

UNIVERSITY OF NAIROBI

INVESTIGATION ON THE PUBLIC-PRIVATE PARTNERSHIPS (PPP) SUCCESS AS PROCUREMENT METHOD FOR INFRASTRUCTURE DEVELOPMENT IN KENYA: A CASE STUDY OF PUBLIC UNIVERSITIES IN NAIROBI METROPOLITAN

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A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT FOR THE AWARD OF THE DEGREE OF MASTERS OF ARTS IN CONSTRUCTION MANAGEMENT OF THE UNIVERSITY OF NAIROBI.

DECLARATION

DECLARATION

I declare that this research project is my original work and has not been presented and submitted in any other University.

Signature:

Date 22 08 2023

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This research project has been submitted for examination with my approval as the university supervisor and Lecturer in the department.

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DEDICATION

I dedicate this work to my lovely family who have stood by, supported and encouraged me all the times to complete my research study. I am proud of them as they formed the basis on which to keep on pursuing my academic goal. This study is also dedicated to my colleagues at workplace for the moral support and encouragement they gave me in the process.

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TABLE OF CONTENTS

| DECLARATION | ii |
|--|----|
| DEDICATION | ii |
| ACKNOWLEDGEMENT | iv |
| LIST OF FIGURES | ix |
| DEFINITION OF TERMS | X |
| ABSTRACT | xi |
| CHAPTER ONE | 1 |
| INTRODUCTION | 1 |
| 1.1Background of the study | 1 |
| 1.2 Problem Statement | 3 |
| 1.3 Objectives of the study | 5 |
| 1.4 Research Questions | 6 |
| 1.5 Research Hypothesis | 6 |
| 1.6 Justification of the study | 6 |
| 1.7 Significance of the study | 6 |
| 1.8 Scope of the study | 7 |
| 1.9 Limitations and assumptions of the study | 7 |
| 1.10 Summary | 7 |
| CHAPTER TWO | 8 |
| LITERATURE REVIEW | 8 |
| 2.0 Introduction | 8 |
| 2.1Empirical Review | 8 |
| 2.2 Definition of procurement | 9 |
| 2.3 PPPs versus public procurement. | |
| 2.3 Infrastructure development projects | 11 |
| 2.4 PUBLIC- PRIVATE PARTNESHIPS (PPP) | 11 |
| 2.4.1 PPP generally | 11 |
| 2.4.1 Definition of PPP | |
| 2.4.2 Origin of PPP | |
| 2.4.3 Typical PPP contracts | |
| 2.4.4 Reasons for PPP | |
| 2.4.5 Benefits of PPP | |
| 2.5. Public Private Partnerships in Kenva | 16 |

| 2.5.1 Legal and institutional framework | 17 |
|---|----|
| 2.6 PERFORMANCE PARAMETERS OF PPP | 19 |
| 2.5.1 Time performance | 20 |
| 2.5.2 Cost performance | 20 |
| 2.5.3 Allocation of project risks performance | 21 |
| 2.5.4 Value for Money performance | 21 |
| 2.7 Critics of PPP | 22 |
| 2.8 Factors impending adoption of PPP infrastructural projects in Kenya | 23 |
| 2.8.1 Financial factors | 23 |
| 2.8.2 Legal factors | 24 |
| 2.8.3 Political factors | 26 |
| 2.9 Conceptual and Theoretical frameworks | 27 |
| 2.10 Summary | 27 |
| CHAPTER THREE | 28 |
| RESEARCH METHODOLOGY | 28 |
| 3.1 Introduction | 28 |
| 3.1 Research Approach | 28 |
| 3.2 Target Population and the Unit of Analysis | 29 |
| 3.4 Sample sizes | 31 |
| 3.5 Data collection instruments | 32 |
| 3.6 Data Collection Procedures and Analysis | 32 |
| 3.7 Summary | 33 |
| CHAPTER FOUR | 34 |
| DATA ANALYSIS, PRESENTATION AND DISCUSSION | 34 |
| 4.1 Introduction | 34 |
| 4.2 Response Rate | 34 |
| 4.3 Background Information | 34 |
| 4.4 Descriptive Statistics | 38 |
| 4.4.1 Financial factors | 38 |
| 4.4.2 Legal Factors | 39 |
| 4.4.2 Political Factors | 41 |
| 4.4.3Successful Implementation of PPP projects | 43 |
| 4.5Regression Analysis | 44 |
| 4.5.2 Analysis of Variance (ANOVA) | 45 |
| 4.4 Financial Leverage and financial performance | 48 |

| CHAPTER FIVE | 50 |
|---|----|
| SUMMARY CONCLUSION AND RECOMMENDATIONS | 50 |
| 5.1 Introduction | 50 |
| 5.2 Summary of Findings | |
| 5.3 Conclusion | 51 |
| 5.4 Recommendations for Policy and Practice | 52 |
| 5.6 Suggestions for Further Research | 53 |
| REFERENCES | 55 |

LIST OF TABLES

| Table 2.1: Conceptual Framework | 27 |
|--|----|
| Table 3.1: Sampling design | 31 |
| Table 4.1 Response Rate | 34 |
| Table 4.2: Respondents experience in PPP projects | 36 |
| Table 4.3: Financial Factors. | 38 |
| Table 4.4: Legal Factors | 40 |
| Table 4.5: Political Factors | 41 |
| Table 4.6: Successful Implementation of PPP projects | 44 |
| Table 4.2 a): Model Summary | 45 |
| Table 4.2 b) Anova. | 46 |
| Table 4.3 Correlation analysis. | 47 |
| Table 4.4: Coefficients of Determination. | 48 |

LIST OF FIGURES

| 12 |
|----|
| 18 |
| 34 |
| 35 |
| |
| 37 |
| |

DEFINITION OF TERMS

Commercial close Stage where project agreement on commercial terms are agreed

and contract is signed.

Concession It involves the bestowal of rights, land, or possessions by a

government, municipal body, company, person, or any other

legally acknowledged entity.

Financial close refers to the stage when all project documents are duly signed,

financing is secured, and construction or commercial operations

can commence.

Build Operate Transfer This denotes a project delivery approach where a private entity

is given a concession by the public sector to fund, plan, build,

possess, and manage a facility as outlined in the concession

agreement.

Public Private Partnerships: This refers to a project delivery method in which a

private company acquires permission from the government to

fund, design, construct, own, and operate a facility based on the

conditions outlined in the concession agreement.

ABSTRACT

Infrastructure investments are key drivers in achieving economic growth and sustainable development. However inadequate funding and ever emerging complex procurement methods are becoming impediments to delivery of infrastructure projects. Hence, many nations are increasingly adopting Public-Private Partnerships (PPPs) as a means to leverage private investment and address significant gaps in national budgets. Despite the concerted efforts of the National government, facilitated by the PPP Unit within the National Treasury, the utilization of PPP projects in Kenya remains limited. This research aimed to uncover the factors influencing the successful execution of PPP projects in Kenya. The specific goals were: identifying financial elements impacting the effective planning and realization of PPP infrastructure projects in Kenya, assessing the legal barriers hindering the adoption of PPPs in the country, and determining the political factors that impede the expeditious advancement and execution of Public-Private Partnership projects in Kenya. The study was conducted through a survey-based data collection method, employing both qualitative and quantitative approaches. The study encompassed seven accredited public universities in the Nairobi Metropolitan Area, with a sample of 105 participants selected through random sampling. Data was also sourced from the National Treasury, the Public Private Partnership Unit, and private firms providing transaction advisory services in Nairobi. Data collection employed a questionnaire comprising both closed and open-ended inquiries. Analysis encompassed descriptive statistics including means, frequencies, and standard deviation, as well as inferential statistics such as correlation and multiple regressions. The findings were presented using frequency distribution tables and bar graphs. The study exposed that financial factor exert a significant and positive influence on the successful implementation of projects in Kenyan public universities. Furthermore, legal factors were found to have a negative and substantial impact on PPP implementation in Kenya, while political factors were identified as having a notable positive influence on successful PPP project execution. In conclusion, the study underscores the critical importance of financial, legal, and political considerations in the triumphant realization of PPP initiatives within Kenya's public universities. As a recommendation, future research should encompass county governments engaged in PPP infrastructure projects, while also exploring additional factors such as economic and environmental aspects.

CHAPTER ONE

INTRODUCTION

1.1Background of the study

Infrastructure investments are key drivers in achieving economic growth and sustainable development. Therefore, timely provision of quality and affordable infrastructure alleviates poverty and hence improved standard of living for citizens. UNDP Kenya under Sustainable Development Goal of 2015 acknowledges that investment in infrastructure is a crucial driver of economic growth and development. These investments should be implemented objectively so as to achieve intended goals. Consequently an appropriate delivery procurement method must be adopted and approved by key project stakeholders. As per The Chartered Institute of Building (CIOB) Annual Review and Accounts for 2021, the main priorities in public sector procurement are standardization, cost reduction, sustainability, and public accountability.

One of the key objectives of PPP procurement model is to bridge the infrastructural funding deficit in the government especially in achieving Vision 2030 (World Bank Report 2016). Selection of an appropriate procurement method is an integral part of a successful project. According to Stauffer (2006), a successful project is the one completed within predetermined; time, specifications, budget and most crucially achieve best value of money or investment. In infrastructural projects, stakeholders should be clearly identified and assigned roles and responsibilities. Turner (1990) explains that the variables involving the design responsibility, timing of design execution, and contracting parties for construction provide various procurement options.

As per the World Bank's semiannual assessment of African economies, investment growth in Sub-Saharan Africa experienced a downturn, decreasing from approximately 8% in 2014 to a mere 0.6% in 2015. This information is highlighted in the most recent edition of the Africa's Pulse report. Furthermore, findings from the African Habitat Review (2020) indicated that construction productivity in Kenya has been slowing down between 1977 and 2019 due to elevated levels of inflation. Conventionally; most governments have used traditional procurement method in delivery of social and economic infrastructural projects. In this method, consultants, designers and contractors enter into separate contracts with the client, hence disintegration of a project. Therefore, due to need of integration of project stages, various

alternative procurement delivery methods have emerged in the construction industry. Some of these methods include Design and Build (D&B) for example turnkey and Engineering, Procurement and Construction (EPC) where designer and contractor is one party, Construction Management where a construction manager is appointed to oversee design and construction processes on behalf of client, Private Financing Initiative (PFI), Public Private Partnerships (PPP) among others. PFI are interchangeably referred as PPP in other countries like United Kingdom (Akontiye, 2003).

Nevertheless, the insufficient funding and the continuous emergence of intricate procurement methods pose challenges in delivering the necessary quantity and quality of infrastructure projects. As a result, many countries are now embracing the Public-Private Partnerships (PPP) project delivery method to attract private capital and effectively address the significant shortfalls in national budgets and bridge existing infrastructure gaps. The World Bank Group (WBG) emphasizes that Africa's current infrastructure situation necessitates a widespread adoption of the PPP model to expedite infrastructure development (World Bank, 2016).

Public-Private Partnerships (PPPs) have garnered a range of interpretations and explanations from various authoritative sources. As per the National Treasury of the Republic of South Africa, Public-Private Partnerships (PPPs) entail a contractual arrangement between a governmental organization or local administration and a private company. In this structure, the private party assumes substantial financial, technical, and operational uncertainties throughout various phases of the project, including planning, financing, building, and running. Generally, PPPs involve an agreement between a public body and a private entity to deliver a public service that was conventionally overseen by the government. In contrast, global financial institutions, such as the World Bank Group (2012), define PPPs as a lengthy agreement between a private entity and a governmental agency. The primary purpose of this agreement is to deliver a public asset or service, with the private entity assuming substantial risk and managerial responsibilities. Other scholars, for instance, Akintoye et al (2003), have also portrayed PPPs similarly. They perceive PPPs as a contractual relationship in which a private entity undertakes some or all of the government's functions. This collaborative approach utilizes shared resources to deliver public services or develop public infrastructure.

As per the World Bank's semiannual assessment of African economies, investment growth in Sub-Saharan Africa experienced a downturn, decreasing from approximately 8% in 2014 to a mere 0.6% in 2015. This information is highlighted in the most recent edition of the Africa's Pulse report. Furthermore, findings from the African Habitat Review (2020) indicated that construction productivity in Kenya has been slowing down between 1977 and 2019 due to elevated levels of inflation. PPPs are now regarded as a contemporary approach to facilitate private involvement in addressing the rising demand for public infrastructure. However, for a PPP contract to be effective, it must ensure value for money for the public sector by delivering enhanced quality and/or reduced costs of public services (Cook, 2015).

Public sector policymakers are actively exploring alternative procurement methods to complement the conventional approach. According to Fernane (2011), public agencies, including state-funded universities that face time constraints and compressed schedules, are now seeking alternative delivery methods for their construction projects. One such alternative method gaining traction is Public-Private Partnerships (PPP), which offers various models to suit different needs.

Therefore to achieve efficiency and effectiveness, government and public institutions including public universities are going for faster and innovative procurement methods. Some of these methods include Design and Build and Public Private Partnerships. As per the World Bank's semiannual assessment of African economies, investment growth in Sub-Saharan Africa experienced a downturn, decreasing from approximately 8% in 2014 to a mere 0.6% in 2015. This information is highlighted in the most recent edition of the Africa's Pulse report. Furthermore, findings from the African Habitat Review (2020) indicated that construction productivity in Kenya has been slowing down between 1977 and 2019 due to elevated levels of inflation.

1.2 Problem Statement

Public sector has increasingly adopted sustainable objectives of transparency, accountability, competitiveness, innovation and appropriate risks allocation in public procurement (Akontiye, 2003). In Kenya, various procurement legislations and regulations have been formulated and enacted to guide public sector procurement. As an illustration, we can observe the presence of the PPAD Act of 2015 alongside the Public Private Partnership Act of 2013. The integration of a

structure for PPPs signifies the Government's dedication to improving the caliber, quantity, cost-efficiency, and punctual provision of critical public infrastructure and services.

Kenya being a developing country has for a long time employed traditional procurement method in projects development. However, in 2010, the government introduced Public Private Partnerships (PPP) as ways of enabling private sector participate in infrastructure development (Business Daily Article, 1st of September of 2015). Infrastructural works in public institutions are procured and delivered in line with stipulated guidelines. Regardless of these perceived benefits and popularity, PPP has not gained speed in Kenya.

According to World Bank Group, PPP model in the last five years has concentrated in Energy (78%) and transport (22%) sectors. The uptake of PPP projects in Kenya is still low despite wide promotion by the National government through the PPP Unit at the National Treasury. Global financial institutions such as World Bank Group have injected resources to the PPP Units among African countries to help in building capacity and promotion. The national government, counties, public agencies and universities have also been investing a lot of resources and time in Public Private Partnerships initiatives. Despite rigorous promotions and advertisements, long time taken from inception to implementation of the projects, none of the public Universities have managed to implement a project through PPP model. According to PPP Unit, Kenyatta University Students' Hostels Project is at advanced stage and other universities are behind. Further, despite enactment of PPP Act, 2013 (revision 2015) and PPP Regulations of 2014, only Road Annuity PPP project has reached financial close. Several state agencies, ministries and county governments are in different stages of procuring and implementing PPP projects. These stages include procurement of private party, negotiation of contract terms, commercial contract signing and process towards financial close, implementation and maintenance of projects.

The national government on the other hand has successfully completed a number of road projects such as the Nairobi Express Way in 2021 where Kenya National Highways Authority is the contracting authority. Public universities have also tried using PPP models in construction projects yet there is no single project which has reached financial close. For instance, Kenyatta University (KU) students' hostel project started 2009, reached commercial close where project agreement was signed (post procurement stage) in 2015 and hitherto financial close has not been

achieved. Embu University, Moi University and South Eastern Kenya University Hostels too have embraced PPP Model of procurement for the construction of student hostels whose projects are at the procurement stage (Cytonn Investments, 2023). According to The National Treasury, Public Private Partnership Unit, various public universities have initiated PPP projects and are at different stages. For instance, JKUAT Hostel Project in Kiambu County, Machakos University PPP Hostel project in Machakos County and Mamlaka Undergraduate PPP Hostel project for University of Nairobi are all in pre procurement stage. Pre procurement is the stage where commercial close has not been achieved and hence project agreement has not been signed. Additionally, the PPP Unit, indicates that other public universities outside Nairobi Metropolitan Area are at the proposal stage in their PPP hostel projects. Moi University and Maseno University are at the pre-procurement stage where feasibility studies are underway including recruiting transaction advisory services.

PPP projects that are being undertaken by public universities have not made great progress despite a lot effort to deliver those projects, unlike those being done by the national government. Furthermore the study focused on those public universities within the Nairobi Metropolitan Area since they have better access to better infrastructural facilities and information on PPP model of project delivery. Therefore, there is pressing need to investigate what is impeding the adoption of PPPs infrastructural projects in Kenyan universities despite legislations and policies in place and government support to contracting authorities This study therefore sought to determine the factors that affect the successful implementation of PPP projects in Kenya.

1.3 Objectives of the study

To investigate Public Private Partnerships' infrastructural projects success in Kenya. The specific research objectives are:

- 1.3.1 To identify various financial factors affecting the successful planning and implementation of PPP infrastructural developments projects in Kenya.
- 1.3.2 To analyze the legal factors that are impeding adoption of PPPs uptake in Kenya
- 1.3.3 To determine the political factors impeding the fast tracking and implementation of Public Private Partnership projects in Kenya

1.4 Research Questions

- 1.4.1 What are the financial factors faced when planning PPP infrastructural developments projects in Kenya.
- 1.4.2 How are legal factors impeding adoption of PPPs uptake in Kenya
- 1.4.3 How are political factors impeding the fast tracking and implementation of Public Private Partnership projects in Kenya?

1.5 Research Hypothesis

The slow uptake of PPP infrastructural projects is impeded by political, financial, Legal and regulatory factors

1.6 Justification of the study

The study is relevant to the field of construction project management and procurement field in Kenya. The study generally will contribute majorly to and will form part of literature to students at the learning institutions undertaking related courses.

The study's recommendations will aid construction industry stakeholders in understanding and valuing the advantages and obstacles associated with Public-Private Partnerships. Moreover, the study's findings will provide valuable guidance to practitioners on overcoming financial, political, and legal hurdles that impede the successful execution of PPP projects in Kenya.

PPPS are meant to close funding gap among government agencies and counties. Therefore ultimate clear understanding of PPP concept, challenges encountered and recommended solutions will assist government agencies to efficiently and effectively adopt PPPs comfortably an alternative procurement method.

1.7 Significance of the study

Public universities are striving to provide their students and staff with decent affordable housing and other institutional buildings. Since, PPP is meant to bring in private sectors financial and innovation ability, the study therefore will help the public universities management to appreciate the concept of PPP and use it in provision of descent housing in the universities.

Finally, the study will provide suggestions on some policies for successful use of PPPs as procurement methods for sustainable construction.

1.8 Scope of the study

The researcher intended to carry out the study on PPPs' performance as procurement method in public universities within Nairobi Metropolitan Area (NMA) from the year 2012 to 2020. The counties in this region are Kiambu, Machakos, Nairobi and Kajiad). University Act, 2012 of GOK, list seven chartered public universities in this region namely; The Technical University of Kenya (TUK), University of Nairobi (UON), Kenyatta University (KU), Multimedia University of Kenya (MMU), Jomo Kenyatta University of Agriculture and Technology (JKUAT), Machakos University (MU) and Co-operative University (CU).

1.9 Limitations and assumptions of the study

The study was limited to infrastructural investment projects all planned and implemented under Public Private Partnership models in Public universities. Further, the PPP stages that will be covered in the study will be only from inception stage to financial close. The investigation further is limited to Nairobi Metropolitan Area and public Universities.

The assumptions of the study are as follows:

- PPP procurement method has hidden costs and high bidding, transaction and legal costs.
- ii. PPPs have not picked up because of less government support to contracting authority.
- iii. Implementing agencies such has public universities do not have PPP experts in house.

1.10 Summary

In essence, the chapter provided an overview of the study's context, encompassing the problem statement and research goals. This segment also emphasized the research objectives, posed research queries, pointed out the study's importance, outlined its scope, and acknowledged its constraints. It delved into the economic and societal advantages of infrastructure projects, expounded upon both conventional and alternative project delivery approaches, with a specific focus on the examined PPP. The research aims then directed the forthcoming chapters: the literature review (Chapter Two), the research methodology (Chapter Three), and the collection and analysis of data (Chapter Four).

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

Chapter one introduces background of the study, the problem statement, the research problem and the justification for the study. This chapter briefly presents Definition of procurement, PPPs versus public procurement, Public Private Partnerships in Kenya, performance parameters of PPPs and Factors impending adoption of PPP infrastructural projects in Kenya as well as reviews some of the empirical studies that have been done on the topic.

2.1Empirical Review

Construction project management and project management are interchangeably used in the Kenyan industry. Project management field entails management of various aspects in infrastructure development. Procurement is very crucial in that resources need to be delivered in time so that project is completed within predetermined specification or standards (quality), stipulated budget (price) and time (programme). In their 2017 annual report concerning the construction trends in Africa, Deloitte highlights that inadequate definition of the contracting strategy and the arrangement of the project management team are among the factors contributing to project delays.

Effective project delivery or procurement methods must be put into place to achieve project goals and required performances. Selecting the right procurement route is crucial for the successful execution of any construction project. Goodrum and colleagues (2011) observed that state organizations are increasingly under pressure to improve project performance, expedite project completion, and reduce the expenses associated with managing their construction initiatives.

In response, therefore, state agencies including public universities are turning to emerging alternative procurement methods such as PPP to achieve greater value for money, enhanced public service delivery, optimal risk allocation and enhance performance. Hovy (2015) concurs that a significant reason for governments to adopt PPP models in procuring and executing

infrastructure projects is the belief that PPPs offer superior value for money compared to conventional delivery methods.

The construction sector holds its own distinct intricacies, setting it apart from other industries, much like its products. Consequently, a multitude of challenges arise in the course of construction projects, such as the division between design and construction, a lack of integrated teams, insufficient communication, dynamic environmental conditions, and evolving customer needs and preferences. These challenges necessitate the exploration of alternative procurement methods. These methods encompass conventional approaches like design, bid, and build, design and build, as well as construction project management, along with innovative models such as the Private Finance Initiative (PFI). Within this context, Suman T. et al (2018) acknowledges partnering, including Public-Private Partnerships (PPP), as a component of the Private Finance Initiative (PFI).

2.2 Definition of procurement

A procurement method constitutes a intricate web of relationships established among clients, consultants, and construction companies, facilitating the realization of a building project. It depends on who and where design responsibility lays, risks involved and nature and scope of the proposed works. In accordance with Kenya's Procurement Act (PPAD 2015), procurement entails the securing of works, assets, services, or goods through a variety of contractual methods, including purchase, rental, lease, hire purchase, licensing, tenancy, franchise, or any amalgamation of these approaches. This definition also encompasses tasks such as advisory, planning, and processes within the broader supply chain system. Procurement functions as the structure by which construction is initiated, acquired, or attained, as expounded by Akintoye et al. (2003). According to their statement, procurement involves a comprehensive process that includes land acquisition, design, construction, commissioning, and management. All these stages must be meticulously coordinated and managed to ensure the project's success; otherwise, it could go off track and become a burden or even fail. Turner (1997) expands on procurement, defining it as the system of tendering and selection necessary to acquire anything from simple items like paper clips to complex facilities like power stations.

2.3 PPPs versus public procurement.

One of the key objectives of PPP procurement model is to bridge the infrastructural funding deficit in the government especially in achieving Vision 2030(World Bank Report 2016). Selection of an appropriate procurement method is an integral part of a successful project. According to Stauffer (2006), a successful project is the one completed within predetermined; time, specifications, budget and most crucially achieve best value of money or investment. In infrastructural projects, stakeholders should be clearly identified and assigned roles and responsibilities. The variables involving the design responsibility, timing of design execution, and contracting parties for the construction of the building give rise to various optional procurement methods (Turner, 1990).

There is lower uptake of PPPs in Africa and particularly Kenya. It is generally perceived that PPPS are complex to procure. On the other hand, conventional public procurement is quicker and simpler. Yescombe (2017) recognizes the complexity of PPP procurements, which arise from their comprehensive nature. This includes more than just building infrastructure; it also involves continuously managing and upkeeping these resources. Additionally, it's important to consider the needs of investors and lenders from the private sector. However, a meticulously designed PPP procurement process typically produces superior results when contrasted with traditional procurement approaches, primarily due to the substantial time and resources dedicated to its planning (Yescombe, 2017).

Kenya being a developing country has for a long time employed traditional procurement method in projects development. However, in 2010, the government introduced Public Private Partnerships (PPP) as ways of enabling private sector participate in infrastructure development (Business Daily Article, 1st of September of 2015). Infrastructural works in public institutions are procured and delivered in line with stipulated guidelines. Regardless of these perceived benefits and popularity, PPP has not gained speed in Kenya. Despite PPP being an alternative emerging method, its application started way in early 1990s in other economies. According to Akontiye (2003), PPP started in United Kingdom (UK) in 1990s where it was mostly referred to as Private Financing Initiative (PFI). However, according to the UK parliamentary committee; the PPP uptake in UK is dropping and not beneficial to the government anymore. The reasons given by the committee are high hidden costs, transaction costs and fiscal costs.

2.3 Infrastructure development projects

Infrastructure play a critical role in economic growth and development in Africa and globally. It has been defined and classified differently. NEPAD (2013) classified infrastructure into economic or social infrastructure in its report on Africa infrastructure development. It further states that economic infrastructure such as transport, power generation, information and communication technology contribute to economic processes whereas social infrastructure such as sanitation, water, stadiums, housing etc delivers development outcomes. Infrastructure also can be classified into 'hard' which is physical investment and 'soft' which is institution.

In Kenya, the concept of PPP for infrastructure delivery began with Nyali Bridge project in 1970s. The project was negotiated individually as one-off deal despite nonexistence of PPP laws and regulations. In 2013, the PPP Act was enacted, followed by 2014 National PPP Regulations. Consequently, public universities and other government agencies including county governments have been trying to adopt PPP models in developing their infrastructural projects. Hitherto there is none which can be said is successful. In many instances, PPP projects start with high ambitions and later take long time to be implemented as in the case of Kenyatta University Students Hostels project. According to The National Treasury of GOK, Kenyatta University (KU) signed concession agreement on 19th June 2015, for provision of student hostels project under PPP model. Hitherto, construction of hostels has not commenced as financial close has not been achieved.

The study will predominantly focus on social infrastructure on in public universities in Kenya such as housing for staff and students, stadiums, hospitals, water, sewerage and offices and lecture theatres buildings and other related institutional infrastructure.

2.4 PUBLIC- PRIVATE PARTNESHIPS (PPP)

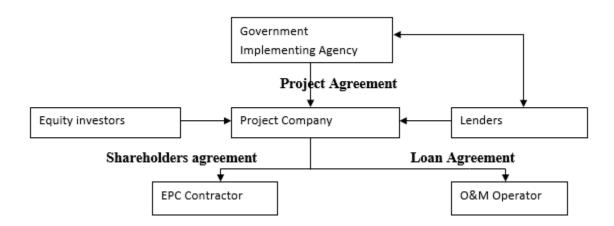
2.4.1 PPP generally

Public-Private Partnerships (PPPs) represent a wide-ranging concept that covers diverse agreements between governmental and private entities. It entails a contractual arrangement in which a private entity, often structured as a consortium operating through a Special Purpose Vehicle (SPV), takes on the role of designing and constructing a segment of new infrastructure. Furthermore, this private entity might undertake a lengthy lease or concession of pre-existing

assets and/or engage in a prolonged contractual commitment to oversee the operation and maintenance of the infrastructure.

Implementing PPPs can be challenging due to their intricate institutional arrangements involving stakeholders from various sectors (Diba, 2012). Nevertheless, PPPs offer the public sector the opportunity to access more financial resources by utilizing the private sector as a significant intermediary. The government provides facilities such as land in case of a construction project and guarantees the financier from the private developer.

Figure 2.1: Typical PPP Structure



Source: Eng. Paul Karekezi, Gibb Africa Ltd (2018)

2.4.1 Definition of PPP

Public-Private Partnerships (PPPs) represent a wide-ranging concept that covers diverse agreements between governmental and private entities. It entails a contractual arrangement in which a private entity, often structured as a consortium operating through a Special Purpose Vehicle (SPV), takes on the role of designing and constructing a segment of new infrastructure. Furthermore, this private entity might undertake a lengthy lease or concession of pre-existing assets and/or engage in a prolonged contractual commitment to oversee the operation and maintenance of the infrastructure.

The 2002 France Partnership Contract Law outlines PPP as a fusion of a partnership contract and an administrative contract. In this setup, either the State or a State-affiliated entity transfers the responsibility of a comprehensive project linked to constructing or renovating, sustaining,

preserving, running, or supervising vital elements for public service—such as infrastructure, equipment, or intangible assets—to an external entity. The duration of this delegation hinges on investment recovery or predetermined funding arrangements. The external party is also accountable for full or partial project financing, while equity financing is not included within this scope.

In the context of Ghana, a Public-Private Partnership (PPP) denotes a contract-based understanding involving a public entity and a private sector participant. This accord establishes distinct, mutually agreed-upon goals for providing public infrastructure and services that were historically within the domain of the public sector. Broadly speaking, PPPs signify extended commitments between public and private stakeholders, wherein the private investor assumes accountability for designing, funding, constructing, operating, and maintaining. Repayments stem from proceeds derived through user fees, public authorities, or a combination thereof.

2.4.2 Origin of PPP

The development of PPPs varies across nations. As stated by the Chartered Institute of Building (CIOB), the efficacy of PPPs has stirred debates. These initiatives were introduced in the mid-1990s in the UK, initially focusing on extensive and high-value undertakings. Akontye (2003) emphasized that prominent PPPs since the 1990s have been predominantly observed in sectors such as education, healthcare, and transportation. The introduction of the Private Finance Initiative (PFI) aimed to emphasize the attainment of "value for money," primarily through a judicious distribution of risk. However, it has been noted that numerous programs substantially surpassed their budgets and failed to deliver value for money to taxpayers. Some projects even incurred higher expenses upon cancellation compared to the cost if they had been completed.

In 1993, the Canadian government established the necessary legal and institutional structures for Public-Private Partnerships (PPPs) in the country. This initiative led to the creation of the Canadian Council for Public-Private Partnerships (CCPPP), a national organization that operates on a non-profit, non-partisan, and member-focused basis. This organization enjoys broad participation from both the public and private sectors (Cytonn, 2022). Similarly, in India, the Government of India defines a Public-Private Partnership (P3) as a collaborative effort between a public sector entity, known as the sponsoring authority, and a private sector entity. The private partner/s must hold a majority ownership (51% or more) in a legal entity. This collaboration aims

to facilitate the development and management of public infrastructure for a specified period, known as the concession period. This arrangement is based on commercial terms, and the private partner is selected through a transparent and open procurement process. Furthermore, the central government of India has outlined ambitious plans for infrastructure investment, projecting a total investment of \$320 billion during the 10th plan period.

2.4.3 Typical PPP contracts

PPPs agreements can take various forms, involving different levels of involvement from both public and private sectors across a range of methods for delivering services. These arrangements include service contracts, management contracts, design-build, design-build-operate-maintain, Build-Operate-Transfer (BOT), Build-Own-Operate (BOO), Design-Build-Finance-Operate, and Concession contracts.

As described by Cytonn (2022), there are several diverse PPP arrangements, summarized as follows: One such approach is the Build Operate Transfer (BOT), in which a private entity is responsible for funding, constructing, upkeeping, and running a facility over a specified period. The investment is recovered through toll collection during the concession period.

Alternatively, the Build Own Operate (BOO) model involves the private sector entity financing, constructing, and overseeing the project without the requirement to return ownership to the government. Another option, Build Own Operate Transfer (BOOT), has the private sector handling financing, construction, ownership, and operation of the PPP project. However, ownership eventually transitions to the public sector after an agreed-upon timeframe.

In the Build Transfer Operate (BTO) setup, the private organization finances and constructs the project, after which ownership is handed over to the public sector. Subsequently, the public sector leases the facility back to the private developer under a long-term agreement. During this leasing period, the private developer operates the facility, generating revenue from user charges. Finally, under the Design Build Finance Operate (DBFO) arrangement, the private sector takes on the responsibility for financing, designing, constructing, and operating the project. Compensation is obtained through service payments from the government over the project's lifespan.

2.4.4 Reasons for PPP

Most governments lack capacity to undertake mega projects through normal budgeting allocation. The World Bank states that Africa needs approximately US Dollar 92billion per year to close infrastructural gap and this could increase growth by 2.6% of GDP per capita per year. To meet the country's infrastructural funding gap, PPP models are used.

Preparation phase of the project and tendering process take long and even investors wait for long to recover their investment. The models have been majorly used in energy, roads, and railway, port and water projects but not in housing projects.

In PPP model, private parties are given land, they design as per set standards, finance, construct and operate and maintain for some years before they recoup their investments. In PPPs, the private sector finances a public project and hence the government is relief of financial responsibility.

PPP projects demonstrate how existing capacities in the private sector could be utilized in addressing infrastructural capacities in the higher education sector not only in Kenya but also in Africa. These are key potential contributors to overall global economic development while addressing infrastructural gaps in education sector to meet set goals.

2.4.5 Benefits of PPP

PPP generally help to solve issues of insufficient funding through private financing and improves efficiencies in procurement process and service delivery. It also improves planning of projects through private sector experience and incentives, analysis and innovation.

As stated by CIOB (2010), enhanced emphasis on service quality, the necessity to make payments solely for specified assets or services upon their delivery, a strong assurance of timely and cost-effective infrastructure availability, the capability to hold providers financially responsible for their performance, access to top-tier technical and managerial expertise, improved results through the stimulation of creativity, pricing, and delivery via competitive forces, as well as the ability to secure infrastructure financing without burdening the government with extra borrowing.

Akintoye et al (2003) delineate the manifold advantages offered by Public-Private Partnerships (PPPs). These encompass the potential for a heightened quantity and improved quality of projects and services. Unlike conventional procurement methods, PPPs bolster governments' capability to implement integrated solutions, as budget constraints often necessitate breaking down large projects into manageable phases. In contrast, PPPs permit a unified approach, enhancing overall project efficiency. Moreover, PPPs stimulate creativity and innovation by prompting bidders to devise distinctive strategies based on outlined objectives. The resultant competition fosters inventive approaches. Cost-effectiveness is another pivotal aspect of PPPs, whereby savings are achieved without compromising the quality of design, construction, or operations. These cost reductions occur alongside faster project delivery and the transfer of associated risks to the private sector. PPP implementation also expedites project timelines. Unlike the protracted phased execution of large projects under traditional methods, PPPs enable their completion within a single timeframe, thanks to private sector funding and innovative strategies. Simultaneous design and construction further streamline the process. This approach reduces the frequency of government tenders while ensuring timely project completion through incentivized private sector involvement. Furthermore, PPPs curtail the inclination to alter project designs, which commonly results in delays and cost overruns. Effective risk transfer strategies are a hallmark of the PPP model, with the private sector ideally positioned to manage risks encompassing design, financing, construction, and operations. PPPs attract proficient bidders due to their structure, facilitating access to expertise, experience, and advanced technology. This transfer of knowledge enhances the capabilities of local project participants. In essence, PPPs offer a comprehensive range of benefits, positively impacting project execution, innovation, costefficiency, and risk management.

2.5. Public Private Partnerships in Kenya

Owing to budgetary limitations encountered by nations, an escalating trend has emerged towards novel and inventive methods for delivering and funding public infrastructure and services. These approaches are gradually expanding the traditional function of the government as the main provider of these services. In Kenya, adopting a PPP framework reflects the government's goal to enhance the quality, quantity, cost-effectiveness, and timely delivery of crucial public infrastructure and services throughout the country.

2.5.1 Legal and institutional framework

To enhance the progression of infrastructure development, Kenya introduced the PPP Act of 2015, a legislative measure tailored to safeguard private investors' interests and stimulate infrastructure advancement within the nation. In line with Yescombe's perspective (2007), the PPP model involves the Public Authority stipulating its requisites in terms of 'outputs,' elucidating the public services the Facility should deliver, while refraining from detailing the precise methods for service provision. Subsequently, the onus falls upon the private sector to undertake the design, funding, construction, and operation of the Facility, aligning with these long-term output specifications. Correspondingly, the Project Company acquires remittances referred to as 'Service Fees' over the duration of the PPP Contract, which typically spans around 25 years. These predetermined Service Fees serve the dual purpose of covering financing expenditures and ensuring investor returns. Should the output specifications fall short, deductions are applied to the Service Fees. Notably, any cost overruns incurred during the Facility's construction or operation are generally not afforded supplementary allowances.

Enhanced cost-effectiveness is attained through risk transfer in Public-Private Partnerships (PPPs). This strategy encompasses not only the initial expenses but extends to incorporating risk allocation, total cost over the facility's lifespan, and the caliber of services provided, all of which contribute to determining optimal value. PPPs streamline procurement processes, emphasize enduser contentment, prioritize ongoing maintenance, and beckon fresh investment streams, particularly through restricted liability debt mechanisms (Delmon, 2011). The Kenya Africa Infrastructure Country Diagnostic (AICD) report approximates that resolving the nation's infrastructure gap necessitates consistent expenditures of roughly \$4 billion annually (equivalent to 20% of GDP) over the upcoming decade. In pursuit of this objective, the Government of Kenya (GOK) is exploring avenues to amass supplementary funds, adopt cost-efficient technologies, and prioritize strategic infrastructure allocations.

In light of this scenario, the Government of Kenya (GOK) has placed paramount importance on infrastructure advancement through the avenue of PPPs, with the intention of addressing significant gaps in the country's infrastructure landscape. The government is resolutely dedicated to cultivating an environment conducive to private sector engagement within Kenya. To this end, a series of purposeful measures have been undertaken, encompassing the formulation of a PPP

Policy, the enactment of the PPP Act in 2013, and the crafting of PPP Regulations that are applicable to both the National and County governments. The GOK's conviction is that PPPs facilitate a streamlined and dynamic methodology, spearheaded by the private sector, to not only bring about but also effectively manage public infrastructure, thereby aligning with Vision 2030—Kenya's comprehensive long-term development roadmap. In a bid to further this endeavor, the establishment of the Public Private Partnership Unit (PPPU) within the National Treasury has been initiated. The PPPU is mandated to foster and oversee the execution of the GOK PPP Program. Functioning as a hub for best practices, this unit ensures the robustness of the PPP process by identifying challenges, suggesting remedies, and verifying project compliance with critical benchmarks such as affordability, value for money, and risk mitigation.

As stipulated by Section 14 of the PPP Act 2013, a key responsibility of the PPP Unit is to establish a process that is characterized by openness, transparency, efficiency, and fairness in the management of diverse dimensions associated with PPP projects. This encompasses a spectrum of activities such as project identification, evaluation, prioritization, formulation, procurement, execution, and ongoing oversight. Moreover, the PPP Unit assumes the role of ensuring that the tendering process conforms to the provisions of the Act and upholds the highest standards of procurement practices. Beyond this, it takes proactive measures aimed at removing obstacles that could impede the realization of anticipated benefits arising from ventures involving public-private partnerships.

Section 4 of the Public Private Partnership (PPP) Act, 2013 outlines the establishment of the PPP Committee, consisting of 6 members from the Government and 4 private sector members.

Figure 2.2: (PPP) Unit National Treasury structure



Source: Public Private Partnership (PPP) Unit National Treasury (2013)

2.6 Performance Parameters of PPP

The effectiveness of a construction project hinges on the procurement approach selected. With the expansion in both scale and intricacy of a project, the probability of encountering delays and budgetary excesses correspondingly escalates (Deloitte, 2017). A notable example is the application of PPPs in substantial public undertakings, employing collaborative partnerships between the public and private sectors. This approach not only introduces efficiencies in project management but also grants access to private sector funding resources.

Ramanathan & Narayanan (2016) underline the significance of opt for the most fitting procurement approach as a cornerstone for contenting clients and ensuring project triumph. Elements such as expenses, timelines, and excellence are pivotal in the pursuit of clients to attain their final product of utmost caliber, at minimal expenditure, and within the swiftest duration. Maina (2012) recognizes that the structuring and administration of a construction team and processes exert a substantial influence on project expenses and timeline efficiency, thereby elevating effective management to a pivotal factor in project accomplishment. The array of procurement methods available in the market has incited numerous evaluations aimed at gauging their performance upon the culmination of the construction phase.

2.5.1 Time performance

Projects must adhere to predetermined timelines, as any delays can significantly impact project costs. While every project maintains its distinctiveness, inadequately supervised endeavors might allocate over half of their duration to assorted facets including strategic formulation, financial handling, procurement, design, execution, and construction. Subsequently, the contractor faces restricted time for project execution, inducing immediate strains (Deloitte, 2017).

The annual report by Deloitte regarding infrastructure advancement in Africa upholds the concept that effectively overseen projects allot a more substantial portion of their schedule to meticulous engineering and tangible construction, guaranteeing the punctual delivery of a facility apt for its intended purpose. The amalgamation of design and construction management within a singular entity can avert clashes between designers and contractors, culminating in time efficiencies and the prompt conclusion of projects (Maina, 2012). PPP (Public-Private Partnerships) integrates design and construction stages, providing an avenue for early project completion. Maina (2012) concludes that traditional contracts are less effective in controlling time and cost overruns compared to integrated contracts like PPPs.

2.5.2 Cost performance

The timing of decisions within any business procedure holds substantial sway over the overall project outcome. Thus, the selection of a procurement strategy may wield a more pronounced impact on project expenditures and timelines when juxtaposed with endeavors during the production phase (Maina, 2012). Diverse procurement methods can yield differing effects on project performance. Muriithi (2006) ascertained that projects executed via alternative procurement approaches demonstrated superior performance in terms of adhering to schedules and budgets. Conversely, projects procured using traditional methods exhibited a higher average percentage cost overrun of 35.81% compared to a lower average percentage cost overrun of 15.08% for projects acquired through contemporary methodologies.

PPP (Public-Private Partnerships) can lead to cost savings by avoiding variations (changes) during the design stage and construction. The PPP procurement method also minimizes conflicts and disputes, reducing time delays and, consequently, lowering the occurrence of cost overruns.

2.5.3 Allocation of project risks performance

Project risks are not static; they change throughout the project's life and must be allocated optimally for successful project outcomes. Hovy (2015) recognizes that in a PPP delivery model, optimal risk allocation is a key driver of value for money (VFM). VFM is achieved by attaining cost efficiencies, time savings, and improved quality through enhanced service provision. When risks are allocated optimally for both parties, it ensures a "good deal" for society while providing the private party with high returns.

The entity possessing the optimal capabilities to handle a particular risk is customarily assigned that risk, incurring monetary outlays and receiving encouragements to alleviate it. This risk allocation, grounded in these principles, is anticipated to engender an efficacious distribution of risks, culminating in decreased project expenses and elevated Value for Money (VFM) (Hovy, 2015). Employing standardized risk allocation might also curtail transaction time and expenditures during the phases of tendering and negotiation.

In the conventional delivery method, Design-Bid-Build (DBB), construction risks are predominantly borne by the public entity or employer. Conversely, in the PPP model, risks are transferred to the private party, relieving the public sector from cost overruns and delays during the construction period. According to Bain (2009), the public sector transfers project risk to the private sector, where it can theoretically be better managed. While many risks are common to the main parties, their importance may vary, and some risk issues may be specific to a particular party (Akintoye et al., 2003). Bain (2009) also emphasizes that PPPs generate significant project efficiencies when genuine risk transfer occurs. Effective risk transfer leads to time and cost savings, ultimately contributing to the achievement of project success.

2.5.4 Value for Money performance

According to the World Bank report in 2016, value for money means achieving the best possible outcome while considering all the benefits, costs, and risks over the entire procurement's life. PPPs, as noted by Bain (2009), mainly focus on outputs and take a long-term view, ensuring asset maintenance and ultimately delivering value for money for the project users. PPPs also encourage innovation by promoting new design approaches and the use of advanced technologies (Bain, 2009).

In specific nations, regulations or governmental policies stipulate that the adoption of PPPs should only be contemplated as a procurement alternative if a reasonable demonstration can be made that the PPP approach will yield superior Value for Money (VFM) compared to conventional public procurement modalities. Consequently, governmental bodies conduct assessments of value for money to ascertain the viability of a project for PPP implementation. However, it's vital to recognize that value for money assessments, especially when employing financial comparator techniques akin to those practiced in the UK, can be intricate and time-consuming, and the outcomes might possess a degree of uncertainty contingent upon the quality of available data. Hence, prudence is warranted before deploying value for money assessments to avert overly convoluting the PPP selection process, potentially deterring public authorities from embracing PPPs.

In summary, therefore, project overall objectives of cost (budget), time (duration), quality (specifications) and value for money (customer satisfaction or fulfillment) are crucial factors for procurement method selection. Turner (1999) further pointed out that the appropriate procurement route to be adopted in procuring infrastructural project should be guided by overall balance of project objectives and client' priorities.

2.7 Critics of PPP

In contrast, PPP project delivery methods have shortcomings. PPP method does not allow variations during design and construction stages after the contract has been signed and running. Bain (2009) disapprove PPP procurement method in that it is inflexible and poor in accommodating changes. It takes very long time to achieve both commercial and financial close due to many stakeholders and negotiations that are carried out for the purpose of risk transfer. This method is very expensive and can take too long time to realize (Bain, 2009).

Since design outlines are just given by the client, design standards are lower than those of DBB. Bain (2009) observe that PPP may have design standards lower than DBB which could be addressed through better requirement specifications.

2.8 Factors impending adoption of PPP infrastructural projects in Kenya.

2.8.1 Financial factors

2.8.1.1 High cost of transaction advisory services, feasibility studies and bid process

Before a PPP project is considered and approved by PPP Unit and consequently PPP Committee as bankable project, a detailed feasibility study is required. Preparation of feasibility studies require engagement of various experts such as engineers, environmental experts, financial experts, socialists, economists, lawyers, architects, quantity surveyors, procurement experts etc which various contracting authorities. Lack of these experts call CAs to engage them with fees in accordance to set out fees schedules or negotiated fees. As such as public universities, county governments are grappling with financial difficulties and may be expensive to employ all these experts and therefore presented feasibility report may be unacceptable or returned for more detailing. Procurement process is also expensive in terms of bid documentation and advertisements upto evaluations of bids as particular experts are also required.

Tendering, negotiations and monitoring PPP projects is very expensive. Jomo (2016) state that PPPs are typically very complex to tender and negotiate and often entail higher transaction costs. Most Contracting Authorities rely on government PPP expertise that is mandated to guide on procedure and regulations. However, they are overwhelmed with the number of proposed PPP projects and therefore contracting authorities are advised to engage Transaction Advisors (TAs) who are still fewer in developing countries like Kenya and give very exorbitant charges/fees for them to offer advisory services. Therefore, TAs sometimes become unavailable for advise due to nonpayment or delayed payment., TA are few in Kenya and therefore. As signed fixed price contracts and incur huge budget overruns when PPPs process is affected by other factors such as change in political and institutional leaderships.

The complexity associated with attaining financial closure for PPP projects presents a formidable challenge. This process often entails a multitude of meetings and may encompass alterations in legal statutes or regulations, government endorsements for guarantees, land-related complications, and other unpredictable factors, ultimately leading to substantial delays. In this context, transaction advisors play a pivotal role, rendering continuous assistance throughout the journey under fixed-price transaction advisory agreements.

However, owing to the limited authority they possess over the conditions and timeline essential for achieving financial closure, transaction advisors can surpass their allocated budgets, thereby conflicting with their commitment to facilitating clients in attaining this milestone. Such a scenario could jeopardize PPP projects and the extensive resources and endeavors invested in bringing them to the brink of commercial finality.

Consequently, numerous transaction advisors are becoming apprehensive about providing ongoing support beyond the attainment of commercial closure within the framework of fixed-price contracts. Certain advisors have even endeavored to explicitly restrict their contractual obligations post the commercial closure phase. This approach could potentially render governments bereft of indispensable support after the commercial closure, potentially impeding the successful consummation of PPP agreements.

To address this issue and ensure sufficient support from transaction advisors in reaching financial close, an appropriate success fee component can be introduced in the transaction advisory contract. This fee would become due upon the attainment of financial closure. Alternatively, two payment structures can be employed for transaction advisory services: a predetermined fee component aimed at achieving commercial finality (offering easier planning and budgeting), followed by a time and expenses component thereafter, until the achievement of financial closure. This strategy empowers clients to access support services in a flexible manner, without the limitations imposed by a fixed budget.

Compiling tender documents for prequalification and RFPs is tedious as it involves documentation of numerous stakeholders. These include financiers, technical team and facility managers (O&M)

2.8.2 Legal factors

2.8.2.1 Complexity of the PPP Act, policies and regulations and PPP contract terms

PPPs laws and regulations are extensive and require time-consuming consultations with various stakeholders, including international financial institutions and the private sector. In 1970, Nyali Bridge Project was successfully constructed under PPP terms despite absence of PPP Act, laws and regulations. Therefore the issue of low uptake lies with regulations or implementation of these regulations.

The government needs to create a reliable and effective administrative framework to bolster its PPP strategy. Intricate administrative procedures, a deficiency in decision-making authority among administrators, and a lack of consensus between ministries and local authorities are often recognized as major impediments to PPPs. There isn't a universally applicable administrative structure that can be universally endorsed for PPPs. Every nation possesses its distinct administrative setup and cultural context. Some countries have established dedicated national PPP units to oversee PPP projects. As these PPP units gain experience and expertise, their focus will progressively shift towards tasks such as identifying PPP prospects, offering guidance on procurement procedures and tender documents, facilitating negotiations with potential bidders, ensuring value for money, and upholding political backing. Established and proficient national PPP units have shown their indispensability in cultivating professional confidence with private PPP investors. This confidence, in turn, lays the foundation for the formation of productive and enduring collaborations between the public and private sectors.

2.8.2.2 Bureaucracy

The high transaction time and cost in developing PPP contracts are partly attributed to the cumbersome bidding and negotiation processes. This contract development process can become excessively time-consuming and costly.

The PPP Act (2013) outlines numerous steps that require approval at each stage by a committee or cabinet before progressing to the next level. Additionally, obtaining government-issued instruments, like the Letter of Support, can also be time-consuming.

While achieving commercial closure marks a significant milestone in PPP endeavors, the journey doesn't conclude there. The attainment of financial closure entails satisfying a multitude of Conditions Precedent outlined in the PPP contract, meeting stipulated lender terms and conditions, and fulfilling other requisites. This process can be intricate, especially in emerging markets where the PPP landscape and the supportive institutional frameworks may still be in their developmental stages. To counteract the elevated time and cost associated with PPP transactions and to cultivate more logical PPP contracts, it's advisable for the government to formulate model or benchmark PPP contracts based on universally recognized commercial contract principles and structures. Internationally acknowledged contract principles carry greater

legal authority and quality as opposed to terms solely negotiated by legal firms. These globally recognized contract principles are generally deemed equitable and balanced for all parties involved.

2.8.3 Political factors

2.8.3.1 Lack of Political support

Adoption of PPPs in any country requires support of government of the day and most importantly opposition side to approve and support a new PPP project or ongoing. Change of political and institutional leadership largely delays PPP projects. Sometimes projects that are still in commercial close are terminated. Experience has demonstrated that PPP arrangements can trigger political and social issues related to the privatization of infrastructure under foreign ownership and concerns about potential worker layoffs.

To enhance the financial viability of certain PPP infrastructure projects, governments may explore avenues of offering financial assistance to the project, which could manifest as cash grants, loans, or in-kind contributions. This approach has been observed in several PPP infrastructure projects across Southern Europe, where the involvement of EU grants and EIB funding has rendered the projects appealing to private investors and commercial lenders. However, for the majority of governments embarking on PPP infrastructure projects, the primary objective is to extricate themselves from the financial burdens and risks associated with the endeavor. A key rationale behind governments engaging in long-term PPP arrangements for a project is to transfer the developmental costs and responsibilities to private investors.

Governments might also find themselves being solicited to provide support for PPP infrastructure projects by furnishing guarantees. There are various guarantee mechanisms at the disposal of governments to bolster a project's viability. It is generally prudent for governments to adopt a strategy of minimizing guarantees for PPP projects, drawing insights from the experiences of other nations, as exemplified by the Philippines. Effectively realizing PPP infrastructure projects necessitates substantial dedication and collaboration from the government. The lack of robust intergovernmental cooperation can potentially imperil the success of PPP projects, even if the appropriate legal framework is in place. Past instances underscore that a

government's active commitment and support in partnership play pivotal roles in influencing the evaluation of a PPP project by private investors and lenders.

2.9 Conceptual and Theoretical frameworks

The success of PPP infrastructural projects in Kenya depend on many factors. It is measured on the achievement of commercial close, financial close, implementation and completion of predetermined concession period. The following table depicts relationship of these factors and success of the PPP projects.

Table 2.1: Conceptual Framework

| Dependent Variable | Independent Variables |
|---|-----------------------------------|
| | |
| Success of PPP infrastructural projects | Political factors |
| | Legal factors |
| | Financial factors |

Source: Researcher (2021)

2.10 Summary

The section was conducted to gain insight into PPPs as procurement method and factors impeding success of infrastructural projects. General terms relevant to the study were defined, origin of PPPs in Europe and application in Africa. Various procurement delivery methods were explained in details including their merits and demerits. Further the section describes legislative and institutional framework governing PPPs in Kenya. The research variables that is financial, political and legal and regulatory factors are explain in detail. More ever performance parameters are explained in relation to success of infrastructural projects. The next section outlines the procedures and strategies followed in conducting the research study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the procedures that were followed in conducting the study. It describes the population, research approach, research design and sampling techniques and data collection procedures and methods. It also describes tools for analyzing data collected and presenting the findings.

Research methodology outlines how to undertake a research and provides explicit details and reasons for using a particular methods rather than employing them. Mugenda (2012) provides an explanation of research methodology as encompassing the portrayal of the research population, methodologies for selecting samples, tools for collecting data, the sequence of actions, and techniques for analyzing and presenting data. According to Mugenda & Mugenda (1999), the method segment of a research inquiry delineates the steps to be undertaken during the course of the study. This chapter delves into the research approach, research blueprint, origin and type of data procurement, instruments for recording data, analytical techniques, and any limitations tied to the data collection process.

3.1 Research Approach

There are various approaches to carrying out a research study. Mugenda (1999) points out that there are two approaches available in the field of social science namely the Quantitative and Qualitative approach. She clarifies that the two strategies complement one another, since qualitative techniques offer detailed explanations, while quantitative techniques furnish the specific data necessary to accomplish goals and test hypotheses. The qualitative method entails scrutinizing words and reports to forge a comprehensive and all-encompassing comprehension. According to Mugenda (1999), assessment research employs both qualitative and quantitative methodologies.

The research centered around exploring the reasons behind the sluggish adoption of publicprivate partnership infrastructure projects in Kenya. Various instruments exist for gathering research data. For this particular study, data was collected from participants through interviews and questionnaires.

3.2 Target Population and the Unit of Analysis

As per Mugenda (1999), the target population refers to the population to which the researcher aims to apply the study's findings. In this research, the target population consisted of all chartered public universities in the Nairobi Metropolitan area. The study focused on public universities because PPP projects that are being undertaken by public universities have not made great progress despite lot efforts to deliver those projects, unlike those being done by the national government. Furthermore, public universities within the Nairobi Metropolitan Area have better access to better infrastructural facilities and information on PPP model of project delivery. The data was also collected from public universities departments within NMA, The National Treasury, Public Private Partnership Unit and private financial firms who offer transaction advisory services within Nairobi. The senior managers, directors and professional experts engaged in PPPs projects were the respondents.

Description of targeted population's parameters and sampling procedures is very critical prior to going to the field of research. Leedey (1996) emphasizes the significance of determining precise population parameters and appropriate sampling procedures for conducting accurate research analysis. In this study, the units of analysis comprised various departments within public universities, including procurement, accommodation, estates, legal, finance, and technical projects professionals. Other stakeholders who assist public universities in planning and implementing PPP were considered. These include transaction advisors, technical consultants and officers at the PPP Unit, National Treasury. The target population was 351.

Due to the absence of a comprehensive and reliable list of all participants involved in PPP projects, non-random sampling techniques were employed, specifically purposive sampling. This technique involved selecting respondents from various departments based on their engagement and experience in different PPP projects at their respective institutions. The justification for using this sampling approach was the technical nature of PPP and its novelty as a procurement method.

To select the sample, numbers were assigned to the population, and a random picking process was carried out. Before the actual sampling, a pilot survey was conducted to validate the variables, which were further developed in the questionnaire. The pilot study involved validity and reliability tests. For the validity test, the questionnaire was given to experts to assess the content's validity. According to David and Ronald (1987), stratification of samples ensures accurate results.

Additionally, a pre-test sample, as recommended by Mugenda and Mugenda (2003), was conducted, representing between 1% and 10% of the sample size, to assess the validity and reliability of the questionnaire. The researcher administered to five questionnaires to PPP Unit project coordinator, Transaction Advisor, two university senior managers and Finance expert because of their knowledge in PPPS.Consequently, the final questionnaire was adjusted accordingly. Reliability was done by applying the Cronbach alpha technique to help measure the internal consistency of data that was to be collected. Reliability test results were 0.7. According to Hulin *et al.*, (2001), an alpha value between 0.60 and 0.70 is considered acceptable, and greater than 0.80 is considered good. Therefore the instrument was reliable for data collection.

3.3 The Research Design

Research design serves as a strategic plan that outlines the fundamental structure and key aspects of a research investigation (Mugenda and Mugenda, 2012). Claire Selltiz (1962) defined research design as the deliberate arrangement of circumstances with the purpose of collecting and analyzing data, blending relevance to the research goal with an efficient approach. It acts as the underlying conceptual framework supporting the research endeavor. According to Nachmias (1993), research design is a blueprint that guides the researcher through the process of collecting, examining, and interpreting observations. Sellitz et al. (1962) also describe research design as the organization of conditions for the purpose of gathering and analyzing data.

In this research, a structured set of questions was used to conduct the survey. According to Mugenda and Mugenda (2012), a survey is a deliberate attempt to collect information from individuals within a certain group in order to understand their current situation related to specific factors. The questionnaire was created using a five-point Likert scale method. This approach was chosen because of its efficiency in getting feedback from participants and creating a clear order

of preferences among various groups of participants in the chosen sample, making it easier to make comparisons.

3.4 Sample sizes

There are seven chartered public universities in the Nairobi Metropolitan Area as listed in chapter one under the scope of the study. There are also chartered private universities in the NMA but due to the limitation of the study, only public universities were considered. The seven universities were arranged based on the population of students and the first four with highest population of students was picked as unit of observation for study.

Mugenda and Mugenda (2012) propose that if the total study population is below 10,000, a sample size ranging from 10% to 30% can effectively capture the characteristics of the entire population. Consequently, given the population size of 351, a sample size of 30% was opted for, as detailed in the table presented in Section 3.1:

Table 3.1: Sampling design

| Target Respondents | Target population | Sample ratio | Sample |
|---|-------------------|--------------|--------|
| Public Universities' senior managers and staff in finance, Procurement, accommodation and Projects and estates, Legal departments, business school, | 167 | 0.3 | 50 |
| National Treasury senior managers in legal & finance,PPP Unit legal, project, finance and procurement,communication directors | 74 | 0.3 | 22 |
| Professional firms consultants& transaction advisory experts | 110 | 0.3 | 33 |
| Total | 351 | | 105 |

Source: Author (2021)

3.5 Data collection instruments

A combination of primary and secondary sources was utilized to gather the required data for the study. Primary data was collected through meetings and interviews with the respondents, as well as structured questionnaires that included both closed and open-ended questions. On the other hand, secondary data was gathered from various sources, including textbooks, national and international journals, articles, reports from organizations like the World Bank, government departments such as the department of economic affairs and planning commission, magazines, and online resources. Before distributing the questionnaires, the target population was contacted to ensure their willingness to participate. The questionnaires were then delivered either in person or through email, as per the preference of the respondents.

The questionnaire was then prepared from the verified variables which were administered to the respondents for filling. One questionnaire was prepared targeting all the categories of the sample size. The Likert system of ranking variables was used. The variables were highly standardized to comprehensively capture the causes of conflicts, their intensities as at different phases of a project and the most conflicting parties.

The questionnaire covers the procurement route most characterized with conflicts, the contractual issues behind such conflicts, and the intensity of conflict through various project life cycles as well as party members who often confront each other as well as the appropriate management approaches. Some of the questionnaires were distributed through the assistance of practitioners as they were in a convenient position to reach the sampled population. The rest of the questionnaires were sent by email to the respondents.

3.6 Data Collection Procedures and Analysis

The researcher obtained an introductory letter from the Department of Construction Management and Quantity Surveying at the University of Nairobi. This letter served to introduce the researcher to the targeted respondents for the study. Most of the questionnaires were administered in person and left with the respondent for a minimum of one week to allow for adequate time for filling before collection. Some were also distributed through the assistance of the practitioners who were in a better position to reach the targeted population. Others were sent through individual emails and returned through the same channel.

The data was analyzed using the SPSS v22.0. Frequency percentage tables were employed to describe the type of data collected and the occurrence frequency of factors impeding PPP uptake. Descriptive statistics such as mean, median, mode, standard deviation, and skewness were used to analyze the factors impeding success. Histograms were also drawn to show the shapes of the distributions diagrammatically especially on the pattern of conflict growth. Percentage comparatives were heavily used to analyze data so as to interpret it meaningfully.

3.7 Summary

In summary the chapter outline procedures followed in conducting the research study. Data description and collection and analysis instruments were outlined giving justification of choosing each of them

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND DISCUSSION

4.1 Introduction

This section mainly concentrates on examining, displaying, and explaining the data, employing both descriptive and inferential statistics.

4.2 Response Rate

The rate of response was calculated using the complete count of 105 surveys that were given to the individuals participating in the commencement and execution of PPP projects.

Table 4.1 Response Rate

| Response | Frequency | Percent |
|------------|-----------|---------|
| Returned | 90 | 85.7 |
| Unreturned | 15 | 14.3 |
| Total | 105 | 100.0 |

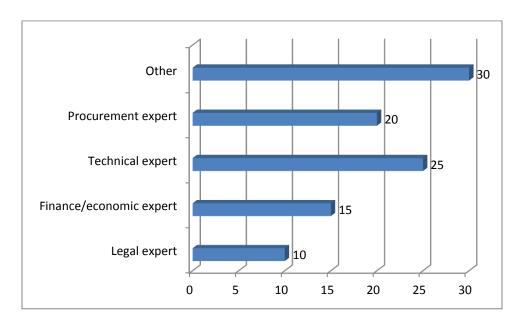
Source: Research Data (2021)

The information presented in Table 4.1 reveals that 85.7% of the individuals partaking in the study provided their answers, whereas 14.3% opted not to reply. As advised by Mugenda and Mugenda (2003), a response rate of 50% is considered satisfactory, 60% is deemed advantageous, and 70% is regarded as exceptional. Corresponding with these standards, the response rate attained in this research falls under the exceptional range, underscoring its credibility and accuracy.

4.3 Background Information

The professional background, infrastructure project involvement, years of experience in PPP projects, and the adoption of PPP models for procuring infrastructure projects were all subjects of analysis for the respondents' information.

Figure 4.1: Respondents' professional expertise

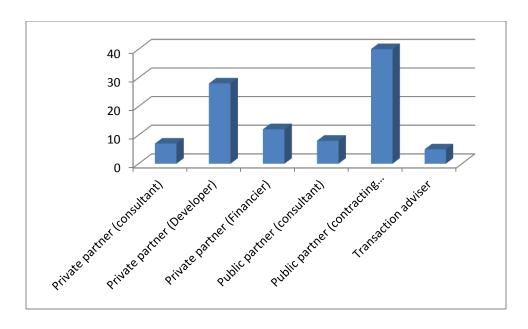


percentage

Source: Own survey (2021)

The findings in Figure 4.1 reveal that the majority of respondents (30%) worked in fields not specifically indicated. Among the respondents, 20% worked as procurement experts, 25% as technical experts, 15% as finance/economic experts, and 10% as legal experts. These results indicate that the respondents had the necessary expertise and work capacity to participate in the study and provide relevant information to the researcher.

Figure 4.2 Respondents Role in PPP infrastructural project



Source: Own survey (2021)

The results in Figure 4.2 shows that majority (40%) of the respondents had served as private partner(consultant), 5% had served as served as a transaction advisor, 8% had served as served as a public partner (consultant), 12% had served as served as a public partner (financier), 28% had served as served as a private partner (Developer), and 28% had served as served as a private partner (Developer) 7% as had served as served as a private partner (consultant). These findings show that the study participants have served for a fairly in various roles in PPP infrastructural projects.

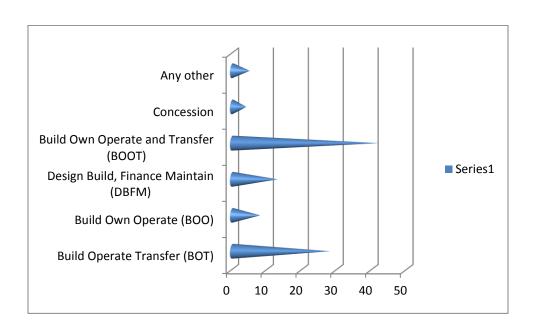
Table 4.2: Respondents experience in PPP projects

| Category | Frequency | Percent | |
|--------------------|-----------|---------|--|
| 0-5 years | 34 | 34 | |
| | | | |
| 5-10years | 37 | 37 | |
| 10-15years | 22 | 22 | |
| More than 15 years | 7 | 7 | |
| Total | 100 | 100 | |

Source: Author (2021)

The information provided in Table 4.2 indicates that most of the participants (37%) had a professional background of 5 to 10 years in dealing with PPP projects. Similarly, 34% had experience ranging from 5 to 10 years. Furthermore, 22% had been engaged in PPP projects for 10 to 15 years, while 7% boasted over 15 years of experience. These results confirm that the individuals involved in this research possessed the necessary expertise to contribute valuable insights to the researcher.

Figure 4.3 Respondents PPP models that they have adopted in procuring any of infrastructural projects



Percentage

Source: Own survey (2021)

The results in Figure 4.3 shows that majority (42%) of the respondents had identified Build Own Operate and Transfer (BOOT) as the PPP models that they have adopted in procuring any of infrastructural projects, 28% identified Build Operate Transfer (BOT) as the PPP models that they have adopted in procuring any of infrastructural projects,8% identified Build Own Operate (BOO), 13% identified Design Build, Finance Maintain (DBFM), 4% on concession and 5% on any other. These findings show that the study respondents have identified fairly a wide range of PPP models in procuring any of infrastructural projects.

4.4 Descriptive Statistics

The quantitative data was analyzed using descriptive statistics, including means and standard deviations, with the assistance of SPSS v25. The descriptive statistics were applied to study variables, such as project planning, stakeholders' involvement, and monitoring and evaluation, to present the findings effectively.

4.4.1 Financial factors

The research aimed to determine how financial aspects impact the successful execution of PPP projects in limited Kenyan public universities. The results are outlined in Table 4.2.

Table 4.3: Financial Factors

| | SA | A | U | D | SD | | |
|---|------|----------|-----|-----|-----|-----|-----------|
| | % | % | % | % | % | | |
| Statement | | | | | | M | SD |
| High transaction cost discourages most institutions from undertaking PPP projects | 50.7 | 43. | 2.7 | 3.4 | 0.0 | 4.4 | 0.16 |
| High tendering cost impedes undertaking of PPP projects | 60.9 | 38. 4 | 0.7 | 0.0 | 0.0 | 1.1 | 0.43 |
| Complex and expensive negotiation makes it difficult for initiation of PPP projects | 40.4 | 55. 5 | 0.0 | 0.7 | 3.4 | 3.5 | 0.78 5 |
| Monitoring of PPP projects in expensive | 28.1 | 67. 8 | 0.0 | 3.4 | 0.7 | 2.9 | 0.82 |
| Aggregate Score | 45.0 | 51. 2 | 0.9 | 1.9 | 1.0 | 3.0 | 0.6 |

Source: Own survey (2021)

The findings displayed in Table 4.4 demonstrate a consensus among the participants regarding the influence of financial elements on the effective execution of PPP projects within Kenyan public universities. The aggregate mean score of 3.0 and a significant variation shown by the standard deviation of 0.6 support this conclusion. More specifically, a significant portion of the

respondents, accounting for 50.7%, expressed strong agreement that elevated transaction costs act as a deterrent for many institutions when considering PPP projects. Another 43.2% agreed with this sentiment, while 2.7% were undecided, and 3.4% disagreed. The calculated mean for this response was 4.4, accompanied by a standard deviation of 0.161. Furthermore, a majority of 60.9% of participants strongly agreed that high tendering expenses impede the commencement of PPP projects. Alongside, 38.4% concurred, while only 0.7% were undecided. This response yielded a mean of 5.1 and a standard deviation of 0.431.

Additionally, a noteworthy 55.5% of the respondents indicated agreement with the notion that intricate and costly negotiations create challenges for initiating PPP projects. A substantial 40.4% strongly shared this view, while 3.4% strongly disagreed and 0.7% simply disagreed. The average mean for this response was 3.5, accompanied by a standard deviation of 0.785. Moreover, a significant 67.8% of the participants expressed agreement that monitoring PPP projects incurs substantial expenses. Among them, 28.1% strongly agreed, while 3.4% disagreed and 1.7% strongly disagreed. This yielded a mean of 2.9 and a standard deviation of 0.823.

These findings resonate with the research conducted by Oluoch (2009), whose study focused on the factors influencing the implementation of public-private partnerships in Kenya. Oluoch identified key factors like project planning and control, government involvement, regulation, policy, and stakeholder management as influential in PPP implementation within Kenya. Additionally, issues relating to quality, timing, and cost were recognized as contributing to the challenges faced during the execution of PPP projects.

4.4.2 Legal Factors

The study aimed to investigate how legal elements influenced the effective execution of PPP projects in Kenyan public universities. The results concerning this matter are displayed in Table 4.3.

Table 4.4: Legal Factors

| | SA | A | U | D | SD | | |
|--------------------------------|------|------|-----|-----|-----|-----|-------|
| | % | % | % | % | % | | |
| Statement | | | | | | M | SD |
| There is complexity in the PPP | 23.3 | 65.1 | 1.4 | 4.1 | 6.2 | 4.2 | 0.764 |

| Act | | | | | | | |
|--|------|------|-----|------|------|-----|-------|
| There is complexity of policies, regulations and PPP contract terms | 45.2 | 25.3 | 0.0 | 13.0 | 16.4 | 3.8 | 0.494 |
| Bureaucracy exists in the initiation and implementation of PPP projects | 60.3 | 37.7 | 0.7 | 1.4 | 0.0 | 3.5 | 0.655 |
| There are numerous stages and long preparation stages in the implementation of PPP projects | 43.2 | 48.6 | 1.4 | 2.1 | 4.8 | 3.9 | 0.706 |
| The management lacks the skills and knowledge of legal and regulatory factors surrounding PPP projects | 55.5 | 40.4 | 0.6 | 0.0 | 3.5 | 3.7 | 0.797 |
| Aggregate Score | 45.5 | 43.4 | 0.8 | 4.1 | 6.2 | 3.8 | 0.683 |

Source: Own survey (2021)

The outcomes detailed in Table 4.3 illustrate a consensus among respondents regarding the influence of legal aspects on the effective implementation of PPP projects within public universities in Kenya. This consensus is demonstrated by the cumulative mean score of 3.8, along with a notable degree of variance, signified by the standard deviation of 0.683. Among the participants, a significant 65.1% expressed agreement with the intricacies presented by the PPP Act, with 23.3% strongly concurring, 6.2% in strong disagreement, 1.4% undecided, and 4.1% disagreeing. This culminated in an average score of 4.2 and a standard deviation of 0.764. In a similar vein, 45.2% of respondents strongly agreed on the complexity of policies, regulations, and PPP contract terms.

Furthermore, the majority of participants (60.3%) held strong agreement about the bureaucratic nature of initiating and executing PPP projects, with an additional 37.7% expressing agreement, 1.4% in disagreement, and 0.7% undecided. This yielded an average score of 3.5 and a standard

deviation of 0.655. Additionally, 48.6% of respondents indicated agreement on the existence of numerous stages and prolonged preparation periods in the course of PPP project implementation, while 43.2% strongly agreed, 4.8% strongly disagreed, 2.1% disagreed, and 1.4% were undecided. The average score for this response was 3.9, accompanied by a standard deviation of 0.706. Moreover, a considerable 55.5% strongly agreed that the management lacks proficiency in legal and regulatory aspects of PPP projects, while 40.4% agreed, 3.5% held strong disagreement, and 0.6% remained undecided. This led to an average score of 3.7 and a standard deviation of 0.797.

4.4.2 Political Factors

The research aimed to evaluate how political factors impact the effective execution of PPP projects in universities within Kenya. The outcomes are presented in Table 4.4.

Table 4.5: Political Factors

| | SA | A | U | D | SD | | |
|---|------|------|-----|-----|------|-----|-------|
| | % | % | % | % | % | | |
| Statement | | | | | | M | SD |
| There is lack of political support on the implementation of PPP projects | | 41.8 | 0.0 | 6.8 | 15.1 | 4.3 | 0.301 |
| Change of political and Institutional leadership largely delays PPP projects | | 34.2 | 0.0 | 2.1 | 0.7 | 3.3 | 0.593 |
| The implementation of PPP projects is affected by political and social problems related to the privatization of infrastructure under foreign ownership. | | 29.5 | 0.0 | 0.7 | 0.0 | 4.2 | 0.774 |
| The success of PPP projects can be threatened by weak intergovernmental | 57.5 | 39.7 | 0.7 | 2.1 | 0.0 | 3.0 | 0.826 |

| cooperation. | | | | | | | |
|--|------|------|------|-----|------|-----|-------|
| Active commitment and partnership support is vital for the initiation and implementation of PPP projects | 56.7 | 36.3 | 0.23 | 2.9 | 4.0 | 3.7 | 0.624 |
| Aggregate | 56.7 | 36.3 | 0.19 | 2.9 | 3.96 | 3.7 | 0.624 |

Source: Own survey (2021)

The data provided in Table 4.4 underscores the influence of political factors on the successful execution of PPP projects within Kenyan universities. This is indicated by an overall mean score of 3.7, along with a notable variation highlighted by a standard deviation of 0.624. A substantial proportion of respondents (41.8%) concurred on the absence of political backing for PPP project implementation, with 36.3% strongly agreeing, 15.1% in strong disagreement, and 6.8% expressing disagreement. This resulted in an average score of 4.3 and a standard deviation of 0.301. Furthermore, a significant 63.0% of participants strongly agreed that shifts in political and institutional leadership frequently contribute to delays in PPP projects, with an additional 34.2% agreeing, 2.1% in disagreement, and 0.7% strongly in disagreement, generating an average score of 3.3 and a standard deviation of 0.593.

Likewise, a considerable majority (69.9%) of respondents strongly agreed that political and social challenges linked to infrastructure privatization under foreign ownership impact PPP project implementation, while 29.5% agreed and 0.7% disagreed. This yielded an average score of 4.2 and a standard deviation of 0.774. Moreover, 57.5% of participants strongly agreed that deficient intergovernmental collaboration poses a threat to the success of PPP projects, with 39.7% agreeing, 2.1% in disagreement, and 0.7% being uncertain. This led to an average score of 3.0 and a standard deviation of 0.826. Lastly, the majority (56.7%) strongly agreed that active commitment and collaborative support are vital for initiating and executing PPP projects, with 29.5% agreeing, 2.9% in disagreement, 0.23% uncertain, and 4.0% strongly in disagreement. This generated an average score of 3.7 and a standard deviation of 0.624.

These findings align with the research by Adongo (2012), who delved into the factors influencing the implementation of public-private partnerships in Kenya. The study identified several key factors impacting PPP implementation in the country, encompassing elements like

project design clarity, project planning and control, organizational structure and top management endorsement, government involvement, regulatory frameworks, policies, adept management, stakeholder coordination, and project integration. Additionally, the study revealed that factors contributing to the downfall of project implementation in PPPs included challenges related to quality, timeliness, and expenses. Further details can be found in Table 4.5.

4.4.3 Successful Implementation of PPP projects

Table 4.6: Successful Implementation of PPP projects

| | SA | A | U | D | SD | | |
|--|------|------|------|-----|-----|-----|-------|
| | % | % | % | % | % | | |
| Statement | | | | | | M | SD |
| Projects are completed within set time | | | | | | | |
| lines and there are no delays | 35.6 | 39.7 | 15.8 | 8.2 | 0.7 | 4.5 | 0.515 |
| Cost of PPP projects is affordable | | | | | | | |
| | 28.1 | 21.2 | 34.2 | 8.9 | 7.5 | 4.6 | 0.504 |
| Project risks and dynamics change | | | | | | | |
| throughout the life of the project | 48.6 | 33.6 | 10.9 | 4.8 | 2.1 | 4.2 | 0.715 |
| The projects undertaken have achieved | | | | | | | |
| Value For Money | 37.4 | 31.5 | 20.3 | 7.3 | 3.4 | 4.4 | 0.578 |
| Aggregate | | | | | | | |
| | 37.4 | 31.5 | 20.3 | 7.3 | 3.4 | 4.4 | 0.578 |

Source: Own survey (2021)

The data presented in Table 4.5 reveals that respondents agreed to the extent to which Public-Private Partnerships (PPP) are successful as a procurement method for infrastructure development in Kenya, with an aggregate mean score of 4.4, showing significant variation as indicated by the standard deviation of 0.578. A majority of the respondents (39.7%) agreed that projects are completed within set timelines and there are no delays, while 35.6% strongly agreed,

15.8% were undecided, 8.2% disagreed, and 0.7% strongly disagreed, resulting in a mean of 4.5 and a standard deviation of 0.515. Additionally, a majority of the respondents (34.2%) were undecided on whether the cost of PPP projects is affordable, with 28.1% strongly agreeing, 21.2% agreeing, 8.9% disagreeing, and 7.5% strongly disagreeing, resulting in a mean of 4.6 and a standard deviation of 0.504. Furthermore, a majority (48.6%) strongly agreed that project risks and dynamics change throughout the life of the project, with 33.6% agreeing, 10.9% undecided, 4.8% disagreeing, and 3.4% strongly disagreeing, resulting in a mean of 4.4 and a standard deviation of 0.715. Lastly, a majority (37.4%) strongly agreed that the projects undertaken have achieved Value For Money, with 31.5% agreeing, 20.3% undecided, 7.3% disagreeing, and 2.1% strongly disagreeing, resulting in a mean of 4.2 and a standard deviation of 0.578.

The results are in line with Wangari's research from 2017, which discovered a strong connection between political regimes and the execution of PPPs in healthcare initiatives. Wangari noted that factors like political rivalry and unofficial motivations played a role in shaping the implementation of healthcare PPPs. The findings also revealed that a significant majority of participants, around 66%, believed that political intervention had a substantial impact on the successful execution of PPPs in healthcare projects. To sum up, the study demonstrated that how funds were used, the competence of project managers, political considerations, and the specific PPP model chosen all played significant roles in influencing the implementation of public procurement healthcare projects.

4.5 Regression Analysis

Regression analysis was used to model, examine, and explore the extent to which Public-Private Partnerships (PPP) is a success as a procurement method for infrastructure development in Kenya. This was done by considering four factors as independent variables (financial factors, political factors, legal and regulatory factors) used for the study.

Table 4.2 a): Model Summary

Model Summary

| | 1.10001 2.011111111111111111111111111111 | | | | | | | | | | |
|------|--|----------|------------|---------------|--|--|--|--|--|--|--|
| Mode | R | R Square | Adjusted R | Std. Error of | | | | | | | |
| 1 | | | Square | the Estimate | | | | | | | |
| 1 | .868 ^a | .754 | .719 | .23437 | | | | | | | |

a. Predictors: (Constant), FF, PF, LRF

Source: Own survey (2021)

The research assessed and analyzed the relationship and degree of influence of different factors on the achievement of successful PPP (Public-Private Partnership) projects within Kenyan public universities. These factors included financial considerations, political circumstances, and legal and regulatory conditions. The outcomes indicated that around 75.4% of the variations in the accomplishment of PPP projects in public universities could be attributed to the interplay of these independent factors. In essence, approximately 75.4% of the fluctuations in the effectiveness of PPP projects in public universities can be elucidated by the changes in financial, political, and legal and regulatory aspects. The remaining 24.6% of the variability remains unaccounted for within the model. These findings emphasize that the success of implementing PPP projects in public universities is notably impacted by the presence of significant financial, political, and legal and regulatory factors.

4.5.2 Analysis of Variance (ANOVA)

The researchers used Analysis of Variance (ANOVA) to determine the linear relationship between the variables being investigated. This method included calculating metrics like sum of squares, degrees of freedom (df), mean square, calculated F-value, and its corresponding level of significance. The results of this analysis are presented in Table 4.2.

Table 4.2 b) Anova

ANOVA^a

| Mod | del | Sum of Df Mean Squares Square | | F | Sig. | |
|-----|------------|----------------------------------|----|-------|--------|-------------------|
| | Regression | 3.540 | 3 | 1.180 | 21.483 | .000 ^b |
| 1 | Residual | 1.154 | 21 | .055 | | |
| | Total | 4.694 | 24 | | | |

a. Dependent Variable:SPPP

b. Predictors: (Constant), FF, PF, LRF

Source: Own survey (2021)

According to the data findings in Table 4.2 b), the total squared difference explained by the regression is 3.540, and the average squared difference is 1.180, considering 3 degrees of freedom. The squared difference attributed to remaining factors is 1.154, and the average squared difference for these factors is 0.055, with 21 degrees of freedom. The computed F value is 21.483, and the corresponding p-value is 0.005. The p value, which measures the level of significance, is calculated as 0.000. As the p value is below 0.05, it signifies a significant relationship at a 95% confidence level. Thus, the model holds significance for both the study and its predictive capability. **Table 4.3 Correlation analysis**

Correlations

| Correlations | | | | | |
|--------------|---------------------|--------|--------|--------|--------|
| | | SPPR | FF | PF | LRF |
| | Pearson Correlation | 1 | .808** | .064 | 089 |
| SPPP | Sig. (2-tailed) | | .000 | .759 | .672 |
| | N | 25 | 25 | 25 | 25 |
| | Pearson Correlation | .808** | 1 | 095 | 058 |
| FF | Sig. (2-tailed) | .000 | | .652 | .784 |
| | N | 25 | 25 | 25 | 25 |
| | Pearson Correlation | .064 | 095 | 1 | .827** |
| PF | Sig. (2-tailed) | .759 | .652 | | .000 |
| | N | 25 | 25 | 25 | 25 |
| | Pearson Correlation | 089 | 058 | .827** | 1 |
| LRF | Sig. (2-tailed) | .672 | .784 | .000 | |
| | N | 25 | 25 | 25 | 25 |

^{**.} Correlation is significant at the 0.01 level (2-tailed).

Source: Own survey (2021)

The findings indicate a positive correlation between the successful implementation of PPP projects in public universities and the three independent variables (financial factors, political factors, legal and regulatory factors) with a correlation coefficient of 0.808. This suggests that public universities can enhance their success by considering and improving financial factors. Additionally, the findings reveal a positive correlation between successful implementation of

PPP projects in public universities and political factors, but with a low correlation coefficient of 0.064. This implies that political factors have only a minor influence on the successful implementation of PPP projects in public universities.

Moreover, the research demonstrates an inverse relationship between the effective execution of public-private partnership (PPP) initiatives within state-funded colleges and legal as well as regulatory considerations. The correlation coefficient of -0.089 underscores this connection. This suggests that by diminishing the prerequisites related to legal and regulatory aspects, there is a substantial potential for enhancing the triumphant execution of PPP projects in public universities. These conclusions were derived from scrutinizing the correlation among the participants sampled during the study's timeframe, with a statistical significance level of 0.05 percent.

Table 4.4: Coefficients of Determination

Coefficients^a

| Mode | el | Unstandardize | d Coefficients | Standardized Coefficients | t | Sig. |
|------|------------|---------------|----------------|---------------------------|--------|------|
| | | В | Std. Error | Beta | | |
| | (Constant) | .017 | .072 | | .242 | .811 |
| 1 | FF | 2.519 | .329 | .833 | 7.656 | .000 |
| 1 | PF | .234 | .081 | .561 | 2.906 | .008 |
| | LRF | 007 | .003 | 505 | -2.623 | .016 |

a. Dependent Variable: SPPP

Source: Own survey (2021)

According to the model's results, the variable related to financial factors shows statistical significance, indicated by a significance value below 0.05. The same holds true for the other variables, namely political factors and legal and regulatory factors. In the context of implementing PPP projects in public universities in Kenya, the model reveals that both financial and political factors are positively linked to successful implementation, whereas legal and regulatory factors show a negative correlation.

The model's analysis further indicates that when all factors (financial, political, and legal/regulatory) are maintained at zero, the independent value of successful PPP project implementation in Kenyan public universities is 0.017. Furthermore, the data suggests that isolating the impact of each independent variable, a unit increase in financial factors corresponds to a 2.519 increase in the successful execution of PPP projects. Similarly, a unit rise in political factors corresponds to a 0.234 increase in success, while a unit increase in legal and regulatory

These findings strongly imply that financial and political factors exert a positive influence on the triumph of PPP projects in Kenyan public universities, whereas legal and regulatory factors have an adverse effect. The coefficient table presented earlier was utilized to construct the described model.

SPPP= $0.017 X_1+2.519X_2+0.234 X_3-0.007$

factors results in a 0.007 decrease in success.

Where:

SPPP= Successful Implementation of PPP projects

X1= Financial factors

X2=Political factors

X3=Legal and Regulatory factors

4.4 Financial Leverage and financial performance

Drawing from the study's outcomes, regression equations were employed to establish connections between the effective execution of PPP projects in Kenyan public universities and the variables encompassing financial, political, as well as legal and regulatory aspects. The model's summary disclosed that 75.4% of the variance in the successful implementation of PPP projects within Kenyan public universities could be attributed to the examined independent variables (financial, political, and legal and regulatory factors). The remaining 24.6% was linked to unexplored factors within this study. The significance level, indicated as 0.000, proved to be

less than the critical threshold of 0.05, indicating the study's significance at a 0.05 confidence level.

According to the coefficient table, when all factors are kept constant at zero, the observed success rate of implementing PPP projects in public universities in Kenya was 0.017. The data analysis further indicated that when the other independent variables were set at zero, a one-unit increase in financial factors resulted in a 2.519 increase in the likelihood of successful implementation. Similarly, a one-unit increase in political factors led to a 0.234 rise in success, whereas a one-unit increase in legal and regulatory factors resulted in a decrease of 0.007 in the likelihood of successful PPP project implementation in Kenyan public universities.

The collection of findings emphasizes the positive influence of financial and political factors on the effective execution of PPP projects in Kenyan public universities. This is supported by the coefficients of determination. The study confirmed that the three examined independent variables (financial, political, and legal and regulatory factors) indeed impacted the successful implementation of PPP projects in Kenyan public universities during the studied time frame. However, it was revealed that legal and regulatory factors had a negative impact on the successful implementation of PPP projects in Kenyan public universities during the investigated period.

These findings align with Oluoch's (2009) research, delving into the influences shaping the implementation of public-private partnerships in Kenya. The study underscored the role of project planning and controlling, government involvement, regulation and policy, as well as stakeholder management as primary factors shaping the implementation of PPPs in Kenya. Additionally, aspects such as quality, time, and cost were identified as contributing factors to project implementation setbacks within the realm of PPPs.

CHAPTER FIVE

SUMMARY CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This section gives an overview of what the research discovered, the outcomes drawn from it, and the suggestions put forth. It is structured into several parts: Section 5.2 gives a rundown of the research's main points, Section 5.3 encompasses the deductions made, Section 5.4 talks about suggested actions, Section 5.5 deals with the study's boundaries, and Section 5.6 provides proposals for future investigations.

5.2 Summary of Findings

The study aimed to measure the successful implementation of PPP projects in public universities in Kenya, considering three independent variables: financial factors, political factors, and legal and regulatory factors. The results showed that 75.4% of the successful implementation of PPP projects could be attributed to these three variables.

The statistical examination of the data yielded compelling insights. The calculated F value, standing at 21.483, was coupled with a significance value of 0.05. The resulting p-value, quantified at 0.000, demonstrated the considerable significance of the relationship at a confidence level of 95%. Notably, all three independent variables - encompassing financial factors, political factors, and legal and regulatory factors - exhibited noteworthy significance, boasting p-values that comfortably resided below the 0.05 threshold.

With the groundwork laid by this statistical exploration, an intriguing panorama emerged. Under the premise that all variables were held constant at zero, the realm of successful PPP project implementation in the context of Kenyan public universities demonstrated an inherent value of 0.017. Digging deeper, the data orchestration unveiled an intriguing tapestry: augmenting the financial factors by a unit translated into a substantial 2.519 enhancement in successful

implementation. Similarly, an increase of one unit in the realm of political factors correlated with a notable 0.234 surge in the successful execution of projects. However, it's noteworthy that the realm of legal and regulatory factors, when subjected to a unitary increase, presented a contrasting outcome, exhibiting a reduction of 0.05 in the efficacy of PPP project implementation in the realm of Kenyan public universities.

5.3 Conclusion

The meticulous analysis conducted underscores the distinct impact exerted by the trio of independent variables - financial factors, political factors, and legal and regulatory factors - on the triumphant realization of PPP projects within the context of Kenyan public universities. Notably, the investigation culminates in the revelation that financial factors are pivotal in positively shaping the favorable outcomes of PPP project implementation in these academic institutions.

Conversely, the inquiry draws a clear inference that legal and regulatory factors cast a shadow of negativity on the successful execution of PPP projects in public universities in Kenya. Remarkably, these findings harmonize seamlessly with the insights gleaned from Hadijah's (2012) study on the critical success factors within Kenya's road sub-sector's PPP projects. Hadijah's research emphasized the pivotal role played by a lucid and supportive legal framework, comprehensive evaluations of cost and benefit, and an open and transparent procurement process.

Moreover, the exploration also illuminates the pervasive influence of political factors in steering the course of successful PPP project implementation across Kenyan public universities. These conclusions remain congruent with the findings elucidated by Adongo's (2012) extensive inquiry into the multifaceted landscape of PPP implementation in Kenya. This study pinpointed project design, meticulous planning, adept stakeholder management, robust government engagement, and unwavering top management support as the linchpins in the process.

The research accentuates the critical sensitivity of financial, political, as well as legal and regulatory variables in shaping the trajectory of PPP project success within Kenyan public universities. This underscores the pressing need for decision-makers to meticulously factor in these dimensions while embarking on PPP initiatives in these educational institutions, ensuring a

firm foundation for their triumph. Furthermore, the study serves as a clarion call for addressing the legal and regulatory intricacies that could potentially undermine the seamless accomplishment of PPP projects in the realm of Kenyan public universities.

5.4 Recommendations for Policy and Practice

The exigency for a more expansive and all-encompassing investigation into the factors steering the triumph of PPP projects in Kenya cannot be overstated. This imperative arises from the fact that a gamut of infrastructural initiatives, both at the county and national levels, grapple with akin challenges. Consequently, it is imperative to embark on a comprehensive study that encompasses an array of facets, encompassing environmental, policy, and economic dimensions. Such a holistic approach will furnish a more inclusive comprehension of the dynamic landscape surrounding the implementation of PPP infrastructure projects.

Within the confines of this current research, the spotlight has been cast on the pronounced influence exerted by financial, political, and legal and regulatory factors on the successful unfolding of PPP endeavors in Kenya. This realization underscores the profound necessity for public universities to exercise astute discernment in their decision-making processes. By being attuned to the potential oscillations in these factors, institutions can elevate the prospects of effectively executing PPP projects in Kenya and attaining their envisioned outcomes.

Furthermore, this inquiry has delineated a constructive correlation between financial and political factors with the triumphant execution of PPP projects in Kenyan public universities. Conversely, it has unfurled the dampening impact of legal and regulatory factors on these undertakings. In light of this, it is imperative that the Kenyan government takes steps to curtail the stringency of the legal and regulatory prerequisites that steer and govern PPP infrastructural ventures. Heightened stringency, as revealed, can diminish the efficacy of PPP projects in Kenyan public universities.

To usher in a more conducive environment, this study proffers several pragmatic recommendations. It underscores the significance of instituting targeted capacity building and training initiatives and amplifying the mechanisms of government-backed project support. Financial buttress from the Kenyan government, such as covering prerequisite transaction advisory fees on behalf of contracting authorities, is also deemed pivotal. Notably, the legal framework warrants meticulous attention. The study posits the imperative of situating PPP infrastructural projects within the ambit of the PPAD Act 2015, armed with precise objectives and guidelines. This recalibration seeks to mitigate the bureaucratic hindrances that have the propensity to encumber the PPP landscape.

A comprehensive exploration into the multifarious dimensions steering the successful implementation of PPP projects in Kenya stands as an imperative. This study serves as a clarion call for a more holistic approach that encompasses environmental, policy, and economic aspects. By embracing the insights garnered, public universities and the Kenyan government can pave the path for more seamless and efficacious PPP initiatives that contribute to the nation's infrastructural progress.

5.6 Suggestions for Further Research

The study showed that the financial factors, political factors and legal & regulatory factors influence the successful implementation of PPP projects in public universities in Kenya. The study focused on only the public universities which largely don't engage in PPP infrastructural projects for their development. A study should be done that takes into consideration of the county government and the national government which undertake PPP infrastructural projects for their development

The research focused on analyzing the elements influencing the effective execution of PPP initiatives in Kenyan public universities. However, numerous other aspects influencing the

successful implementation of such projects in these universities were not taken into account. It is advisable to conduct additional research that encompasses factors like economic, environmental, and policy-related considerations.

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QUESTIONNAIRE

Investigation into the Public-Private Partnerships (PPP) success as Procurement Method in Infrastructure development in Kenya: A Case Study of Public Universities in Nairobi Metropolitan Region

- A. The Research Project being carried out is solely for academic purpose for attainment of Masters of Arts in Construction Management at University of Nairobi and the information given hereafter shall be solely used for the purpose.
- B. Abbreviation-PPP means Public Private Partnerships

SECTION A: General information

| 1. | | of the Organization |
|----|--------|--|
| 2. | | is your professional expertise/background? (Tick √) |
| | 0 | Legal expert |
| | 0 | Finance/economic expert |
| | 0 | Technical expert |
| | 0 | Procurement expert |
| | 0 | Any other field not indicated herein. |
| 3. | What 1 | role do you play in the infrastructural project you are involved in? (Tick $\sqrt{\ }$) |
| | 0 | Private partner (consultant) |
| | 0 | Private partner (Developer) |
| | 0 | Private partner (Financier) |
| | 0 | Public partner (consultant) |
| | 0 | Public partner (contracting authority) |
| | 0 | Transaction adviser |
| 4. | Have y | you involved in any PPP infrastructural project in Kenya? (Tick √) |
| | 0 | Yes |
| | 0 | No |

| Project dentification and creening Feasibility study Fransaction stage Tendering and draft agreements) | 1 | 2 | 3 | 4 | 5 |
|--|----------------------|--------------------------------|--|---|--|
| dentification and creening Feasibility study Fransaction stage Tendering and | | | | | |
| Feasibility study Fransaction stage Tendering and | | | | | |
| Feasibility study Fransaction stage Tendering and | | | | | |
| Transaction stage Tendering and | | | | | |
| Tendering and | | | | | |
| _ | | | | | |
| lraft agreements) | | | | | |
| , | | | | | |
| Construction stage | | | | | |
| Operations and | | | | | |
| naintenance stage | | | | | |
| ION B: Factors in | npeding P | PPP infrast | ructural pro | jects' success | |
| 1 | r opinion, what is y | r opinion, what is your take o | r opinion, what is your take on using PP | r opinion, what is your take on using PPP model as pro- | naintenance stage r opinion, what is your take on using PPP model as procurement m ION B: Factors impeding PPP infrastructural projects' success SECTION B: FINANCIAL FACTORS |

5. If yes, how long have you been involved? (Tick $\sqrt{\ }$)

| Statement | 1 | 2 | 3 | 4 | 5 |
|--|---|---|---|---|---------|
| | | | | | |
| High transaction cost discourages most institutions from undertaking PPP | | | | | |
| projects | | | | | |
| | | | | | \perp |
| High tendering cost impedes undertaking of PPP projects | | | | | |
| | | | | | |
| Complex and expensive negotiation makes it difficult for initiation of PPP | | | | | |
| projects | | | | | |
| | | | | | |
| Monitoring of PPP projects in expensive | | | | | |
| | | | | | |

SECTION C: LEGAL ®ULATORY FACTORS

8. Rate your opinion on the following statements regarding legal and regulatory factors by ticking $(\sqrt{})$ against respective column.

| Statement | 1 | 2 | 3 | 4 | 5 |
|--|---|---|---|---|---|
| There is complexity in the PPP Act | | | | | |
| There is complexity of policies, regulations and PPP contract terms | | | | | |
| Bureaucracy exists in the initiation and implementation of PPP projects | | | | | |
| There are numerous stages and long preparation stages in the | | | | | |
| implementation of PPP projects | | | | | |
| The management lacks the skills and knowledge of legal and regulatory factors surrounding PPP projects | | | | | |
| rations surrounding 111 projects | | | | | |

9. Do you think legal and regulatory factors have affected the performance of your PPP projects?

| Yes No | | | | | |
|---|------|---------|------|-------------|---------|
| If Yes, to what extent? | | | | | |
| | | | | | |
| | | • • • • | | | • • • • |
| | | | | | •••• |
| SECTION D: POLITICAL FACTORS | | | | | |
| 10. Rate your opinion on the following statements on political factors by the | icki | ng (| () a | ıgaiı | nst |
| respective column. | | | | | |
| Statement | 1 | 2 | 3 | 4 | 5 |
| There is lack of political support on the implementation of PPP projects | | | | | |
| Change of political and Institutional leadership largely delays PPP | | | | | |
| projects | | | | | |
| The successful execution of PPP projects can be hindered by political and | | | | | |
| societal challenges associated with the privatization of infrastructure when | 1 | | | | |
| foreign ownership is involved. | | | | | |
| Weak intergovernmental cooperation can threaten the success of PPP | | | | | |
| projects | | | | | |
| Active commitment and partnership support in vital for the initiation and | | | | | |
| implementation of PPP projects | | | | | |
| | | | | | |
| 11. Do you think political factors have affected the successful implementa | tior | of | PPF | p ro | ojects? |
| Yes No | | | | | |
| If Yes, to what extent? | | | | | |

| | | |
|------|------|--|

SECTION E: SUCCESSFUL IMPLEMENTATION OF PPP PROJECTS

11. To what extent do you agree with the following statements on the successful implementation of PPP projects.

| Statement | 1 | 2 | 3 | 4 | 5 |
|--|---|---|---|---|---|
| Projects are completed within set time lines and there are no delays | | | | | |
| Cost of PPP projects is affordable | | | | | |
| Project risks and dynamics change throughout the life of the project | | | | | |
| The projects undertaken have achieved Value For Money | | | | | |

5. Indicate the following indicators of successful implementation of PPP projects.

| Performance | | PP Project |
|---------------------|---|------------|
| Completion level | Kindly indicate the completion level(opening to close) of PPP projects in % | |
| Cost of the project | Indicate the total PPP project cost | |



UNIVERSITY OF NAIROBI

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Ref: B53/75390/2014

Date: 21st April, 2021

To Whom It May Concern

Dear Sir/Madam,

RE: RESEARCH LETTER - JOSEPH K. KANDAGOR

This is to certify that the above named is a student in the Department of Real Estate, Construction Management and Quantity Surveying, pursuing a course leading to Master of Arts in Construction Management degree.

He is carrying out a research entitled "INVESTIGATION ON THE PUBLIC-PRIVATE PARTNERSHIPS (PPP) SUCCESS AS PROCUREMENT METHOD FOR INFRASTRUCTURE DEVELOPMENT IN KENYA: A CASE STUDY OF PUBLIC UNIVERSITIES IN THE NAIROBI METROPOLITAN" in partial fulfillment of the requirements of the degree programme.

The purpose of this letter is to request you to allow him access to any kind of material he may require to complete his research. The information will be used for research purposes only.

Thank you.

Arch. Reter Njeru

Ag. Chairman & Lecturer

Department of Real Estate, Construction Management

& Quantity Surveying