of managerial ideas and practices that aids in the accomplishment of organizational goals and serves as a major factor in a person's readiness for change constitutes an effective translation. The study concluded that strategic translations were suitable tools for fostering readiness to change in a specific context such as a hospital. The study did have certain drawbacks, the most important of which was that the level of preparedness of the hospital staff for change was not assessed prior to the translation process. The conceptual, contextual, theoretical and methodological approaches used in this study differ from the current study raising serious research gaps.

Haque, TitiAmayah, & Liu (2016) conducted research on the importance of vision on organizational readiness for change and growth in a higher institute of education in California, USA. A paradigm that holds that vision has both direct and indirect associations with organizational growth through mediating effects of organizational readiness for change was tested in the study using path analysis. 104 employed business students comprising of 61 males and 43 females were sampled for the study. To evaluate the proposed model, the data were gathered through the use of questionnaires and were then subjected to path analysis. According to the study, the relationship between organizational growth and attributes of vision was mediated by perceived readiness for change. The study concluded that organization should create

change initiatives effectively to improve on organizational growth and performance by focusing on readiness to change. The readiness for change was used as an outcome variable.

Asbari, Hidayat, & Purwanto (2021) conducted a study on managing employee performance from readiness for change to leadership perspective in a chemistry industry in Indonesia. The goal of the study was to evaluate the impact of transformational leadership and readiness for change on employee performance in the chemistry sector. The readiness for change was used as an independent variable. Out of a total of 620 employees, 220 were randomly chosen as a sample. Structured questionnaires were employed in the study to gather the data, which were then analyzed using structural equation modeling and smart PLS 3.0 software. Through the mediating influence of transformational leadership, the study discovered that employee performance was positively and significantly impacted by readiness for change.

The study came to the conclusion that leadership style and change readiness had a favorable impact on workers' productivity in the chemistry sector. This is consistent with research by Tsirikas, Katsaros, and Kosta (2020), which found that employees' readiness to change had a beneficial impact on the financial success of the company in a Greek shipping sector. Other factors that affect employee performance, such as motivation, competency, and organizational culture, were not taken into account in this study. Since just one business in Indonesia was studied, it is challenging to extrapolate the results to other industries there and outside.

Zaman, Novitasari, & Goestjahjanti (2020) examined the impact of readiness to change on transformational leadership style and employee performance of a painting industry in Tangerang, Indonesia. The study collected data using simple random sampling and analyzed using structural equation modeling method with statistical software PLS 3.0. According to the study, transformational leadership had a favorable significant influence on employees' readiness to change but no significant effect on workers' performance. The study came to the conclusion that the relationship between transformational leadership and employee performance was totally mediated positively by readiness for change. The research paved way to improve employee readiness for change by focusing on individual cognitions towards a change effort in the era of uncertainties in the organizational environment (Amis & Aissaoul, 2013). Readiness to change was used as an outcome variable.

Vakola (2014) looked into a study on people's willingness for change and how they saw the effects of organizational change in a technological firm in Greece. The study's goal was to investigate the idea of personal adaptability and the perceived effects of organizational change on its associations with context and personality traits. From a population of 540 employees, 183 employees were chosen at random as the sample. Regression analysis was used to examine the data after they were collected using a semi-structured questionnaire in the study.

The study discovered that the association between an individual's readiness to change circumstances and work attitudes was mediated by perceived effect of change. According to the study's findings, people who are confident in their talents have a propensity to view change favorably, which results in high levels of readiness to change and better organizational performance. The study's generalized emphasis on workers without regard to their cadre could have an impact on the results.

2.3.2. Agility Enabler and performance

Ahmadzadeh and Aboumasoudi (2020) conducted a study on development of a Quality Assessment (QA) model based on the enablers of organizational agility prioritize Critical Success Factors (CSF) of Enterprise Resource Planning (ERP) in twenty branches of bank Saderat in Iran. A sample of 20 top managers and 204 employees from a total population of 432 employees were used as respondents. The managers were sampled using snowball sampling method based on their knowledge ERP and QA and decision making abilities on ERP and QA implementation processes while employees were sampled using a random stratified sampling method. Five elements of agility enablers were used in the study; Leadership, operational team partnerships, continuous improvement, IT and organizational structure. The study found that organization structure and operational team partnerships (teamwork) and the top management leadership and support were main factors that influenced CSFs of ERP and QA. The study concluded that evaluation of organization structures and employee empowerment were key agility enablers for an organization going agile.

Menon and Suresh (2020) undertook a study on the variables impacting organizational agility in higher education institutions in India. The study's goal was to identify and analyze the characteristics that can help higher education institutions be more agile. Eight agility enablers were used namely; stakeholder collaboration, organizational learning, organizational structure,

human resource strategies, and the ability to sense the environment. The study included a sample of 35 respondents from higher education institutions, including department directors, faculty members and audit coordinators with varied levels of experience (5 to 30 years). Data was collected using structured questionnaires and analyzed using Total Interpretive Structural Modeling (TISM).

The study found that readiness for change, leadership, organization structure and human resource strategies enhanced agility in higher education institutes. This agrees with the findings of Ahmadzadeh and Aboumasoudi (2020) and Setili (2015) who affirmed the importance of adoption of fluid organizational cultures and structure as well as appropriate strategies such as decision making, experimenting and dealing proactively and rationally with “risk and uncertainties” as key influencers of agility. The study concluded that better understanding of higher education system and its inter-connections can catalyze agility development in higher education institutes.

Nejatian, Zarei, Rajabzadeh, Azar and Khadivar (2019) investigated an empirical investigation study on organizational agility in a food industry in Iran. The goal of the study was to evaluate an organized technique that identifies important organizational agility indicators and their interactions with one another. Five agility enablers were identified as concurrent engineering, information technology, intranet connections and ERP systems. A sample of 7 organizational experts at TMT level with over 10 years of experience in the dairy industry was used. Based on management insights and the significance of the respondent's position, the questionnaires were assessed. The links between the KPIs and the agility indicators were examined using Interpretive Structural Modeling (ISM). According to the study, the suggested methodology addressed the flaws of earlier agile methodologies and assisted the organization in allocating its resources to the appropriate agility indicators that have a significant impact on agility. The study concluded that application organizational agility in the dairy food company would lead eventually to maximization of performance in an Iranian context and hence further research on agility in other contexts with development of own specific agility indicators was of utmost importance.

Sud-on, Abareshi, & Pittayachawan (2014) did a study on impact of agility enabler and capabilities on performance of Thai automotive parts industry in Thailand. The goal of the study was to identify the most important output skills and facilitators of agility that the organization

needs to function at a higher level. To offer the necessary research instrument validity, the study used a cross-sectional research design and both exploratory and confirmatory factor analysis. The survey had a target population of 297 Thai providers of automobile parts, yielding a response rate of 43%. Integrated product development, human resource development, supply-chain coordination, and information technology integration were adopted as four agility enablers. According to the study, the four agility enablers helped organizations increase their agility in the areas of responsiveness, flexibility, innovative competency, and speed of delivery. The study came to the conclusion that in order to appropriately adapt to the growing market unpredictability, turbulence, and complexity, businesses aiming to achieve agility need reexamine how their operations are designed and managed.

Vazquez-Bustelo, Avella, & Fernandez (2017) conducted a study on effects of agility enabler and readiness to change outcomes for an integrated agile manufacturing model in Spain. An extensive sample of Spanish manufacturing was used to evaluate the model, and data was gathered using a questionnaire survey methodology. According to the current Amadeus-SABI database, a target population of 1234 manufacturers with over 100 employees in 2003 was sampled for the study. A response rate of 22.2% was obtained from the 283 valid surveys that were returned. To analyze the data for the study, structural equation modeling was used. The outcome showed that integrated usage of agile enablers enhances manufacturing competitive strength, resulting in superior operational markets and organizational performance in challenging settings. The study's finding that environmental turbulence frequently affects all industries shows that it is crucial to identify and execute relevant agility enablers in organizations.

2.3.3. Responsiveness and performance

Atieno & Senaji (2017) looked into the relationship between 55 state businesses' performance and their ability to respond to agility in Nairobi County, Kenya. A total sample of 215 top managers and senior employees were used. The research adopted an explanatory research design using stratified random sampling. Three aspects of agility: collective commitment, resource fluidity, and strategic sensitivity were examined. Simple regression analysis and analysis of variance were employed in the study to analyze the data. Based on the data, the study indicated that responsiveness to agility was a good predictor of organizational success ($r=0.714$, $p<0.01$) and that there was a substantial association between agility and performance.

Sangari and Razmi (2015) conducted an empirical study on business intelligence competence, responsiveness and agile performance in automobile industry in Iran. Based on the relationships between business intelligence competency, agile responsiveness, and supply chain performance, the study's goal was to investigate the contribution of business intelligence to achieving agility in manufacturing organizations. The agile responsiveness elements included communication, competence and quickness. A sample of 355 businesses was chosen from a total of 500, which represents 71% of the population but only had a response rate of 51.8%. Data from the automotive industry was analyzed using structural equation modeling. The study discovered that responsiveness had a role in mediating the association between business intelligence competencies and supply chain agility. However, because the research was limited to only manufacturing firms in the automotive industry, the results could not be extrapolated to other industries. The study came to the conclusion that additional empirical research in various industries was required to produce more definitive and all-encompassing findings.

Wasike, Ogollah, & Mburu (2014) studied the role of information system proficiency and responsiveness in a supply chain agility in technical university of Kenya. 96 respondents drawn from the top, middle and low level staff were sampled for the study. Data were examined using both descriptive and inferential statistics utilizing a case study design. The analysis discovered that 95.6% of the change in supply chain agility was due to information system proficiency and responsiveness. It was shown that responsiveness and information technology (IT) contributed more to supply chain agility than other IT services management competencies.

Kisperska-Moron & Swierczek (2019) conducted a study on the agile responsiveness of Polish businesses in the supply chain. The study focused on how responsive and agile Polish businesses were in their supply networks. The relationships between the company and its primary clients, primary suppliers, primary rivals, and finally the extent and intensity of IT use within the business, were all identified as four components of responsiveness. A sample of 96 companies operating in Silesian region in south Poland was selected with a response rate of 80 percent. Descriptive research design and factor analysis was used. Instead of choosing the companies under study at random, a non-probabilistic data extraction method was applied. According to the study, these four primary responsiveness elements made a significant contribution to the supply

networks' and enterprises' overall agility. The sample, however, was not representative, therefore it was unable to extrapolate the research's conclusions to all Polish enterprises as a whole.

2.3.4. Agility practice and performance

Gey, Yusuf, Menhat, Abubaker, & Ogbuke, (2019) conducted an empirical study on agility practices as a necessary condition maximize supply chain sustainability and performance in the United Kingdom (UK). The study looked into how sustainable practices, agile practices, and organizational performance interacted. Both the resource-based view and the dynamic capability theory served as the study's pillars. The study identified five organization practices that included; new product development, process alignment, employee empowerment, technology integration, innovativeness, and network collaboration. The research targeted higher carbon and energy intensive supply chains with 311 respondent's organizations. The study found that application of organizational practices caused a positive influence on sustainable performance of organizations and as such maximizes the outcomes of organizations performance and sustainability. The study concluded that implementation of appropriate agility practices were key requirements for organization that intends to be agile. The study recommended for further research to explore other dimensions of organization practices that have greater impact on specific organization performance objectives.

Malik, Sarwar & Orr (2021) conducted a study on agility practices and agile projects performance in Australia. The goal of the study was to investigate how psychological empowerment influences the development of creative behavior in accordance with agile principles and an improvement in project performance. Team autonomy, team diversity, agile communication and iterative and incremental development were identified as key agility practices. The study was conducted using an online platform and a survey-based research design. 202 out of 395 possible respondents who were randomly chosen from a population of 31000 using LinkedIn completed the survey, yielding a response rate of 51%. Since the data meets both Kline (2016) and (Shiau, Sarstedt, & Hair, 2019) minimal sample thresholds for structural equation modeling, it was evaluated using SEM. The study found out that agility practices were found significant to innovative behaviour of agile organizations. It was concluded that the ability of organizational leadership to inspire and empower workers was found to be a significant factor

in project performance, and this was strengthened through effective teamwork and communication.

Nyangau, Mburu & Ogollah (2014) undertook a study on the impact of outsourcing strategy on the procurement procedures and performance of universities in Kenya. The study used a sample of 336 respondents taken from the management cadre, with a target population of all 66 universities in Kenya. Both descriptive and inferential statistics were used to examine the data in SPSS version 21. The study discovered that the primary predictors of the procurement performance of universities in Kenya were contracting methods, license agreements, comprehensive outsourcing, and selective outsourcing tactics. According to the study's findings, institutions of higher learning in Kenya should place a greater emphasis on training, information sharing, and other agility practices to improve procurement performance.

Wang, Conboy, and Pikkarainen (2015) conducted a study on adoption of agile practices for four Australian companies: a medium-sized provider of service-oriented architecture solutions, a medium-sized provider of IT security services in over 90 countries, a small software company that specializes in network security, and finally a large multinational consulting firm creating a web-based system for a significant government body. The study used various practices namely; small releases, daily stand-up meetings, customer service, continuous integration, retrospective meetings, pair programming, 40-hour week and simple design. The research sample was 8, 6, 4 and 20 respondents respectively drawn from the organization senior manager's level. The study adopted an exploratory research using case studies approach since the phenomenon was being investigated in a real-life setting. The study found that the four companies adopted different practices that enhanced their agility levels. It was concluded that the organization's future performance will be significantly impacted by the implementation of suitable agile methods.

Muthimi, Kilika, and Kinyua (2021) investigated a study on the impact of inspirational motivation in higher education institutions at a few Kenyan public universities. The goal of the study was to determine how inspirational motivation affected the academic performance of a few Kenyan universities. The study used positivism as its research philosophy and was founded on the theory of transformative leadership. 370 units of observation in both schools and departments were used from a sample of 39 universities out of a total population of 74 licensed universities in Kenya. The gathering and analysis of data were guided by explanatory and descriptive study

designs. The study used proportionate multi-stage stratified random sampling techniques, and multiple regression analysis was used to evaluate the data. The study found a significant positive effect of inspirational motivation on university academic performance at $p < 0.05$ and $t = 8.057$. The study concluded that inspirational motivation positively affects university academic performance and is a pertinent agile practice for public universities in Kenya as they work to achieve agility.

2.3.5. Organizational Agility, Regulatory environment and performance

Reed (2021) looked into a study on organizational agility and the moderating effect of environmental turbulence in the state of Florida in USA due to high level of industry diversification and substantial economic heft in comparison to other states. With variable capital intensity, three industry sectors—manufacturing, professional services, and construction were chosen. In the study, an across-sectional survey was used. Randomly chosen from these industries was a target population of 1547 CEOs of independent, for-profit companies with more than ten employees. Out of this population, only 73 CEOs responded giving a low response rate of 5.3%, likely due to the use of the CEOs and top management level as the sample frame for the survey and the online questionnaire survey (Millar & Dillman, 2011; Ponto, 2015). A stratified sampling technique was employed to ensure that the enterprises were distributed equally by size and age. Multiple regressions were used to assess the correlations between the dimensions and confirmatory factor analysis was used to analyze the data to validate the survey items (Cohen, Cohen, West, & Aiken, 2002). According to the findings, environmental turbulence and company age were significant contingency factors that together moderated the link between strategic agility and firm performance. The study came to the conclusion that the association between strategic agility and company performance was strongly affected by firm age and environmental volatility.

Salehzadeh, Pool, Mohseni, and Tahani (2017) conducted a study on the effect of organizational agility and knowledge sharing moderated by organizational culture on performance of employees of Iranian small- and medium-sized businesses (SMEs). The goal of the study was to create a model to analyze the variables affecting organizational performance considering the importance of information sharing and organizational agility. The study used a sample of 324 respondents, the majority of whom were workers in Iran's small- and medium-sized food

industries. Questionnaires were used as the primary data gathering tools. Using SPSS version 18 and AMOS 20 for data analysis, a structural equation modeling approach was used to test the hypothesis and evaluate the model's overall goodness of fit. According to the study, organizational agility directly impacts an organization's success. This was consistent with research by Sanders & Premus (2002) and Yusuf Y., Gunasekaran, Adeleye, & Sivayoganathan (2004) that discovered a beneficial association between organizational agility and performance. The study came to the conclusion that the moderating effect of organizational culture and promoting information exchange and organizational agility will improve performance.

Katayama & Bennett (2021) conducted a study on comparison of concepts, culture and agility practice on adaptability and leanness of Japanese manufacturing firms. The manufacturing industry and allied service businesses, such as manufacturing consultancy, software industries, and logistics, comprised the target sample of the cross-sectional survey, which included a total of 182 survey respondents. The study revealed that organizational agility is not only limited to manufacturing industry but has increasingly extended its tentacles to both the business and service sectors due to the impact of unpredictable environment on these organizations. In addition, many Japanese companies in operation for over 5 years had responded to the change in economic conditions by modifying their production operations and cost structures systems. According to the study's findings, many stable firms with the right culture are working to increase their agility in order to become more sustainable and cost-adaptable.

2.3.6. Organizational Agility, Leadership Style and performance

Akor (2014) looked into how the authoritarian leadership style affected academic librarians' performance on the job in Nigeria's Benue state. The study concentrated on 87 librarians working in higher education institutions in the state of Benue. The Autocratic Leadership Style Questionnaire (ALSQ) and the Job Performance of Academic Librarians Questionnaire (JPALQ) were used to gather data for the study. According to the survey, the managers of libraries in the state of Benue preferred democratic leadership over laissez-faire and autocratic leadership. The study also discovered that while the autocratic leadership style did not significantly affect academic librarians' work performance, it did result in poor performance. The study came to the conclusion that institutions management in Benue state, Nigeria, should promote the adoption of a democratic style in academic librarian administration through seminars and workshops.

Allafchi (2017) looked into the impact of democratic leadership style on managing customer communication in Mill Banks of Hamedan City. A sample of 192 individuals from a population of 381 was used with both descriptive and inferential statistics using the Morgan & Kerjsi table. Regression analysis was used in the study, and it was discovered that democratic leadership style has an impact on customer communication management through the dimensions of humanitarian benevolence, counseling, and communication. The study recommended using a democratic leadership style to manage customer communications in Hamedan City's Mill Banks.

Sharma, Kumar & Keshorjit (2013) did a study on characteristic of laissez-faire leadership style for 25 leaders from public and private sectors in the Indian state of Manipur. The study employed exploratory survey and analyzed traits of a laissez-faire leadership style in actual leadership practice. The top executives and two direct reports of selected organizations were interviewed and/or had questionnaires filled out in order to gather primary data. The study found that while employees had a lot of freedom to choose their own goals and course of action, lax leadership gave them little to no direction. The study concluded that further research on other leadership styles was necessary in organizations to give the leaders some autonomy on decision making.

Muraguri, Kimencu, and Thuo (2017) investigated how organizational leadership affected university performance in Kenya. The study was moderated by institutional environment with university policies and culture as indicators. The ability to develop clear strategies, employee empowerment, corporate priorities, infrastructure, and resource support were the operationalization criteria for organizational leadership. 289 randomly chosen respondents from the top and medium echelons of management were drawn from the target demographic of 25 universities. 168 respondents were selected for the study using a stratified random selection method, yielding an 88% response rate. Cross-sectional and explanatory studies were combined in a mixed study design. A semi-structured questionnaire was used to gather the data, and multiple regression analysis was used to analyze it. According to the study, organizational leadership significantly and favorably affected how well universities in Kenya performed. However, the institutional environment was not significant as a moderator. It was concluded that in order for universities in Kenya to maintain and enhance their performance, they must carefully embrace the proper leadership style and make an investment in their professional growth. This is

in line with Murad & Gill's (2016) assertion that leadership plays a critical role in achieving good organizational performance.

Dubey, Singh, and Gupta (2015) reviewed research on the mediating effect of leadership styles on the effects of agility, flexibility, and alignment on the performance of the humanitarian logistic system in India. The study employed a cross-sectional survey methodology. 306 top officers from the Indian Railways, the Department of Police, non-governmental organizations (NGOs), the Transport Corporation, and logistic businesses were chosen at random, and a structured questionnaire was sent to them through email attachment, followed by phone calls.

A confirmatory factor analysis was then conducted to assess the construct validity of the questionnaire instrument and the goodness of fit. The exploratory factor analysis was used to investigate the underlying relationships of the measured variables. The mediation effects of Baron & Kenny's (1986) and multiple linear regression analysis were used to evaluate the hypotheses. The study found that the performance of human resources and logistical teams as well as supply chain alignment were strongly influenced by leadership style. This is in line with findings of work done by Dubey, Gunasekaran & Ali (2015) that found that appropriate leadership influences operational practices for an organization making it improve on its performance in the environment. The study therefore concluded that leadership style mediated the association between supply chain alignment and organization logistic performance.

The aforementioned theoretical literature review on theories and empirical review on organizational agility and university performance present some challenges that need to be addressed. The first observation is how the various constructs of organizational agility, leadership style, institutional environment and performance are attached to the tenets of different theories. Even though empirical literature on agility studies is still scanty and is still an area of much interest, the empirical research done so far has concentrated more on manufacturing IT software sectors when compared to other business and service sectors such as universities making it an area of serious concern for research investigation as a result of existence of contextual, conceptual, methodological and knowledge gaps from the various studies. This study focuses on organizational agility and the performance of public universities in Kenya. A review of the research gaps in the empirical literature is summarized as provided in table 2.1 below.

Table 2. 1 : Empirical Literature summary and Research gaps

Author/Year	Thematic	Theories	Methodology	Research finding	Research gap	Current research focus
Garden & Mikkelsen, 2020	Readiness to change and translation of organization ideas and practices in Norway hospitals	None was used	Longitudinal design with use of semi structured questionnaires	Organization translation practices foster readiness to change	Conceptual, contextual, theoretical and Methodological	Study will adopt a cross-sectional design in Selected Public universities in Kenya
Haque, TitiAmayah & Liu, 2016	Importance of vision on organization readiness to change and growth in a higher institute of education in California, USA.	None was used	Path Analysis. Focused on students	Perceived readiness to change mediated relationship between vision attributes and organizational growth	Contextual, theoretical methodological and conceptual	Readiness to change is a dependent variable. The focus will be on managerial cadre.
Asbari, Hidayat & Purwanto, 2021	Readiness to change and employee competence mediated by leadership in a chemistry industry in Indonesia.	Transformational leadership theory	Structural equation modelling	Employee performance benefited from readiness to change, through the leadership practices used.	Contextual, methodological and conceptual	Study will use multiple regression analysis
Zaman, Novitasari & Goestjahijanti, 2020	Impact of readiness to change on style of transformational leadership and employee performance of a painting industry in Indonesia.	Transformational leadership theory	Structural equation modelling	The association between transformative leadership and employee performance was favorably mediated by readiness for change.	Conceptual, contextual, methodological knowledge	Readiness to change is a dependent variable

Author/Year	Thematic	Theories	Methodology	Research finding	Research gap	Current research focus
Vakola, 2014	People willingness for change and its effects on organization change in a technological firm in Greece.	No theory used	Multiple regression analysis. Focused on employees in general	Individual readiness to change and work attitudes were favorably mediated by perceived impact of change.	Contextual and theoretical	Focus on management cadre of staff
Ahmadzadeh & Aboumasoudi, 2021	Effect of agility enablers on development of quality assessment model of enterprise resource planning (ERP) in Saderat bank, Iran.	No theory used	Snowball sampling and stratified sampling technique used	Organization structure, team partnerships and top management support were key agility enablers that affects assessment model.	Methodological, knowledge, theoretical and contextual	Focus will be on multi-stage and simple sampling techniques.
Menon & Suresh, 2020	Factors influencing agility in higher education institutes in India.	No theory used	Total interpretive Structural modelling	Readiness to change, human resource strategies leadership, and organization structure influenced agility in higher education institutes.	Theoretical, contextual and methodological	Focus will include responsiveness, agility practice and technology as other agility elements.
Nejatian, Zarai, Rajabzadeh, Azar and Khadivar, 2019	Empirical investigation on organizational agility in a dairy food company in Iran.	No theory was used	Interpretive structural modelling	The study addressed shortcomings of earlier methodologies of agility.	Contextual, conceptual, theoretical and methodological	Adopt multiple regression analysis approach in various public universities

Author/Year	Thematic	Theories	Methodology	Research finding	Research gap	Current research focus
Sud-on, Abaresh & Pittayachawan, 2014	Impact of agility enablers, capabilities and performance of Thai automotive industry in Thailand	No theory used	Cross-sectional research design and use of exploratory and confirmatory factor analysis in data analysis.	Product development, human resource development and information technology supported capabilities in areas of responsiveness, flexibility, competence and speed	Theoretical, contextual and knowledge. Study only used enablers to measure agility	Focus will be on four elements of agility
Vazquez-Bustelo, Avella & Fernandez, 2017	Effects of agility enablers and readiness to change outcomes for an integrated agile manufacturing plant in Spain	No theory was used	Structural equation modelling	Integrated use of agile enablers increased manufacturing competitiveness and improved organizational performance.	Knowledge, contextual, theoretical and methodological.	Focus will include other elements of Agility and apply multiple regression analysis
Atieno & Senaji, 2017	Responsiveness to agility and performance of state corporations in Nairobi, Kenya.	No theory used	Explanatory research design, stratified random sampling and simple regression analysis	Strategic sensitivity, resource flexibility, and group commitment are components of agility that have a favorable impact on organizational performance.	Conceptual, contextual and theoretical. Study lacked mediating and moderating variable	The study will adopt leadership style and regulatory environment as mediating and moderating variable respectively

Author/Year	Thematic	Theories	Methodology	Research finding	Research gap	Current research focus
Sangari & Razmi, 2015	Empirical study on business intelligence competence, responsiveness and agile performance in automobile industry in Iran	No theory used.	Structural equation modelling	Responsiveness partially mediated the relationship between business intelligence competence and agile performance of the supply chain.	Contextual, conceptual, theoretical and methodological	Study will apply proportionate random sampling techniques.
Wasike, Ogollah & Mburu, 2014	Role of information system proficiency and responsiveness in supply chain agility in technical university of Kenya		Simple regression analysis	95.6% of the difference in supply chain agility was attributable to the skill and responsiveness of the information system.	Conceptual, theoretical, only one university used. Study done on supply chain agility	Focus will be done on ten (10) public universities.
Kisperska-Moron & Swierezek, 2019	Agile responsiveness of polish companies in the supply chain	No theory used	Descriptive research design and factor analysis	Relationships between the business and its primary customers, suppliers, and rivals, and uses of IT, greatly influenced agile of the business.	Methodological, Theoretical	Focus on effect of mediating and moderating variable to explain the strength of the relationship.
Gey, Yusuf, Menhat, Abubaker & Ogbuke, 2019	Agility practice as a necessary condition for maximizing supply chain performance in the United Kingdom (UK)	Resource based view and Dynamic capability theory	Longitudinal design	Innovation, new product development and IT integration positively influenced performance.	Methodological, conceptual and contextual	Study will adopt cross-sectional design

Author/Year	Thematic	Theories	Methodology	Research finding	Research gap	Current research focus
Malik, Sarwar & Orr, 2021	Agility practices and performance of agile projects in Australia.	Resource based view	Survey design, Structural equation modelling, data collected through online LinkedIn platform.	Team diversity, team autonomy and communication skills as key agile practices and significant to innovative behavior of agile organizations	Methodological, conceptual and contextual	Data collected using Semi structured questionnaire
Nyangau, Mburu & Ogollah, 2014	Impact of outsourcing strategy on the procurement procedures and performance of universities in Kenya	No theory	Simple regression analysis	Contract practices, licensing agreement and competitive outsourcing and licensing positively influenced performance	Theoretical, conceptual and knowledge	Multiple regression analysis will be used.
Wang, Conboy & Pikkarainen, 2015	Assimilations of agile practices in use for four organizations in Australia.	No theory	Exploratory research design using case study approach	Adoption of adequate agile practices positively impact on performance of the organization	Conceptual, theoretical, methodological and contextual	Study to adopt descriptive and explanatory research design.
Muthimi, Kilika & Kinyua, 2021	Role of inspirational motivation in selected universities in Kenya	Transformational leadership theory	Descriptive and explanatory research design.	inspirational motivation positively influenced academic performance in selected universities in Kenya	Conceptual	Focus will be on organizational agility

Author/Year	Thematic	Theories	Methodology	Research finding	Research gap	Current research focus
Reed 2021	Organizational agility and the effects of environment turbulence in the US state of Florida.	No theory	Multiple regression analysis and confirmatory factor analysis	The association between organizational agility and company performance was modified by environmental volatility.	Contextual, conceptual, and theoretical	Focus will be moderated by institutional environment
Salehzadeh, Pool Mohseni & Tahani, 2017	Effect of organization agility and knowledge sharing on performance of employees of small and medium enterprises in Iran.	Resource based view	Structural equation modelling	The performance of the organization was significantly improved by organizational agility.	Contextual, no mediating and moderating variable	Focus will be on public universities
Kattaayama & Bennett, 2021	Agility practice and leanness of manufacturing firms and related service sector in Japan	No theory	Cross-sectional survey design	Organizational agility significantly improved the performance of manufacturing companies and the service industry.	Contextual, theoretical and conceptual	Agility practice will be one of the element of independent variable
Akor, 2014	Effect of autocratic leadership style on job performance of academic librarians in Nigeria Benue state.	No theory	Survey study, Data collected using leadership style questionnaire	Academic librarians performed significantly worse on the job under autocratic leadership.	Contextual, conceptual, theoretical and methodological	Three leadership philosophies—autocratic, democratic, and laissez-faire will be highlighted.

Author/Year	Thematic	Theories	Methodology	Research finding	Research gap	Current research focus
Allafchi, 2017	Impact of democratic leadership on managing customer communications in Mill banks of Hamedan City's	Transformational leadership theory	Both inferential and descriptive statistics, Multiple regression analysis	Democratic leadership style affected positively customer communication through dimension of employee benevolent, counselling and communication.	Contextual and knowledge	Focus will be placed on the mediator variable's components of autocratic, democratic, and laissez-faire leadership styles.
Sharmar, Kumar & Keshorjit, 2013	Characteristics of laissez-faire leadership style for government and private sector leaders in Manipur state, India	No theory	Exploratory survey, primary data collected using interview method and questionnaire	Laissez-faire provided little or no direction but empowered employees to set their own goals and decision making freedom.	Contextual. Methodological and theoretical. Study limited to banks	Both descriptive and explanatory research design will be used.
Muraguri, Kimenju & Thuo, 2017	Organizational leadership and performance of universities in Kenya	Transformational leadership theory	Mixed research design, Stratified random sampling and multiple regression analysis	Organizational leadership had a large and favorable impact on how well universities performed	Conceptual	Focus will be on organizational agility as an independent variable
Dubey, Singh & Gupta, 2015	Mediating role of leadership styles on the impact of agility, adaptability and alignment on humanitarian logistics performance in India.	No theory	Cross-sectional survey, Multiple regression analysis and confirmatory factor analysis	Leadership style was a strong determinant in alignment of the supply chain and performance of human resource logistics.	Contextual, theoretical	Study used three leadership styles namely autocratic, democratic and laissez-faire as mediator elements.

2.4. Conceptual Framework

Conceptual framework describes the relationship between the many variables employed in the study. The conceptual framework below links the organizational agility as independent variable with the performance of selected public universities as dependent variable. The relationship was mediated by leadership style and moderated by regulatory environment.

The relationship is described in the conceptual framework.

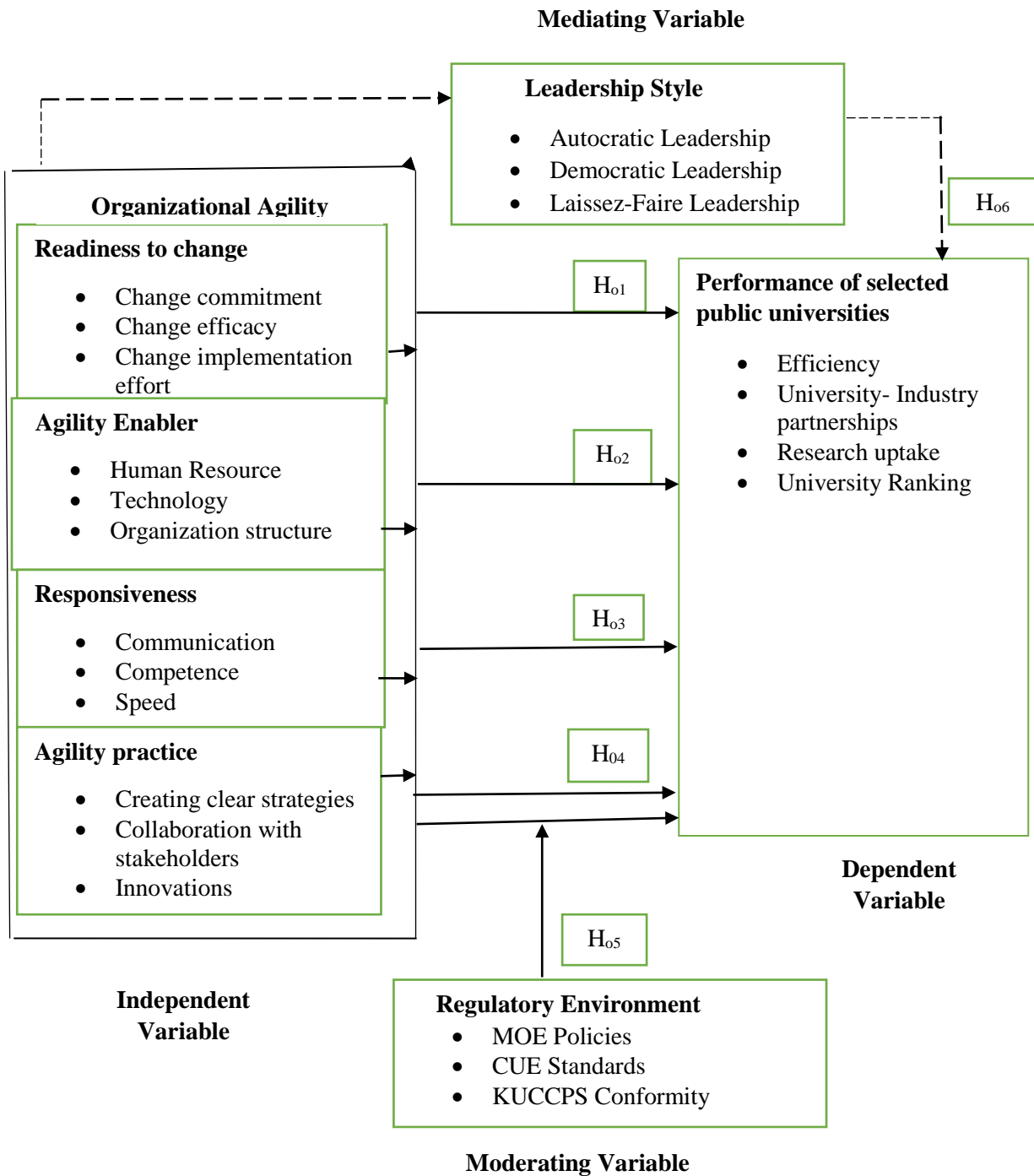


Figure 2.1: A Conceptual Framework

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Introduction

This chapter covers the research approach taken for the study. It focused on the following areas: research philosophy, research design, operationalization of the variables, population, sample size and sampling techniques, research instruments and data collection procedures, validity and reliability of the instruments, data processing and analysis procedures, and ethical considerations.

3.2. Research Philosophy

The development of new knowledge and the nature of that knowledge, on which essential research assumptions and foundations are built, are discussed in research philosophy. There are four research paradigms that influence scientific study namely positivism, interpretivism, realism and pragmatism (Mkansi & Acheampong, 2012). This research is based on pragmatism approach to research. By focusing on both quantitative and qualitative methodologies, the pragmatic approach enables a researcher to grasp the phenomena under study by taking a broad view of the inquiry. Only by using a diversity of methodologies to address research issues that cannot be answered with a single type of data gathering can this new knowledge be discovered (Bryman & Bell, 2011). Pragmatism paradigm is a precise approach that focuses on uncovering both observable and measurable facts (Saunders, Lewis, & Thornhill, 2016).

A researcher can perceive the world via the views and experiences of participants by using the pragmatic philosophical approach. Nguyen & Tran (2015) state that pragmatists hold the view that interpreting the findings for the collected data requires an awareness of the context in which any type of study is conducted.. In order to handle complicated and multifaceted research challenges, social science researchers in particular need such a dynamic method (Bryman & Bell, 2011). The pragmatic approach, according to Willis (2007), is founded on the idea that theory or data alone cannot determine how to conduct practical research. Most researches on agility have been constructed within a western paradigm and their transition in different contextual scenarios is paramount, hence choice of pragmatism philosophy in a university setting was preferred. In order to determine whether there are any conceivable connections between the listed factors and

the strength of those linkages, the current study on organizational agility and performance of public universities in Kenya set out to identify these connections. Furthermore, the data was subjected to hypothesis testing based on facts gathered from the data and also on observable facts. This philosophical approach was thus considered to be appropriate for this study due to the exclusivity of variety of approaches to knowledge generation by underlying data gathering and interpretation

3.3. Research Design

Research design is a method for both data collection and analysis. Bryman & Bell (2011) assert that the use of different designs in a single study enhances triangulation and increases the validity of the research findings. Mixed design methodologies was used in the current investigation that comprised of both descriptive and explanatory. Descriptive research allows the researcher to observe and describe a subject's behaviour without affecting it in any manner and therefore avoiding any bias. On the other hand, the explanatory research design examines the cause-effect relationships between the variables and makes an effort to explain the nature of particular interactions in order to better understand the study problem. According to Lavrakas (2008), cross sectional survey design requires collecting information on a target population of interest at a specific point in time in order to draw conclusions and quantify the phenomenon under research. Muchemi (2013) adopted the same design.

3.4. Empirical model

The statistical significance of the study's variables was determined using an empirical model. The effect of organizational agility on university performance was investigated using a multiple regression approach, as suggested by (Muthen & Muthen, 2012). The relationship between organizational agility (described in terms of readiness to change, agility enabler, responsiveness and agility practice) and university performance was investigated using a step-by-step regression model since the dependent variable is continuous (Kinyua, 2015). In addition, the latent variables were investigated to evaluate their effect on University performance. As an outcome predictor, leadership style was used in the study to explain the relationship between the independent and dependent variables, and the institutional environment was used to establish the strength of the relationship.

3.4.1. Direct relationship empirical model.

A multiple regression equation for predicting Y (performance of selected public universities) was shown as follows in model 3.1 to help understand the strength of the link for each variable objective one through to four:

$$Y = \beta_0 + \beta_1 RC + \beta_2 AE + \beta_3 R + \beta_4 AP + \epsilon \dots\dots\dots (3.1)$$

Where; Y= the dependent variable and a composite score for Performance of selected public Universities.

B_0 = A constant that defines performance of selected public universities without use of independent variables.

$\beta_1, \beta_2, \beta_3, \beta_4$ are the independent variable beta coefficients (slope).

RC= Readiness to change

AE=Agility Enabler

R= Responsiveness

AP = Agility Practice

ϵ = error term

3.4.2. The mediating effect.

To examine the mediation effect of the leadership style on the link between organizational agility and university performance, the study used the four-step methodology recommended by Baron and Kenny (1986). The four steps of the regression analysis are explained as follows:

Step 1: Perform a simple regression analysis using OA to predict Y

$$Y = \beta_5 + \beta_6 OA + \epsilon \dots\dots\dots (3.2)$$

Step 2: Run a simple regression analysis using OA to predict LS

$$LS = \beta_7 + \beta_8 OA + \epsilon \dots\dots\dots (3.3)$$

Step 3: Perform a simple regression analysis using LS to predict Y

$$Y = \beta_9 + \beta_{10} LS + \epsilon \dots\dots\dots (3.4)$$

Where; OA= Organizational Agility

LS= Leadership Style (Mediator Variable)

Y =Performance of selected public universities

Step 4: Execute an analysis of multiple regression with OA and LS predicting Y.

$$Y = \beta_{11} + \beta_{12}OA + \beta_{13}LS + \epsilon \dots\dots\dots (3.5)$$

The goal of steps one through to three was used to find out if there exists a relationship between the variables. Mediation is unlikely in case a non-significant relationship exist. However, the analysis proceeds to step 4 if significant relationships are found in steps 1 through 3. At this point, mediation is justified if the effect of LS is still discernible even after accounting for OA. A full mediation will occur if OA is found not significant even after controlling for LS. If both the OA and LS significantly predicted university performance (Y), then there will be partial mediation. Table 3.1 below depicts all possible findings of the mediation analyses.

Table 3. 1: Criterion for mediation decisions

Case	Outcomes	Conclusion
1	β_6 not significant ($p > 0.05$) in model 3.2	No overall relationship to mediate
2	β_6 significant ($p \leq 0.05$) in model 3.2	A relationship exists to mediate
3	β_6 significant ($p \leq 0.05$) in model 3.2 β_8 significant ($p \leq 0.05$) in model 3.3 β_{10} significant ($p \leq 0.05$) in model 3.4 In model 3.5, β_{12} not significant ($p > 0.05$) and β_{13} significant ($p \leq 0.05$)	Complete mediation
4	β_6 significant ($p \leq 0.05$) in model 3.2 β_8 significant ($p \leq 0.05$) in model 3.3 β_{10} significant ($p \leq 0.05$) in model 3.4 In model 3.5, β_{12} significant ($p \leq 0.05$) and β_{13} significant ($p \leq 0.05$)	Partially mediated
5	β_6 not significant ($p > 0.05$) in model 3.2 β_8 not significant ($p > 0.05$) in model 3.3 β_{10} not significant ($p > 0.05$) in model 3.4 In model 3.5, β_{12} and β_{13} not significant ($p > 0.05$)	Zero mediation.

Source: Baron & Kenny (1986)

3.4.3. The moderating Test

The following two regression models used by Muraguri (2017) and Kiiru (2015), was utilized to examine the moderating role of regulatory environment on the zero-order correlation between organizational agility and university performance.

$$Y = \beta_{14} + \beta_{15}OA + \beta_{16} RE + \epsilon \dots \dots \dots (3.6)$$

$$Y = \beta_{17} + \beta_{18}OA + \beta_{19} RE + \beta_{20}OA * IE + \epsilon \dots \dots \dots (3.7)$$

Where; OA = Organizational Agility composite

β_{17} = intercept

$\beta_{18} \beta_{19} \beta_{20}$ = Beta coefficients

RE= Regulatory Environment

ϵ = Error term

Whereas model 3.6 examines the moderator as an explanatory variable, model 3.7 captures the moderator's overall effect as well as its direction on the relationship between the independent and dependent variables.

Table 3. 2: Criterion for moderation decisions

Case	Outcomes	Conclusions
1	β_{15} not significant ($p > 0.05$) in model 3.6	No relationship to moderate.
2	β_{15} significant ($p \leq 0.05$) and β_{16} not significant ($p > 0.05$) in model 3.6	Explanatory variable is the moderator.
3	β_{18} and β_{19} significant ($p \leq 0.05$) significant in model 3.7	Relationship exist to moderate.

Source: (Kinyua, 2015)

Moderating effect was indicated by the interaction of elements of OA and IE in explaining university performance. The strength and direction of the moderating variable was determined by the coefficient (β_{20}) of the interaction term between organizational agility and regulatory

Environment in model 3.7.

3.5. Operationalization of the variables

Table 3. 3: Operationalization of variables in the study

Variable	Variable type	Indicator	Measurement	Question
Readiness to change	Independent variable	<ul style="list-style-type: none"> • Change commitment • Change efficacy • Change implementation effort 	Five-point Monadic scale	Section-B Question 5-6
Agility Enabler	Independent variable	<ul style="list-style-type: none"> • Trained Human Resource • Technology • Organization structure 	Five-point Monadic scale	Section-C Question 7-8
Responsiveness	Independent variable	<ul style="list-style-type: none"> • Communication • Competence • Speed 	Five -point Monadic scale	Section-D Question 9-10
Agility practice	Independent variable	<ul style="list-style-type: none"> • Creating clear strategies • Collaboration with stakeholders • Innovativeness 	Five-point Monadic scale	Section-E Question 11-12
Leadership style	Mediating variable	<ul style="list-style-type: none"> • Autocratic leadership • Democratic leadership • Laissez-faire Leadership 	Five-point Monadic scale	Section-F Question 13-14
Institutional environment	Moderating variable	<ul style="list-style-type: none"> • MOE policies • CUE standards • KUCCPS conformity 	Five-point Monadic scale	Section-G Question 15-16
University performance	Dependent variable	<ul style="list-style-type: none"> • Effectiveness and efficiency • University- Industry partnerships • Research uptake • University Ranking 	Five-point Monadic scale	Section-H Question 17-18

3.6. Target Population

The whole set of all the units of analysis that the researcher plans to take into account for the intended study makes up the target population (Neuman, 2014). One of a researcher's top priorities is to identify the target population. All 31 of Kenya's chartered public universities that are fully operational are the study's target population, as noted in Appendix II. (CUE, 2012).

These public universities were targeted specifically for the survey because of their role in development of human capital for a country and the many challenges they currently face as a result of the uncertain changes in the environment that has affected their performance and require quick response. The study selected ten (10) public universities by systematic sampling from across the ranking scale locally, regionally and globally based on the web metrics world University ranking of January, 2023. This was found necessary to provide a uniform distribution of all universities that are engaged in research and are established with a balanced regional outlook and with adequate structures to support quick response in uncertain and unpredictable environmental circumstances. This criterion provided ten (10) public universities for the study as shown in Appendix III.

The respondents for the study were purposely selected due to the strategic nature of the study that require persons with decision making abilities in unpredictable circumstances in the environment the university operates in. The DVCs, Deans of Schools or Faculties, Heads of Academic Departments, and Senior Administrative Staff of Kenyan Public Universities were the primary subjects of this study. The administrative staff included Human Resource Manager (HRM), Chief Finance Officer (CFO), Information and Communication Technology director (ICT), Procurement Manager (PM), Public Relations Officer (PRO), Security Director, Quality Assurance Manager (QAM) and Audit Manager. These responses were chosen because they were found crucial to the development of policies that would ensure the long-term viability of these institutions. They are therefore assumed to be key personalities to enhance the concept of agility in high education institutions in uncertain changes arising from the environment. The responses were 488 in total throughout the ten universities, as shown in table 3.4 below.

Table 3. 4: Distribution of the Target population for ten universities

Respondents	UON	JKUAT	MMUST	SEKU	PU	UoK	Kibu	LU	UoEld	Kyu	Total	% of Total
DVC	3	3	3	3	3	3	3	2	2	2	27	5.54
Dean-Schools/Faculty	9	6	11	6	8	6	7	6	7	8	74	15.20
Academic Department heads	67	32	44	28	26	19	19	18	32	22	307	63.04
Senior Admin Staff	8	8	8	8	8	8	8	8	8	8	80	16.22
Total	87	49	66	45	45	36	37	34	49	40	488	100

3.7. Sampling design.

The sampling procedures refer to the process of choosing a sample from the population from whom the study is to be conducted (Kothari & Garg, 2014). The primary sources of information for this study's core data were the leaders of important administrative units at each university's three strategic levels of corporate, business, and function. These include; DVCs at corporate level (management) who were all sampled due to their small number per university, deans of schools or faculties at business level (senate), head of academic departments and senior administration staff at functional level (departments). Due to the vice chancellors' obligations, which would interfere with the study's timely data collection process, they were not included in the study. As advised by Chauvet (2015), a multi-stage sampling strategy was used in this study to choose a representative sample of respondents and universities, using the university as the unit of analysis and functional units throughout the management hierarchy as the units of observation. Kilika (2012), Kiiru (2014) and Muthimi, Kilika & Kinyua (2021) used similar approaches.

Based on the criteria mentioned in section 3.5, the first stage involved choosing the appropriate public institutions from which responses were chosen. The second stage included choosing the strategic units within the chosen universities from which a sample was obtained. To maintain homogeneity, proportionate stratified random sampling techniques was applied to create the three strata comprising of the DVCs at management, deans at senate and academic department heads and senior administrative staff at departments level. Since the DVCs were small in number

across the selected universities, they were sampled by census. To sample the respondents at each stratum in accordance with the study's objectives, the Yamane formulas and simple random sampling was used in the third stage (Yamane, 1967; Adam, 2020).

Using the Yamane formula, $n = N / (1 + N(e)^2)$, where n is the sample size, N is the population size, and e is the required level of precision at a 95% confidence level, the study chooses a maximum margin of error of 0.05 at a 95% confidence level and assumes maximum variability because it is difficult to quantify variability proportions. With $N=488$ and $e = 0.05$ from section 3.6 above, $n = 488 / (1 + 488(0.05)^2) = 220$

The distribution of units of observation based on the sample size calculated above was as follows: DVCs =17, Deans of schools/faculties =36, academic department heads = 127 and senior administrative staff = 40. As indicated in table 3.5 below, sample sizes for each unit of analysis will be allocated proportionally;

Table 3. 5: Distribution of Sample size per university per unit of observation

Respondents	UON	JKUAT	MMUST	SEKU	PU	UoK	Kibu	LU	Uoeld	Kyu	Total
DVC	2	2	2	2	2	2	2	1	1	1	17
Dean-Schools/ Faculty	5	3	5	3	4	3	3	3	3	4	36
Academic Department heads	23	14	18	12	11	9	9	8	13	10	127
Senior Admin Staff	4	4	4	4	4	4	4	4	4	4	40
Total	34	23	29	21	21	18	18	16	21	19	220

The above table 3.5 shows the expected respondents to be used per unit of analysis and unit of observation.

3.8. Data collection instrument

A self-administered questionnaire was used to gather the primary data (See Appendix II). The surveys examined the responses' observations, viewpoints, and opinions regarding the study's

variables. The use of questionnaire to collected data was preferred since it ensured reliability of respondent's response, judgment and independence. The instrument had five components addressing different facets of the subject. The respondents' demographic information, included length of working at the university, highest educational level reached, and other factors, were covered in Section A. Section B covered components of organizational Agility as dependent variables that included; organization readiness to change, agility enabler, responsiveness and agility practice. Section C covered Leadership style as a mediating variable, Section D covered institution environment as a moderating variable while Section E covered University performance as a dependent variable. The study adopted a 5-point monadic scale for section B through to E using 1= Not sure 2= strongly disagree, 3= disagree, 4= disagree, 5 =strongly agree. To substantiate the responses in the relevant parts and improve triangulation, open-ended questions were used.

3.9. Validity and Reliability of the Research instrument

The study involved pilot testing, evaluation of the validity and reliability of the research instrument.

3.9.1. Pilot study

A pilot test was done with other experts' members in the target population for their opinions to ensure the questionnaire relevance and effectiveness. The pilot study is done to detect any weaknesses in the design of the instrument (Cooper & Schindler, 2013). According to Mugenda and Mugenda (2009), a pilot study should be 1-10% of the sample size. Kothari (2009) recommends 1% of the sample size for pilot test. In this research, 10% of the sample was found sufficient for piloting and was drawn from a separate sample with homogenous characteristics from the same target population using online platform to quicken the process of testing and its reliability. The pilot data was analyzed for its relevance, design, content and usefulness in accordance with the research objectives in improving the questionnaire.

A pilot test of the study instrument was conducted with 20 participants, recruited from among academic division heads and deans of the chosen Kenyan universities. According to Field (2013), the participants in the pilot study were excluded from the final sample of participants.

The pilot test's findings showed that some of the questions lacked organization. Therefore, in order to remove any potential sources of ambiguity or inadequate language, the questionnaire was amended in light of the feedback that was received and the opinions of subject-matter experts. The researcher additionally depended on tools created in similar studies to further improve the content validity in terms of accuracy and applicability. This was also made feasible by the operationalization of the study variables that underpin the conceptual framework.

3.9.2. Validity.

In research, validity indicates the extent to which the measurement tool measures what is supposed to be measured. There are various kinds of validity that are used in research. However, three of them namely face, content and construct are evident in strategic management research. Whereas face validity mainly deals with subjectivity of the researcher in evaluating the measurement tool, content validity assesses the extent to which the data obtained accurately reflect the content of the notion being measured (Mugenda & Mugenda, 2009). Contrarily, the construct validity assesses how well a tool captures an underlying construct through experimental demonstration (McGrath, 2005). In this study, the questionnaire was subjected to organizational studies expert's opinions in the field of strategic management and also rating from other experienced expert members in the target population to confirm both the content and face validity. Secondary data was used to validate the study's findings.

The study's conceptual framework was supported by theoretical assumptions, which were reflected in the operationalization of terms, so improving the construct validity. By grading and rationally analyzing the constructs of interest as proposed by Diskiene, Galiniene, and Marčinskas (2008), experts who were knowledgeable about the subject matter contributed to the study and improved the construct validity. Their feedback was eventually included in the questionnaire.

3.9.3. Reliability.

Reliability indicates the extent to which the research instrument may yield similar results or score when administered in different location, populations or times (Teddie & Tashakkori, 2009). Cronbach's alpha was used to evaluate the internal reliability of the items in the questionnaire. Sekaran & Bougie (2010) defines Cronbach's alpha as a reliability coefficient that gives an indicator on how components of a questionnaire are correlated with one another in a

positive manner. The cronbach's alpha determine reliability of each variable in the study with its coefficient of correlation value ranging between 0 and 1 (Cronbach, 1951; Bonnet & Wright, 2014). The acceptable cronbach's value stills an area of debate. Whereas in some literature studies, value of 0.7 or above is recommended as adequate measure of reliability ((Nunnaly, 1978; Fullerton, Kennedy, & Widener, 2014), other earlier studies found 0.5 as sufficient value to measure reliability (Cooper & Schindler, 2008), while others found 0.6 as adequate (Nunnaly & Bernstein, 1994); (Hasnida & Ghazafi, 2016). It is on this strength that Muchemi (2013) used a threshold of 0.7 while Muathe (2010) and Kiiru (2015) used 0.5 as minimum threshold to measure reliability of their research instruments. In this study, threshold of 0.7 was adopted as measure reliability. The results for all the variables in the study are summarized in table 3,6.

Table 3. 6: Results of Reliability Test

Variable	Number of items	Cronbach Alpha	Comments
Organizational readiness to change	7	0.814	Reliable
Agility Enabler	6	0.785	Reliable
Responsiveness	6	0.789	Reliable
Agility Practice	6	0.772	Relaible
Institutional environment	6	0.739	Relaible
Leadership style	9	0.711	Reliable
University performance	9	0,748	Reliable
Aggregate mean score	49	0.762	Reliable

Source: Pilot study data (2023)

Table 3.6 shows that organization readiness to change had the utmost reliability ($\alpha= 0.814$), followed by responsiveness ($\alpha= 0.789$), agility enabler ($\alpha= 0.785$), agility practice ($\alpha= 0.778$), university performance ($\alpha= 0.749$), institutional environment ($\alpha= 0,739$) and leadership style ($\alpha= 0.711$). In this study all the six variables showed reliability values above the threshold of 0.70 as recommended by (Fullerton, Kennedy and Widener, 2014).

3.10. Data collection procedures

An introduction letter was obtained from Kenyatta University's Graduate School and an approval letter from NACOSTI, the National Commission for Science, Technology, and Innovation, that was required for the data collection process. The management of the chosen universities was contacted for permission and approval to gather information from the study respondents, and

trained assistants were used to administer the questionnaires. Two hundred and twenty (220) questionnaires were given to the chosen respondents and picked after three-four weeks to allow them ample time to fill the questionnaire. The drop and pick strategy allowed researchers to clarify the research's objective, which minimize non-response bias while also boosting the quality of data obtained. This form of dissemination has been demonstrated to boost response rate (Allred & Ross-Davis, 2011). The data was then be sorted out, analyzed and presented.

3.11. Data Analysis and Presentation

The quantitative and qualitative data analysis methods were applied in analyzing the various research variables (Greswell, 2014). The qualitative data explored and provided depth of understanding the relationship of the various variables.

3.11.1. Quantitative Data Analysis

The quantitative analysis was done to confirm hypothesized relationship in the existing conceptual model. This study used SPSS version 22 software to process the data for analysis. According to Almalki (2016) data analysis gives some structure, order and meaning to huge data collected by a researcher. Descriptive statistics including the mean score, frequency distribution and standard deviation were done to provide basic features for the collected data on the variables of interest under study (Tavakol & Dennick, (2011). Multiple regression analysis was used in the study to verify the predicted correlations between the variables at a 95% confidence level. The nature and strength of the link was done using Pearson's product-moment correlation (r). The degree of variance in the dependent variable, university performance, that can be accounted for by the independent variable, organizational agility, was measured using adjusted R2.

The study employed the summing of monadic items in each section of the structured questionnaire as a proxy in order to speed up the regression process. Each index for organizational agility components was generated as follows;

$$I = \sum_{k=0}^n K_i$$

Where K = the sum index (proxy) for the various components of organizational agility, (Readiness to change, agility enabler, responsiveness and agility practice).

K_i = Monadic items in each section of the questionnaire.

n = total monadic items in each of the sections in the questionnaire.

The study computed indices for the four variables, namely readiness to change, Agility enabler, responsiveness and agility practice as collectively affecting the performance of public universities. Before evaluating the model, the following tests were performed to meet the statistical requirements; test of linearity, normality, homoskedasticity and multicollinearity analysis as suggested by Malhotra & Dash (2011). These tests were of utmost importance to enable evaluation of the underlying model statistical assumptions about the variables used in the study (Williams, Grajales, & Kurkiewicz, 2013).

3.11.2. Test of Linearity

According to Field (2013), regression models can only be applicable in accurately estimating the relationship that exists between the independent and the dependent variables, if the relationship is linear. The study used ANOVAs test to compare group means and variance estimates. The ANOVAs linearity test calculated both the two variable linear and non-linear components. The ANOVAs test was considered better than the two-simple t-test due to the high chance of causing type 1 error by the later method by rejecting null hypothesis when it is actually true. The non-linearity is considered significant p-value <0.05 (Garson, 2012).

3.11.3. Normality Test

An assessment of normality of data is a requirement in many statistical research. According to Ghasemi & Zahediasi (2012) at, normality of data is evaluated using the Shapiro-Wilk test approach. In this study, the Shapiro-Wilk test was employed to assess if the variables under inquiry are either distributed normally or departs from normality due to skewness or kurtosis with the values lying between zero and one (Korkmaz, Goksuluk, & Zararsiz, 2014). If the p-value is less than 0.05, which denotes that the data being tested are not from a normally distributed population, the null hypothesis is rejected. However, the null hypothesis that the data

come from a normally distributed population cannot be disproved if the p-value is greater than 0.05. (Ghasemi & Zahediasl, 2012)

3.11.4. Test of homogeneity

Homoscedasticity reflects the homogeneity of the variance. The homoscedasticity assumption states that the dependent variable will have equal amounts of variation along the range of values for an independent variable. (Hair, Black, Babin, & Anderson, 2010). An error term is homoscedastic when it has a constant variance. However, it is said to be heteroscedastic when its variance is not constant. This distinction is crucial because the parameter estimates becomes unbiased if the regression model is run without taking heteroscedasticity into account. Wrong interpretation of type I and type II hypothesis heteroskedastic mistakes might have a negative impact on empirical research. In contrast to type I mistake in research where a null hypothesis is rejected when it is true, type II error happens when a researcher accepts a faulty null hypothesis when it should be rejected. (Cooper & Schindler, 2013). Reducing the chance of type II errors increases the likelihood of type I errors since type I errors are thought to be more dangerous than type II errors. (Gastwirth, Gel, & Miao, 2010). Breusch-pagan test of homogeneity was used in this study to determine homoscedasticity by employing the traditional levels of statistical significance ($p = 0.05$) to reduce type I error (Nachinias & Nachinias, 2004). This statistic determines if the independent and dependent variables have the similar variance. The test is said to be significant if $p > 0.05$. Mbaya (2021) utilized a similar strategy to test for homogeneity.

3.11.5. Multi-collinearity Test

The data was empirically analyzed using the regression model to derive conclusions and recommendations about the study population. As a result, it was important to determine whether the data set have any multi-collinearity (Mooi & Sarstedt, 2014). The variance Inflation Factor (VIF) was employed in the study to determine the level of tolerance on presence of multicollinearity. The level of multicollinearity is tolerated when VIF is equal or less than 10 according to the thumb rule. Multicollinearity has an impact on multiple regression models because it affects the standard error of coefficients, making them not dependable. This phenomenon also reduces R's size and this makes determining the value of individual predictors more challenging.

Table 3. 7: Hypothesis testing

Hypothesis	Regression model	Hypothesis testing
H₀₁ : There is no relationship between organizational readiness to change and performance of selected public universities in Kenya	Multiple regression analysis	H ₀ : $\beta_1, \beta_2, \beta_3, \beta_4 = 0$ vs H ₁ : $\beta_1, \beta_2, \beta_3, \beta_4 \neq 0$, Reject H ₀ if $p \leq 0$, otherwise fail to reject the H ₀ .
H₀₂ : There is no relationship between agility enabler and performance of selected public universities.	$Y = \beta_0 + \beta_1 RC + \beta_2 AE + \beta_3 R + \beta_4 AP + \epsilon$ Where Y= university performance, $\beta_0 =$ constant (coefficient of intercept), $\beta_1 =$ Regression coefficient of RC, $\beta_2 =$ Regression coefficient of AE, $\beta_3 =$ Regression coefficient of R	
H₀₃ : There is no relationship between responsiveness and performance of selected public universities in Kenya	$\beta_4 =$ Regression coefficient of AP, RC= Readiness to change, AE= Agility Enabler, R= Responsiveness, AP= Agility practice, $\epsilon =$ Error term.	
H₀₄ : There is no relationship between agility practice and performance of selected public universities in Kenya.		
H₀₅ : Leadership style has no mediating effect on relationship between organizational agility and performance of selected public universities in Kenya	Regression analysis $Y = \beta_5 + \beta_6 OA + \epsilon$ $ELS = \beta_7 + \beta_8 OA + \epsilon$ $Y = \beta_9 + \beta_{10} ELS + \epsilon$ $Y = \beta_{11} + \beta_{12} OA + \beta_{13} ELS + \epsilon$	R ² value $p \leq 0.05$
H₀₆ : Institutional environment has no moderating effect on the relationship between organizational agility and performance of selected public universities in Kenya.	Regression analysis $Y = \beta_{14} + \beta_{15} OA + \beta_{16} IE + \epsilon$ $Y = \beta_{17} + \beta_{18} OA + \beta_{19} IE + \beta_{20} OA * IE + \epsilon$	Change in R ² value $p \leq 0.05$

Source: Author and Literature Review (2022)

3.12. Ethical Considerations

While conducting this study, the researcher used extreme caution since balancing between the researcher's role and the respondent's care was of great importance (Connelly, 2014). According to (Minja, 2009), ethics are norms that govern human behaviour and have a substantial impact on

human welfare. This research was meticulously designed and carried out in accordance with the Kenyatta University Graduate School's ethical guidelines. First researcher got research permission from Kenyatta University's graduate school. Second, the researcher sought approval from NACOSTI to conduct study. Thirdly, the researcher sought authority to collect data from the respective universities under the study. Finally, before respondents were given all the requirements of the study, the researchers sought for their agreement and assurance of confidentiality and use of any information given to the researcher for academic purposes only. Respondents names was optional on the questionnaire for confidentiality. The results of the research have been presented without any manipulation. This is in line with Renik (2011) who cautioned investigators and researchers to always perform study in an ethical manner.

CHAPTER FOUR

DATA ANALYSIS, RESEARCH FINDINGS AND DISCUSSION

4.1. Introduction

This chapter presents the Data analysis, research findings and discussions based on analyses of descriptive, quantitative and qualitative data collected on the research variables consistent with the research objectives. The organization of the chapter is as follows: response rate, general information and demographics of the respondents, descriptive statistics, qualitative data analysis, diagnostic tests, correlation analysis, regression analysis on the test of hypothesis and finally, a summary of the hypothesis testing results.

4.2. Response Rate

The study administered 220 questionnaires in 10 public universities in Kenya and received 207 filled questionnaires while 13 were not returned. The results are as shown in Table 4.1.

Table 4. 1: Response Rate

Particulars	Frequency	Percentage
Response	207	94.1%
Non-response	13	5.9%
Total	220	100.0%

Source: Research data (2023)

Table 4.1 above shows a response rate of 94.1% and non-response rate of 5.9%. According to Bryman and Bell (2011), a response rate of above 50% is enough for analysis of data. Based on this argument, the response rate in this study of 94.1% is adequate for data analysis and sufficient to support achievement of set objectives. The high response rate was attributed to comprehensiveness of the data collection instrument and practiced data collection techniques that granted the respondents sufficient time to fill the questionnaires and the availability of the researcher and the research assistant to clarify any arising issues during the process of research work.

4.3. General and demographics Information of the Respondents

The study sought to establish the general and demographic information of the respondents, which included age of the university, position held in the university and numbers of years in the position, highest level of academic attained. The results are as shown in Table 4.2.

Table 4. 2: General and Demographic information of respondents

Particulars	Frequency	Percentage %
<u>Age of University</u>		
10 years and below	48	23.2
11 - 15 years	80	38.6
16 - 20 years	39	18.8
Over 20 years	40	19.4
Total	207	100.0
<u>Position held in the University</u>		
DVC	15	7.3
Dean of School/Faculty	30	14.5
Head of Academic Department	122	58.9
Head of Administrative Department	40	19.3
Total	207	100.0
<u>Years held for the position above</u>		
1 - 2 years	62	29.9
3 - 4 years	49	23.7
5 - 6 years	37	17.9
Over 6 years	59	28.5
Total	207	100.0
<u>Level of Academic Achievement</u>		
Bachelors	14	6.8
Masters	56	27.1
Doctoral	134	64.7
Other	3	1.4
Total	207	100.0

Source: Research data (2023)

Table 4.2 indicates that 19.4 % of the universities in the research had been in existence for more than 20 years from the time of registration with the Commission for University Education (CUE). However, only 23.2% of these institutions had been operating for less than 10 years since registration. 57.4% of the respondents were drawn from universities that have been in existence

between 11 and 20 years. The results show that there was an even distribution of the respondents across universities with regard to institutional age status.

The results in Table 4.2 indicate that majority of the respondents were head of academic department at 58.9%, followed by head of administration units at 19.3%. The results also indicate majority of the respondents have worked with the institutions for over 6 years indicating a good wealth of experience to understand the direction universities need to take when faced with uncertain change. These results imply that the respondents have a vast experience thus the information they provided on the firms was credible.

Majority of the respondents have attained doctoral level of education 64.7% followed by those with Master's level at 27.1%. This indicates that the respondents in the study would be able to give reliable information concerning the research variables. Additionally, the findings are compatible with the population under study since lecturers are largely in charge of academic programs being the core activity in the public universities. This concurs with findings of Rossi and Rosili (2016) and Muthimi, Kilika and Kinyua (2021) that universities house the academia that has a significant effect on development of knowledge that cause an impact in a changing environment.

4.4. Descriptive Analysis

Quantitative data on the study variables of organizational readiness to change, agility enabler, responsiveness and agility practice, the mediating effect of leadership style and moderating effect of regulatory environment and university performance was analyzed using descriptive statistics. The descriptive statistics that summarized major characteristics of the study variables were mean scores and standard deviation.

4.4.1. Organizational readiness to change.

The first independent variable of the study was organizational readiness to change. The study aimed at establishing the extent that readiness to change affected performance of public universities in Kenya and the results are shown in Table 4.3.

Table 4. 3: Descriptive Statistics for organizational readiness to change

	VARIABLE	MEAN	SD
	ORGANIZATIONAL READINESS TO CHANGE		
1	Employees belief that change is necessary to produce desired results	4.00	0.89
2	Management involves employees in decision making about uncertain change in the environment.	3.98	0.86
3	Our employees are able to implement a complex change with ease	3.93	0.82
4	The university leadership has a strategy to effect a desired change	4.27	0.75
5	The university leadership is committed to respond to uncertain change process.	4.13	0.86
6	The university value employees as key resource to drive change.	4.18	0.79
7	University policies are clear on uncertain change process.	3.95	0.94
	Aggregate Mean and Standard deviation	4.06	0.844

Source: Survey Data (2023)

The results in Table 4.3 show that respondents agreed to a large extent that the university leadership has a strategy to effect desired change during uncertainty and that the employees are valued as key resource to drive the desired change required in the university as indicated by mean scores of 4.27 and 4.18 respectively. The respondents however had varied opinions that the university leadership had a strategy to effect desired change and valued employees as key resource to drive the desired change as indicated by a standard deviation of 0.75 and 0.79 respectively. In addition, the respondents also agreed to a large extent that management in the public universities are committed to responding quickly to uncertain change process and that their employees' belief that change is a necessity for the public universities to produce desired results when faced with uncertainty as shown by the respective mean score of 4.13 and 4.00. However, the high standard deviation of 0.86 and 0.89 respectively showed that there were varied opinions among the respondents concerning the two aspects.

The study also established that the respondents agreed to a large extent that the university management involves employees in decision making about uncertain change in the environment that affect their institutions, the employees are able to implement complex changes with ease and that public universities have clear policies on unexpected change process as shown by the

respective mean score of 3.98, 3.93 and 3.95. On the contrary, the high standard deviations of 0.86, 0.82 and 0.94 respectively for these statements indicates that there were high variations in the respondents' opinions concerning the three aspects.

Overall, the respondents agreed to a large extent that organizational readiness to change is an important requirement that need to be practiced by public universities when faced with uncertain change in the environment in which they operate as shown by an aggregate mean of 4.06. However, an aggregate standard deviation of 0.84 indicates that the respondents had varied opinions on the role that organizational readiness to change plays in performance of public universities in Kenya. This finding concurs with work done by Vakola (2014) that employees who are confident in their talents have a higher propensity to view positively any anticipated change leading to high levels of readiness to change and better organization performance. The study finding is also in line with the concepts of dynamic capability theory that organizations should develop and reconfigure both their internal and external competencies to cause an improvement on their performance in unpredictable environment.

4.4.2. Agility Enabler.

The study sought to determine the extent to which agility enabler affected performance of Public Universities in Kenya. The descriptive statistics results are as indicated in Table 4.4.

Table 4. 4: Descriptive Statistics for Agility Enabler.

	AGILITY ENABLER	Mean	SD
1	Employee training is a continuous process	4.14	0.82
2	The organization structure is simple to understand by employees	4.37	0.66
3	The university has invested in required technology.	4.06	0.81
4	The university involves in training employees	4.18	0.71
5	The university organization structure is usually displayed.	4.32	0.74
6	The university updates its existing technology from time to time.	4.18	0.76
	Aggregate Mean and Standard Deviation	4.21	0.75

Source: Survey Data (2023)

The results in Table 4.4 indicate that the respondents agreed to a large extent that the respective university organization structure was simple to understand by the employees and is usually

displayed for easy of viewing as indicated by mean scores of 4.37 and 4.32 respectively. However, the moderately low standard deviation of 0.66 and 0.74 respectively indicated that the respondents had varied opinions that the university organization structure was simple to understand and usually displayed.

The study also showed that the respondent agreed to a large extent that public universities have invested in required technology, updates these existing technology from time to time, train their employees on new technologies, and that employee training is a continuous process as indicated by the mean score of 4.06, 4.18, 4.18 and 4.14. However, the varied moderately high standard deviations of 0.81, 0.76, 0.71 and 0.82 respectively showed that the respondents differed in their opinions concerning the four aspects. The overall mean score was 4.21 and a standard deviation of 0.75. This indicates that respondents agreed to a large extent that agility enabler has an effect on performance of public universities and with moderate consistent opinions as indicated by the standard deviation.

This study finding concurs with research by Ahmadzadeh and Aboumasoudi (2020) and Menon and Suresh (2020) that organizational structure and human resource strategies are critical success factors for an organization going agile. The finding is also supported by RBV theory that emphasizes importance of internal organizational resources utilization in improving overall organizational performance.

4.4.3 Responsiveness.

Responsiveness was the third independent variable for the study. The study sought to determine the extent to which responsiveness affected the performance of public universities in Kenya. Table 4.5 shows descriptive results of this variable.

Table 4. 5: Descriptive Statistics for Responsiveness

RESPONSIVENESS			
1	Change champions are competent enough to drive change.	4.01	0.86
2	Communication on change is done on time by the top management.	3.15	0.93
3	Employee response to change is quick and effective.	3.95	0.92
4	Employees are not competent enough to drive required change	3.05	0.80
5	The university effectively communicates required change to employees.	4.13	0.71
6	The university communication system in place is not clear on how to manage unexpected change	2.88	0.90
Aggregate mean score and standard deviation		3.52	0.863

Source: Survey Data (2023)

The results in Table 4.5 indicate that the respondents agreed to a large extent that public universities possess competent change champions to drive required change initiatives and effectively communicates the required change to employees as indicated by the mean score of 4.01 and 4.13 respectively. However, the respondents varied in opinions about the two aspects as indicated by the standard deviation of 0.86 and 0.71 respectively. The respondents also agreed to a large extent that the employees responds to the change quickly and effectively as indicated by the mean score of 3.95. On the contrary, the high standard deviation of 0.92 indicated diverse opinions about the aspect.

The study also established that the respondents agreed to a moderate extent that communication on change is done on time by the top management and employees are not competent enough to drive the required change as indicated by the respective mean score of 3.15 and 3.05. The high standard deviation of 0.93 and 0.80 reflects there were diverse variations in the opinions of the respondents as to the extent to which these statements affected performance of public universities. The respondents also agreed to a less extent that the university communication system in place was not clear on how to manage unexpected change as indicated by the mean score of 2.18. However, their opinions were greatly varied as indicated by the high standard deviation of 0.90.

Overall, the study established that the respondents agreed to a large extent that responsiveness is a key parameter that affect performance of public universities as shown by a mean score of 3.52

and 0.863. This finding is supported by RBV theory contributions on performance of an organization and also in concurrence with research done by Wasike, Ogollah and Mburu (2014) that found responsiveness as a key positive contributor to improved performance of supply chain agility in universities in Kenya.

4.4.4. Agility Practice.

Agility practice was the last independent variable for the study. The study sought to determine the extent to which agility practice affected the performance of public universities in Kenya.

Table 4.6 shows descriptive statistics of agility practice.

Table 4. 6: Descriptive Statistics for Agility Practice

	AGILITY PRACTICE		
1	Change will always be innovative	4.01	0.91
2	Employees are acquainted with university strategies.	3.66	0.86
3	Strategies set for the university are clear and simple to understand	4.02	0.76
4	The university management collaborates well with employees	4.01	0.85
5	There is teamwork with other stakeholders in implementation of uncertain change	3.74	1.03
6	University management supports innovations	4.35	0.67
	Aggregate mean and standard deviation	3.97	0.84

Source: Survey Data (2023)

From the results in Table 4.6, it is observed that to a large extent, public universities have clear strategies that are simple to understand by employees, management collaborates well with employees and also staff belief that change will always be innovative as indicated by the mean score of 4.02, 4.01 and 4.01 respectively. However, the high values of standard deviation of 0.76, 0.85 and 0.91 indicates there were variations in the responses. Respondents also agreed to a large extent that the university management supports innovations as observed from the mean score of 4.35 and standard deviation of 0.67 that showed low variations in their opinions.

The study also established that the respondents agreed to a moderate extent that the employees in public universities are acquainted with the university strategies and that there is teamwork with other stakeholders in implementation of uncertain change as indicated by the respective mean

score of 3.66 and 3.74. The high values of standard deviation of 0.86 and 1.03 indicates large variations in the responses.

Overall, the findings indicate that respondents agreed to a moderate extent that elements of agility practice are present in the public universities as indicated by a mean score of 3.97 and standard deviation of 0.84 thus showing that there were bigger variations in the responses. This concurs with findings of study done by Nyangau, Mburu and Ogollah (2014) and Gey, Yusuf, Menhat, Abubaker and Ogbuke (2019) that found application of appropriate agility practice elements in an organization had a positive influence on performance.

4.4.5. Leadership style.

In the fifth variable, the study sought to determine the extent to which Leadership Style mediate the relationship between organizational agility and performance of selected public universities in Kenya. Descriptive statistics for institution environment are as shown in Table 4.7.

Table 4. 7: Descriptive Statistics for Leadership Style

	LEADERSHIP STYLE	Mean	SD
1	I feel I can approach tasks as I see fit, without much intervention]	4.12	0.80
2	I feel my opinions on anticipated change are valued and considered	3.78	0.93
3	I value autonomy in my team and belief can function optimally without my oversight.	4.00	0.86
4	Management allows employees to work independently most of the time	3.94	0.94
5	Management makes all decisions on anticipated change process but occasionally consults the staff.	3.20	0.97
6	Management makes decision on anticipated change process by consensus with the staff.	3.62	0.96
7	Management promotes open communication and feedback from staff]	3.79	0.88
8	The staff rarely have a say in the decision-making about change.	3.03	1.08
9	The university management makes all decisions on anticipated change process without seeking views of the staff.	3.02	1.05
	Aggregate Mean and Standard deviation	3.61	0.941

Source Survey Data (2023)

The results in Table 4.7 show that the respondent agreed to a large extent that the public universities practiced Laissez-faire type of leadership as indicated by the mean scores of 4.12,

4.00 and 3.94 for items numbers 1, 3 and 4 respectively. The high standard deviation values of 0.8, 0.86, and 0.94, respectively, indicate a significant variation in the respondents' viewpoints. Furthermore, the participants expressed a moderate degree of agreement that public universities employ a democratic leadership style, as demonstrated by the mean scores of 3.78, 3.62, and 3.79 for items 2, 6, and 7, respectively. The corresponding standard deviations of 0.93, 0.96, and 0.88 respectively demonstrate the wide range of respondents' opinions. The survey also found that, as shown by the mean scores of 3.20, 3.03, and 3.02 for items 5, 8, and 9, respectively, respondents agreed less strongly that autocratic leadership was used in Kenya's public universities. Conversely, the high standard deviation values of 0.97, 1.08, and 1.05, respectively, indicate a significant variance in the respondents' perspectives regarding the three items.

Despite having differing viewpoints, the respondents generally agreed as seen by the total aggregate mean of 3.62 and standard deviation of 0.941 that leadership style affects public university performance in Kenya. This finding is consistent with research by Muraguri, Kimenju, and Thuo (2017), who found that Kenyan universities must carefully adopt an appropriate leadership style in order to maintain and improve their performance, as well as research by Murad and Gills (2016), who found that effective leadership is essential to an organization's success. This finding is also supported by the attributes of learning organization theory that new knowledge and ideas are a pre-requisite for improved organization performance in an ever changing environmental situations.

4.4.6. Regulatory Environment.

In the sixth variable, the study sought to determine the extent to which regulatory environment moderate the relationship between organizational agility and performance of selected public universities in Kenya. Descriptive statistics for regulatory environment are as shown in Table 4.8 below.

Table 4. 8: Descriptive statistics for Regulatory Environment

REGULATORY ENVIRONMENT			
1	Employees are more informed of the MoE policies]	3.27	0.96
2	KUCCPS places students to rightful chosen and qualified courses]	3.94	0.91

3	Employees are aware of CUE standards.	3.73	0.90
4	MoE policies have affected student enrolment in the university]	3.98	0.92
5	The university gets enough students from KUCCPS]	3.68	1.13
6	This university has a clear vision and mission statement and conforms to required CUE standards]	4.30	0.78
	Aggregate Mean and standard deviation	3.82	0.93

Source: Survey Data (2023)

The results in Table 4.8 show that the respondent agreed to a large extent that the public universities have a clear vision and mission statements and conforms to required Commission of University Education (CUE) standards as indicated by mean score of 4.30 and standard deviation of 0.78. In addition, that Ministry of Education (MoE) policies have affected student enrolment in the public universities and also Kenya University and colleges central placement service (KUCCPS) places students to rightful chosen and qualified courses as indicated by mean scores of 3.98 and 3.94. However, the high value of standard deviation of 0.92 and 0.91 respectively shows a big variation in the opinions of the respondents about the two aspects.

The study also established that respondents agreed to a moderate extent that the employees in the public universities were aware of the CUE standards and that public universities gets enough students from KUCCPS as indicated by mean score of 3.73 and 3.68 respectively. The high standard deviation of 0.90 and 1.13 indicates a very big variation in the responses. The respondents also agreed to a less extent that employees in the public universities are more informed of the MoE policies as reflected with a mean score of 3.27. The high value of standard deviation of 0.96 showed bigger variations in the opinions of the respondents about the aspect. The overall aggregate mean of 3.82 and standard deviation of 0.93 indicates that the respondents though with varied opinions agreed to a large extent that regulatory environment has an effect on performance of public Universities in Kenya. This finding is consistent with research by Reed (2021) who found that environmental turbulence was one of the contingency factors that has a significant influence on firm performance.

4.5. Descriptive statistics for Performance of Selected Public Universities

The study sought to determine the extent to which each measure of University performance had been achieved in public universities in Kenya. The indicators of effectiveness and efficiency,

university-industry partnership, research uptake and university ranking were used as a measurement of university performance as shown in table 4.9 below.

Table 4. 9: Descriptive Statistics for University Performance

UNIVERSITY PERFORMANCE			
1	Effectiveness and Efficiency		
	Enrolment levels for Self-sponsored student is low in our university	4.40	0.84
	Our university has an operational service charter	4.60	0.53
	Our university has adopted new technologies in teaching methods	4.14	0.61
	Aggregate score	4.38	0.66
2	Research Uptake		
	The university management supports research work for staff.	4.19	0.84
	Academic staff are involved in research work in the university	4.22	0.71
	The number of research publications by staff has increased	3.93	0.92
	Aggregate score	4.11	0.82
3	University - Industry Partnership		
	University management supports the university-industry partnerships.	4.21	0.74
	Our university-Industry partnerships is still weak to drive change.	3.72	1.08
	We have an established students internship program with industries	3.81	1.03
	Aggregate score	3.91	0.95
4	University Ranking		
	Our university has been improving on global ranking scale	4.21	0.95
	University ranking is a key parameter of performance	4.18	0.91
	University is ISO (International Organizations for Standards) certified.	4.43	0.67
	Aggregate score	4.27	0.84
	Aggregate mean and standard deviation for University performance	4.17	0.82

Source: Survey Data (2023)

The results in Table 4.9 indicate that the aggregate mean score and standard deviation for items regarding effectiveness and efficiency was 4.38 and 0.66 respectively. The mean score of 4.38 indicates that the respondents generally felt that public institutions were efficient and successful in the three areas of performance measurement. The respondents' opinions varied little, as evidenced by the standard deviation value of 0.61 on adoption of new technologies in teaching methods. In Kenya's public universities, activities related to effectiveness and efficiency were

deemed significant by the respondents, as indicated by the average response. For items pertaining to research work, the standard deviation and aggregate mean score were 0.82 and 4.11, respectively. Notably, the study's overall mean score attests to the fact that performance activities in public institutions heavily rely on research uptake. The academic staff at public universities is engaged in research and publishes papers in referred journals, as evidenced by the mean score of 4.11 and standard deviation of 0.82, which indicate low variability in respondents' opinions. This suggests that university management in these institutions supports staff research efforts.

According to the large standard deviation of 0.95 and the aggregate mean of 3.91, the respondents agreed to a moderate extent that university-industry relationships are robust. This is in line with work done by Rossi and Rosili (2015) that contributions by universities to industrial world is enormous through knowledge transfer that has a profound effect on development. However, many respondents believe that despite the support provided by public university management for industrial partnerships which is indicated by a mean score of 4.21 and a low standard deviation of 0.74, this partnership is still insufficient to bring about the necessary change, and that the structures supporting students' internship programs in industries are underdeveloped, as indicated by mean scores of 3.72 and 3.81 with varying standard deviations of 1.08 and 1.03, respectively.

This is consistent with results from Muraguri (2017) that public universities' policies are designed as closed systems, which limits their ability to collaborate with the industrial world, and Kilika (2012) that a sustainable university-industry partnership program requires a strategic strategy. The aggregate mean score of 4.27 and standard deviation of 0.84 suggest that many respondents agreed, to a substantial extent, that public universities have improved on the worldwide ranking scale and that global ranking was a crucial performance indicator.

On overall performance, the total aggregate mean response and standard deviation is 4.17 and 0.82 respectively for all items. Based on the 5-point rating system, the average score which is above 4.00 indicates that most respondents agreed that performance aspects exist in public universities. Performance at public universities is viewed as the result of implementing an effective management strategy, which helps to explain this observation. According to Rima and Mindaugas (2018), numerous organizations, including universities, have had to modify their

business models, priorities, and strategic plans in order to survive and perform better as a result of the unpredictable changes in the business environment.

4.6. Diagnostic Tests

Diagnostic tests as are tests carried out before data analysis to establish the validity of the study results. The specific diagnostics tests conducted in this study were normality, linearity, Multicollinearity, and heteroskedasticity tests

4.6.1. Normality Test.

To ascertain if the variables were distributed normally, the Shapiro-Wilk test was employed in the study. Based on the test statistic's p-value at the 0.05 significance level, the null hypothesis was either rejected or not rejected. According to Donald (2016), the null hypothesis is rejected if the p-value is less than 0.05 since it indicates that the data are not from a normally distributed population. Thus, we are unable to reject the null hypothesis if the p-value exceeds 0.05 as observed in table 4.10 below.

Table 4. 10: Tests of Normality

VARIABLE	TEST STATISTICS	
	Z—Statistic	P-Value
University Performance	0.981	0.133
Organizational readiness to change	0.831	0.200
Agility Enabler	0,798	0.212
Responsiveness	0.918	0.178
Agility Practice	0.881	0.189
Institutional Environment	0.937	0.173
Leadership Style	0.973	0.166
Organizational Agility	0.830	0.203

Source: Survey Data (2023)

The results in table 4.10 above indicates that every test statistic had a significance level larger than 0.05. The investigation found that the variables were normally distributed and, therefore, appropriate for additional analysis, in accordance with the recommendations of Donald (2016) and Saunders et al (2016).

4.6.2. Test for Linearity

Field (2013) asserts that regression models are only useful for precisely estimating the relationship that exists between independent and dependent variables when that relationship is linear. To test for the assumptions of linearity, the study used the ANOVA test to compare the group means by analyzing comparisons of variance estimates to assess whether or not the means of different groups are equal. The ANOVA test was found a better option than the two-sample t-test since the latter is more likely to result in a type 1 error, which is the mistake of rejecting a null hypothesis when it is true. The ANOVA linearity test calculates both the two variables linear and non-linear components. It also aids in determining whether the dependent and independent variables have a meaningful relationship. The non-linearity is considered significant if the non-linear components computed probability value is less than 0.05 (Garson, 2012). These results are presented in table 4.11 below.

Table 4. 11: Analysis of Variance

Variable		Sum of Squares	Df	Mean Square	F	Sig.
ORGANIZATIONAL READINESS TO CHANGE	Between Groups	722.079	16	45.130	3.165	.000
	Within Groups	2709.032	190	14.258		
	Total	3431.111	206			
AGILITY ENABLER	Between Groups	297.402	16	18.588	2.373	.003
	Within Groups	1488.526	190	7.834		
	Total	1785.928	206			
RESPONSIVENESS	Between Groups	302.572	16	18.911	2.094	.010
	Within Groups	1715.524	190	9.029		
	Total	2018.097	206			
AGILITY PRACTICE	Between Groups	468.921	16	29.308	2.793	.000
	Within Groups	1993.958	190	10.495		
	Total	2462.879	206			
INSTITUTIONAL ENVIRONMENT	Between Groups	517.034	16	32.315	3.375	.000
	Within Groups	1819.034	190	9.574		
	Total	2336.068	206			
LEADERSHIP STYLE	Between Groups	810.728	16	50.670	2.611	.001
	Within Groups	3687.021	190	19.405		
	Total	4497.749	206			

Source: Survey Data (2023)

Table 4.11 demonstrates that all of the research variables computed probability values fell below the 0.05 cutoff. Since the probability values in this instance were below 0.05 threshold as suggested by Garson (2012), the independent variables were linearly dependent.

4.6.3. Test for Multicollinearity

According to Park (2015), multicollinearity in regression can happen when there is a stronger correlation between the independent variables in the regression model and other independent variables than there is with the dependent variable. This can result in the statistical insignificance of individual independent variables even though the model as a whole may be significant. In this study, multicollinearity was examined using the Variance Inflation Factor (VIF). Multicollinearity is said to be present when the tolerance value is less than 0.1 or when the VIF value is more than 10.

Table 4. 12: Multicollinearity test statistics

Model	Tolerance	VIF
Organizational readiness to change	0.440	2.715
Agility Enabler	0.508	2.719
Responsiveness	0.435	2.988
Agility Practice	0.397	2.506
Aggregate mean score	0.445	2.732

Source: Survey Data (2023)

Table 4.12 shows the following VIF for the indicators of Organizational readiness to change (VIF = 2.715), Agility Enabler (VIF=2.719), Responsiveness (VIF = 2.988), and Agility practice (VIF= 2.506). The mean VIF was 2.732. The independent variables had a VIF of less than 10 and a tolerance value greater than 0.1 ruling out the possibility of Multicollinearity as suggested by Field (2009). Therefore, the results indicate that either there was no multicollinearity issue among the variables or that the model's level of multicollinearity could be accepted. As a result, the regression model kept all of the predictor variables since they met the suggested cutoff (Field, 2009 and Park, 2015).

4.6.4. Test for Heteroscedasticity

Because the research's data came from ten carefully chosen public universities around the country, questions regarding the presence of heteroscedasticity may warrant attention. Biased parameter estimations may result from the presence of heteroscedasticity in a regression model. Regression analysis makes the assumption that the error term's variance is homoscedastic, or constant across observations. The Breusch-Pagan test was used to determine whether heteroscedasticity was present in the data. is displayed in the following table 4.13 below.

Table 4. 13: Breusch-Pagan test statistics and significant value

Variable	Beta value	Sig
Organizational readiness to change	-0.286	0.052
Agility enabler	0.746	0.068
Responsiveness	-0.088	0.836
Agility practice	-0.583	0.149

Source: Survey Data (2023)

The findings displayed in Table 4.13 demonstrated that the Breusch-Pagan test significance level for each of the independent variables is higher than the critical value of 0.05. As a result, we are unable to reject the null hypothesis and come to the conclusion that the data did not exhibit heteroscedasticity.

4.7. Test of Hypotheses

The study was based on the assumption that Organizational Agility has an effect on the performance of selected public universities in Kenya. Further, an assumption was made that university performance is mediated by leadership style and moderated by institutional environment. To test these hypotheses, multiple regression analysis was done and interpreted through adjusted R² values and P-values at P<0.05 significance level. The direct relationship between organization readiness to change, agility enabler, responsiveness and agility practice on university performance were done first followed by the mediated and moderated relationship hypotheses.

4.7.1. Test of Direct Relationship Hypothesis

The test of hypotheses was done using multiple regression analysis. First, the study tested the direct relationship between organizational readiness to change, agility enabler, responsiveness agility practice and performance of selected public universities in Kenya. The model adopted is as follows:

$$Y = \beta_0 + \beta_1 RC + \beta_2 AE + \beta_3 R + \beta_4 AP + \epsilon \dots\dots\dots (3.1)$$

Where; Y= the dependent variable and a composite score for Performance of selected public Universities.

B_0 = A constant that defines performance of selected public universities without use of independent variables.

$\beta_1, \beta_2, \beta_3, \beta_4$ are the independent variable beta coefficients (slope).

RC= Readiness to change

AE=Agility Enabler

R= Responsiveness

AP = Agility Practice

ϵ = error term

The results for the multiple regression model are as shown in Tables 4.14, 4.15 and 4.16.

Table 4. 14: Model Summary for Multiple Regression

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.356 ^a	0.127	.0110	3.10214

a. Predictors: (Constant), organizational readiness to change, agility enabler, Responsiveness and Agility practice.

Source: Survey Data (2023)

b. Table 4.14 indicates correlation coefficient (R) is 0.356 which illustrates that the independent variables and university performance are positively correlated. The adjusted R square for the model is 0.110 implying that 11.0 % of the variations in performance of selected public universities in Kenya is explained by the organizational agility components (organizational readiness to change, agility enabler, responsiveness and agility practice) and the remaining 87.3% of the variations in university performance is predicted by other factors other than those in the model. To confirm if the model is fit, an ANOVA test was run and results are as shown in table 4.15 below.

Table 4. 15: Model summary of ANOVAa for Multiple Regression

Model	Sum of Squares	df	Mean Square	F		Sig.
Regression	282.509	4	70.627	7.339		.000 ^b
Residual	1943.907	22	9,623			
Total	2226.415	206				

a. Dependent Variable: University Performance

b. Predictors: (Constant), organizational readiness to change, agility enabler, Responsiveness and Agility practice.

Source: Survey Data (2023)

The ANOVA results in Table 4.15 indicate a P-value of 0.000 < 0.05 level of significance. Therefore, the overall model of the study is fit to predict the relationship between organizational agility (organizational readiness to change, agility enabler, responsiveness and agility practice) and performance of selected public universities in Kenya. The results also show that the F statistic for the model is 7.339 which is greater than the F-critical value of 2.817. This indicates that the model as a whole is significant and has been found to be able to predict the performance of selected Kenyan public universities. To establish the significance of the model in predicting performance of selected public universities in Kenya, a t-test was conducted and the results are shown in Table 4.16 below.

Table 4. 16: Model summary of Coefficients for Multiple Regression

Model	Unstandardized Coefficients		Standardized coefficients	T	Sig.	95.0% Confidence Interval for B	
	B	Std Error	Beta			Lower bound	Upper bound
1 (Constant)	31.581	1.967		16.059	.000	27.704	35.459
ORGANIZATIONAL READINESS TO CHANGE	.185	.080	0.230	2.327	.021	.028	.343
AGILITY ENABLER	-.235	.100	-0.216	-2.346	.020	-.433	-.038
RESPONSIVENESS	.295	.105		2.807	.005	.088	.502
AGILITY PRACTICE	.003	.099	0.003	.028	.978	.193	.199

a. Dependent Variable: UNIVERSITY PERFORMANCE

Source: Survey Data (2023)

From the results in Table 4.16 the regression model is summarized as follows;

$$\text{Performance of Selected Public Universities} = 31.581 + 0.185 \text{ Organizational Readiness to change} - 0.235 \text{ Agility Enabler} + 0.295 \text{ Responsiveness} + 0.003 \text{ Agility Practice} \dots \text{Model 3.2.}$$

Based on the degree of each variable in predicting university performance, the findings show that responsiveness has the highest effect on university performance followed by organizational readiness to change and then agility practice while agility enabler having an inverse relationship on university performance.

The results in Table 4.16 shows a beta coefficient for the constant of 31.581. This implies that if all other predictor factors (organizational readiness to change, agility enabler, responsiveness and agility practice) are held constant, the performance of selected public universities in Kenya would be equal to 31.581. This value denotes the estimated starting point of university performance. The p-value < 0.001 (reported as 0.000) suggest that the intercept is significantly different from zero at a level far below the 0.05 threshold for statistical significance. However, the true population value of the intercept is likely between 27.704 and 35.459 with 95% confidence.

4.7.2. Test of the Hypothesis One

In the first specific objective, the study sought to ascertain the effect of organizational readiness to change on performance of selected public universities in Kenya. The null hypothesis stated that organizational readiness to change has no significant effect on the performance of selected public universities in Kenya. From the results in table 4.16, organizational readiness to change has a P-value of 0.021 < 0.05 level of significance indicating statistical significance at the 95% confidence level. Based on this P-value the study rejects the null hypothesis and concludes that organizational readiness to change has a significant effect on performance of selected public universities in Kenya.

The results also indicate a beta coefficient of $\beta = 0.185$ signifying that when all other factors are held constant, a unit increase in organizational readiness to change is associated with an increase of 0.185 units in university performance. The standardized coefficient value of $\beta = 0.230$ indicates the strength and direction of the relationship between this variable and the dependent variable when all other variables are measured on the same scale.

However, from the results of 95% confidence interval, we can be 95% confident that the true effect size of organizational readiness to change is between 0.028 and 0.343. This is in line with work done by Hague, TitiAmayah & Liu (2016) who concluded that focusing on readiness to change had a positive impact on improving organizational growth and performance and findings of Asbari, Hidayat & Purwanto (2021) that readiness to change impacted positively on employee performance. The findings on this variable are in line with postulates of the dynamic capability theory that stipulates that an organization has the capability to combine, develop or reconfigure both internal and external competencies in responding to external stimuli. To achieve this, an organization must respond positively to readiness to change.

4.7.3. Test of Hypothesis Two

The second specific objective of the study sought to determine the effect of agility enabler on performance of selected public universities in Kenya. The null hypothesis stated that agility enabler has no significant effect on performance of selected public universities in Kenya. Agility enabler had a P-value of $0.020 < 0.05$ level of significance; therefore, the study rejected the null hypothesis and concluded that agility enabler has a significant effect on performance of selected public universities in Kenya.

The multiple regression coefficient results from Table 4.16 shows that agility enabler had a beta coefficient of -0.235, meaning that, if all other factors are held constant, performance of selected public universities in Kenya would be 31.581 units and a unit increase in agility enabler would result to a decrease of 0.235 units in performance of selected public universities in Kenya. The negative standardized beta coefficient of -0.216 indicates an inverse relationship, while the t value of -2.346 and the p-value of 0.020 indicates that this variable is statistically significant at the 95% confidence level. The 95% confidence interval of -0.433 to -0.038 does not include zero value reinforcing the significance of the variable. The results of this objective are in consistent with the findings of Ahmadzadeh and Aboumasoudi (2020) organization structure and employee empowerment were key agility enablers for an organization going agile. The findings of this variable are supported by postulates of resource based view theory that articulates the nature and maximization of internal resources within the university in addressing performance.

4.7.4. Test of Hypothesis Three

The third specific objective of the study sought to establish the effect of responsiveness on performance of selected public universities in Kenya. The null hypothesis stated that responsiveness has no significant effect on performance of selected public universities in Kenya. From the results in table 4.16, responsiveness has a beta coefficient of 0.295, with a standard error value of 0.105, standardized beta coefficient value of 0.281 and t-value of 2.807. This suggests that responsiveness has a positive association with university performance at 95% confidence level. This implies that if other factors are held constant and responsiveness increased by one unit, performance of selected public universities in Kenya would increase by 0.295.

The coefficient for responsiveness had a P-value of $0.005 < 0.05$ indicating that responsiveness was statistically significant in affecting performance of selected public universities in Kenya. The 95% confidence interval from 0.008 to 0.502 suggests a strong and positive effect of responsiveness on university performance. The results are in line with findings of Kisperska-moron & Swierczek (2009) that elements of responsiveness make a significant contribution to the supply networks and enterprise overall agility.

4.7.5. Test of Hypothesis Four

The fourth specific objective of the study sought to investigate the effect of agility practice on performance of selected public universities in Kenya. The null hypothesis stated that agility practice has no significant effect on performance of selected public universities in Kenya. The results in table 4.16, shows that agility practice has a beta coefficient of 0.003 indicating a very small positive effect on university performance. The value of beta coefficient of 0.003 is almost zero with standard error of 0.099 and a t-value of 0.028 indicating negligible practical significance statistically. The coefficient for agility practice had a P-value of $0.978 > 0.05$. This p-value indicates that Agility Practice is not significant statistically. Its relationship with university performance is likely due to chance. The wide interval from -0.193 to 0.199 at 95% confidence that includes zero confirms the lack of statistical significance for agility practice on university performance. The results of this objective are consistent with findings of Gey, Yusuf, Abubaker & Ogbuke (2019) that organizations need to explore other practices that have greater impact on specific organization performance objectives.

4.7.6. Test of Hypothesis Five

The fifth specific objective of the study sought to determine the mediating effect of leadership style on relationship between organizational agility and performance of selected public universities in Kenya. The objective of the study tested the null hypothesis that: Leadership style has no mediating effect on the relationship between organizational agility and performance of selected public universities in Kenya. The study used the four-causal step approach advocated by Baron and Kenny (1986) to test the hypothesis. In the first step, organizational agility was regressed on university performance as shown in Table 4.17.

Table 4. 17: Regression Results for organizational agility and university Performance

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.268 ^a	.072	.067	3.17542

a. Predictors: (Constant), ORGANIZATIONAL AGILITY

Source: Survey Data (2023)

Model summary results in Table 4.17 above indicate that the adjusted R square (R^2) is 0.067 implying that 6.7% of all the variations in performance of selected public universities in Kenya are explained by organizational agility. The results also show that 93.3% of variations in performance of selected public universities in Kenya are predicted by other variables other than organizational agility. The study conducted F-test in Analysis of Variance (ANOVA) to establish the fitness of the model and the results are as shown in Table 4.18

Table 4. 18: ANOVA test for organizational agility and university performance

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	159.340	1	159.340	15.802	.000 ^b
	Residual	2067.076	205	10.083		
	Total	2226.415	206			

a. Dependent Variable: UNIVERSITY PERFORMANCE

b. Predictors: (Constant), ORGANIZATIONAL AGILITY

Source: Survey Data (2023)

The results in Table 4.18 show that the F-statistic for the model is 15.802 which is higher than the F-critical (1, 205 at 0.05 = 3.9112). Similarly, the P-value is 0.000<0.05 and therefore significant. The study therefore concludes that the model is fit in predicting performance of selected public universities in Kenya. To establish the significance of organizational agility in predicting performance of selected public universities in Kenya, a t-test was conducted and the results are shown in Table 4.19 below.

Table 4. 19: Coefficients for organizational agility and university Performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
I	(Constant)	30.527	1.934		15.786	.000
	ORGANIZATIONAL AGILITY	.299	.075	.268	3.975	.000

a. Dependent Variable: UNIVERSITY PERFORMANCE

Source: Survey Data (2023)

The results in Table 4.19 indicates that the constant has a coefficient of 30.527 meaning that if all other factors are held constant, performance of selected public universities in Kenya would be equal to 30.527 units. At the same time, it is established that organizational agility has a coefficient of 0.299 implying that holding all other factors constant, increasing organizational agility by one unit would result in 0.299 units increase in performance of selected public universities in Kenya. The coefficient is also significant at P<0.05. These results show that organizational agility is significant in predicting university performance, hence there is a relationship to be mediated.

The models is thus summarized as:

$$\text{University Performance} = 30.527 + 0.299 \text{ Organizational Agility} \dots \dots \dots (3.2).$$

In the second step, Leadership style is regressed on organizational agility and the results are as shown in Tables 4.20, 4.21, and 4.22.

Table 4. 20: Regression Results for Leadership style and organizational agility

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.351 ^a	.123	.119	4.38530

a. Predictors: (Constant), ORGANIZATIONAL AGILITY

Source: Survey Data (2023)

Model summary results shown in Table 4.20 indicate that the adjusted R square (R²) value is 0.119, meaning that organizational agility explains 11.9 % of all the variation in leadership style. The results imply that 88.1 % of variations in leadership style of selected public universities in Kenya are explained by other variables other than organizational agility. To determine the fitness of the model, the study conducted an F-test and the results are as shown in Table 4.21 below.

Table 4. 21: ANOVA test for organizational agility and leadership style

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	555.425	1	555.425	28.882	.000 ^b
	Residual	3942.324	205	19.231		
	Total	4497.749	206			

a. Dependent Variable: LEADERSHIP STYLE

b. Predictors: (Constant), ORGANIZATIONAL AGILITY

Source: Survey Data (2023)

The ANOVA in Table 4.21 shows that F-statistic was 28.882 which is greater than the F Critical of 3.9112. The F-statistic is therefore significant ($0.000 < 0.05$). The study concluded that the model is fit in the prediction of leadership style. To establish the significance of organizational agility in predicting leadership style, a t-test was conducted as shown in Table 4.22.

Table 4. 22: Coefficients for organizational agility and leadership style

		Coefficients ^a				
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	18.244	2.671		6.831	.000
	ORGANIZATIONAL AGILITY	.558	.104	.351	5.374	.000

a. Dependent Variable: LEADERSHIP STYLE

Source: Survey Data (2023)

Table 4.22 shows that the constant has a coefficient of 18.244 suggesting that if organizational agility is held constant, leadership style of selected public universities in Kenya would be equal to 18.244 units. Similarly, organizational agility has a coefficient of 0.558 implying that if all other factors are held constant, one-unit increase in organizational agility will lead to 0.558 units increase in leadership style. Both the constant and organizational agility were significant with P-values $0.000 < 0.05$. The study therefore concluded that organizational agility significantly predicts leadership style.

The model is therefore summarized below as:

$$\text{Leadership Style} = 18.244 + 0.558 \text{ Organizational Agility} \dots\dots\dots(3.3)$$

In the third step, the study sought to establish the significance of leadership style in predicting the performance of selected public universities in Kenya. To this end, leadership style was regressed on performance of selected public universities and the regression results are as shown in table 4.23, 4.24 and 4.25 below.

Table 4. 23: Model Summary for Leadership style and University performance

Model Summary ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.212 ^a	.045	.040	3.22062

a. Predictors: (Constant), LEADERSHIP STYLE

b. Dependent Variable: UNIVERSITY PERFORMANCE

Source: Survey Data (2023)

The results in table 4.23 indicate that the value of adjusted R square (R^2) is 0.040, meaning that leadership style is explained 4.0 % of variation in performance of selected public universities in Kenya while 96.0 % of variations are explained by other variables other than leadership style. To determine the fitness of the model, the study conducted an F-test and the results are as shown in Table 4.24 below.

Table 4. 24: ANOVA test for Leadership style and University performance

ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	100.079	1	100.079	9.649	.002 ^b
	Residual	2126.336	205	10.372		
	Total	2226.415	206			

a. Dependent Variable: UNIVERSITY PERFORMANCE

b. Predictors: (Constant), LEADERSHIP STYLE

Source: Survey Data (2023)

From the above Table 4.24, the F-statistic for the model was 9.649 which is greater than the F-critical of 3.9112. The P-value is $0.002 < 0.05$ suggesting that the model is fit in predicting performance of selected public universities in Kenya. To test the significance of leadership style in predicting performance of selected public universities in Kenya, a t-test was conducted at 0.05 level of significance and the results as shown in Table 4.25 below.

Table 4. 25: Coefficients for Leadership style and University performance

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	33.316	1.577		21.129	.000
	LEADERSHIP STYLE	.149	.048	.212	3.106	.002

a. Dependent Variable: UNIVERSITY PERFORMANCE

Source: Survey Data (2023)

The coefficient results in Table 4.25 indicate that the constant has a coefficient of 33.316 while leadership style has a coefficient of 0.149. These results indicate that if leadership style is held constant, performance of selected public universities in Kenya would be equal to 33.316 units.

Similarly, the results postulates that, holding all other factors constant, a unit increase in leadership style would result in 0.149 units increase in performance of selected public universities in Kenya.

The results in Table 4.25 are therefore summarized as:

$$\text{University Performance} = 33.316 + 0.149 \text{ Leadership style} \dots\dots\dots(3.4)$$

In the fourth step, the study sought to determine the effect of organizational agility and leadership style on performance of selected public universities in Kenya. To achieve this, the study regressed performance of selected public university on organizational agility and leadership style. The results are as shown in tables 4.26, 4.27 and 4.28 below;

Table 4. 26: Model Summary for Leadership Style, Organizational Agility and University Performance

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.296 ^a	.087	.079	3.15584

a. Predictors: (Constant), LEADERSHIP STYLE, ORGANIZATIONAL AGILITY

Source: Survey Data (2023)

From Table 4.26, the value of adjusted R square (R²) is 0.079, suggesting that both organizational agility and leadership style explained 7.9 % of variation in performance of selected public universities in Kenya while 92.1 % of all variations were explained by other factors other than organizational agility and leadership style.

The study conducted ANOVA test to establish the fitness of the model to predict performance of selected public universities in Kenya. The results are as shown in Table 4.27.

Table 4.27: ANOVA test for Organizational Agility, Leadership Style and University Performance

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	194.712	2	97.356	9.775	.000 ^b
	Residual	2031.704	204	9.959		
	Total	2226.415	206			

a. Dependent Variable: UNIVERSITY PERFORMANCE

b. Predictors: (Constant), LEADERSHIP STYLE, ORGANIZATIONAL AGILITY

Source: Survey Data (2023)

The ANOVA results in Table 4.27 show that F-statistic is 9.775 which is greater than the F-critical of 3.0644. The P-value is significant at $0.000 < 0.05$. Based on outcome of these results, the study concluded that the model was fit in predicting performance of selected public universities in Kenya.

To determine the significance of organizational agility and leadership style in predicting performance of selected public universities in Kenya, a T-test was conducted and the results are as shown in Table 4.28 below.

Table 4.28: Coefficients for Organizational Agility, Leadership Style and University Performance

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	28.799	2.129		13.524	.000
	ORGANIZATIONAL AGILITY	.246	.080	.220	3.083	.061
	LEADERSHIP STYLE	.095	.050	.135	1.885	.041

a. Dependent Variable: UNIVERSITY PERFORMANCE

Source: Survey Data (2023)

The model in table 4.28 indicates that the constant has a coefficient of 28.799 with a P-value of

0.000 < 0.05, organizational agility has a coefficient of 0.246 while leadership style has a coefficient of 0.095. It is thus established that holding organizational agility and leadership style constant, performance of selected public universities in Kenya would be equal to 28.799 units. In addition, holding all other factors constant and increasing organizational agility by one unit would result in 0.246 units increase in performance of selected public universities in Kenya. Besides, holding all other factors constant and increasing leadership style by one unit would result in 0.095 units increase in performance of selected public universities in Kenya.

The results in Table 4.28 are summarized as:

$$\text{University performance} = 28.799 + 0.246\text{Organizational agility} + 0.095\text{Leadership style}..(3.5)$$

The decision on the mediating effect of leadership style on the relationship between organizational agility and performance of selected public universities in Kenya is based on the recommendations of Baron and Kenny (1986). The recommendation is that complete mediating effect is said to occur if the independent variable is not significant and the mediator is significant in predicting the dependent variable. The results in table 4.28 indicates that the independent variable is no longer significant at p- value 0.061 > 0.05 in predicting the dependent variable after the introduction of the mediator. The P-value of leadership style as the mediator is 0.041 < 0.05 indicating that it was significant.

The study, thus established that organizational agility is not significant in predicting performance of selected public universities in Kenya. Organizational agility is also significant in predicting leadership style and leadership style is significant in predicting university performance. Consequently, the study rejected the null hypothesis and concluded that leadership style has a complete mediating effect on the relationship between organizational agility and performance of selected public universities in Kenya. The findings on this variable are in line with the postulates of the learning organization theory that supports that learning is achieved through an appropriate and effective leadership style in an organization.

A review of extant literature established that few studies have used leadership style as a mediating variable while pursuing to extend the relationship between organizational agility and performance. Additionally, none of the reviewed literature conceptualized leadership style as a mediator of the relationship between organization agility and university performance. For example, Dubey, Singh and Gupta (2015) incorporated leadership style as a mediating variable

on relationship between agility, flexibility, alignment and performance of humanitarian logistic system in India. Their findings were that the performance of human resources and logistical teams and supply chain alignment were strongly influenced by the practiced leadership style. Similarly, a study by Muraguri, Kimencu & Thuo (2017) concluded that universities in Kenya must impress appropriate leadership style to achieve good organizational performance. This study therefore enhances the empirical literature by incorporating leadership style as a mediator on relationship between organizational agility and university performance.

4.7.7. Test of Hypothesis Six

The Sixth specific objective of the study sought to evaluate the moderating effect of regulatory environment on the relationship between organizational agility and performance of selected public universities in Kenya. The related null hypothesis was that: regulatory environment has no moderating effect on the relationship between organizational agility and performance of selected public universities in Kenya. The hypothesis was tested in the study using the two-causal step approach, as advocated by Baron and Kenny (1986).

In the first step, organization agility was regressed on performance of selected public universities in Kenya and the adjusted coefficient of determination (Adjusted R²) and significance level at P<0.05 observed. The estimated regression model revealed that organizational agility is statistically significant at R₁ = **0.067**, B-value= **0.299**, t = **15.708** and p = **0.00 < 0.05**.

In the second step, organizational agility, regulatory environment and an interaction term comprising of organizational agility and regulatory environment were regressed on university performance in the model and the adjusted coefficient of determination (r₂₂) and the level of significance at p < 0.05 observed for each of the variables in table 4.29, 4.30, and 4.31 below.

Table 4. 29: Model Summary for Moderated Relationship

Model Summary				
Model	R	R Square	Adjusted R ₂ Square	Std. Error of the Estimate
1	.520 ^a	.270	.259	2.82955

a. Predictors: (Constant), INTERACTION TERM , ORGANIZATIONAL AGILITY , REGULATORY ENVIRONMENT

Source: Survey Data (2023)

The results in Table 4.29 indicate that the adjusted R square (R^2) is 0.259 suggesting that organizational agility, regulatory environment variables and the composite interaction term explains 25.9 % of the variations in performance of selected public universities in Kenya. This means that only 74.1 % of the variations in performance of selected public universities in Kenya are explained by other factors other than regulatory environment.

The study further conducted ANOVA to assess the suitability of the model for predicting university performance and the results are as shown in Table 4.30 below.

Table 4. 30. ANOVAa test for Moderated Relationship

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	601.124	3	200.375	25.027	.000 ^b
	Residual	1625.292	203	8.006		
	Total	2226.415	206			

a. Dependent Variable: UNIVERSITY PERFORMANCE

b. Predictors: (Constant), INTERACTION TERM , ORGANIZATIONAL AGILITY , REGULATOY ENVIRONMENT

Source: Survey Data (2023)

Table 4.30 shows that the F-statistic for the model is 25.027 which is greater than F-Critical value of 2.6725. The P-value is $0.000 < 0.05$ suggesting that the model is fit for predicting performance of selected public universities in Kenya.

To test the significance of variables in predicting performance of selected public universities, a t-test at 0.05 significance level was conducted and the results tabulated as shown in table 4.31.

Table 4. 31: Coefficients for Moderated Relationship

		Coefficients ^a				
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	58.601	4.778		12.264	.000
	ORGANIZATIONAL AGILITY	-1.037	.196	-.929	-5.298	.000
	REGULATORY ENVIRONMENT	-1.398	.252	-1.432	-5.550	.000
	INTERACTION TERM	.064	.010	2.449	6.697	.000

a. Dependent Variable: UNIVERSITY PERFORMANCE

Source: Survey Data (2023)

The results in Table 4.31 show that the constant has a coefficient of 58.601 with a P-value of 0.000, organizational agility has a coefficient of -1.037 and regulatory environment has a coefficient of -1.398 while the interactive term has a coefficient of 0.064. Thus, holding organizational agility, regulatory environment and the composite interactive term constant, the performance of selected public universities in Kenya would be equal to 58.601 units. Additionally, holding all other factors constant and increasing organizational agility by one unit would result in 1.037 decrease in performance of selected public universities in Kenya. Still further, if all other factors are held constant, a unit increase in regulatory environment would lead to a 1.398 units decrease in performance of selected public universities in Kenya. Moreover, holding all other factors constant and increasing the interactive term by one unit would result in 0.064 increase in performance of selected public universities in Kenya. However, the P-values for the constant, organizational agility, regulatory environment and the interactive term are all less than 0.05 indicating that they are all significant.

The decision on the moderated relationship is based on suggestion by Baron and Kenny (1986) that the difference of the value of R square ($r_2 - r_1$) represents the moderating effect of the moderating variable and that the moderator moderates the relationship between the independent and dependent variable if the interactive term is significant.

In this study, $r_1 = 0.067$ while $r_2 = 0.259$. The results show that there is an increase in value of R square by 0.192 ($0.259 - 0.067$). Since there is a change in the R square and organizational agility and the interactive term are significant at 0.05, the study rejects the null hypothesis and concludes that regulatory environment has a significant moderating effect on the relationship between organizational agility and performance of selected public universities in Kenya.

The findings of this study are consistent with the findings of Reed (2021) who found that environmental turbulence and company age moderated positively the relationship between strategic agility and firm performance. Additionally, work done by Salehzadeh, Pool, Mohseni and Tahani (2017) also found that firm size and culture as indicators of institutional environment moderated the relationship between organizational agility and knowledge sharing on employee performance of small and medium businesses in Iran. However, the results of this study differ with findings of Muraguri, Kimenju and Thuo (2017) that there is no significant moderating effect of institutional environment on the relationship between dimension of strategic intent dimension and performance of universities in Kenya. Their study operationalized institutional environment using university policies and university culture as indicators. In the current study, MOE Policies, CUE Standards and KUCCPS Conformity have been used as indicators to measure regulatory environment supported by the postulates of institutional theory.

The empirical studies reviewed revealed that a few studies incorporated regulatory environment as moderating variables in attempting to enhance the understanding of university performance. This research therefore contributes to existing literature by incorporating regulatory environment as a moderator on the relationship between organizational agility and university performance.

4.8. Analysis of Qualitative Data

The open-ended questions in the questionnaire were used to obtain qualitative data in the study. The study used content analysis to analyze qualitative data by bringing out meanings in the responses. The results of the analysis were presented for various specific objectives as follows;

4.8.1 Objective one

The first objective of the study was to determine the effect of organizational readiness to change on performance of selected public universities in Kenya. The respondents were required to give

their opinion on how the university ensures that employees are committed for readiness to change and how it affects university performance. The respondents believe that the university should emphasize continuous and multifaceted training initiatives to foster commitment to readiness for change among employees. By implementing varied training methods such as seminars and mentorships, the university could nurture a workforce that is adaptable and prepared for evolving challenges and innovations.

4.8.2. Objective two.

The second objective of the study was to establish the effect of Agility Enabler on performance of selected public universities in Kenya. The respondents were asked to give their opinions on what the public universities should focus on to maintain a trained human resource. The respondent's opinion was that the university should focus on professional development and recognition as pivotal strategies for maintaining a trained workforce. Offering promotions and ongoing learning opportunities can help in keeping the staff motivated, ensuring that they remain professionally up-to-date and competent in handling emerging challenges.

4.8.3. Objective three.

In the third objective, the study sought to establish the effect of Responsiveness on performance of selected public universities in Kenya. The respondents were required to give their opinion on what strategies should the public universities put in place to make them more responsive to uncertain change in the environment? The respondents suggested that the university should embrace inclusivity and provide supportive environments to enhance responsiveness to uncertainties. By involving employees in decision-making and ensuring consistent communication and support during challenging times, the university could foster a resilient and adaptable organizational culture.

4.8.4. Objective four.

The fourth objective of the study was to establish the effect of Agility practice on performance of selected public universities in Kenya. The respondents were requested to indicate their opinion on how agility practice affect university performance by identifying some innovation strategies that the public universities can adapt to improve performance during uncertain change circumstances. Participants suggested that the university should be proactive in adopting

technological advancements and promoting a vibrant research culture. By integrating relevant technologies and encouraging research and collaborations, the university could drive innovation, improving its overall performance and adaptability in the face of uncertainties.

4.8.5. Objective five.

The fifth objective of the study was to determine the mediating effect of leadership style on the relationship between organizational agility and performance of selected public universities. The respondents were requested to indicate their opinion on how leadership style affects their performance by examining best style of leadership to practice between autocratic, democratic, or laissez-faire during change process in the public universities. The democratic leadership was favored among the participants, valuing its inclusivity and collaborative approach. However, there is also a recognition of the potential benefits of adapting leadership styles to meet the specific demands and contexts of various change scenarios within the university.

4.8.6. Objective six.

The Sixth objective of the study was to evaluate the moderating effect of regulatory environment on the relationship between organizational agility and performance of selected public universities in Kenya. The respondents were required to express their opinion on what strategies the government should put in place to safeguard future survival and performance of public universities from the effects of uncertain change from the environment. The consensus was that comprehensive governmental support, both financially and structurally, is essential. Participants also believe that increased funding, coupled with strategic policy and structural support, could bolster universities, enhancing their resilience and capacity to navigate through various challenges effectively. From the foregoing observations, it can be concluded that there is need for a review of policies of ministry of education and improvement on standards by commission of university education for university education to make them thrive in the ever changing environment they operate in.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary of the findings on the study variables. The chapter presents conclusions, recommendations, contribution of the study to body of knowledge and areas for further research. The chapter also outlines the limitations of the study, recommendations for policy and proposals of areas of further research. The general objective of the study was to investigate the effect of organizational agility on the performance of selected public universities in Kenya. The specific objectives of the study were to determine the effect of organizational readiness to change, agility enabler, responsiveness and agility practice on performance of selected public universities in Kenya. The study also sought to establish the mediating effect of leadership style and the moderating effect of regulatory environment on the relationship between organizational agility and performance of selected public universities in Kenya.

5.2 Summary of the Study

The first objective of the study sought to ascertain the effect of organizational readiness to change on performance of selected public universities in Kenya. The null hypothesis stated that organizational readiness to change had no significant effect on performance of selected public universities in Kenya. The study found that organizational readiness to change had a significant effect on performance of selected public universities in Kenya. Theoretically, the findings reached were in line with work done by Hague, TitiAmayah & Liu (2016) who found that focusing on readiness to change had a positive impact on improving organizational performance and also findings of Asbari, Hidayat & Purwanto (2021) that readiness to change impacted positively on employee performance. Additionally, the findings of this variable are in line with the postulates of dynamic capability theory. Therefore, the study failed to reject the first null hypothesis that organizational readiness to change had no significant effect on performance of selected public universities in Kenya.

The second objective of the study was to establish the effect of agility enabler on performance of selected public universities in Kenya. The study tested the null hypothesis that agility enabler had no effect on performance of selected public universities in Kenya. It was established that the

elements of agility enabler: trained human resource, technology and organization structure were found to be practiced in the selected public universities to great extent, though with varied opinions across the universities. The study showed that to a large extent that public universities have invested in required technology, updates existing technology from time to time, train their employees on new technologies, and that employee training is a continuous process. Additionally, the respondents agreed to a large extent that the respective university organization structure was simple to understand by the employees and usually displayed for easy of viewing. Therefore, the study failed to reject the second null hypothesis that agility enabler has no significant effect on performance of selected public universities in Kenya.

The third objective of the study sought to establish the effect of responsiveness on performance of selected public universities in Kenya. The corresponding null hypothesis was that responsiveness had no significant effect on performance of selected public universities in Kenya. The study found that the elements of responsiveness which included, communication, competence and speed were generally found to be practiced to a great extent within the selected public universities. The university management were found to be effective in making communications on change to employees with speed. However, the respondents agreed to a moderate extent that the employees had the competence to drive the required change. The study therefore failed to reject the third hypothesis that responsiveness has no significant effect on performance of selected public universities in Kenya.

The fourth objective of the study sought to establish the effect of agility practice on performance of selected public universities in Kenya. The corresponding null hypothesis was that agility practice had no significant effect on performance of selected public universities in Kenya. The agility practice was operationalized using creating clear strategies, collaborations with stakeholders and innovations as indicators. The findings of the study showed that agility practice had no significant effect on performance of selected public universities in Kenya. This implies that its relationship with university performance could likely be due to chance or may impact positively on other studies on universities other than the current study. As a result, the expectations for this particular goal were not met. The study therefore failed to accept the fourth hypothesis.

The study's fifth goal was to ascertain how leadership style mediated the association between organizational agility and performance at a subset of Kenya's public universities. The null hypothesis tested was that leadership style has no mediating effect on the relationship between organizational agility and performance of selected public universities in Kenya. The study found that leadership style has a complete mediation effect on the relationship between organizational agility and performance of selected public universities in Kenya, hence significant. The study noted that most respondents though with varied opinions agreed to a large extent that Leadership style has an effect on performance of public Universities in Kenya.

The results further showed that democratic leadership was favored among the participants, valuing its inclusivity and collaborative approach compared to autocratic and laissez-faire styles of leadership. However, there is also a recognition of the potential benefits of adapting appropriate leadership styles to meet the specific demands and contexts of various change scenarios within the universities. This concurs with findings of research by Muraguri, Kimenju and Thuo (2017) that adoption of appropriate leadership style was key to improved performance of universities in Kenya.

The sixth objective sought to establish the moderating effect of regulatory environment on the relationship between organizational agility and performance of public universities in Kenya. The null hypothesis was that regulatory environment had no moderating effect on the relationship between organizational agility and performance of selected public universities in Kenya. The regulatory environment was operationalized using MOE policies, CUE standards and KUCCPS conformity as indicators. The study results showed that there was a consensus among the respondents that comprehensive governmental support, both financially and structurally, is essential for improvement in university performance. Additionally, the respondents though with varied opinions agreed to a large extent that regulatory environment has an effect on performance of public Universities in Kenya. The study therefore found that regulatory environment has a significant moderating effect on the relationship between organizational agility and performance of selected public universities in Kenya and hence failed to reject the sixth hypothesis.

5.3 Conclusions

This study focused on organizational agility and performance of selected public universities in Kenya and on the basis of the findings, the study inferred some important conclusions.

First, the study revealed that under uncertain and changing environment in which public universities operates in, organizational agility was perceived as a panacea in improving university performance. Second, the results of this study established a positive significant relationship between organizational readiness to change and performance of selected public universities. It was perceived that the public universities should emphasize continuous and multifaceted training initiatives and seminars to foster commitment to readiness to change among employees such as seminars forums and mentorships. This could nurture a workforce that is adaptable and prepared for evolving challenges and innovations in the institution. Thirdly, the results from this study drew a clear positive relationship between agility enablers and performance of selected public universities in Kenya. It was perceived that public universities should focus on integrating relevant technologies and on professional development of human resource and recognition as pivotal strategies for maintaining a trained workforce.

Fourthly, the results established a positive significant relationship between responsiveness and the performance of selected public universities in Kenya. From the findings, it was perceived that public universities should embrace effective communication mechanisms and provide supportive environments to enhance staff competence during uncertainties to handle emerging challenges with speed.

On the fourth objective, the study found that agility practice had no significant effect on performance of selected public universities in Kenya. Its relationship with the university performance could likely be due to chance. However, it was perceived that public universities could incorporate other mechanisms such as relevant technologies, research and collaborations to drive innovations.

Additionally, on the fifth objective, the study finding was that leadership style had a complete mediating effect on the relationship between organizational agility and performance of selected public universities in Kenya and the democratic leadership style was found favourable leadership practice in public universities to drive uncertain change, valuing its inclusivity and collaborative approach. However, there is also a recognition of the potential benefits of adapting other

leadership styles to meet the specific demands and contexts of various change scenarios within the public universities in Kenya. Finally, on the sixth objective, the study finding was that regulatory environment had a significant moderating effect on the relationship between relationship of organizational agility and performance of selected public universities in Kenya. In addition, it was observed that a comprehensive government support both financially and structurally was essential for improvement in university education.

5.4 Contributions of the Study to Knowledge

The environment in which public universities operate in Kenya has been changing over time due to many uncertainties that affect achieving of their performances. This study focused on the effect of organizational agility and performance of selected public universities in Kenya. The performance of a few Kenyan public universities was examined in relation to organizational agility in this study. Thus, theory and practice are the focus of this study's contribution to the body of knowledge. The majority of research on organizational agility that has been done so far has been on software companies and foreign manufacturing enterprises and not universities or other higher education establishments. Previous research on the relationship between organizational agility and performance had limitations in terms of methodology, context and model conceptualization. Furthermore, local empirical research on university performance has not just concentrated on organizational agility but also on other independent variables.

The study empirically tested the variables under study and extends to empirical literature by revealing that organizational agility has a positive effect on performance of selected public universities in Kenya. The study further improves the theoretical understanding of the effect of organizational agility on university performance and particularly from the point of view of effectiveness and efficiency, research uptake, university-industry partnership and university ranking. The study further contributes to the body of knowledge of strategic management on factors that contribute to university performance through conceptualization of mediating effect of leadership style and moderating effect of institutional environment on relationship between organizational agility and university performance. In addition, conceptualization of organizational agility has been enriched by use of study variables of readiness to change, agility enabler and responsiveness. This has enriched the available literature on the study variables.

The notion of organizational agility and performance is therefore revealed in this study, which adds to the body of empirical research already in existence. Additionally, the research has demonstrated a statistically significant positive correlation between organizational agility and the performance of selected Kenyan public universities. Scholars at universities, management strategists, and other academics studying organizational performance will find great significance in this research finding. The study also adds to the theoretical literature by giving the theoretical premises that were utilized to formulate the research hypotheses a foundation for empirical testing. Furthermore, the study supports provisions of the dynamic capability theory and learning organization theory, which is based on the assumption that the present environment in which public universities are operating is ever changing with a lot of uncertainty and new knowledge and ideas are a pre-requisite for achievement of superior organizational performance.

5.5 Recommendations for Policy and Practice

This study gives public university management an overview of unexpected circumstances and how to address them by implementing concept of organizational agility. The report provides recommendations that can be put into practice to guarantee that performance is improved, especially considering the unstable climate in which these universities in Kenya operate.

The study's conclusions have significant ramifications for practice and policy that can be used to enhance the performance of public universities in Kenya. The study established that organizational readiness to change has a significant positive effect on performance of selected public universities in Kenya. According to the study, the top administrators of Kenya's public universities should establish clear policy guidelines that encourage staff members to adopt organizational readiness to change by emphasizing aspects like change commitment, efficacy, and implementation effort. These elements will spur employees' mindset and belief that environmental conditions for the public universities are not static, hence need for new ways of thinking that are applicable to a dynamic environment.

Agility enabler was found to have a significant positive effect on performance of public universities in Kenya. The study thus recommends that public universities should ensure continual training of their human resource to cope up with the changing technology. In addition, the universities should develop an organizational structure that defines clear job roles and

responsibility, quality objectives, work procedures' and routines that will stand up during period of uncertainty.

The study also concluded that responsiveness had a positive significant effect on performance of selected public universities in Kenya. The study recommends that the both the top management and line managers of the public universities should enhance effective communication with employees through consultative meetings before making key decisions on change. Additionally, encouraging staff competence development and quick response to arising critical issues affecting the university. The study noted that leadership style completely mediated the relationship between organizational agility and performance of selected public universities in Kenya.

The study therefore recommends that public universities should encourage participation of employees in idea generation on planned change initiatives by practicing democratic leadership style. Regulatory environment was found to have a significant moderating effect on the relationship between organizational agility and performance of selected public universities in Kenya. This imply that institutional environment elements namely MOE policies, CUE standards and KUCCCPS conformity have a positive effect on performance of public university. The study recommend that the government policy makers should develop policies that favour public universities during uncertainty.

5.6 Recommendations for Further Research

There's certainly opportunity for more investigation, even with the study's acknowledged shortcomings. The results of this study have opened the door to more academic investigation in related fields, such as the exploration of additional aspects of agility routines that require attention. According to this study, organizational agility accounted for 11.0% of the performance variations in a sample of Kenyan public universities; the remaining 89.0% of performance variations were predicted by variables other than organizational agility. Furthermore, a statistical analysis revealed that the use of agility practice as a component of organizational agility to gauge university performance was not significant. Future study must therefore focus on additional organizational agility components that affect university performance, such as system flexibility and research and development. Furthermore, it is advised to do replicative research in Kenyan organizations other than public institutions in order to corroborate the study's findings and conclusions.

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APPENDICES

Appendix I: Letter of Introduction

Hebron Litsulitsa Adoli
School of Business, Economics and Tourism
Kenyatta University,
P.O box 43844-00100,
Nairobi.
5th June, 2023.

Dear Sir / Madam,

RE: AUTHORITY TO COLLECT ACADEMIC DATA

I am a PhD student in the School of Business, Economics and Tourism at Kenyatta University undertaking a research Thesis on “**Organizational Agility and Performance of Selected Public Universities in Kenya**” To accomplish the purpose of this research, you have been selected among those to participate in this scholarly research. I kindly request for your assistance to collect the data required by filling in the questionnaire. The information provided will be used purely for academic purposes and with utmost confidentiality. Upon request, you will be provided with a copy of the final report.

I will highly appreciate your assistance.

Yours sincerely,

Hebron L. Adoli

Appendix II: Questionnaire

This questionnaire collect data on Organizational Agility and performance of selected public universities in Kenya. Organizational agility refers to the ability of the university to respond to uncertain change in the environment effectively and efficiently to improve on its performance. The questionnaire is purely for academic research purpose and strictly protected from sharing with any other person. The information from the respondents will be collected at the three levels of strategy within the university- DVCs, Deans and Heads of departments. The success of this research will depend on the accuracy of the responses provided. In addition, the researcher assures confidentiality of the information collected. The questions are spread in five sections of the questionnaire. Kindly fill the questionnaire to the best of your ability.

University Name.....

SECTION A: Demographics and general Information (Please tick where appropriate).

1. How old is your university since establishment?

Below 10 years.

10-14 years

15-19 years

20 years and above

2. Position you hold in the university

DVC..... (Specify)

Dean of school/Faculty (Specify)

Head of academic department (Specify)

Head of administrative department (Specify)

3. How long have you held this position?

0 - 2 years

3 - 4 years

5 – 6 years

Over 6 years

4. Your level of academic achievement (tick one)

Bachelor degree

Master degree

Doctoral level

Others

SECTION B: ORGANIZATIONAL AGILITY.

Readiness to change

5. To what extent to you agree with the following statements as pertains Readiness to change in your university? Kindly tick your view appropriately using scale 1-5; **1= Not sure, 2=strongly disagree, 3= Disagree, 4= Agree and 5= Strongly Agree**

Parameter	1	2	3	4	5
The university leadership is committed to respond to uncertain change process.					
The university value employees as key resource to drive change.					
Management involves employees in decision making about uncertain change in the environment.					
University policies are clear on uncertain change process.					
Employees belief that change is necessary to produce desired results					
Our employees are able to implement a complex change with ease					
The university leadership has a strategy to effect a desired change					

6. How has this university ensured that employees are committed for readiness to change?

.....
.....

Agility enabler

7. To what extend to you agree with the following statements as pertains key agility enablers in your university. Please tick your view accordingly on scale 1-5 below; **1= Not sure, 2=strongly disagree, 3= Disagree, 4= Agree and 5= Strongly Agree**

Parameter	1	2	3	4	5
The university involves in training employees					
Employee training is a continuous process					
The university has invested in required technology.					
The university updates its existing technology from time to time.					
The university organization structure is usually displayed.					
The organization structure is simple to understand by employees					

8. What are the things the university can do to maintain a trained human resource?

.....

Responsiveness

9. Please indicate your level of agreement with the following statements as pertains responsiveness in your university (Tick appropriately using scale 1 - 5); 1= Not sure, 2=strongly disagree, 3= Disagree, 4= Agree and 5= Strongly Agree

Parameter	1	2	3	4	5
The university has a clear communication systems in place on change					
The university effectively communicates required change to employees.					
Employees are competent enough to drive required change					
Change champions are competent enough to drive change.					
Communication on change is done on time by the top management.					
Employee response to change is quick and effective.					

10. In your own opinion, what strategies should the university put in place to make it more responsive to uncertain change?

.....

Agility practice

11. To what extent do you agree with the following statements as pertains agility being practiced in your university (Tick appropriately using scale 1 – 5); 1= Not sure, 2=strongly disagree, 3= Disagree, 4= Agree and 5= Strongly Agree

Parameter	1	2	3	4	5
Strategies set for the university are clear and simple to understand					
Employees are acquainted with university strategies.					
There is team work with other stakeholders in implementation of change					
The university management collaborates well with employees					
Change will always be innovative					
University management supports innovations					

12. In your own opinion, what are some of the innovation strategies the university can adapt to improve on performance during uncertain change circumstances?

.....

SECTION C: REGULATORY ENVIRONMENT

15. To what extent do you agree with the following statements as pertains presence of regulatory environment. (Kindly tick appropriately your view on below statements as relates to your university using scale 1-5 below); **1= Not sure, 2=strongly disagree, 3= Disagree, 4= Agree, and 5= Strongly Agree**

(MoE- Ministry of Education, **CUE**- Commission of University Education, **KUCCPS**- Kenya University and Colleges Central Placement System).

Parameter	1	2	3	4	5
Employees are more informed of the MoE policies					
MoE policies have affected student enrolment in the university					
Employees are aware of CUE standards.					
This university has a clear vision and mission statement and conforms to required CUE standards					
KUCCPS places students to rightful chosen and qualified courses					
The university gets enough students from KUCCPS					

16. In your opinion, what strategies should the government put in place to safeguard future survival of public universities from the effects of uncertain change affecting them?

.....

SECTION D: LEADERSHIP STYLE

13. To what extent do you agree with the following statements as pertains Leadership Style practiced in your University (Tick appropriately using scale 1-5 below); **1= Not sure, 2=strongly disagree, 3= Disagree, 4= Agree and 5= Strongly Agree**

Parameter	1	2	3	4	5
The university management makes all decisions on anticipated change process without seeking views of the staff.					
The staff rarely have a say in the decision-making process about change.					
Management makes all decisions on anticipated change process but occasionally consults the staff.					
Management promotes open communication and feedback from staff					
Management makes decision on anticipated change process by consensus with the staff.					
I feel my opinions on anticipated change are valued and considered					
Management allows employees to work independently most of the time					
I value autonomy in my team and belief can function optimally without my oversight.					
I feel I can approach tasks as I see fit, without much intervention					

14. In your own opinion which of the following leadership style is good to apply during change process in your university? Autocratic () Democratic () or Laissez-faire ()
 Kindly explain briefly why you think this is the best

.....

.....

SECTION E: UNIVERSITY PERFORMANCE

17. To what extent do you agree with the following statements as pertains achievement of performance of your university? 1= Not sure, 2=strongly disagree, 3= Disagree, 4= Agree and 5= Strongly Agree

Parameter	1	2	3	4	5
Enrolment levels for Self-sponsored student is low in our university					
Our university has an operational service charter					
University is ISO (International Organizations for Standards) certified.					
Our university-Industry partnerships is still weak to drive change.					
University management supports the university-industry partnerships.					
The university management supports research work for staff.					
Academic staff are involved in research uptake in the university					
University ranking is a key parameter of performance					
Our university has been improving on global ranking scale					

18. In your own opinion, what steps can your university management take to improve its performance in view of the changing dynamics in the environment?

.....

Thank you for your cooperation.

Appendix III: Kenya's Public Universities Webometrics Transparent Ranking 2023

Name of University	Local Ranking	Africa Ranking	World Ranking			
			2020	2021	2022	2023
University of Nairobi	1	13	993	1054	1101	1076
Kenyatta University	2	43	1598	1915	2151	2064
Egerton University	3	50	1884	2020	2429	2378
Jomo Kenyatta University of Agriculture and Technology	4	62	2773	2204	2519	2466
Moi University	5	56	1954	2107	2611	2490
Maseno University	6	97	4135	2909	3559	3475
Technical University of Kenya	7	140	7599	3540	3784	3764
Masinde Muliro University of Science & Technology	8	209	5222	4802	5255	5032
Muranga University of Technology	9	227	11546	5176	5762	5649
University of Embu	10	226	16655	5136	7217	5791
South Eastern Kenya University	11	272	7903	5962	7379	6883
Dedan Kimathi University of Technology	12	301	9319	6622	7184	7031
Meru University of Science & Technology	13	359	11925	8012	9101	7103
Pwani University	14	316	9291	7101	6266	7703
Kibabii University	15	346	7819	7689	8349	8618
Machakos University	16	284	13358	6198	8598	8817
Kisii University	17	334	9179	7403	9001	8939
Jaramogi Oginga Odinga University of Science & Technology	18	333	11052	7403	9495	9355
Chuka University	19	403	13255	8962	9879	9892
Karatina University	20	387	11611	8638	9890	10283
Maasai Mara University	21	380	10852	8459	10371	10510
University of Kabianga	22	492	14121	12975	12743	11471
Cooperative University of Kenya	23	640	13841	16151	11689	11591

Rongo University	24	462	14070	11691	12603	12004
Technical University of Mombasa	25	435	17475	10228	12386	12915
Laikipia University	26	512	10397	13588	12271	12951
Taita Taveta University	27	503	15941	13268	13457	13245
University of Eldoret	28	342	10759	7599	8972	14115
Garissa University	29	576	15292	15043	14604	14350
Multimedia University of Kenya	30	971	24556	22620	16652	15524
Kirinyaga University	31	706	21325	17181	15591	17011

Appendix IV: Public Universities in Kenya by status and year of establishment

No	Chartered Public Universities	Established year
1	University of Nairobi	1970
2	Moi University	1984
3	Kenyatta University	1985
4	Egerton University	1987
5	Jomo Kenyatta University of Agriculture and Technology	1994
6	Maseno University	2001
7	Masinde Muliro University of Science and Technology	2007
8	Dedan Kimathi University of Technology	2012
9	Chuka University	2013
10	Technical University of Kenya	2013
11	Technical University of Mombasa	2013
12	Pwani University	2013
13	Kisii University	2013
14	University of Eldoret	2013
15	Maasai Mara University	2013
16	Jaramogi Oginga Odinga University of Science and Technology	2013
17	Laikipia University	2013
18	South Eastern Kenya University	2013
19	Meru University of Science and Technology	2013
20	Multimedia University of Kenya	2013

21	University of Kabianga	2013
22	Karatina University	2013
23	Kibabii University	2015
24	Rongo University	2016
25	The Co-operative University of Kenya	2016
26	Taita Taveta University	2016
27	Murang'a University of Technology	2016
28	University of Embu	2016
29	Machakosi University	2016
30	Kirinyaga University	2016
31	Garissa University	2017
	Public University Constituent Colleges	
1	Alupe University College	2015
2	Kaimosi Friends University College	2015
3	Tom Mboya University College	2016
4	Turkana University College	2016
5	Tharaka University College	2017
6	Bomet University College	2017
7	Koitaleel Samoei University College	2018
	Specialized Degree awarding University	
1	National Defence University-Kenya	2021

Appendix V: Work Plan

Activities	Jan	Mar	June	Oct- Nov	July - Aug	Sept	Jan	Dec
	2021	2021	2021	2021 /22	2023	2023	2024	2024
Topic and Objectives setting								
Review of Literature								
Methodology								
Formulation of questionnaire & Oral defences								
Collection of data								
Analysis and Presentation of data								
Conclusion and Recommendation								
Final Editing and Submission								

Appendix VI: Budget for the Research work

ITEM Description		COST (Ksh)
Typing and edit work		53,500
Research work and internet cost		23,700
Collection of data		60,400
Printing work and binding		42,600
Cost of Research assistants		55,500
Cost of Transport		80,500
Analysis of the data		93,500
Other Miscellaneous costs		65,500
Total cost		475200