



**An assessment of public private partnerships in the
road sector: A Case of Uganda National Roads
Authority**

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Thesis accepted in fulfilment of the requirements for the
*degree Doctor of Philosophy in Public Management and
Governance* at the North-West University

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DECLARATION

I Innocent Nuwagaba, hereby declare that this thesis is my own original work, has not been submitted for any degree or examination at any other university, and that the sources I have used have been fully acknowledged by complete references. This thesis is submitted in fulfilment of a PhD in Public Management and Governance at North West University, Vaal triangle campus, Vanderbijlpark, Gauteng Province, Republic of South Africa.

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Date: 29th March 2019

APPROVAL

This PhD thesis has been written under my supervision and has fully fulfilled all the requirements for the award of the degree of a PhD in Public Management and Governance at North West University, Vaal triangle campus, Vanderbijl Park, Gauteng Province, Republic of South Africa.

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DEDICATION

This Phd thesis is dedicated to my God and my family more especially my wife-Evelyn, Children; Alvin Nuwagaba and Elvin Nuwagaba and my other family members. You have been so supportive in this tedious but interesting academic journey.

ACKNOWLEDGEMENT

First and foremost, I would like to thank the almighty God for giving me life and health in addition to giving me an opportunity of undertaking this PhD study successfully. May His name be glorified for ever more. I wish to express my appreciation, and acknowledge the contribution of my supervisor Professor Lukamba-MuhiyaTshombe of North West University (NWU), Vaal Campus, Vanderbijlpark, South Africa for his parental and academic guidance, commitment and willingness to help me complete this work. May the good Lord bless him abundantly. I would like to sincerely recognize all the support I got from Professor Costa Office, the head of the department of Government studies NWU. These have sufficiently guided and equipped me with both theoretical and practical skills that made me to undertake and complete this PhD study successfully. I would also like to acknowledge the contribution of my PhD classmates from whom I enjoyed fruitful discussions on many topics. Secondly, I am very grateful to my wife-Evelyn, children: Alvin, Elvin and all the othe family members for all the spiritual, moral, social, physical and material support they extended to me while persuing this PhD journey. In addition I would like to sincerely appreciate my fellow PhD students such as Dr. Kwatampora Rose, Dr. Kisitu Bruce, Adrian Beinebyabo, Alex Nduhura, Micheal Garukande, Felix Adiburu, Paddy Mugambe and Jamimah Ninsima for all the support they rendered me as I was undertaking my PhD studies together with them at North West University, Vaal Campus, Vanderbijl park, South Africa. I can't also foget to thank my head of department, Mr. Bongomin Winfred, members of department such as Dr. Robert Mugabi, entire UMI fraternity especially Ivan Twinomuhwezi. Professor Karyeija and Kamukama Jmes for all the PhD study guidance and support they gave me. Finally I want to thank ADB, Ministry of Education and Sports (MOES) of Uganda and the members of management of UMI especially Dr. James Nkata, Dr. Kasozi S. Mulindwa and Mr. John Nakabago for all the material and financial support they provided me to complete this PhD study. Last but not least I can't fail to acknowledge with gratitude the contributions and co-operation made by UNRA Staff especially those from the UNRA PPP unit for their enthusiasm to provide me with the necessary information when I visited their respective desks during the research process. I thank those individuals who spared time to respond to my research questionnaires and interviews because their contribution to this study is invaluable.

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LIST OF ACRONYMS

ADB	Asian Development Bank
AfDB	African Development Bank
AECOM	Architecture, Engineering, Consulting, Operations and Maintenance
BOO	Build Own Operate
BOT	Build Operate Transfer
BOOT	Build Own Operate Transfer
BROT	Build Rehabilitate Operate Transfer
C-CAD	Central Committee for Advanced Degrees
DB	Design Build
DBF	Design Build Finance
DBFM	Design Build Finance and Manage
DBFOM	Design, Build, Finance, Operate, and Maintain
EAGC	East African Grain Council
EC	European Commission
EF	Environmental Factors
EPEC	European Public Private Partnership Expertise Centre
FAO	Food and Agriculture Organization
GOK	Government of Kenya
GOU	Government of Uganda
GOT	Government of Tanzania

IA	Internal Assessment
ICCC	Independent Consumer and Competition Commission
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IPPP	Institutional Public Private Partnerships
KPI	Key Performance Indicator
MAAIF	Ministry of Agriculture Animal Industry and Fisheries
MFPEd	Ministry of Finance Planning and Economic Development
NAADS	National Agricultural Advisory Services
NCPPP	National Council for Public-Private Partnership
NDP	National Development Plan
NGOs	Non Governmental Organisations
O&M	Operation and Maintenance
OECD	Organisation for Economic Co-operation and Development
OF	Organisational Factors
PNG	Papua New Guinea
PF	Personal Factors
PFI	Private Finance Initiative
PPP	Public-Private Partnership
PSC	Public Sector Comparator

SA	South Africa
SA	South Africa
SADC	Southern African Development Community
SAP	Structural Adjustment Policy
SSA	Sub-Saharan Africa
UK	United Kingdom
UMI	Uganda Management Institute
UNCST	Uganda Nationaal Council for Science and Technology
UN	United Nations
UNECE	United Nations Economic Commission for Europe
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations International Children Education Fund
UNRA	Uganda National Roads Authority
US	United States of America
USAID	United States Agency for International Development
USDOT	United States Department of Transportation
VFM	Value for Money
WB	World Bank
WRS	Warehouse Receipt System
WEO	World Economic Outlook

ABSTRACT

The study aimed at conducting an assessment of Public Private Partnerships (PPPs) in ensuring Value for Money (VFM) within the roads sector, a case of Uganda National Roads Authority (UNRA). Globally, PPPs provide one of the avenues for financing projects in the roads sector. In 2015, UNRA adopted a policy for use of PPPs to construct some national roads. Despite the adoption of a policy to use PPPs, there were a number of concerns on the use of already existing contracting out model to ensure VFM in the road sector. The main objective of the study was to assess the use of PPPs in ensuring VFM in the roads sector in Uganda. The research study was guided by the principal-agent theory. The study adopted a mixed methods design of the quantitative approach using the cross-sectional survey design followed by the qualitative approach under a case study and exploratory design. A sample size of 126 study participants, with 91 respondents for quantitative part of the study and 35 respondents for qualitative part of the study was targeted. Respondents for quantitative part of the study were selected using systematic random and simple random sampling and while those for qualitative part of the study were selected using snow ball and purposive sampling techniques. Quantitative data was collected using structured questionnaires, while qualitative data was collected using semi-structured interviews. The collected quantitative data was analyzed using descriptive statistics with the aid of the Statistical Package for Social Sciences (SPSS, version 25) and the collected qualitative data was analyzed thematically in narrative form. It was revealed that there were different perceptions held by UNRA's stakeholders on the concepts of PPPs and VFM. Secondly only a few models of contracting out, service contract and management contract were being used by UNRA in the roads sector. Thirdly environmental factor of politics, organisational factor of focus by both public and private partners and personal factor of competence of PPP unit staff were the main factors affecting the use of PPP models in the roads sector. Based on findings, the study came up with an integrative PPP model to ensure VFM in the roads sector. The study recommended that UNRA needs to develop the capacity of its staff in the concepts of PPPs and VFM, ascertain whether any PPP model to be used will ensure VFM and UNRA needs to take into consideration how best to manage a number of factors affecting PPP models to ensure VFM in the roads sector in Uganda.

CHAPTER ONE

INTRODUCTION

1.1 Introduction

This chapter examines the role of Public Private Partnerships (PPPs) in ensuring Value for Money (VFM) in the roads sector in Uganda with specific reference to Uganda National Roads Authority (UNRA). The study therefore sought to explore the use of PPPs to ensure VFM and ascertain whether UNRA is using the right model to implement various projects in the road sector in Uganda (Mudi, 2016: 416). A PPP is therefore a globally accepted public sector procurement mechanism whereby the government gets commitment from the private sector and transfers a certain level of responsibilities to the private sector in providing public facilities or services (Qistina & Salmiah, 2018:1).

As an efficient procurement method of the public infrastructure projects, the PPP has been widely adopted in many countries. For instance, a country like China has so far initiated 13,554 PPP projects costing 2,612 billion dollars until the end of June 2017 (Zhu & Chua, 2018:1). Unlike commercial acquisition, commercial leasing, government acquisition, and government leasing which augment existing capabilities in the commercial and public sectors, PPPs grow and transform each sector's capabilities by expanding resilience (Stevenson, 2018:7).

This chapter is structured into ten sections; section one presents back ground of the study, followed by section two on research problem. Section three focuses on research questions. The forth section presents research objectives. Section five discusses the significance of the study. Section six focuses on delimitation and limitations of the study. Section seven presents the central theoretical statement. Section eight discusses the research methodology that was used in collecting and analyzing data. Section nine focuses on chapter outline. The last section presents the chapter summary.

Most PPP experts agree that the concept of PPPs is now being embraced by many developing and emerging economies due to rising expenditures for refurbishing,

maintaining and operating public assets, increasing constraints on government budgets, and innovation through private sector and better risk management (Chauhana & Marisetty, 2018:3). The review of existing literature indicates that PPPs are an innovative way of inter-sector collaboration that combine public sector management and oversight with private sector resources, in terms of skills and competencies for the direct provision of a public good or service such as transportation, health, education, and penitentiary (Chunga & Hensherb, 2018:1). Scholars such as Guofeng, Qingjuan and Wang (2018: 1) contend that PPPs are an arrangement made by the state and private companies to work together to implement certain projects aimed at providing goods and services to the citizens in a more effective manner.

From scholarly literature, it is revealed that PPPs are long-term infrastructure related contracts, where the same private sector partner engages in both construction and operation of the project (Chauhana & Marisetty, 2018:1). A number of researchers argue that PPPs take place in a wide range of sectors and may sometimes involve complex coalitions of partners, such as donor agencies and Non-Government Organisations (Obayelu, 2018:2). According to Lukamba (2006:26), PPPs refer to a form of co-operation between public authorities and the world of business aimed at ensuring effective funding, construction, renovation and maintenance of an infrastructure project or the provision of a service. Typically, a private firm designs, builds, finances and operates a significant capital asset such as a road, a hospital, a school or a prison, and must ensure these assets are available for providing related services to an acceptable standard (Chunga & Hensherb, 2018:2).

The public agency, in turn, engages primarily in coordination and enforcement functions to ensure the behaviour of the private firm and the output of the PPP are aligned with public policy objectives (Chunga & Hensherb, 2018:2). More familiar examples of PPPs come from toll roads, light rail systems, bridges, tunnels, waste water treatment facilities, hospitals, courts, museums, schools and private prisons (Chauhana & Marisetty, 2018:1). Therefore, PPPs appear to be the next evolutionary step in what can be called “twenty-first century governance” (Wendell and Lawrence,

2005: 152). A drawback to this type of financing arrangement for public projects is that the interest rate for private borrowing may be higher than the government borrowing rate (Krol, 2018:21). This makes the arrangement efficient only if greater private-sector innovation and productivity offset the higher borrowing costs and the costs associated with the bidding process. Even considering these factors, a direct comparison of borrowing costs is misleading (Krol, 2018:21). On the other hand, VFM is a concept used to assess an organisation's capacity to obtain the maximum benefit from the products it acquires or provides, in relation to the resources available to it (Klynveld Peat Main Goerdeler (KPMG), 2014: 2).

The organisation takes into account a mix of factors such as quality, fitness for the organisation's purposes, timeliness, cost effectiveness, efficiency and economy in the use of resources and opportunity (Klynveld Peat Main Goerdeler (KPMG), 2014: 2). In some instances, the way PPPs are structured may not be good to ensure VFM because the partnership arrangement bundles together a number of different functions such as design, construction, operations and maintenance, yet a more cost-effective solution would be to unbundle these aspects into separate contracts (Darrin & Mervyn, 2004: 129). In this study, the road sector has been chosen because PPPs take a significant proportion of the roads budget and it is one of the largest of the PPP sectors (Jean, Anne, Pam & Peter, 2008: iiv).

This study also focuses on the road sector because it accounts for 57.3% of total PPPs spending all over the world and is by far the largest sector utilising PPPs among developed countries such as USA and developing countries such as Uganda (Charles, Hugh & Joseph, 2013: 2). Therefore, while PPPs are becoming more widely used in the roads sector, there are significant gaps in their design, construction and operational phases (Burnett, 2005:1). Like other forms of government tendering, PPPs are facing challenges in filling the service delivery gap with in the roads sector between what the government can afford and what the people need (Hammami *et al.*, 2006:3). According to El-Gohary *et al.* (2006:595), this challenge has led to failure of some PPP initiatives in the roads sector around the world and because of this, there is need for public entities to create systems which guarantee quality results or

quickly detect and rectify any bottlenecks in the PPP agreements and implementation (NCPMP, 2002:17).

1.2 Background to the study

A PPP is an increasingly popular choice for policymakers in implementing critical public works or events projects, especially when facing a shortage of government financial resources and where it is necessary to counter public inefficiency (Qistina & Salmiah, 2018:2). In many countries all over the world, governments have been the main vehicle behind financing and constructing infrastructural projects (Alan, 2010: 1). From the 1980s, PPPs have become the main focus by various countries around the world in the development of road infrastructure projects (Mehmet & Cuma, 2018:4). Today, many governments view the PPP model as a win-win strategy that benefits both the public and private sectors.

As a result, they often choose PPPs to meet their infrastructure needs because PPPs reduce the pressure on the financial sustainability of the public sector and allows for more efficient and cautious use of the budget (Mehmet & Cuma, 2018:4). A typical PPP structure can be quite complex, involving contractual arrangements between a number of parties, including the Government, project sponsor, project operator, financiers, suppliers, contractors, engineers, third parties, and customers (Chauhana & Marisetty, 2018:2). The creation of a separate commercial venture called a Special Purpose Vehicle (SPV) is a key feature of most PPPs (Chauhana & Marisetty, 2018:2).

PPPs have got different public and private sector stakeholders. Public sector stakeholders are typically composed of national and regional governments, governmental agencies and state-owned enterprises, whereas private sector stakeholders are typically private contractors, investors, sponsors and insurers (Yu, Chen & Sun, 2018:1). Therefore such various stakeholders are brought together by the special purpose vehicle (SPV), which is basically the legal and organisational framework for PPPs (Yu, Chen & Sun, 2018:1). Presently, there are a number of debates as to whether the use of PPP projects in infrastructure development

especially in the roads sector can be supported globally than ever before (Leigland, 2018:1). Prior to PPPs, many countries were financing the road sector projects through use of public sector funds generated from taxes, fines, road tolls, bonds and securities, grants, aid and loans from bi-lateral agencies and mult-lateral agencies such as World Bank (WB) and International Monetary Fund (IMF). However, this approach was considered unsustainable and countries choose to adopt the use of PPPs to finance road construction and maintenance projects (World Bank, 2013:1). That is why most countries have given much attention to developing road infrastructure projects through PPP agreements (Dossa, Yadong, Xiaoxian, Changrong, Chongjiao & Qiqi. 2018:4).

Within such PPP arrangements, there are several options that include public guarantees and other potential liabilities. Such PPPs must be devised and managed realistically and carefully (Martin, Mark & Siddharth 2018:14). It should however be note that, finding the necessary private-sector financing to build infrastructure, at the expected time or capacity, is a major challenge for the public sector. In many cases, the lack of suitable public policies or inadequate management of the process causes projects to fail. Political, economic, and legal instabilities and contract-design mistakes can also have a serious negative impact on the public and private sectors. As a result, the reliability of this PPP model has become a matter for public debate (Mehmet & Cuma, 2018:5).

Never the less, PPPs have become a popular technique used by many authorities and operators in the road sector all over the world (International Road Federation, 2015: 3). In North America, to rebuild its depreciating infrastructure, the governments of Canada and USA initiated PPPs to revamp their crumbling infrastructure especially in the road sector in order to retain their competitive position in the world economy (Price water coopers, 2009: 9). In South America, PPPs are becoming more popular in large infrastructural projects in the region, especially in the transport sector (Economist Intelligence Unit, 2014: 13). Brazil, in particular, is increasing its level of investments in transport, energy, education and health using PPPs. All these are essential activities that steer Brazil's sustainable development if it is to overcome her

recent economic crisis, fiscal austerity and the high cost of the public debt (Cesar & Carlos, 2012: 3). In Europe, there are many similarities as far as drivers of PPPs in Austria, Germany and the United Kingdom (UK) are concerned. The Austrian Government has been striving to make use of PPPs in implementing its infrastructural projects (Ronald & Walter, 2008:7). In the UK, the government came up with a wide range of reforms to use PPPs in implementing various projects (Andrew, 2013: 2). The Asia-Pacific region continues to experience the swift growth of PPP projects in the global economy, with strong demand for infrastructure investment across most sectors.

The countries that have made most progress in their PPPs regulatory frameworks are the Philippines, Papua New Guinea, Thailand, the Philippines, Mongolia, Viet Nam, Bangladesh and Indonesia (Asian Development Bank, 2015: 17). In Africa, Sub-Saharan Africa has seen the rehabilitation of road networks, as well as building the countries' institutional and financial capacity for their continued maintenance using PPP arrangements in order to overcome the most critical challenges confronting transport planners and policy makers (Solomon, Srinath, Chika, & Lei, 2014:142). Since 1994, South Africa has been implementing over 50 PPP related projects in development or implementation at national and provincial level, and 300 projects at municipal level (Hans, 2016: 2).

In West Africa, Nigeria has earmarked power and transport as the major sectors that can use PPPs for infrastructural development in order to stimulate its economic growth and development (African Development Fund, 2010: iii). In Ghana, PPPs are widely regarded as paramount to the delivery of better quality services in the roads sector (Abdul, Lamine, Colin & Peter, 2015: 1). In East Africa, countries such as Kenya, Tanzania, Burundi, Rwanda and Uganda are venturing into PPPs to develop infrastructure such as the standard gauge railway. The Ugandan Government plans to use such PPP projects to develop new and refurbish its already existing infrastructure. For example, the Jinja Expressway is one of the proposed PPP projects yet to be implemented (Gruneberg, Hughes & Ancell, 2007: 692). PPPs tend to take one or two forms. In the first type, known as a demand-risk PPP, a private

developer fronts the money for a government project in exchange for the right to collect user fees that would otherwise have gone to the government (Lemos & Charles, 2018:147). The second type of partnership is known as an availability-payment PPP. Under the availability model, the government commits to paying the private partner a set amount contingent on the project's meeting certain quality benchmarks (Lemos & Charles, 2018:147). Initial financing comes in whole or in part from the private entity, which then handles the work, while the government makes regular payments to cover operating and maintenance costs and to service any debt (Lemos & Charles, 2018:147).

According to Solomon et al, (2014: 143), there are various models of PPPs used in the roads sector which include: Private Finance Initiative, Concessions, Joint Ventures, Design and Build (DB), Build, Own and Operate (BOO), Leasing, affermage, Build Operate Transfer (BOT), Build Own Operate Transfer (BOOT), Contracting out, Management contract, Service contract, Design Build Finance (DBF), Design Build Finance Maintain (DBFM), Design Build Finance Operate (DBFO) and Design Build Finance Operate Maintain(DBFOM) PPP Models (Matti, 2013: 5). The Ugandan Government views the use of such PPP models as an important tool in its plan to bridge the infrastructure financing gap in the next five years.

The PPP Act, passed in 2015, provides methods for engagement of private partners in PPPs. It also regulates the responsibilities of government bodies during the implementation of PPP projects. To construct more roads and maintain the existing ones in Uganda, PPPs are now being designed as an option for meeting the funding gap through the use of private sector capital (Dentons, 2014: 1). Before embarking on the plan to use PPPs in the roads sector, Uganda has been financing the road sector projects through the traditional public procurement process using Uganda Road fund (URF) (Nite, 2013:4). The key institutions that are involved in the adoption of PPPs in the roads sector in Uganda are Ministry of Works and Transport (MOW&T), Uganda National Roads Authority (UNRA), Uganda Road Fund (URF) and Ministry of Finance, Planning and Economic Development (MOFPED) (Nite,

2003: 2). UNRA was established by an Act of Parliament in 2006 and has been the case for this study because it is the government statutory body responsible for constructing and maintaining all national roads in Uganda. The key stakeholders of UNRA involved in the use of PPPs in the roads sector include board of governors, senior managers, contracts committee, procurement and disposal unit, user departments, district officers and private firms they partner with to implement PPP projects (Dentons, 2014:7). Although Uganda is currently using contracting out model to construct and rehabilitate some national roads in different parts of the country such as Mukono Katosi road, it is planning to adopt the use of PPP models such as management contract for the Kampala-Entebbe expressway and the design-build-operate-transfer for Kampala-Jinja high way to implement more road sector projects (Tony, 2013: 8 &10).

For effective use of such PPPs in the roads sector in Uganda, there is need to understand the nature of the relationship that exists between government and private organisations to work together to deliver services to the citizens through use of principal-agency theory (Holland, 1984:1). This theory is based on the fact that the success of such PPPs in the roads sector in Uganda depends on the nature of the relationship between public partners (principal) and private partners (agent) (McQuaid, 2000:3). From these contextual assumptions of PPPs and how they can be influenced by the relationships between partners, it is possible to understand how the principal-agency theory applies to this study on the use of PPPs in the road sector in Uganda (McQuaid, 2000: 2).

While there are a number of studies on various PPPs being used by different countries (Jamali, 2004:5; Patrinos, Osorio, & Guaquet, 2009:3; Benon, 2011:7; Babatunde, Opawole & Akinsiku, 2012:10), exploratory studies focusing on the use and impact of PPPs on VFM in the roads sector in Uganda are limited. Moreover, no specific research has been done to specifically investigate whether the use of PPP models can help the country like Ugands to ensure VFM in the roads sector. For instance, according to the *New Vision* newspaper of 30th May 2016, since 2006, through use of contracting out model, 4 trillion Uganda Shillings have been

misappropriated by some UNRA staff through connivance with a few private partners during construction and maintenance of several roads in Uganda (*New Vision*, 2016: 27). Therefore, the existing information gaps and the UNRA stakeholders' concerns as to why Uganda is still using contracting out model instead of any other PPP models to ensure VFM in the road sector in Uganda deserve an in depth investigation (Cheung, Chan & Kajewski, 2012:4).

1.3 Problem Statement

Following the introduction of UNRA to manage all road construction and maintenance projects in Uganda, a policy was passed to use PPPs in the roads sector (MOFPED, 2010: 2, 4). Under this policy initiative, although Uganda has been using contracting out model, it is planning to use other PPP models such as management contract for Kampala-Entebbe express high way and design, build, operate and transfer to construct the Kampala-Jinja highway (Dentons, 2014: 1). To explore the use of such PPPs in the roads sector, there is need to understand the nature of the relationship that exists between public and private entities to work together to deliver services to the citizens through the use of the principal-agency theory (Holland, 1984:1).

This theory is based on the fact that the success of the PPPs in the roads sector in Uganda depends on the nature of the relationships between a public partner (principal) and a private partner (agent) (Jensen & Meckling, 1976:1). These partnerships are altering due to changing global economic patterns, government funding, economic structures, private sector interests and expectations of citizens in the developing countries like Uganda (Weaver & Dennert, 1987).

Despite the plan to use other PPP models in addition to the already existing contracting out model, such as the management contract for Kampala-Entebbe Express Highway and design-build-operate-transfer model for the Kampala-Jinja highway, the use of such PPPs is not fully being supported by key stakeholders (Abdul, et al., 2015: 1). Some do not support the plan to adopt such PPPs in the roads sector because they believe that since the use of such PPPs is a new experience in Uganda, UNRA is likely to fail to use the best suitable PPP models to ensure VFM in

the roads sector (Mutabazi, 2012:3, 4). Other stakeholders contend that there is need to first do a thorough feasibility study before using such PPPs in the roads sector to ascertain whether they can effectively ensure VFM (Dan, 2015: 1). This is because the current contracting out model being used in the roads sector has failed the country to realise VFM as a result of many reported flaws that are associated with it in constructing and maintaining road sector projects in Uganda (*New Vision*, 2016: 5). For instance, there are reported cases of alleged corruption among UNRA officials and its service providers, cancellation of road contracts, allegation of breach of procurement procedures, use of poor quality materials, cracks in the newly constructed roads, sub-standard roads and delayed construction and commissioning of roads in the on-going projects as has been the case with the contracting out model for Mukono-Katosi road (*New Vision*, 2016: 27).

These concerns led to restructuring of UNRA and the President of the Republic of Uganda instituted a Commission of Inquiry into alleged corruption, mismanagement and abuse of office at UNRA. The Commission noted that the 9 trillion Uganda Shillings that UNRA had so far spent using the contracting out model, would have been used to construct 5,147 km of roads but only 1,500km had been built. As a result, 4 trillion Uganda shillings that could have been used to construct an additional 3,647 km of roads was lost and so the commission reported that “it does not take a rocket scientist to realise that, the government and people of Uganda did not get VFM” (UNRA Commission of inquiry, 2016:237).

According to the Auditor General report (2010:2), over the last few years, the use of contracting out model by UNRA could have partly led to the cost of road construction in Uganda to go up from \$180,000 per km to about \$ 1,000,000; a cost most stakeholders in the roads sector in Uganda think is grossly exaggerated (Auditor General, 2010: 2). Some scholars such as Ndandiko (2006: 702) argue that the use of such PPP models in Uganda is good for increasing access to technical and financial resources. In a study on PPPs, Mutabazi (2012:3) argued that using such PPP models in the roads sector in Uganda has no negative effect on the quality of the road sector services provided. However, the study did not do an in-depth analysis

of the use of such PPP models to ensure VFM in the roads sector in Uganda and does not even ascertain whether Uganda is currently using the right PPP models to implement road construction and maintenance projects. This reveals some information gaps in the use of PPPs to ensure VFM in the road sector, and it also indicates that the use of such PPPs is less known in Uganda. In spite of this unfavourable environment for use of PPPs in the road sector, no research in Uganda has so far been undertaken to specifically explore the use of PPPs to ensure VFM in the road sector and whether Uganda is using the right PPP models to implement any road sector projects. This study, therefore, is intended to fill this gap so as to gain insight in the use of PPP models to ensure VFM in the implementation of road construction and maintenance projects in Uganda.

1.4 Research Questions

The main research question of this study was: How can PPPs be effectively used to ensure VFM in the roads sector in Uganda?

The specific research questions of this study were:

- (a) How do UNRA stakeholders perceive the concepts of PPPs and VFM in the roads sector?
- (b) What are the PPP models being used to ensure VFM in the roads sector?
- (c) What are factors influencing the use PPP models in the roads sector?
- (d) Which appropriate PPP model can be used to ensure VFM in the roads sector?

1.5 Objectives of the Study

The main objective of this study was to assess the use of PPPs to ensure VFM in the roads sector in Uganda.

The specific objectives of this study were:

- (a) To establish UNRA stakeholders' perception of the concepts of PPPs and VFM.
- (b) To examine the PPP models being used to ensure VFM in the roads sector in Uganda.

- (c) To discuss the factors influencing the use of PPPs in the roads sector in Uganda.
- (d) To develop an appropriate PPP model that can be used to ensure VFM in the roads sector in Uganda.

1.6 Area of study

Whereas the researcher conducted this study by focussing on assessing PPPs to ensure VFM in the roads sector in Uganda, the study was mainly conducted in Kampala, Mbale, Mbarara and Gulu districts where UNRA head and regional offices are located respectively.

Furthermore, the researcher has lived and worked in Kampala for the last 30 years in addition to working in Gulu, Mbale and Mbarara for the last 9 years where the head office and regional offices for UNRA are located respectively and hence he is accustomed to that environment and its politics as far as road construction and maintenance are concerned.

It is against this solid background that the researcher was able to easily mobilize the study respondents to participate in the survey since they were easy to access from such geographical settings on top of speaking the same English language by all participants, thus bridging the communication barrier.

1.7 Scope of the study

1.7.1 Content Scope

The researcher conducted this study by focusing mainly on assessing the use of PPPs to ensure VFM in the roads sector in Uganda. The researcher specifically focussed on the understanding of the concepts of PPPs and VFM by UNRA stakeholders, different PPP models being used to ensure VFM in the roads sector in Uganda, factors affecting such PPP models in the roads sector in Uganda and the appropriate PPP model suitable for use in ensuring VFM in the roads sector in Uganda. In doing so, the researcher tried to examine the use of PPPs to ensure VFM in terms of critically analyzing whether the PPP Projects being implemented in the roads sector in the roads sector in Uganda necessarily lead to VFM.

1.7.2 Geographical Scope

The study was conducted in UNRA Headquarters located at Nakawa Business park, Nakawa Division in Kampala District in addition to the four regional UNRA offices of Mbale in Eastern Uganda, Mbarara in Western Uganda and Gulu in Northern Uganda respectively. This case study was chosen because UNRA is the only government statutory body responsible for initiation, planning, designing, implementation, construction, maintenance, monitoring, evaluation, sustainability and overall management of all national roads in Uganda. Besides, this case study was chosen because it was accessible to the researcher and related very well with research problem under study by the researcher and his study participants.

1.7.3 Time Scope

The study focused on the time frame for 2015-2018 because this is the period when UNRA has been marred by a number of allegations of mismanagement into road infrastructure funds and corruption under contracting out model resulting into frequent reshuffles of the organizations' leadership and staff due to failure to fund, procure and implement road sector projects in a manner that ensures VFM.

1.8 Significance of the Study

This study is expected to make a significant contribution to the understanding of Uganda's experience in the use of PPPs in the roads sector. This will help to describe better the extent to which PPPs are impacting on the roads sector in Uganda. Furthermore, the knowledge generated in this study will contribute to the understanding of the concepts of PPPs and VFM in the road sector in Uganda (Jomo et al., 2016:3).

The study is also expected to identify factors affecting implementation of PPPs in the roads sector, thus contributing to the body of knowledge regarding the factors that can be based on for effective implementation of such PPPs. The choice of such factors will contribute towards the formulation of a best practice framework in the roads sector in Uganda (Davis, 2008:24).

This study is expected to contribute more knowledge for academicians who intend to carry out similar or related studies as far as experience of having a shift from conventional public procurement to using PPPs in the road sector is concerned. This will help to describe better the realities of how and to what extent one can shift from use of conventional public procurement to using PPPs in order to ensure more VFM in any sector of the economy.

Furthermore, the knowledge generated in this study will contribute to a better understanding how PPPs can be effectively, efficiently and economically used to ensure more VFM by any country globally and most importantly and especially when it comes to implementing road sector construction and rehabilitation projects.

The study will aid effective identification of the appropriate PPP models that can be used by both developing and developed countries to ensure more VFM especially in physical and social infrastructural development which will subsequently be translated into growth and development of their respective economies. In this regard, the study will contribute to the body of knowledge in regards to the appropriate PPP model that can be used in the roads sector in Uganda. Identification of the appropriate PPP model that can be used in the roads sector will contribute towards the formulation of a best practice framework in the road sector in Uganda.

It will also enable the identification of the right strategy for effective management and implementation of collaborative arrangements in the road sector in Uganda. Understanding of the different PPP models used in the road sector and how best they can be implemented will widen the scope of innovative approaches for successful road sector management and policy implementation in developing countries.

Thirdly, this study is expected to guide researchers that intend to adopt a mixed approach research design as they conduct their future studies on either PPPs or VFM. This is because the strengths of this study rests on the notion that it was based on a triangulation of qualitative and quantitative research designs. Neuman (2006:149) concurs that triangulation allows the research problem to be tackled from different viewpoints through both words and numbers.

Furthermore, this study is expected to enable future researchers, scholars and practitioners to universally understand PPPs in the roads sector in a much better way. In addition, since procurement efficiency of UNRA under contracting out model has not been good as earlier indicated in the statement of the problem especially with issues of corruption which has become a major concern for the government of Uganda, It is therefore expected that the findings of this study will help to provide remedies to problems affecting the procurement practices under contracting out model in any other organization through adoption of the PPPs to ensure VFM.

Likewise, this study will draw on lessons for managers and other stakeholders of road sector institutions characterized by budgetary constraints on how to successfully manage them through collaborative arrangements based on the right PPPs critical success factors frame work. Finally, the findings from this study will be used for further academic research and comparisons on global PPP policy debates in the road sector.

1.9 Delimitation and Limitation of the study

1.9.1 Delimitation of the study

This study was limited to only assessing the use of PPPs to ensure VFM in the roads sector in Uganda. The participants of the study were different stakeholders of UNRA. The data collection took place in the UNRA head and regional offices.

The reason for choosing this case study was that UNRA as a public agency with the mandate of managing all national roads in Uganda, has various stakeholder that have good knowledge and expertise for the implementation of the proposed PPPs in the roads sector. Therefore the study did not consider anything else outside the PPPs in the roads sector.

1.9.2 Limitation of the study

The study encountered a number of challenges which the researcher devised strategies to minimize them. The study did not aim at generalizing the findings considering that it targeted only few sample units to dig deeper into their experiences of the use of the contracting out model in the roads sector.

However the researcher came up with a good representative sample that was suitable for the study. The fact that the study was to be done on a very sensitive UNRA in which some participants could have had some political conflict of interest, some biased responses were expected.

There were also financial constraints regarding travelling costs to the Departments and Organizations of the key informants, stationery cost for printing 91 questionnaires and telephone costs incurred when arranging the interview dates. Secondly, the researcher did not manage to interview more than 35 participants because the data was saturated; therefore, only 91 participants took part in the questionnaire survey.

Also, the participants were reluctant to express their thoughts and opinions freely due to the nature of the politics in Uganda. In fact, some respondents did not fill in some parts of the questionnaires for different reasons. The researcher could not force them because it would have been a violation of social science ethics, hence when coding in excel, there were some spaces with missing data.

In addition, the majority of the respondents were too busy doing their office and field work, so they did not want to fill in the questionnaires and preferred that the researcher asked the questions; they answered and the researcher recorded these down. Last but not least, since this project lacked adequate funding, the data collection period was prolonged due to lack of enough finances to cover the expenses. In overcoming the above mentioned challenges, the researcher triangulated data from different sources.

Furthermore, unwillingness by some UNRA stakeholders to respond to some items in research instruments, poor documentation of records and missing data on some PPP issues were possible study limitations. However, the researcher assured respondents that the study was for academic purposes, and not for any other intentions.

On poor records and missing information, the researcher tried to use the available information to ensure the collection of reliable information for the study. The researcher went ahead to minimize travel cost by using the opportunity of travelling

with the UMI vehicle on some of the days it would be taking staff to the UMI upcountry centres of Gulu, Mbale and Mbarara.

The researcher asked the authorities of UNRA regional offices to conduct the interviews for all the respondents from each regional office on the same day to minimize time to go and meet the staff from the different the departments and directorates. Where interviews were conducted; the researcher used self-administered questionnaires; the researcher started doing field work earlier on the 1st of May 2018.

1.10 Central theoretical statement: Principal-agency theory

The theoretical framework for this study was derived from the principal-agency theory (Jensen & Meckling, 1976:1). The principal-agent theory emerged in the early 1970s from the integrated aspects of economics and institutional theory. The principal-agency theory tries to describe the relationship between two parties, where one is a principal in charge of a certain business and the other is an agent who represents the principal in transactions with a third party (Barry, 2006:1). Agency relationships exist when the principal employs the agent to do some tasks on his behalf.

Ross is believed to be the one that initially explained the dilemma of the principal-agency theory in terms of some one choosing a flavour of ice cream for another person whose tastes he does not understand (Barry, 2006:1). The main quoted reference to the principal-agent theory, however, comes from experts such as William Meckling and Michael Jensen (Barry, 2006:2). The theory even went beyond institutional and economic studies to different aspects of risk management or uncertainty analysis and information asymmetry. Agency theory contends that an organisation is made up of a nexus of contracts between the owners of economic resources (the principals) and managers (the agents) who are given the responsibility of using such resources to execute certain tasks in order to achieve the intended objectives (Jensen & Meckling, 1976:308).

The theory is based on the premise that agents are more informed than principals and that such information disequilibrium results in certain unethical practices which

negatively impacts the principals' capacity to effectively monitor and evaluate whether their interests are being well catered for by agents (Adams 1994:19). An agency, in general terms, is where there is relationship of two parties, in terms of one being the principal and the another one being an agent who is responsible for managing the business affairs or represents the principal by working with some other third parties.

It also believes that principals and agents act in a more rational manner through utilising the contracting process to optimise the business opportunities in terms of increasing wealth. Therefore in such a case, public resource managers tend to be agents who are entrusted with the responsibility of putting to use such resources by the governments who are principals. At the same time, the agents have to give accountability to their principals on how such resources are being utilised in terms of implementing certain projects and programmes to provide services to the public.

Therefore, principal-agency connectivity exists when the principals employ the agent to undertake a particular task of providing certain services on behalf the principals. Principals authorise their agents to make important decisions on their behalf. Since agents make such decisions with third parties that eventually affect the principal, agency problems are bound to occur (Jensen &Meckling, 1976:2). The theory is concerned with the contradicting purposes between the principal and agent in realising each of their specific objectives and is hinged on strategies aimed at getting facts about their potential customers, acquisition of goods, service and works or getting the right contractor. So, getting the agent to manage effectively and monitoring the potential of the agent to neutralise any related unethical practices have their foundation in the principal-agent theory (Rendon, 2009:1). The agency theory provides realities, which are relevant to this study on PPP contracts, and the management structures that are essential for influencing agents to do certain things that are in line with the expectation and specifications of the principal.

The theory gives systematic anticipations about how certain people can behave if positioned in an agency relationship. It should also be noted that the principal-agent relationship is normally exposed to a number of issues beyond the control of both agent and principal, which at times are PPP project environment related. This means

the different aspects to be covered in each of the contracts need to be widened far beyond what it means in the principal-agent relationship (Rendon, 2009:2).

In such a case, the principals are both the citizens and government officials such as executives of UNRA. This principal-agent relationship can actually impact decisions of public officials when using PPPs to ensure VFM in the roads sector in Uganda. From the agency theory perspective, the citizens of any government normally find it more tasking than shareholders of private entities to effectively monitor the work being done by public managers. This is because citizens of governments tend to be passive owners of resources compared to shareholders who are active owners of resources in any private company.

To manage the risk of loss of confidence that stems from a loose ownership control structure in the public management process, government may be more inclined to employ internal monitoring mechanisms to ensure effective implementation of PPP projects in the roads sector (Adams, 1994:20). The agency theory also encourages regulations and guidelines to ensure that business managers behave in line with what business owners expect (Hawley & Williams, 1996:31). Watts (1988:16) suggests that implementation of PPP projects in the roads sector is a bonding cost borne by agents to satisfy the principals' demands for accountability. Therefore, adoption and implementation of PPPs in the roads sector requires the principals to always monitor how such PPP projects are being managed by the private sector agencies.

This is because private officials who are agents may not look out for the specific interests of the citizens. As a monitoring mechanism, the principal must evaluate the effectiveness of risk management, control and governance as the agency is contracted by the principal to implement such PPPs on her behalf (Iossa & Martimort, 2015:2). In addition, the public sector principal should always make recommendations on improvement of the risk management, control and governance systems pertaining to PPP projects being implemented in the roads sector by the private sector agents. The task of the public sector principal should not stop at only making recommendations but they should also monitor whether the private sector agents are responding effectively to such recommendations.

The response could be either ensuring effective implementation of PPPs in the roads sector or the private sector may not accept responsibility for failure to adhere to the advice of the public sector principal (Javed et al., 2013:615). Agency theory, therefore, guides the principal to check whether the agent is effectively implementing the road sector PPP projects in line with agreed terms, conditions, parameters, specifications and standards. One of the objectives of this study is to establish the perception of UNRA stakeholders on the concept of PPPs and VFM (Van Den Hurk & Verhoest, 2016:275). Agency theory, therefore, can help to explain whether the concept of PPPs and VFM are clearly understood by both public sector and private sector stakeholders.

It can also explain whether the public sector stakeholders will be able to put to task the private sector stakeholders to ensure that they implement PPP projects in the roads sector in a manner that will maximise VFM in line with standards that are precisely understood by both parties. In addition, the principal agency theory suggests a variety of reasons why traditionally procured public infrastructure projects exhibit higher costs of construction in the roads sector compared to PPP projects (APMG, 2017:5). This is because in most cases the bundling of construction and operation contracts in a PPP gives the private partner greater incentives to make investments in the construction phase to lower subsequent operation and maintenance costs. Also, the transfer of the construction risk to the private partner should be explicitly priced in a PPP (Blanc, Hugh & Timo, 2006:2).

Scholars like Shankman (1999:332) suggests inclusion of other key stakeholders in a principal-agent relationship since they also play an important role in shaping the work of the agent to ensure that the principal's objectives are achieved in an efficient manner. It is not surprising that some developing countries such as Uganda have embarked on the use of PPP models that appreciate the role of other private players in the provision of road sector services. Principally, innovative PPPs are coming up in most developing countries as a result of limited investment, expertise and other resources in public sector. The main phenomenon in any PPP model is that a central government that is the principal usually makes a long-term agreement with a private

service provider for the delivery of some products and services. Generally, the private sector takes responsibility for building infrastructure, financing the investment, then managing and maintaining the constructed facility (Iossa & Martimort, 2015:5). Such engagement of the agents in PPPs is part of a mechanism for improving productivity and driving effectiveness, efficiency and economy in the roads sectors by the principals worldwide (Farquharson & Yescombe, 2011:14).

Thus, in the context of UNRA, the principal-agency theory argues that to be effective, UNRA as the principal needs to work well with private partners who are the agents (Poulton & Macartney, 2012:97). The theory, therefore, can be used by UNRA to explore the challenges of agency problems in contract arrangements it has with few private entities in the implementation of some PPP projects. The principal-agency theory is a model where the principal delegates tasks to the agent (Babayan & Kadlečíková, 2016:315; Roach, 2016:29) which Hlavacek and Hlavacek (2006:18) refer to as a principal striking a bargain with an agent.

This culminates into an agency relationship where an agent acts for or as a representative of the principal (Babayan & Kadlečíková, 2016:316; Shankman, 1999:321; Turner, 2004:75; Muller & Turner, 2005:398). In this study, UNRA is the principal representing the public sector and any private company that UNRA partners with in implementing PPP projects in the roads sector is the agent. UNRA should endeavour to choose an agent who has the competencies to undertake the task which the principal may not have (Saam, 2007:824; Poulton & Macartney, 2012:99).

1.11 Research Methodology

Research methods are the various procedures, schemes and algorithms used to scientifically and systematically gain knowledge in order to solve a particular research problem (Rajasekar, Philominathan & Chinnathambi, 2013:5). The research study used quantitative and qualitative approaches targeting stakeholders involved in the adoption of the PPPs in the roads sector. In this study, the researcher used both qualitative and quantitative research approach because the study sought to

understand a given research problem from the perspectives of the different UNRA stakeholders in the use of PPPs to ensure VFM in the roads sector in Uganda.

In this a case, the researcher used mixed methods because the researcher intended to analyse different perceptions, experiences and knowledge of the various UNRA stakeholders as far as the concepts of PPPs and VFM, different PPP models used in the roads sector in Uganda and the factors influencing such PPP models are concerned. So some qualitative data was needed to build on qualitative data and widen the scope of understanding of UNRA's perception on the use of PPPs to ensure VFM in the roads sector in Uganda.

1.11.1 Literature Review

A review of literature was undertaken to analyse the role of PPPs in ensuring VFM in the roads sector in Uganda. Literature review is a thorough assessment of secondary information such as published peer reviewed articles that are usually available for use when conducting any research study (Sarantakos, 2013:151).

In this case, the study embarked on reviewing secondary sources such as online materials, peer reviewed articles, reports, print media, policy and acts' documents pertaining to PPPs in the roads sector. The on line materials included; databases such Emerald Insight. Search engines such as Yahoo and Google to access journals on PPPs in the roads sector were also used by the researcher.

Various websites of different agencies on funding of PPP projects in the road sector such as African Development Bank (ADB) were also visited by the researcher. On peer reviewed articles, the researcher obtained publications and scholarly articles from institutions such as those of PPP Unit (PPPU) in the MOFPED to get an update PPPs in the roads sector.

On reports the researcher reviewed various monthly, quarterly and annual reports published by the various institutions that are associated with PPPs in the roads sector

such Asian Development Bank. On print media, the researcher reviewed the information related to PPPs in the road sector from the text books, circulars, periodicals, readers' digests, magazines and newspaper articles.

1.11.2 Research Design

Kerlinger (1986:279) as cited in Kumar (2011:94) defines a research design as a plan, structure and strategy of investigation to obtain answers to research questions or problem. This study used a mixed methods approach of quantitative approaches using the cross-sectional survey design followed by qualitative approaches under a case study and exploratory designs (Pansiri, 2005:5).

This research design involved a procedure for collecting and analysing data using both quantitative and qualitative research methods in a single study to understand a research problem at hand (Cresswell, 2012:10). A combination of the quantitative and qualitative approaches within the same study was taken as complementary since the aim of the study was to assess PPPs in the roads sector (Creswell, 2003:7; Maxcy, 2003:9).

The data, themes and results from the second qualitative phase of the study explained and confirmed the findings and emerging issues that were realised from the first quantitative phase of the study. Integration of two methods was done in the interpretation stage in which qualitative results built on the quantitative ones (Creswell & Plano Clark, 2011:8).

Contextually, the reason for use of mixed methods design was intended to explore UNRA stakeholders' perception on the concepts of PPPs and VFM, and to find out different PPP models being used by UNRA to ensure VFM in the roads sector. The study also assessed the factors affecting such PPP model and eventually the researcher based on both quantitative and qualitative findings to develop an appropriate PPP model that can be used by UNRA or any other agency to ensure more VFM in the roads sector. This was aimed at getting deeper understanding of the operationalisation of the concepts PPPs and VFM in the roads sector.

1.11.3 Study population

Population is the total number of objects or elements in a particular group being investigated and from which a specific sample can be picked (Sekaran, 2003:265). The total unique constituent members for both quantitative part and qualitative part of this study were the 135 key stakeholders of UNRA that were involved in the use of PPP models to implement different projects in the roads sector in Uganda at national and local levels. For the quantitative part of the study, the targeted population was 100 key stakeholders of UNRA comprising 5 senior managers, 5 contracts committee members, 10 staff of the procurement and disposal unit, 60 staff from the user departments and 20 District officers.

For the qualitative part of the study, the targeted population was 35 UNRA stakeholders comprising of senior managers of UNRA and 5 private partners. This is because some research experts recommend that the number of participants for a qualitative study should be between 5 to 50 people (Shari, 2012: 1319, 1320). These UNRA stakeholders were purposively selected because they are the ones that were involved in the use of the PPP models in the roads sector in Uganda. They had the right knowledge and skills pertaining to the use of PPP models in the roads sector. Indeed, they were the most suitable respondents that could provide the necessary information required by the researcher (Creswell, 2014:16).

1.11.4 Sample size and techniques

De Vos et al (2011:10) define a sample as a small portion of the total set of object, events or persons who comprise the focus of the study. In this study, the sample was divided into two groups; the first had 91 participants for the surveyed group, and the second group had 35 participants that participated in the interviews.

Systematic and simple random sampling techniques for the surveyed group, while purposive and snow ball sampling techniques for participants that were interviewed were used in selecting the target population. The study used probabilistic and non-probabilistic sampling techniques and discussed below:

1.11.4.1 Probabilistic Sampling Techniques

From the existing probabilistic sampling techniques, simple random sampling and systematic random sampling were employed

1.11.4.1.1 Simple random sampling

For quantitative part of the study, the researcher used a simple random sampling technique in which each individual from any category of a given target study population had an equal chance of being selected. This was appropriate for the study in which the objective was to collect quantitative data to generalise findings from the survey sample of the population (Creswell, 2014:20). Simple random sampling was used to select the technical staff from the user departments of UNRA to participate in the study. This technique was chosen because the category of the technical staff had a large population size and as such warranted simple random sampling to minimise sampling bias (Mugenda & Mugenda, 2003:17).

1.11.4.1.2 Systematic random sampling

Systematic random sampling is defined as a method that adopts a simple random sampling at the beginning in order to establish a sampling interval that will create “a quasi-random selection method” (Neuman, 2014:258). The researcher first applied a simple random sample in selecting the first respondent and then the rest were chosen through using sampling interval (Neuman, 2014: 258).

In this study, the researcher selected the first respondent, and the remaining 90 were selected after counting every 5th person in the population of UNRA staff using Krejcie and Morgan Table as shown below. The researcher chose this sampling technique to ensure that every UNRA stakeholder had an equal opportunity of being selected. Furthermore, respondents who operated in the same area tended to influence each other when filling out questionnaires, hence using systematic sampling paved a distance between one respondent to the other. Since the targeted population for the quantitative part of the study was 100, a sample size of 91 respondents was targeted and issued with a structured questionnaire that had closed-ended questions which

they completed, although only 60 questionnaires were returned to the researcher (Morgan & Krejcie, 1970: 2)

1.11.4.2 Non-probabilistic Sampling Techniques

From the existing non-probabilistic sampling techniques, purposive sampling and snow ball sampling were employed to select senior management of UNRA who were targeted due to their perceived knowledge of PPPs they use in the roads sector. This technique was employed following the postulate that if sampling had to be done from smaller groups of key informants, there was need to collect very informative data, and thus the researcher needed to select the sample purposively at one's own discretion (Sekaran, 2003:9).

1.11.4.2 .1 Purposive sampling

Purposive sampling is defined as a process where individuals are chosen to be part of the study based on their ability to have vast information in answering research questions (Teddlie & Yu, 2007:77). For this study, the researcher selected participants who were experts in the area of PPPs in the roads sector from the PPP unit.

The researcher chose purposive sampling because he needed to understand the perceptions of UNRA stakeholders on the concepts of PPP and VFM, the PPP models UNRA uses to ensure VFM in the roads sector and the factors affecting the use such PPP models in the roads sector (Saunders et al., 1997:145; Yazan, 2015:141).

Altogether, 20 senior managers and 10 staff of the PPP unit were purposively selected due to their background knowledge, skills, responsibility and stake they had in the different PPP models being designed to implement various projects in the roads sector in Uganda, their willingness to participate in the study, their ability to address the research questions and fully describe the phenomenon being studied were very critical that made them to be targeted for all interviews that were conducted during the study (Ritchie & Lewis, 2003:79). So each UNRA stakeholder was purposely identified and interviewed.

1.11.4.2 .2 Snowball sampling

Snowball sampling is a strategy, which consists of identifying respondents who are then used to refer a researcher to other respondents (Atkinson & Flint, 2001:1). This method was used to identify the UNRA stakeholders that could lead the researcher to the actual respondents with the right information concerning some critical technical aspects about the PPPs being used in the roads sector in Uganda (Saunders et al., 1997:147). The researcher traced such UNRA stakeholders with guidance from the UNRA district officials and then asked the identified stakeholders to pinpoint other members who were also directly involved in the implementation of PPP projects (Atkinson & Flint, 2001:2).

Trust was, therefore, developed as acquaintances or peers made referrals. A total of 4 respondents from different UNRA regional offices were selected for the study using snow ball sampling technique (Berg, 2001:33; Kothari, 2004:59). Only regions where UNRA is implementing PPP projects were considered for the study. Furthermore, snowball sampling was also used to get more in depth qualitative data from 1 staff of UNRA's private partner when he referred the researcher to other experts with direct knowledge, expertise and authority in providing useful information pertaining to how they are working with UNRA to implement a certain PPP model in the roads sector in Uganda. This enhanced completeness of information gathered and credibility of interpretations generated (Tashakkori, Onwuegbuzie & Teddlie, 2008).

1.11.5 Data collection techniques

During the study, the research questions were answered using a combination of secondary and primary data (Saunders, Lewis, & Thorn hill, 1997:12). The quantitative part of the study used questionnaires to collect data for generalisation and credibility of study findings. The qualitative part of the study used in-depth interviews to collect data for deeper understanding of PPPs in the road sector in Uganda. While, documents review was used to get secondary data during review of related literature about key aspects pertaining to PPPs and VFM in the roads sector generally. All the tools were developed with guidance from Yin's (1984:15) principles

of designing tools. The following were the data collection techniques and instruments used in the study.

1.11.5.1 Quantitative data collection techniques

Quantitative data was collected from a relatively larger sample of 91 stakeholders using a structured questionnaire with closed-ended questions (Johnson & Onwuegbuzie, 2004:17; Creswell, 2014:21). The following techniques were used in the quantitative data collection.

1.11.4.1.1 Questionnaire Survey

Leedy and Ormrod (2013:189) define survey research as a method of soliciting information about people, their experiences, attitudes, behaviour and beliefs by asking them different questions and tabulating their responses. In this study, a semi-structured questionnaire with mainly close-ended questions was used to collect quantitative data. A large part of the questionnaire had a five-point Likert scale based on research questions, which respondents rated according to their responses (Neuman, 2014: 317).

A questionnaire survey method was suitable for this study because the researcher needed to solicit more information on the effect of environmental, organisational and personal factors on PPP models being used in the roads sector from a large population of 91 respondents. This allowed the researcher to conceptualise the PPPs and VFM holistically from different perspectives.

The variables were also developed from the literature on the PPP models being used and factors affecting such PPP models in the roads sector. These were piloted to some purposively selected participants who did not participate in main study, mainly from postgraduate students of Public Administration from UMI. In addition, some questions seeking demographical information were asked to determine the involvement, distribution and roles of the UNRA stakeholders with regard to implementation of the PPP models in the roads sector in Uganda. The main advantage of using a semi-structured questionnaire by the researcher was that the

study participants' response rate was high as the questionnaire offered anonymity (Kumar, 2011:20).

The questionnaires were sent in advance by the researcher to the participants in order for them to prepare. The questionnaires used for quantitative approach in this study were based on a strong theoretical framework (Mack et al., 2011:3). The semi-structured questionnaire for this study consisted of open and close-ended questions. These were sub-divided into four sections as follows:

- (a) Section 1 covered questions on general information of respondents.
- (b) Section 2 covered questions on stakeholders' perceptions on the concept of PPPs and VFM.
- (c) Section 3 dealt with questions on PPP models being used by UNRA in the roads sector.
- (d) Section 4 covered questions on factors affecting PPP models used by UNRA.

1.11.5.2 Qualitative data collection techniques

In qualitative study, in-depth interviews and documents review were used to collect data on respondents' experiences and perceptions for deeper understanding of the phenomenon (Joubish, Kharram, Ahmed, Fatima & Haider, and 2011:15). The following techniques and instruments were used.

1.11.5.2.1 Interviewing techniques and guide

Burns (1997:329) as cited in Kumar (2011:144) elaborated that an interview is a verbal communication, which is conducted through face-to-face or over a telephone in which the interviewer seeks to elicit information from the interviewee. The qualitative data collection approach used in this study was a semi-structured interview. Face-to-face interviews were conducted with key informants such as the senior managers of UNRA, staff from the UNRA PPP Unit and UNRA regional offices. The researcher conducted face-to-face in-depth interviews using unstructured and open-ended interview questions to key UNRA stakeholders especially to get their perception of the concepts of PPPs and VFM, different PPP models being used by UNRA to ensure VFM in the roads sector and factors affecting such PPPs in the road sector, to yield adequate narrative data that could best inform the study.

In this case the interviewer had opportunity of freedom to ask for additional, non-planned questions according to the responses of the participants (Lessa de Oliveira, 1982: 12-13). The researcher made sure that the interviews conducted were systematic, credible, and transparent which enabled the study participants to reproduce the obtained expected results (Patton & Cochran, 2002:11).

The respondents were contacted first by email and then by phone calls. People from different regions, departments and offices of UNRA were contacted and interviewed. Interviews were tape-recorded where necessary and whenever it was possible. However, the researcher also took notes, with the tape allowing verification of what had been said, and to complete notes afterwards. Most the participants interviewed were from the UNRA PPP Unit that provided the researcher with all the information pertaining to the PPPs in the roads sector (Sobuza, 2010:71).

Most questions focused on some key constructs and issues like how they perceived the concepts of PPPs and VFM, PPP models being used to ensure VFM in the roads sector and factors affecting such PPP models. Questions were formulated from the emerging issues identified from quantitative analysis for in-depth analysis of the phenomenon under the study. The semi-structured interview guide consisted of 48

questions, which were open-ended (Stake, 2010:95). It was sub-divided into 4 sections:

(a) Section A: Interview questions on stakeholders' perceptions on concept of PPPs & VFM.

(b) Section B: Interview questions on PPP models being used by UNRA in the roads sector.

(c) Section C: Interview questions factors affecting PPP models used by UNRA.

The disadvantage of using an interview guide was that it was expensive because the researcher incurred telephone and travel costs in arranging the different meetings with interviewees (De Vos, 2005:12). In overcoming the challenge above, the researcher used the opportunity of travelling with the UMI vehicle on some of the days it would be taking staff to the UMI upcountry centres of Gulu, Mbale and Mbarara, to collect data from UNRA regional staff (Kumar 2011:19).

1.11.5.2.2 Documents review and check list

Documents analysis involves a review of relevant documents, which contain already existing information related to the proposed study (Saunders et al., 1997:158). This method of collecting secondary data was used to corroborate data collected from other sources. The researcher used a document review checklist to critically examine the literature on key issues pertaining to the concepts of PPPs and VFM, different PPP models being used to ensure VFM in the roads sector and factors affecting such PPPs in road sector in order to get some relevant and complementary secondary data to partly answer the research questions and achieve some study objectives at hand.

In order to assure the quality of data, the researcher ensured that he did a thorough study of literature. In the preceding chapters of 2, after an in depth review of literature, concepts on PPPs and VFM, different PPP models being used to ensure VFM in the roads sector and factors affecting such PPP models were identified and critically analysed from peer reviewed journey articles and different documents pertaining to PPPs and VFM in the roads sector (Robson, 2002:273; Rotter & Özbek, 2010:12-

14).The review captured all the relevant information from scholarly and practitioner writing that answered the key research questions.

Guided by a document review checklist, the researcher reviewed diverse project reports, academic journals and policy documents. However, a critical review of literature reveals that most of the existing information identified provided a generic overview of the above issues. The review supported the development of the conceptual framework by guiding an inquiry into the appropriate theory, the concepts of PPPs and VFM, PPP models and factors affecting such PPP models (Saunders et al., 1997:158). It was based on this background that the study derived themes, which included the concepts of PPPs and VFM, different PPP models and factors affecting such PPP models (Saunders et al., 1997:159).

1.11.6 Validity and Reliability of Data

Valid and reliable of qualitative and quantitative data contributed to the mixed methods that the researcher used in the study (Creswell, 2014:21). Reliability and validity are applied in scientific studies to measure the trustworthiness of research findings (Leedy & Ormrod 2013:90).

1.11.6.1 Validity

Validity refers to the extent to which the empirical measure adequately reflects the real meaning of the concept under consideration (Babbie, 1990: 133). In quantitative research, validity refers to whether one can draw meaningful and useful inferences from scores on the research instruments (Creswell, 2014:20). For the purpose of this study, external validity was applied.

External validity refers to the “extent to which its results apply to situations beyond the study itself” (Leedy & Ormrod 2010:98). The researcher used multi-method approach which falls under external validity to test for trustworthiness of quantitative data. In this study, a mixed method approach of qualitative and quantitative techniques ensured that the research problem is holistically scrutinised (Creswell, 2007: 19).

1.11.6.1.1 Validity for quantitative research

In quantitative research, external validity is all about generalisability of findings. It can also be in form of content, predictive and construct validity. In the quantitative phase of this study, validity was enhanced by triangulating data sources or use of multiple information sources of data, use of different data collection methods and instruments, and corroboration of QUAN results with QUAL findings (Teddlie & Tashakkori, 2009:13). The validity of the questionnaires was established using the content validity test. Using the ratings, the content validity indices were computed. The content validity index of internal consistency was used to compute the reliability of the measures of the variables of the study using various questionnaire items administered to respondents (Kothari, 1990:18)

1.11.6.1.2 Validity for qualitative research

In qualitative research, validity refers to data credibility in terms of whether the research findings are credible interpretations of participants' responses and data transferability regarding whether the research findings can also apply to others situations outside the study.

In the qualitative phase of this study, validity was ensured through number checking, triangulation by using multiple independent sources of data and methods of probing in data collection like in-depth interviews and document review with key informants. The researcher had prolonged time with participants in the field, which built trust that formed the basis for eliciting rich and valid data on the study (Kumar, 1996: 141).

1.11.6.2 Reliability

Reliability refers to the extent to which a measurement scale is dependable, consistent, predictable and stable (Kumar, 1996: 142).

1.11.6.2.1 Reliability for quantitative research

Sekaran (2003:122) defined reliability as the degree of consistency that the instrument demonstrates at different points in time. In the quantitative phase of this study, the researcher ensured reliability by consulting experts on research tools and contents, reviewing, testing and pre-testing instruments like questionnaires before and during the pilot survey. The researcher also used the SPSS computer software to test the reliability of the instruments using Cronbach's alpha test (Amin, 2005:31).

The researcher allowed two statisticians to run the same results in order to ascertain the trustworthiness of the findings. After pilot testing in the field, reliability of the instrument on multi-item variables was tested via the Cronbach Alpha Method provided by SPSS (Foster, 1998:17). The researcher established reliability of the questionnaires by computing the alpha coefficient of the items (questions) that constituted the different variable

1.11.6.2.2 Reliability for qualitative research

In qualitative research, reliability is the consistency, dependability and stability of data on given constructs under investigation. In the qualitative phase of this study, the researcher ensured reliability by using good quality instruments for capturing responses like tapes for recording, transcribing, coding and integration of data collected and analysed, thick description and formulation of interpretation, constant comparison and cross-checking of transcripts and codes for consistent results (Creswell, 2014:24).

1.11.7 Data Analysis Strategy

In this mixed methods design, integration of two methods was done in the interpretation stage in which qualitative results built upon the quantitative results. The qualitative findings not only built on quantitative findings but also validated the quantitative results after analysis to increase credibility, consistency and generalisability of final results for deep and broad interpretation and understanding of the phenomenon under investigation (Ashatu, 2009:7; Creswell, 2013:4).

The initial quantitative findings in form of descriptive statistics for PPPs and VFM contributed to measurements with regard to stakeholder perceptions on the concepts of PPPs and VFM, PPP models being used in the roads sector and factors affecting such PPP models on which the next qualitative phase was based (Hsieh & Shannon, 2005:4; Schutt, 2011:322). The qualitative results helped the researcher to corroborate quantitative findings on emerging issues and built on them to explain the different PPP models being used by UNRA to ensure VFM and the factors affecting such PPP models used in the roads sector from the UNRA stakeholders' perceptions (Creswell & Plano Clark, 2011:25)

1.11.7.1 Quantitative data analysis

The quantitative data collected in first phase was organized, categorized, coded on excel package and transformed into relevant values and analyzed using Statistical Packages for Social Sciences (SPSS) software. The research was assisted by a data analyst from the department of Information Technology of Makerere Business School in entering and running data on Statistic Package for the Social Sciences (SPSS) software. The SPSS package provided the means for testing the statistical implications of contingency table (Bailey, 2001:17).

Descriptive statistics were used to analyze data to address quantitative research questions and bring out clearly and precisely the perception of UNRA stakeholders on the concepts of PPPs and VFM, different PPP models used to ensure VFM in the roads sector in Uganda and the factors affecting such PPP modes in the roads sector in Uganda. There such quantitative data was first coded on excel package. In such a case, the collected raw quantitative data was organised, edited and entered into the computer by the researcher using SPSS.

Then the researcher computed the entered data using bivariate analysis with the help of descriptive statistical techniques to find out the mean, mode, median, standard deviation, range, frequency distribution and coefficient of variance as far as the responses from study participants on UNRA stakeholders on the concepts of PPPs and VFM, different PPP models used to ensure VFM in the roads sector in Uganda

and the factors affecting such PPP modes in the roads sector in Uganda were concerned.

The researcher also used inferential statistics and did a bivariate analysis using correlation analysis techniques of spearman's rank correlation coefficient, Kendal's rank correlation coefficient and product moment correlation coefficient to find out the different patterns and relations regarding different PPP models, challenges of PPPs, critical success factors of PPPs and appropriate PPP model to be used by UNRA in the roads sector. Other bivariate analysis techniques the researcher used are chi square, t test and anova.

Therefore the statistical study of the data was done based on the responses from 62 study participants that were the only ones that were obtained and were appropriate for such a quantitative study because such an analysis was necessary in the framework of this study. This is because, while 91 questionnaires were sent in advance by the researcher to the participants in order for them to prepare, only 62 responses were obtained. The questionnaire used by the researcher for quantitative approach in this study was based on a strong theoretical framework (Mack et al., 2011:3).

Details of finding from quantitative data analysis are given the proceeding chapter of presentation of research results. The results of quantitative data were presented in forms of tables, bar graphs and pie charts. The percentages attached to the tables, bar graphs and pie charts formed the principal basis of comparison amongst the variables that were analyzed. The researcher analysed the quantitative data to find out which PPPs projects are mostly being used to ensure VFM in the roads sector in Uganda.

The data analysed as far as the perception of UNRA stakeholders on the concepts of PPPs and VFM, different PPP models used to ensure VFM in the roads sector in Uganda and the factors affecting such PPP modes in the roads sector in Uganda were concerned was presented and discussed according to the nomenclature presented in the proceeding chapters of 4 & 5. As the researcher was analysing data,

he was able to observe certain patterns that were compared with the ones identified in chapter 2 in terms of the perception of UNRA stakeholders on the concepts of PPPs and VFM, different PPP models used to ensure VFM in the roads sector in Uganda and the factors affecting such PPP modes in the roads sector in Uganda.

The researcher then determined the extent to stakeholders of UNRA theoretically and conceptually understood the the concept of PPPs and VFM, different PPP models used to ensure VFM in the roads sector in Uganda and the factors affecting such PPP modes in the roads sector in Ugandain the roads sector in Uganda. The researcher went ahead to compare the identified patterns and relationships of the perception of UNRA stakeholders on the concepts of PPPs and VFM, different PPP models used to ensure VFM in the roads sector in Uganda and the factors affecting such PPP modes in the roads sector in Uganda.

As he compared the identified patterns and relationships, he took into account experts' opinions in line with the literature reviewed on the the perception of UNRA stakeholders on the concepts of PPPs and VFM, different PPP models used to ensure VFM in the roads sector in Uganda and the factors affecting such PPP modes in the roads sector in Uganda. The quantitative aspect of this analysis helped the researcher determine whether UNRA applys best practices when using different PPP models to ensure VFM in the roads sector. Therefore, the researcher looked at the value of the different PPP projects in financial terms, in order to determine their relevance as far as ensuring VFM in the roads sector in Uganda is concerned.

In this case the researcher ensured that the PPPs being used were sorted by money value, based on the data from two studies: Jooste (2011:6) for the PPPs being designed by the UNRA PPP Unit and Nyagwachi (2008:10) for the PPP toll roads of Kampala-Jinja express high way under design, build, operate model and transfer and Kampala-Entebbe Express high way under management contract model. The research questions of this study formed the major headings where and quantitative finding were presented.

The research questions were used to guide the presentation of the findings in a clearer and understandable manner because they sought to answer the research problem of the study (De Vos, 2005:13). From the aforementioned studies, no database could be set up for each identified criteria in the success or failure of PPPs in the roads sector in Uganda, since these considerations depended to a great extent on the perspectives, i.e. UNRA stakeholders' viewpoints. As the results showed, regarding certain research questions, results varied strongly between the different participants.

1.11.7.2 Qualitative data analysis

After collecting data through interviews, the researcher sorted, analysed and presented the findings. Statements by UNRA experts were logically presented in narrative form. Other statements considered of high importance were also mentioned in the text and results were then interpreted and discussed in line with the reviewed literature (Schutt, 2011:326). Qualitative data was transcribed, sorted, edited, classified and coded into suitable categories. These formed core themes in the study (Braun & Clarke (2006:6). This led to the interpretive phase, which was the heart of qualitative data analysis (Creswell, 2007). After data recording and storage, the researcher edited data for completeness, accuracy, and comprehensibility before final data analysis (Braun & Clarke, 2006:4).

The researcher interpreted information with its corresponding results by assigning meaning to the figures, observations, opinions and perceptions of the UNRA stakeholders (Lofland, 1971: 13). Data was then condensed into memos to ease coding and later analysed (Creswell, 2013:184). The researcher did data coding to assign numerical values to various responses (Mathew & Michale, 1994:45). Some data that was not useful was discarded.

After coding, the researcher then embarked on the task of analysing data. Data analysis was guided by the research objectives, which identified domains and topics that had been investigated (David, 2006:1). The researcher tried to follow any new leads or perspectives, which were not anticipated during interviews with different

respondents. The researcher probed into more detailed aspects of the research, which he deemed necessary. The researcher then formulated themes and the code categories by assigning either a letter code or a figure code to each category (Braun & Clarke, 2006:5).

The researcher interpreted qualitative data by composing explanations or descriptions from the information coded and arranged (Ritchie & Lewis, 2003:319). Finally, the researcher analysed qualitative data such as stories, answers to open questions or observation of behaviour with a good understanding of the situation, but also with an open mind to minimise professional and personal bias. After all the above were done, the researcher tried to look for key words or issues in order to structure and organise the information for comparison.

The researcher then clustered answers around such key words or issues and looked for patterns and any relationships before disseminating findings (Ritchie et al., 2003:333; Ritchie & Lewis, 2003:319). Since qualitative data complemented the quantitative data, findings were presented as direct quotations from the participants. The research questions of this study formed the major headings where quantitative findings were presented. The research questions were used to guide the presentation of the findings in a clearer and understandable manner because they sought to answer the research problem of the study (De Vos, 2005:14).

The results from this qualitative data analysis were majorly used to develop an appropriate PPP model that can be used in the roads sector. At the end of it all, the researcher tried to make overall conclusions as well as identifying areas for further research. The study made recommendations in line with gaps identified on key aspects of PPPs and VFM in the roads sector in Uganda. In doing all these, the researcher made sure that generalisations had to be made carefully in a qualitative study, because of the bias that could emerge from interviews held with different UNRA respondents. Finally the qualitative results were

1.12 Ethical Considerations

According to De Vos (2005:7), ethics are a set of moral principles, that are widely accepted because they offer rules and behavioural expectations about the most acceptable conduct towards the subjects. The researcher conducted the study based on the North West University (NWU) ethical standards. The researcher first sought for research ethical clearance letter from NWU before any familiarisation visits to the study sites to identify contact persons, key informants and appropriate stakeholders to participate in the study.

The researcher ensured that he acquired the gateman's letter from UNRA to allow him conduct his study with them, which he presented to the NWU as he was applying for ethical clearance and eventually was given ethics approval to commence with his field study. The researcher sought for ethical clearance from Gulu Research Ethics Committee which was granted and registered the study with the Uganda National Council for Science and Technology.

In line with suggestions by Sekaran (2003:20), the researcher addressed issues of informed consent and voluntary participation, reasons for being chosen to participate, provision of all information on study purpose, consent forms and covering letter, permission for access to the study sites and documents for the study, discussion of any possible benefits and risks associated with participation in the study, openness and honesty.

The researcher undertook the study with a high level of honesty and integrity. The researcher ensured that only findings, which were usable and relevant, were documented. The researcher recruited research assistants to assist in the data collection process. The researcher administered interviews and questionnaires to the respondents in socially acceptable venues, which also guaranteed confidentiality during the interactions.

To build trust and confidence among the respondents, the researcher treated the rights, dignity, privacy and anonymity of participants, together with any personal

information offered for this study in line with the perceptions they had on the concept of PPPs and VFM. The researcher ensured that he used only codes to conceal the identities of the respondents, and the researcher did not use the information volunteered for anything else rather than for purposes of the research study.

The researcher briefed the participants on matters of confidentiality and their right to withdraw their participation at any time if they felt that ethical principles were not being observed during the study. The participants were informed about the use of recording instruments for their consent prior to their use.

The researcher ensured that the recorded information was not used for any other purpose other than for the study. The researcher ensured that effective monitoring and supervision of the entire research process was well undertaken to ensure that there was no harm associated directly or indirectly with the research exercise. In terms of data storage, the researcher ensured that the study data sets were placed in encrypted digital form and stored on a cloud platform. The researcher made sure that the cloud platform was well protected so that it could only be accessible online by him and his supervisor through use of a login account and password.

The researcher also ensured that he cited the source of every statement when writing the research proposal and dissertation to avoid the risk of plagiarism. In the process of getting the answers to the questions, the researcher ensured that personal biases were minimised by using various research instruments from a representative sample. The researcher ensured that he reduced personal opinion in data collection and analysis by trying to be neutral. To ensure reliability in qualitative data, the researcher made sure that the data was critically examined (Golafshani, 2003:11).

In addition to trustworthiness, the researcher upheld ethical research standards. Specifically, the ethical principles observed in this study were voluntary participation, informed consent, confidentiality, avoidance of harm and honesty. The subjects who took part in this study were informed about these ethical principles. They signed informed consent forms to show that they had understood the nature of the study and were willing to participate voluntarily.

1.13 Chapter Outline

This study comprised the following chapters:

Chapter 1: Introduction

This chapter focused on the background, problem statement, research objectives, significance and limitation of the study, theoretical framework, research methods, ethical considerations and chapter classification.

Chapter 2: Literature review on PPPs

This chapter focused on the review of scholarly literature on PPPs and the principal-agent theory used in the study from available secondary sources in relation to the research problem, research questions and research objectives

Chapter 3: Research methodology of PPPs in the road sector

This chapter focused on details of research paradigm, research design, study population, sampling, data collection and data analysis methods and techniques, in addition to ethical considerations used during the study.

Chapter 4: Data analysis, interpretation and presentation of findings

This chapter focused on data analysis, interpretation and presentation of results in line with the research problem, research questions and research objectives.

Chapter 5: Discussion of findings on the PPPs in the roads sector

This chapter focused on discussion of study findings based on review of literature on concepts of PPP and VFM, PPP models and factors affecting PPPs in the roads sector in Uganda.

Chapter 6: Appropriate PPP model that can be used in the roads sector

This chapter focused on discussing and developing an appropriate PPP model based on already existing theories and mainly qualitative study findings that can be used to ensure VFM in road sector in Uganda.

Chapter 7: Conclusions and recommendations on PPPs in the roads sector

This section focused on making a summary of the study findings and recommendations to cover a number of gaps identified from the study findings.

1.14 Chapter summary

This chapter described the introduction and background of the study in terms of the concepts of PPPs and VFM. It looked at the research problem in terms of the concerns of the different stakeholders on the failure of UNRA to ensure VFM when using PPPs in the roads sector. Research questions and objectives that focused mainly on the assessment of PPPs in ensuring VFM in the roads sector have been formulated to deal with the research problem. Secondly, the chapter looked at the significance of the study in order to give the rationale for undertaking this study.

Delimitation of the study indicated that the study was only limited to analysing the use of PPPs to ensure VFM in the roads sector. A number of limitations of the study and how they have been solved have been well highlighted. In addition, the central theoretical statement of the principal-agency theory has been well elaborated in terms of how UNRA as a principal should work well with the private companies who are the agents that she partners with in implementing PPPs in the roads sector.

Also, the chapter looked at the research methodology that was used in collecting and analysing data. The researcher explained the research process of this study which included the mixed methods, case study and exploratory research designs, population, sampling size and techniques, data collection methods, techniques and instruments, data analysis approaches and techniques, validity and reliability of quantitative data. Thirdly, the chapter looked at ethical principles that guided the study in terms of doing research based on certain internationally acceptable standards. The next chapter focuses on detailed review of literature on PPPs.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The previous chapter looked at the introduction in relation to study background, problem statement, research objectives and methods. This chapter reviews the literature related to assessing PPPs in the roads sector. A review of literature was undertaken to analyze the role of PPPs in ensuring VFM in the roads sector. Literature review is the process of collecting, investigating and analysing data from the existing documents based on a specific research question (Strukelj, 2018:1). This chapter makes an assessment of PPPs in ensuring VFM in the roads sector in Uganda based on principal agency theory, the concepts of PPPs and VFM, different PPP models and factors affecting PPPs in the roads sector with specific reference to UNRA.

This chapter is structured into seven sections; section one presents the theoretical frame work on PPPs, followed by section two on conceptualization of PPPs. Section three focuses on PPPs and VFM. The forth section discusses the international experience of PPP in the roads sector. Section five presents different PPP models used in the roads sector. Section six focuses on factors affecting such PPP models in the roads sector. The last section presents chapter summary.

2.2 The theoretical frame work for PPPs

This section makes an assessment of PPPs in ensuring VFM in the roads sector in Uganda based on principal agency theory with specific reference to UNRA. Achieving an optimum result in implementing PPPs in the roads sector requires a clear understanding of the theories underlying these arrangements and the particular considerations for the relevant project (Higuchi, 2018:3). Therefore, before exploring the topic of PPPs in detail, it is necessary to first examine the principal agency theory to explain the relationship between some variables of the study, and how they were embedded in the development of the research conceptual framework. It is also of

importance that the linkage between the concepts of PPPs and VFM, and principal agency theory are explored at the global and national level. This is because the Smithian philosophy of new public management provides theoretical and conceptual foundation to PPPs around “principal-agent theory” because the twin approach of “principal” (state and government) and the “agent” (private organisations) is a reductionist duality to understand the way PPPs work in different environments (Nayak, 2018:7). Therefore, this section presents a descriptive narrative on the theory of principal agency relation relationship by focusing on its definition, history, importance and practice in terms of its relevance to assessing PPPs used by UNRA to ensure VFM in the roads sector in Uganda.

The review of literature in this section focuses on analysis of existing literature and debates by practitioners on principal-agency theory of PPPs and analyzing scholarly and development partner debates on different approaches for application of such theory to PPPs in the roads sector (Gibson et al., 2015:16). The literature review format adopted an exploratory analysis of the relevance of the principal-agency theory to the process of designing, implementation, operation and sustainability of PPP projects in the roads sector in developed and developing countries (ADB et al 2014:18). Therefore, the researcher has been able to analyse the application of the principal-agency theory to PPPs and VFM in roads and other sectors, since PPP implementation in developing countries like Uganda is quite new (Mouraviev et al., 2016:170).

The application of principal-agency theory to PPPs is very essential to the understanding of the PPP dynamics and developing a PPP theoretical framework (Farquharson and Yescombe 2011:9; Bouman et al., 2013:11). Some scholars points out that there is no universally agreed position on the most suitable approach for application of the principal-agency theory to PPPs in the roads sector. While there are diverse theories that can be applied to PPP projects, some are not relevant to the study of PPPs in the roads sector (Roehrich et al., 2014:112). The PPP project implementers need to identify relevant theories and see how best to apply them to the implementation of PPPs in the roads sector projects globally (Delmon, 2010:17).

Delmon (2010:10) suggests that application of the principal-agency theory is crucial in laying a firm foundation for best practices that can minimise risks that exist between the public and private sectors during the PPP contracting process (Delmon, 2010:10).

2.2.1 Assessing the principal-agency theory in line with PPPs in the roads sector

For effective use of PPPs in the roads sector in Uganda, there is need to first understand the relationship between government and private organisations to work together to deliver services to the citizens through the use of the principal agency theory (Holland, 1984:1). This theory is based on the fact that the success of such PPPs in the roads sector in Uganda depends on the nature of the relationships between public partner (principal) and private partner (agent) (McQuaid, 2000:3). The principal-agent theory was initiated in the early 1970s from the integrated professions of economics and institutional theory. There is some disagreement as to who initiated the theory, with some experts such as Barry Mitnick and Stephen Ross each claiming to be the author of the theory.

Ross is believed to be the one that initially explained the dilemma in terms of some one choosing a flavour of ice cream for another person whose tastes he does not understand (Barry, 2006:1). The main quoted reference to the principal-agent theory, however, comes from experts such as William Meckling and Michael Jensen (Barry, 2006:2). The theory even went beyond institutional and economic studies to different aspects of risk management or uncertainty analysis and information asymmetry. Agency theory contends that an organisation is made up of a nexus of contracts between the owners of economic resources (the principals) and managers (the agents) who are given the responsibility of using such resources to execute certain tasks in order to achieve the intended objectives (Jensen &Meckling, 1976:308).

The theory is based on the premise that agents are more informed than principals and that such information disequilibrium results in certain unethical practices which negatively impacts the principals' capacity to effectively monitor and evaluate whether their interests are being well catered for by agents (Adams 1994:19). An agency, in

general terms, is where there is relationship of two parties, in terms of one being the principal and the another one being an agent who is responsible for managing the business affairs or represents the principal by working with some other third parties. It also believes that principals and agents act in a more rational manner through utilising the contracting process to optimise the business opportunities in terms of increasing wealth. Therefore in such a case, public resource managers tend to be agents who are entrusted with the responsibility of putting to use such resources by the governments who are principals.

At the same time, the agents have to give accountability to their principals on how such resources are being utilised in terms of implementing certain projects and programmes to provide services to the public. Therefore, principal-agency connectivity exists when the principals employ the agent to undertake a particular task of providing certain services on behalf the principals. Principals authorise their agents to make important decisions on their behalf. Since agents make such decisions with third parties that eventually affect the principal, agency problems are bound to occur (Jensen &Meckling, 1976:2).

The theory is concerned with the contradicting purposes between the principal and agent in realising each of their specific objectives and is hinged on strategies aimed at getting facts about their potential customers, acquisition of goods, service and works or getting the right contractor. So, getting the agent to manage effectively and monitoring the potential of the agent to neutralise any related unethical practices have their foundation in the principal-agent theory (Rendon, 2009:1). The agency theory provides realities, which are relevant to this study on PPP contracts, and the management structures that are essential for influencing agents to do certain things that are in line with the expectation and specifications of the principal. The theory gives systematic anticipations about how certain people can behave if positioned in an agency relationship. It should also be noted that the principal-agent relationship is normally exposed to a number of issues beyond the control of both agent and principal, which at times are PPP project environment related. This means the different aspects to be covered in each of the contracts need to be widened far

beyond what it means in the principal-agent relationship (Rendon, 2009:2). In such a case, the principals are both the citizens and government officials such as executives of UNRA. This principal-agent relationship can actually impact decisions of public officials when using PPPs to ensure VFM in the roads sector in Uganda. From the agency theory perspective, the citizens of any government normally find it more tasking than shareholders of private entities to effectively monitor the work being done by public managers. This is because citizens of governments tend to be passive owners of resources compared to shareholders who are active owners of resources in any private company.

To manage the risk of loss of confidence that stems from a loose ownership control structure in the public management process, government may be more inclined to employ internal monitoring mechanisms to ensure effective implementation of PPP projects in the roads sector (Adams, 1994:20). The agency theory also encourages regulations and guidelines to ensure that business managers behave in line with what business owners expect (Hawley & Williams, 1996:31). Watts (1988:16) suggests that implementation of PPP projects in the roads sector is a bonding cost borne by agents to satisfy the principals' demands for accountability. Therefore, adoption and implementation of PPPs in the roads sector requires the principals to always monitor how such PPP projects are being managed by the private sector agencies. This is because private officials who are agents may not look out for the specific interests of the citizens. As a monitoring mechanism, the principal must evaluate the effectiveness of risk management, control and governance as the agency is contracted by the principal to implement such PPPs on her behalf (Iossa & Martimort, 2015:2). In addition, the public sector principal should always make recommendations on improvement of the risk management, control and governance systems pertaining to PPP projects being implemented in the roads sector by the private sector agents. The task of the public sector principal should not stop at only making recommendations but they should also monitor whether the private sector agents are responding effectively to such recommendations. The response could be either ensuring effective implementation of PPPs in the roads sector or the private sector may not accept responsibility for failure to adhere to the advice of the public

sector principal (Javed et al., 2013:615). Agency theory, therefore, guides the principal to check whether the agent is effectively implementing the road sector PPP projects in line with agreed terms, conditions, parameters, specifications and standards. One of the objectives of this study is to establish the perception of UNRA stakeholders on the concept of PPPs and VFM (Van Den Hurk & Verhoest, 2016:275). Agency theory, therefore, can help to explain whether the concept of PPPs and VFM are clearly understood by both public sector and private sector stakeholders.

It can also explain whether the public sector stakeholders will be able to put to task the private sector stakeholders to ensure that they implement PPP projects in the roads sector in a manner that will maximise VFM in line with standards that are precisely understood by both parties. In addition, the principal agency theory suggests a variety of reasons why traditionally procured public infrastructure projects exhibit higher costs of construction in the roads sector compared to PPP projects (APMG, 2017:5). This is because in most cases the bundling of construction and operation contracts in a PPP gives the private partner greater incentives to make investments in the construction phase to lower subsequent operation and maintenance costs. Also, the transfer of the construction risk to the private partner should be explicitly priced in a PPP (Blanc, Hugh & Timo, 2006:2). Scholars like Shankman (1999:332) suggests inclusion of other key stakeholders in a principal-agent relationship since they also play an important role in shaping the work of the agent to ensure that the principal's objectives are achieved in an efficient manner. It is not surprising that some developing countries such as Uganda have embarked on the use of PPP models that appreciate the role of other private players in the provision of road sector services. Principally, innovative PPPs are coming up in most developing countries as a result of limited investment, expertise and other resources in public sector. The main phenomenon in any PPP model is that a central government that is the principal usually makes a long-term agreement with a private service provider for the delivery of some products and services. Generally, the private sector takes responsibility for building infrastructure, financing the investment, then managing and maintaining the constructed facility (Iossa & Martimort, 2015:5). Such

engagement of the agents in PPPs is part of a mechanism for improving productivity and driving effectiveness, efficiency and economy in the roads sectors by the principals worldwide (Farquharson & Yescombe, 2011:14).

2.2.2 Contractual obligations in principal agency theory under road sector PPPs

PPPs normally make a contractual obligation between the public sector (principle) and the private sector (agent) to provide a service or a product to the public through effective risks and benefits sharing (Yang et al., 2013:301; Van Den Hurk & Verhoest, 2016:282; Hashim et al., 2017:265). This brings about a principal-agent relationship where the partners are made to work together by the existing contractual obligation (Iossa & Martimort, 2015:5). Such a principal-agency relationship needs actors to depend on each other where each partner focuses on his or her core competences. This means PPPs focus at bringing parties together to collaborate in a sustainable manner.

However, due to the complexity of certain PPP models, sometimes due to information disequilibrium and some unethical practices, it is necessary to always ensure that the PPP implementation process is done in an effective manner to achieve the intended project objectives (Edelenbos & Teisman, 2008:618). It is crucial that before any PPP project is implemented, the parties should always reach a consensus on what project components to be included and they should not be limited to the framework of principal-agent collaboration and the standards guiding their conduct (Edelenbos & Teisman, 2008:617).

A contract becomes the best tool that articulates each party's roles and responsibilities, defining what is supposed to be done and what is not supposed to be done and it also designs appropriate punishment for any misconduct (Javed et al., 2013a:620; Van Den Hurk & Verhoest, 2016:282; APMG, 2017). For example, in most cases PPP projects are characterised by investments that involve large sums of money which tend to tempt the key stakeholders in the partnership to compromise certain contractual terms and conditions (Robinson & Scott, 2009:183; Cruz &

Marques, 2013:473). The contract focuses at balancing the different interests of partners in a PPP contract into well agreed on commitments in order to deal with such areas of compromise by putting in place standard operating procedures to hedge against unethical practices (Van Den Hurk & Verhoest, 2016:279-284).

In such a case, the contract provides the basis for controlling the relationship between the principal and agent to ensure that assigned tasks to each party are effectively executed (Van Den Hurk & Verhoest, 2016:282). That is why the principal must ensure that in any PPP contract, an agent's operational costs are less than the principal's in-house costs if the PPP contractual obligation is to be effectively adhered to (Robinson & Scott, 2009:183). Contracting is looked at as a crucial uphill task before the public sector focuses at lowering service costs through ensuring large economies of scale in terms of efficiency, effectiveness and economy.

This has emerged into a new philosophy; that government should focus on providing the oversight role as far as delivery of services to the public is concerned instead of delivering such services directly (Reynaers, 2014:41). That is why Johnston and Romzek (2005:118) suggest that developing countries such as Uganda can learn from best practices of the public sector in the United States, which commits its resources to managing contracts instead of providing such services directly in a bid to ensure that it provides better services. A principal-agency contractual relationship raises management constraints that need government to put in place certain stringent accountability mechanisms if the private partners are to perform their roles effectively. Johnston and Romzek (2005:118) assert that having a framework that emphasises performance for partnership contracts is one of the key fundamentals for effective adoption, implementation and sustainability of PPP projects in the roads sector. A performance framework in any PPP contractual obligation can only be adhered to if parties involved can reach a consensus prior to signing a PPP contract, on the expected mode of service delivery. This brings about a better contractual relationship where the principal and agent mutually work together in providing a service to the public compared to the conventional contracting process where the public sector that is the principal uses bureaucracies to manage the contracting processes of the

service provider or contractor. Good performance in any contractual relationship necessitates putting in place expected standards as early as possible of the parties involved (Johnston & Romzek, 2005:121). Several studies bring out existence of a number of challenges in managing principal-agent contractual relationship in PPP contracts compared to contractual obligations in providing goods and other assets to the public.

This is due to the fact that PPP contracts need much of continuous managerial focus from government (Johnston & Romzek, 2005:122). More to that, PPP contracts with poorly stipulated and ambiguous expected results tend to be harder to implement, monitor and manage (Johnston & Romzek, 2005:118). One major specific challenge normally experienced by the people managing such PPP contracts is the number of contract variations as a result of different stakeholder expectations and specifications (Johnston & Romzek, 2005:121).

The paradox that sometimes PPP project implementing partners face is the political environment that usually manipulates the entire contracting process. Brown et al. (2006:323) contend that while contracting can provide excellent service provision, it can sometimes be a disaster, due to the existing stakeholder expectations and management efficiency and effectiveness. The risks in PPPs influence the principal to sometimes sign half-baked contracts for fear of losing opportunities of funding, technical support and innovations associated with such PPPs in case there is any delay (Hart, 2003:C70; Marques & Berg, 2010:4; Cruz & Marques, 2013:473).

Johnston and Romzek (2005:119) assert that such contracts that are not fully complete are usually susceptible to limited information, poor selection and some unethical practices in the principal-agent relationship (Robinson & Scott, 2009:183). In such a scenario, all implementing partners should have a broad knowledge of the rules, regulations, policies, procedures and guidelines for effective implementation of PPP projects in the roads sector in the different parts of the globe including continents, countries, regions and localities (Brown et al., 2006:325).

2.2.3 PPP Contract management and administration in principal-agent theory

The adoption, implementation and management of any PPP contract by different implementing partners raises a number of constraints as far as ambiguous performance measurement is concerned (Johnston & Romzek, 2005:123). This means that the adoption and implementation of any PPP project in the roads sector needs effective management, which closes the gap between the principal and the agent to forecast what is needed in the future. They are also able to respond accordingly to any uncertainties that may arise from time to time and ensure that goods and services are provided according to the agreed parameters and standards (EC, 2003:90; Cruz & Marques, 2013:6).

Contract management in a principal-agent relationship is, therefore, very important since it states the terms and conditions for effective service delivery in the entire project life cycle (EC, 2003:90; Cruz & Marques, 2013). Contract management and administration focus on making sure that both the principal and agent realise VFM in terms of efficiency, effectiveness and economy (Brown et al., 2006:325). Cruz and Marques (2013:4) argue that for contract management and administration, all stakeholder specifications and expectations should be addressed adequately when executing the PPP project.

Brown et al. (2006:325) suggests training the PPP project implementing partners for them to get skills to effectively implement, manage and sustain the PPP projects in order to provide the essential services to the public. Training ensures that any unethical practices can easily be detected and hedged against by developing contracts that oblige both the principal and the agent to adhere to the stated terms and conditions in order to perform according to the expectations of PPP project stakeholders (Brown et al., 2006:325). Contract management and administration should also be done in such a way that in case there are any errant stakeholders among the principal-agent collaboration that may fail to adhere to the contracting terms and conditions, they can be brought to book. Brown et al. (2006:325) again recommends that open competition among bidders can enable the principal to

effectively deal with constraints during the contracting process. It should be noted however, that there are mixed views on how to manage PPP contracts effectively. Some scholars such as Javed et al (2013a:620) and Love et al (2015:26) believe that to successfully achieve their intended objectives of VFM, developed countries have to embark on strict rules and regulations when it comes to contract management and administration (Javed et al., 2013a:620; Love et al., 2015:26).

That is why most contacts under PFI projects in Australia and Britain have been found out to be more cost effective time efficient and more resource economic (Henjeweile et al., 2011:2; lossa & Martimort, 2015:6; Love et al., 2015:26). Yet, there are many PPP contracts in developing countries that have been associated with constraints such as high PPP project implementation costs and poor PPP project performance which eventually culminate into closure of such PPP projects prematurely (Bloomfield, 2006:407; Yuan et al., 2009:254; Marques & Berg, 2010:2; Henjeweile et al., 2011:2; lossa & Martimort, 2015:6; Love et al., 2015:26). lossa and Martimort (2015:6) argue that in Latin America and Caribbean, some countries have not been able to execute PPP contracts and with time they are terminated prematurely. In addition, high costs of operation coupled with certain expectations that are unrealistic have led to failure of PPPs in Eastern and Central Europe compared to other developed countries (lossa & Martimort, 2015:6).

Robinson and Scott (2009:182) believe that when PPP contracts are poorly managed, realizing VFM in the roads sector may not be achieved. Marques and Berg (2010:2), lossa and Martimort (2015:6) believe that once contracts are not fully accomplished, it creates an avenue to re-negotiate that contract (Yong, 2010:50). Yong (2010:50) further argues that renegotiation for the same contract may lead to some unethical practices by any of the parties involved in order to get added benefits instead of focusing on how best to accomplish the project. Therefore, Yong (2010:50) suggests that since re-negotiation for the same contract leads to time and money wastage, it needs only to be done as a way of putting in place certain measures for smooth implementation of the PPP contracts. Unfinished contracts can be a basis for certain constraints associated with delivering a service because they do not provide

enough opportunity to look at many other alternatives for effective service delivery (Robinson & Scott, 2009:183). Consequently, some partners may tend to ride on already existing gaps to foster self-vested interests. Some PPP experts assert that the time required to implement the contract also may impact the management and administration of such PPP contracts. Bloomfield (2006:408) suggests that PPP contracts with a shorter period normally pave way for open competition and improved performance since the private partner usually hopes for renewal of such short-term contracts.

Such a scenario propels the agent to ensure that there is better service delivery so that the contract can be renewed. In such a case, the public sector tends to be more advantaged when it comes to contracts that are for a short period since the private partners can always easily be gotten rid of if they do not perform to the agreed expectation. Bloomfield (2006:408) also insists that contracts, which are for a longer period tend to hinder open competition since vendors monopolise service delivery over such a long period of time. That means some actors are likely to go without better offers in such a longer contract implementation period and so certain fines may be given to compensate the aggrieved party when such a contractual arrangement is closed before time.

Therefore, contract management and administration may become compromised in case the roles and responsibilities of each partner are not well stipulated. In most cases, the contract spells out the roles and responsibilities of the private partner as far as ensuring good progress in achieving the intended PPP project objectives. Unfortunately, the roles and responsibilities of the public partner are poorly stated in the PPP contract as a result of thinking that there will be self-regulating and reporting during contract execution. This undermines the advantages accruing from such PPP contractual arrangements since in such a situation, there is no contract management unit to undertake regular monitoring and deal adequately with any performance deviation that hinders the success of such PPP contracts (Bloomfield (2006:409). APMG (2017:9) suggests setting up a certain team to specifically manage the on-going PPP contract to effectively deal with the public sector's weakness of poor

contract management. For instance, in South Africa, the local government of Johannesburg put in place a certain Contract Management Unit to give technical support to the existing 12 agencies to ensure that they perform according to the agreed parameters (Yong, 2010:49). Such a Contract Management Unit works on behalf of the local government of Johannesburg based on the existing legislative, regulatory and policy frameworks. The members of such Contract Management Units are usually from any Ministry, Department or agency given the responsibility of contract management.

The main rationale for setting up with such Contract Management Units is to ensure that the intended partnership objectives are adequately achieved. Javed et al. (2013a:629) recommends that the Contract Management Unit should be involved at the conception, planning and design of the PPP project in order to conduct a thorough needs assessment as a basis for effective contract performance measurement. It is important to understand that most of the available literature on PPP contracts in Uganda focuses on infrastructural projects, such as dams, railways, hospitals, schools and sanitation with scanty information on road sector service delivery (IMF, 2004:3; Brinkerhoff & Brinkerhoff, 2011:3). This is confirmed by the existence of a lot of literature on infrastructure projects in education, water and sanitation, health and energy compared to the roads sector in Uganda (ADB, 2016:3).

2.2.4 PPP Models and the principal-agency theory

In a research study conducted by Hammami, Ruhashyankiko, and Yehouel (2006: 12) on PPPs in developing countries between 1990 and 2003, it was discovered that there are 3 forms of PPPs that account for 70% of all projects. For example, Build Behabillitate Operate-transfer (BROT) accounted for 13.2%, Build Own Transfer (BOT) accounted for 17.9% and while Build Own Operate PPPs (BOO) accounted for 38.9% (Loxley, 2013:487). This confirms that the available literature on PPP models mainly looks at infrastructural projects in other countries compared to scanty information on PPP models being implemented by both the public partner and private partner in the roads sector, with specific reference to a developing country like Uganda. While the Build Own Transfer (BOT) PPP model is assumed to be more

appropriate for provision of road sector services, most of the cases available in literature are associated with PPPs in other sectors such as water, agriculture, health and education, although they do not specify the actual PPP forms usually adopted. In addition, most of the literature on PPPs either focuses on PPPs in transport in general.

2.2.5 Relevance of principal-agency theory to PPPs in the roads sector

In the context of UNRA, the principal-agency theory argues that to be effective, UNRA as the principal needs to work well with private partners who are the agents. Procurement processes for PPP projects being implemented by UNRA in the roads sector in Uganda requires cooperation of the public procurement and disposal unit and the different user departments in their technical capacities to conduct needs assessment, design specifications, terms of reference and scope of works. Also, the management of the PPP contract needs to be a concerted effort of different user departments and the public procurement and disposal unit to minimise the uncertainties associated with contract implementation by both the principal and his agent (Poulton & Macartney, 2012:97).

The theory says that much of PPP contract administration needs to be done by the user department that is directly affected by the implementation of the contract in order to detect any performance deviation early enough. It is, therefore, obligatory to come up with a well-developed plan as a basis for effective contract management by involving different user departments and the public procurement and disposal unit and assigning roles and responsibilities to each of the departments involved (Babayan& Kadlecikova, 2016:314; Roach, 2016:28). This study has chosen to apply the principal-agent theory to critically assess the possible outcomes of the agency relationship that results from the interaction between the principal and agent and the likely implications to the PPPs in the roads sector in Uganda. The theory can, therefore, be used by UNRA to explore the challenges of agency problems in contractual arrangements it intends to have with private entities in the implementation of the different PPP projects in the roads sector. Since the principal agent theory is a model where the principal delegates tasks to the agent (Babayan& Kadlečíková,

2016:315; Roach, 2016:29), Hlavacek and Hlavacek (2006:18) looks at it as if the principal is striking a balance with an agent in terms of effective contract management and administration. This culminates into an agency relationship where an agent acts for, or as a representative of, the principal (Babayan & Kadlecikova, 2016:316; Shankman, 1999:321; Turner, 2004:75; Muller & Turner, 2005:398).

In this study, UNRA is the principal representing the public sector and any private company that UNRA partners with in implementing PPP projects in the roads sector is the agent. UNRA should endeavour to choose an agent who has the competencies to undertake the task which the principal may not have. However, during the process of selecting the agent, there could be some characteristics, intentions and actions that are all hidden and may not be easily tracked by the principal. Yet, they are very crucial in determining how much compensation can be given to the agent (Saam, 2007:824; Poulton & Macartney, 2012:99). That would mean that there is no effective communication among the partners and so one party is likely to be more favoured than the other, leading to arms-length contractual relations.

In most cases, the principal and agent are not equally positioned when it comes to accessing certain critical information pertaining to contract management and as a result, the principal may fail to understand the reasons behind making certain choices, decisions and actions by the agents, and whether the right actions are being made on their behalf (Müller & Turner, 2005:398). For instance, during the process of delivering certain technical information in the construction and maintenance of roads by the private agent, UNRA (principal) may not know the level of individual effort in providing technical assistance and why a certain approach was selected in providing such technical assistance and most especially if the principal is more interested in such an approach.

2.2.6 Principal-agency theory and problem solving to PPPs in the roads sector

Agency theory aims at highlighting how to effectively deal with certain issues that can arise in any contractual arrangement between the principal and the agent, probably as a result of parallel goals and objectives in responding to the associated

uncertainties. The most common agency relationship in PPP contract management normally takes place between the public sector (principal) and the private sector (agent) (Barry, 2006: 1-2). To realise the intended goals and objectives, from 1960s to 1970s, economists put their main focus on how best to share risks among partners, since PPPs involve sharing risks between a public authority (principal) and private party (agent).

To internalise how best the principal and agent can work well together to achieve the intended goals and objectives, agency theory helps to guide how best to allocate roles and responsibilities of contract management between the principal and agent. Eisenhardt (1989:1) asserts that the agency theory mainly focuses on dealing with two issues that usually come up in any agency relationship; that is, the principal-agent diverging interests that lead to conflict and the principal finding it difficult to verify the actual work being done by the agent. In such an instance, the agency theory provides a basis for setting off in the principal agent relationship, although it does not point out how the principal and agent come together to realise the intended goals and objectives, a scenario that should position the ultimate aim of PPPs especially in Uganda's road sector (Eisenhardt, 1989:1). The principal-agency theory believes that a contract can be viewed as an agreement between two parties to execute certain obligations.

A contractual relationship arises when the principal, works with the agent to provide some products in form of goods and services through delegating some authority to the agent to make certain decisions on behalf of the principal. The main principal-agency relationships in contract management are between stockholders and managers and between debt holders and stockholders. Such principal-agency relations may not really be well harmonised and that is why the principal-agency theory mainly focuses on conflicts that usually exist between agents and principals (Poulton & Macartney, 2012:97). Such a situation has some implications on principles of good governance. When the principal-agency relationship exists, there are usually associated costs if a good agency relationship is to be maintained. Realistically, agency theory has come up as a main model for measuring business performance in

line with set standards and parameters (Saam, 2007:823; Poulton & Macartney, 2012:98).

2.2.7 Principal-agency theory and the roles of public and private partners

The Principal-agency theory describes how well to structure relationships between partners where one gives out work to be done and another does the given out work. In this relationship, the principal employs an agent to do the work that the principal is not able to do. For example, in implementing PPP projects in the roads sector, a public sector entity signs a contract with a private sector entity to implement the project on her behalf. Agency theory makes an assumption that both the principal and the agent are propelled by self-interests to work together in any contractual arrangement (Gailmard, 2012:2).

Such motivation of self-interest may lead to certain conflicts within the principal-agency relationship. Therefore, once the parties involved in the agency relationship are propelled by self-interest, there is a possibility that agents can do the work assigned to them based on personal vested interests which may be contrary to the goals and objectives of the principal (Wright et al., 2001:414). To tell whether the agent does or does not work in the interest of the principal, PPP experts point out that the standard of Agency Loss has been introduced. Agency loss is the difference between the repercussions of the acts of the agent and best possible alternative outcome for the principal (Michael & Robert, 2005: 185).

In some instance, when an agent works in line with the principal's interests, there is zero agency loss. Usually the agency loss increases when the agent's work shows more discrepancy from the interests of the principal. The moment an agent's work is based entirely and completely on her own personal self-vested interest, contrary to the interest of the principal, of course the agency loss becomes higher (Shankman, 1999:321). A number of studies on principal-agency theory indicate that agency loss reduces when the following situations exist: when the principal is very busy or unable to do a particular task and employs the agent; or the agent being so busy that she cannot monitor perfectly the work being done by her team. In such case, the principal

has to look for a way of motivating the agent to do the work in the principal's interests. The first way to motivate the agent to do the work in the principal's interests is to identify areas where both the principal and the agent share common interests (Quinn & Jones 1995:32).

Obviously, it means that both the principal and the agent desire to have similar outcomes. The second way to motivate the agent is that the principal must be well versed with the consequences of the agent's activities so that he warns the agent about them prior to actual execution of work. That means, the principal must find out whether her agent is doing the work assigned to him in a way that is in line with the interest of the principal. In case there is absence of any one of the above scenarios, definitely there is a possibility for agency loss to occur (Quinn & Jones 1995:33).

2.2.8 Ways in which agents may differ from their principals

Debates from the reviewed scholarly materials show that there are some differences between the principals and the agent. The first one is that sometimes the agent prefers something different from their principal; for example, the will power to do any work that she comes across. The second one is that an agent is usually motivated by something that is totally different from that of the principal where she at times realises an outcome that is different from that of the principal and alternatively the agent can be rewarded in a different way compared to the principal.

The third difference is that an agent can be well informed of the things that the principal is not aware of at all (Michael & Robert, 2005: 190). Unfortunately, such kinds of differences may lead to a number challenges between the principal and the agent. The agency theory has a disadvantage of depending much on the belief that an agent must endeavour to optimise personal interests and economic gains (Bruce et al., 2005:6). The problem is, how do we make the agent to do away with her self-vested interests and work in a manner that can only help her in optimising economic gains as she also ensures optimising the principal's wealth on the other hand? Therefore, there is need to set an agency duty and action standards because of the existing possibility of varying perceptions between the principal and the agent (Bruce

et al., 2005:6). In a principal-agent relationship, the agent is morally responsible for all she does, which can't be done away with just because of the reason for working on behalf of another person. Principal-agent relationships should therefore always make a reflection of how best to organise the required information and manage effectively the associated risks and costs of the agency relationship (Gailmard, 2012:3).

Of course as earlier observed, the challenge comes in when the agent and principal have interests that are totally different from each other's, in such a way that the principal may fail to make the agent work well on his behalf and especially when certain assignments that are very important to the principal tend to be costly to the agent.

Sometimes the principal can develop a serious concern where the agent may exploit her and so she takes a decision of not getting into any contractual agreement with the agent in any way and then misses the benefits that accrue to such a contractual relationship (Leruth & Paul, 2007:5). To add to the above, the principal-agent theory believes that the principal and agent, both have conflicting goals and objectives which makes the agent to prioritise what she thinks is very important for herself as far as her personal interests are concerned and so she ends up doing only what she considers as just good for the principal where there is alignment of their interests. Unfortunately, in such a scenario, the agent may do less work, something that the principal may not be able to easily find out. Such a situation may culminate into egocentric tendencies where the players can pretend to be working well with each other as they get into such a contractual relationship (Wright et al., 2001:415). It should be noted that an agency contractual relationship with information that is not well balanced and varying usually culminates into a scenario where the principal fails to be in charge of what the agent is doing since she does not have the ability to tell whether there is any value in what the agent is doing (Babayan & Kadlecikova, 2016:316). In such instances, both the principal and agent are bound to behave in such a way that each of them tries to realise their interests at the expense of the other (Roach, 2016:31). Wright et al. (2001:415) asserts that such a situation usually leads

to opportunistic tendencies even if stringent measures have been put in place prior to the commencement of the PPP project.

2.2.9 Managing problems associated with Principal-agency relationship

Most researchers indicate that the agency relationship does not have immunity to problems that usually determine the tasks, responsibility, conduct, anticipations and goals by both the principal and the agent. Quinn and Jones (1995:34) suggest that if the principal is to hold the agent more accountable, she has to ensure that terms and conditions within the contractual agreement must be strictly adhered to. For that matter therefore, the principal-agent relationship needs to always be kept intact by a contractual agreement that Schieg (2008:5) calls a red tape monitoring and evaluation (Shankman, 1999:328).

This is because such a contractual agreement provides favourable conditions that promote strategic partnerships and enable the principal to have control over the behaviour of the agent. One must also make sure that such a contractual agreement caters for the well alignment of all decisions taken so that the objectives of the principal can be effectively realised (Babayan & Kadlecikova, 2016:317; Turner, 2004:2; Müller & Turner, 2005:399; Saam, 2007:828). Roach (2016:30) argues that the principal should always get into contractual arrangements with the agent after putting in place terms and conditions that ensure that the work to be done is executed in a manner that will enable realisation of the set objectives (Leruth& Paul, 2007:6).

2.3 Conceptualising PPPs

This conceptual review of PPPs focuses on critical analysis of literature on the different aspects of PPPs and examining scholarly writings and debates on different approaches to understanding the concept of PPPs. The conceptual review process of PPPs adopted an exploratory assessment of the broad definitions of the PPP concept from the global point of view, while investigating its linkage to the roads sector. This approach is appropriate because in developing countries such as Uganda, PPPs are quite new and there is limited literature on the subject (Mouraviev et al., 2016:169). PPP projects are defined by space and time. Unlike indefinite

privatizations, which can transfer to the private sector an entire system (transport or energy, for example) for an indefinite time period, PPPs transfer to the private sector certain responsibilities associated with a project bound by specific objectives, space and time (Berrone, Fageda, Llumà, Ricart, Rodríguez, Salvador & Trillas, 2018:14). Many PPP studies have however tended to ignore analysis of the way different stakeholders understand the concept and terms related to PPPs and their adoption in the roads sector.

2.3.1 The concept of PPPs

The concept of PPPs was not born with the digital revolution. Often presented abstractly as an essential element, it is rarely understood even if the digital revolution gives it all its meaning (Aghroum, 2018:1). Therefore, a rising demand for quality public infrastructures amidst financial constraints of governments has accumulated widespread favor for the concept termed as Public Private Partnership (PPP) (Khadka, 2018:1). The concept of PPP was first coined by British government as Private Finance Initiative (PFI) (Hu & Han, 2018:1). From the scholarly literature reviewed, different scholars assert that due to increased pressure for efficient service provision from the citizens in addition to insufficient investments in public infrastructure, governments have adopted a new strategy of using PPPs (SAIIA, 2005:17; ADB et al., 2014:33-34). Such demand for infrastructure projects is necessary to uphold the development of the economy. This circumstance pressures the government to expand infrastructure expenditure. In order to alleviate the financial burden, the government has commonly used the PPP scheme to attract the private sector to invest in infrastructure projects (Yan, Chong, Zhou, Sheng & Xu, 2018:1). This has made many governments appreciate the role of PPPs in service delivery (ADB et al., 2014:13). PPPs are different from privatization programs, as the objective of the contractual agreement with private partner is to improve the operational efficiency of Government assets rather than their perpetual ownership (Chauhana & Marisetty, 2018:1). However, some scholars such as Jomo et al. (2016:1) contend that PPPs cannot work as long as the objectives of public actors and private entities are still incongruent.

Scholarly discussions indicate that much as PPPs are important, they are also associated with intricacies, complications and flaws that hinder their smooth operation (SAIIA, 2005:7). On the other hand, other scholars suggest that with the right policy framework in place and enough financial and technical support from public and private sectors, PPPs may easily thrive and be sustained in providing physical and social infrastructural services to citizens (WB, 2016 & SAIIA (2005:7). In fact, Jomo et al., (2016:6) assert that the private sector only provides only a small proportion of financial resources of about 15% to 20% to fund implementation of PPP projects compared to the financial investment in PPPs implementation by the public sector in the developing world. Regardless of any general perception, PPPs are some times defined by the laws of each country, hence the importance of having a framework that clarifies these concepts (Berrone at al., 2018:14). Never the less, a number of debates from development partners and scholars agree that PPPs have no widely accepted standard definition (ADB et al., 2014:18; Jomo et al., 2016:3). Actually a number of scholarly writings agree to the fact that different public and private bodies have conceived the different definitions of PPPs (Jomo et al., 2016). Singh (2018:3) contend that the term PPPs is used to describe a wide range of contractual arrangements between the government and the private sector for the provision of public goods. Therefore, government agencies can use PPPs guided by several considerations. Different debates from development partners point to the fact that a PPP is a long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility, and remuneration is linked to performance (WB, 2014:14). The UNDP Public- Private Partnership defines a PPP as “a spectrum of possible relationships between local government, business, civil society organizations including non- governmental organizations and local communities, for the co-operative provision of basic services” (Khadka, 2018:1). A number of debates from scholarly literature surveyed refer to PPPs as a long-term contractual arrangement between the public and private sectors where mutual benefits are sought and where the private sector provides management and operating services and puts private finance at risk (Garvin & Bosso, 2008:163).

The vast literature on PPPs reveals at least up to 25 different types of PPPs (Romero, 2015:12). According to Lukamba (2006:26), the term “PPP” refers to a form of co-operation between public authorities and the world of business, which aims to ensure effective funding, construction, renovation, management or maintenance of an infrastructure project or the provision of a service. Some other debates from literature give a summarised definition in terms of looking at a PPP as a co-operation of some durability between public and private actors in which they jointly develop products and services and share risks, costs and resources, which are connected with these products or services (Berrone et al., 2018:14). Most scholars point to the fact that lack of definitional clarity may result from the fact that PPPs fill a space between traditionally procurement and full privatisation in terms of outsourcing contracts, concession contracts and joint ventures among the public and private bodies (Grimsey & Lewis, 2005:346). Scholars such as Roehrich et al. (2014:113) believe that perhaps inevitably such diversity means that the specific definition is often variable and sometimes unclear. To date the countries that have dominated research on PPPs are USA and UK with almost 63% of all the publications made on PPPs, followed by Australia, Netherlands and Germany (Roehrich et al. 2014:113). Such research publications on PPPs indicate various areas where some PPPs have failed in those countries. Unfortunately donors from such countries take into account the failed experiences from the western world when they are pushing developing countries like Uganda to adopt such PPPs in the roads sector. The majority of the scholars caution donor countries that have experience in implementing PPPs in different sectors of their economies to always take into account success and failure of PPPs when encouraging developing countries to embrace such PPPs (Miyamoto & Biousse, 2014:31). The vast literature on PPPs reveals at least up to 25 different types of PPPs (Romero, 2015:12). Roehrich et al. (2014:113). Goess ahead to contend that this diversity means that the specific definition of PPPs is at times not very precise and clear.

Therefore, the big number of modalities for use of PPP contracts paired with lack of clarity in definition of PPPs makes it hard to generalise findings about PPPs especially in infrastructural projects of both developed and developing countries (Roehrich et al.,

2014:113). Debates from development partners say that the concept of blended finance is not clearly defined. For example, a United Nations (UN) expert group suggests a broad definition with blended finance that includes a large portfolio of potential instruments to leverage private finance as well as traditional public PPPs and structured public-private funds and innovative implementing partnerships between a number of actors and players (United Nations, 2014:37). The assessment of the above different definitions of PPPs illustrates that PPPs broadly are in the various forms of short, medium and long term contractual relations and obligations where the private entity makes a commitment to undertake a few or much of the tasks of delivering services and goods that were originally provided by the government (Renda & Schrefler, 2006:5; Burnet, 2005:21). To add to that, scholars such as Burnet (2005:21) agree with Renda & Schrefler (2006:9) that much as PPPs create better opportunities for effective and efficient provision of services and goods to the public, they are also associated with a number of threats and they need to be carefully selected. That is why some scholars insist that the core objectives of PPPs should always be entombed in the spread of likely uncertainties, accountability and acceptable appreciation to the party that is most appropriate to execute the PPP contract at minimal cost (Jomo et al., 2016:3). For that matter, therefore, scholars such as Renda & Schrefler (2006:7), Levai (2012:4), Delmon, (2010:8) and development agencies such as European Commission (2009:9) insist that the selection of any PPP form should be done based on the condition that the benefits ratio of private provision has to outweigh the cost ratio associated with implementation of such PPP projects. A partnership between the public and the private sector, however, is not always easy to execute because of lack of knowledge and understanding about each party's interests in line with associated risks (Van Ham & Koppenjan, 2005:601-602). Other scholars believe that PPPs can be used to implement various projects aimed at delivering products and services by the private sector in an efficient, effective and economic manner on behalf of the public sector.

These scholars indicate that sometimes the long-term problems emanating from adoption and implementation of such PPP projects may end up outweighing their short-term benefits (Flinders, 2005:216). More scholarly literature reviewed, however,

points to the fact that while PPPs are becoming more intensely and broadly used in different parts of the developed and developing world, few have been able to sail through all the phases of the entire project life cycle in terms of their design, construction and maintenance (Burnett, 2005:1). Scholars such as Hammami et al. (2018:5) assert that PPPs, like other approaches of conventional procurement, are faced with a number of constraints as they try to fill the gaps existing in product and service delivery in terms of what a country can be able to provide and what the citizens actually need. El-Gohary et al. (2006:595) strongly believe that such a situation could be partly the cause of the failure of most PPP adoption around the globe and therefore this calls for governments to create efficient, effective and sustainable policies, systems, structures and processes that can ensure realisation of high quality deliverables. Debates from development agencies actually emphasise the notion of comparing actual performance of PPPs with the set performance standards so that performance gaps can quickly be detected so that corrective action for such bottlenecks in the PPP contractual arrangements can be done (NCPPP, 2002:17). Hence forth functioning and outcomes of PPPs reveal worrying trend in terms of its failures, inefficiency in delivery of public services, lack of democratic accountability and poor VFM. It is also argued that PPPs are responsible for the growth of poverty and inequality in the different countries where they are being implemented. Therefore, there is huge opposition to the introduction and expansion of PPPs in some of those countries (Nayak, 2018:5).

2.3.2 Historical perspective of PPPs

The provision of fundamental infrastructure services by public authorities had been the norm for decades based upon a rationale that the private sector might not afford huge infrastructure investments and the public provision might be necessary given the strategic importance of these services (Ozcan, 2018:1). However, failure of governments to finance necessary investments due to budget deficits and criticism on the inefficiencies attributed to public management and control initiated a tendency in favor of private participation in the provision of such services (Ozcan, 2018:1).

PPPs are not a new phenomenon but they are as old as the Roman Empire period when some forms of concessions were being used for development of public infrastructure (Callan & Davies, 2013:6). Actually Callan & Davies (2013:6) contend that during that time, the political authorities of the time used such concessions as strategies for constructing and managing public facilities such as roads, waterways and markets. The construction of fortified towns and villages in the south-western region of France during twelfth and thirteenth century was another example of the use of PPPs (Nayak, 2018:1). The further expansion of public works concession programmes in canal construction, roads, public distribution and transportation system was developed with the help of PPPs in France during sixteenth and seventeenth centuries (Nayak, 2018:1). Many scholars give historical events of medieval periods in Europe, where a French nobleman, Luis de Bernam, was given a concession to levy taxes on products channeled via River Rhine in Germany in 1438 (Callan & Davies, 2013:6). There was reversal of PPPs trend with the growth of welfare state in twentieth century post war Europe and in postcolonial countries in Asia and Africa at a time when PPPs were growing in USA during and after the wars (Nayak, 2018:1). Therefore, PPPs are an old idea. Throughout history, governments have looked to the private sector for assistance, particularly in times of crisis (Hodge & Greve, 2005:2005: 24–25). The industrialisation and urbanisation of Europe during nineteenth century witnessed the growth of PPPs in the expansion of public networks in transport sectors of railways, water ways, roads, water supply, sewerage management and energy. PPPs were also used as a mechanism of expanding colonial business enterprises during European colonialism in Asia, Africa and Americas (Nayak, 2018:1). Nayak (2018:1) adds on that over the last 70 years, there has been a shift in the mode of political, economic, social and economic thinking which has made many governments all over the world to adjust their approaches in the acquisition of public goods, services and works through public procurement.

Scholars such as Martin & Stutte (2009:2) also add that whereas such a practice has been around for centuries, the concept of PPP was invented and made popular in early 1970s. Keynesian economic concepts that had dominated the global business environment were being challenged by liberalisation ideas about the role of

government in providing essential services to the public as a result poor performance of many economies that were using such Keynesian approaches to deal with problems affecting their businesses. In fact, various scholars in North America have pointed to the fact that over the last 50 years, every great physical and social infrastructure project initiated by the US government has been implemented through use of PPP arrangements (Kettl, 1993:4). In contemporary context, PPPs emerged in the 1980's in the context of privatisation and de-regularisation under Regan in the United States of America, and Thatcher in the United Kingdom. These PPPs are now seen widely as vehicle for the delivery of public infrastructure projects (Obayelu, 2018:1). Wettenhall (2005:22) notes that since the late 1980s, many countries have earmarked on a number of PPP projects to deliver services to the public since such PPPs are used as a basis for financing social developments and subsequent associated services such as health, accommodation, education and transport services, in an efficient, effective and economic manner. This scholar argues that the public sector is normally motivated by such economic incentives arising from involvement of the private sector in the provision of such social services to its citizens (Wettenhall, 2005:22). Bilateral agencies have also stressed a similar trend of events right away from the last decade where more investment in infrastructure using PPPs has become the norm in developing countries especially in Sub-Sahara Africa (World Bank, 2014:2). Most literature reviewed shows that recent research studies on the PPP projects based on quantitative techniques indicated that the use of PPPs improves performance of infrastructural development in the developing world because of the associated benefits such as better capacity utilisation, quality products portrayed, and improved short-term, intermediate and long term results (McIntosh et al. 2015:960).

Research investigations conducted by technical experts in PPPs associated with World Bank projects state that PPPs implemented by many countries between 2002 and 2012 became very successful (Independent Evaluation Group, 2014: ix). However, literature reviewed shows some gaps in such investigations since these evaluations may be limited in scope when critically examining whether PPPs promote sustainable development. The same technical experts were able to provide evidence

in their investigations to prove that indeed PPPs have become more popular in development of social and physical infrastructure in the most recent years due to their associated efficient resource allocation and risk mitigation traits (Independent Evaluation Group, 2014: ix). Roehrich et al. (2014:113) notes that to date there are more PPPs investments in infrastructural developments especially in the developed economies of Western Europe and North America. Researchers from International Monetary Fund (IMF) have noted that PPPs in developing countries are still lagging behind today compared to the PPP projects currently being invested into by developed countries (World Economic Outlook, October 2014:79). Researchers from the World Bank also agree that in the last decade there has been a similar pattern as far as implementing PPPs in developing countries is concerned (World Bank 2014:2). Most of the available literature highlights that there is a major difference between past PPPs and the modern PPPs. Past PPPs were based on pragmatic responses to specific situations while the latter PPPs are based on certain policies that Government normally gives priority when it comes to allocation of public resources (Scheded, 2003: 89). Research done by the Copenhagen Centre indicates that there are a number of environmental complexities which can only be addressed as long as stakeholders from both public and private sectors possess the necessary knowledge, experience, competence and financial capacity to effectively address such complexities (Scheded, 2003: 90). Kettl, (1993:4) asserts that today there is need for the public entities to work with private entities in implementing PPP projects that are aimed at provision of services to the public. Scholars such as Miyamoto & Biousse (2014:31) emphasise that those developing countries intending to implement PPP projects should always first learn from the failed experiences elsewhere. Therefore, there is need to have further theoretical conceptualization of Public-private cooperation if PPPs are to be successfully implemented in any country.

2.3.3 PPPs and traditional procurement

Despite different challenges and constraints faced by different countries, PPPs might be superior to traditional approaches in that PPPs are better at utilising scarce public funding, introducing advanced technology as well as innovation and expertise of the

private sectors through improved operational efficiency and leveraged management capacity (Yu et al.,2018:1). A number of documents reviewed shows that the PPP procurement approach has emerged as an alternative strategy to conventional public procurement and most especially in infrastructural development projects (Mudi, 2016: 416). Moreover, PPPs are considered to provide additional advantage over conventional project delivery models due to the 'performance-based specifications' and 'life-cycle approach' followed by it. In PPP projects, project deliverables are specified as outputs, as opposed to inputs for conventional procurement, thus the performance requirements of the infrastructure asset are defined rather than its technical details (Khadka, 2018:1). Compared to the traditional Government contracting, where construction and operation are executed as separate contracts, PPP allows bundling of contracts (Chauhana & Marisetty, 2018:2). A number of scholarly discussions suggest that PPP procurement methods using VFM evaluation criteria are delivering better infrastructure services at lower cost than traditional procurement methods (Michael, Jim and Peter, 2014:150). Alan (2010:1) also notes that traditionally governments across the globe have been the main actors in financing and constructing infrastructure through conventional procurement methods. The author goes ahead to note that, over the last 30 decades, government's role is beginning to shift goal posts because of the need to reduce debts and at the same time to improve and expand upon existing infrastructure (Alan, 2010:1). He observes that this has propelled governments to initiate contractual relationships with private firms so that such firms can relieve government of the role of financing, implementing and managing PPP projects to provide reliable services to their citizens (Alan, 2010:1).

Actually, using PPPs in infrastructural development usually experiences significantly shorter delays than the traditional procurement. In view of the fact that delays are one of leading causes behind cost overruns, the cost overruns attributable to the delays are lower for PPPs than for the traditional procurement (Singh, 2018:18). Scholars such as Burnet, (2005:21), Renda & Schrefler (2006:9) believe that PPPs bring in more opportunities and uncertainties compared to conventional public procurement approaches and there is need for careful scrutiny when choosing such a financing

approach to infrastructural development. Renda & Schrefler (2006:7), Levai (2012:4), Delmon (2010:8) and development partners such as the European Commission (2009:9) advise that the selection of any PPP type needs to be when the benefit-cost ratio of using private entities to deliver services to the public outweighs the outputs, outcome and impact obtainable with the use of conventional public procurement approaches. That is why these researchers and development partners consent that the main objective of PPPs is to deliver services to the citizens in a more effective, efficient and economic manner than what the conventional public procurement approaches would do (Renda & Schrefler, 2006:7; NCPMP, 2002:4; European Commission, 2003:16). Researchers such as Arthur (2000:5) argue that one needs to judge whether a particular PPP model has worked against a realistic examination of what can be achieved by traditional public procurement instead of basing PPP performance on any ideal situation. Arthur (2000:5) argues again that moreover not every traditional public procurement is always done in line with agreed specifications, terms of references and scope of works and so some failures should not be underestimated because they are inevitable. Debates from development agencies pinpoint that PPPs are now viable techniques used all over the world by public organisations in acquisition of supplies, services and works other than traditional public procurement (International Road Federation (IRF) (2015:3). These agencies have identified a number of gaps in implementing PPPs and they have embarked on coming up with various PPP operational guidelines that can be used as a basis for efficient and effective acquisition, allocation and use of public resources by private and public entities when delivering services to the citizens (UN, 2014:37). However, these development agencies note that it is important to continuously adjust to dynamic political, economic, social, technological, environmental and legal environments since there are still opportunities for improving the PPP implementation approaches (International Road Federation, 2015:4).

Such development agencies have advocated for innovative approaches that involve PPPs to be used by governments in providing services to their people other than embracing the conventional public procurement approaches that have a lot of performance gaps in the areas of values, ethics and governance (UN, 2014:37).

Some multilateral agencies hold the view that constraints associated with public procurement as a result of the public sector's limitations on effective and efficient delivery of services to citizens have led to private sector involvement in implementing certain projects aimed providing such basic services to the people (OECD, 2011:16). These multilateral agencies observe that in response to such constraints, many countries have embarked on embracing PPPs as the best alternative technique of improving expertise, reducing costs and delays in the construction, operation and maintenance of public infrastructure other than using traditional procurement approaches (OECD, 2011:17). No wonder some scholars agree with such multilateral agencies that there is need for countries to transit from the use public procurement to PPP as a new and better approach to supplying the public with the badly required basic services (Wendell & Lawrence, 2005:152). Researchers have consented to the fact that many assets owned by the public have traditionally been acquired through the normal public procurement process but of late, such assets are being acquired through developing long contractual relations with the private sector (Elaine, Owen & Neal, 2015:4). These researchers argue that in such a scenario, although the government owns the asset, such contracts tend to go beyond thirty years in order for the private entity to have much more control on the maintenance and management of the asset for a long period of time (Elaine, Owen & Neal, 2015:4).

This is because such researchers believe that private entities that partner with public entities to design and develop such assets have got the best means of mobilising financial resources to invest in the construction of such assets no matter how much gigantic they are (Elaine, Owen & Neal, 2015:5). Mitchell (2007:23) notes that if a PPP project has all the above features, it is likely to have a number of benefits to the citizens compared to the traditional procurement done directly by countries through mere contracting out. More scholarly literature observes that PPPs are normally implemented and handed over on time and within budget compared to traditional procurement since the public party only pays the private party after the agreed deliverables have been realised (Department of Economic Development, 2005:39). Other literature reviewed indicates that when implementing a PPP project, both public and private parties are on the same footing compared to the traditional procurement

where there is a defined procedure of contracting a private company by the public body to implement such a PPP project on its behalf (Van & Koppenjan, 2002:598). Researchers such as Zhijie, Meicheng & Xianfeng (2016:7) agree with the fact that PPP contracts create stiff competition among private partners, which leads to a better pricing strategy that is more economically feasible than charging of user fees in delivery of services to the public as is the case with some public procurement transactions. These researchers highlight that the private firms have better pricing skills that enable them to manage the risks involved in investing in public infrastructure. However, there are some gaps that need to be covered if government is to work with the private sector. While these private entities are more creative and deliver timely services to the citizens, they sometimes tend to over-exploit the public as they deliver such services if not properly regulated and monitored since they tend to be more profit motivated (Zhijie, Meicheng & Xianfeng, 2016:7). While delivering services to the public through traditional procurement mechanisms is a major role of governments worldwide, the use of PPPs can be the best alternative course of action in order to access financial resources that can be provided by the private sector. In the same argument, these scholars contend that the flow of such financial resources from the private sector gives opportunities for more public infrastructure investment and development instead of relying on only government funding (IISD 2013). By reaping the benefits of private sector participation such as pursuit of innovative solutions and better allocation of inputs, PPPs can be a superior solution to traditional public procurement, providing greater VFM (Araujo & Sutherland, 2010:13). There is, however, no indication that PPPs would be better suited to achieve green growth goals than traditional procurement. Specifically, PPPs are critical when they are only chosen because the implicit debt obligation of the state incurred in the context of a PPP project does not appear on the countries' balance sheet and is therefore irrelevant for debt brake mechanisms (Ahnen & Roick, 2018:121).

2.3.4 PPPs as a project financing mechanism

Scholarly literature reveals that PPP performance is to a significant extent influenced by political decisions to use it to finance government projects (Vadali et al., 2014:163; Verhoest et al., 2015:120). As far as collaboration is concerned, PPP enables

governments that are already stretched for resources with the present economic climate to utilize alternative private sector sources of finance (Qistina & Salmiah, 2018:2). Therefore PPPs are now being seen as innovative financial mechanisms and tools for implementing a number of public projects especially in urban public transport, based on the value increment caused by enhanced accessibility. This funding strategy is lately gaining much popularity as a solution to the challenges posed by shrinkage of public financial resources, known as Value Capture Finance (VCF) (Roukouni, Macharis & Basbas, 2018:1). The effectiveness of applied financing policies depends significantly on the level of agreement among stakeholders, making collaboration a prerequisite for success. For governments, PPPs have become a reliable alternative “as an off-budget mechanism for infrastructure development as this arrangement may not require any immediate cash spending (Khadka, 2018:1). The use of PPPs enables the government to tap private funds which can be used to expeditiously upgrade the infrastructure facilities. Otherwise, it is argued, the society will have to wait for longer period before the government can provide funding using its own resources. However, this argument does not stand scrutiny since on average at least three-fourth of the funds invested by private partners in PPPs is borrowed from the market (Singh, 2018:3). This option is available to the government as well. Besides, compared to the private sector, the cost of borrowing is always less for the government agencies. In other words, relative to the government funding of infrastructure, the direct cost of funds is higher under the PPP route.

Moreover, if the bidding is not competitive, the government may not be able to get best VFM from the private sector participants leading to higher cost for the tax-payer in the long run (Singh, 2018:4). Debates by researchers indicate that both public and private actors have key roles to play when it comes to financing infrastructure development using PPPs (Addis Ababa, 13-16 July 2015). Other researchers concur with such debates because they believe that PPPs have become appropriate techniques for financing public projects by both public authorities and private operators globally (International Road Federation, 2015:3). Scholarly literature points out that such a financing approach started in the early 1980s based on the notion of

New Public Management because of the scarcity of resources to finance public utilities and services all over the world (Owolabi, Oyedele, Alaka, Ebohon, Ajayi, Akinade, Bilal & Olawale, 2018:4). Literature reviewed also shows that many governments are adopting this modern approach to be able to provide public services in an efficient, accountable and transparent manner (Velotti et al., 2012:340). A major challenge for foreign lenders in financing PPP infrastructure projects in an emerging market is the bankability of country-related risks (Owolabi et al., 2018:4). More studies indicate that implementing such PPPs successfully requires full involvement of the private sector to provide part of the required financial resources, technical and managerial expertise that are usually lacking in public sector cycles. These studies also reveal that most countries are resorting to financing of their public services in the areas of transport, education, security and communication through PPPs (Reynaers & De Graaf, 2014:120-121). Development partners such as OECD and the World Economic Forum (WEF) (2015:8), on the other hand, illuminate that developing countries should use blended finance as the strategy to fundraise for more financial capital from private companies to implement their badly needed physical and social infrastructural projects.

PPP experts such as Kaberuka (2011:9) observe that most donors are now channeling their financial support to governments in developing countries in form of donations, grants, aid and loans through the private players in order to leverage such big chunks of money by focusing on private sector financing. These scholars argue that because of the basic needs of the people, developing countries cannot be financed only by government agencies; other better financing strategies have to be sought through use of PPPs (Kaberuka, 2011:9). Financing public physical and social infrastructure is a critical issue that covers the development agenda for developed and developing countries as reflected in the Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs). These scholars further argue that this is because most developing countries keep experiencing a funding gap when it comes to financing for infrastructural development projects in terms of their designing, construction, maintenance, sustainability and management (IISD, 2013:15).

A few scholars affirm that it is for this reason that countries globally are now taking certain decisions to work with the private sector in the delivery of public services as has been the case in energy, transport, accommodation, communication and water sectors since such private entities partly contribute the funds that are critically needed to invest in such sectors (Kamau, 2016: 11). Developing infrastructure such as roads and railways requires investment of large sums of money at once especially during their construction stage and it is through partnering with big private companies such as international and multinational companies that such large sums of money can easily be accessed (Kamau, 2016: 12). Other scholars believe that involving private firms in the delivery of public services and development of public assets can optimise the use of resources since such firms possess better expertise to do so in terms of cost effectiveness, financial efficiency, technical innovation and risk management (Wettenhall, 2005:21). These scholars suggest that PPPs have become an operating vehicle through which governments all over the world have endeavoured to be financially disciplined in terms of efficient allocation of resources to PPP projects that provide essential services to the public (Wettenhall, 2005:21).

In addition, such scholars underscore the fact that PPPs give government agencies more opportunities to provide public services to their citizens by using financial resources contributed by private entities without first committing themselves to pay back such financial resources in form of public debt (Wettenhall, 2005:21). That why the same scholars assert that in the face of more financing gaps during implementation of large scale physical and social infrastructure, governments usually look at PPPs as the best option to implement such large scale projects (Wettenhall, 2005:21). Similarly, researchers such as Annez (2006:22) conclude that involving private companies in infrastructure development especially in urban areas is usually limited in scope where financing such infrastructure is intended for non-commercial services. That is why governments need to look for better ways of engaging the private sector when it comes to financing such non-commercial services (Annez, 2006:22). Scholars such as Joseph (2014:6) consider that PPPs in some sectors that are supported by development and implementing partners, are sometimes controversial because much as such development and implementing partners

provide the funds needed to implement PPP projects, they do not at times look holistically at the main concerns of the citizens.

2.3.5 Rationale for undertaking PPPs

From the scholarly literature, there are a number of factors that propel public and private entities to adopt PPPs in the provision of services to their citizens, the major factor being risk sharing (Monteiro, 2007:1). It is also argued that developing countries like Uganda can benefit from participation of foreign firms in infrastructure (Singh, 2018:4). Foreign firms are expected to possess superior construction equipment and techniques. The spill overs from advanced construction technology can reduce the overall cost of building the infrastructure. Moreover, the foreign firms can help boost infrastructure investment (Singh, 2018:4). Therefore, both public and private sectors ought to be appreciated for comprehending well the proper mechanism of working together as they compete in managing the risks and this provides a platform for the efficient delivery of public services (Gerstlberger & Schmittel, 2004:9). PPPs can also be used by the 'interest groups' to get easy access to land. Land is a crucial factor for many private projects such as housing projects of developers, private schools and hospitals. At times it is difficult for the project developers to buy the required land directly from the owners (Singh, 2018:3). Otherwise also, the developers can find it cheaper to use the government to acquire the land since the compensation cost under land acquisition law can be well below the market value of land (Singh, 2018:3). The fundamental justifications for adopting PPP would significantly reduce the upfront costs for the government in providing and maintaining public facilities and that it allows for improvement of the public facilities and services since PPP encourages innovation by the private sector (Qistina & Salmiah, 2018:2).

Some scholars argue that it is because each of the party precisely understands how to manage the associated risk, which partly acts as a safeguard against failure of the PPPs (Sadka, 2007:473). Other scholars point out that using PPPs to finance projects has got an advantage of spreading financing of infrastructure over several generations since it has a long-term use which makes it better compared to traditional

procurements since it promotes fair cost-sharing among the different generations (Pérez, 2011:30). Financial constraints faced by the governments can be yet another important reason. The use of PPPs enables the government to tap private funds which can be used to expeditiously upgrade the infrastructure facilities. Otherwise, it is argued, the society will have to wait for longer period before the government can provide funding using its own resources. However, this argument does not stand scrutiny since on average at least three to four instances of the funds invested by private partners in PPPs is borrowed from the market (Singh, 2018:5). Scholars like Calitz & Fourie (2010: 180) claim that PPPs provide an opportunity for a better pricing strategy which makes the key stakeholders find it easy to afford to pay for the goods and services arising from such PPP arrangements.

A few other scholars argue that participation by private players in the provision of public services became more apparent since the 1980s (Vickerman, 2015:2) as a result of several factors such as change in technology, failure to manage infrastructure that is so complex in an efficient manner, deficit budgeting (Vickerman, 2015:2), better pricing mechanisms, better management structures, efficiency and effective allocation of PPP resources (Davis, 2005: 439), availability of customers for PPP products (Calitz & Fourie, 2010:179), and need for infrastructure to promote economic growth (Heald & Georgiou, 2011:217). Perceived inefficiency of the public sector organisations can be another important reason behind the use of PPPs. Such perception has contributed to privatisation of several services like distribution of water and electricity. However, for several public goods and infrastructure facilities, an outright privatisation can trigger public outrage. In such a scenario, PPPs provide a politically expedient middle path. They allow transfer of operation and maintenance rights over the public goods to the private sector. Since the government retains the ownership of assets so PPPs shield the government from protests against privatisation (Singh, 2018:6).

2.3.6 The role of Public and Private Sectors in implementing PPP Projects

A PPP allows public-sector and private-sector investors to cooperate, on the basis of a contract or institutional agreement, in designing, planning, financing, building, and

operating infrastructure provided by the state. The PPP model has been used by both public and private sectors in a wide range of areas, from hospitals to motorways, infrastructure to defenseless airspace, and from schools to prisons (Mehmet & Cuma: 2018:3). Through the PPPs, the public sector can alleviate the shortage of the infrastructure investment and increase the efficiency of infrastructure provision, while the private sector can broaden their investment channel without severely endangering their corporate assets (Zhu & Chua, 2018:1). According to Mitchell (2007:23), the public sector should take over the overall responsibility of ensuring that they convince the private sector to participate even in PPP investments that may be looking unprofitable, ensuring that they safeguard well all projects that are of public interest, predetermining the social benefits that accrue from the PPP project, coordination with politicians and ensuring effective monitoring mechanisms for the PPP projects.

Mitchell (2007:23) goes ahead to say that the private sector should be responsible for persuading other private players such as banks to come on board, determining technical specifications, taking over all charge of managing the PPP project, providing all the necessary information about the PPP project, developing better technical specifications and cost estimates. As Zarco (2005:23) puts it, the role of a public entity in implementing any PPP project is to define, understand and ensure that the resultant products meet public interest and needs. As Zarco (2005:24) notes again, the role of the private player is to ensure that a PPP project is well managed in the most efficient and effective manner. Scholars like Sadka (2007: 469) argue that one of the main features of PPPs is for the private entity to be responsible for the separate functions of project construction and the operation and so they will be willing to invest in the construction phase since it will benefit from the operation phase. For Sadka (2007: 470), such strategic interventions ensure quality of the service to be delivered especially if the PPP contract terms and conditions are clearly stated for both public and the private actors. However, Sadka (2007: 480) warns that if a period is not long enough to enable the private company to meet all her construction and operational costs, she may be discouraged from partnering with the public sector to implement such a PPP project. Some of the reviewed literature seems to suggest that the private

sector not only designs and builds, but also finances, operates and maintains the newly constructed facilities under a long-term PPP contract arrangement as long as the private entity is sure she will be able to cover all construction and operation costs involved in implementing such PPP projects (Grimsey& Lewis, 2007:172).

At the end of the PPP contract, usually the private sector transfers facilities back to the public sector (Grimsey & Lewis, 2007:173). Van Ham & Koppenjan (2002: 598) adds that such PPP contractual relations are specifically appropriate for projects which are so complex that more technical expertise, financial resources and innovations from the private sector are needed by the public sector if such a PPP arrangement is to be successful. It should however be noted that when it comes to management of solid waste especially in urban areas, community participation in waste management is the cheapest other than use of PPPs Maiyaki, Marzuki & Mustafa, 2018:191). This is because in community participation approach, the expense is borne by waste generators while in PPPs, there is no provision to recoup the cost from waste generators. The cost of collection and transportation of waste management is much lower with community participation than with PPP since community participation waste is separated at the source, and only non-biodegradable and non-recyclable materials are transported to dumpsites (Maiyaki et al., 2018:191).

2.3.7 PPPs in Infrastructural development

PPP projects for infrastructural development typically have a long life cycle, but little is understood about the nature of the changes that such a project goes through over the phases of its life cycle and yet, infrastructure is a crucial driver of economic growth (South, Eriksson & Levitt, 2018:1). In developing countries, however, there are significant infrastructure deficits. The G20 estimates that \$1.5trillion will be required annually to plug these deficits and that the money will largely need to come from private sources (Tyson, 2018:1). Some scholars have suggested an innovative way of implementing such infrastructural projects based on an ex-post performance evaluation framework (Yuan et al., 2009:263; Yong, 2010:48; Liu et al., 2014b:2). The services in the area of public utilities such as energy, water supply, waste treatment,

communication and transportation that were once predominantly controlled by public sector are now seeing governments in different countries engaging private sectors for enhanced efficiency, time saving, risk sharing, management expertise, advanced technology, reduced direct and indirect cost (Khadka, 2018:1). According to the IMF (2014:79), investment in infrastructure using PPP contractual arrangements is not far-reaching in the developing countries compared to the developed countries (IMF (2014:79). The World Bank also indicates that private sector participation in the development of physical and social infrastructural in developing countries has been extremely limited for the last 30 years compared to the developed countries (World Bank, 2014:2). Debates from scholars reveal that most countries are using PPPs in different sectors of the economy such as roads, railways, water, health, education, and housing to deliver services to the public (Zarco, 2005:24).

Debates from other scholars concur that PPPs are being used by both public and private players in infrastructure development for better delivery of services (Xueqing&Shu, 2013:1). As observed by Wettenhall (2005:22), PPPs are dominant mechanisms for developing the badly needed infrastructure of developing economies in the 21st Century. Debates from practitioners indicate that the major goal of Infrastructure development through PPP arrangements is for delivery of services to the public in a sustainable manner (Pérez, 2011:15). Such debates specify the different Infrastructure facilities that are a major focus when it comes to implementing PPP Projects such as communication, waste, energy, education, health, transportation and water facilities (Pérez, 2011:16 & Prud'Homme, 2004:3-4). The development of such infrastructure facilities normally needs heavy financing which can easily be made possible through PPP contractual arrangements (Brandao & Saraiva, 2006: 1037). Indeed, implementation of PPP projects to develop physical and social infrastructure usually leads to economic growth and development (Prud'Homme, 2004:4-5). Research done by some scholars reveals that most countries globally are continuously focusing on use of PPPs to develop infrastructure in the last twenty years (Raja & Narain, 2011:1), although other countries such as Britain started looking at PPPs as the best alternative strategy for financing its infrastructure development as early as 1980s (Heald et Georgiou, 2011, p. 217). PPP

practioners such as Kaberuka (2011:17) believe that countries in Sub-Sahara Africa should not be an exception when it comes to implementing PPPs projects for infrastructure development through build, finance and operate mechanisms. Kaberuka (2011:17) further observes that there are good percentages of PPP contractual arrangements in Africa that have been growing slowly but surely since the late 1990 (Kaberuka, 201:17).

However, although private investment in infrastructure in developing countries has grown significantly over the past 10 years, major challenges remain (Tyson, 2018:2). The first is that private investment has been concentrated in commercially attractive sectors and countries, so has not always matched development needs (Tyson, 2018:2). Also, sectors vital to development, such as urban infrastructure, have seen insufficient funding. Furthermore, global private-finance flows to developing countries have declined since the ‘taper tantrums’ of B 2014 and because of regulatory changes under Basel III and Solvency II (Tyson, 2018:2). In addition, the involvement of the private sector in financing public urban infrastructure projects has its own challenges, hence the hesitation of the private sector to participate (Dithebe & Aigbavboa, 2018). Governments can encourage private sector involvement by cost sharing and rewards for early completion, incentive proceedings of the payment during projects and guaranteeing expected returns (Dithebe & Aigbavboa, 2018). That is why some times, the private sector has had little to do with financing and planning for public urban infrastructure projects and so their involvement occurs as contractors rather than as investors (Dithebe & Aigbavboa, 2018).

2.3.8 PPPs in the roads sector

Many studies on PPPs have linked infrastructure development mainly to the roads sector. While a number of studies on PPPs focus on a wide spectrum of infrastructure such as schools, bridges, prisons, utilities, court houses, water, seaports, sanitation, hospitals and airports, this study focuses on the road sector that accounts for 57.3% of total PPPs spending all over the world (Charles, Hugh & Joseph, 2013:2). In this study, the roads sector has been chosen by the researcher because PPPs take a large portion of the budget for roads infrastructure and it is the largest sector when it

comes to spending money on PPP projects in developed and developing countries (Jean et al, 2008: iiv). There is therefore a need to explore the financial and economic aspects of applying PPPs to the roads sector through undertaking a thorough project feasibility analysis that allows the public sector to master plan socially beneficial infrastructure projects such as those in the roads sector and to find financially viable options for private investments (Badasyan, 2018:1). The novelty of such project feasibility analysis approach is that the economic output of the road projects is considered based on both design options of the roads and the chosen organisational model for the private investments (Badasyan & Alfen, 2018:2). It is also argued that implementation of PPP projects plays an important role in the current delivery of road infrastructure services. These studies point out that the adoption of PPPs in the roads sector has been a result of the widened gap between the current road sector services needed and the capacity of countries to finance it through traditional procurement (Jean et al., 2008: 4). That is why several scholars assert that the need to provide essential transport services to the public has compelled governments to work with private entities in financing the implementation of PPP projects in the roads sector (Jean et al., 2008: 4). Scholars such as Saussier (2013:143) confirm that PPP contractual relations in the roads sector are being used by different government all over the world to fill the resource gaps for implementing such PPP projects to provide road sector services to the public in the most efficient, effective and economic manner. Some scholars such as Araujo & Sutherland (2010:6) look at such PPPs as long-term contractual obligations existing among both public and private bodies for the initiation, design, planning, implementation, monitoring, evaluation, management and sustainability of projects in the roads sector. Araujo & Sutherland (2010:6) observes that in such a case, the private entity is responsible for construction and maintenance of roads and managing facilities pertaining to such roads. In turn, the state pays for such private services rendered or through allowing the private entity to charge toll fees from the road users. Araujo & Sutherland (2010:9) concludes that in such a scenario, there should be equilibrium when allocating risks among public and private bodies such that the public sector can take on risks that its private sector may fail to bear and vice versa when it comes to adoption of PPPs in the roads sector.

2.3.9 More gaps identified in literature on the concept of PPPs

While the review of literature does not offer a clear picture of PPP results, there are number of studies that have had concerns over the performance of PPPs in the implementation of projects in any sector. Roehrich et al. (2014:113) concurs with such assertions that the use of PPPs in implementing projects in any sector can handicap quantum improvements due to limited technical expertise possessed by the private company as a result of the high transaction costs and mammoth size of the project. Roehrich et al. (2014:113) says that when such transaction costs are extremely exorbitant throughout the different phases of the project, there is limited cohesion between the contracting body, service providers and service users. Research done by the World Bank articulates that such inconclusive evidence on the performance of PPPs is illustrated by shortfall in investment by the private sector which makes the entity fail to lower prices for the citizens even though there may be an increase in PPP operational efficiency (Roehrich et al., 2014:113). Several studies, therefore, do not argue that PPPS are a treatment that can heal all of the infrastructure problems. These studies encourage researchers to acknowledge the gaps and best practices involved in the process of implementing such PPP projects. They argue that PPPs are just one of the alternative actions for constructing, maintaining and refurbishing already existing infrastructure and that is when if it is to be used in a more efficient manner (Michael, Jim & Peter, 2014:150). Similarly, researchers such as Annez (2006:22) argue that involving the private sector in infrastructure development is logically limited in financial scope especially when it comes to funding the development of a wider range of infrastructure that is associated with non commercial services in urban areas. In such instances, Annez (2006:22) suggests that authorities should identify other alternatives to finance the development of infrastructure that is associated with non commercial services in urban areas such as getting long term loans from bilateral and multilateral agencies to undertake such investments in order to reduce inequities among different generations. Therefore, Annez (2006:22) advises that the notion that PPPs efficiently and effectively allow a country to develop infrastructure where it does not have the ability to raise enough revenue, need to be cautiously viewed.

Funding agencies pinpoint to loss of long-term future revenue streams by government in instances where the public entity allows the private entity to implement a project and gets her returns through levying toll fees in road infrastructure services; such approach to providing services to the public may prove to be very costly (IMF, 2014:1). The notion that PPPs should be used in circumstances where governments are faced with financial challenges may be hinged on poor financial accounting standards (IMF, 2014:2). Trebilcock & Rosenstock (2015: 342-343) note that investment in PPP projects in developing countries lags behind PPP investments in the infrastructure projects of developed countries.

There are products delivered by the public sector to citizens that seem tax-free and are now being doubly taxed. This is especially in instances where the public pays taxes to raise part of the revenue to contribute to the implementation of PPP projects and it is again taxed to pay for the use of the facilities from such PPP arrangements (Calitz & Fourie, 2010:179). Prud'Homme (2004: 5-6) advises that due to the nature of technicalities involved in development of infrastructure, government should never leave its construction and maintenance fully to the private sector without ever getting involved to monitor and regulate their actions. The author notes that in instances where construction and maintenance of infrastructure is fully left to the private sector, the government will only bear the possible policy failures, which subsequently make the public suffer innocently (Prud'Homme 2004: 5-6).

Based on the above contestation, Araujo & Sutherland (2010: 6) advise that such a strategic decision making process should remain under the confines of the public sector during the entire PPP project life cycle process. Other scholars observe that the PPP legislative environment in developing countries is relatively new and it is inadequate in monitoring implementation of PPPs by the private bodies. Therefore, some researchers argue that this might be the reason private businesses get supernormal profit, which they do not share with the citizens (Gassner, Popov & Pushak 2009: 5). The rest of the researchers argue that the benefits accruing from such PPPs are not commensurate with the public interests and needs (Harris 2003: 13).

2.4 PPPs and VFM

This subsection considers a qualitative VFM assessment which tries to ascertain whether the different PPP models are all appropriate for ensuring VFM in any sector (ADB et al., 2014:132). The purpose of VFM assessment method is to realize the utilization efficiency optimization of public resource allocation and achieve the required quality at the lowest whole life cost (Hu & Han, 2018:3). The conceptual review of PPPs and VFM in this chapter focuses on assessment of literature on the different terms related to PPPs and VFM, while analysing scholarly writings and debates on different approaches to understanding the concept of VFM. The conceptual review process of PPPs and VFM adopted an exploratory examination of the broad definitions of the VFM concept from the global to the local point of view, while investigating its linkage to road infrastructure. This approach is appropriate because the term VFM associated with PPPs in developing countries like Uganda is quite new and there is limited literature on PPPs and VFM (Mouraviev et al., 2016:169). Therefore, the conceptual review of PPPs and VFM mainly looks at a number of meanings of VFM from the way the western world looks at them, compares and contrasts them and brings out similarities and differences between them. The conceptual review of literature on PPPs and VFM tries to make a survey in order to precisely understand the meaning of VFM and its related terms. The assessment of literature on the concepts and terms related to VFM gave guidance to the researcher to identify some gaps in existing literature on the concepts of PPPs and VFM under study. The concept of VFM discussed below describes the different definitions related to VFM and more so in infrastructure projects. Unfortunately, many PPPs and VFM studies tend to ignore elucidation of the way different stakeholders understand the terms related to VFM and their adoption in the roads sector.

2.4.1 PPPs as a strategy to ensure VFM

PPPs are usually used by the government for provision of public services to the citizens in order to realize more VFM (Geng, Xu, Linc, Yin & Yan, 2018:1). Different scholars argue that due to increased pressure for efficient service provision from the citizens in addition to insufficient investments in public infrastructure by governments,

a new strategy to deliver public services and ensure VFM has been embarked on (SAIIA, 2005:17; ADB et al., 2014:33-34). Value is created and captured primarily through a risk sharing strategy to allocate risks to partners that are best aligned with the resources of the respective partners and the alignment of control mechanisms with transaction attributes (Chunga & Hensherb, 2018:1). This has compelled many governments globally to acknowledge the role PPP plays in ensuring VFM in terms of promoting efficiency, effectiveness and economy in the provision of services to the citizens (ADB et al., 2014:13). In this case, literature reviewed showed that VFM is a popular analysis tool widely used by public agencies to determine the success of the project delivered via PPP model, where VFM is the difference between the Public Sector Comparator (PSC) and the Life Cycle Cost (LCC) of a PPP project. The PSC is commonly treated as the core quantitative component of VFM assessment (Zhang & Dong, 2017:1). However, some scholars such as Jomo et al. (2016:1) are of the view that PPPs cannot easily produce results since the objectives of the public and private players tend to be contrary. Scholarly literature reveals that although PPPs are associated with many benefits to public and private sector stakeholders that are VFM related, they are also associated with a number of complexities and constraints which may water the realisation of VFM (SAIIA, 2005:7). The qualitative components of VFM, however, have not been considered seriously in VFM analysis due to lack of a valid mechanism characterizing and treating them. In addition to VFM analysis, many researchers pay much attention to evaluation of PPP projects from the perspectives of risk management and key successful factors for the performance of PPPs. Such aspects closely related to risks and performance are always non-financial and they tend to be qualitative (Zhang and Dong, 2017:2). On the other hand, the reviewed literature points out that with the right policies in place and government support, PPPs may enable countries to realise VFM in developmental project (World Bank, 2016 & SAIIA (2005:7).

Some discussions from literature stress that on average the number of PPPs adopted in developing countries in monetary terms rose from \$182 million in 2003 to \$322 million in 2013 and eventually reached a peak of \$410 million in 2010. The question most PPP experts would pause is whether such financial investments necessarily

lead to VFM. However, scholars such as Jomo et al. (2016:6) once again wonder why the private sector has contributed only a small portion of funds ranging from 15% to 20% to finance PPP projects in infrastructure compared to the funds contributed by the public sector in developing countries. Scholarly debates from; researchers such as Renda & Schrefler (2006:7), development partners such as NCPPP (2002:4) and European Commission (2003:16) concur that the main objective of a PPP is to ensure VFM through delivering services to the citizens in a more efficient, effective and economic manner. Unfortunately other scholarly debates have identified certain scenarios where deceptive means of analysing VFM have been used so as to demonstrate that financing infrastructure through PPPs is much better than use of conventional public provision (Jomo et al., 2016:1). On the other hand, some other scholarly debates suggest that a well-developed PPP policy framework is crucial if the elements of VFM are to be realised from adoption of PPPs by different countries all over the world (European Commission, 2003:38). However a broader effort may be required to understand the exact value creation mechanism in the use of PPPs for provision of public services, but means there would be need to have alternative forms of economic organization and boundary choices between sectors (Berezin, Sergi & Gorodnov, 2018:1). However, the existing research on value distribution and capture mechanisms in PPPs adoption tend to only focus on significant economic and nonpecuniary benefits accruing to the private actors from public sector ties, bypassing broader organizational and managerial dilemmas inherent in such collaboration and any potentially adverse effects on private sector outcomes (Berezin et al., 2018:1).

2.4.2 The concept of VFM

The review of scholarly literature indicates that the increased demand for quality goods and services by citizens from their governments has compelled the public sector to put more emphasis on VFM when it comes to use of PPPs in the implementation of public projects (Abdul et al., 2015:1). This is because PPPs are considered more efficient, effective and economic in terms of ensuring better VFM. In huge infrastructure projects, the calculation of efficiency is based on the calculation

of various factors that allow evaluating the project from the economic, social, scientific, technical, investment and other points of efficiency (Sablina & Dubolazov, 2018:1). With reference to the PPPs procedures for the enhancement of the public property assets, an innovative methodology for assessing the financial conveniences of the contracting parties involved is therefore necessary (Tajani, Morano, Liddo and Locurcio, 2018:2). A number of debates from development partners and PPP experts agree to the fact that VFM has no widely accepted standard definition (ADB et al., 2014:18; Jomo et al., 2016:3). Some scholars allude to the fact that different nations and organisations have initiated and conceptualised definitions of PPPs and VFM (Jomo et al., 2016:6). For that case, some organisations conceptualise the definition of VFM as the “optimum combination of whole of life costs and quality of the good or service to meet the user’s requirement” (UK Treasury (2006:7). Some scholars, however, assert that VFM may not necessarily mean the lowest cost incurred by a PPP project.

This means PPP is a promising approach for sharing the lifecycle cost of of many developmental projects among public and private investors and facilitating the development of such projects (Alaghbandrad &Hammad, 2018:1). This is because there are usually high costs of financing a PPP arrangement with private equity and since it leads to more high operational costs, the basic costs of implementing a PPP project are normally very high compared to any other option of developing infrastructure by government (Matti, 2014: 8). Borrowing a leaf from PFI projects in the UK, several debates from PPP practitioners agree to the fact that there are six major factors to be considered when assessing VFM such as the use of an output specification, performance measurement, risk transfer, private sector management skills, whole of life cycle costing, competition, and other incentives. These PPP practitioners argue that of these, risk transfer and competition can be the major factors to consider (PFI, 2008:11). However, debates from some researchers stress that although competition and risk allocation are the perquisites for adoption of PPPs in infrastructure, they may not necessarily guarantee VFM (OGC, 2002: 6). Debates from other practitioners have agreed with the fact that VFM can be defined as “a measure of the extent to which cost savings are achieved when delivering a public

infrastructure project through a PPP relative to a traditional government led procurement approach” (Matti, 2014: 8). These practitioners of PPPs note that there are various drivers of VFM in PPPs, which include innovative facility design that improves the user experience and save costs, the use of concessions that provide long-term cost certainty and specify the management of the asset over its complete lifecycle, enhanced upfront project planning, incentive based bundled contracts that lead to timely and budgetary delivery and the allocation of PPP project risks to the partner that has best capacity to manage them in order for governments to be shielded especially when there are very high transactional costs overruns, reduced revenue and unavailable facilities for their users (Matti, 2014:12). Other practitioners such as Deloitte & Touche, (2011: 20) assert that the partial finances that the public entity provides is normally aimed at leveraging the lowest rate of borrowing as it still expects the private partner to contribute a bigger portion of funds required by the PPP project which ensures the benefits from the risk transfer that are in line with private financing. The analysis from the definitions above demonstrate that VFM generally tend to take different forms of terms associated with value arising from medium and long term PPP contractual relationship between the public and private entity whereby the private partner commits to perform some or most of the phases of the service or asset provision originally offered by the public entity (ADB et al., 2014:14). PPPs should therefore always be optimally chosen only when there is a fair allocation of the bargaining power between the public sector entities and private sector entities and when bargaining procedures are not perceived as being too lengthy or costly for service provision (Busoa & Stenger, 2018:1).

2.4.3 Comparison of VFM in PPPs and traditional public procurement

Most of the available literature highlights on how many countries have been either using conventional public procurement or PPPs in line with achieving VFM related objectives. The review attempts to broaden the comparison of VFM in conventional public procurement and PPPs from global to local and organisational level. However, PPPs are more complex when compared to traditional procurement process, requiring a huge amount of preparation, training and experience as well as good monitoring and management skills (Kavishe¹ & Chileshe, 2018:446). In addition,

studies show that the success or failure of both conventional public procurement and PPPs largely depends on ensuring that the VFM components are captured and well embedded in either financing approach and whether they have been realised or not. Literature conceptualises the VFM elements to be more realised under PPP contractual arrangements compared to conventional public procurement (Burnet, 2005:21). More so, PPPs are more critical when it comes to VFM aspects such as effectiveness, efficiency and economy compared conventional public procurement approaches (Renda & Schrefler 2006:7). Researchers such as Renda & Schrefler (2006:7), development partners such as NCPPP (2002:4) and European Commission (2003:16) concur that the main objective of a PPP is to ensure VFM through delivering services to the citizens in a more efficient, effective and economic manner compared to the traditional public procurement approaches. Some scholarly literature surveyed indicates that one of the main drivers for governments to procure for road sector projects using PPP approaches is premised on the notion that PPPs yield more VFM than traditional public procurement approaches. However, the reviewed literature reveals that there is a gap with the above assertion because some other scholars argue that the way PPPs are usually organised cannot be good enough to ensure VFM compare to public procurement (Darrin & Mervyn, 2004: 129). This is because the organisation of the partnership is in such a way that it bundles together many different aspects of design, construction, operations and maintenance, and yet a better feasible option would be to 'unbundle' these functions into separate contracts (Darrin & Mervyn, 2004: 129).

A review of literature shows that some practitioners such as PricewaterhouseCoopers (2009: 9) articulate that a VFM analysis examines holistically future cash flows to find out whether it is appropriate to use a PPP approach or a traditional public procurement option when implementing a certain project. Scholars such as Jomo et al. (2016:12) advise that for government to justify the use of PPPs to ensure VFM when developing infrastructure, it needs to first make comparison with delivery of public services to the citizens using traditional or conventional procurement methods. As stated by some scholars such as Hall (2015:3), private organisations usually tend to work with public organisations when implementing PPP projects only if they are

able to maximise profits for their survivability and in way may end up charging very high prices for services rendered to the public thus defeating the VFM motive which may not be the case with traditional public procurement approaches. That is why other scholars such as Michael, Jim & Peter (2014:150) argue that PPPs as an important option to traditional public procurement method for developing infrastructure should only be used more widely where they can realize the greatest VFM. Theoretical literature provides rationale for realisation of lower costs of constructing and maintaining infrastructural facilities through use of PPPs than traditional public procurement techniques. The same scholars provide evidence to show that when it comes to VFM evaluation criterion, PPP tend to deliver better services to the citizens at lower cost than conventional public procurement strategies (Michael, Jim & Peter, 2014:150).

PPP experts such as Deloitte & Touche (2011: 20) assert that the part of finances contributed by the public entity in any PPP arrangement is aimed at reducing the chances of using conventional public procurement process, as it gets the private entity on board to bring more funds and implement the PPP project at low risk and in an effective, efficient and economic manner that ensures VFM. However scholars such as Boardman & Vining (2010:381) disagree with the above assertion by Deloitte & Touche (2011: 20) and instead contend that much as PPPs may appear to be associated with low risks for the private entity, all this is false if not even more negative. Boardman & Vining (2010, 381) and CCPPP (2008: 2) suggest that such PPP adoption processes should be motivated by the commercial gains rather than social gains such as PPP contractual relationships. Development partners such as CCPPP (2008: 2) contend that even if PPP planners and implementers are bound to use PPPs to invest in developing infrastructure without using government's financial resources, most likely it would not be effective in reducing the levels of public debt elsewhere (CCPPP, 2008: 2). That is why other studies by World Bank experts on PPPs openly report that allocating all demand risk to private investors has a very poor track record when it comes to achieving VFM objectives compared to use of conventional public procurement (Menzies & Mandri, 2010: 2). Other scholars such as Darrin & Mervyn (2004: 132) conjure that some PPPs can be differentiated from

public procurement by virtue of the requirement that private companies are the ones that usually fund the PPP projects. Darrin & Mervyn (2004: 132) go on to say that given that the extra cost incurred in financing a PPPs by the private entity and yet borrowing some funds by the public entity is likely to be between 1 to 3 percentage points, some scholars have argued that PPPs can never be cost effective leading to the loss of VFM opportunities. Some other scholars such as Grout (1997:16) argue that what is most crucial is to measure the risks associated with implementing a PPP project if VFM opportunities are to be ensured. Grout (1997:16) goes on to say that here what is unique is that when the private party finances the PPP project, out rightly it tends to include the risk into the cost of capital. Grout (1997:16) adds that on contrary, conventional public procurement tends to hide the risk because the state can finance the project at a risk-free rate that is autonomous of the actual risk position. Grout (2003:21) also argues that when valuing the delivery of services to the citizens using PPPs by public entity, a discount rate is normally applied to a cost cash flow. Such cash flow represents the cost of constructing the PPP facility as long as it is executed by in the public entity. Based on Grout (2003:21)'s assertion however, some gaps in literature can be identified because the standard practice of using the same discount rate shows that provision of project funds by both the public entity and private entity is inappropriate since it creates prejudice for provision of project funds by the private entity and can lead to a lot of dependence on conventional public procurement that may not lead to VFM.

Grout (2003:21) once again contends that a higher discount rate should be used for the funds used to finance PPP project than for the funds used to finance public sector operations. Grout (2003:21) finally says that failure to do so will indicate that the delivery of services and goods to the citizens using PPPs by private entity is less efficient than the delivery of services and goods to the citizens using conventional procurement by public entity because the present value of private delivery will be overestimated relative to public delivery using conventional public procurement which subsequently leads to loss of VFM opportunities (Grout, 2003:21). Conversely however, the reviewed literature also indicates that there are gaps in such VFM comparisons as far as PPPs and conventional public procurement process is

concerned in certain instances as that of European Investment Bank report that compared the cost of 227 new roads across 15 European countries. Out of those 227 new roads, 65 were procured under PPP arrangement and the estimates of initial investment costs of each PPP road was proven to be 24% more expensive than if each road was procured under the usual traditional or conventional public tendering procedures (Blanc, Gold & Valila, 2006:2).

2.4.4 Determination of VFM under PPP Projects

VFM as the lifecycle assessment approach in PPPs essentially covers the overall project performance in both qualitative and quantitative ways. The Highway Development and Management model (HDM-4) is a software system developed for the evaluation and optimization of the economic benefits of the PPP projects especially in the road projects and is widely used both by practitioners, decision makers, international consulting companies, and academia to determine VFM (Badasyan & Alfen, 2018:3). However, the performance measurement in VFM is still lacking supporting data in the PPP project lifecycle (Ren, Li, Jiao & Zhang, 2018:1). As already indicated earlier on, a review of literature shows that a VFM assessment examines holistically future cash flows to find out whether it is appropriate to use a PPP approach or a public procurement option when implementing any project for infrastructural development (PricewaterhouseCoopers, 2009: 9).

Debates by specialised experts from different financial, accounting and engineering disciplines indicate that a VFM analysis tracks the progress of any financial benefit accruing from the use of PPPs and that it can also be used as a basis for auditing the financial performance of PPPs in order to promote transparency in the use of public resources (Price water house Coopers, 2009:9). Scholars such as Ruchi (2015:253) note that apart from being an option for funding government projects, private sector involvement can be seen as a better strategy of adding more value in all the phases of the project life cycle in terms of innovations, technical expertise and managerial capacity (Ruchi, 2015:253). Debates from some Scholars such as Jomo et al. (2016:12) insist that for government to justify the use of PPPs in developing infrastructure, such a PPP contractual arrangement must reflect the elements of VFM.

Jomo et al. (2016:12) says that this term “VFM” needs to be clearly and vividly defined and understood in the widest possible sense first by both public and private stakeholders before opting to use PPPs in implementing infrastructural projects. Jomo et al. (2016:12) adds that at PPP initiation stage, VFM should put into consideration the transactional and operational cost of any PPP first in addition to the quality of the products to be delivered to the public before such a PPP project is implemented.

Also Jomo et al. (2016:12) argues that for government to justify the use of PPPs in developing infrastructure, it needs to first make comparison with delivery of public services to the citizens using conventional procurement methods. However, the reviewed of literature indicates that there are gaps in such VFM analysis as illustrated by Blanc, Gold & Valila (2006:2) who believe that in certain instances the cost of using PPPs to implement public project may be much more higher than that of using public procurement.

That is why in such a scernerio, it is important to take note of the European Investment Bank report that compared the cost of 227 new roads across 15 European countries of which 65 were PPPs, where estimates of initial investment costs of each PPP road was proven to be 24% more expensive than a traditionally procured road (Blanc, Gold & Valila, 2006:2). Scholarly debates from researchers such as Michael at al. (2014:151) add that a number of countries all over the world tend to measure VFM as part of project conception, initiation, selection and evaluation criteria mechanism even when not all give a thorough technique for assessing it.

These researchers conclude that there are 4 techniques for analysing VFM when procuring for any infrastructural project. These include a detailed modelling of risk-weighted and life cycle costed models of the conventional public procurement and a shadow bid for a PPP before bids are invited, reliance on a competitive bidding process, a full cost-benefit analysis of the most likely public and private sector alternatives, and a VFM comparison of the Public Sector Comparator and the contractor proposals received following the tender process (Michael, Jim & Peter, 2014:151).

2.4.5 VFM and associated PPPs' risks

Achieving disaster resilience in provision of services to the public requires government and businesses sharing potential risks, as well as identifying disaster consequences, priorities, information, and capabilities when adopting any PPP (Jason & Ross, 2018:1). A number of research studies show that much as PPPs offer vivid benefits to the public sector, private sector and citizens if well executed, PPPs are time wasting, complex and burdensome because of the numerous risks associated with their implementation (SAIIA, 2005:7). In terms of risk sharing, PPP can be considered as the middle path between conventional project finance and privatization programs.

The risk is shared between public and private sector, unlike lying with any one of the parties as in the conventional project finance and privatization programs (Chauhana & Marisetty, 2018:3). Simultaneously, the private sector will benefit regarding skills and management offered by the government agencies. PPPs are described as the involvement between risks, investment, resources, responsibility, and rewards. However the increased uncertainty of long term contract duration coupled with the involvement of multiple stakeholders proves to be a challenge to the development of risk strategies for PPPs (Khallaf, Naderpajouh, Hastak, 2018:1).

The main PPP risks during construction stage include completion on time, cost overrun, performance, and environmental risks (Marzouk & Ali, 2018:3). The main risks during operation stage include political, macroeconomic, and revenue risks. Improper mitigation of these risks may result in financial failure of the project (Marzouk & Ali, 2018:3). Accordingly, before entering such projects, the private sector must carefully assess the major risks that may intimidate the success of the project.

If the private sector is not comfortable with the level of risks and there are no appropriate mitigation strategies, the private sector will withdraw from the arrangements (Marzouk & Ali, 2018:3). Therefore proper planning is essential to ensure that VFM is created, the risk is shared, and problems in implementation are minimized (Qistina & Salmiah, 2018:2). In support of the above assertion, Burnet,

(2005:21), Renda & Schrefler (2006:9) note that much as PPPs provide better opportunities for infrastructural development in both developed and developing countries, they also offer a number of risks and certainties which must be well analysed and assessed first before investing in their adoption, implementation and maintenance if VFM objectives are to be realised. That is why Renda & Schrefler (2006:5) go ahead to say that the core objectives of PPPs are embedded in the re-allocation of risks among the different PPP development and implementing partners that possess the appropriate technical and management skills to execute them at the lowest possible cost to ensure VFM (Jomo et al., 2016:3).

A number of other scholars concur with the fact that the selection for the PPP form to use in infrastructural development should be embarked on after a thorough assessment of risks associated with such a PPP has been done using a cost benefit analysis approach in order to ensure VFM (Renda & Schrefler, 2006:7; Levai, 2012:4; Delmon, 2010:8; European Commission 2009:9). Debates from Deloitte & Touche (2011: 20) point out that the funds needed to implement PPP projects are usually provided by government after risks associated with the use of either such PPPs or conventional public procurement process have been calculated.

This is aimed at reducing the chances of the use of conventional public procurement process, as the private partner is brought on board with more funds to implement the PPP project at low risk and in a more cost effective, efficient and economic manner to ensure VFM. On the other hand, scholars such as Boardman & Vining (2010:381) object to the above statement and instead suggest that much as PPPs may appear to be associated with low risks for the private entity, sometimes the opportunities for VFM accruing from such PPPs may be outweighed by the risks associated with their adoption, implementation, maintenance and sustainability.

Menzies & Mandri (2010: 2) contend that allocating all demand risks and uncertainties to private investors has a very poor track record when it comes to implementing PPP projects for development of physical and social infrastructure to deliver services to the citizens. More research study surveyed also reveals that most countries in the developed and developing world usually use performance based and fixed-price

contracts in order to reduce operational costs and to ensure that PPP risks are transferred to the private party if VFM objectives are to be attained (Blain, 2009:1). In such situation of uncertainty, scholars such as Boardman & Vining (2012: 125) propose that some components of VFM should be included in the PPP arrangement between the public and private sector in order to reduce risks that can arise from implementation of such PPPs by the private sector.

Scholars such as Arthur (2000:3) propose that the PPPs should be awarded to the best evaluated private bidder through a competitive process that ensure VFM after risks associated with implementation of such PPPs have been properly and rigorously assessed and allocated between the public and private sectors and a comprehensive risk management plan developed. Arthur (2000:3) also notes that if such allocated risks between the public and private sectors cannot be effectively responded to by the private sector and whenever they arise, government keeps transferring them to the private sector, VFM will reduce because the return on investment aimed at by the private entity might outweigh the benefits to the citizens.

Arthur (2000:3) concludes by saying that profit optimisation instead of profit maximisation should be the ultimate aim of risk transfer in any PPP contractual arrangement and obligation. More discussions on PPP risks by researchers such as Klein (1997:5) observe that the state is normally risk free when partnering with the private investor that is lending funds for implementing PPP projects since the associated risks are transferred to the taxpayers and their future generations. That is why Klein (1997:5) laments that taxpayers have assumed a contingent liability for which they are not remunerated, and so in effect they have become, shadow equity providers.

Klein (1997:5) goes ahead to note that such PPP investment risks imposed on taxpayers are a heavy cost for them to pay at a later date and that is why PPP investors should always first undertake a thorough costbenefit analysis to ascertain whether investing in such PPP projects is worthwhile as far as VFM is concerned. Researchers such as Grimsey and Lewis (2002:4) argue that most of the accounting issues have been sliced out in the PPP contractual arrangements by implementing

partners since they are at times rushing to meet deadlines for implementing such PPP projects. Grimsey and Lewis (2002:4) note that it is true that the central issue with respect to the accounting treatment centres along the areas where the risks exist, and critical analysis of the level of the likelihood for occurrence and level of impact of different kinds of risks such as construction risk, design risk, demand risk and residual value risk, is very crucial when it comes to VFM. Klein (1997:5) adds that if such cost analysis is done first and the risks associated with cost of government borrowing are the same as those of private sector investment in the PPP project, then such investment is worth it in terms of VFM since there is equal sharing of PPP risks among the public and private actors.

However, Klein, (1997:5) wonders whether, taken to its limit, the lower borrowing rate by the public sector would seem to imply that all PPP project tasks should be undertaken by the public body as the cost of investment capital is very low. If this is to happen, would the debt then still be regarded as risk free? Researchers such as Argy et al., (1999:12) argue that public debt is not risk free because money borrowed by the central government may cause monetary risks while money borrowed by the local government may cause risks that lead to adverse economic performance.

Nevertheless Argy et al., (1999:12) observes that in comparison with the private sector, the public sector tends to experience risk free situations since it can transfer the associated risk of borrowing to tax payers. Argy et al., (1999:12) add that since the private sector is vulnerable to such taxation risks, a holistic analysis of all risks associated with implementation of PPP projects should always be done by both public and private sectors if VFM opportunities are to be realised.

2.4.6 More gaps identified in literature on VFM and PPPs

Through review of literature and consulting several documents, the researcher has identified a number of gaps pertaining to the notion that PPPs always lead to VFM and yet there are several instances where PPPs do not lead to VFM at all (Blanc, Hugh & Timo, 2006:2). A number of scholars such as Arthur (2000:5) argue that in a dynamic global environment, not all PPPs can always go on as planned, and so there

is usually a mentality that when there are failures with implementation of certain PPPs, some public and private sector stakeholders are bound to have a bias that PPPs are not the best option for development of infrastructure. Arthur (2000:5) argues that one needs to judge whether a particular PPP has been successful in terms of achieving VFM against a realistic performance measurement metrics instead of basing PPP performance on just any ideal situation.

Arthur (2000:5) notes that not every PPP is always done in line with agreed standards to achieve VFM and so some failures should not be underestimated because they are inevitable. Arthur (2000:5) suggests that in order to ascertain whether PPPs have something tangible to offer in terms of VFM, it is crucial to always focus on existing evidence in line with PPP's failures and successes (Arthur, 2000:5).

Scholars such as Darrin & Mervyn (2004: 128) argue that ensuring that service providers provide taxpayers with opportunities for VFM should be the essence of PPPs policy framework. Darrin & Mervyn (2004: 128) adds that when initiating any PPP, the implementing partners should always endeavour to illustrate that the cost of delivering the service to the public by the private partner is lower than that of delivering the same service by the public entity, as long as the VFM elements of cost effectiveness, efficiency and economy have been fully catered for.

Darrin & Mervyn (2004: 128) point out that the above best practice is always not the case since at times there is a complex trade off between PPP costs, risk and performance where cheapest technical and financial bid is not always the most cost effective one when risks and resulting incentives are put into consideration. A number of PPP experts indicate that a distinct feature of PPPs is the bundling together a so many numerous functions of design, building, financing, operating and maintenance of the facility by the private investor in the form of a special purpose vehicle created for particular PPPs to ensure VFM.

Some scholars such as Quiggin (2003: 1) have questioned whether such PPPs in the provision of services to the public can ensure VFM through being cost effective. Quiggin (2003: 2) asserts that much as some PPPs use fully integrated approaches

where the project incorporates a particularly innovative special purpose design, leading to integration between project implementation risks and operating risks, most public projects follow well established design principles making such cases very rare and thus opportunities for VFM are lost in such instances.

Quiggin (2003: 2) says that one particular concern is that in many PPP projects that are 'financier-led', a funding institution commits a good amount of financial resources by partnering with a public entity for the sake of winning a bid and once that bid is won, such a private entity goes ahead to unbundle the PPP project components leading to the loss of opportunities of VFM. Quiggin (2003:5) advises that the public entity would better go ahead to contract directly a private party that ultimately will bear the risk instead of contracting through a financial intermediary if it is to ensure VFM.

Debates by scholars such as Darrin & Mervyn (2004: 132) point out that the extra cost usually incurred in financing a PPP project by the private entity and yet borrowing some funds by the public entity is likely to be between 1 to 3 percentage points, which shows that some PPPs can never be cost effective leading to the loss of VFM opportunities. Darrin & Mervyn (2004: 132) assert that while there can be opportunities for VFM since the private sector has the capacity to ensure effectiveness and efficiency in other aspects of the project, on the other hand VFM may not be realised since costs associated with private borrowing usually tend to be very high (Darrin & Mervyn, 2004: 132).

A number of scholars such as Gilbert & Steinherr (1994:13) and Victoria (2003:7) believe that if one is to consider the lower rate borrowing by government, it is tantamount to a serious flaw and an analysis of such belief clearly shows that there is no VFM. Such a belief is hinged on a position that is analogous to the famous Modigliani Miller theorem about the cost of capital.

Some scholars such as Modigliani & Miller (1990:7) argue that the true VFM by a firm adopting a PPP is ensured by the risk features of the embedded flow of returns, and tends to be autonomous of how funds are mobilised. Grout (2003:21) also argues that when valuing the delivery of services and goods to the citizens using PPPs by

public entity, a discount rate is normally applied to a cost cash flow. Such cash flow represents the cost of constructing the PPP facility as long as it is executed by in the public entity. Based on Grout's assertion, however, some gaps in literature can be identified because the standard practice of using the same discount rate in tests between provision of project funds by the public entity and provision of project funds by the private entity is inappropriate. It creates prejudice for provision of project funds by the private entity and can lead to a lot of dependence on public procurement that may not lead to VFM (Grout, 2003:21).

Other scholars such as Kay, (1993:63) contend that the cost of borrowing to finance a PPP project by both public and private sectors is determined by the likely risk of default rather than a proper analysis of the standard of return on investment leading to loss of VFM and this is a result of private borrowing compared to public borrowing since the state can transfer the risk to meet tax payers (Kay, 1993:63).

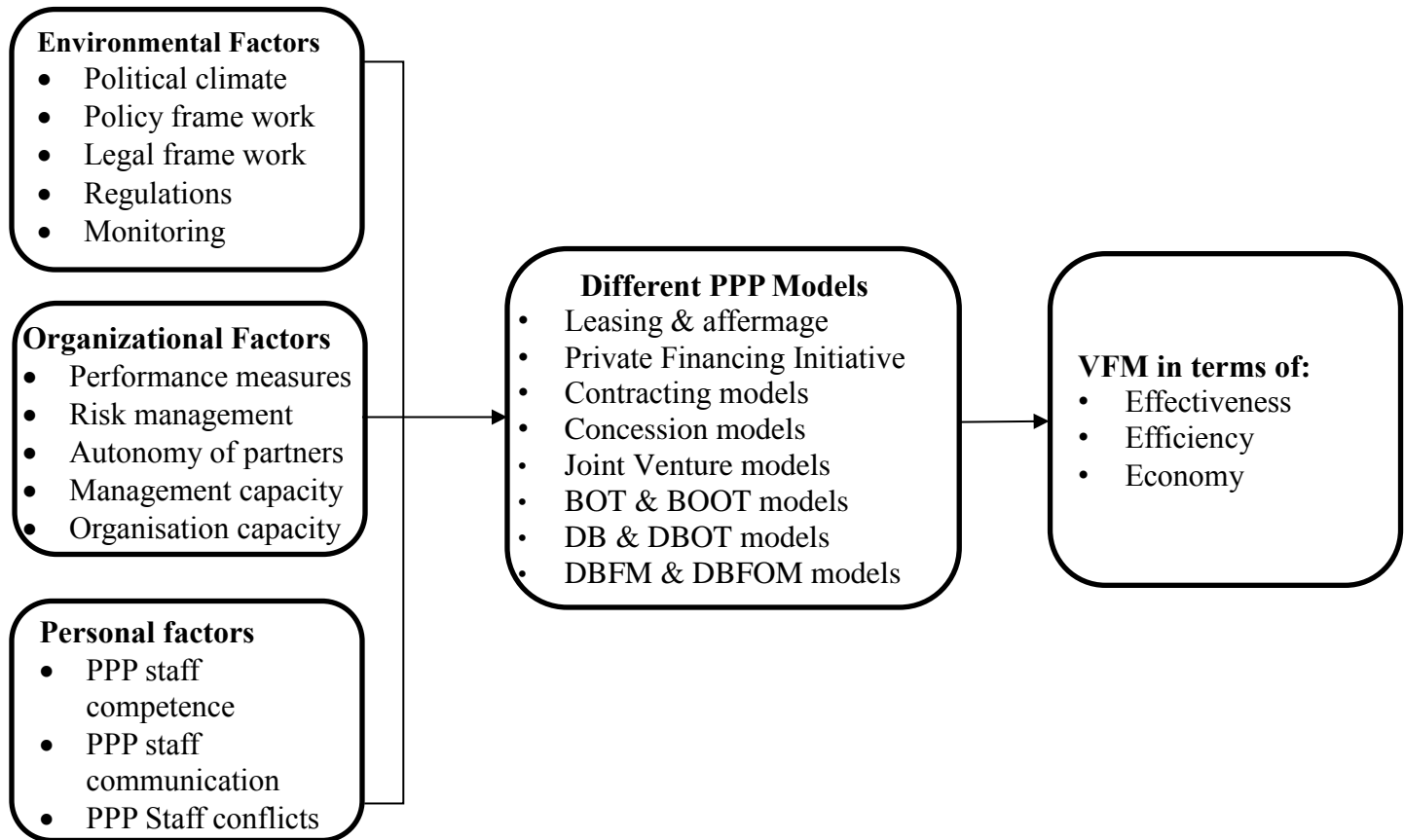
Debates from some practitioners and PPP experts reveal that some governments have been accused of having a predisposition to PPP type arrangements because they represent 'back door' financing. These PPP practitioners and academicians say that the rationale for public entities' involvement in PPPs is to get off-balance sheet status (Commission on Public Private Partnerships, 2001:2; Walker & Walker, 2000:1).

Scholars such as Lewis (2003:6) claim that such rationale is like those of other private entities involved in off the balance sheet financing which expand their business activities beyond balance sheet restrictions while preserving credit standing. Lewis (2003:6) goes on to say that with such off balance sheet undertakings, payments under the PPP contractual arrangement may be indicated as revenue charges in the year to which they relate, rather than as an asset, and a corresponding liability to be accounted for when a PPP project is being initiated (Lewis, 2003:6).

Researchers such as Grimsey and Lewis (2002:4) thus argue that most of the accounting issues have been sliced out in the PPP by partners since they are at times rushing to meet deadlines for implementing such a PPP.

2.4.7 Conceptual frame work for use of PPPs to ensure VFM in the roads sector

Figure 3.1: Conceptual Framework for assessing PPPs to ensure VFM in the roads sector sector



Source: Own illustration (2018)

The above conceptual frame indicates that different environmental factors (such as political climate, policy framework, legal framework, regulations and monitoring), organisational factors (such as performance measures, risk management, autonomy of partners, management capacity, organisation capacity), and personal factors (such as staff competence, staff communication and staff conflict), all affect the different PPP models of Leasing & affermage, Private Financing Initiative, contracting out, service contract, management contract, concessions, joint venture, BOT, BOOT, BOO and DB, DBOT, DBFM and DBFOM in one way or another to ensure VFM in terms of cost effectiveness, efficiency and economy.

2.5. International perspective for PPPs

This section reviews the international experiences of PPPs. The review of international perspectives of PPPs focuses on critical analysis of the different aspects pertaining to PPPs in different countries and examining scholarly writings and debates on different approaches to the concept of PPPs at a global level. The conceptual review process of PPPs adopted an exploratory assessment of the global experience of PPPs, with regard to the roads sector. Since the 1990s, there has been a rapid rise of PPP arrangements across the world.

Governments in developing nations are taking advantage and using PPP arrangements to improve delivery of public infrastructure. There is no doubt that PPP have been, are and will continue to be of great interest to researchers in the future as the PPP market keeps growing and maturing around the world (Wang, 2018:5). For example, the private sector is estimated to have invested \$750 billion in infrastructure in developing countries between 1990 and 2001 (Adjarko, Ayerakwah & Fynn, 2018:1).

2.5.1 The global experience of PPPs

PPPs have played a growing but still limited role in the provision of highway infrastructure all over the world. They are the most common form of private participation in highway provision globally (Krol, 2018:19). The major developed countries of the world such as, Canada, United States of America (USA), the United Kingdom (UK) and Australia have benefited considerably from the use of PPPs, because they facilitate the provision of modern public services, ensure that infrastructure projects are completed in less time, and generate more profit (Mehmet & Cuma, 2018:15). PPPs all over the world have been contextualised in a narrow sense as a procurement strategy, instead of looking at them as a component of a wider strategy to re-echo the function of the public sector in the delivery of services to the citizens (Siemiatycki & Farooqi, 2012: 285). A recent global survey by Deloitte² reported that, “despite the very challenging economic environment in which the PPP industry is operating, the fact that the level of activity across the globe remains

relatively stable, pays testament to the strength of the PPP model, and the huge penetration it has had over the last 20 years” (Chauhana & Marisetty, 2018:1). Governments have been using PPPs for the last twenty years because of mainly three factors: First, PPPs have been effective in helping governments to increase demand for provision of infrastructural services. Secondly, by removing the burden of infrastructural development from the public to the private sector, PPPs can aid governments to do more work with less available resources. Thirdly, PPPs add a lot in promoting efficiency, effectiveness and economy in the provision of services to the citizens (Asian Development Bank, 2008:1).

Scholars such as Whitfield (2010: 183) made a feasibility study of PPPs in different parts of the world, pointing out how the different countries in North America, the Europe, South America, Asia, Australia and Africa have embraced the approach in order to easily adapt to the existing political, economic, social, technological, environmental and legal situations. This is because there is an increasing global market as far as investing in PPPs in the roads sector is concerned. PPPs are now used by more than 134 developing countries, contributing to 15–20% of their total infrastructure investment (Chauhana & Marisetty, 2018:1).

There is also a growing failure in the number of PPPs being implemented worldwide due to poor financial projections by private investors in infrastructural development. In fact, Whitfield points out that PPPs play a vital role by influencing the way democracy in different countries is perceived in terms of reducing autocracy, coercion and dominance of the state in delivering services to the public (Chauhana & Marisetty, 2018:2). Scholars such as Hall (2015:3) contend that private sector companies all over the world need to optimise profits if they are to be a going concern.

Debates from several experts assert that PPPs have been adopted by many countries all over the world in order to forge collaboration with private companies in the design, construction, financing, maintenance, and operation of public infrastructure (Jose & Rafael, 2016:2). Different researchers suggest that PPP procurement methods using VFM evaluation criteria are delivering better infrastructure services at lower cost than traditional procurement methods used by different nations globally (Michael et al.,

2014:150). Mudi (2016: 416) notes that because most states all over the world are currently finding it very hard to execute single handed the role of providing services to its people, it has compelled them to partner with the private players in long term contractual obligations in order to provide such services to the citizens in a more efficient, effective and economic manner.

Mudi (2016: 416) observes further that PPPs are being perceived as a viable alternative since they have portrayed some successes in some parts of the world. This study proposes a systematic framework for the delivery of public works and services through PPPs in general (Xueqing & Shu, 2013:1). In the recent past, the United Nations (UN) General Assembly earmarked PPPs as an important avenue for achieving Sustainable Development Goals, (Svetlana, 2016:1). The UN, in particular, has increasingly embraced big private businesses as 'partners' in humanitarian response and development with the establishment of 'global PPPs' (Machacek, 2018:1). At a global arena, PPPs are more dominant in the transportation, ports and telecommunications sectors than in the energy, water and sanitation sectors (Shaik & Narain, 2011:283; Department of Economic Development, 2005:33). After all, the interest of the private entities in investing in PPPs in the water, sanitation and energy sectors is believed to be substantially low (Kaberuka, 2011:18).

Although scholarly debates claim that PPP projects all over the world could be less expensive, more innovative, speedier, and more accountable than public service delivery, a string of failures, delays, little transparency, and secretive deals proved these claims wrong. Most recently, some scholars acknowledge that PPPs cost more, but they try to justify these deals by claiming that PPPs transfer massive amounts of risk from the public sector to the private sector. By using much doubtable VFM accounting systems, they contend that the higher costs of PPPs, particularly on the financing side, are offset by transferring a big chunk of risks to the private sector (Wafula, 2016:14-16). The independent international research experts have, however, criticised these global deceptive rationales and faulty accounting systems over a number of years since a lot of the details can be hard to comprehend. Other PPP experts say that much as such faulty accounting systems remain, the global

financial crisis of 2011 exposed the economics of PPPs in many ways. These scholars add on that the global economic and financial crisis was caused by the same international policies on the adoption and implementation of PPPs in infrastructural development. They argue that private financing is more expensive and uncertain than public financing because the private sector is not good at managing such uncertainties than the public sector and so risks cannot be completely transferred through PPPs (Wafula, 2016:16). Additionally, the scholars argue that PPPs can sometimes be complicated because the prerequisites for their adoption cause a bureaucratic process. The scholars contend that this global economic and financial crisis has a number of deep roots, but what propelled both the later stages of the boom and the consequent crisis was systemic cover up of losses, misplacing, and mismanagement of risk in the private sector globally (Wafula, 2016:17).

2.5.2 PPPs in North America

In North America, the countries of Canada and USA have now resorted to using PPPs to improve on its decaying infrastructure and develop new projects in order to recapture its topmost economic position in the global market (Pricewatercoopers, 2009:9). Today, the primary organizational structures for providing highway infrastructure in both USA and Canada include public procurement and PPPs (Krol, 2018:4). The pipeline project of Canada marked the trend of using PPPs internationally which made it remain operational even when there was a financial crunch of the late 2000s, which made Canada a very attractive destination for the international infrastructure PPP projects (HM Treasury, 2012: 8).

Therefore, all over Canada, the government has put in place the right institutions and structures for embracing PPPs as a strategy for developing bigger infrastructure projects. From 1990 to 2012, more than 195 PPP projects have been built, or are yet to be built (HM Treasury, 2012: 8). Across Canada alone, there are over 207 projects being undertaken using PPP approach to deliver innovative solutions to complex public needs. The Canadian Council for PPPs meets annually to review so far what has been accomplished as far as PPP projects are concerned. The people of Ontario now enjoy the advantages of having the Alternative Finance and Procurement (AFP)

model with the province. The Plenary Justice embarked on a 30 year Design Build Finance Maintain contract that will ensure that the facility is well maintained in order to deliver efficiently the much needed public court services (Wafula, 2014:12-13). The Canadian strategy of initiating, planning, designing, financing and implementing PPPs has been earmarked globally as a great model to be benchmarked, especially in the USA where most PPPs have been at a slow pace in adoption and implementation.

In addition, UK looks to Canada's PPPs as one of the best models to emulate when using PPPs to implement public projects (HM Treasury, 2012: 9). Currently, the Canadian special purpose vehicle has been described by researchers such as Edelenbos and Teisman (2008: 618) as the project management approach to infrastructure development, which is highly outcome oriented and focused on design efficiency and risk management. In Canada, like elsewhere in the world, achieving VFM has been identified as the primary rationale for delivering infrastructure through PPPs by their government, private sector and political promoters.

However, the Canadian PPP model has been criticised because of several gaps that are associated with it. Several scholars, practitioners and development agents claim that the neoconservative economic model of deregulation, privatisation, tax cuts, free trade and unequal growth, is not reliable (HM Treasury, 2012: 10). In the USA, the public sector plays an important role in providing highway infrastructure. This has not always been the case. Fully private roads played a central role in US transportation during the 19th century.

Today, the primary organizational structures for providing highway infrastructure include traditional government provision and PPPs (Krol, 2018:4). However, the adoption of PPPs in the refurbishment, development and maintenance of roads infrastructure has been slow as a result of limited sources of funding for such PPP projects and inadequate institutions and structures to be used in embracing such arrangements to support the country's conventional highways construction programmes (AECOM Consult et al., 2007:1). The US Federal Highway Administration published a cross-country study of PPPs. They found PPPs could

complete highway projects at lower cost and on time with greater predictability (Krol, 2018:4). A US Department of Transportation study concluded that PPPs result in construction cost savings of between 6 percent and 40 percent and have a smaller chance of generating cost overruns (Krol, 2018:4). The adoption and implementation of the PPPs for infrastructural projects is highly impeded by the country's laws and regulations on taxes at both federal and provincial levels. Therefore, the country needs a strategy of validating the already existing laws in order to come up with better ones that support use of PPPs in infrastructural development (Mwandiki, 2010:16). The most recent Annual Privatization Report by the Reason Foundation indicates that there were 32 transportation related private concessions worth \$42.6 billion operating in the United States at the end of 2016(Krol, 2018:5).

According to the same report, two new US projects were ranked in the top ten globally for 2016. This shows that the private sector is playing a major role in building US transportation infrastructure (Krol, 2018:5). According to the National Conference of State Legislators, in 2015, 33 states, the US Federal Highway Administration (FHWA) firmly supports the approach of using PPPs, and maintains its own PPP website: <http://www.fhwa.dot.gov/ppp>. The FHWA came up with a nine person Expert Task Group to oversee the adoption and implementation of PPPs in the roads sector (Krol, 2018:5). However, since the vast majority of road construction, renovation and upgrade is performed at the state, national and local levels, the focus of the Department of Transportation (DOT) and FHWA is on giving tools to help state and local governments use PPPs in any infrastructural development.

Compared to other countries, the USA does not have centralised PPP unit to oversee adoption and implementation PPPs in any sector (AECOM Consult et al., 2007:2). Therefore, each federal, state and county government ministry, department and agency has got its own different legislative, regulatory, policy and institutional frameworks for initiating, planning, designing, financing, implementing, monitoring, maintenance, sustaining and managing PPPs, based on the general guidance provided by the Office of Management and Budget (Arthur, 2009: 2 &7). At the state and local level, the PPP policy is also clustered. For example, currently 23 states

have legislation in place that authorise PPPs to be used in infrastructure development, while 27 do not have any because the existing legislative, regulatory, policy and institutional frameworks vary from one state to another (Arthur, 2009: 2 & 7). It should however be noted that there have been a number of problems with PPP projects in the United States., In California for instance, State Route (SR) 91 in Orange County began operation in 1995. This was a privately financed project that built additional electronic variable toll lanes along the existing SR 91 highway route.

However, economic growth in the area led to growing congestion on surrounding highways. The agreement contained a strict noncompete clause in order to protect the owners from revenue losses. The state was prohibited from building new highways along the 30 miles of the toll road. The resulting conflict was resolved when the Orange County Transportation Authority purchased the toll lanes for \$207.5 million in 2002 (Krol, 2018:25).

2.5.3 PPPs in Europe

Historically, Europe is looked at as the main pioneer of almost all PPPs especially in water, sanitation, transport and housing sectors. This was done through identifying the key target stakeholders of the projects within such sectors and consequently there was enough return on investment that could motivate the private sector to invest in more projects (Institute of Economic Affairs (IEA), 2018:7). In Europe, there are a number of favourable factors that propel the use such PPPs in Austria, Germany and UK and Russia such existing very rich private companies that are willing to invest in developing public infrastructure.

Other countries where PPP projects are successfully implemented are France, Spain, Italy and Portugal. Germany, the Netherlands, Portugal and Spain have used PPPs in order to promote the production of energy from renewable energy sources (Mouraviev & Koulouri, 2018:2). However the general awareness of PPPs is still quite low among both researchers and practitioners, at least within other European countries such as the Czech Republic (Jilek, Silovska, Kolarik & Lukavec, 2018:3). After the introduction of the federal law of 13 July 2015, on PPPs, municipal private

partnership in the Russian Federation and making changes in separate legislative acts of Russian Federation, PPP projects in Russia skyrocketed to 2183 projects in 2016 from 873 in 2015 (Berezin et al., 2018:1). Private investment in these projects was 1038.6 bln rubles in 193 projects at the regional level, 182.4 bln rubles in 15 projects at the federal level, and 144 bln rubles in 1975 projects at the municipal level, for a total market value of \$24.5 bln. According to Dealogic Projectware, the total number of PPPs in the European Union was 1184 from 2000 to 2015, with a cumulative value of 270 bln EUR (Berezin et al., 2018:1). In Italy, there are potential opportunities for PPPs to deliver efficient transport infrastructure and services in the transport sector as has been the case for a new transport hub in the city of Villa San Giovanni, which lies in an excellent geographic position and possesses several other strengths (Viglianisi, Calabro & Spina, 2018:7).

Italy has got the New Code of Contracts and the new Programming Ministerial Decree which state that all unfinished public works must be included by the contracting authorities in their three year Programme to complete, even downsizing or transforming them by changing their destination through use of PPPs, provided that they do not remain unfinished (Rebaudengo, Innocente & Crisafulli, 2018:4). The issue of using PPPs in the local provision of public services has also become important in Italy due to several changes that have been implemented in the last years by the national government in the regulation of state owned companies and in the regulation of public services or services of general economic interest (Timpano, 2018:2).

A number of studies have reported use of long term PPP contracts that cover a wide range of infrastructure projects in most industrialized countries of Europe. They evaluated 25 studies of projects undertaken in Denmark, Finland, Scotland, the United Kingdom and groups of European Union (EU) countries. The types of infrastructure projects ranged from highways to hospitals (Krol, 2018:19). While the last decades have seen a spectacular expansion in PPPs in many high income European countries, only two PPPs have been realized in Switzerland so far (Athias, Macina & Wicht, 2018:2). The UK has got more experience in the use of PPPs to

refurbish, develop and maintain infrastructure in different sectors such as railways, roads, water, sanitation, education and health sectors than any other country in Europe (Andrew, 2013:2). In 1992, the UK government passed a legislation to promote the application of Private Finance Initiative (PFI) PPP model, and with the accomplishment of a batch highway infrastructure projects, authority and scholars in England summarized the new progress and experience of PFI. In 2004, the UK government issued VFM Assessment Guidance and put forward VFM assessment method to evaluate public projects (Hu & Han, 2018:2). The UK government has undertaken a wide range of reforms to provide a good environment for adoption of PPP approaches to developing infrastructure. This was a result of the prior government's commitments to re-engineer the PFI PPP model as a result of the number of questions pertaining to its use as far as VFM was concerned.

Therefore, the PFI model was reformed to come up with the PF2 model, which was officially adopted in 2012 (Andrew, 2013:2). The UK has been one of the most active users of PPPs as a means to invest in public infrastructure. As of March 2016, there were 716 PPP projects in the UK with a capital value of £59.4 billion. The four largest sectors for PPP projects were the health sector, with a value of approximately £13 billion, followed by defense and education at £9.5 billion and £8.6 billion, respectively. The transport sector had £7.8 billion of PPP activity (Krol, 2018:20). The UK was the first country in the world to develop the concept of PPPs for health services and hospital projects. It is emphasized that some hospital projects in the UK under PFI are made at higher costs than expected.

The cost of capital for the first 12 hospitals made with PFI is about 1.2 billion euros and when the projects are evaluated over the life span of 30 years, the cost to the state is about 6 billion euros. This amount is about 20% more than the expected cost. North Durham Hospital, which is one of the other PFI hospitals, was expected to be 71%, South Manchester Hospital was expected to be 60%, and Bromley Hospital was expected to cost 53% more (Mehmet & Cuma: 2018:33). In Austria, the government is currently trying to focus on using the privatisation type of PPP instead of PFI PPP type. The main factors propelling European countries such as Germany and Austria

to use PPPs are macroeconomic factors while in the UK it is microeconomic factors aimed at efficient, effective and economic delivery of services to the public (Ronald & Walter, 2008:7). The Irish government also took on such PPP models initiated by the British and other European countries such as Germany and embedded them in its national PPP policy. The main benefit of such PPP models was implementation of the infrastructural projects on time and eliminating the existing economic huddles in line with obtaining resources for covering gaps in infrastructure and shortage of labour (IEA, 2006). The Irish Government has also come up with the policy framework for budget financing which paves way for the delivery of a number of infrastructure projects compared to other European countries (Mwandiki, 2010:16). For the OECD countries, from 2000 to 2007, PPPs have been adopted mainly to develop infrastructure in the transport, water and sanitation sectors compared to the telecom and energy sectors (Araujo & Sutherland, 2010:13).

The PFI is the main model being used to adopt and implement a number of projects for infrastructural development with the help of private sector investment. While PFI was initially developed by the UK governments, it is now being adopted widely in other European countries such as Spain, as a strategy for privatising and financing the economy, being propelled by a growing necessity to account for use of public funds in order to ensure efficient, effective and economic delivery of services to the public (Wafula, 2014:17). This is based on the fact that it is more user friendly for countries to adopt, implement and sustain such PPPs in areas where already completed PPP projects can be used as role models whether locally or internationally.

Success in PPPs within the different countries in the OECD region has also been registered in the ICT projects, although some governments have found them complex for private sector to invest in because rarely do PPPs in social infrastructure successfully get implemented. It should, therefore, be noted that the provision of goods and services to the public has been historically common in OECD countries (Araujo & Douglas, 2010:5). Actually many governments in OECD countries are currently having a growing trend of using PPPs to improve their infrastructure in order to deliver goods and services to the public in a more efficient, effective and economic

manner (Ronald and Walter, 2008:8). Therefore, more private companies are now entering partnerships with government agencies to invest and implement in a number of PPP projects since the funds spent can easily be scooped back through levying of toll fees for use of infrastructure facilities and with the aid of transfers from government. As put by Araujo & Sutherland (2010:13), there are a number of advantages that are accruing from partnerships between government and the private sector in form of mobilisation, allocation and utilisation of resources and initiating innovations in different sectors of the economy with such countries. All these benefits have made PPPs a proven, wonderful intervention in provision of services to the public in an effective, efficient and economic manner for various European governments, business companies and citizens.

2.5.4 PPPs in Australia

Australia is another country that has used PPPs as a means to finance transportation infrastructure. It uses a standard approach, allowing private firms to build, operate, and maintain a highway or a tunnel for a fixed period of time, often 35 years. The concessionaires charge toll fees to finance the projects. The Government adopted a PPP model in the territory of Victoria similar to the one being used in the UK (Krol, 2018:22). Infrastructure planning and delivery in Western Australia is not averse to private investment, except in urban transport, both in roads and public transport (Slate & Newman, 2018:2).

Perth Airport is run by a private company financed mostly by superannuation funds, including being owned by a subsidiary of the Australian Government's Future Fund. There is also increasing involvement of private investment in health and educations. This is being challenged by the Federal Government's new involvement in Australian cities through City Deals (Slate & Newman, 2018:3). The IEA (2006:17) report notes that most territories in Australia use the Build Own Operate Transfer (BOOT) model to do away with constraints associated with budget financing because less public funds are used when implementing PPPs projects in the roads sector since the bulk of the funds come from the private sector (Mwandiki, 2010:17). The first PPP project in Australia was the Harbour Tunnel in Sydney. Construction began in 1987, and

operation started five years later at a cost of US\$749 million. The project was financed entirely with debt. The tolled tunnel was built in order to reduce traffic congestion heading into the central business district and will become a city asset in 2022. This project was followed by additional PPP highway and tunnel projects in the city. PPP projects were quickly undertaken in other cities. For example, Melbourne began constructing a 14-mile tollway in 1996, which opened for business in August 1999 (Krol, 2018:23). Since October 2014, 12 PPPs have been registered and from November 2015, Infrastructure Australia's website has listed more than 30 PPPs whose contracts have commenced. The Chief Executive of the agency asserts that there is a low number of PPP projects of around 10 to 15 % in comparison with UK and Canada.

In fact, the failures of the PPP projects in Australia such as the Adelaide-Darwin railway projects, Cross City Tunnel and Airport Link were due to poor PPP design. Therefore, the transfer of demand risk to the private operator coupled with the time period for implementation of the concession, which was fixed, indeed was not the best design (Marie, 2016:1). A number of factors such as lack of political will, state governments and bureaucracies with differing ideologies, and a lack of government officers experienced in administering PPPs, were responsible for such economic mishaps. Currently, the government of Australia plans to adopt and implement more PPPs mainly in its infrastructural development especially in the sectors of transport, housing, education, health, water and sanitation (Marie, 2016:2).

In the roads sector, the government and the private sector are excellent at implementing PPP projects on a timely basis and within the allocated budget. However, there has been controversy regarding the implementation of some PPP projects, which has led to failure of such PPP projects (Pricewatercoopers, 2017:1). Factors that have led to failure of such PPP projects include high investment costs, construction failures, poor designs, limited profits, poor accountability and transparency mechanisms. Despite these failures, the government of Australia has continued to ensure that both financial and technical support are provided to the

implementation of PPPs based on well designed legal, regulatory, policy and institutional frameworks (The Allen Consulting Group, 2007:9-10).

2.5.5 PPPs in the Asia-Pacific region

The Asia-Pacific region is a part of the globe that is experiencing a quick growth in PPP projects in the infrastructural development especially in a number of economic sectors. Of the US\$43 billion in PPP projects since 2010, more than half has been invested in Asia. Vietnam and Bangladesh have the largest number of projects, while Laos is leader in terms of volume (Quak, 2018:18). Other countries that have had a major stride in the adoption and implementation of PPPs include the Philippines, Papua New Guinea and Thailand, while the countries that improved in their adoption and implementation of PPPs include Mongolia, Vietnam, Bangladesh and Indonesia (Asian Development Bank, 2015:17).

The use of PPPs is also common in the Republic of Korea where PPPs are well established, with varying degrees of implementation and success in the People's Republic of China, India, Indonesia, Malaysia, the Philippines, and Singapore (Lee, Han, Quising & Villaruel, 2018:1). Asia-Pacific region is also building the capacity of its authorities in their dealings with International Financial Institutions (IFIs) in the procurement and the implementation of infrastructure projects using PPPs (Ahamer, 2018:2). International Financial Institutions usually support different Asia-Pacific countries in their developing of successful projects for international financing.

The ultimate role of such institution is to increase the number of bankable investment projects in the region by enhancing the quality of their design, facilitating the matchmaking with the IFI's financing offer & quality criteria, and supporting the entire project cycle including the set-up of PPP operations (Ahamer, 2018:3). Although some local communities in countries such as Malaysia are opposed to privatising some government corporations such as those of the water sector, a number of PPPs in the transport sector have registered a number of successes. This has led to both successes and failures in the implementation of the PPPs throughout the entire country (Mwandiki, 2010:16). In the 20 countries covered in the 2014 Infrascope index

and survey, which ranks the readiness and capacity of PPP projects for Asia and the Pacific, only four countries of India, Japan, the Philippines, and the Republic of Korea were considered a developed environment for PPPs. In Malaysia, PPP projects have grown at an accelerated pace since the 1980s because of a few enforcing factors, including the government agenda to foster greater private sector involvement in the country's development projects by offering attractive incentives and the rapid growth of construction projects as part of the country's development plan (Abdullah & Hamid, 2018:2).

Taken overall, the survey reflects the growing importance of PPPs in Asia and the Pacific, and how some developing countries in the region are getting more experienced and adept in implementing PPPs (Lee, Han, Quising & Villaruel, 2018:7). The People's Republic of China has the highest readiness and capacity ranking among emerging PPP market economies in the region such as Indonesia, Malaysia, Thailand, and Viet Nam. China is the major player in the adoption and implementation of PPPs in infrastructural development among all countries in the Asia-Pacific region (Asian Development Bank, 2015:17).

Many researchers in China believe that PPPs can relieve government of its' tight budgetary pressure by injecting the private sector's resources, encouraging innovation, enhancing productivity, allowing better risk allocation and improving cost effectiveness (Wang, 2018:2). In March 2016, the Ministry of Finance of China and China's State Administration of Taxation published the notice for implementation of replacing the business tax with a value-added tax pilot, and the highway planning and construction was affected by this new fiscal taxation policy.

The application of PPPs in highway projects, also affected the VFM assessment in China (Hu & Han, 2018:2). PPPs, which are mostly Build Operate Transfer (BOT), are used in sewage treatment through local governments granting concession contracts to the private sector. A new list of PPP projects involving 320.7 billion US dollars of total investment selected from a total of 2053 projects submitted by local governments was introduced in September 2016, as part of the country's efforts to promote investment amid an economic downturn (Yu et al., 2018:1). China Public

Private Partnerships Centre under the Ministry of Finance (MoF) announced that a total of 11 260 PPP-funded projects were registered, 1351 projects of which were signed with a combined investment of 2.2 trillion yuan, by the end of 2016 (Yu et al., 2018:2). The introduction of PPPs into urban water environment treatment project (UWETP) has become possible with the continuous development and application of different PPP models, thereby providing a new channel for solving fund and efficiency problems in the UWETP (Xiaowei, Huimin, Lunyan, Zhuofu, Jiyong & Yong, 2018:1).

A number of Scholars have found out that it is difficult to apply PPPs to other types of pollution control projects due to the lack of a suitable financial mechanism. In order to standardize PPP projects and encourage local governments to implement PPP projects, the National Development and Reform Commission (NDRC) and Ministry of Finance of the People's Republic of China (MOF) have established the PPP information platform and statistical system.

The MOF and the government budget expenditure management department offers a comprehensive statistical scale of PPP projects. As a result of increased economic growth and development in China, the government is trying to deliver better facilities and services to the public through the use of PPPs (Jiangfan & Xiongzi, 2018:1). This is because the Chinese government is focusing on getting better alternative sources of funds to finance the current and the future mega infrastructural projects in different sectors of the economy (Esther et al, 2012:648).

Given the growing interest in PPPs since the late 1990s, PPP projects have been widely used in many parts of China to procure infrastructure assets for the provision of essential public services. For instance, according to public data, at the end of year 2017, the National PPP Comprehensive Information Platform established by the Ministry of Finance of the People's Republic of China showed 14,424 projects planning to employ the PPP model to attract investments, with a total investment amount of RMB13.518.2tn (Wang, 2018:3). In order to regulate and stimulate the private sector to enter into the public sector, the government stated that PPPs could be applied to public facilities in various sectors of transportation, environmental

protection, gas, water, power, heat, waste treatment, hospital, and education. The government also suggested a guideline for PPP forms in order to give advice from the public sector in choosing the proper forms to submit with an application, such as the Build Operate Transfer (BOT), Build Own Operate Transfer (BOOT), Transfer Operate Transfer (TOT), and Operations & Maintenance (O&M) forms (Jiangfan & Xiongzhi, 2018:3).

Because of many business opportunities currently existing in China, a number of multinational firms are investing in so many PPP projects across the country. This has compelled the government to look at PPPs as the best alternative strategy for developing infrastructure in the sectors of transport, water, sanitation, housing, health and education (Esther et al, 2012:648). In China, the first PPP project was perhaps the Laibin B power station, where a foreign firm from the private sector took part in the project (Wang, 2018:5).

In 2016, the Beijing Shunxin Agricultural Company and its subsidiary, Beijing Shunxin Maofeng Flower Logistic Company, signed a PPP contract with the government to construct and operate the flower centre. The incentives for the private sector included land concession, tax holidays, one-off award of 3–5% of private investment in the first year, and subsidies for greenhouse construction (FAO, 2016:76-79). However, it should be noted that a PPP project features a long period, vast investment and high risks owing to the complexity of its cooperative model and that the increasing frequency and significance of PPP is accompanied by problems of instability and poor performance (Wang, 2018:7).

A long existing problem of PPP promotion in China is the low implementing rate and involvement of social capital. Despite enormous efforts made by the Chinese central government and local governments to push forward the PPP model, the implementation rate of PPP projects remains disappointingly low (Yu et al., 2018:2). Data from the PPP centre of the MoF shows that as of the end of November of 2016, the total amount of the PPP projects has reached nearly 13 trillion yuan, but only 1.56 trillion yuan worth of projects have entered the implementing stage. Most of the participants of PPP projects are central and local SOEs, and few are social capitals

(Yu et al., 2018:2). Therefore, many key areas of PPPs' operations in China need to be explored more by researchers worldwide, including risk allocation (Wang, 2018:7). India is another country among the top five South East Asian countries involved in the effective implementation of PPP infrastructural projects (Asian Development Bank, 2015:17). For instance, with investments of around 400 billion US dollars, PPP investments make almost half of the market capitalization of the Indian capital market (Chauhana & Marisetty, 2018:1). The largest number of PPP projects is in the roads and bridges sector, followed by ports, particularly green field ports. However, in these sectors the PPP and the non PPP projects have been implemented by different agencies under very different policy schemes; majority of PPPs have been formed by the state governments.

Moreover, most of the projects are still under implementation. Therefore, these sectors are not amenable to statistical analysis comparing performance of PPPs with the non PPPs (Singh, 2018:2). According to a Morgan Stanley report, more than Rs.1, 000 billion worth of PPP projects are being developed in India. By October 2006, about 31 proposals to implement a number of PPP projects throughout the country had been developed, of which 12 have been given final approval (Ruchi, 2015:253).

While the state governments have formed PPP for the state highways and expressways, the centre has sponsored PPPs for national highways under the National Highway Development Programme. The PPPs sponsored by the state governments differ across the states. Besides, different states have applied different engineering standards based on the local needs. Again, it is hard to make a plausible comparison (Singh, 2018:2). Also solid waste management is fast becoming a challenge across India, requiring urgent solutions, especially in view of rapid urbanization and inability of urban authorities to tackle it.

In order to come up with viable solutions to this problem, government has initiated PPPs in different parts of the country to manage such solid waste in different parts of India (Giresh & Kumar, 2018:4). Ostensibly, PPPs were formed to harness private funds to provide public goods in India. However, many of these PPPs were used as a disguise by the project developers and the state governments to acquire land for

private projects. The land was acquired in the name of public purpose but a substantial part of it was used for real estate and other commercial purposes not directly related to the public good in question. Housing projects under PPPs for the Taj and the Ganga expressway projects, and hospitality projects clubbed with Delhi and Mumbai airports are some of the leading examples of such practices (Singh, 2018:2). Singh, (2018:2) adds that, in contrast, PPPs for national highways projects have been implemented by only one agency, namely the National Highways Authority of India (NHAI). In fact, the NHAI accounts for the largest number of PPPs executed by any one agency in the country. After the government realized the state of its development in relation to the population increases, it called for PPPs on major infrastructural projects in different parts of the country.

However, this couldn't be done by government because of the geographical size and location of the projects, cultural differences between communities and differing needs of development projects among the Indian people (Musau & Kirui, 2018:60). Kate and Patil (2018:32) have actually identified five key barriers that PPP projects face in the urban Indian context which include distrust between the public and private sector, a lack of political willingness to develop PPPs, the absence of an enabling institutional environment for PPPs, a lack of project preparation capacity on the part of the public sector, and poorly designed and structured PPP projects.

There is therefore need for the indian government to come up with a series of measures to ensure that PPPs are well evaluated to address such barriers hindering effectibve implementation of PPPs in India (Kate & Patil 2018:32). That said, the survey highlights a wide range of obstacles that continue to undermine PPP projects in most of the countries of Asia-Pacific region, including weak legal and regulatory frameworks, poorly prepared or structured projects, lack of capacity to carry projects out in the public and private sectors, and weak financial market. Malaysia in particular faces lack of government guidelines and procedures, lengthy delays in negotiations, high user charges, project delays caused by political debate, and confusion over government objectives and evaluation criteria for projects (Lee, Han, Quising & Villaruel, 2018:8).

2.5.6 PPPs in South America

The Latin American experience has been the most relevant in terms of research on PPPs in South America. Latin America and the Caribbean countries have used PPPs since the late 1980s. Given the diversity of countries in the region, the evolution and level of sophistication of the various PPP markets have not been uniform. According to the Partnership Financing report by the Center for Transportation, a non-profit think tank based in Washington, DC, Latin America accounted for 11% of global PPP investment from 1985 to 2014 (Cesar & Carlos, 2012:2). Chile and Mexico are considered to be with the most successful PPP programs in the region, especially in the transport sector.

Brazil, Colombia, and Peru also have an extensive track record on PPP projects (Lee, Han, Quising & Villaruel, 2018:1). Most countries in South America are now using PPPs to fund public projects in various sectors such as construction, telecommunication, transportation, and energy, among many others (Ariel, Enrique & Shoujun, and 2018:1). Majority of South America governments are now working with private firms in the second decade of the twenty first century to offer an increasing variety of services, from design to manufacturing, financing, technology and additional postconstruction services under the heading of turnkey PPP projects (Ariel, Enrique & Shoujun, 2018:2).

In fact the major PPP projects for infrastructural development in Latin America are in form of toll roads, train and subway lines and the bus rapid transit systems (Economist Intelligence Unit, 2014:13). The review of literature on PPP in the Latin American context shows that Brazil has got the highest experience of using ppps in infrastructural development, at the State, regional and local levels. In Brazil, the federal, state and municipal governments have come up with policies for use PPPs in different projects for provision of services to the public. There are two types of PPPs in Brazil: administrative and sponsored. In the administrative PPP the payment to the private sector comes only from the public sector. On the other hand, in the sponsored PPP, a certain part of the payment comes from users in addition to a part coming from the public sector (Sampaio, 2018:6). From 2006 to 2016, Brazil

developed 42 PPP projects in several sectors. From these, 27 were renegotiated at least once. The motives for renegotiations are mainly perceived from the public sector, particularly failure in planning, concept, and bidding. Electoral periods and the political connections of shareholders also have an impact on renegotiations (Castro, Carlos & Sarmento, 2018:5). In most parts of Brazil, PPPs are being used to develop and implement large infrastructural projects especially in the railway and roads sectors.

A bigger portion of larger infrastructure projects such as the main roads, fast electric train and bus transport systems in Brazil have all been implemented under PPP arrangements as a result of government working with some international and local private investors. However Brazil is mostly faced with growing pressure to invest in sectors such as transport, energy, education, health, sanitation and security which are very crucial to cope with her rapid economic development (Cesar & Carlos, 2012:3). Therefore increased use of PPPs in South America to build infrastructures and provide public services has led to several concerns and one of the main pitfalls of PPPs is an abnormal frequency of renegotiations, especially renegotiations occurring during the first years of contract as has been the case with most of the PPPs in Brazil (Castro, Carlos & Sarmento, 2018:6). While PPPs provide real advantages to many South American countries such as incentivized finance, capacity to innovate, and operational efficiency of infrastructure management and public service delivery, they come with considerable risks and challenges. With the long-term nature of contracts and involvement of various stakeholders, PPP projects are often at risk of becoming distressed or eventually cancelled (Lee, Han, Quising & Villaruel, 2018:2). Since the early 1980s, there have been elevated tensions between the contractual parties, which forced the contracts to be distressed or terminated. Renegotiation phenomena are persistent in some less developed countries such as Chile, Columbia and some of the Caribbean countries where projects are abandoned due to the private (or public) partners' inability to abide by contractual obligations. In fact breach of contract has become widespread and has been one of the major problems for foreign investors, compared with outright expropriations in the recent decades (Lee, Han, Quising & Villaruel, 2018:3).

2.6 PPPs in Africa

This review of experiences of utilising PPPs in Africa critically analyses a number of aspects concerning PPPs in different African countries and it examines a number of debates on different approaches to understanding the concept of PPPs in Africa. The review of PPPs in Africa is based on the fact that most governments in Africa are now focusing on use of PPPs to revamp their failed economies (Aidan, 2018:1). The review of PPPs adopted an exploratory assessment of the PPPs in the roads sector. The period following the global recession in 2008 has seen a marked shift in the dynamics of the international political economy, characterised in part by geopolitical instability, falling commodity prices and slow growth in developed nations (Aidan, 2018:2). Strong growth off a low base was buoyed by strong commodity prices preceding the recession.

The shock of the global downturn, and subsequent fall in commodity prices, has impacted negatively on Africa's resource economies (Aidan, 2018:2). So, most countries in Africa are currently focusing on using PPPs as a financing mechanism for implementing developmental projects so as to revamp their failed economies (Aidan, 2018:2). In Africa, PPPs started in the 1990s and this period saw an increase in the use of PPPs to implement a number of projects for physical and social infrastructural development especially in the areas of roads, schools, railways, hospitals and electricity. Most countries in Africa are currently focusing on using PPPs as a financing mechanism for such projects to broaden the existing physical and social infrastructure on a large scale (Olotch, 2017:2).

Therefore the best way African governments can tackle the investment gap is through use of PPPs so that public investment and private investment can go hand in hand. However Private participation in infrastructure investment in Africa is quite limited, and focuses mainly on emerging markets (Quak, 2018:17). This was a result of prior consultations with a number of key stakeholders that were held in the 1980s because of the worsening state of the roads in addition to the related high construction and maintenance costs. This was done under the auspices of the Bank managed and donor financed Road Maintenance Initiative whose name was eventually changed to

that of the Road Management Initiative (RMI) in 1997. The RMI came up with a better legal, regulation, policy and institutional framework for the transport sector in Africa (Abdul et al., 2015:1). Across Africa there are several examples of regional infrastructure projects, especially in the energy and transport sectors that are currently using PPPs to implement a number of public projects. For instance, the Central Corridor is an integrated transport program across five countries of Burundi, DR Congo, Rwanda, Tanzania, and Uganda with an investment of about US\$18 billion involving local and international actors from the public and private sectors (Quak, 2018:18).

2.6.1 PPPs in West Africa

Over the past two decades, the West African region has failed to develop more PPPs on transport projects. So far about 10 projects accounting for US\$ 1,021 million have been cancelled and only 102 projects, accounting for US\$ 241 million, have been implemented since 1990 (World Bank, 2014:2). Several PPP projects in the transport sector are now penetrating the West African region as a result of undertaking successful benchmarking of those in the developed nations. The main constraints faced by key stakeholders in the transport sector of West Africa are reconstruction of a number of roads, in addition to putting in place institutional structures to sustain such road infrastructure (Kumar, 2012:1). Currently, there is a collaboration of about 7 countries in the West African region under the auspices of the Road Maintenance Initiative (RMI) where some of those countries are using PPPs to implement a number of projects based on RMI reforms. In spite of such opportunities at hand, most countries in the West African region are still lagging behind in adopting, implementing and sustaining PPP projects in the transport sector especially in the area of road infrastructure (Robert & Albert, 2015:1-3). For such countries to achieve the sustainable development goals by 2040, they may have to be supported with financial resources of about USD 1 to 2 trillion per year if they are to develop the transport sector.

Much as the required inputs for the transport sector can easily be raised from fees and duties and through borrowing from bilateral and multi-lateral agencies, there is

need to bring on board private sector players in financing such infrastructural projects in the roads sector (Hans, 2016:2). Nigeria, as a federation, adopted a PPP strategy in 2005 to provide opportunity for private sector participation in infrastructure procurement. To underscore this, the Infrastructure Concession Regulatory Commission Act 2005 (ICRC Act 2005) was passed by the Federal Government of Nigeria (FGN) (Arimoro, 2018:1). The entire PPP framework in Nigeria hinges on the principles of achieving better value and affordable services. As expressed in the National Policy Document, there are economic, social and environmental objectives for the adoption of PPPs as a strategy for infrastructure development.

It is the belief of the government that a private sector led infrastructure development drive through PPPs will open up the infrastructure and service delivery landscape in Nigeria to efficiency, inclusive access and overall improvement of the quality of public service delivery in a sustainable way (Obayelu, 2018:253). The PPP Act set up the Infrastructure Concession Regulatory Commission to administer PPP transactions at the federal level. Subsequently, the FGN inaugurated the Commission on the 27 November 2008. At the subnational level, the states within the federation that are desirous of implementing a PPP regime are required by law to enact their own legislation for the regulation of private sector participation in infrastructure financing within their jurisdictions (Arimoro, 2018:2). It is pertinent to note that a legal framework for the regulation of PPPs is a critical success factor and necessary in order to achieve a successful PPP regime in Nigeria. Apart from the fact that embarking on a PPP transaction without a law backing it can render such a transaction of no effect, private investors in Nigeria are also very keen to know that there is a framework under which they are guaranteed safety of investments as well as potential opportunity for a return on investment (RoI) (Arimoro, 2018:3). In Nigeria, there is a deficit in infrastructural development and mostly in the roads sector which has compelled the government to deal with infrastructural gaps by use of PPPs as a financing strategy (Solomon et al., 2014:142). Initially, Nigeria embarked on infrastructural development using conventional public procurement to give road construction tenders to a number of construction companies based on its budget appropriations.

Of recent, the state and federal governments of Nigeria (FGN) have proposed an alternative strategy of engaging private players in developing road infrastructure through PPPs. The energy sector and road sector have been earmarked as fundamental areas for economic growth and development of Nigeria and this is being done through PPPs (African Development Fund, 2010:iii). Ghana has had a bad experience of poor performance of infrastructural development within the road sector as a result of a number of constraints associated with the procurement process for developing such infrastructure. Ghana government adopted a national policy on PPP on June 3, 2011. The policy stipulates that PPPs could be undertaken in all sectors and by all government units if the project meets the need, risk, value, and affordability standards. The policy states that a project must be in a sector identified by the National Infrastructure Plan (Obayelu, 2018:254). The policy also sets out that PPPs are guided by principles that include VFM, optimized risk allocation, end user ability to pay, accountability and transparency. The National Policy on PPPs also emphasized the need for an infrastructure financing facility to attract fixed rate long term local financing.

That is why in July 21, 2014, the Parliament of Ghana endorsed the Infrastructure Investment Fund Bill. This is because Ghana looks at PPPs as a financing mechanism for implementing a number of infrastructural projects in the roads sector. Such PPPs are aimed at providing improved public services to the people especially in the transport, energy, housing, water, sanitation and education sectors (Abdul, et al., 2015:2). Of recent, various stakeholders in the road construction sector have urged the government to embrace PPPs as an alternative means of solving the road infrastructure deficit in Ghana (Ametepey, Asiedu & Aigbavboa, 2018:6). In Ghana, PPPs have been targeted for extension services, research and innovation development, and for agricultural mechanization. The Medium Term Agriculture Sector Investment Plan (METASIP) 2011-2015 specifically targets a cost recovery of about 25.5 percent of the estimated domestic funds through use of PPPs (Obayelu, 2018:258). Other examples of PPPs in Ghana include Sorghum Value Chain Development Project, a European Cooperative for Rural Development (EUCORD) sponsored project (Obayelu, 2018:259). Guinness Ghana Breweries Limited (GGBL)

is the Private Sector Partner with TechnoServe (TNS) as the implementing partner (Obayelu, 2018:259). The Allanblackia Project is a PPP project between Unilever, the Novel Development Ghana Limited (NDGL), the International Tree Seed Centre, the Forestry Research Institute of Ghana and some other organizations (Obayelu, 2018:260). In Ghana, most PPP Contracting Authorities include; Metropolitan, Municipal and District Assemblies, Ministries, Public Agencies and Departments. The Ministry of Finance and Economic Planning (MOFEP) through its Public Investment Division (PID) offers assistance to the Contracting Authorities throughout the PPP process (Adjarko, Ayerakwah & Fynn, 2018:5). In fact the Government of Ghana has indicated that partnership without a shared risk over a period of time cannot be considered as PPP (Adjarko et al., 2018:5).

It should be noted that because of unarguably inadequate infrastructure in Ghana, and also with the suspension of many ongoing projects due to lack of funds, there is a serious need to innovative ways to deal with her infrastructural deficit and one of the best alternative strategies for such is the adoption of PPPs (Adjarko et al., 2018:5). However, more literature reviewed showed that historically, corruption has been an enormous problem affecting PPP implementation in West Africa. Government officials always give contracts to certain bidders that can give them kickbacks. In fact, West Africa provides a number of opportunities for manipulations by private companies whether foreign or local and by government officials that anti-corruption systems and institutions cannot easily arrest. There is hope that the participation of independent transaction advisors in PPP adoption and implementation will minimise corruption tendencies since they help in detecting those that are trying to manipulate the PPP procurement process (Harris 2004:288).

2.6.2 PPPs in Southern Africa

In Southern Africa, South Africa has got a bigger number of PPP projects more than any other country in Africa. The legislation and regulations governing PPP's at a national, provincial and municipal government levels differ. National and provincial governments are subject to the Public Finance Management Act (Act 1 of 1999) (PFMA) and Treasury Regulation 16 (2004). Municipal government is subject to the

Municipal Systems Act (Act 32 of 2003) (MFMA), Municipal Finance Management Act (Act 56 of 2003) and regulation 309 that was drafted to assist in clarifying the MFMA for municipal entities (Obayelu, 2018:254). It is important to underline the fact that municipalities are not subject to the national and provincial PFMA or to Treasury Regulation 16.

Other laws and guidelines applicable to PPP's at both National and Municipal level include the National Treasury Code of Good Practice for Black Empowerment in PPPs and the Preferential Procurement Policy Framework Act For instance (Obayelu, 2018:255)). Since 1994, South Africa has got more than 50 PPP projects being implemented at provincial level. The majority of them are in Gauteng province and 300 PPPs at municipal level especially in the urban centres of Johannesburg, Pretoria, Cape town, Durban, East London and Port Elizabeth (Roodt, 2008:89).

In 1996, the Mozambique and South African governments used a PPP financing mechanism to undertake the Maputo Development Corridor (MDC) in order to ensure better transport for improved commercial activities among themselves. In 1997, a PPP contract was signed between Gabon government and an international French firm, Vivendi Water, to provide services of energy and water distribution to the citizens (AFDB, 2002:4). In 1995, a PPP project, Maputo Development Corridor (MDC), with a number of road tolls connecting the port of Maputo in Mozambique and Witwatersrand where there are a number of mines and manufacturing industries in South Africa, was successfully implemented (World Economic Forum, 2013:69).

This was a result of an agreement called Spatial Development Initiative (SDI) signed by the two governments to improve transport system between the Province of Gauteng in South Africa and Maputo Port in Mozambique (Roodt, 2008:90; World Economic Forum, 2013:69). In 1996, a 30 year Build Operate Transfer (BOT) PPP contract was also signed between the same two countries of South Africa and Mozambique to bring about improved productivity along the same Maputo Development Corridor (Shaik & Narain, 2011:283). In addition, a number of PPPs in form of concessions and service contracts were implemented by the South Africa government to foster economic growth and development of the country in a number

of sectors such as transport, communication, water, sanitation, housing, energy and education after 1994 (Burger, 2006:1). In 2000, the South Africa Government instituted a PPP Unit after a PPP Strategic Framework was approved in 1999 (Burger, 2006:3). Although PPPs have brought a number of opportunities to the people of South Africa, several debates from a number of PPP experts show that the pace at which such PPPs are being adopted, implemented and maintained is generally very slow (Burger, 2006:5).

For instance, since 1998, less than 25 PPPs (representing an average of less than 1.6 per cent) each year has been adopted, implemented and maintained (Burger, 2006:7-8). Some scholars argue that, in spite of the already existing well stipulated PPP legal, regulatory, policy and institutional frameworks in place, a number of constraints still exist which hinder successful implementation of some of the PPPs in such a developed economy of Africa (Fourie, 2008:481). Most of the successful PPPs in South Africa have resulted from the existing vibrant private sector firms that invest a lot of money in such PPP projects (Calitz & Fourie, 2010:186).

One of the private companies in South Africa that is recognised internationally for implementing several PPP projects in the roads sector is called SANRAL (Castalia Strategic Advisors, 2007:5). There are also a number of other PPP projects in the health sectors that provide medical services which are affordable even by the poor in South Africa (IBRD, 2009:99). The implementation of Gautrain PPP Project in 2007 was a successful story in the use of PPPs as a financing strategy for infrastructural development (Levinsohn & Reardon, 2007:4).

South Africa is currently looking at investing more resources at her disposal in developing other infrastructure projects using PPPs (Department of Economic Development, 2005:31). Therefore, such PPPs need to be looked at as a strategy for long term implementation of large scale projects for infrastructural development. PPPs can also be used to implement small scale projects, although these may not contribute much to the infrastructure gap in South Africa (Department of Economic Development, 2005:32). More emphasis is being put on implementation of large scale PPP projects, especially in the transport sector (Department of Economic

Development, 2005:33). Since well-developed infrastructure leads to economic growth and development, the government of South Africa has committed its bigger part of the national budget to infrastructural development (Fourie & Burger, 2010:177). More than half of the international PPP experts in South Africa believe that the existing infrastructure can't be enough to boost the long-term plans of increasing business opportunities (Deloitte, 2010:1).

The South African Government has taken advantage of such existing PPP opportunities to refurbish already existing infrastructure and to develop new ones through constructing first class toll roads and investing in high speed trains (Deloitte, 2010:1). In addition, South Africa has expanded its energy sector through constructing more nuclear plants, provided more telecommunication facilities and enabled communities to get water and improved sanitation facilities by use of PPP approaches (Fourie, 2008:482). For example, one of speed trains in South Africa is the Gautrain which connects Pretoria, Johannesburg and the Oliver Tambo International Airport in its economic heart land, and it was constructed using PPPs (Fourie, 2008:482). The plan to develop the Gautrain was initiated in 2000 and in 2006, a PPP contract was signed between the local authorities of Gauteng Province and Bombela Concession Consortium for 20 years (Gauteng Provincial Government, 2013:12-14). The provincial government of Gauteng is fully in charge of the legislative policy and institutional framework for such PPP project, while Bombela Concession Consortium was responsible for financing, implementing, operation and maintenance of the project facilities through the user pay principle (Gauteng Provincial Government, 2013:12-14).

Other examples of PPPs in SA include: water and sanitation services Concession, sugarcane extension delivery to SmallScale Growers. In the beverage sector, SABMiller has been working with the South African Department for Science and Technology through the South African Water Futures partnership with the World Wildlife Fund and GIZ. The collaboration aims to identify and respond to water risks faced by hops growers in the Gouritz watershed (Obayelu, 2018:258). A number of studies, including the OECD Development Co-Operation Report 2017 (OECD, 2017),

have brought attention to the pressing need for identifying alternative funding modalities for a number of projects such as the Cape Town Global Action Plan for statistics (CT-GAP), now in its second year of implementation (PARIS21, 2018:8). Although South Africa is looked at as the country with the rich history of PPPs in the whole of Africa (Raja & Narain, 2011:284), such PPPs are actually failing to produce enough results as expected. As already observed, there is a low number of PPP being adopted, implemented, maintained and sustained from 1995 to 2013. This could partly be a result of a number challenges that the South African government keeps facing because of pressure from the citizens due to the ever increasing demand for more ultramodern infrastructure (Mitchell, 2007:5). One may, therefore, wonder whether PPPs can provide an answer to solving existing infrastructural problems in South Africa through integrating them in her long-term policy for economic growth and development (Mitchell, 2007:6).

More research therefore needs to be undertaken to find out on how best to use such PPPs to improve the infrastructural image of South Africa and mostly in the roads sector. A more critical analysis and evaluation can show why PPP impact has not been much felt by all the citizens of South Africa and this may also be a problem in other African countries that are using PPPs to develop and improve their infrastructure (Mitchell, 2007:5). There is potential to improve the way PPPs are being implemented in South Africa. The government will have to keep on identifying a better alternative strategy for use of such PPPs as a financing mechanism for long term investment in infrastructural development (Deloitte, 2010:8). Another challenge handicapping successful implementation of PPPs in South Africa is inadequate technical and management capacity especially in many municipalities (Levinsohn & Reardon, 2007:5). There are PPP regulatory complexities that many provincial and municipal authorities in South Africa are facing as a result a new PPP legal environment that is different from the one they were used to (Mitchell, 2007:14; Castalia Strategic Advisors & Ukhamba Advisory Services, 2007:i-ii). It is also possible that big private companies are used by friends and relatives in government to win lucrative tenders as has been in the case of the Gupta family and former President of South Africa, Jacob Zuma (Mitchell, 2007:14; Castalia Strategic Advisors

& Ukhamba Advisory Services, 2007:i-ii). This is because it creates avenues for corruption. For example in 2004, it was found out that the former head of the Lesotho Highlands Water PPP Project had been bribed by 12 international private companies to influence the award of PPP contract. According to the prosecuting authorities, after a thorough investigation was conducted, those companies were found guilty of using the bribes to influence the award of the PPP project contract by the head of the Lesotho Highlands Water PPP Project. One of those companies, Acres International, was blacklisted and suspended by the World Bank from competing for its contracts for three years (World Bank, 2004:7).

2.6.3 PPPs in Kenya

A PPP in Kenya is defined as a performance based contract under which the private sector supplies public services overtime and is paid by the public sector, end user or a hybrid of both (Obayelu, 2018:255). Output is specified by Contracting Authority while inputs are the responsibilities of the private sector (Obayelu, 2018:255). Since 1996, a number PPP projects in the railway, roads, telephones, electricity, water and sanitation sectors have been undertaken in Kenya. The Kenyan Government has committed to work with the private sector to invest in such large scale PPPs. However, some of these investments were made before the actual PPP policy framework was enacted by the Kenyan Government (Fortune of Africa, 2018:3). Kenya initiated its PPP Policy in 2010 to encourage private companies to invest in the development of infrastructure especially in the roads sector.

Bringing PPPs on board in Kenya has been seen as an important step in the provision of better services to the citizens. Most of these PPP projects being implemented in Kenya have helped in the development of physical and social infrastructure without first using the conventional public procurement process (The National treasury, 2018:1). The Kenyan Government enacted the PPP Act in 2013 to create an avenue for investing in both small scale and large infrastructural development. There are over 60 PPP projects; some have already been implemented and others are currently being implemented throughout the country (The National Treasury, 2018:2). Although the PPP legal framework in Kenya is new, the Budget Policy Statement of 2017

indicates that infrastructure investment by private sector players has gone on ever since 1996 (The National Treasury, 2018:2). The initial investment in infrastructural development by such private sector players was in the electricity sub-sector. As a result, Kenya embarked on the road map for an effective and robust legislative, regulatory, policy and institutional frameworks for PPPs at district, provincial and national levels (Njoroge, 2018:2). In 2014, the National PPP Regulations were gazetted by the Kenyan parliament, which approved the PPP (Amendment) Bill in 2016. In addition, a number of PPP guidelines are being finalised and also the manual for guiding in the development of PPP standard bidding documents is now in place (Njoroge, 2018:2). In 2017, the Kenyan Government gazetted the PPP Project Facilitation Fund (PFF) Regulations (Njoroge, 2018:2). All these have enhanced the implementation of a number of PPP projects such as the current oil pipeline project that is intended to connect with that of Uganda all the way from the Albertine region of western Uganda (Olotch, 2017:1).

All such infrastructural developments using PPP financing mechanisms have indeed proved that the Kenyan Government and its private sector actors have increased their appetite in the use of PPPs to easily place services to the citizens (Fortune of Africa, 2018:3). Kenya uses some PPP models such as concessions and service contracts to implement a number of projects for developing physical and social infrastructure. Most of the PPP projects being adopted, implemented and maintained involve Government Ministries, Departments, Agencies (MDAs), providers of equity, a Special Purpose Vehicle, Local and international financial institutions and private contracting companies (The National Treasury, 2018:3).

This is because Kenya has a big gap in infrastructural development for provision of public services to the citizens and so the best alternative is to use PPPs to effectively deliver such essential services to its people. For instance, in the financial year of 2017/2018, Kenya had a budget deficit of KSh206.7bn (\$2.3bn) to meet its infrastructural development budget financing, so the private players had to come in to finance such needed budgetary allocations (The National Treasury, 2018:3).

The Government of Kenya is currently collaborating with private sector actors to adopt, implement and maintain such PPP projects for infrastructure to provide the badly needed services as has been the case with the Nairobi-Thika road (Oxford Business Group (OBG), 2018:1). While the Kenyan Government is willing to refurbish already existing infrastructure and develop new ones in order to deliver the expected public services, the country appreciates that there is a shortage of financial resources for boosting its mid-term and long-term national development plan (Wafula, 2014:26).

To cover such financial gaps, therefore, the government has resorted to working closely with the private sector players to finance such crucial national projects through PPP contractual arrangements (Wafula, 2014:26). That is why Kenya and other members of the East African common market agreed to work together through PPP arrangements to revamp the regional infrastructure system in harmonising regional integration to foster social and economic development in the region (Wafula, 2014:26). Kenya and other members of the East African common market are already working together in collaboration with the private sector in improving infrastructure in the region such as roads, railways and airports (5th East & Central Africa Roads & Rail Infrastructure Summit Report, 2014:1). Kenya and her East African counterparts of Burundi, Uganda, Rwanda and Tanzania are in urgent need of better infrastructure and the best way to revamp such essential infrastructure is by using PPPs (5th East & Central Africa Roads & Rail Infrastructure Summit Report, 2014:2).

There are a number of benefits from PPPs in form of cost effectiveness and timeliness, improved technical and financial capacity, risk sharing between the private and public sector and innovative public services delivery mechanisms, all of which will be translated into higher VFM that Kenya is currently experiencing (Gruneberg, Hughes & Ancell, 2007:692). In 2012, the World Bank extended some credit facilities to the Kenyan government for the Infrastructure Finance and Public Private Partnerships (IFPPP) Project and at present, the different sectors of the economy are all implementing a number of PPP projects (Triple OKLaw Advocates (TOA), 2017: 1).

These economic sectors are not limited to only road infrastructure but also energy, business process re-engineering, water supply, sewerage and waste management, transport, health, wetlands reclamation, fishing, irrigation, public markets, agriculture, education, games and sports facilities, housing, mineral exploration and extraction, tourism, slaughter houses, technological advancement and transfer (Triple OKLaw Advocates (TOA), 2017: 2). By 2017, about 67 PPP projects were at different stages of adoption and implementation and the Kenyan Government has given priority to the implementation of the PPPs that are much important in the provision of essential services to the general public (Triple OKLaw Advocates (TOA), 2017: 3).

The different PPP projects that have been successfully implemented in Kenya include the Grain Terminal of Mombasa port in 1998, the Water Utility of Malindi in 1999, the Airport Cargo Terminal of the Jomo Kenyatta International airport in 1998, and Gauge Railway Concession of Tanzania, Kenya, Uganda, Rwanda, Burundi and Southern Sudan (Njoroge, 2018:2). The other PPP projects such as the four-tier National Data Centre construction, Kenya Flying School, the 980 Megawatt Coal Plant construction, the two phases Geothermal Development Project to generate a total of 1,200 megawatts, and the Second Jomo Kenyatta International Airport Terminal construction are in offing (Njoroge, 2018:3).

There are also about 70 PPP Projects being planned, out of which 66 projects have already been ratified using solicitation process and other remaining 4 projects have been ratified using Privately Initiated Investment Proposals (PIIPs) (Njoroge, 2018:4). Among the 66 PPP projects ratified using solicitation process, 6 will be implemented at local level and then 60 PPP projects will be implemented at national level.

Since 2010, a number of projects in the roads sector have been conceived, initiated, designed, planned, financed, implemented, maintained, monitored, evaluated, managed and sustained using PPP contractual arrangements (Kenya PPP Program, 2018: 1). The planned new highway connecting South Sudan, Lamu Port, Somalia and Ethiopia will be developed at a cost ranging from US\$ 15 billion to US\$ 20 billion using Build, Own, Operate and Transfer (BOOT) PPP model (Mwandiki, 2010:19). The Government of Kenya also has a long term plan to construct and refurbish 10,000

km of the roads for the next 5 years. The first Phase of 3,000 kilometres will be constructed using Finance Design Build Maintain Transfer (FDBMT) PPP model (World Bank, 2018:1). The major highways that have so far been constructed in Kenya using PPP contractual arrangements include Nairobi-Mombasa road, the second Nyali Bridge, Nairobi Southern Bypass, Nairobi-Nakuru-Mau Summit, and Nairobi-Thika 12 lane road (OBG, 2018:2). Most of PPPs models being used by Kenya to construct such road infrastructure include Lease Renovate Operate Transfer (LROT), Build Own Operate Remove (BOOR), Build Lease Transfer (BLT), Build Operate Transfer (BOT), Design Construct Manage Finance (DCMF), and Build Own Operate (BOO) (Mwandiki, 2010:20).

Success in the implementation of different projects infrastructural development using the PPP financing arrangement has so far been recorded in a number of key Kenyan economic sectors. More than before, the Government of Kenya is optimistic that the use of such PPPs in the development of its infrastructure will greatly boost its economic growth and development in the years to come, as has been the case with Ethiopia, Nigeria and South Africa (Mwandiki, 2010:21).

Obviously there are many benefits that Kenya is bound to realise from the use of PPPs to implement projects in the roads sector. For instance, there is a high likelihood that the quality of lives in most parts of the country is going to improve as a result of better services delivered (Njoroge, 2018:5). In 2016, Kenya used a leasing PPP model to implement an agro based project that was focusing on improving food security and nutrition in the country. This was a grain warehouse under the auspices of the warehouse receipt system (WRS).

The Government was willing to develop a WRS and a supportive legislative, regulatory, policy and institutional framework and share its expertise and facilities with WRS private players, via the parastatal National Cereals and Produce Board (FAO, 2016:76-77). The government used a five-year leasing contract to enable the private players use its warehouses under the public private collaboration framework, where other key actors such as the micro financial institutions, regulatory agency of the Eastern Africa Grain Council, development partners and depositors were involved.

In turn, the private players were supposed to manage the warehouses, take part in the WRS and invest in improving existing ware house infrastructure as a form of in-kind contributions to fulfil what they had agreed with government (FAO, 2016:78-79). However, PPPs in the roads sector in Kenya are sometimes associated with corruption. In 2004, government signed a concession contract for 25 years with some private construction firms to maintain some sections of its road network that form part of the Northern Corridor but eventually there was a lot of delays in the implementation of the contract due to attempted diversion of project funds (Agina, 2004:1).

Also in 2004 the government conducted an investigation into some corruption allegations and the 3 top staff from the Ministry of Roads and Public Works, who were planning to divert KSh100 million meant for the project to their private accounts, were eventually suspended. Therefore, the government and policy makers should always take a number of direct focused steps to deal with such issues that may impede the success of PPPs in Kenya (Harris, 2004:291).

2.6.4 PPPs in Tanzania

To mitigate the population growth and subsequent consequences of shortage of infrastructure, as with most governments in developing countries, Tanzania has been encouraged to adopt the popular PPP strategy as a solution to delivering affordable infrastructure projects for those of low incomes (Kavishe & Chileshe, 2018:446). However, use of such PPPs in Tanzania to implement projects for infrastructural development is relatively new. Since the 1980s, a number of reforms have been carried out which paved way for adoption of PPPs in different sectors of the economy.

Literature reviewed shows that a few studies on PPPs in Tanzania have been carried out but they focus majorly on management solid waste. Scholars such as Nkya (2004:18) studied PPPs in solid waste management in Dar es Salaam. Itika (2003:11) studied PPPs in Dodoma in health service delivery, while Kironde (1999:6) studied urban waste management in Dar es Salaam. Never the less, these studies concentrated more on PPPs in the service industry than on other sectors of the economy such as the road sector (Ngowi, 2018:5).

A number of research studies on PPP in Tanzania indicate that the country developed a framework for PPP Policy in 2009, the PPP Act in 2010, PPP Regulations in 2011 and PPP strategy in 2012 (Kasanda, 2013:1). Before the PPP policy was developed, PPPs were implemented based on already existing laws such as the Public Corporation Act of 1992 and through the mandate from structural reform policies with mixed results (Axis consulting, 2013:7-7).

Some scholars allude to the fact that indeed in 2010 and 2011 the Government of Tanzania worked on the PPP legal framework to bring on board more private players in the provision of public services (Kasanda, 2013:1). Currently, there seems to be a conducive environment for PPPs in Tanzania since the Government is committed to working with private actors in the adoption, implementation and sustainability of a good number of PPP projects.

The government looks at the use of PPPs as an effective strategy to deal with constraints associated with provision of public works, goods and services (OECD, 2013:20). The country also believes that PPPs will enhance most of the Government Ministries, Departments and Agencies (MDAs) to meet their mandate of providing essential goods and services to its citizens (OECD,2013:21).

It should be noted that numerous PPP projects were implemented in Tanzania before the development of the PPP Policy framework such as the Kilimanjaro International Airport (KIA) PPP Project in 1998. Other PPPs were the concession contract of TICTS container terminal of Dar es Salaam Port in 2000 and the concession contract of the central railway corridor with some private companies in 2007 (Mboya, 2012:5).

Currently, the main sector applying PPPs in development of infrastructure is the energy sector. In fact, there was a PPP arrangement in form of a power purchase agreement involving the Tanzania Electricity Service Company (TANESCO) and Independent Power Tanzania Limited (IPTL). Housing PPP (HPPP) is still at its early stages in Tanzania primarily because of a lack of direct experience and inadequate new investment in housing projects. To date, two public organizations, the National

Housing Corporation (NHC) and the National Social Security Fund (NSSF) have used the PPP method for housing provision (Kavishe et al., 2018).

Since the 1990s, NHC used the PPP approach in developing and building a number of public housing estates but most of these partnership projects were not very successful. NHC adopted partnership projects as a means of developing more houses (Kavishe & Chileshe, 2018:447). In addition, the government plans to give about 9 tenders of PPPs to implement some projects in the roads sector (Infra PPP World, 2013:5). When it comes to experience in the implementation of PPPs, the government has registered a rich PPP experience ever since she got her independence mainly by faith based organisations in the areas of water, health and education. From 1990 onwards, a number of PPP models such as leasing and management contracts were used in the implementation of some transport and energy sectors' projects (National PPP Policy: 2009:1).

A number of PPPs in the railway, water and road sectors have equally been implemented. These include a 600 km Arusha-Musoma Rail, 946 km Mtwara-Mchuchuma and Liganga Railway Construction projects, 100 km Dar es Salaam-Chalinze Expressway and 105 km Arusha-Moshi-Himo toll roads, 438 km Tanga-Arusha Rail Upgrade project, Mwambani Port, Mbegani Port and Kisarawe Container Freight Station construction projects and the 800 km Dar-Isaka Railway and standard gauge Rehabilitation project (Mboya, 2012:5-6). The use of PPPs to develop such economic, physical and social infrastructure is aimed at delivering investments from which certain goods and services can be availed to the Tanzanian citizens in an effective, efficient and economical manner.

Such developments are aimed at ensuring VFM in all sectors of the Tanzanian economy through involving different public sector and private sector players in such PPP arrangements. Although there has been some success in the adoption and implementation of PPPs in the key sectors of the country, some failures have also been registered. For instance one of the the assessment done by OECD on the PPPs in Tanzania shades more light on the government's often controversial position as far as involving private sector in service delivery to the public is concerned

(OECD,2013:22). For instance, support for investing in PPP projects by the private sector in terms of existing laws as exemplified by the current legislative framework such as the 2011 Public Procurement Act that was updated recently looks controversial. This is because there are still actions that look strange as has been the case with the re-possession of certain parastatal agencies, which had been previously privatised (Investment Policy Reviews: 2013:20-22). Also the case of the contract between the public agency of City Water and BiWater Gauff Ltd to supply water in Dar Es Salaam city. There have also been cases of corruption that spoiled the image of Power Purchasing Agreement between TANESCO and IPTL in 1995. The signed power purchasing agreement between Tanzanian government's state owned electricity company TANESCO with IPTL, a joint venture between a Malaysian company and a local investor for the purchase of 100MW of power from diesel generators for 20 years, was looked at the worst PPP ever in the history of PPPs in Tanzania (Phaswana et al, 2005:9-28).

All these point to the fact that there is need for government to provide thorough legal, regulatory, policy and institutional frameworks with well articulated guidelines for the adoption and implementation of PPPs in the major Tanzanian economic sectors (GTZ, 2010:11). This means that, some PPPs in Tanzania are at times associated with corruption. The existence of more cases of such corruption can easily be traced in supply of equipment and some concession contracts that involve PPP projects in the construction industry. Therefore, the government and private sector in Tanzania should try their best to deal effectively with such corruption cases that hinder effective and efficient implementation of PPPs in Tanzania (Harris, 2004:289).

2.7 PPPs in Uganda

This section specifically reviewed a number of documents to critically assess Uganda's experiences of utilising PPPs in different sectors. There are scholarly and practitioner debates on appropriate requirements for implementing PPPs in the roads sector in Uganda. The review draws lessons from practitioners in other sectors since there is limited literature on PPP implementation in the roads sectors in Uganda. The review process adopted an exploratory assessment of PPPs in the roads, education,

energy and agriculture sectors. There is therefore need to to understand why the Government of Uganda has come up with a number of measures such as ensuring effective allocation of funds, formulation of policy and monitoring adherence to the standard operating procedures when implementing any PPP projects with in such sectors (Obayelu, 2018:256).

2.7.1 Overview of PPPs in Uganda

The Ugandan Government views PPPs as a strategy for filling the existing gaps in financing infrastructural development projects for the coming ten years (Ndandiko, 2006:700). As other countries around the globe do, the development of infrastructure for provision of services to the public has been the role of government but this is gradually evolving (Ndandiko, 2006:701. The practice of allowing private players in Uganda to be involved in the delivery of services to the public can be traced way back 1990s in most districts of Uganda such as Mbarara, Gulu, Mbale and Kampala (Dentons, 2014:1).

It should be noted that well developed legal, regulatory, policy and institutional frameworks are very important if any PPP project is to be successfully implemented in the roads sector. A number of studies point out that detailed legal, regulatory, policy and institutional frameworks have already been developed and enacted in Uganda to enable Government work well with the private sector actors in the provision of services to the citizens.

However, from a number of documents reviewed, it has been noted that operationalising such frameworks is still facing the constraints of limited competence and experience (Hard castle, et al., 2005; 459-460). Uganda PPP Policy Framework of 2010 derives its legal force from the constitution of Uganda (1995) that provides the overall legal policy framework for the central government to implement PPP programs to benefit all the people in the country(Obayelu, 2018:254).

The new PPP law was initiated in July 2015 to replace the already existing legal framework in order to regulate the development and implementation of PPPs in the

country. The new law's objective is to regulate the procurement, implementation, management and monitoring of PPPs from project conception to conclusion (Obayelu, 2018:254). It explains the core infrastructure areas for which PPP arrangements may be engaged to include transportation, water management, oil and gas pipelines, tourist infrastructure, sports and recreational facilities, mining, energy related facilities, and social infrastructure (Obayelu, 2018:255). The PPP Unit and Committee have been set under the Ministry of Finance, Planning and Economic Development (MFPED) to ensue effective allocation of funds, formulation of policy and monitoring adherence to the standard operating procedures when implementing any PPP projects (Obayelu, 2018:256).

The PPP Unit aids the PPP Committee in the provision of technical, legal and financial support (Hard Castle, et al., 2005; 460-470). As what has happened in other East African common market members states of South Sudan, Tanzania, Kenya, Burundi and Rwanda, the already existing policy and institutional frameworks do spell out in detail how best to manage and use PPPs to provide services to the public in an effective, efficient and economic manner (Hard castle, et al., 2005; 470-471).

In March 2010 the Cabinet of Uganda approved the PPP policy and the Ministry of Justice and Constitutional Affairs drafted the PPP Bill after being authorised by the Ugandan Parliament. Then Cabinet approved the PPP Bill and eventually Parliament passed it in 2014. Initiation of the PPP unit under the MoFPED to coordinate the implementation of PPPs was one of the main goals of the PPP Bill. The Bill guides government on how to involve different private sector players in the implementation of PPP projects for infrastructural development in order to effectively deliver essential services to the public.

The bill also has provisions on how to conduct the procurement process when soliciting for private partners to work with in the implementation of PPP projects. The bill defines roles and responsibilities of the different PPP stakeholders, both the public and private sectors, in the adoption, initiation, conception, design, planning, financing, development, implementation, maintenance, monitoring, management

and sustainability of the PPP projects in the different sectors of the Ugandan economy (PPIAF, 2014:1).

2.7.2 PPPs in the Ugandan road sector

A number of documents reviewed reveal that the national roads coverage in Uganda is about 71,000 km including 3,500 km of urban roads, 17,000 km of district roads, 30,000 km of community access roads and 20,000 km of national roads. Roads are the main mode of transport in Uganda since they are used by more than 90% of passengers all over the country. Also over 80% of the road traffic can easily be realised along the national roads that make up 30% of the total traffic capacity. Uganda has, therefore, made a commitment to ensure that a number of road projects all over the country are well designed, planned, financed, constructed and maintained for the next ten years.

To finance, implement and maintain such road projects and ensure that the current transport demands are well met, the Ugandan Government through its umbrella public organisation of Uganda National Roads Authority (UNRA) has already embarked on the use of PPPs to work with private sector players in the construction of a number of new road networks and refurbishing the existing ones throughout the country (PPIAF, 2014:1).

The Uganda National Roads Authority (UNRA) is the government institution that has been tasked with the management of the construction and maintenance of all national roads in Uganda. The main function of UNRA is to address the transport concerns of Uganda, advise the Ugandan Government on the best policy for roads, and developing and maintaining the national roads.

UNRA was established as a result of a number of reforms that were conducted in the roads sector after government initiated a Road Sector Development Programme (RSDP) for ten years in 1996 (Nite, 2003:2). Developing a strong government institution for effective and efficient management of the roads network national wide was the main goal of the RSDP (World Bank, 2014:3).

Therefore, the Ugandan Government committed to establish semi-autonomous bodies of Uganda Road Fund (URF) to finance district roads and UNRA to manage national roads so that the Ministry of Works and Transportation (MoWT) can only concentrate on issues to do with policy, developing standard operating procedures and putting in place control mechanisms for ensuring that such semi-autonomous public bodies perform as expected (Dentons, 2014:7) Several PPP projects have so far been implemented, others are still being implemented and others such as the Kampala-Jinja highway are being implemented.

In May 2014, the Ugandan Government, through UNRA, signed a PPP contract with International Financing Corporation and Advisory Services (IFCASP) to embark on the construction of the 77 km of Kampala-Jinja highway, 17 km of Kampala Southern Bypass and 18 km of Kampala Northern Bypass at a cost of \$1 billion. This was after the Government sought for a private company to design, build, finance and operate the roads through charging toll fees from the road users (Kavuma, 2013: 10).

A PPP Unit Feasibility Study was conducted in 2007 at a cost of \$325,000. This study offered technical assistance to pave a way for a PPP Pipeline in 2011 at a cost of \$70,000. This study also paved way for implementing an Institutional Readiness Program for the Ugandan National Roads Authority (UNRA) in 2014 at a cost of \$325,000.

The Kampala-Entebbe express highway is another PPP project which will link the Kampala Capital City to Entebbe International Airport (World Bank, 2016:3). The Tanga-Arusha-Musoma is another PPP project intended to connect Uganda to the the Port of Kisumu in Kenya and the Port of Mwanza in Tanzania (Kavuma, 2013: 11-12).

2.7.3 PPPS in the education sector

As a policy response, the GoU adopted the Universal Secondary Education (USE) policy in Uganda in 2007 (Chapman, 2009; MOES, 2007:5). Under this initiative, the government provides financing to some selected contracted PPP-private schools

which facilitate learning and teaching processes to achieve expected USE outcomes of improved equitable access to and quality of secondary education (MOES, 2013:21). However, not much has been done to explore PPPs in the Education sector in Uganda (Cheng, Chan & Kajewski, 2012:12).

The quality of education offered through PPPs in Uganda remains a concern (Patrinos, 2006:19). Likewise, some scholars question the use of PPPs in transforming education positively to increase access, competition, efficiency and quality (Oketch, 2009:4). While there are a number of studies on PPPs in education service delivery (Jamali, 2004:9; LaRocque, 2008:2; Patrinos et al., 2009:11; UNESCO, 2010:18; Basheka, 2011:6; Babatunde, Opawole & Akinsiku, 2012:13), exploratory studies focusing on PPP in USE in Uganda remain limited. Scholars have not yet investigated the information gaps on the use of PPP in the education sector and this should be a rich opportunity of further research in this study.

In Uganda, contracting out to deliver education services is the type of PPP model that the government uses with the Private schools to provide USE (MOES, 2012:10). Under this PPP model, the government pays a subsidy for each student enrolled in selected private secondary schools also called PPP schools (Taylor, 2003:11; World Bank, 2009:7).

LaRocque (2008:12) notes that other forms of PPPs involved in delivery, management and financing of educational services include private operation of public schools, private sector supply of inputs into the education process, education subsidies and scholarships, contracting for delivery of education services, school infrastructure initiatives, private management of public schools, capacity building initiatives, private sector philanthropic initiatives, private sector quality assurance, public-private affiliation arrangements and innovations.

Despite the continued support to schools to provide USE through the PPP policy, its implementation has been received with dissatisfaction from various stakeholders and other critics regarding quality of USE outcomes and education delivered through it (MOES, 2010:6). Some scholars argue that PPP in USE is good for increasing access

to schooling although it is characterised by low examination performance, poor quality services delivered and rising school dropout rates in PPP schools (Bo-Joe Brans, 2011:7; MOES, 2012:9). In a study by Bo-Joe Brans (2011:5), it was found out that PPPs in USE lack state regulation and quality assurance.

However, the study misses on in-depth analysis of stakeholder experiences and critical success factors for implementation of PPPs in USE. Moreover, a related study by Barungi et al (2014:9), evaluation of PPPs in USE focused on a limited scope of performance of PPP without exploring its implementation, quality of USE and how increased access to USE through PPPs has impacted on quality of learning and its outcomes.

Though a few studies (Barungi et al., 2014:23) on PPPs in USE have been done, their scope has been more evaluative than exploratory, with hardly any in-depth analysis of the extent to which USE access has impacted on quality of outcomes in PPP schools. According to the GEQAF (2013:17) report, access to schooling is a necessary condition for learning but it is not a sufficient condition for quality education to the satisfaction of all key stakeholders.

2.7.4 PPPS in the energy sector

The adoption of PPPs in Uganda's energy sector can be traced back in the days when the electricity supply chain was unbundled in the early 1990s (Ndandiko, 2006:4; Osborne, 2002:230). The unbundling process of breaking of Uganda Electricity Board resulted into creation of semi-autonomous entities for generation, distribution, transmission and regulation functions. Uganda Electricity General Company oversees Hydro Electricity Power (HEP) generation; Uganda Energy Distribution Company handles HEP distribution; Uganda Electricity Transmission Company handles HEP transmission; and Electricity Regulatory Authority regulates the energy sector. The unbundling process led to the need for private sector participation in the entire electricity chain in Uganda and hence the adoption of PPPs. In line with efforts to increase generation capacity by involving the private sector, government has packaged a number of HEP projects as PPPs. The Bujagali HEP

PPP Project is under BOOT by Madhivan Group to generate 250MW and the first hydro independent power project in Uganda (Uganda Electricity Regulatory Authority, 2016:23). The project involved the construction and operation of a run of the river power scheme and 100km of 132Kv transmission lines to evacuate the generated power to the main grid (World Bank, 2007:9). The engagement of private players and PPPs in the electricity sector is traceable from 1999 (Electricity Act, 1999:13). When the PPP Act was introduced following pressure from World Bank, the newly created vertically integrated agencies started engaging the private sector in PPP arrangements. Seababi (2007:3) argues that Uganda has made some strides by using PPPs in the hydroelectricity energy sub-sector.

In 2005, the GoU entered into a 20-year concession with Umeme, a UK based firm, to provide greater electricity access, reduced power losses and availability (Gore, 2006:362, Nsasira, Basheka & Oluka, 2013:51). According to Kabanda (2014:7), it is argued that Uganda Electricity Generation Company Limited contracted Bujagali Energy Limited (BEL), a private consortium to design, finance, build, own, operate and maintain Bujagali Dam for a period of 30 years. The contracting out PPP model was also used to construct Karuma project in 2013 (Lobina & Hall, 2003:3, Hall, Motte & Davies, 2003: 6).

While studies have focused more on the challenges faced by the contracting party and the private party, consumers of electricity faced challenges, too. These included unreliable power supply amidst high tariffs (Ezor, 2009: 9). Some PPP experts also indicate that demand for electricity appears to be exceeding supply despite efforts to increase installed capacity with the current construction at Karuma and Isimba Dams (Ezor,2009:10). Other researchers argue that where such PPP projects are constructed, people's livelihoods have been affected.

This has over time led to resistance to accept such projects by local residents in the vicinity of PPP projects including Bujagali Dam project (Akampurira, 2009:4). Other scholars have identified more environmental challenges such as degradation caused by the process of constructing PPP HEP projects (Woodhouse, 2005:4); and failure

to access capital to invest in PPPs as a result of a small private sector that is unable to provide credit facilities to energy sector PPPs (Akampurira, 2009:4).

2.7.5 PPPS in the agriculture sector

PPPs in agriculture (known as 'agri-PPPs') are relatively new but display a growing interest in developing countries like Uganda. An agri-PPP is very difficult to define because it differs in scale, aim, actors involved, and structural arrangements (Obayelu, 2018:2). Agri-PPPs is a formalized partnership between public institutions and private partners (agribusiness firms and farmers) designed to address sustainable agricultural development objectives, where the public benefits from the partnership are clearly defined, investment contributions and risk are shared, and active roles exist for all partners at various stages throughout the PPP project lifecycle (Obayelu, 2018:3). There have been numerous PPPs in agriculture sector in Uganda although some of them have been mired with failures especially because of the incongruence of objectives of the public and private sectors (Jomo et al., 2016:3; Davis, 2008:24).

In Uganda's agricultural sector, PPPs have been mainly applied through National Agricultural Advisory Services (NAADS) programme. NAADS used PPPs through establishing a decentralised system of managing agribusiness by farmers, and an extension services system by private sector players (Davis, 2008:23; Kisitu, 2010:15; MAAIF, 2000:1). Therefore, NAADS initiated a PPP model between the public and private sectors to provide extension services to such farmers. Although this extension services system by NAADS was backed by the NAADS Act of 2001 in addition to receiving support from politicians and development partners, still it has failed to achieve its main goal. The programme has been scaled down to Operation Wealth Creation (OWC) by government. PPPs in agriculture promote synergies of public institutions and private players to come up with innovative ways of doing things that bring out more competences of improving agricultural productivity in Uganda (Hodge & Greve, 2007:546; EIU, 2015; FAO, 2016:5). Several debates on PPPs in agriculture in Uganda indicate many constraints in the adoption, implementation, maintenance and sustainability of PPP projects (SAIIA, 2005:33). Therefore, for efficient and

effective implementation of such PPPs and better outcomes, it is necessary to have continuous monitoring mechanisms if VFM is to be achieved (Nisar, 2013:640). However, one of the major constraints that PPPs in agriculture sector face is harmonisation of the private sector's profit motives with the public sector's drive deliver services to the public. Such complexities and intricacies in the agriculture sector in Uganda need to be adequately dealt with if PPPs are to be successfully implemented (Hodge & Greve, 2007:547). A few PPP models in the agriculture sector exist in Uganda such as a pluralist extension model. Under such a model, the public and private partners sign a memorandum of understanding which commits both parties to work together in a more harmonious manner (Ladele 2011:4; Samii et al., 2002:997). Through NAADS, a number of benefits were realised by farmers such as construction of the Merikit Market for agricultural products with support from International Fund for Agricultural Development (IFAD) and African Development Bank (AfDB) in 2010.

Through a management contract PPP model and using competitive bidding process, government contracted a private company to operate and manage the market to ensure that it is managed effectively to raise revenue to support extension farmers (Van Den Hurk & Verhoest, 2016:281). Although a number of studies on PPPs in the agriculture sector have been undertaken, there is still little attention given to management of their implementation and there is no way PPPs can be successful if their effective implementation is not well catered for (Verweij et al., 2017:120). Another example of a PPP in Ugandan agriculture sector is the Oil Palm Uganda Limited (OPUL). In collaboration with the government, OPUL and farmers are developing 10,000 hectares of oil palm (Obayelu, 2018:257). A third of that land is cultivated by small-scale producers. OPUL manages out growers' schemes for farmers, clears the smallholder producers' land, provides seedlings and fertilizers, and follows up with technical support (Obayelu, 2018:258). It employs over 1,400 Ugandans on its plantation and has built access roads to many remote households on the island. Also in Uganda, a multi-national team of private and public sector scientists is currently developing biotech bananas in Uganda with increased iron content, vitamin A and E through a PPP project (Obayelu, 2018:259).

2.8 PPP models

This section critically assesses PPP models and debates by scholars, practitioners and development agencies on different PPP approaches. It examines the global understanding of different forms of PPPs and their linkages to the roads sector and other projects. In the last few years, to mitigate tightening fiscal budget constraints, governments have begun to cooperate with private firms to provide public services through use of different PPP models whose advantages include increasing efficiency and improving service quality (Jinbo, Yunpeng, Lulu & Yan, 2018:2). In the same vein, the government allows the private firm to charge a reasonable toll to recover its upfront investment when a public road is built by a private firm at its own expense (Jinbo, Yunpeng et al., 2018:2). Therefore selecting the best form of PPP to implement public projects is vital for public agencies to provide the users with the high qualified needed services (Zhang & Dong, 2017:1).

2.8.1 Overview of PPP models

Previous studies have generated many definitions of a PPP model, and even some debates of the meaning of a PPP model have already been looked at, but there is no unified PPP model definition because of the various political, economic, legal, cultural, and industrial backgrounds found around the world (Jiangfan & Xiongzhi, 2018:2). The PPP model is a contractual agreement or arrangement between public and private sector to provide public goods and services (Jiangfan & Xiongzhi, 2018:2). According to Farquharson and Yescombe (2011:9) & Bouman et al. (2013:11), PPP models are contractual arrangements where the public and private sectors share rights and responsibilities during the duration of the contract. They are differentiated by the extent of private sector risk, how the private party is paid, the type of facility and the types of PPP projects implemented in the roads sector (Farquharson and Yescombe, 2011:9; Bouman et al., 2013:11). Some PPPs involve financing, building and managing new projects in the roads sector and other public facilities, while others transfer responsibility for upgrading and managing existing road facilities to the private sector (Farquharson & Yescombe, 2011:9; Gibson et al., 2015:16; WB, 2017a; and ADB et al. 2014:18). Delmon (2010:15) notes that there is

no acceptable position on the most appropriate approach to selecting a particular PPP model. While there are a number of PPPs, which have been successful and led to VFM in the roads sector, it would not be justified to say that a particular PPP is more suitable than others. The public sector, therefore, has a challenge of identifying the most appropriate PPP model to adopt in the roads sector.

Delmon (2010:9) identifies the constraints involved in relating different PPP models in a number of countries since they use nomenclature that is different, and yet they are not related (Delmon, 2010:9). This is because no attempt has been made over the last two decades to integrate the general and specific road sector management literature to provide a holistic view of PPPs in the roads sector service delivery with specific reference to Uganda (Delmon, 2010:5; Roehrich et al., 2014:110). As a result, there is scattered literature and an incoherent formula for identifying and classifying such PPP models.

This confusion often emanates from some inconsistencies at global, regional, national and local arenas, all of which make the study of different PPP models in the roads sector quite complicated (Delmon, 2010:5-8; Roehrich et al., 2014:111; Mouraviev et al., 2016:157). Delmon (2010:9) and Mouraviev et al. (2016:156) propose harmonisation of different opinions, perceptions, concepts and theories pertaining to such numerous PPP models and most importantly those that have been comprehensively analysed at the global arena.

This will make it possible for comparisons and contrasts to be done concerning the application and operationalisation of different PPP models all over the world. Delmon (2010:8) suggests that policy makers and PPP implementing partners should always undertake a thorough assessment of VFM of any PPP model to be adopted in the roads sector by focusing among others on elements of cost effectiveness, efficiency and economy before adopting any of such models. Delmon (2010:8), Farquharson and Yescombe (2011:5) consent that the success of PPP projects in the roads sector depends on how well the elements of VFM have been firmly entombed within any PPP model to be adopted and implemented (Delmon, 2010:8 & Farquharson and Yescombe 2011:5).

2.8.2 Concession, Joint Venture and Private Finance Initiative models

A concession PPP contract is one that makes the private sector concessionaire responsible for the full delivery of the specified infrastructure services in a specified area, including operation, maintenance, collection, management, construction and rehabilitation of the system (Obayelu, 2018:255). A concession refers to a PPP model where a public entity gives the private entity the right to construct and maintain a road facility for an agreed period of time, which may range 20 to 30 years (Kwak et al., 2009:53; Delmon, 2011:118; Mouraviev et al., 2016:164). In PPP contract, a concession period is one of the key variables to be determined.

The concession period is the agreed period during which the private investor is authorized to develop, construct and operate the infrastructure project before being transferred back to the government. Generally, a fair and reasonable concession period is helpful to spread risks and share interests between the government and the private company (Yan, Chong, Zhou, Sheng & Xu, 2018:2).

Under such a PPP model, the private partner is obliged to finance, build and operate a road facility to provide a service to the public (Delmon, 2010:12; WB, 2017a). If concession period is prolonged, it may result in the loss of the public interests. On the other hand, if concession period is too short, it will result in failure of the cooperation or a higher toll regime, which will make the risks shifted to people who use the project.

Consequently, how to decide a reasonable concession period will become an important issue for decision making of PPP projects ((Yan, Chong, Zhou, Sheng & Xu, 2018:3). In these concessions, the private sector partner retains a high level of managerial autonomy from daily management activities of the road up to customer service and billing, and derives payments from the end users (Chunga & Hensher, 2018:2). According to Yescombe (2007:5), the private entity levies a certain fee to the public every time they make use of such a facility (Mouraviev & Kakabadse, 2017:11). The intention of levying such a fee is to realise return on investment and to recoup some profits. However, the public entity still owns the facility and the private

entity eventually returns the facility to the public entity at the end of the agreed period (Yescombe, 2007:5; USDOT, 2014:2; WB, 2017a). However, designing PPP concession contracts is a costly and complex endeavour. If contracts can be renegotiated, the result is distorted incentives for accurate bidding up front and for efficient production once the project moves forward.

The potential for renegotiation also reduces the shift of project risk to investors from taxpayers (Krol, 2018:3). A joint venture is a PPP model where the public entity enters into agreement with the private entity to have a jointly owned existing company or to register a different company altogether. The purpose is to raise investment capital to construct a certain road facility through selling of shares to a number of other private investors (WB, 2017a). Bouman et al. (2013:19) and Mouraviev et al. (2016:161) indicate that the public and private entity enter into such a PPP contractual arrangement to manage the risks involved through a reasonable risk sharing procedure.

Development agencies such as WB (2017a) add that this kind of model can also be looked at from the angle of forming a consortium where the public and private entity agree to work together on a specific project of developing a new road facility or refurbishing an already existing road facility. In such an arrangement, the public and private agencies are given remuneration according to how each party has delivered the specific services agreed upon in the consortium. Normally there is a separate legal entity that can be created.

According to scholars such as Hall (2008:3) and Mouraviev et al. (2016:161), joint ventures are also termed as Institutional Public Private Partnerships (IPPP). The main difference is that the company formed by public and private entities can not be used to deliver the service on behalf of government as long as the part of this business is still directly owned by the public agency; or else it becomes a semi-autonomous government company. However, all this depends on the public entity's ownership of the road facility. Some citizens are likely to look at such a joint venture company as if it is mainly private or owned by government. Development agencies such as WB (2017a) thus argue that before a public agency becomes part of any joint venture, it

is necessary for government to find out whether the law allows such public entities to enter into a consortium with the private entity. Hall (2008:3) adds that joint ventures may operate public services without necessarily first competing for formal tenders and mostly where they were initiated as municipal companies or if a service is delegated without formal public tendering.

The Private Finance Initiative (PFI) PPP model was The UK government passed a legislation to promote the application of Private Finance Initiative (PFI) PPP model, and with the accomplishment of a batch highway infrastructure projects, authority and scholars in England summarized the new progress and experience of PFI. In 2004, the UK government issued VFM Assessment Guidance and put forward VFM assessment method to evaluate public projects (Hu & Han, 2018:2).

The UK government has undertaken a wide range of reforms to provide a good environment for adoption of PPP approaches to developing infrastructure. This was a result of the prior government's commitments to re-engineer the PFI PPP model as a result of the number of questions pertaining to its use as far as VFM was concerned. Private Finance Initiative (PFI) PPP model was first designed in 1992 when the UK government passed a legislation to promote its application in the provision of public service. (Hu & Han, 2018:2). Using this PPP model, a number of reforms to provide a good environment for adoption of PPP approaches to developing infrastructure have been undertaken by various countries all over the world.

In 2012 the PFI model was reformed to come up with the PF2 model, which was officially adopted by the UK government (Andrew, 2013:2). Using this PPP model, the UK has been one of the most active users of PPPs as a means to invest in public infrastructure (Krol, 2018:20). The UK was also the first country in the world to develop the concept of PPPs for health services and hospital projects using the PFI PPP model (Mehmet & Cuma: 2018:33). Kamau (2016:9) and HMTreasury (2012:5) indicate that in a Public Finance Initiative (PFI) PPP model, the public entity enters into a contractual arrangement with the private sector entity so that the private sector is authorised to provide services to the public through designing, building, financing and operating a road facility, with the main goal of providing a high quality and well

maintained road facility (HMTreasury 2012:5). The Public Finance Initiative (PFI) PPP model was developed along the lines of concessions so that instead of embarking on user fees, it introduced the concept of payment by the public entity.

The private entity developer is, therefore, paid by the public entity for the work done to agreed standards, parameters, specifications and expectations in terms of the delivery of services through road facility maintenance, rehabilitation, renovation and refurbishment. Kamau (2016:9) insists that nowadays, PPP models to be adopted in implementing road sector construction and maintenance projects should be hinged on the model of Public Finance Initiative (PFI) and at the same time on the existing concessions in place (Kamau, 2016:9).

2.8.3 Design Build, Design-Build-Operate and Build-Own-Operate (BOO) PPP Models

The Design Build (DB) PPP model is where the public entity enters into a contractual arrangement with the private sector entity so that the private sector is authorised to provide services to the public. DB approach of partnership between public and private sector is therefore a single contract made with a private sector or a group of them for delivery of services, design and construction of a project (Khadka, 2018:17). This bears features similar to those of the Public Finance Initiative (Gwary et al., 2016:52).

Gwary et al. (2016:52) equate a Design and Build (DB) PPP model to that of the Public Finance Initiative (PFI) PPP model because the two have similar features. However, the difference is that in a Design and Build (DB) model, the private entity designs and builds a road facility in line with the needs of the public entity for a specified fee. Once the road facility is completed, the public entity assumes full responsibility for the operation, maintenance, control and over all management of the road facility, thus transferring the risks of cost overruns to the private entity (Gwary et al., 2016:52).

In the Design Build Operate (DBO) model, the private entity designs, constructs and maintains the road facility to the extent of meeting a specific amount of deliverables agreed upon with the public entity. The private entity receives payment in instalments

from the public entity for designing and constructing the road facility after accomplishing the agreed milestones in addition to being paid an operating fee for the period the private entity will be maintaining the road facility (Khadka, 2018:18).

Therefore, in such a case, if part of the road facility requires any form of servicing, renovation and refurbishment during the period it is under maintenance by the private entity, it is the role of the private entity to ensure that it does such servicing, renovation and refurbishment before the end of the agreed period (WB, 2017a). Although the DBO contract obliges the private entity to provide services fully in designing, constructing, maintaining, rehabilitating, collecting fees and managing the road facility, the public entity plays the role of setting standard operating procedures and ensuring that the private entity does its work in line with agreed standards (Bouman et al., 2013:19).

Warner et al., (2008:52) and Gwary et al. (2016:52) observe that BOO refers to a model where the public entity enters into a contract with a private entity so that the latter can finance, build, own and operate a road facility for a certain period of time. The functions of developing, maintaining, and managing the road facility are within the jurisdiction of the private entity (Khadka, 2018:19). An example is establishment of a logistics and trading centre in China under a BOO contractual arrangement as already discussed.

The Government of Shunyi District and Beijing Municipality signed an agreement with Beijing Shunxin Maofeng Logistic Company using a BOO PPP model, to construct, operate and manage the trading centre, as the public entity supported the private company to obtain the required land rights. The public entity was free to utilise all the structures and assets of the trading centre throughout the Seventh China Expo in 2009.

ADB (2008:34) asserts that the private entity was motivated to enter into such a contractual arrangement with the public entity because of the advantages that were accrued from using such a BOO PPP model which included a one-off award of three to five per cent of private investment in the first year, land concession, tax holidays,

and government subsidies in the construction, maintenance and management of the logistics and trading centre.

2.8.4 Leasing and affermage PPP Models

Lease PPP contract is another form of PPP where the private sector is responsible for the service in its entirety and undertakes obligations relating to quality and service standards, except for new and replacement investments, which remain the responsibility of the public sector (Obayelu, 2018:255). Scholars such as Warner et al. (2008:53), Delmon (2010:12), Farquharson and Yescombe (2011:10) and WB (2017a) describe a lease as a kind of model where a private partner enters into a PPP contractual obligation with the public entity to design, build and rehabilitate a road facility to provide a service to the public for a long period of time as the the public sector continues to fund the heavy investments involved.

This model is usually suitable where a public entity would like to integrate funding the investment with the efficiency offered by the private entity because the role of funding the project lies within the confines of the public entity (Delmon, 2010:12; WB, 2017a). Warner et al. (2008:53) notes that leasing obliges the private entity to only provide working capital for leasing the road facility rather than using its funds to invest in the facility.

Bouman et al. (2013:18) and ADB (2008:33) agree that with the leasing PPP model, the risk of financing the operation and maintenance of the road facility lies with the private entity, while the public entity retains the risk of financing the initial capital investment for the road facility. Usually leasing is used for a specified period of time which can be between 10 to 20 years and can be renewed for more years depending on performance of the private entity (Bouman et al.,2013:18). According ADB (2008:33) affermage is a kind of PPP model that is related to leasing. Unlike a lease where the private entity retains some money obtained from use of the facility and pays a specified amount of money to the public entity for leasing a facility, an affermage gives the private entity an opportunity to get funds from the citizens for use of a facility, and then the entity pays a certain percentage of fees collected from the

users of the facility (Delmon, 2010:12; WB, 2017a). Therefore, an affermage is more attractive to the private partner than leasing because it reduces the risks that are likely to occur with the advent of low-cost recovery in sales.

ADB (2008:33) notes that the affermage fee is normally agreed upon among the partners based on the rate of payment per unit to be sold by the private entity. Scholars such as Delmon (2011:10) argue that the private firm does not have any responsibility to undertake any capital investments in the roads facility with affermage contracts. However, the scholars observe that the private entity can focus on raising more profits thus compromising maintenance of durable road facilities on a long term basis.

2.8.5 Build Operate Transfer & Build Own Operate Transfer (BOOT) PPP Models

The Build Operate Transfer (BOT) and Build Own Operate Transfer (BOOT) contracts system as unique PPP approaches are growing and evolving globally, as more countries move from state owned and operated services to the private provision of infrastructure (Adjarko, Ayerakwah & Fynn, 2018:1). The Build Operate Transfer (BOT) and Build Own Operate Transfer (BOOT) are specifically designed for new projects or investments in facilities that require extensive rehabilitation (Obayelu, 2018:255).

Scholars such as Gwary et al. (2016:52) and Shukla et al. (2016:113) describe Build Operate Transfer (BOT) as a kind of PPP model where the public entity enters into an agreement with the private entity so that the private agency is entrusted with financing, designing, building and operating a road facility in line with certain standard operating procedures formulated by the public entity. Railroad transit infrastructures are amongst major capital-intensive projects worldwide, which impose significant risks to the contractors of build operate transfer projects because of the fluctuations in steel price fluctuation (Vahdatmanesh, 2018:2). Normally, the public entity gives the private entity enough time to operate, maintain, control and manage the road facility in order to cover all construction costs and other expenses involved. In addition, the private entity has to get its return on investment in form of profit made

from the use of the road facility (Gwary et al., 2016:52; Shukla et al., 2016:113). Kwak et al. (2009:54) and Gwary et al. (2016:52) affirm that the private entity returns the road facility to the public entity after an agreed period.

Shukla et al. (2016:113) notes that such a PPP contractual arrangement is normally intended to motivate the private entities to invest in construction of road facilities which require heavy capital investment that the public sector may not afford. In most instances, such a PPP model is applicable in the development of physical and social infrastructure such as roads, bridges, dams, public hospitals and public institutions. Warner et al. (2008:52) thinks that this kind of PPP model is not used in developing countries like Uganda because their private sector usually lacks the financial muscle to invest in such high capital development ventures.

Private firms in such countries are not motivated to participate in development of such infrastructure because they also do not have enough technical capacity to do so. Thus, such developments are normally done by their governments with the support of international firms (Shukla et al., 2016:115). BOT projects have been more successful since governments began offering guarantees that sufficiently share project risks. In addition, an ex ante guarantee also provides an incentive for private firms to actively participate in PPP projects. For example, a minimum income guarantee could encourage private firms to participate in PPP projects and decrease the fiscal burden (Jinbo, Yunpeng, Lulu & Yan, 2018:5).

Many developing countries have resorted to BOT scheme for infrastructure development. Although BOT scheme would bring significant benefits to developing countries, it conceals structural vulnerabilities (Tsukada, 2018:5). This has made the private sector hesitant in investing in BOT projects unless key risks are covered by governments under public private partnership (PPP) arrangements. Having seen this problem, developing countries have offered overly lucrative guarantees to private investors, which have ended up with huge payments at a later stage (Tsukada, 2018:5). One of the most common of PPP models is the Build Own Operate Transfer (BOOT) arrangements, sometimes pure and sometimes with extra characteristics depending on the case at hand (Marzouk & Ali, 2018:5). In BOOT, a company that

finances an infrastructure project as an additional project of its existing business may make use of corporate finance to provide cash, credit lines, or even new equity capital to pay for the project (Marzouk & Ali, 2018:5).

Build Own Operate Transfer (BOOT) is also a type of PPP contract in which the private sector is in charge of the infrastructure defined therein, assumes ownership of that infrastructure until the contract ends, operates it during the term of the contract (including maintenance) and, finally, transfers it to the public sector (Berrone, Fageda, Llumà, Ricart, Rodríguez, Salvador & Trillas, 2018:98). The dominant infrastructure investment share in 2016 has also seen the use of PPPs under the Build Own Operate Transfer (BOOT) as has been with the Government of Albania in Eastern Europe. This demonstrates that it is not only public investment in the region that goes into infrastructure development but also private participation (Holzner & Schwarzhappel, 2018:5).

While Build Own Operate Transfer (BOOT) bears characteristics of BOO and BOT, the main difference is that under BOOT, the private entity introduces a service charge throughout the concession period before the facility is handed over to the public entity in perpetuity (Gwary et al., 2016:52). Gwary *et al.* (2016:52) observes that BOOT is similar to Design-Build-Finance-Maintain (DBFM) where the private entity designs, builds and funds a project and thereafter carries out maintenance works as part of the contractual obligations before transferring it to the public entity.

2.8.6 Management contract, Service contract and Contracting out PPP Models

A management contract is usually where a private agency carries out maintenance of a facility on behalf of the public entity for a fee as long as the it satisfies the public entity that the service has been provided in line with agreed parameters (Kwak et al., 2009:54). Management PPP contract expands the services to be contracted out to include some or all of the management and operation of a public sector infrastructure service. Although ultimate obligation for service provision remains with the public sector, daily management control and authority is assigned to the private partner or contractor (Obayelu, 2018:255). Gwary et al. (2016:52) assert that such a PPP model

is a form of operational licence where the public entity agrees with the private agency to be given a license to maintain a certain facility for a particular period of time.

In most cases, the public entity pays the private agency an agreed amount of money to cover the overhead costs incurred in maintaining the road facility (Delmon, 2011:135; Bouman et al., 2013:18). Bouman et al. (2013:18) adds that the public entity may pay the private agency additional funds as a way of sharing the profits once the agreed milestones have been accomplished. However, the public entity is responsible for initial capital investment and delivery of the service to the public and then the private agency is authorised to carry out day to day maintenance and management of the road facility (Bouman et al., 2013:18).

ADB (2008:31) explains that while the private entity may provide working capital for the operation, maintenance and management of the road facility, it does not provide the initial investment capital because that is the role of the public entity to finance the design and construction of the roads facility. Delmon (2011:135) also points out that the private agency is mainly obliged to ensure that the projected revenue streams are achieved. Service contract PPP is the most commonly practical form of PPP in developing countries. Under this form of PPP, the public sector hires a private company or entity to carry out one or more specified tasks or services for a period, typically 1 to 3 years (Obayelu, 2018:254).

The public sector remains the primary provider of the infrastructure service and contracts out only portions of its operation to the private partner. The private partner must perform the service at the agreed cost and must typically meet performance standards set by the Public sector (Obayelu, 2018:255). Abdel Aziz (2007:918) complements that, a service contract is a kind of PPP model where the public entity enters into an agreement with a private entity to undertake a particular activity to provide a specific service to the public for a stipulated period of time, ranging from 1 to 3 years. Renda and Schrefler (2006:8) believe that this kind of PPP model enables the public entity to benefit from the technical competence possessed by the private entity by providing a service to the public in an effective, efficient and economic

manner. They argue that this kind of model is most appropriate for operational needs that can be provided by the private entity within a short period of time.

The service to be provided by the private entity must be well defined and understood and there must be some level of certainty about the demand for the required service so that service delivery can easily be monitored by the public entity (Obayelu, 2018:256). Agencies such as ADB (2008:29) indicate that with this PPP model, the public entity retains the primary role of delivering the service to the public but only hires the private entity to operate, maintain and manage portions of the facility on its behalf.

This is usually made possible by the public entity signing a contract with the private entity to provide a service to the public based on an agreed fee in line with set performance standards (Bouman et al., 2013:18 & ADB, 2008:29). ADB (2008:29) notes that the public entity usually applies open competition in the bidding process for the service contracts.

Warner et al. (2008:12) contends that the public entity retains the obligation to finance investments that are needed to improve the service delivery system. Contracting out can be viewed as a form of PPP based on principal-agency models, where the public sector acts as the contracting agency (the principal), mandating a private company (the agent) to deliver specific services based on a contract between the parties (Nepal Health Sector Reform, 2014:1-3).

Contracting out refers to a situation where private entities receive a budget to provide certain services and manage a government facility. The two parties usually agree on the quantity, quality and the duration of the contract (Department of Health & Family Welfare, 2012:33). There are several levels at which contracting out can be done depending on the degrees of freedom given to the contractor. The higher the freedom, the higher the performance levels of key indicators (India department of Health & Family Welfare, 2012:33). First, government may hand over the physical infrastructure, equipment, budget and personnel of any unit to the selected agency. Second, government may hand over the physical infrastructure, equipment and

budget but it may give freedom to the selected agency to recruit personnel as per their terms and conditions and following government norms.

Third, government may hand over the physical infrastructure, equipment and budget but it may give the agency freedom to have its own service delivery models without following the prescribed pattern. Lastly, the government may hand over the physical infrastructure, equipment and budget and give freedom to the selected agency to have its own personnel, service delivery models, freedom to expand types of services provided, and to introduce a user fee to recover some proportion of costs (India department of Health & Family Welfare, 2012:33).

For example, in 2009, the Management Division (MD) of Department of Health Services (DoHS) of Nepal initiated a pilot programme for contracting out maintenance services for selected medical equipment in 60 facilities in the mid-western and far-western regions of Nepal. The contracting-out pilot was co-funded by KfW and the DoHS of the Ministry of Health and Population for a duration of three years (Nepal Health Sector Reform, 2014:1-3).

2.8.7 Design-Build-Finance and Design-Build-Finance-Operate-Maintain PPP Models

A Design Build Finance (DBF) PPP model is where the public entity enters into a contractual arrangement with the private sector entity authorising the latter to provide services to the public (USDOT, 2014:2). This model is similar to that of Design Build Finance Operate (DBFO) PPP model.

However, while USDOT (2014:2) equates DBF model to DBFM, adopting the DBF involves providing the required funds to invest in the construction and development of a new road facility so that it can be repaid by the public entity through revenue collected from taxes and toll fees. In most cases, a DBF agreement is a short-term financing mechanism ranging between five to seven years after construction of the road facility. The public entity makes payments for such large scale contractual arrangements over a long time in order to make them more affordable (USDOT, 2014:2). DBFO PPP model is a type of PPP contract in which the private sector is in

charge of the design, construction, financing and operation (including maintenance) of the asset for the duration of the contract (Berrone, Fageda, Llumà, Ricart, Rodríguez, Salvador & Trillas, 2018:100). USDOT (2014:2) observes that a DBFO PPP model has features similar to those of a DBFOM and DBFM PPP models. However, scholars such as Gwary et al. (2016:52) argue that under a DBFO PPP model, the private agency funds the road facility construction through debt financing or through lending and it operates the road facility during the period agreed on with the public entity (IMF, 2004:7).

On the other hand, DBFM is a type of PPP contract in which the private sector is in charge of the design, construction, financing and maintenance of the asset for the duration of the contract (Berrone et al., 2018:100). Under a DBFM PPP model, the public entity enters into a contractual arrangement with the private sector entity so that the latter provides services to the public under an arrangement related to that of a BOOT (Gwary et al., 2016:52). Under this model, the private company designs, builds finances and maintains the project and returns the assets to government after a specific period of time, which could be more than twenty years. However, while DBFM is almost similar to BOOT, the main difference is that under DBFM, the private entity builds and funds a project and thereafter carries out maintenance of the road facility as part of the contractual obligations before transferring the facility back to the public entity (USDOT, 2014:2). A DBFOM PPP model, on the other hand, is one where the public entity enters into a contractual arrangement with the private sector entity so that the latter provides services to the public under an arrangement similar to that of BOOT (USDOT 2014:2). Where as DBFOM contracting has been understood as a method to transfer risk from the public partner to the private partner, it is argued herein that DBFOM contracting may actually increase the risk of transaction costs for the procuring entity resulting in issues of accountability (Steinfeld, Carle & Koala, 2018:3). However, while USDOT (2014:2) equates DBFOM to BOOT, they differ in that under DBFOM, the private entity agrees with the public entity to maintain the road facility for a specific period of time. USDOT (2014:2) notes that the DBFOM model has components of DBF but it also includes operations and maintenance performed by private firms. In this case, the private entity finances,

builds and operates the road facility in line with standard operating procedures formulated by the public entity. This means that the period to operate the facility should be long enough so that the private entity is able to recoup the funds invested in constructing the facility (USDOT, 2014:2). At the end of the agreed period, the public entity regains the facility.

Some scholars suggest that DBFOM can be used to reduce the transaction costs faced by government entities when contracting with the private sector on large infrastructure projects (Steinfeld et al., 2018:4). However, other scholars argue that DBFOM contracting actually increases transaction costs of the procuring entity resulting in a decrease in public stewardship (Steinfeld et al., 2018:4). Scholars such as Warner et al. (2008:52) contend that in such circumstances, the public entity regains ownership of the road facility and at the same time becomes the regulator of the service delivered from the use of such a facility. To address the traffic congestion issues at the Midtown Tunnel in the USA city of Portsmouth, it was proposed by the Hampton Roads Planning District Commission in 2004 that an expansion of the Midtown tunnel be constructed, with maintenance and other upgrades to be made on the Downtown Tunnel. As project specifications materialized and the procurement planning process matured, it was determined that due to the financial resources required for the Tunnels' construction, a Design Build Finance Operate Maintain (DBFOM) contract type would be executed (Steinfeld et al., 2018:5). Warner et al., (2008:52) notes further that this kind of PPP arrangement spells out clearly the up front and on-going expenses incurred by the private entity and how they will be repaid in form of road toll fees. In such an arrangement, the private entity should be able to operate and manage such a facility in the best way possible so that the citizens using it will have no complaint.

2.9 Factors influencing the use PPPs in the roads sector

This section focuses on factors influencing the use of PPPs in the roads sector and it analyses scholarly and development partner debates on different approaches for managing such factors (Gibson et al., 2015:15). The factors that influence the use of

PPPs in the roads sector are categorised into two: constraining and enabling factors. The factors influencing the use of PPPs, whether constraining or enabling factors can either be environmental, organisational or personal factors (Jadha & Choudhury, 2018:3).. There is therefore a need to examine the determinants of PPPs so that such analysis may yield several insights about attracting PPPs in infrastructure sector. It's also necessary to assess whether such factors have a significant impact on PPP infrastructure sector (Jadha &Choudhury, 2018:3).

2.9.1 General overview of the factors influencing the use of PPP Models

Delmon (2010:8) & Farquharson and Yescombe (2011:5) agree that whereas the success of PPP projects in the roads sector depends on certain factors such as environmental, organisational and personal factors, the same factors may impact negatively on the implementation of PPP projects in the roads sector if not well handled by the key players involved (Delmon 2010:8 & Farquharson and Yescombe 2011:5). The potential benefits of PPPs are many.

Realizing them requires proper planning, execution, and monitoring. Well-structured PPP projects can deliver dividends over the long term, but these dividends do not materialize by themselves, but they have to be drawn out. Even well-structured PPP projects can fail or require expensive restructuring because of unforeseen events or the opportunistic behavior of the contracting parties. More PPP projects will succeed if the country's macroeconomic, political, and institutional conditions as well as project related factors that can affect project outcomes are considered (Lee, Han, Quising & Villaruel, 2018:4).

Therefore, although these factors form the basis for understanding the use of PPPs in the roads sector, on the other hand they may also discourage use of such PPPs in the roads sector (Ashery, 2018:7). The study review format adopted an exploratory analysis of the challenges and critical success factors faced by different countries all over the world that either hinder or support smooth initiation, conception, design, planning, financing, implementation, operation, management and sustainability of PPP projects in the roads sector (ADB et al 2014:17). This section is divided into

constraining factors in form of challenges and enabling factors in form of critical success factors. The researcher has therefore identified various global issues in influencing the use of different PPP projects in the roads sector as well as other projects as discussed below (Mouraviev et al., 2016:169).

2.9.2 An assessment of the constraining factors affecting the use of different PPP models

Using PPPs to implement projects for infrastructural development needs to be done cautiously to maximise benefits that accrue from them and to avoid any anomalies that may arise. Public and private actors have to balance the process of adopting, developing, implementing, maintaining and managing PPPs. Failure in implementing PPPs as indicated below can result from a number of constraining factors that pose a lot of risks to the implementation of such PPP models (Babiak & Thibault 2009:117).

The experiences in some countries suggest that the implementation of PPPs failed to yield the expected outcomes and resulted in a significant rise in government fiscal liabilities. Some of the risks in PPPs often lead to cancellations or significant renegotiations. The evidence from developing countries indicates that actual or perceived rise in tariffs, macroeconomic fluctuations in currency or purchasing power, inadequate regulatory and institutional environments, societal discontent against the private sector and political reneging are some of the key reasons for the failure of PPP projects (Obayelu, 2018:256).

It should also be noted that the increased uncertainty of a long-term contract duration coupled with the involvement of multiple stakeholders proves to be a challenge to the development of risk strategies for PPPs (Khallaf, Naderpajouh & Hastak, 2018:3). Therefore, it is necessary to systematically frame the risks associated with these projects and explore their dynamics.

These risks often arise due to environmental, organizational and personal dynamics from the interactions between stakeholders in varied risk scenarios (Khallaf et al., 2018:3). From the literature and various documents reviewed, constraining factors affecting PPP models include the following:

2.9.2.1 Environmental Factors (EF)

An unfavourable political environment is one of the factors that affect implementation of different PPP models. Weak political institutional capacity creates uncertainties about the quality of regulations leading to higher country risk, and decreases the incentives for private investors to participate in PPPs (Lee, Han, Quising & Villaruel, 2018:1). Contracts can be designed to mitigate breach of contract risk by involving multilateral development partners in PPP contracts as they play important roles, not only by narrowing funding gaps but also by significantly mitigating the risk of project cancellation (Lee et al., 2018:1). Politics gives a platform for implementation and sustainability of PPPs in different nations all over the world.

Politicians and government agencies usually use PPPs to avoid tax increases in countries where debt and taxes are already high (Krol, 2018:4). However, politics can be used by some individuals to misappropriate resources meant for implementation of PPP projects for self-vested interests leading to failure of such PPPs (Bird et al., 2003:11). A number of studies indicate that, there is lack of in depth analysis on how and why political processes and lobbyism combine to promote wrong projects (Albalade, Bel & Gragera, 2018:1). Hodge and Greve (2007:547) contend that some governments use PPPs as a weapon for winning votes during elections (Hodge and Greve, 2007:547).

Due to the amount of resources involved in the implementation of PPPs, they can be susceptible to corruption (Saussier, 2013:143). Politicians often change the PPP guidelines to suit their personal interests. Therefore, PPP contracts need to be managed under tight procedures and guidelines if the expected outcomes are to be realised (Reside, 2009:46). There are also instances where some PPPs have failed because of lack of support from certain political leaders. At times, political leaders do not consult and involve the citizens when implementing such PPP projects, which subsequently lead to their failure (Ypi, 2016:601). SAIIA (2005:35) believes that lack of political support and poor political systems may lead to failure of projects when implementing PPPs (IMF, 2004:15). An inappropriate PPP policy also affects

adoption and implementation of various PPP models in many countries. Financing and asset ownership are separated in PPPs, increasing the potential for misalignment of incentives and the likelihood that the public party can use its powers to alter certain policies after the PPP contract is signed, and thereby hold up the private party once existing network assets are sunk (Howella & Sadowski, 2018:3). Therefore a well developed PPP policy framework is very vital for effective implementation of PPP projects in both developed and developing countries.

Although a detailed policy framework has already been enacted by the Parliament of Uganda to enable the public sector to involve private players in the provision of services to the public, some gaps still exist in the policy (Hard castle, et al., 2005: 459-471). The current PPP Policy spells out the main role of the PPP Committee as ensuring that different sectors of the economy are involved in embracing PPPs when implementing both social and physical infrastructural projects. Unfortunately, inadequate experience and skills remain a serious constraint in Uganda.

The country's current PPP Policy does not give a provision for management of PPP sustainability mechanisms as it has been the case with other policies enacted by the general assemblies of the member states of the East African common market such as Tanzania, South Sudan, Kenya, Burundi and Rwanda (Hard castle, et al., 2005: 459-471). Various studies have pointed to the fact that a well designed policy framework is very crucial for effective adoption, planning, financing, development, implementation, maintenance, monitoring and sustainability of PPPs in any developed or developing country (Akintoye et al., 2005: 459-471; Chan., 2010: 484-494 & Ndandiko, 2006:44; Tiong, 1990:229; Zou, 2014; 270). Farlam (2005:4) asserts that in most African countries, governments adopt PPPs without the policy guidelines and skills for implementing such PPPs projects.

That is why such countries tend to face role conflicts as one of the constraints when implementing PPP projects since they lack policy guidelines to base on for streamlining PPP implementation modalities. The use of PPPs to implement roads construction and maintenance projects in Uganda is on a very small scale compared to other sectors such as agriculture, education and energy, because PPP policies

particularly for the roads sector are not yet fully developed by government (ADB, 2016:3). Some PPP policy guidelines are also poorly developed and structured, all of which adversely impacts on the implementation of PPPs in the roads sector (Pongsiri, 2002:490). Such PPP policy guidelines need to always be well designed if PPPs in the roads sector are to be successfully implemented and sustained (UNECE, 2008:18).

A poor legislative framework is also a constraint that affects different PPP models. Poor governance, insufficient legal capacity, and weak legal framework can hamper the implementation of PPPs (Lee et al., 2018:2). Strong legal institutions and effective rule of law, as well as perception of a country's level of corruption and democratic accountability, are essential for securing PPP arrangements and successful outcome of a PPP project (Lee et al., 2018:2). Although PPPs in the roads sector are becoming a common trend in many developing countries like Uganda, most of these developing countries are failing to deliver services to the public because most stakeholders involved in the management of such PPPs are not fully compliant to the existing legislative framework (UNECE, 2008:30; Yong, 2010:31).

This is because PPP laws for infrastructural development especially in the roads sector are still in their initial stages and most countries are cautious of how they are applying them in delivering services to their citizens. EIU (2015:13) asserts that some countries in Sub-Sahara Africa are implementing PPPs in the roads sector without hinging on a specific PPP law and yet enacting such laws brings harmony across different Ministries, Departments and Agencies.

This means that the conception, initiation, design, planning, financing, development, implementation, maintenance, monitoring, management and sustainability of PPPs is not well streamlined and requires developing institutions, structures, systems, processes, frameworks and procedures to successfully implement such PPPs in the roads sector (UNECE, 2008:8). EIU (2015:10) notes that failure to upgrade, standardise and harmonise PPP laws brings about disruptions, confusion, role conflicts and lack of confidence within government ministries, departments and agencies involved in implementation of PPP projects in the roads sector. Sometimes,

failure to standardise PPP laws may lead to suspicion from some key PPP stakeholders as to whether really Government is fully committed to ensure the success of PPPs in certain sectors (Farquharson et al., 2011:20). Although PPPs are adopted to improve delivery of services to the citizens, at times the citizens themselves are not fully aware of their rights and obligations embedded within the existing PPP legal frame work in terms of participating in decision making on matters that directly affect them and demanding for better services (Zou, 2014: 270).

Sometimes the key PPP implementing partners may fail to give accountability to the citizens since the beneficiaries of the PPP projects do not have access to PPP laws that they can use in demanding for such accountability. Therefore, a well developed PPP legal framework should always be used to empower PPP project beneficiaries in getting to know what their rights are in terms of demanding for accountability from the PPP implementing partners based on existing PPP laws (UNECE, 2008:32).

A poor regulatory framework is a constraining factor that affects different PPP models in so many different ways. Private investment in infrastructure is highly sensitive to freedom from corruption, quality of regulations, and the number of disputes in a sector (Lee et al., 2018:3). Developing economies, in particular, must ensure stable macroeconomic condition and reasonable economic regulations to support and reduce the uncertainties to be able to attract PPP projects (Lee et al., 2018:3).

Better PPP regulation is necessary to ensure effective implementation of PPP projects in any economic sector of both developed and developing countries. Unfortunately, at times such PPP regulations either do not exist at all or are very weak. Such a situation usually opens avenues for high level corruption by PPP implementers and other stakeholders (Marques & Berg, 2010:2). Some governments like that of Uganda normally develop and enforce strict regulations in sectors like energy, oil and gas compared to others (Mouraviev and Kakabadse, 2015:8).

That is why countries like Uganda have lost about \$4trillion in road sector related financial scandals since 2006 because of lack of PPP regulation in the roads sector at that time which would have ensured VFM in PPP project implementation (New

Vision, 2016: 27; Auditor General:2). In case an independent regulator is not there, a certain unit can be instituted within any Government ministry, department and agency to ensure that all PPP implementation modalities comply with the existing regulations and be empowered to punish the offenders of such regulations (ADB (2008:87). Some countries, however, base the regulations they develop on a limited scope where a few individuals have their own personal interests instead of focusing on the wide spectrum as far as essential needs of citizens are concerned when implementing PPP projects.

A number of countries have also failed to develop a regulatory framework that can be hinged on when involving private sector players in delivering services to the public (Chan., 2010: 480-482). A number of reports on PPPs indicate that many countries in Africa have tried their best to develop a robust PPP regulatory framework. It should, however, be noted that the performance of implemented PPPs in those countries based on such a PPP regulatory framework is below 25% in terms of harmony with the existing PPP regulations (EIU, 2015:49). This means that implementation of PPPs based on such PPP regulatory frameworks is still ineffective.

Thus, it is important to ensure effective compliance to such PPP regulations in PPP implementation. The standards used to measure whether PPP implementing partners are adhering to existing PPP regulations are not comprehensive enough. Therefore, the PPP regulatory framework should be developed in such a way that it gives confidence to the private investors that they will be protected from exploitation by government technocrats through adhering strictly to PPP contract terms and conditions and where necessary involving arbitration by commercial courts (Saussier, 2013:145).

Poor PPP laws, regulation and policy monitoring affect operationalization of different PPP models. PPP project management requires an effective PPP policy, laws and regulation monitoring to ensure that PPP implementing partners adhere to standard operating procedures in order to achieve better performance outcomes. Unfortunately, there is no effective PPP law, regulation and policy monitoring when implementing PPP Projects, which opens avenues for corruption by PPP

implementers (Marques & Berg, 2010:2). Some PPP experts agree that most PPPs are susceptible to incomplete contracts as a result of poor PPP laws, regulations and policy monitoring, and this eventually leads to failure of such PPPs. These PPP contracts are at times associated with performance parameters that are ambiguous which exposes the principle to the agents that are unscrupulous in their dealings as they manage the PPP implementation process since the progress of enforcing PPP laws, regulation and policy is not well tracked (Brown et al., 2006:326; Marques & Berg, 2010:4; Javed et al., 2013b:12).

Some scholars suggest that independent technical experts and institutions should be used to monitor the enforcement of PPP laws, regulations and policies (Marques and Berg, 2010:4; Yong, 2010:50). However, Brown et al. (2006:326) suggest that there is need to first develop objectively verifiable indicators that can be used by such experts as they monitor the application of PPP laws, regulations and policies during PPP implementation.

Another challenge is failure to apply PPP laws, regulations and policies to track the quality of service delivered, undertaking dispute resolution among partners, handling complaints from project beneficiaries, giving sanctions to offenders of contract terms and rewarding excellent performance rewards. In addition, PPP laws, regulations and policies monitoring also normally faces constraints associated with possibilities of renegotiating contracts, dealing with premature contract termination, supervising PPP project facilities transfer and designing specifications for PPP contract renewal terms and conditions (McDermott et al., 2015:597).

Some debates from PPP development partners suggest the need to put in place avenues for advancing experience sharing regularly, assessing PPP results and promoting lessons learnt if monitoring of PPP laws, regulations and policies is to be effective during PPP projects' implementation (FAO, 2016:123). However, some researchers assert that institutions mostly in the roads sector have not put in place mechanisms for collecting and analysing data pertaining to enforcement of PPP laws, regulations and policies (Liu et al., 2014c:6).

2.9.2.2 Organisational factors

Poor Performance among partners affects implementation of PPP models. Some researchers look at PPPs as better options to provide public services especially in health, education, transport, energy and water sectors in an efficient manner (Gebremedhin, 2010:6; Liu et al., 2014c:1). However, some scholars note that a number of PPPs have failed to perform in line with expectations of different stakeholders (Liu et al., 2014c:1). While the use of PPP options has increased over the last two decades in the developing countries, their contested performances are recorded. Conventional performance measurement approaches (e.g. Public Sector Comparator (PSC) analysis, best practice approaches and unweighted performance indicators are inadequate to reveal true performances of PPPs (Camacho & Singh: 2018:1).

Even in economies like Australia and the UK where management of the PPPs is at its peak, there is poor measurement of PPP performance (Yuan et al., 2009:254; Love et al., 2015:26). A traditional performance measurement framework of cost, time, and quality is insufficient for evaluating very complex PPP ventures both in developed and developing countries (Camacho & Singh: 2018:1). This has resulted into deliberations on structuring PPPs for better performance within the auspices of delivering VFM, sharing costs and risk management (Liu et al., 2014c:1). The failure to establish clear effective performance measurement parameters in PPPs can bring about delivery of services which are below expectations (Javed et al., 2013a:615; Liu et al., 2013:499).

Limited studies have been conducted on performance measurement on PPPs especially in the Ugandan road sector despite the central role it plays in improving and satisfying stakeholder expectations (Liu et al., 2014c:2). In addition, no specific studies have focused on the relationship between the principal and agent in the roads sector in Uganda apart from a few from other countries that mainly focus on highlighting the internal management of performance measurement in an organisation (Liu et al., 2014c:2). Studies conducted on performance measurement have majorly targeted the infrastructure sector in the areas of energy, education and

health and minimal focus has been placed on delivery of services especially in the roads sector in Uganda (Yuan et al., 2009:254). Some scholars assert that many PPP projects cannot explicitly report on what has been delivered due to inadequate evaluations yet there is a consensus that performance measurement plays a significant role in business success (Yuan et al., 2009:254). These studies have also emphasised time, cost and quality for other infrastructure projects which is equally important in roads sector but excludes the measurement of progressive results (Love et al., 2015:27).

It is reported that many PPP projects have tended to measure performance at the end of the project without necessarily documenting progressive measurements, which can help to project the overall success of the PPP project. It is worth noting that many studies on performance measurement have focused on infrastructure development and have not fully provided parameters for effective measurement of performance for services. This is because service performance measurement emphasises the need for continuous presence of the project beneficiaries as key players in assessing the delivery of services (Jaaskelainen et al., 2014:1469).

Relying on Non-Government Organisations (NGOs) to implement PPPs affects adoption and implementation of different PPP models in many countries. PPPs are not well developed in Sub-Sahara Africa for the last 30 years because most governments depend on NGOs to deliver services to their citizens that they are unable to provide. For example, the Ministry of Health in Uganda has been relying on NGOs such as Baylor College of Medicine to implement various HIV related projects (Smith, 2008: 132). Getting into any PPP arrangement may be more beneficial but at the same time very disadvantageous if the PPP implementers from NGOs are not adequately sensitised. That means any PPP arrangement with NGO implementing partners requires a good working relationship between the public and NGO partners from both parties. If the public sector and NGOs go into partnership when they are not fully committed, such a partnership can easily crumble (Babiak & Thibault, 2009:117).

Lack of flexibility among partners affects adoption and implementation of different PPPs in many countries. Sometimes there is lack of flexibility between the public and private entities in the PPP contract (Lee et al., 2018:5). This is because when one partner thinks that they will lose control when they enter into a PPP arrangement, they tend to propose a number of rigid policies and procedures instead of resolving their differences and working as a team. Therefore, if one of the partners perceives that they are losing some level of control they had before, they may work on adopting more rigid procedures throughout the PPP implementation process (Babiak & Thibault 2009:118).

Incompatible partner objectives affect adoption and implementation of different PPP models in many countries. In most cases, public bodies that most private firms work with in implementing PPPs tend to work on a long term basis. This is because their objectives are long term and they require long term strategies to achieve them (Jadha & Choudhury, 2018:7). While private companies have short term objectives since they are more profit oriented and focused, they sometimes find it difficult to continue working with public intuitions with such long term goals and objectives. Therefore, since their objective is incompatible, it may fail the smooth implementation of such PPP Projects in different sectors (Ferris & Williams, 2013: 24).

In some instances, public and private entities may be focusing on different things altogether as they join such a partnership to work together under a PPP arrangement when designing, constructing, maintaining and managing various roads infrastructural projects (Ferris & Williams, 2013: 25). One of the partners may also focus mainly on personal interests instead of fusing on the main purpose of adopting such PPP projects. There are instances where both the public and private partners may not easily reach a consensus as to which areas of the partnership should be focused on at first. Such a situation may culminate into wastage of resources for such PPP projects (Babiak & Thibault 2009:119).

Poor funding priorities among partners affect adoption and implementation of different PPP models in many countries. The main challenge here is that most public entities focus mainly on implementing such PPP projects in areas that are in line with interests

of politicians who control the flow of resources to such projects (Albalade et al., 2018:4). They tend to design PPP contracts that have more terms and conditions that are in line with the interests of such politicians that are in control of the existing government resources. This may lead to corruption since such interests tend to be self centred (Smith. 2008: 133).

Poor accountability among partners is one of the most critical issues affecting implementation of PPP projects by public and private entities. Most governments find it difficult to make the private companies more accountable since they are entrusted with public resources to provide services to the citizens where government is unable to provide such services (Smith 2008: 134). Poor accountability can also be a result of being ambitious to implement many number of PPP projects at the same time by same partners. All these can result into poor accountability mechanisms and processes because there is a lot being done at the same time and hence private partners may fail to meet the best accountability standards, specifications and expectations (Babiak & Thibault 2009:121).

Role conflict among partners affects PPPs in many countries. Where roles of each partner are not well stipulated, it can lead to role conflict. Some partners can choose to usurp the roles of others when they are not clearly elaborated. It can even make different partners fail to trust each other (Eschenfelder, 2011:1). There are also circumstances where one of the partners may bear more risks than the other. Such a situation leads to unequal risk sharing among the partners, which may affect implementation of PPP projects (Babiak & Thibault 2009:120).

Lack of autonomy by the public entities and private companies within the partnership is another serious constraint in implementing PPP projects in the roads sector (Muralidhar & Koteswara, 2013: 21). Sometimes a third party involved in the implementation of the PPP project cannot be given the opportunity of taking independent decisions in executing certain tasks without consulting the other party, which subsequently leads to delays in the delivery of some PPP project outputs (Muralidhar & Koteswara, 2013: 22). This is a major issue with the management contract model where the private entity manages the PPP project but cannot take

certain decisions without first consulting the public entity it is partnering with (Muralidhar & Koteswara, 2013: 23).

There are also challenges pertaining to PPP investment risks in the roads sector especially where any PPP implementation modalities are prone to uncertainties due to high project investment costs, high maintenance costs and a number of complexities involved in implementing PPP Projects (Chauhana & Marisetty, 2018:6). The level of management of different risks involved in implementing PPP Projects largely relies on the foundations of the PPP arrangement, the contractual clauses for management of risks and the extent to which the terms and conditions of implementing the PPP Project are adequately adhered to (Cristina & Jonathan 2005: 2).

Ambiguities in PPP implementation affect adoption and implementation of different PPP models in many countries. In the East Africa, UHCHS Habitat (2000:13) reports that a baseline study was done and the study findings indicated that there were a lot of ambiguities in partnering with private firms to deliver services to people under local governments (LGs) (Albalade et al., 2018:4). This was because the PPP implementation modalities were not clearly understood by the LGs. Some of the LGs thought they were leasing out certain project activities to private firms, which they (LGs) would only supervise. Other LGs comprehended that it was just a simple means of commercialising services, and yet the rest of the LGs believed that it was a holistic transfer of the role of delivering the service to private partners who were supposed to propose their own costing mechanisms (Awortwi, 2004: 29-30).

Limited organisational capacity by the private sector in PPP projects affects adoption and implementation of different PPP models in many countries. The private sector entrepreneurs in the Sub Sahara Africa have limited organisational capacity, inadequate professional staff, limited technical expertise and they lack financial resources (Camacho & Singh: 2018:3). Moreover, they are unable to mobilise capital inputs to finance, implement and operate PPP projects. Better performance is only reported in areas where consumers can pay (PPP Unit, National Treasury, 2007:23). The empirical studies reviewed above highlight the organisational capacity challenge

that developing countries have encountered in their endeavour to introduce PPPs (Camacho & Singh: 2018:4). Therefore, organisational capacity as one of the key prerequisites for the success of PPPs is generally missing among PPP implementing partners. It would then be interesting to find out why they introduce PPP projects in such circumstances. Matching the capacity of all the entities of a PPP can then turn out to be problematic (Mitchell, 2007:13).

Poor PPP contract enforcement affects adoption and implementation of different PPP models in many countries. Normally some private firms may end up personalising services if there is by government does not effectively enforce PPP contracts (Yunpeng et al., 2018:5). There are situations where the private party has been contracted to operate a public facility such as a bus terminal but after many years nothing has been done and yet they continue running the old facilities and collecting user fees. No one seems to be interested in the enforcement of PPP contracts. Other peculiar shortcomings of interest include public firms lacking the capacity to enforce implementation of such PPP contracts (Gebremedhin, 2010:7).

In addition, if partners are not well versed with the PPP approach, it affects adoption and implementation of different PPP models. The PPP partners and other stakeholders are not well acquainted with the PPP approach. Although the term PPP is defined by the Ugandan PPP unit under MFP&ED in their standard operating procedures and other official PPP documents, most PPP stakeholders do not refer to such PPP documents regularly (Camacho & Singh: 2018:5). Therefore, one wonders why such PPP documents are not being referred to by such PPP stakeholders on a regular basis. Probably the reason why the most PPP stakeholders do not refer to such PPP documents regularly could be lack of awareness and the perception about the adoption and implementation of PPPs in Uganda. Therefore, the meaning of PPPs and how they can be used in implementing, maintaining and sustaining infrastructural projects should be stressed (Smith. 2008: 135).

Poorly stipulated criteria for using PPP arrangements affects adoption and implementation of different PPP models in many countries (Camacho & Singh: 2018:4). Some scholars have argued that the criteria for using the PPP arrangement

is not clearly stipulated in some developing countries like Uganda which means that there is no clear and well elaborated basis for PPP adoption, conception, initiation, planning, designing, financing, development, implementation, maintenance, monitoring, management and sustainability (Camacho & Singh: 2018:5). Usually a cost benefit analysis is not done to determine which partner is good at delivering the expected results: the government agency or the private firm (Rondinelli, 2004:17). The criteria for using such PPP arrangements point to the fact that the government agencies think that all answers lie with private sector and yet PPPs are not a solution to all infrastructural development challenges. Therefore, one should desist from the mentality that the use of PPPs is more efficient and effective than public procurement when it comes provision of services to the citizens (IMF, 2004:9).

2.9.2.3 Personal Factors (PF)

An increased level of corruption among partner staff affects adoption and implementation of different PPP models in many countries. In particular, there is a possibility that has been relatively under analysed in the literature, namely the possibility of collusion between the private firm and the governmental department in case of PPP formation (Indrani & Prabal, 2018:5). Historically, corruption has been an enormous problem affecting PPP implementation in Africa. Because PPPs deal with a number of more complex services, the choice of firms to work with in implementing such PPPs should not be limited to only the aspect of price (Indrani & Prabal, 2018:5).

PPPs also provide opportunities for manipulations by both foreign and local firms and private companies in addition to some scrupulous public officers that are difficult to detect by the public, private and civil society anti-corruption agencies (Harris 2004:288). As already noted, in September 2004, the Kenyan government instituted an investigation and suspended three top officials at the Ministry of Roads and Public Works following allegations that staff at the ministry were planning to divert US\$1.23 million meant for a certain PPP project to their private account (Harris 2004:288). In Tanzania, a power purchasing agreement that was signed between the Government

of Tanzania and an independent power producer in 1995 has been looked at as the worst PPP ever in the history of Tanzania (Agina, 2004:1). In 2004, 12 multinational companies were found to have bribed the former head of the Lesotho Highlands Water PPP Project and they were the main suspects in influencing the head of the project in awarding the contract through bribery (WB, 2004:16).

The most critical constraint that faces most PPP in the roads sector is poor Communication channels and mechanisms by PPP partner staff. This is because communication among staff is sometimes not well structured and reporting levels are not clearly defined. At times poor communication among partner staff can be a result of diverse culture, language and professional disciplines (Love et al., 2015:28). That is why aspects of PPP implementation modalities such as key result areas, performance metrics, policies and procedures, and accountability mechanisms among partner staff may not easily be well comprehended (Javed et al., 2013a:615; Liu et al., 2013:451). Such aspects of PPP implementation modalities may be poorly interpreted and understood differently. This means that ineffective communication becomes a critical problem if not well handled in a more meaningful manner to ensure that partner staff members clearly understand all aspects of the PPPs in question (Babiak & Thibault 2009:122).

Conflicts among partner staff affect adoption and implementation of different PPP models in many countries. PPPs are also associated with a number of conflicts among the partner staff especially during the implementation phase and they normally come about as a result of failure to fulfil their obligations (Kyei, Chan, Yu, Chen & Dansoh, 2018:1). In the construction industry, conflict is inevitable and remains a key risk because of the multiple players with different interests and values (Kyei et al., 2018:1). It should also be noted that such conflicts can easily come up any time because partner staff involved in implementation of PPP projects come from different political, economic and social backgrounds (Kyei et al., 2018:1).

Although the public entity and private company's staff agree on such partnerships with the right motive, a few trivial issues may cause serious disputes among partner staff. If such conflicts are not adequately resolved on time, they can cripple the entire

partnership process from achieving its intended objectives (Eschenfelder, 2011:7). Such conflicts can also emanate from differences in tribe, nationality and race of partner staff (Cairns & Harris, 2011:311).

Essentially, in spite of the fact that conflict is critical in PPPs and have caused the distress and failure of many past projects including the Ghana National Housing Project (Ghana); Bangkok Elevated Transport System (BETS) (Thailand); West Cultural Kowloon District (Hong Kong) and The Ngone bridge project (Lao PDR), knowledge and empirical evidence on the root causes of conflicts in PPPs have largely been anecdotal and remain thin on the ground (Kyei et al.,2018:2). In this regard, there is the need for a holistic and in-depth investigation into the root causes of conflicts in PPPs so that practitioners and implementers will be informed beforehand the possible conflicting factors in PPPs. This will certainly help to avoid a possible poisoning of the PPP process, which could lead to lengthy legal battles, poor VFM, distrust and reputational damage (Kyei et al., 2018:3).

2.9.3 Assessing the critical success (enabling) factors influencing the use of PPPs

In the past decade, critical success factor (CSF) analysis of PPP has grown into a major area that has received significant attention from researchers, and a large number of articles have defined and discussed PPP CSFs extracted from case studies and research surveys (Wang, 2018:5).Some scholars look at CSFs as requisite conditions that influence adoption and effective implementation of PPPs to ensure VFM in the roads sector (ADB et al., 2014:132).

Effectiveness focuses on the ability of the PPPs to deliver results through improved service delivery and meeting the needs and expectations of the target beneficiaries. By identifying and providing the factors favouring the adoption and implementation of PPPs, governments in developing countries attempt to increase the probability of success in these projects, hoping to popularize PPP in their countries. But, most PPP CSFs studies are related to developed countries or countries with a broad background and experience in PPPs such as USA, Canada, UK, Germany, China,

India, and Australia rather than developing countries like Ugandan (Ahmadabadi & Herav, 2018:2). These enabling factors can be categorised as environmental, organisational and personal (ADB et al 2014:18). The literature and various documents reviewed indicate that the concept of 'Critical Success Factors' (CSFs) was first introduced by Rockart (1982:5) and the Sloan School of Management (Jefferies et al., 2002:12 and Hardcastle et al., 2005:9). They define CSFs as "those few key areas of activity in which favourable results are absolutely necessary for a particular manager to reach his or her own goals".

According to Basheka et al. (2011:21), "CSF" is the term for an element that is necessary for an organisation or project to achieve its mission. CSFs for PPPs are, therefore, very important for organisations to identify essential elements that can ensure successful implementation of PPP projects. Thus, the CSF strategy can be used as an approach to identify key factors for effective and successful implementation of PPP projects in any country globally (Li et al., 2005:11; Chan et al., 2010:15). The framework for CSF can be developed by identifying, analysing and categorising the various factors that are critical to success of the PPP projects (Minnie, 2011; Mathonsi, 2012:4).

Some of the drivers for success of PPPs include political commitment, political and economic stability, good governance, sound institutional and regulatory frameworks, a judicious land governance system, transparent selection and budgetary processes for selection of PPP projects, equitable sharing of risk, technical and management capacity (Obayelu, 2018:256). Other scholars contend that the CSFs for a private sector to win a tender of a PPP project are entrepreneurship, leadership, financial strength, relationships management, and technical advantages (Du, Wu & Zhu, 2018:9).

Despite the increasing interest in the CSFs for PPP projects, a research gap remains in the existing literature. One of the major deficiencies is that previous studies were based on the assumption that the CSFs are independent, although there is interaction between CSFs (Wang, 2018:10). However, the debate on the success and failure of PPPs is reductionist by nature, as it has failed to document the ideological

foundations of PPPs as a concept. It has also failed to locate whether PPPs can be structured to achieve the goals of public policy. The praxis of PPPs has failed to achieve this goal (Nayak, 2018:10). Therefore, this study proposes a systematic approach for assessing the effect of CSFs on PPP projects, by specifically focusing on environmental, organisational and personal enabling factors as discussed below;

2.9.3.1 Environmental Factors

A good political environment enables effective implementation of different PPPs. A favourable political environment is essential for successful implementation of PPP projects in any sector (Verger & Moschetti, 2017:1). Several scholars believe that strong commitment and support from political leadership leads to effective adoption, implementation and sustainability of PPP projects that are used as channels delivering essential services to the public (Teisman & Klijn, 2002:198). In addition, the control and ambition of many political leaders normally determines the success of PPPs (Verhoest et al., 2015:120).

Scholars and practitioners argue that political leadership support is very crucial in implementing any PPP project. The current trend of PPPs, therefore, calls for unique management and governance by public and private sector actors (Teisman & Klijn, 2002:198; Verger & Moschetti, 2017:1). Some PPP experts note that the performance of any PPP project greatly depends on the existing conducive political climate which paves way for effective PPP management (Vadali et al., 2014:163; Verhoest et al., 2015:120).

Some scholars are of the view that the PPPs can easily prevail where there is good harmony between the political leaders, project financiers, implementers and beneficiaries (Brinkerhoff & Brinkerhoff, 2011:3). Brinkerhoff and Brinkerhoff (2011:3) argue that for PPP projects to achieve their objectives, they need to adopt a multi-structural approach that involves a concerted effort of all political leaders, government technocrats, development partners, implementing partners and project customers. IMF (2004:15) & KPMG (2015:6) believe that good political governance and commitment form the bedrock for successful implementation of any PPP projects.

Therefore, a good political framework is fundamental in attracting serious private partners to invest in the development of infrastructure using PPP financing mechanisms since they know that there are limited political risks (IMF, 2004:15; Javed et al., 2013a:610; Osei-Kyei & Chan, 2015:1342). This implies that political leadership commitment is very crucial for the public and private partners especially when investing their productive resources such as money, time, technical expertise, land, equipment and good will in the implementation of PPP projects (EPEC, 2015:12).

Political control also largely determines how PPP projects can be successfully implemented in any sector. This means that the success of any PPP project mainly depends on the nature of the relationships that partners develop with some key PPP stakeholders who have more political power, influence and control in implementing certain important decisions that affect implementation of PPP projects (Pongsiri, 2002:489; Wettenhall, 2003:90). In addition, a number of studies show that the success of PPPs depends on a political environment, which enhances more participation of private actors to invest in the development of infrastructure in order to provide essential services to the citizens.

Various studies undertaken on PPPs conceptualise a good political environment as being part of the existing framework under which PPPs can thrive successfully. Countries like South Africa have had a good enabling environment since 1994 and that is why more than 50 PPP projects have been implemented at provincial level especially in Gauteng Province and 300 PPPs at municipal level mainly in the urban centres such as Johannesburg, Pretoria and Cape Town (Roodt, 2008:89).

A robust PPP policy also supports use of PPPs in the roads sector. Since the early 1990s, the road sector in Uganda has gone through a number of reforms involving the World Bank's Structural Adjustment Policies (SAPs) which had the main tenets of top down service delivery strategies. These SAPs were funded by the public sector to invest in knowledge and innovation to bring about economic growth and development that was private sector driven. Despite the growth in road sector services by 6% per annum, the SAPs in Uganda just like in other African countries

fell short of realising their objectives (Birner & Resnick, 2010:1444). It was reported that road sector services still had gaps with only about 10% of roads being passable in 1986 (MAAIF, 2000:5). The SAPs were followed by the introduction of the Roads Rehabilitation Programme which was a government led programme but private sector driven. The advent of the private sector meant that there was need for a PPP implementation policy, which coherently stipulates the emergence of the private sector and reduced public sector responsibilities (Demisse et al., 2011:75). Studies indicate that policy provides a clear operational arrangement, which not only facilitates a cordial relationship between partners but also aids VFM from the PPPs being implemented. Policies provide the platform for effective implementation of PPPs in the roads sector in all countries.

Therefore, a distinctive quality of structuring PPP policy leads to better implementation of PPP projects in a coherent, logical, systematic, sequential and orderly manner. Better PPP policy initiation, design, planning formulation, implementation and control also provides opportunities that can be tapped to successfully implement any PPP project (Bird et al., 2003:11). It is, therefore, necessary to undertake a thorough situational analysis, needs assessment and problem analysis as a basis for developing a better PPP policy framework under which infrastructural projects can be hinged for their successful implementation (Kyei et al., 2018:6). It is, therefore, important to critically analyse and determine which PPP policies are relevant to the successful development and implementation of infrastructural projects so that only such policies are formulated (Feder et al. 2011:2351).

This implies that policy makers need to develop and align PPP policies to PPP implementation in terms of determining which PPPs to be implemented, how they are to be implemented and what kind of inputs are required to implement such PPPs (Bird et al., 2003:7). It is, therefore, important that we comprehend the factors that affect policy initiation, adoption, planning, design, development, implementation and control to come up with better policy approaches that can be used to successfully execute a number of infrastructure projects (Feder et al. 2011:2352).

Thirdly, an effective PPP legal framework provides a starting point for effective implementation of PPPs in the roads sector. A well-designed, detailed and clear legal framework is often noted as a prerequisite for all types of PPP activity (Mouraviev & Koulouri, 2018:5), since they are becoming an emerging trend on the African continent (UNECE, 2008:30; Yong, 2010:31). PPP contractual arrangements that are protected by a legal framework are normally well sustained amidst all the challenges encountered during PPP implementation. For example the the adoption of Russia's political course to improve the social and economic conditions of the society, the development of infrastructure, and the implementation of socially significant innovative projects led to the development of a regulatory and legal framework for the creation and operation of integrated structures with state participation provided a good opportunity (Berezin et al., 2018:1).

In particular, from 1 January 2016 came into force a special federal law 224-FZ on PPPs. This gave a new impulse to the adoption, development and implementation of PPPs in the construction industry, healthcare and in the provision of educational services. However, legal conflicts and lack of experience in implementing projects under PPP have hampered successful implementation of PPPs in such a developed economy (Berezin et al., 2018:2). While many governments in developing countries are gaining experience in infrastructural PPPs, partnership in the roads sector is still new in in Uganda with government cautiously using them to draw lessons as far as efficient and effective delivery of services is concerned.

EIU (2015:13) contends that although PPPs may be implemented without a specific PPP law, the enactment of such laws is very critical in order to bring about consistent PPP legal frameworks in all government ministries, departments and agencies. This means that adoption and implementation of PPPs cannot be well streamlined unless institutions, processes, frameworks and procedures under and through which such PPPs can be adopted and implemented are developed (UNECEF, 2008:8; FAO, 2016:106). In order to ensure that PPPs thrive successfully in the roads sector, Shediak et al. (2008:9) suggests that stakeholders need to ensure that they develop PPP legal frameworks that can be used as a basis for making quick decisions in a

more transparent manner. Therefore, the PPP legal framework is very fundamental in determining successful implementation of any PPP project (ADB et al., 2014:78; EIU, 2015:5). Depending on the prevailing circumstances, different approaches are used when developing the legal framework for PPPs in any sector. For instance, the legal framework for developed countries may differ from that of developing economies (KPMG, 2015:16). Some scholars suggest that a PPP legal framework needs to put into consideration factors including political, economic, social, technological, environmental, legislative and ethical factors and how these factors can be used to shape the PPP framework.

This means that the initiators of the PPP legal framework should be careful when inserting certain important PPP clauses with in it so that such clauses can always be relied upon to ensure successful implementation of PPP projects (Mouraviev & Kakabadse, 2015:7). That is why PPP experts such as Pongsiri (2002:488) insist that one of the very important things that governments must do before involving a private sector partner in implementing any PPP project is to first develop a robust PPP legal framework that can be used to enforce PPP contracts and provide room for arbitration among private sector actors (Samii et al., 2002:1002; EC, 2003:38; Yong, 2010:31; Mouraviev & Kakabadse, 2015:6).

In addition, proper PPP regulations aid effective use of PPPs in the roads sector. The increasing involvement of the private sector in the provision of services is creating a change in the public sector roles from being an operator to a manager and regulator of service delivery. This, therefore, requires development of effective regulatory mechanisms by streamlining the national regulatory and institutional frameworks to provide a basis for successful implementation of PPPs (EC, 2003:90). PPPs need regulations to ensure that better performance parameters are adhered to and social needs are well met (Marques & Berg, 2010:2).

Therefore, PPP regulation is essential for PPP initiation, conception, design, planning, financing, implementation, maintenance, monitoring, management and sustainability (Mouraviev and Kakabadse, 2015:8). PPPs in road construction and maintenance, like any other sub-sector, equally need regulation to operationalize the

road sector policy and legal frameworks and at the same time guide PPP implementers in the roads sector on the standard operating procedures to use when measuring performance (Smith, 1997:1; Yong, 2010:34). A well-developed PPP regulatory framework must ensure that the government as a regulator plays its unique role of enforcing PPP regulations in a proper manner without fear or favour. The PPP regulation should always focus on safety standards, price setting, administrative procedures, quality of technologies and environmental controls that can freely be shared with partners as they work together to implement PPP projects.

In fact, Mouraviev and Kakabadse (2015:8) point out that some countries hinge their PPP regulations on the contractual clauses and yet they give limited attention to the relationship between the principal and the agents of PPP implementation. Pongsiri (2002:488) suggests that PPP regulation should ensure that the interests of both the principal and the agent are well catered for. He notes that PPP regulation should not focus on unnecessary and unrealistic controls but should be used to protect the interests of all parties, ensure open competition and promote better PPP project results (Mouraviev & Kakabadse, 2015:8).

PPP Regulation should be based on a stable macro and micro environment to ensure greater VFM through working well with the private sector players. That will ensure that certain benefits in form of improved service delivery can be effectively realised (Shediac et al., 2008:2). Therefore, the success of any PPP project really depends on effective enforcement of the PPP regulatory framework in a manner that ensures effective implementation of such PPPs (Yong, 2010:34).

Effective PPP policy, laws and regulation monitoring provides a good platform for effective adoption of a PPP approach to constructing road infrastructural projects. Effective PPP project management requires effective laws, policy and regulation monitoring to ensure that better performance is adhered to and social needs are realised during PPP projects implementation (Marques & Berg, 2010:2). Moreover, Mouraviev and Kakabadse (2015:8) argue that governments should exert more policies, laws and regulation monitoring to all sectors where PPPs are used such as energy, oil and gas and the roads sector. Where a separate Monitoring and

Evaluation (M&E) entity does not exist, ADB recommends that a unit within the line ministry be set up with a mandate to monitor compliance against the PPP policy, laws and regulations, publish reports on performance, and enforce any penalties for non-performance (ADB, 2008: 87-88).

2.9.3.2 Organisational Factors

Ensuring effective PPP performance measurement brings in quick gains when it comes to use of PPPs in the roads sector. Performance measures are essential in not only building trust but also aligning stakeholders on the intended outcomes of the PPP project (Forrer et al., 2010:481). Johnston and Romzek (2005:122) point out that performance measures act as radar to guide delivery of services to the public by the private actor. Scholarly debates reveal that there is an agreement among PPP experts that PPP strategic objectives form the foundation for PPP performance measurement and are designed to address not only the public sector strategic and development plans but also the public demand for better service delivery (Yang et al., 2013:43; Love et al., 2015:27).

It is suggested that establishing an effective performance measurement approach begins with understanding the needs and expectations of stakeholders involved in the implementation of the PPP project (Liu et al., 2014c:5). The effectiveness of PPP performance measurement depends on clear details of set targets, acceptable procedures of measuring performance results and the reporting mechanisms. Some scholars recommend that a standard operating procedure for verifying performance against the contract and for responding to any contract deviations should be instituted.

In line with the principal-agent theory, an incentive payment system is considered vital for any performance metric coupled with reporting on how much has been paid so far and accounting for payments made (ADB, 2008:87; Forrer et al., 2010:482). Javed et al. (2013b:18) insist that the fulfilled delivery of an output should call for payments in line with the agreed modalities. On the other hand, failure to meet the standards should attract deductions to the agreed private sector fees. In some PPP

projects, which auditors evaluated once or twice a year in the water sector in the Middle East, the private sector's declared performance against the targets set out in the management contract based on a simple qualitative scale that was used to measure the performance from excellent to poor performance (ADB, 2008:89). The success of performance measurement and management of the performance incentive normally depends on clear parameters for measuring targets and a framework for taking corrective action (FAO, 2016:122). FAO (2016:123) advises that mechanisms that promote regular sharing of experiences and assessment of results need to be instituted for enhanced learning and better management of PPP projects.

Effective Risk Management in the roads sector is necessary to ensure VFM. Contracting public agencies need to establish consensus on the transfer of levels of risk to the private partner. However, such transfer of risk does not serve to fully protect the agencies from negative external factors such as the bankruptcy of private partners. Government funding would be required to compliment private financing and consequently mitigate financial risks (Cristina & Jonathan 2005: 2). There is therefore need for a proper risk management framework to balance the benefits among the government, private partners, and end users. Besides, a higher level of risk to a participant should lead to a higher share of revenues. That is why some scholars propose a risk and revenue sharing mechanism that combines the risk sharing result with the profit allocation (Du, Wu & Zhu, 2018:6).

As already noted, Renda & Schrefler (2006:5) note that the core objectives of PPPs should be embedded in the re-allocation of risks among the different implementing partners that possess the appropriate technical and management skills to execute them at the lowest possible cost to ensure VFM (Jomo et al., 2016:3). Other scholars concur with the fact that the selection of the PPP model to use in infrastructural development should be embarked on after a thorough measurement and assessment of various risks associated with the model has been done (Renda & Schrefler, 2006:7; Levai, 2012:4; Delmon, 2010:8; European Commission 2009:9). Debates from practitioners such as Deloitte & Touche (2011: 20) point out that government should provide the funds needed to implement PPP projects after associated risks have been

calculated. Therefore when it comes to managing risks, PPPs need to be undertaken not for their extrinsic but for their intrinsic value. For instance, implementing PPPs to evade budget constraints and spread public expenditure over several years or decades instead of paying the bill immediately, can lead to the risk that governments don't design contracts properly, and that they don't ensure that the right incentives are in place for a PPP to succeed (Maskin & Tirole, 2007:3). Moreover, PPP programmes should not focus only on easy outshining projects that don't have any ambition to transfer risk to the private sector and which don't address real needs of the citizens (World Bank, 2007:49). In other words, if PPPs are chosen for the right reasons, they will become the long-term tool for ensuring VFM in the road sector in any country (Sadka, 2007:487-488).

The capacity to manage PPPs by partners provides a basis for effective implementation of PPPs in the roads sector. Such partnerships are often said to succeed when there is capacity to manage and maximise their potential on both the public and the private side (Mitchell, 2007:13). The public sector has to increase its capacity to implement and manage PPPs, while private entities must contribute to the development of the PPP market and improving the quality of the advisory services provided to public institutions (PPP Unit, National Treasury, 2007:23). Therefore, it is important to match the capacity of all the entities involved in any PPP adoption and implementation (Mitchell, 2007:14). This means that technical and managerial capacity from the public and private officials involved in the design and implementation of PPPs is also essential for such projects to be successful (Mitchell, 2007: 19). Continuity in building the capacity of all partner staff through undertaking training needs assessment, mentoring, and coaching is essential if such projects are to be successful (Koppenjan, 2005:140-142).

Choosing the right partner aids the use of different PPP models in the roads sector. The public entity should always choose the right private partner if it is to successfully implement PPP projects (Marques & Berg, 2010:5). In order to promote such a situation, the public entity should always do a thorough evaluation of the bidders that apply to be selected for implementing PPPs based on a good evaluation criterion.

The public entity can then undertake a comprehensive post-qualification and due diligence process on the best evaluated bidder to do references checks and verify whether the best evaluated bidder has the right capacity to implement the PPP projects in plan before signing the contract. With a greater vision of how PPPs can be implemented effectively in the roads sector, public entities should select a partner that will efficiently implement a project based on agreed performance parameters (Landow & Ebdon, 2012:729).

Ensuring effective accountability sets the pace for proper execution of PPPs in the roads sector. The success of PPPs is mostly based on ensuring that the resources entrusted to the public and the private partners to implement the project are well accounted for (Landow & Ebdon, 2012:729). Effective determination of accountabilities in the contract can help to ascertain the actual overall costs that were involved in the implementation of a PPP project (De Bettignies & W. Ross, 2004:136; Reside, 2009:47; De Bettignies & W. Ross, 2004:148). Disputes regarding some accountability by any of the PPP implementing partners should be addressed through an effective mechanism such as use of alternative dispute resolution strategies or litigation (Dewulf et al., 2011: XXX; Mitchell, 2007:19).

Effective risk sharing mechanisms among the partners can be used to foster better adoption of PPPs in the roads sector. For a PPP to be successful, the public sector must bear part of the risks, especially fiscal ones. PPPs are not a means for the public sector to transfer all the risks to the private sector, and they shouldn't be considered so (Reside, 2009:47). The consequence of a public sector wanting to transfer much risk to its private partners is that the interest of the latter in entering PPPs dwindles over time, and that PPPs cease to be an interesting alternative for the provision of public infrastructure (Castalia Strategic Advisors & Ukhamba Advisory Services, 2007: ii). Another aspect is that since governments remain the provider of services to the public through infrastructural development and since infrastructure is a public good, a private party could exploit this weakness to transfer more risk back onto the public entity (Araujo & Sutherland, 2010:9). Governments must be able identify and

transfer a significant part of the risk to its private partner, in order to make PPPs a credible alternative for the provision of services to their citizens (Mitchell, 2007:19).

Avoiding overestimation of PPPs provides a springboard for efficient utilisation of PPPs in the roads sector. While designing a PPP, the capacity of partners to effectively implement PPP projects and the project beneficiaries to pay the project outputs must be carefully analysed and any overestimation must be avoided (Reside, 2009:47). The government can provide income guarantees in some cases, but these guarantees should be clearly defined in advance in order to avoid any opportunistic behaviour by private party players (Gauteng Provincial Government, 2013:21). To achieve better VFM in a PPP, income streams must be assured to all implementing partners in the roads sector of both developing and developed countries (Landow & Ebdon, 2012:729).

For PPP implementation to be successful, the public and private partners must ensure that the implementation modalities are not complicated (Du, Wu & Zhu, 2018:8). Public and private entities must ensure that their implementation modalities are simplified if such PPPs are to be successful (Castalia Strategic Advisors & Ukhamba Advisory Services, 2007: i-ii).

Effective public participation and stakeholder management provides a platform for proper management of PPPs in the roads sector (Levai, 2012:5). PPP Project leadership must ensure sufficient public awareness of the operational costs, benefits and risks of PPPs (Levai, 2012:6). Active consultations and involvement of stakeholders including the public is fundamental in the budgetary process of the PPP projects (Liu et al., 2014:1). Such a practice leads to transparency and as a result fiscal risks are minimised and the integrity of the process is maintained (Landow & Ebdon, 2012:731). Concerns of all major stakeholders in PPP projects need always to be addressed in time before questionable issues arise; for instance, excessive profit at the expense of the public and hence questionable value for taxpayer's funds (Landow & Ebdon, 2012:732). Prudent assets valuation and revenue sharing agreements need to be implemented to resolve such stakeholder concerns (www.koassociates.co.ke, 2017:3). The contracting public agency also needs to

exercise continued oversight responsibilities over the PPP project on a pay for performance basis (Du, Wu & Zhu, 2018:10). In this regard, public agencies must manage stakeholder expectations through maintenance of service quality standards in the PPPs (Love et al., 2015:29). As already indicated, limited studies have been conducted on PPPs in Uganda's roads sector despite the central role it plays in improving and satisfying stakeholder expectations (Liu et al., 2014c:2).

2.9.3.3 Personal Factors

Ensuring open competition among individual credible bidders also sets the pace for executing PPPs. The bidder with the lowest costs may not necessarily be the best potential partner to undertake a PPP (Love et al., 2015:30). The potential private partners must be considered in the long-term, and not only in the short term. Factors such as the individual candidate's experience in a specific field should play an important role in the selection of the right partner (Mitchell, 2007:19). The concerned public institution must study carefully the bidding documents, in order to avoid, among other things, inappropriate assumptions made in aggressive bidding strategies, such as excessively optimistic population growth forecasts, or unrealistic forecasts of consumption per customer. Not doing so can lead to a poorly equipped bidder winning the contract to implement the PPP (Landow & Ebdon, 2012:729).

Effective communication among partners' staff provides an opportunity for excellent adoption of PPPs in the roads sector. This is particularly true as PPPs have greater visibility than the usual private projects (Mitchell, 2007:23; Van Ham & Koppenjan: 600). It is necessary for public and private partner staff to learn to work as a winning team if communication among them is to be effective. This means that public and private partners need to put in place effective communication channels that their staff can always use when implementing PPP projects. Thus, active communication among partner staff is very vital for the success of PPP projects (Price Water House Coopers, 2010:13).

The role and competence of PPP Unit staff is very crucial in implementation of PPPs (Love et al., 2015:35). The staff should be recruited and given different roles based

on their qualification and competence in monitoring and managing any PPP contractual arrangement in order to ensure VFM in road projects (Castalia Strategic Advisors & Ukhamba Advisory Services, 2007: i-ii). The role played by such staff is fundamental for the success of any PPPs (Reside, 2009:47).

2.10 Chapter Summary

There are a number of studies, therefore, that have established a principal-agency relationship for different PPP models to ensure VFM in the roads sector in both developed and developing countries including Uganda based on a number of factors affecting them. The emerging versions of PPPs will always therefore depend on a number of constraining and enabling factors.

It is thus important to investigate the principal-agency relationship in line with different PPP models being used in the roads sector and the factors affecting them. Such factors may either constrain or favour the implementation of such PPPs in the roads sector of both developing and developed countries. Such constraining factors and critical success factor (CSF) need to always be analysed thoroughly very well before any PPP model is adopted and implemented if VFM is to be realised.

This is because those constraining factors and critical success factor (CSFs) provide either adverse conditions or requisite conditions, each of which largely influences adoption and implementation of such PPP models to ensure VFM in the roads sector either negatively or positively in any principal agency relationship. PPP experts argue that one significant factor affecting the choice of a PPP model to use in the roads sector, is the ability to choose a technical solution, which allows introduction of innovation and also stimulates the exhibition of private sector competence and potentially superior effectiveness. There is need therefore to always identify and critically analyse the relationship that exists between the principal and agent based on a number of factors affecting different PPP models before adopting such PPPs to ensure VFM in the roads sector. The next chapter focuses on methodology in terms of methods that have been used to collect data, analyse data and present findings for the study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The previous chapter explained the theoretical and empirical literature which relates to this study. The theoretical framework which underpinned this study is principal agent relationship. The current chapter explains how the research was carried out, data collected and analyzed. Research methods are the various procedures, schemes and algorithms used to scientifically and systematically gain knowledge in order to solve a particular research problem (Rajasekar, Philominathan & Chinnathambi, 2013:5). The research study used quantitative and qualitative approaches targeting stakeholders involved in the adoption of the PPPs in the roads sector.

The study conducted an exploratory review of literature and various documents before accompanying it with close-ended questionnaires and semi-structured interviews to collect data, analyse data, interpret data and present final findings. The study conducted an extensive literature and documents review of scholarly and practitioner journal articles and reports to gather different debates on the concepts of PPPs and VFM, PPP models, factors affecting PPPs and an appropriate PPP model that can be used to ensure VFM in the roads sector (Patton, 2002:7; Neuman, 2007:4).

The researcher also used the semi-structured interviews under a case study design with the help of purposive sampling to get the views UNRA's stakeholders from Kampala district in addition to those of Mbale, Mabarara and Gulu districts, on the issues related to PPPs used to ensure VFM in the roads sector. The interviews were conducted to augment the existing literature (Patton, 2002:8; Neuman, 2007:5). Finally the researcher used close ended questionnaires under cross sectional survey design with the help of systematic sampling to correlate UNRA stake holders'

understanding of the PPPs used to ensure VFM in the roads sector. The data was collected within the framework of the themes identified. All this was done based on the main objective of assessing the PPPs to ensure VFM in the roads sector in Uganda. Both conventional and summative content analyses were used to generate meaning from the data collected. The analysis followed the themes in literature. The principle agent theory formed the initial guide for the analysis while the deductive and inductive approaches were used to reveal the empirical reality. The analysis of finding guided the re-construction of the conceptual framework to integrate the theoretical and the empirical concepts.

This chapter is structured into five sections; section one presents the introduction to the chapter followed by the Research Paradigm, research approach and how they apply to the study. The third section covers the research design and how it relates to the study. Section four discusses the study population and the target beneficiaries. Section five focuses on sample size and sampling procedures, Section six presents techniques and procedures of data collection and analysis. Section seven discusses validity and reliability for quantitative and qualitative data in addition to qualitative data trustworthiness; Section eight examines strengths of the study. Section nine discusses the research principles that were considered as part of the ethical evaluation standards of the study. The last section presents chapter summary for research methodology.

3.2. Research Paradigm

There is no single definition for research paradigm in Social Science studies. Jonker and Pennink (2010:4) in Wahyuni (2012:69) define research paradigm as a group of vital assumptions and philosophies on how the world is perceived, and this becomes a rational framework in understanding behaviour that guides researchers. Guba and Lincoln (1994:5) view research paradigm as a “basic belief system or world views that guides the investigation”. On the other hand, Neumann (2014:96) contends that a research paradigm is “a general organizing framework for theory and research that include basic assumptions, key issues, models of quality research, and methods of

answering questions". Wahyuni (2012:7) denotes that most researchers are implicit on the philosophical background of the paradigm they adopt since it has an impact on the research output. In addition, Lewis and Thornhill (2009:15) assert that it is vital to understand and critically analyze the paradigm to be applied in the study since it influences how the researcher frames and understands the phenomenon. There are three types of paradigms, and these are constructivism, positivism and critical realism.

In social science research, constructivism and positivism are often used by researchers as they seek to explain how qualitative and quantitative approach fit in a research study (Neuman, 2006:13). This study applied both positivism and constructivism paradigm. These paradigms interpret ontology and epistemology in a different manner. According to Trochim (2000:17) as cited in Krauss (2005:19), epistemology is the philosophy of knowledge while ontology is a philosophy of reality. These two paradigms fitted into the nature of this study because they used a triangulation of quantitative and qualitative approaches.

3.2.1 Constructivism paradigm

Constructivism paradigm was founded on the philosophical ideas of Max Weber and Wilhem Diltthey. This paradigm is based on qualitative research and integrates philosophical assumptions of epistemology and ontology in understanding reality and social phenomena in their natural context (Neuman, 2006:88). The Constructivism paradigm is grounded in multi-realities since it understands reality as constructed by individual"s perceptions and social actors (Wahyuni, 2012:23).

There are four factors that define reality, and these are people"s interactions, language, social interaction and belief systems (Neuman, 2006:89). In support, Hennink et al. (2011:25) affirm that human perspectives and experiences are different, which proves that social reality has multiple perspectives. Neuman (2006:89) observes that social interactions with different people allow for a different understanding of the same notion in the same social context; therefore, what is

understandable to mean something to one individual may differ to the other person. Furthermore, language allows people to reason and see the outside world in a different way “Language cannot connect to the essential way but contains a world view that colors how people see and experience the world” (Neuman, 2014:105). To that end, language dictates what people see. Constructivism integrates assumptions of epistemology in discovering and understanding knowledge. There are various ways in which constructivists can best understand a phenomenon, and these are through observation in natural setting, the researcher can be part of the group or organization under study and the researcher can learn their culture and beliefs (Krauss, 2005:17).

This is what distinguishes qualitative and quantitative studies, for the latter seeks to understand a phenomenon from one point of view then generalize it to a larger context (Krauss, 2005:18). Al Zeera (2001:8) in Krauss (2005:19) endorses that epistemology views the researchers as subjective because they interact with the participants. Therefore, their findings are reliable because they are emanating from an interactive process. Constructivists integrate ontological assumptions in understanding the reality. Qualitative researchers believe in multi-realities in understanding a phenomena for people’s perceptions, and experiences are different thus their understanding of the same notion will be different (Krauss, 2005:20 Guba & Lincoln, 1985:12).

3.2.2 Positivism paradigm

The positivism paradigm was founded on the philosophical ideas of August Comte in 1798-1856 who argued that acceptable knowledge is based on science (Neuman, 2014:97). In his philosophical ideas, human behaviour is best understood through observation and reasoning (Guba & Lincoln, 1994:5). Collier (2005:328) as cited in Neuman (2014:97) denotes that positivism paradigm upholds the application of natural science to social sciences in order to obtain data that is value-free. Positivists are of the view that the goal of knowledge is to describe the social phenomenon and people’s experiences; therefore knowledge and findings that cannot be observed or

measured should be discarded (Trochim, 2000; Krauss, 2005:21). In support, Wahyuni (2012:9) asserts that positivists use the lens of natural science in understanding social phenomena because they believe findings gathered through scientific methods are value free and un-biased. Healy and Perry (2000:4), as cited in Krauss (2005:22), are of the view that quantitative researchers view the world through a “one way mirror”; therefore, the use of multi-dimensional ways as applied in qualitative studies in understanding the world does not produce the untapped knowledge.

The positivism paradigm is used in quantitative research studies and the philosophical assumptions of epistemology and ontology explain what and how the quantitative researcher should do in obtaining reliable and valid data. Neuman (2014:98) expounds that positivists embrace a realist ontology which explains that reality exists in the world independently from humans, their intellects and interpretations. He noted further that reality is only waiting to be discovered through observation and measurements, which forms the basis of natural science.

This means that the quantitative researcher understands social phenomenon through application of natural science theories and assumptions only (Neuman, 2014:99). Furthermore, positivist researchers embrace a realist epistemology with a view that the world of science exists and needs people who are observant in order to tap out knowledge without using their inner thoughts but through observation and measurements (Neuman, 2014:20).

These quantitative researchers regard knowledge that is scientifically proven as valid and that knowledge which is not based on any scientific methods should be discarded. Therefore, to positivist researchers, qualitative researchers do not add value to the philosophy of knowledge. According to Trochim (2000:7), as cited in Krauss (2005:21), the following are epistemology assumptions that embody positivism paradigm. A positivist applies empiricism, which is the use of science in understanding phenomena. Henning (2004:17) concurs that positivists view human

behaviour as passive and controlled by external environment; therefore, empiricism has an important role in explaining a phenomenon. Quantitative researchers are not involved in their studies in contrast to qualitative researchers who are fully involved in order to have an extensive understanding of the social problem (Healy & Perry, 2000:5; Krauss, 2005:23). Moreover, positivists use deductive reasoning in guessing theories that suit their study in order to better understand the research problem. The positivists generalize the research findings and this is termed as nomothetic by Neuman (2011:14).

This is a process whereby the research findings are generalized by different researchers who focus on the same problem at different natural settings and also apply the same statistical tests and research methodology in order to come up with similar results (Creswell, 2009:16). The Ontological assumption that embodies positivism paradigm denotes that reality is viewed as external and objective (Al Zeera, 2001:7 as cited in Krauss, 2005:23). It is imperative to highlight that only scientific methods, numbers and statistics should be used in generating qualitative data which brings forth research findings that are valid and reliable.

3.2.3 Applicability of Positivism and Constructivism Paradigms in this study

These paradigms were suitable for this study because PPPs are broad and currently expanding. Therefore, in order to grasp its effectiveness in ensuring VFM in the roads sector, both scientific and non-scientific methods were incorporated in this study. This explains why both survey questionnaires and in-depth interviews were used in soliciting data from participants of this study.

The importance of applying both paradigms was that they provided different dimensions in understanding PPPs as a strategy for ensuring VFM. Although their interpretation of epistemology and ontology differs, that did not affect the study because these different dimensions were not contenders but complement each other in providing a clear understanding of the approaches to be used in assessing PPPs in the roads sector. In a quantitative approach, there is a post-positivist claim for

developing knowledge, such as cause and effect thoughts, testing the hypotheses and getting answers to research questions as well as the use of measurement and the testing of theories. In this study, the quantitative approach was used to quantify the UNRA stakeholders' responses on the concepts of PPPs and VFM, different PPP models used in the roads sector, factors affecting such PPP models and appropriate PPP model to be used in the roads sector. In qualitative approach, the researcher makes knowledge claims based on the constructivist claim (Lincoln & Guba, 2013:21). Data is collected from those immersed in the everyday life of the setting in which the study is done.

In this study, the researcher used both qualitative and quantitative research approaches because the study sought to understand a given research problem from the perspectives of the perceptions, knowledge and experience of the different UNRA stakeholders in the use of PPPs to ensure VFM in the roads sector in Uganda. That is why, the researcher used both quantitative and qualitative approaches because he intended to ascertain whether there is a link between PPPs and VFM in the roads sector. Some qualitative data was needed to build on qualitative data and widen the scope of understanding of UNRA's perception on the use of PPP to ensure VFM in the roads sector in Uganda.

3.2.4 Relating Positivism and Constructivism Paradigms to research approaches

Creswell (2008:15) defines research approach as strategies and techniques that extend phases from a wider assumption to a comprehensive method of interpreting, collecting and analyzing data. A researcher chooses a specific research approach to use in a study for a number of reasons and amongst them are: the nature of research problem and the readers of the study or his or her practical experience with that approach (Creswell, 2003:10). In Social Science Research, there are three approaches used by researchers, and these are qualitative, quantitative and mixed methods. This study used a mixed method approach (qualitative and quantitative) in holistically understanding of PPPs and VFM in the roads sector in Uganda.

3.2.4.1 Mixed method /triangulation approach

In this study, both qualitative and quantitative were applied, and this is called a mixed method approach. Bulsara (2015:13) terms it multi-methodology or triangulation. Mixed methods approach is defined as the gathering, examining and collaborating of qualitative and quantitative data in a single research study (Creswell & Plano Clark, 2007:5). There are many types of triangulations, namely: triangulation of measure, triangulation of observers, triangulation of theory and triangulation of methods (Neuman, 2006:149-150).

In this study, triangulation of research methods was used whereby qualitative and quantitative approach were integrated. In social science research, it is advocated to analyze a phenomenon from different angles rather than from a single direction in order to attain a holistic understanding (Neuman, 2006:149). Furthermore, Neuman (2006:151) observes that the nature of qualitative and quantitative data is different, for qualitative data is soft and comprises “impressions, words, sentences, photos and symbols.

While, quantitative data is hard since it comprises of “numbers and statistics” Although qualitative and quantitative approaches are different in many ways, they both complement each other in their quest to understand phenomena. In support Newman and Benz (1998:20) as cited in Creswell (2009:17), are of the view that qualitative and quantitative approaches are not contradictory to each other because they denote diverse ends on a continuum.

Ormrod and Leedy (2013:259) reason that triangulation allows the researcher to tackle the research problem holistically. It allows the strengths of qualitative approach to overcome weaknesses of quantitative and vice versa, and this is called the principle of complementary (Creswell, 2007:14; Ormrod and Leedy, 2013: 260). Furthermore, it allows all types of questions to be answered because some research questions have to be answered qualitatively and others quantitatively; the use of both

open and closed ended question was advantageous to this study (Leedy & Ormrod, 2013:251). Lastly, triangulation provides a solid evidence for conclusion through merging and corroborating both qualitative and quantitative findings, for words and pictures add meaning to numbers, and numbers will add meaning to words and pictures (Johnson & Onwuegbuzie, 2004:21).

Most scholars argue that at times, triangulation can be a very challenging approach to apply in a single study. Johnson and Onwuegbuzie (2004:21) admit that the researcher must be knowledgeable of each approach, its underlying assumptions and how these fit into the study for, if the researcher has inadequate knowledge of the approaches, this would lead to biased research findings.

It should be noted however that triangulation is time consuming. Johnson and Onwuegbuzie (2004:21), and Velez (2008:3) observe that, the researcher will have to use more than two research designs and this requires a lot of time to construct a questionnaire and interview guide which is understandable and clear to the participants. Lastly, a lot of time will be needed in analysing both the qualitative and quantitative data into meaningful, reliable, valid and trustworthy findings.

3.2.4.2 Quantitative approach

Shafeek (2009:79) defines quantitative approach as an investigation of a phenomenon through testing a theory which can be measured numerically and analyzed statistically. Quantitative approach understands knowledge and reality from the positivist perspectives. Therefore, it is based on science to understand and predict people's experiences and if scientific methods are not applied in social research, this means the findings are regarded as invalid (Creswell, 2003:11).

Quantitative approach is grounded by a number of assumptions. The first assumption is that it is based on positivism, which is the application of natural sciences in social science research in order to obtain value free data (Neuman, 2014:21). Quantitative researchers use numbers in describing a social context. The

Quantitative research designs used in data collection are surveys and experiments, which gathers data on programmed instruments that produce numbers and statistics (Leedy & Ormrod, 2013:259).

3.2.4.3 Qualitative approach

De Vos et al. (2011:640) define qualitative approach as a way of describing and understanding a phenomenon from the participants' viewpoints in order to have a broader understanding of the complex situation. Huntter and Bailey (2011:8-9) describe qualitative approach as a method used by researchers to examine people's experiences in detail by using a specific set of research methods such as in-depth interviews, documents review, focus group discussions and observations.

The main focus of qualitative research studies is to understand, examine and clarify complex situations in their natural settings (Leedy & Ormrod, 2010:135). Qualitative researchers understand knowledge and reality from the constructivism perspective. Creswell (2003) purports that reality in qualitative studies is subjective; therefore, the following methods of inquiry: case study, exploratory study, observations and ethnography are used.

Kumar (2011:104) asserts that qualitative research is grounded with deductive reasoning which holds that when the assumptions and theories perfectly fit in study, the conclusions and findings will be reliable. Velez (2008:9) declares that it discards generalization of findings to a large population since reality and social environment are interpreted differently according to individuals' experiences and perceptions. Therefore data collected qualitatively was analyzed into themes and categories that were linked to the research questions in this study. The use of PPPs in the Roads Sector to ensure VFM is being perceived, experienced and understood differently by various stakeholders; hence the use of qualitative and quantitative approaches gives a better understanding to the readers.

In this study, triangulation was utilized because it responds to the research questions. Babbie (2010:26) states that research questions which begin with how and which are descriptive in nature require a quantitative approach. Those questions that begin with what and why are explorative in nature and require qualitative approach. Therefore, the use of triangulation allowed the study to be flexible since the researcher had liberty to use both open and closed-ended questions. Many studies are now employing triangulation in order to outweigh the weakness of one approach with the advantages of the other approach. A study by Shava (2013:31) used this approach, and it was effective in collecting data.

3.3 Research Design

Various authors define research design in different ways, but one thing they have in common is that research design should answer a research problem of the study. Keringer (1986:279) as cited in Kumar (2011:94) defines research design as a plan, structure and strategy of investigation so conceived as to obtain answers to research questions or problem. It indicates an outline of what the investigator will do from writing the hypotheses and their operational implications to the final analysis of the data.

Cooper and Schindler (2011:19) define research design as a blue print used for gathering answers to research questions of the study. There are two forms of research designs, and these are qualitative and quantitative research design. The qualitative and quantitative research designs are divided into two categories depending on the form of information they gather. The qualitative research designs gather information from pictures and words whilst quantitative research designs gather information from numbers (Neuman, 2014:46).

Qualitative research designs are not specific and differ in their structural depth. Examples of qualitative research designs are case study and exploratory studies. Quantitative research designs are specific and have the same structural depth, and examples of quantitative research designs are experiments, non-reactive and a cross-sectional survey design (Kumar, 2011). The research designs that underpin

this study were cross-sectional survey design, case study and exploratory designs. This study used a mixed methods approach that sequentially used quantitative approaches using the cross-sectional survey design followed by qualitative approaches under a case study and exploratory design (Pansiri, 2005:5). This research design involved a procedure for collecting and analysing data using both qualitative and quantitative research methods in a single study to understand a research problem (Cresswell, 2012:10).

The researcher combined both qualitative and quantitative approaches by building the knowledge on pragmatic grounds. Mixed methods methodology made the assumption that a combination of the quantitative and qualitative approaches within the same study is taken as complementary; particularly since the aim of the study was to determine the usefulness of a program, policy or treatment (Creswell, 2003:7; Maxcy, 2003:9).

In this study, the researcher adopted a mixed methods design that began with quantitative data collection and analysis followed by the qualitative data collection and analysis. The data, themes and results from the second qualitative phase of the study explained, confirmed and consolidated the findings and emerging issues realised from the first quantitative phase of the study. The quantitative findings were a result of questionnaire survey used, research questions asked, type of data collected and the nature of analysis of the quantitative data of the first phase. While the qualitative findings were a result of the interview guide used, type of data collected and the nature of analysis of qualitative data of the second phase.

Integration of two methods was done in the interpretation stage in which qualitative results built on the quantitative ones (Creswell & Plano Clark, 2011:8). Contextually, the reason for use of mixed methods design was to assess the use of PPPs to ensure VFM in the roads sector using questionnaire survey and to explore UNRA stakeholder's perception, experiences and understanding of the PPPs being used to ensure VFM in the roads sector through use of in-depth interviews. This was aimed at getting their deeper understanding of the concepts of PPPs and VFM, the use of

the different PPP in the roads sector in Uganda, the factors affecting such PPPs, in addition to what they perceived as the appropriate PPP model that UNRA can use to implement road construction and maintenance projects in Uganda.

3.3.1 Cross- sectional survey design

For that reason, a cross- sectional survey design was used in the first phase of the study to guide in collection of adequate quantitative data from a relatively large sample of stakeholders. This was due to the nature of the PPP models being used in the roads sector in Uganda with a cross section of many stakeholders. In a cross-sectional survey, a large sample of stakeholders as respondents was needed from which more reliable and adequate data (mainly quantitative in this case) was collected at some particular point in time for generalization of findings (Pansiri, 2005:9).

More quantitative data was needed to critically analyse the relationships between use of the various PPP models and VFM in the roads sector in Uganda. Therefore the quantitative data collected using cross-sectional survey was used as a basis for widening the scope of understanding what kind of PPP models UNRA use to ensure VFM when constructing new roads and refurbishing the already existing ones.

In addition such quantitative data was needed to find out the factors affecting the implementation of such PPP models, and what appropriate PPP model UNRA intends to use in the roads sector for generality of such findings (Kumar 2011:97). Actually the quantitative data was collected from a relatively larger sample of about 91 UNRA stakeholders, using a structured questionnaire with closed-ended questions.

The questionnaire had a section with five-point 'Likert scale' statements and questions to elicit relevant information from the study participants on their understanding of the use of the PPPs to ensure VFM in the roads sector, which were ranked quantitatively according to their responses.

More relevant information on factors affecting the implementation of such PPPs were elicited from UNRA stakeholders for breadth and holistic understanding of the

implementation of PPP construction and rehabilitation projects in PPP implementation in the roads sector in Uganda (Neuman, 2014:48).

3.3.2 Case study design

Also a qualitative approach using a case study and exploratory designs was used in the second phase of the study. Mathew & Michael (1994:1) define a case study as a phenomenon of sorts occurring in a bounded context. Despite limitations of generalization when a single case study is used, a case study looks at a phenomenon in its real life context, usually employing many types of data. Stake (1995:2) notes that intrinsic use of case study is to examine the case in its entirety and complexity, as well as in its context. Qualitative researchers do not know the number of people in the research beforehand; the sample may change in size and type during research (Maxcy, 2003:9).

Sampling goes on until saturation has been achieved, namely no new information is generated (Holloway, 1997:142). Being more flexible, qualitative approach has also been partly used to enable the researcher explore a phenomenon in depth. The researcher therefore used the qualitative approach in this study to refer to individual experiences since it is textual. The qualitative approach allowed a greater level of adaptation and spontaneity between the participants and the researcher. The qualitative approach adapted use of words rather than numbers as data for analysis (Patton & Cochran, 2002:2). During the qualitative study, the participants were free to choose their own words and to enter in greater detail compared to the quantitative study used (Mack et al., 2011:3-4).

The advantage that the researcher found with the qualitative approach is that the collection of a relatively small sample for the study population was sufficient. The sampling used by the researcher was made according to clearly defined criteria and the sample size was adapted to the resources and the time available (Mack et al., 2011:5). However the disadvantage that the researcher found with of sampling technique used was that it was hard to determine to what extent results would be biased by participants' experiences (Patton & Cochran, 2002:2).

Some proponents of case study design give guidance and views on when to prioritize the use of case studies (Baxter, 2008; Yin, 2009; Creswell, 2013). In their views, a case study design should be considered when exploring a complex phenomenon in its natural setting and the focus of the study is to answer the “how”, “what” and “why” questions associated with it. Cohen, Manion and Morrison (2007:9) hold that case studies could be used to portray what it is like to be in a particular situation, to catch the close up reality and the thick description of participants’ lived experiences of thoughts about and feelings for a situation. For the purpose of this research, one single case study of UNRA was used because it’s the only institution responsible for using PPPs to construct and maintain national roads in Uganda.

It was used to examine its stakeholders’ understanding in the use of the different PPP models to ensure VFM in the roads sector in Uganda (Cohen, Manion & Morrison, 2007: 254). Based on this, the case study design was partly considered appropriate in the second phase of the study for understanding UNRA stakeholders’ perceptions in the use of the different PPP models, their understanding of why such PPPs models being used in the road sector may not be the best for a developing country like Uganda and what could be the best PPP model to adopt in implementing PPP projects in Uganda.

The research employed a case study design in order to get an in-depth and contextual analysis of the perceptions of UNRA stakeholders as far as the PPPs being used to ensure VFM in the roads sector are concerned. The case study also helped to answer the research questions pertaining to the concept of PPPs and VFM, types of PPP models, factors affecting such PPPs and the appropriate PPP model to be used by UNRA to ensure VFM in the roads sector in Uganda (Saunders et al., 1997:77).

Amin (2005:201) confirms that case studies can be used in qualitative studies. Therefore, the case study was critical in helping to understand and correctly translate the dynamics of the research problem to each area of study (Sekaran 2003:36; Yazan 2015:139). Such questions guided the researcher in understanding the realities of the perceptions of UNRA’s stakeholders as far as use of such PPP models to ensure

VFM in the roads sector was concerned (Teddlie & Tashakkori, 2009:11). The case study design was used to collect diverse, rich and wide scope of data not only for in-depth understanding of the problem but also for generality of findings (Creswell, 2014:12).

3.3.3 Exploratory design

The research adopted an exploratory design because PPPs are relatively new in Uganda with little available information on research issues in the roads sector (Sekaran 2003:119; Babbie 2007:88). This design focused on satisfying the curiosity and deeper understanding of how the UNRA is using PPPs to implement various construction and maintenance projects in the roads sector so as to develop an appropriate model that can be adopted by future road construction and rehabilitation projects in Uganda (Sekaran 2003:119). This type of research design was also considered appropriate because it helped to unravel why some PPP models in the roads sector have not yet been adopted by UNRA based on principle-agent relationship in line with the already existing PPP policy framework in Uganda (Patton, 2002:193).

Exploratory studies have been criticized for not providing satisfactory answers to research questions due to the failure to identify a representative sample (Babbie 2007:89). This study however ensured that proper sampling techniques are undertaken in order to pick a representative sample. The cross-sectional survey for quantitative data collection and case study and exploratory design for qualitative data collection complemented each other in gathering diverse, rich and wide scope of data not only for in-depth understanding of the problem but also for generality of findings (Creswell, 2014:7).

Emerging issues from quantitative analysis were studied further using qualitative stance that was used to get deep knowledge and holistic understanding of the UNRA stakeholders' perception of the PPPs being used to ensure VFM in the roads sector in Uganda using semi-structured interviews. The Final conclusion drawn from the

overall study was based on data from both phases (Teddlie & Tashakkori, 2009:13; Creswell, 2014:15). This form of mixed methods design helped the researcher in validating and explaining initial results in more depth for holistic understanding of the research problem than either approach alone (Creswell, 2014:14). Therefore, mixed methods used by the researcher sought to explore and explain more the phenomenon for purposes of depth and breadth of understanding, corroboration and generalizability of findings (Johnson & Onwuegbuzie, 2004:5; Creswell, 2014:19). Finally the qualitative results helped the researcher to corroborate quantitative findings on emerging issues and built on them to explain more on challenges and critical success factors associated with implementation of such PPPs in the roads sector from the UNRA stakeholder's perceptions (Creswell & Plano Clark, 2011:25).

The research questions have been answered by both quantitative and qualitative approaches used in the study. Combining two different methodologies with non-exclusive objectives made the results more relevant, powerful and complete (Mack et al., 2011:4). Therefore, both quantitative and qualitative methods have been used to answer the research questions of this study, although the researcher found quantitative methods to be more rigid and inflexible because they aimed at the statistical measurement of a variable through the use of, among others, percentages. In this thesis the use of quantitative methods was limited to the presentation and analysis of percentages (Patton & Cochran, 2002:2).

3.4 Study population

Population is the total number of objects, subjects or elements in a particular group being investigated and from which a specific sample can be picked (Sekaran, 2003:265). The population of a study is also defined by the uniqueness of the constituent members who can provide rich and relevant data on the subject matter due to their unique experiences and circumstances (Maruster & Gijsenberg, 2013:23). Leedy and Ormrod (2013: 188) define population as the totality of all subjects that conform to a set of specifications, comprising the entire group of persons

that are of interest to the researcher and to whom the research results can be generalized.

According to De Vos et al. (2011:9), population is a set of entities where all the measurements of interest to the researcher are represented. Therefore, population is the total number of objects or elements in a particular group being investigated and from which a specific sample can be picked (Sekaran, 2003:265). The unique constituent members of the study were the key stakeholders of UNRA that were involved in the use of different PPP models to implement various projects in the roads sector in Uganda.

The study population therefore consisted of mainly internal and external UNRA stakeholders that are involved in the implementation of different PPP projects in the roads sector in Uganda at both national and local levels. Specifically the total unique constituent members for both quantitative part and qualitative part of this study were the 126 key stakeholders of UNRA that were involved in the use of PPP models to implement construction and rehabilitation projects in the roads sector in different parts of Uganda.

For the quantitative part of the study, the targeted population was 100 key stakeholders of UNRA comprising 5 senior managers, 5 contracts committee members, 10 staff of the procurement and disposal unit, 60 staff from the user departments and 20 District officers. For the qualitative part of the study, the targeted population was 35 key stakeholders of UNRA comprising 30 senior managers and 5 private partners.

This is because some research experts recommend that the number of participants for a qualitative study should be between 5 to 50 people (Shari, 2012: 1319, 1320). These UNRA stakeholders were purposively selected because they were the ones that were directly and indirectly involved in the implementation of the PPP models in the roads sector in Uganda. They had the right knowledge and skills pertaining to the use of PPP models in the roads sector. Indeed, they were the most

suitable respondents that could provide the necessary information required by the researcher (Creswell, 2014:16).

3.5 Sample size and techniques

Leedy and Ormrod (2010:204) define a sample as a sub-section of the population that are engaged in data collection. De Vos et al (2011:10) define a sample as a small portion of the total set of object, events or persons who, together, comprise the focus of the study. In this study, the sample was made up of a total of 126 participants. This was divided into two groups, the first group had 91 participants in the survey group, and the second group had 35 participants for the interviews.

Systematic and simple random sampling techniques for the surveyed group, while purposive and snow ball sampling techniques for participants that were interviewed were used in selecting the target population. The study used probabilistic and non-probabilistic sampling techniques and discussed below:

3.5.1 Probabilistic Sampling Techniques

From the existing probabilistic sampling techniques, simple random sampling and systematic random sampling were employed

3.5.1.1 Simple random sampling

Owing to the nature of the target population for study, which was composed of various groups of UNRA stakeholders that were involved in implementation of PPP projects in the roads sector in Uganda, for quantitative part of the study: the researcher used simple random sampling technique in which each individual from any category of a given target study population had an equal chance of being selected.

This was appropriate for the study in which the objective was to collect quantitative data to generalize findings from the survey sample of the population (Creswell, 2014:20). Simple random sampling was used to select the technical and operational staff from the User departments of UNRA to participate in the study. This technique

was chosen because the category of technical and operational staff had a large population size and as such warranted simple random sampling to minimize sampling bias (Mugenda & Mugenda, 2003:17).

3.5.1.2 Systematic random sampling

Systematic random sampling is defined as a method that adopts a simple random sampling at the beginning in order to establish a sampling interval to create “a quasi-random selection method” (Neuman, 2014:258). In this study, systematic sampling was used to select the key stakeholders of UNRA to participate in the survey. Systematic sampling was used for quantitative part of this research study (Babbie, 2009:27).

Systematic sampling falls under the probability sample where every individual in the population has an equal opportunity of being selected as part of the study (Neuman, 2014:258). The researcher first applied a simple random sample in selecting the first respondent and then the rest were chosen through using sampling interval. Sampling interval informs the researcher on how to select respondents (Neuman, 2014: 258).

In this study, the researcher selected the 1st respondent, and the remaining (90) were selected after counting every 5th person in the population of UNRA stakeholders using Krejcie and Morgan Table. The researcher chose this sampling technique to ensure that every UNRA stakeholder had an equal opportunity of being selected.

Furthermore, respondents who operated in the same area tended to influence each other when filling out questionnaires, so using systematic sampling created a distance between one respondent to the other. In both simple and systematic sampling techniques, the researcher employed Krejcie and Morgan table to arrive at sample sizes of the different categories of respondents from the accessible population of the quantitative part of this study. Since the targeted population for quantitative part of this study was 100, a sample size of 91 respondents was targeted in the study and issued with a structured questionnaire that had closed-ended questions (Morgan & Krejcie, 1970: 2) as shown on the table below:

Table 10.1: Total population, sample size and sampling technique

Population Category for UNRA	Study Population	Sample size	Sampling Technique
Senior managers	5	5	Simple random sampling
Contracts committee members	5	5	Simple random sampling
Procurement and disposal unit staff	10	10	Simple random sampling
Staff from the user departments	60	52	Systematic random sampling
District officers	20	19	Systematic random sampling
Total	100	91	

Source: Krejcie, Robert V., Morgan, Daryle W. 1970. Table modified by researcher.

3.5.2 Non-probabilistic Sampling Techniques

From the existing non-probabilistic sampling techniques, purposive sampling and snow ball sampling were employed to select senior management of UNRA who were targeted due to their perceived knowledge of PPPs they had in the roads sector. This technique was employed following the postulate that if sampling had to be done from smaller groups of key informants, there was need to collect very informative data, and thus the researcher needed to select the sample purposively at one's own discretion (Sekaran, 2003:9).

3.5.2.1 Purposive sampling

Purposive sampling is defined as a process whereby individuals are chosen to be part of the study based on their ability to have vast information in answering research questions of the study (Teddlie & Yu, 2007:77). It is also called judgemental sampling because the researcher selects only cases/ participants that are experts in that study area (Neuman, 2014:274). Purposive sampling is used in naturalistic/ qualitative

research studies. Purposive sampling falls under non-probability framework, which means not everyone in the population can be part of the study (Barbie, 2009:28). For qualitative part of this study, the researcher used purposive sampling to identify adequate sample of participants and other data sources with information richness, appropriateness and adequacy to best address the research questions and fully describe the phenomenon being studied. Holloway and Wheeler (2002:128) assert that sample size does not influence the importance and quality of the study and note that there are no guidelines in determining sample size in qualitative research.

This technique was used to identify key informants from UNRA with knowledge and expertise on PPPs in the roads sector. Purposive sampling helped to identify respondents with expertise & knowledge of the PPPs being used in the roads sector (Amin, 2005:243; Saunders et al., 1997:145; Sekaran, 2003:277). It should be noted that this sampling technique is also recommended for case studies (Saunders et al., 1997:145; Yazan, 2015:141). Purposive sampling was also used to draw samples of technical staff of UNRA PPP unit with at least three year experience of working in the PPP unit that designs plans for implementation of PPPs in the roads sector in Uganda.

This technique was applied to technical staff of UNRA PPP unit because they were the only ones with first-hand information of planning for execution of the PPP projects (Sekaran, 2003:243). This sampling technique has been criticized for having potential for inaccuracy in the researcher's criteria and the resulting sample selection. However, the researcher ensured that the sample was drawn based on the desired characteristics of the sampled elements. For the purposes of this study, the researcher selected participants who were experts in the area of PPPs in the roads sector from UNRA PPP unit.

The researcher chose purposive sampling for this study because he needed to understand the roles, functions and responsibilities of UNRA senior managers and PPP unit as far as the use of PPP Projects to ensure VFM in the roads sector was concerned. 30 stakeholders of UNRA in form of 25 senior managers and 5 PPP unit staff were purposively selected due to their background knowledge, skills,

responsibility and stake they had in the different PPP models being designed by the PPP unit of UNRA to implement various Projects in the roads sector in Uganda, their willingness to participate in the study, appropriateness and adequacy to best address the research questions and fully describe the phenomenon being studied (Ritchie & Lewis, 2003:79). Each Stakeholder of UNRA was purposely identified and interviewed. This strategy is supported by Creswell (2014:16) who holds that it helps the researcher understand better the study problem (Creswell, 2014:4), and also because the study targets only participants with experience in the problem under investigation (Creswell, 2013:2). Another support for purposeful strategy comes from (Maruster & Gijzenberg, 2013:25) who contend that the units of sampling in a purposeful strategy are considered to be having characteristics that can enable an in-depth study and a better understanding of the research problem as basis for selecting the desired representatives of a population.

3.5.2.2 Snowball sampling

Snowball sampling is a strategy, which consists of identifying respondents who are then used to refer a researcher to other respondents (Atkinson & Flint, 2001:1). This method was used to identify the UNRA stakeholders that could lead the researcher to the actual respondents with the right information concerning some critical technical aspects about the PPPs being used in the roads sector in Uganda (Saunders et al., 1997:147). In addition the researcher was required to establish some degree of trust in order to initiate contact especially among some suspicious stakeholders of UNRA who were reluctant to participate in the study (Atkinson & Flint, 2001:2). The researcher traced such UNRA stakeholders with guidance from the UNRA district officials and then asked the identified stakeholders to pinpoint other members who were also directly involved in the implementation of PPP projects (Atkinson & Flint, 2001:2). Trust was, therefore, developed as acquaintances or peers made referrals. A total of 5 respondents from different UNRA regional offices were selected for the study using snow ball sampling technique (Berg, 2001:33; Kothari, 2004:59). In this case, 4 respondents from the all the regions where UNRA is implementing PPP projects were considered for the study under snow ball sampling technique.

Furthermore, snowball sampling was also used to get more in depth qualitative data from 1 staff of one of the UNRA's private partners. This was especially when he referred the researcher to other experts with direct knowledge, expertise and authority in providing useful information pertaining to how they are working with UNRA to implement a certain PPP model in the roads sector in Uganda. This enhanced completeness of information gathered and credibility of interpretations generated (Tashakkori, Onwuegbuzie & Teddlie, 2008).

3.6 Data collection methods and techniques

During the study, the research questions were answered using a combination of both secondary and primary data (Saunders, Lewis, & Thorn hill, 1997:12). The quantitative part of the study used questionnaire survey to collect data for generalization and credibility of study findings. The qualitative part of the study used in-depth interviews and documents review to collect adequate and rich qualitative data for deeper understanding of the UNRA stakeholders' perceptions in the use of PPPs to ensure VFM in the road sector in Uganda. All the tools were developed with guidance from Yin's (1984:15) principles of designing tools. The following are the data collection methods and instruments that used in the study.

3.6.1 Quantitative data collection methods

Quantitative data was collected from a relatively larger sample of 91 stakeholders using a structured questionnaire with closed-ended questions (Johnson & Onwuegbuzie, 2004:17; Creswell, 2014:21). The following method was used in the quantitative data collection.

3.6.1.1 Questionnaire Survey

A survey is a quantitative research design used to collect numeric data. Leedy and Ormrod (2013:189) define survey research as a method of soliciting information about people, their experiences, attitudes, behaviour and beliefs through asking them different questions and tabulating their responses. Neuman (2014:317) points out those surveys are underpinned by a positivist paradigm that embraces empiricism

(the application of scientific methods in obtaining factual data). A survey seeks to collect original data for descriptive purposes (Stangor, 2011:8). There are different types of surveys namely: web survey, experiment and questionnaire survey. This study used a questionnaire survey as a quantitative data collection method.

A questionnaire survey gathers numerical information, measures, scrutinizes and generalizes it to the larger population (Thornhill, 2007:16). A survey applies a cross-sectional design to collect data with the use of a questionnaire or structured interviews (Bryman, 2004:43). In this study, a semi-structured questionnaire was used as a data collection instrument. A questionnaire is an appropriate instrument used to collect large-scale data from a relatively large number of respondents from their natural setting in a cost-effective way (Sekaran, 2003:120). In this study, a semi-structured questionnaire with mainly closed ended questions was used to collect quantitative data. A large part of the questionnaire had five-point Likert scale questions based on research questions to which respondents rated according to their responses.

The advantage of using a questionnaire survey is that it allows the researcher to collect information from a large population, hence it is easy to generalize the research findings (Wyse, 2012:5). Neuman (2014:317) reiterates that the advantage of a questionnaire survey is hinged on the fact that data cannot be manipulated, for example, the data collected from experiments. The disadvantage of questionnaire surveys is that the respondents may not provide honest answers as they do not want to present themselves in a negative manner (Neuman, 2014: 317). A questionnaire survey method was suitable for this study because the researcher needed to solicit more information on the how PPPs are being used by UNRA to ensure VFM in the roads sector from such relatively large population. This allowed the researcher to conceptualize the concepts of PPPs and VFM holistically from different perspectives. The variables were also developed from the literature on different PPP models, factors affecting such PPP models in the roads sector and were piloted to some purposively selected participants (who did not participate in main study) mainly from postgraduate students of Public Administration from UMI. In addition some questions seeking demographical information were asked to determine the involvement,

distribution and roles of the UNRA stakeholders with regard to use of PPPs to ensure VFM in the roads sector.

3.6.2 Qualitative data collection methods

In qualitative study, in-depth interviews and documents review were some of the key ways that the researcher used to collect data on people's experiences and perceptions for deeper understanding of the phenomenon (Joubish, Kharram, Ahmed, Fatima & Haider, 2011). The following data collection methods and instruments were used in qualitative data collection.

3.6.2.1 Interviewing

An interview is a qualitative research design which seeks to collect data in form of words and pictures. Kumar (2011:144) defines an interview as "any person-to person interaction either face to face or otherwise between two or more individuals with a specific purpose. Burns (1997:329) as cited in Kumar (2011) elaborated that an interview is a verbal communication which is conducted through face-to-face or over a telephone in which the interviewer seeks to elicit information from the interviewee.

To be more precise, the qualitative data collection approach used in this study was a semi-structured interview. In this study, face-to-face interviews were conducted with the key informants such as the senior managers of UNRA. The advantage of using interviews was that it enabled the researcher to build rapport with participants and this allowed them to participate freely and be involved in the study. It also allowed the interviewer to probe for more information through asking open-ended questions (Leedy & Ormrod, 2010:184). Furthermore, interviews led to a high response rate as in this case, they were conducted face-to-face (Leedy & Ormrod, 2010:186). In this study, the disadvantages of interviews were that they were time-consuming since a lot of people were interviewed. They were also expensive to administer as the researcher incurred huge travelling costs (Leedy & Ormrod, 2010:188). A study by Moyo (2011:6) recommends that both questionnaire survey and interviews can be used at the same time for more effective data collection. In qualitative study, in-depth interviews are one of the key ways of collecting data on people's experiences or

perceptions for better and deeper understanding of the phenomenon at hand (Joubish, Kharram, Ahmed, Fatima & Haider, 2011:7). The interview method provided an in-depth data to meet the study objectives which was not possible to get using questionnaires.

The researcher conducted face-to-face in-depth interviews using un-structured and open ended interview questions to key UNRA stakeholders in regards to their perception on the concepts of PPPs and VFM, different PPPs models in the road sector in Uganda and the factors affecting such PPP models, to yield adequate narrative data that could best inform the study. In this case the interviewer had opportunity of freedom to ask additional, non-planned questions according to the responses of the participants. This flexibility provided the researcher with a better global understanding of the research field (Lessa de Oliveira, 1982: 12-13). One of the interviewees in this study from Mbale UNRA regional centre was not available for a discussion. A written interview therefore had to be conducted instead. Of course, this was not ideal but remained better option than no interview at all.

The researcher made sure that the Interviews conducted were systematic, credible, and transparent which enabled the study participants to reproduce the obtained expected results (Patton & Cochran, 2002:11). Interviewees were selected mostly according to their know-how in the domain of PPPs and their position within UNRA, but also according to their availability and willingness to take part in the study. Most of the time the respondents were contacted first by email and then by phone call. People from different regions, departments and offices were contacted. Interviews were tape-recorded where necessary and whenever it was possible; in all cases except one. However the researcher also took notes, with the tape allowing verification of what had been said, and to complete notes afterwards. Most of the participants interviewed were from the UNRA PPP Unit that provided the researcher with all the information pertaining to the PPP Projects being designed for ensuring VFM in the roads sector in Uganda (Sobuza, 2010:71). Most questions focused on some key constructs and issues like what do the UNRA stakeholders understand as far as the concepts of PPPs and VFM are concerned, What are the different PPP

models being used by UNRA to ensure VFM in the roads sector and what are the factors affecting the use of such PPP models and what is the appropriate PPP model that can be used in the delivery of road sector services in Uganda. Questions were formulated from the emerging issues identified from quantitative analysis for in-depth analysis of the phenomenon under the study.

3.6.2.2 Documents review

Documents analysis involved a review of relevant documents which contained already existing information related to this study (Saunders et al., 1997:158). This method of collecting secondary data was used to corroborate data collected from other sources. Documents review checklist on key issues pertaining to use of the different PPP models by UNRA was used in order to get some relevant and complementary secondary data. In order to assure the quality of the interviews and to be able to lead them properly, the researcher ensured that he did a thorough study of the secondary literature. In the preceding chapter 2, after an in depth review of literature, the concepts of PPP and VFM, different PPP models used to ensure VFM and factors affecting such PPP models were identified and analysed, which served as discussion points during the interviews with experts.

However, the researcher realised a few disadvantages as he was using documents review because they were time consuming and required careful preparation to guarantee a certain level of reliability (Robson, 2002:273; Rotter & Özbek, 2010:12-14). The review attempted to capture all the relevant information from scholarly and practitioner writing that answered the key research questions. In this case therefore, the researcher reviewed diverse project reports, academic journals and policy documents. However, a critical review of literature reveals that most of the existing information swotted provides a generic overview of the nature of PPP structures or contracts defined, implemented and applied differently in different places and contexts. The review supported the development of the conceptual framework by guiding an inquiry into the appropriate theory, PPP designs and models, implementation strategy, deliverables and earmarked relevant attributes that were prone to challenging the principal agent relationship in the roads sector (Saunders et

al., 1997:158). It was based on this background that the study derived themes which included; the concepts of PPPs and VFM, different PPP models used in the roads sector, factors affecting such PPP models and the appropriate PPP model that can be used to ensure VFM in the roads sector to form the conceptualisation of this study.

The different documents reviewed include government policy guidelines on PPPs in the road sector, UNRA administrative documents for PPPs, PPPs contract performance records, policy briefs on PPPs in the road sector, PPPs contractual document or Memorandum of understanding (MoU) between UNRA and private sector firms, monitoring and evaluation reports on implementation of PPP projects, road sector policy reforms for Uganda and any other archival or file records with relevant information on the PPPs implementation in Uganda.

Secondly the researcher embarked on reviewing secondary sources such as online materials, peer reviewed articles, reports, print media, policy and acts' documents pertaining to PPPs in the roads sector. The on line materials included; databases such Emerald Insight, Google scholar, WB Group Archives, Universal Journal of Management, as Ebsco Host, JSTOR (Journal Storage). The researcher also used other search engines such as Yahoo and Google to access journals on PPPs in the roads sector at a global, continental, regional, national, local and organizational level, with special reference to UNRA.

The researcher went ahead to visit various websites of different bilateral and Multilateral agencies such as African Development Bank (ADB), Asian Development Bank (ADB), WB, IMF and International Road Federation (IRF) to access more information on funding of projects in the road sector, using PPP arrangements. On peer reviewed articles, the researcher sought for critical understanding of the certain key issues in the area of his study by obtaining publications and scholarly articles from international, regional, national and local institutions such as those of WB and ADB from their Ugandan country offices, PPP Unit (PPPU) in the MOFPED, MOW&T, UNRA, Uganda investment authority (UIA), Private sector foundation (PSF) and Civil Society Organizations(CSOs), which are key players in the use of PPPs in the roads sector in Uganda.

On reports the researcher reviewed various monthly, quarterly and annual reports published by the international, regional, national and local institutions that are associated with PPPs in the roads sector such as WB and ADB, African Development Fund (ADF), Asian Development Bank, PPPU of the MOFPED, MOW&T, UNRA, UIA, PSF, CSOs, Uganda Bureau of Statistics (UBOS), Uganda National Bureau of Standards (UNBS) and Consulting firms like Deloitte and KPMG.

On print media, the researcher reviewed the information related to PPPs in the road sector from the text books, circulars, periodicals, readers' digests, magazines and newspaper articles. The researcher finally reviewed all the documents pertaining to PPPs' legal framework such as Uganda's: UNRA Act 2006, PPP Policy 2010, PPP Act 2015, Uganda Roads act 2008, National Development Plan II and Vision 2040.

The reviewing of existing PPP project documents in the roads sector and all other secondary sources of literature helped the researcher to answer the research questions thereby, getting acquainted with the proposed PPP project design, implementation strategy and deliverables.

They also enabled the researcher to identify the different PPP models, their associated challenges and critical success factors in the implementation of PPP Projects in the roads sector so as to suggest the appropriate PPP model to be used by to ensure VFM in implementing various projects in the roads sector in Uganda (Saunders et al., 1997:159).

3.7 Data collection instruments and Administration

Data collection instruments are tools used to collect data from participants or respondents of the study. Since this study used both qualitative and quantitative research designs, the instruments were an in-depth interview guide, a semi-structured questionnaire and a documentary check list. Therefore during the study, the research questions were answered using a combination of secondary and primary data (Saunders, Lewis, & Thorn hill, 1997:12).

The quantitative part of the study used questionnaires to collect data for generalisation and credibility of study findings. The qualitative part of the study used

in-depth interviews to collect data for deeper understanding of PPPs in the road sector in Uganda. While, documents review was used to get secondary data during review of related literature about key aspects pertaining to PPPs and VFM in the roads sector generally. All the tools were developed with guidance from Yin's (1984:15) principles of designing tools. The following were the data collection techniques and instruments used in the study

3.7.1 Semi-structured questionnaire

Leedy and Ormrod (2011:205) define a questionnaire as an instrument for data collection which is outside physical reach of the researcher. These authors state that for valid and reliable quantitative data to be collected, the researcher should structure a questionnaire in the simplest form and in a language that is understandable by respondents.

A semi-structured questionnaire has both the features of a structured and un-structured questionnaire. This means it uses both open and closed-ended questions in soliciting information from respondents. Questionnaires were used to collect data from the Technical and Operational staffs of UNRA. 91 questionnaires were randomly distributed to 91 staff members of UNRA.

The questionnaire was used in this case because it had proved to be an invaluable tool to be used in collecting a wide range of information from a large number of individuals especially when it came to people like the Technical Staffs and Operational Staffs from the different user departments of UNRA (Sekaran, 2003: 120). The questionnaires proved to be more popular with the study participants because the respondents filled them in at their own convenience and so were appropriate for such large samples of respondents selected.

The questionnaire was designed with both open and closed ended questions (Amin, 2005:19). According to Downey (2010:18), open-ended questions allowed the respondents to express their feelings and thoughts freely and fully while closed-ended questions allowed for a specific answer. The semi-structured questionnaire for

this study consisted of 33 open and closed-ended questions. These were sub-divided into five sections as follows:

- Section A: Background Data on UNRA stakeholders
- Section B: Perception of UNRA stakeholders on the concepts of PPPs and VFM
- Section C: Different PPP models used by UNRA to ensure VFM in the roads sector.
- Section D: factors affecting such PPPs in the roads sector.

The researcher personally administered the questionnaires to the respondents in order to make sure that all questions were responded to. The main advantage of using a semi-structured questionnaire was that the respondents' response rate was high as the questionnaire offered anonymity (Kumar, 2011:20).

Furthermore, it allowed the researcher to gather more data from a relatively population of the study. Lastly, the researcher was also able to clarify to the respondents on the questions that were ambiguous (Leedy & Ormrod, 2011: 206).

However the questionnaires used were limited to individuals who could read and write (Kumar, 2011:21). Babbie (2008:30) states that if the questions are ambiguous or not clear, the respondents may not answer them.

In an effort to overcome these challenges, the researcher explained to the respondents in vernacular language the questions they did not understand. For those who could not write, the researcher filled in the questionnaire on their behalf. A semi-structured questionnaire was suitable for this study because the researcher needed to gather different opinions and perspectives of the study participants in order to quantify them.

3.7.2 Interview Guide

An interview guide was used as an instrument in collecting qualitative data. Cohen and Cabtree (2006:10) assert that it gives freedom to participants to express their views and thoughts. In this study, individual interviews were conducted among the

key UNRA stake holders from both head office and regional offices. The researcher prepared and used a semi-structured interview guide to conduct interviews specifically with UNRA's senior managers, UNRA's PPP unit staff and some staff of private companies that partner with UNRA in implementing PPP Projects in the roads sector.

An interview guide was suitable for this study because the researcher sought to gather vital information from the key informants hence using this form of instrument solicited more information from such experts. Interview guides were used because they were thought to provide in-depth information about a particular research issue or question.

Still, interviews were used because they made it easy to fully understand someone's impressions or experiences, or learn more about their answers as compared to questionnaires. According to Mugenda and Mugenda (2003:15), interviews were advantageous in that they provided in-depth data which is not possible to get using questionnaires. The semi-structured interview guide consisted of 26 questions which were open ended. It was sub-divided into 3 sections which were as follows:

- Section A: Interview questions on stakeholder perception of the concepts of PPPs and VFM.
- Section B: Interview questions on different PPP models used in the roads sector
- Section C: Interview questions on factors affecting Such PPP models.

According to De Vos (2005:9), the use of an interview guide as a tool for data collection by the researcher had the following advantages. Firstly, it had a higher respondent rate. Furthermore, it allowed the researcher to probe for more information and clarify where the participants' views were ambiguous. Kumar (2011:18) states that an interview guide is more suitable for complex phenomena hence it fits well in this study of PPPs and VFM.

Lastly, an in-depth interview guide allowed the researcher to gain a deeper understanding of PPPs and VFM in the roads sector from the key informants. The disadvantage of using an interview guide by the researcher was that, it was expensive because the researcher had to incur telephone and travelling cost in arranging the meeting (De Vos, 2005:12). Kumar (2011:19) contends that the quality of information gathered depends on the quality of interaction between the interviewer and the interviewee.

Therefore in cases where the interviewees were not interested in the subject matter, he or she would give biased information. In overcoming the challenges above, the researcher used the opportunity of travelling with the UMI vehicle on some of the days it would be taking staff to the UMI upcountry centres of Gulu, Mbale and Mbarara. The researcher asked the authorities of UNRA regional offices to conduct the interviews for all the respondents from each regional office on the same day to minimise time.

3.7.3 Documents review checklist

Documents review checklist involved an outline of a number of relevant documents, which contained already existing information related to the study that the researcher was able to review as far as PPPs and VFM were concerned (Saunders et al., 1997:158). Documents review checklist was therefore used to corroborate data collected from other sources.

The researcher used a document review checklist to critically examine the literature on key issues pertaining to the concepts of PPPs and VFM, different PPP models being used to ensure VFM in the roads sector and factors affecting such PPPs in road sector in order to get some relevant and complementary secondary data to partly answer the research questions and achieve some study objectives at hand.

In order to assure the quality of data, the researcher ensured that he did a thorough study of literature. In the preceding chapters of 2, after an in depth review of literature, concepts on PPPs and VFM, different PPP models being used to ensure VFM in the

roads sector and factors affecting such PPP models were identified and critically analysed from peer reviewed journey articles and different documents pertaining to PPPs and VFM in the roads sector (Robson, 2002:273; Rotter & Özbek, 2010:12-14).

The review captured all the relevant information from scholarly and practitioner writing that answered the key research questions. Guided by a document review checklist, the researcher reviewed diverse project reports, academic journals and policy documents. However, a critical review of literature revealed that most of the existing information identified provided a generic overview of the above issues.

The review supported the development of the conceptual framework by guiding an inquiry into the appropriate theory, the concepts of PPPs and VFM, PPP models and factors affecting such PPP models (Saunders et al., 1997:158). It was based on this background that the study derived themes, which included the concepts of PPPs and VFM, different PPP models and factors affecting such PPP models (Saunders et al., 1997:159).

3.8 Measurement of variables

Brymen & Bell (2007:10) support the use of nominal, ordinal, and Likert type rating scales during questionnaire design and measurement of variables. The nominal scale was used to measure such variables as PPP models used by UNRA and factors affecting such PPP models. The ordinal scale was employed to measure such variables as age, level of education, and years of experience of UNRA staff that were key respondents.

The five point Likert type scale (1 - strongly disagree, 2 -disagree, 3 - not sure, 4 - agree and 5 - Strongly agree) was used to measure variables to do with stakeholder perceptions on concepts of PPPs and VFM, PPP models being used by UNRA in the roads sector and factors affecting such PPPs in the roads sector in Uganda. The choice of this scale of measurement was that each point on the scale carried a numerical score used to measure the respondent's understanding of PPPs and VFM in the roads sector and it was the most frequently used summated scale in the study of the stakeholders' understanding of a given phenomenon.

According to Mugenda (2003:16) and Amin (2005:22), the Likert scale is able to measure perceptions, values and behaviours of individuals towards a given phenomenon.

3.9 Pre-testing the Questionnaire

Pre-testing is a useful technique for detecting and eliminating potential errors before the main survey (Martins et al., 1996:90). The questionnaire was pre-tested to identify and correct deficiencies and to ensure that the questionnaire met the researcher's expectations in terms of the required information (Aaker et al., 2004:329).

The items were tested for clarity and appropriateness in a pre-test. Respondents were requested to complete the questionnaire and indicate any ambiguity or difficulty that they experienced in responding to the questions. Some items were eliminated or modified on the basis of their feedback as was suggested by Diamantopoulos and Souchon (1999: 11).

Consequently, before the main study, the researcher piloted the questionnaires, following the ideas of Andrew and Halcomb (2006:149). The primary purpose was to establish the validity and reliability of the instruments. The researcher personally administered the questionnaires to the respondents in order to make sure that all questions were responded to.

3.10 Validity and Reliability of Data

Valid and reliable qualitative and quantitative data contributed to right finding in mixed methods that the researcher used in the study (Creswell, 2014:21). Reliability and validity are applied in scientific studies to measure the trustworthiness of research findings (Leedy & Ormrod 2013:90).

3.10.1 Validity

Validity refers to the extent to which the empirical measure adequately reflects the real meaning of the concept under consideration (Babbie, 1990: 133). In quantitative research, validity refers to whether one can draw meaningful and useful inferences from scores on the research instruments (Creswell, 2014:20). It is the accuracy of

data and reasonableness of data-based interpretations, or adequacy and appropriateness of inferences based on research results (Mabry, 2008:17).

It implies the extent to which the research instruments accurately and adequately measure what they are intended to measure and whether data represents the content and variables they are assumed to capture (Sekaran, 2003:18; Creswell, 2014:22). Validity also refers to accuracy and significant of the research study (Leedy & Ormrod, 2010:96).

In order to determine validity of a study, the researcher ensured that the research findings were generalized in other social contexts, and the conclusions were drawn strictly from the data provided by the respondents (Leedy & Ormrod, 2010:97). There are various ways of ensuring validity for quantitative study, and these are through content validity, construct validity and external validity.

For the purpose of this study, external validity was applied. External validity refers to the “extent to which its results apply to situations beyond the study itself” (Leedy & Ormrod 2010:98). In this study, a multi-method approach which falls under external validity was used to test for trustworthiness of quantitative data. In this study, a mixed method approach of qualitative and quantitative study was used to ensure that the research problem is holistically scrutinized. The advantage of applying this approach was that it embraced the principle of complementary which states that the strengths of the other approach will be used to overcome the weakness of the other approach and vice versa (Creswell, 2007: 19).

3.10.1.1 Validity for quantitative research

In quantitative research, external validity is all about generalizability of findings. It can also be in form of content, predictive and construct validity. In the quantitative phase of this study, validity was enhanced by triangulating data sources or use of multiple information sources of data, use of different data collection methods and instruments, and corroboration of QUAN results with QUAL findings in this study (Teddlie & Tashakkori, 2009:13).

There are various forms of standardized measurements used for quantitative data. Below is an explanation on how quantitative findings were tested for validity and reliability in this study. The validity of the questionnaires was established using the content validity test. Using the ratings, the content validity indices were computed. The content validity index of internal consistency was used to compute the reliability of the measures of the variables of the study using various questionnaire items administered to respondents (Kothari, 1990:18) as shown in the table 3.1 below:

Table 3.1: Content Validity Indices

Variable	Description	No. Of Items	Content validity index
Independent	PPP models	12	.876
	Challenges of PPPs	9	.800
	Critical success factors of PPPs	10	.799
Dependent	Value for money	8	.812

Source: Primary data (2018)

According to Content validity Index, the questionnaire was considered valid since all the coefficients in Table 3 were above 0.7 which is the least recommended CVI in survey studies (Amin, 2004:22; Gay, 1996:13).

3.10.1.2 Validity for qualitative research

In qualitative research, validity is all about data credibility in terms of whether the research findings are credible interpretations of participants' responses and data transferability in regards to whether the research findings can also apply to others situations outside the study.

In qualitative phase of this study, validity was ensured through number checking, triangulation by using multiple independent sources of data and methods of probing in data collection like in-depth interviews and documents review with key informants.

The researcher had prolonged time with participants in the field which built trust that formed the basis for eliciting more rich and valid data on the phenomenon of the study (Kumar, 1996: 141).

3.10.2 Reliability

Reliability refers to the extent to which a measurement scale or a test is dependable, consistent, predictable and stable (Kumar, 1996: 142). Literally, it is the extent to which the source of the data and the data itself can be relied on (Pierce, 2007:9).

It can be reflected by conformability which is the extent to which study findings are supported by data. Sekaran, (2003:122) defines reliability as the degree of consistency that the instrument demonstrates at different point in time.

Therefore it describes the consistency and stability in obtaining the same results after measuring same variables repeatedly across time (Sekaran: 2003: 122; UNAIDS, 2010:26).

Reliability also refers to the consistency in results yielded by the same instruments when the unit being measured has not changed (Leedy & Ormrod, 2013:91). It is all about whether scores are stable when the research instrument is administered again and if responses to particular items are consistent across variables (Creswell, 2014:23). Consistency is the main measure of reliability.

3.10.2.1 Reliability for quantitative research

In quantitative research, reliability is the degree of consistency and stability with which both data and research tools measure and represent what they are intended or supposed to measure when used overtime.

There are three ways of testing reliability in quantitative data, that is; test- retest, inter-rater and internal consistency. For the purposes of this study, inter-rater reliability was used. By definition, inter-rater reliability refers to when more than one individual evaluate the same object and reproduce similar judgements (Leedy & Ormrod, 2013:91-92).

The quantitative data obtained in this study was analyzed through the Statistical Package for Social Sciences (SPSS) software. In the quantitative phase of this study, reliability was enhanced by the researcher through consulting experts on research tools and contents, reviewing, testing and pre-testing instruments like questionnaires before and during the pilot survey.

The researcher also used SPSS computer software to test the reliability of the instrument such as questionnaires using Cronbach's alpha test (Amin, 2005:31). The researcher also allowed two statisticians to run the same results in order to ascertain the trustworthiness of the findings.

After pilot testing in the field, reliability of the instrument, on multi-item variables (i.e. PPPs and VFM) was tested via the Cronbach Alpha Method provided by Statistical Package for the Social Scientists (Foster, 1998:17).

The researcher used this method because it was expected that some items or questions would have several possible answers. The researcher established reliability of the questionnaires by computing the alpha coefficient of the items (questions) that constituted the dependent variable and that of the items that constituted the independent variable. The results are as on Table 3:

Table 0: Reliability indices for the respective sections of the questionnaire

Variable	Description	No. of Items	Cronbach alpha
Independent	12	9	.922
	9	10	.897
	10	10	.827
Dependent	8	9	.913

Source: Primary data (2016)

According to Cronbach Alpha Coefficient Test (Cronbach, 1971), the questionnaire was considered reliable since all the coefficients in Table 3 were above 0.7 which is

the least recommended CVI in survey studies (Amin, 2004:22; Gay, 1996:13). After the approval of the proposal, the researcher designed the questionnaire, validated it then tested its reliability using the Cronbach Alpha method. After modifying the instrument, the researcher secured a letter of introduction to assist the researcher proceed with the study.

3.10.2.2 Reliability for qualitative research

In qualitative research, reliability is the consistency, dependability and stability of data or responses on given constructs under investigation. Literally, it is the extent to which the source of the data and the data itself can be relied on (Pierce, 2007:10). It can be reflected by conformability which is the extent to which study findings are supported by data.

In the qualitative phase of this study, the researcher ensured reliability by using good quality instruments for capturing responses or narratives like tapes for recording, transcribing, coding and integration of data collected and analyzed, thick description and formulation of interpretation or conclusions, constant comparison and cross-checking of transcripts and codes for consistent results (Creswell, 2014:24).

3.11 Data trustworthiness for qualitative data collection Instruments

Qualitative and quantitative studies do not have the same evaluation criterion in ensuring the accuracy of their data because their approaches are underpinned by different methodologies and philosophical assumptions. A quantitative approach uses internal validity, external validity, and objectivity and constructs validity in determining data trustworthiness. Qualitative approach has its own strategies which are contrary to those used in quantitative approach.

Guba and Lincoln (1982:3-4) point out that “internal validity should be replaced by credibility, external validity by transferability, reliability by dependability and objectivity by conformability” in quantitative and qualitative studies. In determining the trustworthiness of qualitative data, the following strategies were applied: credibility,

dependability, conformability and transferability in this study (Anney, 2014:17; Schwandt, 2007:9).

3.11.1 Credibility

Credibility refers to the magnitude at which data collected and analyzed is believable (Leedy & Ormrod, 2010:99). The authors further explain that validity of qualitative data is subjective since there are multiple realities constructed by different people in their social context. Therefore, it is every reader's position to evaluate the credibility of the study based on their own understanding. In support of the above argument, Smith and Ragan (2005) observe that there is no single reality, for every person constructs his or her person reality.

To this end, in qualitative studies reality is relative as it depends on the meaning people construct in their social context. Scholars such as Graneheim & Lundman, (2004:13); Lincoln and Guba, (1985:4) remark that credibility verifies whether the findings signify plausible information collected from the subject's original version of understanding phenomena. Babbie (2009:28) is of the view that credibility is similar to internal validity used in quantitative studies in which the researcher seeks to view how the research findings match reality. There are various forms of checking credibility for qualitative findings which are: member checking, multiple sources of data collection and pilot testing of instruments. In this study, the researcher used multiple sources in data collection. This entails the use of triangulation of qualitative and quantitative approaches. Onwuegbuzie and Leech (2007:239) define triangulation as the use of multiple theories, methods and sources to gain substantiating evidence. The advantage of using this strategy is that, it is embodied by the principle of complimentary.

3.11.2 Dependability

Dependability is referred to as "the stability of findings over time" (Bitsch, 2005:86). It involves the researcher assessing and analyzing the recommendations, findings and interpretations of the study (Cohen et al., 2011).

Dependability refers to the replication of findings with the same participants in the same environment and still brings similar results (Babbie, 2009:278). It is similar to reliability used in quantitative studies whereby the research findings should maintain consistency when being observed under same circumstance (Lincoln & Guba, 1985:5). There are various forms of testing dependability of findings, which are: coding and re-coding and peer examination. In this study, the researcher used peer examination. Peer examination refers to when the researcher discusses the research process, data analysis and findings with unbiased colleagues who have experience in qualitative studies (Anney, 2014:279). Furthermore, it requires the researcher to be honest in elucidating all the research processes and methods so that the peers can analyse it reflexively (Bitsch, 2005: 279). In this study, the researcher used postgraduate students who are doing Public Administration at UMI and who have experience in qualitative studies.

3.11.3 Conformability

Conformability refers to the extent at which research findings can be verified and corroborated by other researchers (Baxter & Eyles, 1997:12). It seeks to ensure that data and interpretation of the findings were not falsified by the researcher (Tobin & Begley, 2004:392). In this study, the researcher outlined clearly how the data was collected and analysed so that readers may test conformability of the findings.

There are various strategies used to assess conformability which are data audit and triangulation. In this study, triangulation was applied in testing conformability of the study. There are many types of triangulation, namely: triangulation of measure, triangulation of observers, triangulation of theory and triangulation of methods (Neuman, 2006:149-150). In this study, the triangulation method was used in which qualitative and quantitative were integrated.

3.11.4 Transferability

Transferability is similar to external validity which seeks to uncover whether the findings of a study can be generalized in other context (Anney, 2014:227). Generalization is a challenge in qualitative studies as people have multi-interpretation

on the same social phenomena (Guba & Lincoln, 1985:6). There are various ways of testing for transferability, and these are through using thick descriptions via the use of verbatim quotations of participants and through using a detailed description of research context. In this study, the researcher applied a detailed description of the research context. This involved describing thoroughly the research methods and assumptions underpinning the study (Babbie, 2009:279). In the same vein, Anney (2014:278) views the detailed description of research context as explaining the research processes from the methodology used, data instruments, data collection, study context to the finalisation of the last report. In this study, the researcher outlined clearly how this research was carried out.

3.12 Data Analysis Strategy and techniques

In this mixed methods design, integration of two methods was done in the interpretation stage in which qualitative results built upon the quantitative results. The qualitative findings not only built on quantitative findings but also validated the quantitative results after analysis to increase credibility, consistency and generalisability of final results for deep and broad interpretation and understanding of the phenomenon under investigation (Ashatu, 2009:7; Creswell, 2013:4).

The initial quantitative findings in form of descriptive statistics for PPPs and VFM contributed to measurements with regard to stakeholder perceptions on the concepts of PPPs and VFM, PPP models being used in the roads sector and factors affecting such PPP models on which the next qualitative phase was based (Hsieh & Shannon, 2005:4; Schutt, 2011:322). The qualitative results helped the researcher to corroborate quantitative findings on emerging issues and built on them to explain the different PPP models being used by UNRA to ensure VFM and the factors affecting such PPP models used in the roads sector from the UNRA stakeholders' perceptions (Creswell & Plano Clark, 2011:25).

3.12.1 Quantitative data analysis

The quantitative data collected in first phase was organized, categorized, coded on excel package and transformed into relevant values and analyzed using Statistical

Packages for Social Sciences (SPSS) software. The research was assisted by a data analyst from the department of Information Technology of Makerere Business School in entering and running data on Statistic Package for the Social Sciences (SPSS) software. The SPSS package provided the means for testing the statistical implications of contingency table (Bailey, 2001:17).

Descriptive statistics were used to analyze data to address quantitative research questions and bring out clearly and precisely the perception of UNRA stakeholders on the concepts of PPPs and VFM, different PPP models used to ensure VFM in the roads sector in Uganda and the factors affecting such PPP modes in the roads sector in Uganda. There such quantitative data was first coded on excel package. In such a case, the collected raw quantitative data was organised, edited and entered into the computer by the researcher using SPSS.

Then the researcher computed the entered data using bivariate analysis with the help of descriptive statistical techniques to find out the mean, mode, median, standard deviation, range, frequency distribution and coefficient of variance as far as the responses from study participants on UNRA stakeholders on the concepts of PPPs and VFM, different PPP models used to ensure VFM in the roads sector in Uganda and the factors affecting such PPP modes in the roads sector in Uganda were concerned. The researcher also used inferential statistics and did a bivariate analysis using correlation analysis techniques of spearman's rank correlation coefficient, Kendal's rank correlation coefficient and product moment correlation coefficient to find out the different patterns and relations regarding different PPP models, challenges of PPPs, critical success factors of PPPs and appropriate PPP model to be used by UNRA in the roads sector. Other bivariate analysis techniques the researcher used are chi square, t test and anova.

Therefore the statistical study of the data was done based on the responses from 62 study participants that were the only ones that were obtained and were appropriate for such a quantitative study because such an analysis was necessary in the framework of this study. This is because, while 91 questionnaires were sent in advance by the researcher to the participants in order for them to prepare, only 62

responses were obtained. The questionnaire used by the researcher for quantitative approach in this study was based on a strong theoretical framework (Mack et al., 2011:3).

Details of finding from quantitative data analysis are given the proceeding chapter of presentation of research results. The results of quantitative data were presented in forms of tables, bar graphs and pie charts. The percentages attached to the tables, bar graphs and pie charts formed the principal basis of comparison amongst the variables that were analyzed. The researcher analysed the quantitative data to find out which PPPs projects are mostly being used to ensure VFM in the roads sector in Uganda.

The data analysed as far as the perception of UNRA stakeholders on the concepts of PPPs and VFM, different PPP models used to ensure VFM in the roads sector in Uganda and the factors affecting such PPP modes in the roads sector in Uganda were concerned was presented and discussed according to the nomenclature presented in the proceeding chapters of 4 & 5. As the researcher was analysing data, he was able to observe certain patterns that were compared with the ones identified in chapter 2 in terms of the perception of UNRA stakeholders on the concepts of PPPs and VFM, different PPP models used to ensure VFM in the roads sector in Uganda and the factors affecting such PPP modes in the roads sector in Uganda.

The researcher then determined the extent to stakeholders of UNRA theoretically and conceptually understood the the concept of PPPs and VFM, different PPP models used to ensure VFM in the roads sector in Uganda and the factors affecting such PPP modes in the roads sector in Ugandain the roads sector in Uganda. The researcher went ahead to compare the identified patterns and relationships of the perception of UNRA stakeholders on the concepts of PPPs and VFM, different PPP models used to ensure VFM in the roads sector in Uganda and the factors affecting such PPP modes in the roads sector in Uganda. As he compared the identified patterns and relationships, he took into account experts' opinions in line with the literature reviewed on the the perception of UNRA stakeholders on the concepts of PPPs and VFM, different PPP models used to ensure VFM in the roads sector in Uganda and the

factors affecting such PPP modes in the roads sector in Uganda. The quantitative aspect of this analysis helped the researcher determine whether UNRA applies best practices when using different PPP models to ensure VFM in the roads sector. Therefore, the researcher looked at the value of the different PPP projects in financial terms, in order to determine their relevance as far as ensuring VFM in the roads sector in Uganda is concerned.

In this case the researcher ensured that the PPPs being used were sorted by money value, based on the data from two studies: Jooste (2011:6) for the PPPs being designed by the UNRA PPP Unit and Nyagwachi (2008:10) for the PPP toll roads of Kampala-Jinja express high way under design, build, operate model and transfer and Kampala-Entebbe Express high way under management contract model. The research questions of this study formed the major headings where and quantitative findings were presented. The research questions were used to guide the presentation of the findings in a clearer and understandable manner because they sought to answer the research problem of the study (De Vos, 2005:13).

From the aforementioned studies, no database could be set up for each identified criteria in the success or failure of PPPs in the roads sector in Uganda, since these considerations depended to a great extent on the perspectives, i.e. UNRA stakeholders' viewpoints. As the results showed, regarding certain research questions, results varied strongly between the different participants. The researcher conducted the quantitative data analysis process through the following stages:

3.12.1.1 Data Editing

Editing is the process of checking data completeness, consistency, and legibility and making it ready for coding and transfer to storage (Churchill & Iacobucci, 2005:407). The researcher reviewed the questionnaires after the completion of fieldwork, checking for the completeness and accuracy of the received questionnaires and preparing them for data analysis. In the process, some completed questionnaires considered unsatisfactory were discarded (Malhotra, 2004:469).

Completed questionnaires were checked once more prior to computer entry to find out if there were any problems of errors or omissions on the questionnaires. For example, in the case of questions left unanswered by respondents, the data was adjusted to make it completely consistent, or readable (Zikmund, 2000:556). In such cases, where data was inserted, the researcher used some options, such as using a neutral value. To ensure consistency of treatment, the researcher considered handling the editing of all completed questionnaires after the whole data collection process (Trachtman, 1997:473).

3.12.1.2 Data Coding

Coding is the process of identifying and classifying each answer with a numerical score or other character symbol (Malhotra, 2004:85). Assigning numerical symbols permits the transfer of data from the questionnaire to the computer. Codes are considered to be numbered symbols; however, they are more broadly defined as rules for interpreting, classifying, and recording the data (Zikmund, 2000:560). Codes allowed the researcher to easily process data in the computer. For this purpose, all the variables were first of all assigned names and coded for computer entry.

Secondly, all the responses were coded to facilitate computer data input. Thirdly, the negatively worded scale items were recoded and assigned new values. Fourthly, in order to obtain composite scores for items on a scale, target variables were computed. Fifthly, data files were carefully screened in order to minimise data entry errors. In this connection, frequencies for each variable were checked in order to detect the out-of-range values, and values entered that were greater than 5 were rectified after reconciling with the questionnaires.

3.12.1.3 Data entry

The researcher used SPSS to organise, edit and enter into the computer quantitative data that had been coded on the excel package. The researcher computed the entered data using univariate analysis with the help of descriptive statistical techniques to find out the mean, mode, median, standard deviation, range, frequency distribution and coefficient of variance on the responses from study participants on

PPP concepts, PPP models being used by UNRA and factors affecting such PPP models being used in the roads sector in Uganda.

3.12.1.4 Descriptive statistics data analysis and techniques

The data collected was entered into an excel spread sheet and then copied to the Statistical Package for Social Sciences (Version 25 for Windows) programme, a statistical package used to code data and to run the statistical analysis. Since the research questions were largely seeking responses to questions involving “what”, the analysis was largely done based on descriptive statistics. Descriptive statistics helped to provide the researcher with the characteristics or appearance of sample data (Zikmund, 2000:296). Descriptive statistical analysis transformed raw data into a form that made them easy to understand and interpret. This study made use of descriptive statistics to analyse the composition and normality of the data. Descriptive analysis determined the central tendency in the distribution of a variable, the spread of a distribution and the association among variables (Martins et al., 1996:253). It provided information about the central tendency, dispersion, skewness and kurtosis of data. This method was used in the exploratory data analysis as well (Davis, 2008:315). Some of the techniques that were used included the following:

3.12.1.4.1 Frequency distributions

Various illustrations of data were presented in the form of frequency distribution tables. This entailed the construction of a table that showed in absolute and relative terms how often the different values of the variable were encountered in the sample. The frequency distribution indicated how popular the different values of the variables were among the units of analysis (Tustin et al., 2005:523). These were useful in characterising the sample and understanding the data composition.

3.12.1.4.2 Cross Tabulations

The study employed cross-tabulations mainly where two or more of the variables were compared and reported simultaneously (Aaker et al., 1995:605). This enabled

the researcher to examine relationships within the data. The researcher tabulated the data to arrive at meaningful answers in a summarised manner (Churchill & Iacobucci, 2005:410). Cross tabulations were simply data tables that the researcher used to present the results of the entire group of respondents as well as those from sub-groups of survey respondents.

3.12.1.4.3 Statistical charts and graphs

Various types of pie charts and graphs such as line graphs, histograms and other bar charts and graphs were employed to display research findings. For example, the data analysis results were presented mostly in form of piecharts, bar graphs and line graphs in Chapter 4.

Graphs depict absolute and relative magnitudes, differences, proportions and trends (Hair et al., 2000:524). The graphs used include pie charts, bars charts as well as the line graphs and they examine different elements of the given variables in this study.

3.12.2 Qualitative data analysis

After having collected data through interviews, the researcher sorted, analysed and presented data in the proceeding chapter 4 of presentation of findings. Statements that were made by several UNRA experts were coherently, sequentially, chronologically, hierarchically, logically and systematically presented in table form. Other statements considered of high importance were also mentioned in the text and results were then interpreted and discussed in chapter 5 in line with the reviewed literature.

Qualitative data collected was transcribed, recorded, stored, compiled, sorted, edited, classified and coded into suitable categories. The core themes by use of narrative, content, comparative and thematic analyses were formed (Braun & Clarke (2006:6). This led to the interpretive phase, which is the heart of qualitative data analysis (Creswell, 2007). After data recording and storage, the researcher did data editing to check for completeness, accuracy, uniformity legibility and comprehensibility before final data analysis was done (Braun & Clarke, 2006:4).

The researcher interpreted and assessed information with its corresponding results by assigning a meaning to the figures, observation, opinions and perceptions of the UNRA stakeholders that were respondents for the study (Lofland, 1971: 13). Data was then condensed into memos as vast amount of data was difficult to code and later analyze (Creswell, 2013:184). The researcher did data coding to actually assign numerical values to various responses (Mathew & Michale, 1994:45). Some data that was not found useful was discarded.

This is acceptable and endorsed by researchers in the qualitative studies (Wilmot, 2005:53). After coding, the researcher then embarked on the task of analysing the data. Data analysis was guided by the research objectives which identified domains and topics that had been investigated (David, 2006:1). The researcher tried to follow any new leads or perspectives, which were not anticipated during interviews with different respondents. The researcher endeavoured to probe in more detailed aspects of the research, which he deemed necessary. The researcher had to write the field notes within 24 hours to minimize forgetting and he continually transcribed the taped data in order to identify areas which needed further investigation (Creswell & Plano Clark, 2011:5).

The researcher then finalized and formulated themes and the code categories by assigning either a letter code or a figure code to as each category (Braun & Clarke, 2006:5). The researcher went ahead to interpret qualitative data by composing explanations or descriptions from the information coded and arranged (Ritchie & Lewis, 2003:319).

Last but not least, the researcher analyzed qualitative data such as stories, answers to open questions or observation of behavior with a good understanding of the situation, but also with open mind to minimize professional and personal bias. As he did all the above, the researcher tried to look for key words or issues in order to structure and organize the information to facilitate comparison. Finally, the researcher clustered answers or observations around such key words or issues and looked for trends or patterns and any relationships before disseminating his findings (Ritchie et al., 2003:333; Ritchie & Lewis, 2003:319).

Since qualitative data complemented the quantitative data, its findings were presented in a form of direct quotations from the participants. The research questions of this study formed the major headings where quantitative findings were presented. The research questions were used to guide the presentation of the findings in a clearer and understandable manner because they sought to answer the research problem of the study (De Vos, 2005:14).

Last but not least, the researcher tried to dress overall conclusions as well as identifying areas for further research. Recommendations for the proposed future PPP programs in the roads sector in Uganda were made. In doing all these, the researcher made sure that it was important for him to keep in mind that generalizations had to be made carefully in a qualitative study, because of the bias that could have emerged from interviews he held with the different UNRA respondents.

3.13 Ethical Considerations

According to De Vos (2005:7), ethics are a set of moral principles, that are widely accepted because they offer rules and behavioural expectations about the most acceptable conduct towards the subjects. The researcher conducted the study based on the North West University (NWU) ethical standards. The researcher first sought for research ethical clearance letter from NWU before any familiarisation visits to the study sites to identify contact persons, key informants and appropriate stakeholders to participate in the study.

The researcher ensured that he acquired the gateman's letter from UNRA to allow him conduct his study with them, which he presented to the NWU as he was applying for ethical clearance and eventually was given ethics approval to commence with his field study. The researcher sought for ethical clearance from Gulu Research Ethics Committee which was granted and registered the study with the Uganda National Council for Science and Technology. In line with suggestions by Sekaran (2003:20), the researcher addressed issues of informed consent and voluntary participation, reasons for being chosen to participate, provision of all information on study purpose, consent forms and covering letter, permission for access to the study sites and documents for the study, discussion of any possible benefits and risks associated

with participation in the study, openness and honesty. The researcher undertook the study with a high level of honesty and integrity. The researcher ensured that only findings, which were usable and relevant, were documented. The researcher recruited research assistants to assist in the data collection process.

The researcher administered interviews and questionnaires to the respondents in socially acceptable venues, which also guaranteed confidentiality during the interactions. To build trust and confidence among the respondents, the researcher treated the rights, dignity, privacy and anonymity of participants, together with any personal information offered for this study in line with the perceptions they had on the concept of PPPs and VFM.

The researcher ensured that he used only codes to conceal the identities of the respondents, and the researcher did not use the information volunteered for anything else rather than for purposes of the research study. The researcher briefed the participants on matters of confidentiality and their right to withdraw their participation at any time if they felt that ethical principles were not being observed during the study. The participants were informed about the use of recording instruments for their consent prior to their use. The researcher ensured that the recorded information was not used for any other purpose other than for the study.

The researcher ensured that effective monitoring and supervision of the entire research process was well undertaken to ensure that there was no harm associated directly or indirectly with the research exercise. In terms of data storage, the researcher ensured that the study data sets were placed in encrypted digital form and stored on a cloud platform. The researcher made sure that the cloud platform was well protected so that it could only be accessible online by him and his supervisor through use of a login account and password.

The researcher also ensured that he cited the source of every statement when writing the research proposal and dissertation to avoid the risk of plagiarism. In the process of getting the answers to the questions, the researcher ensured that personal biases were minimised by using various research instruments from a representative sample.

The researcher ensured that he reduced personal opinion in data collection and analysis by trying to be neutral. To ensure reliability in qualitative data, the researcher made sure that the data was critically examined (Golafshani, 2003:11).

In addition to trustworthiness, the researcher upheld ethical research standards. Specifically, the ethical principles observed in this study were voluntary participation, informed consent, confidentiality, avoidance of harm and honesty. The subjects who took part in this study were informed about these ethical principles. They signed informed consent forms to show that they had understood the nature of the study and were willing to participate voluntarily. Below is a full description of the specific ethical principles that the researcher fully complied to:

3.13.1 Voluntary participation

By definition, voluntary participation refers to when subjects personally make a choice of being involved in the study without any form of force or coercion (Babbie, 2009:521). This principle was upheld in order for the study to collect unbiased data from the subject. In conducting a qualitative or quantitative research study, the researcher did not coerce any of the study respondents to participate in the study.

Instead, the researcher ensured that all study respondents had to voluntarily participate in the study. In this sense, when participants are coerced to participate, they will leave out important information as this will affect the research findings and conclusions. In this study, the subjects voluntarily participated in the study without any form of manipulation.

3.15.2 Informed Consent

Leedy and Ormrod (2013:105) affirm that informed consent involves the subjects being thoroughly informed about the nature of the study. In this study, the subjects were informed about aims and objectives of the study and how it was conducted. Babbie (2001:474) endorses that deception involves deliberately withholding

information or offering incorrect information to assure participation of subjects who would otherwise possibly refuse to be part of the study.

This has detrimental effect to the findings and conclusions because the subjects usually give false information or drop out during interviews and survey. There for this particular research study, the researcher made sure that the participants in this study signed the informed consent forms to show that they understood the nature of the study.

3.13.3 Confidentiality and anonymity

The researcher upheld confidentiality and anonymity in this study. The study participants were informed of the two forms of confidentiality which is relative and absolute (Babbie, 2009:522). The study participants were informed that absolute confidentiality was applicable since the results were to be published. However, they were assured the information they provided would be used for academic purposes only and would not be shared to any other persons.

Furthermore, in attempt to protect the participant's right to privacy, their names were represented by pseudo names in data presentation and findings. Leedy and Ormrod (2013:108) emphasize that pseudo- names should be used in research to ensure anonymity of the subjects as it prevents them from being victimized by other researchers.

3.15.4 Avoidance of harm

Avoidance of harm is whereby the subjects are informed beforehand about any potential impact of the investigation on their emotionally, physical and mental well-being (De Vos et. al., 2002:58). Qualitative studies have an effect of harming the subjects through intriguing past experience that were not so pleasant (De Vos et.al, 2002:73). In this case, the researcher informed the study participants that those who felt that they were being adversely affected by some of elements of the study were free to withdraw at any time.

3.13.5 Honesty

Leedy and Ormrod (2013:108) state that researchers must report the findings truthfully in a complete and honest fashion". In this study, the researcher cited all sources used in the study, and the paraphrased ideas from other authors were acknowledged. In support of the above statement (Leedy and Ormrod, 2013:108) argue that, "Any use of another person's ideas or words demands full acknowledgement: otherwise, it constitutes plagiarism and documentary theft.

The researcher avoided plagiarism as it is highly condemned in the North West University ethical protocols. All scholarly work used in the study were referenced accordingly to avoid prosecution on grounds of academic theft. The researcher did not falsify the qualitative and quantitative research findings in data analysis. The results were reported in their original context as propounded by subjects on the semi-structured questionnaire and semi-structured interview guide. The researcher did not tamper or manipulate the data to suit her own conclusions.

3.14 Chapter summary

The chapter has looked at the research methodology in terms of methods and techniques that were used in collecting and analysing data, then presenting the research results. The researcher has explained the research paradigms, research design, the population, sampling size and techniques, data collection methods, techniques and instruments, data analysis approaches and techniques, validity and reliability of quantitative data and ethical principles that guided the study in terms of doing this research study based on certain internationally acceptable standards.

It is therefore import for resaechers to always select and discuss the right research paradigms to be used in any research study in terms of positivism paradigm that formed the basis for quantitative part of this study and interpretism paradigm that formed the basis for quantitative part of this study.

With out such research paradigms, the researcher would have found it very difficult to develop a research design that was adopted for this study in form of survey design

for quantitative part of this study, exploratory and case study designs for the qualitative part of this study.

Researchers in the different fields of academia and practice should always therefore note that it is very important to select the right research design that can be used to determine the study population, sample size and sampling techniques in form of probabilistic sampling techniques such as simple random sampling techniques and systematic random sampling techniques, then non probabilistic sampling techniques such as purposive sampling techniques and snow ball sampling techniques as has been the case for this study.

Research design also provides the spring board for determining the data collection procedure, data collection methods and techniques such as questionnaire survey, interviewing and documents review as has been the case for this study.

It also helps in determining validity and reliability of data collection instruments to ensure data quality as has been the case for this study. In addition the right research design provides a platform for effective data analysis such as quantitative analysis using descriptive statistics and qualitative analysis in form of narratives as has been the case for this study.

Finally, it is very crucial to always elaborate on ethical principals to be used to ensure adherence to certain research standards as has been the case for this study. The next chapter focuses on the analysis, interpretation and presentation of findings based on qualitative and quantitative data gathered or collected.

CHAPTER FOUR

PRESENTATION AND INTERPRETATION OF RESULTS

4.1 Introduction

The previous chapter looked at research methodology. This chapter presents the findings and interpretation of the data collected. The main purpose of this chapter is to present the results obtained from 91 study participants, with 62 respondents that completed the questionnaires and 35 respondents that completed all interview guides. The researcher used SPSS version 25 to analyse the data collected.

This chapter presents the descriptive statistics on the demographic profile of the respondents; the descriptive statistics and qualitative findings for UNRA stakeholders' perception of concepts of PPP and VFM. It also presents quantitative and qualitative findings on different PPP models used by UNRA and the factors affecting those PPP models. The main objective of this study was to make an assessment of PPPs in ensuring VFM in the roads sector in Uganda.

Specifically, the study sought to examine UNRA stakeholders' perceptions on the concepts of PPPs and VFM, different PPP models being used by UNRA to ensure VFM in the roads sector in Uganda and the factors influencing the use of such PPP models. The study developed and empirically tested research instruments for analysing and interpreting data for the perceptions of UNRA stakeholders on the concepts of PPPs and VFM, different PPP models used by UNRA and the factors affecting such PPP models.

The study used the Principal-Agency theory to understand UNRA stakeholders' perceptions on the concepts of PPPs and VFM, the PPP models being used and the factors influencing the use of such PPP models to ensure VFM in the roads sector in Uganda. The specific objectives of the study were to establish UNRA stakeholders' perceptions of the concepts of PPP and VFM in the roads sector in Uganda; to examine the different PPP models being used in ensuring VFM in the roads sector; to find out the factors affecting such PPP models in ensuring VFM in the roads sector; and to suggest and develop an appropriate PPP model that can be used to ensure VFM in the roads sector.

The results and findings of the study on the subject under investigation are hereby presented and interpreted in this chapter. They were compiled by analysing information gathered from the respondents. The results are presented as per the research questions and objectives, with descriptive statistical analysis used to identify percentages to answer all questions in the survey and qualitative analysis in form of narratives to answer all the questions in the interview guide.

The results are discussed based on the responses from a total of 97 respondents, with 62 participants for the quantitative study and 35 participants for the qualitative study. This chapter is structured into five sections; section one presents the quantitative results in form of descriptive statistics on the demographic profile of the respondents. Section two looks at quantitative results in form of descriptive statistics and qualitative findings for UNRA stakeholders' perception on concepts of PPP and VFM.

The third section covers the quantitative results in form of descriptive statistics and qualitative findings on different PPP models being used by UNRA in the roads sector. Section four discusses the quantitative results in form of descriptive statistics and qualitative findings for the factors affecting PPP models used by UNRA in the roads sector. The last section presents chapter summary for presentation of findings.

4.1.1 Response rate

As already indicated in chapter 3, the study employed a mixed method of quantitative approach using survey design and qualitative approach using case study and exploratory designs to collect data. Since quantitative approach using survey design was employed, 91 questionnaire surveys were administered and 62 responses obtained making a response rate of 68 percent.

Also, since qualitative approach using interviews was employed, 35 interviews were conducted and the study participants responded to all the 35 interviews conducted making a response rate of 100 percent. Therefore a total of 97 responses from both study survey and interviews comprising of 76 percent response rate, were analysed, interpreted and reported as indicated below. The overall useable response rate in the study was higher than the researcher's initial anticipation drawn from the response rate reported in previous studies in

the same domain. The response rate achieved in the study was reasonably higher than that of Molise Moloi (2016:10) suggested in earlier studies on PPPs in the roads sector. The remaining 29 of the respondents couldn't be reached because they were out of office for some duties and others couldn't attend to the researcher in the specified time since they had gone to the field that was hard to reach by the researcher.

According to Amin (2005:7), 50% of the response rate is enough to represent the sample size set for the study. This means that the response rate of 68 % from the questionnaire survey and 100% from the interviews was enough for the quantitative part and the qualitative part of the study. Therefore, the response rate in this study was considered relatively better than the previous studies mentioned above.

Thirdly the researcher used documents review to collect secondary data on a number of aspects pertaining to PPPs and VFM in the roads sector but its results were already examined, analysed, assessed and interpreted through out the literature review and writing process. Therefore this chapter does not focus on presenting and interpreting results from documents review since they were already presented and interpreted through out the literature review and writing process but focuses on presenting and interpreting results obtained from questionnaire and interview responses.

It should be noted that the researcher relied on the results from interviews, documents review and questionnaires to develop an appropriate PPP model in chapter 6 of this thesis that can be used to ensure more VFM in the roads sector. Finally, the over all average response rate for both quantitative part and qualitative part of this study was 76 percent. Since according to Amin (2005:7), 50% of the response rate is enough to represent the sample size set for the study, this means that the average response rate of 76 % was enough for this study as indicated in the table 4.1 below:

Table 4.1: Response rate for study participants from UNRA

Instrument	Planned	Actual	Percentage (%)	Short fall (%)	Total (%)
Questionnaires	91	62	68	32	100
Interviews	35	35	100	0	100
Total	126	97	76	23	100

Source: Primary data (2018) n=126

Table 4.1 shows that out of 126 respondents, only 97 responded to the study. 91 questionnaires were distributed to UNRA stakeholders. However, only 62 questionnaires were returned reflecting a response rate of 68 %. All the 35 interviews were successfully responded to, reflecting a response rate of 100%. The overall response rate was computed as follows:

Actual x100% that is $97/126 \times 100\% = 76\%$

Planned

Therefore the above response rate results are in line with Amin (2005:7) who argues that a response rate ≥ 50 is good enough as the representative of a survey population.

4.2 Demographic characteristics of the survey study.

According to Kasekende (2014:10), presentation and interpretation of the demographic profile of the study sample is very important because it enables the researcher to obtain the overall mental and physical picture of the sample. This is critical in appreciating their perceptions while linking the concepts under the study. In line with the same argument, Boyle, Dunne, Purdie, Cook and Najman (2002:19) point out that profiling research respondents is achieved by establishing their demographic characteristics, which may include age, gender and education.

Kirtiraj (2012:5) asserts that in social sciences research, personal characteristics of respondents influence their responses about the problem. Therefore, the demographic characteristics of the questionnaire survey responses that included gender, age group, level of education, position held at UNRA, years worked with UNRA and terms of employment as shown in Tables 4.2 to 4.7 for the 62 respondents were examined, presented and used to draw conclusions in this thesis.

4.2.1 Gender of the researcher's respondents

The descriptive statistics for the gender of the respondents are presented in the Table 4.2 below:

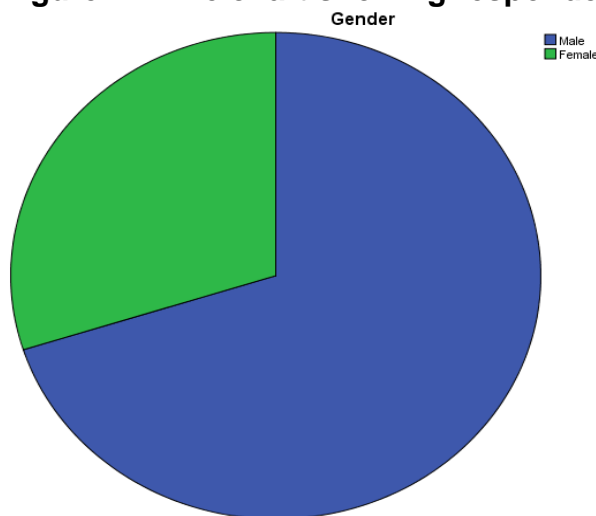
Table 4.2: Gender of respondents

Gender of respondents			
Categories of respondents' Gender		Frequency	Percentage
Valid	Male	44	70.1
	Female	18	29.9
	Total	62	100.0

Source: *Primary data* (2018) **n=62**

Table 4.2 above has been converted into Figure 4.1 below to illustrate further the gender of the respondents.

Figure 4.1: Pie chart showing respondents by gender



Source: *Primary data* (2018) **n=62**

As illustrated in Table 4.2 and Figure 4.1 respectively, the majority of the respondents were male representing 70.1% and the rest were female representing 29.9%.

This implies that the biggest number of respondents were males since there are a few females in Uganda that qualify to work with UNRA as technical professionals in the areas of engineering and surveying, which are the dominant disciplines as far as the target participants from user departments were concerned.

4.2.2 Age group of the respondents

The descriptive statistics for the age group of the respondents are presented in the Table 4.3 below.

Table 4.3: Respondents by age group

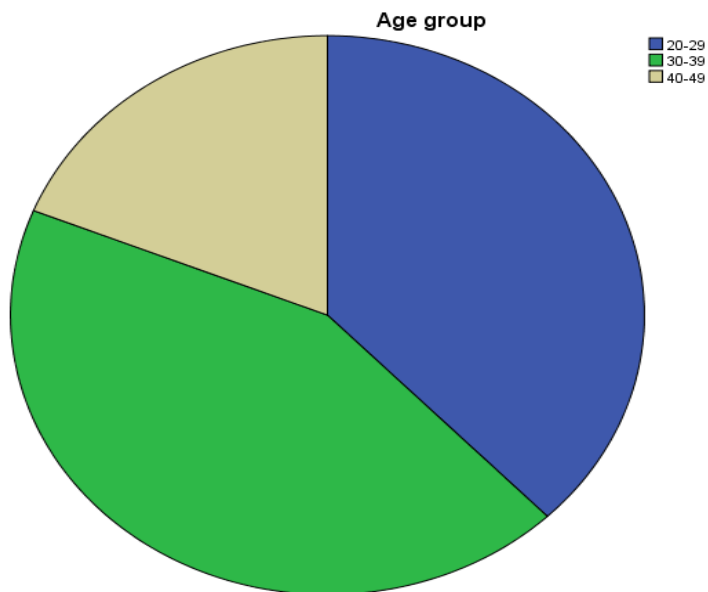
Age group of respondents			
Categories of respondents' age group		Frequency	Percentage
Valid	20-29	23	37.8
	30-39	27	43.3
	40-49	12	18.9
	Total	62	100.0

Source: *Primary data (2018)*

n=62

The Table 4.3 above has been converted into Figure 4.2 below to illustrate further the age group of the respondents so that the relevance of their age can be analysed in terms of the perceptions of UNRA stakeholders on the concepts of PPP and VFM, PPP models and factors affecting PPP models.

Figure 4.2: Pie chart for respondents by age group



Source: *Primary data* (2018) **n=62**

As illustrated in Table 4.3 and Figure 4.2 respectively, the most predominant age group that responded to the researcher's questionnaires was 30-39 representing 43.3%, followed by 20-29 representing 37.8% and 40-49 representing 8.9%.

This implies that a big number of respondents were between the age of 30-39.

These are the majority of staff who are still physically and mentally competent whom UNRA employs to do land surveying, designing roads, procurement, road construction and maintenance.

4.2.3 Respondents' terms of employment with UNRA

The descriptive statistics for terms of employment of the respondents are presented in the Table 4.4 below.

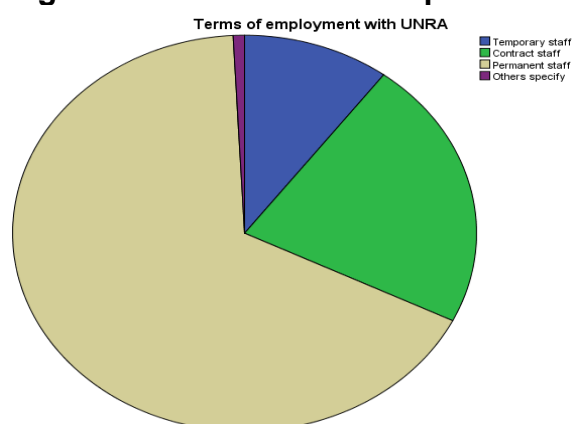
Table 4.4: Respondents' terms of employment with UNRA

Terms of employment of respondents with UNRA

Categories of respondents' terms of employment		Frequency	Percentage
Valid	Temporary staff	5	9
	Contract staff	14	22.0
	Permanent staff	42	67
	Others terms	1	2
	Total	62	100.0

Source: Primary data (2018)**n=62**

Table 4.4 has been converted into Figure 4.3 below to illustrate how the respondents' terms of employment with UNRA relate to PPPs and ensuring VFM in the roads sector in Uganda.

Figure 4.3: Pie chart for respondents' terms of employment**Source:** Primary data (2018)**n=62**

As illustrated in Table 4.4 and Figure 4.3 above respectively, the majority of respondents were permanent staff representing 67%, followed by contract staff representing 22%, temporary staff representing 9 %, while staff employed by UNRA on other terms constituted 2%. This implies that the biggest number of respondents were permanent staff because technical work by UNRA requires employing staff with conceptual and technical skills to ensure effective project implementation.

4.2.4 Position held at UNRA by the respondents

The descriptive statistics for positions held by respondents are given in the table 4.5 below

Table 4.5: Respondents' position at UNRA

The position held by respondents at UNRA

Categories of positions	Department	Frequency	Percentage
Senior Managers	PPP unit	5	8.1
Cost Estimation Specialist	User department	2	3.2
Director Road Infrastructure	User department	1	1.6
Road Development Engineer	User department	2	3.2
High way design Engineer	User department	2	3.2
Head of roads Research	User department	1	1.6
Head of Roads Rehabilitation	User department	1	1.6
Highway Engineer	User department	2	3.2
Procurement officers	Procurement and disposal Unit	9	14.5
District officials	Regional offices	18	29
Roads maintenance Engineer	User department	2	3.2
Manager Land Survey	User department	1	1.6
Manager Road Development	User department	2	3.2
Manager Road Rehabilitation	User department	2	3.2
Project Administrator	User department	1	1.6
Contracts Committee Members	Contracts committee	4	6.5
Project Formulation Engineer	User department	2	3.2
Road Maintenance Engineer	User department	2	3.2
Transport Economist	User department	1	1.6
Transport Planner	User department	1	1.6

Total	User department	62	100
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Source: *Primary data* (2018)

n=62

As illustrated in Table 4.5 above, the majority of respondents were technical staff from user departments representing 41.9%, followed by district officials representing 29%, staff from PDU representing 14.5%, PPP unit staff representing 8.1% and CC members representing 6.5 %.

This implies that the majority of respondents were from user departments since they are the ones that are directly involved in the operational work that form the core functions of UNRA.

4.2.5 Respondents' level of education

The descriptive statistics for the respondents' level of education are presented in Table 4.6 below.

Table 4.6: Respondents' level of education

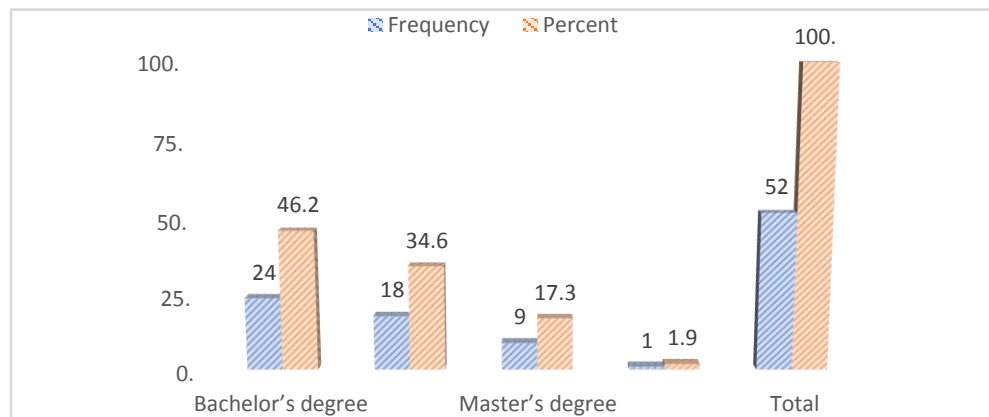
Education level of respondents			
Categories of respondents' education level		Frequency	Percentage
Valid	Bachelor's degree	30	48.4
	Post-graduate diploma	22	35.5
	Master's degree	9	14.5
	Doctorate	1	1.6
	Total	62	100

Source: *Primary data* (2018)

n=62

Table 4.6 has been converted into Figure 4.4 below to illustrate further the respondents' level of education.

Figure 4.4: Histogram for respondents' level of education



Source: *Primary data (2018)*

n=62

As illustrated in Table 4.6 and Figure 4.4 above, the majority of respondents were Bachelor's degree holders representing 48.4%, followed by those with post-graduate diplomas representing 35.5%, Master's degree holders representing 14.5% and those with a Doctorate represented 1.6%.

The majority of employees were degree level graduates, implying that most respondents were academically qualified and were in position to give a reasonable and well-balanced view on the issues in the study.

4.2.6 Respondents' working experience with UNRA

The descriptive statistics for respondent's level of experience in implementing PPPs at UNRA are presented in Table 4.7 below.

Table 4.7: Respondents' working experience with UNRA

Experience of the respondents			
Categories of respondents' experience		Frequency	Percentage
Valid	Less than 2 years	08	12.9
	3 – 6 years	18	29
	7 – 10 years	07	11.3
	11 years and more	29	46.8
	Total	62	100

Source: Primary data (2018)**n=62**

Table 4.7 above has been converted into Figure 4.5 below to explain further the respondents' working experience with UNRA.

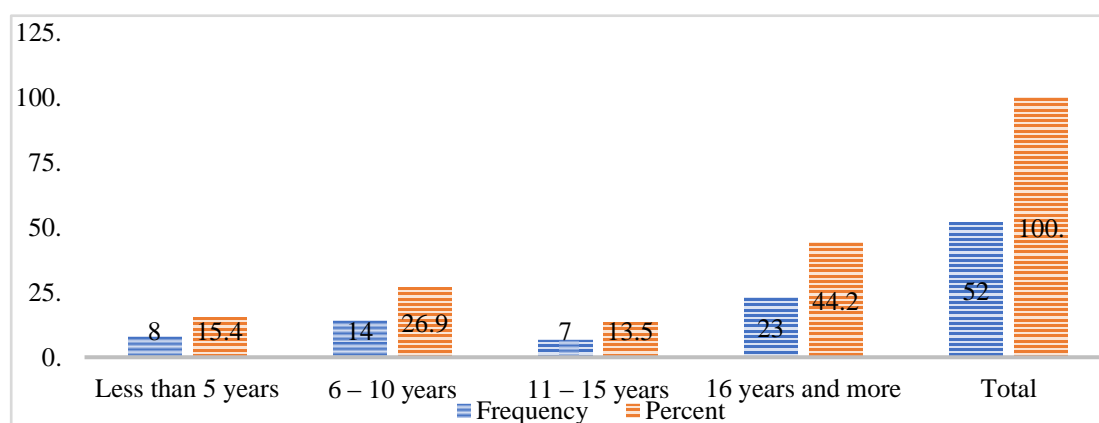
Figure 4.5: Histogram for respondents' experience**Source:** Primary data (2018)**n=62**

Table 4.7 and Figure 4.5 above show that the majority of respondents had working experience of 11 years and above (46.8%), followed by those of 3-6 years (29%), less than 2 years (12.9%) and 7-10 years (11.3%).

This implies that the respondents had adequate past experience and up-to-date information which this study needed for a thorough assessment of PPPs and VFM in Uganda's roads sector.

4.3 Empirical findings for assessment of PPPs in the roads sector in Uganda

In this section, the findings for each of the research objectives are presented with an overall objective of assessing PPPs in the roads sector in Uganda.

The study captured different statements on UNRA's perception of PPPs and VFM, different PPP models being used by UNRA to ensure VFM in the roads sector and factors affecting such PPP models used by UNRA to ensure VFM in the roads sector in Uganda.

The study used a five point Likert scale where 1 meant strongly disagree, 2 meant disagree, 3 meant not sure, 4 meant agree and 5 meant strongly agree.

The different statements on the above concepts are discussed below based on the questions which were statistically tabulated and presented in table form with frequencies, percentages, mean and standard deviation, also which were qualitatively described in narrative form in line with the kind of data collected from the researchers' respondents.

4.3.1 Findings for UNRA stakeholders' perception of the concepts of PPPs and VFM

4.3.1.1 Quantitative findings for stakeholders' perception of the concepts of PPPs and VFM

The items on the level of response were derived from the first objective of the research study. Using three quantitative statements, respondents rated themselves on UNRA stakeholders's perception of the concepts of PPPs and VFM using responses based on Likert's scale. These ranged from 1 - strongly disagree, 2 - disagree, 3 - not sure, 4 - agree and 5 - strongly agree.

Table 4.8 below shows corresponding frequencies, mean and standard deviation for UNRA stakeholders' perception of the concepts of PPPs and VFM in the roads sector in Uganda.

Table 4.8 Descriptive statistics of respondents' self-rating on their perception of PPPs & VFM

perception of the concepts of PPP and VFM	SA	A	N	D	S D	Mea n	S.De v
A PPP is long-term contract between public & private party for providing a product to the public while VFM is about providing such a product in a cost effective manner.	10 (16.1%)	36 (58.1%)	6 (9.7%)	10 (16.1%)	-	2.82	.932
A PPP is a long-term contractual arrangement between public and private sector to provide a service to the citizens while VFM is about providing such a service in an efficient manner	8 (12.2%)	20 (32.3%)	9 (14.5%)	25 (40.3%)	-	2.94	1.037
A PPP is a form of co-operation between a public and private entity to provide an asset to the nationals while VFM is about providing such an asset in an economical manner	3 (4.8%)	22 (35.5%)	6 (9.7%)	31 (50.0%)	-	2.06	1.074

Source: *Primary data* (2018)

n=62

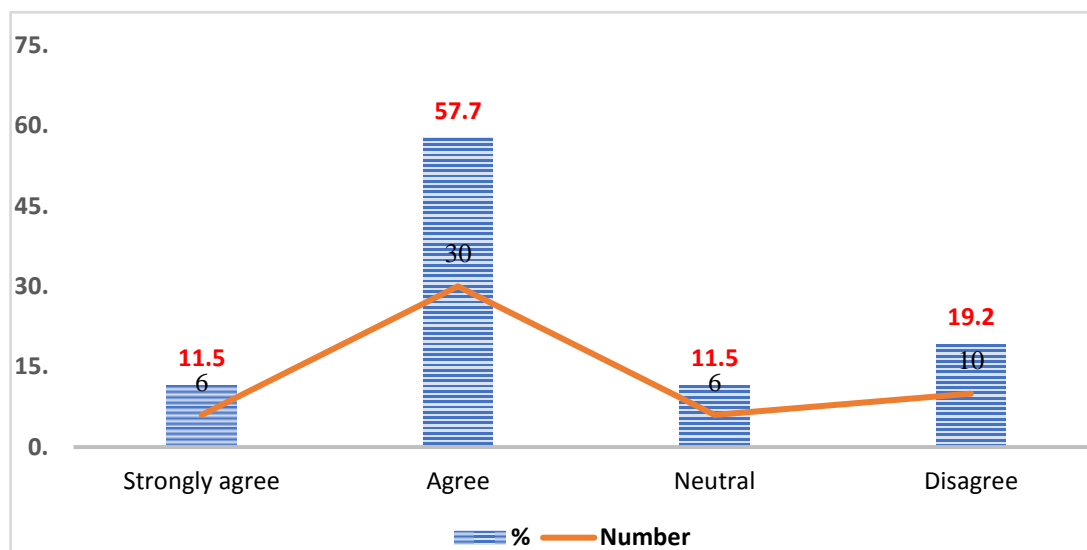
SA = Strongly Agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly Disagree, S.Dev = Standard deviation. Table 4.8 above shows appropriate frequency tables, means and standard deviations about the respondents' self-rating on the perceptions they had on PPPs and VFM.

4.3.1.1.1 A Public-Private party long-term contract and cost effective product delivery

The study examined the statement that “a PPP is a long-term contract between a public and private party for providing a product to the public while VFM is about providing such a product in a cost effective manner.” In all, 46 respondents representing 74.2% agreed with the statement compared to 10 respondents that represent 16.1% who disagreed. A total of 6 respondents that represent 9.7% were not sure about this statement. The good rating is confirmed by a good mean value = 2.82 and standard deviation = 0.932. This corresponded to some UNRA stakeholders' perception of the concepts of PPP and VFM in the roads sector in Uganda who look at a PPP as a long-term contract between a public party and a private party

for providing a product to the public. They also look at VFM as a cost effective way of providing such a product to the public. The scale was intended to measure perceptions of some UNRA stakeholders who look at a PPP and VFM from an angle of public-private party long-term contract and cost effectiveness of product delivery. As shown in the Table 4.8 above, Figure 4.6 below confirms the statistics generated.

Figure 4.6: Public-Private party long-term contract and cost effective product delivery



Source: Primary data (2018)

n=62

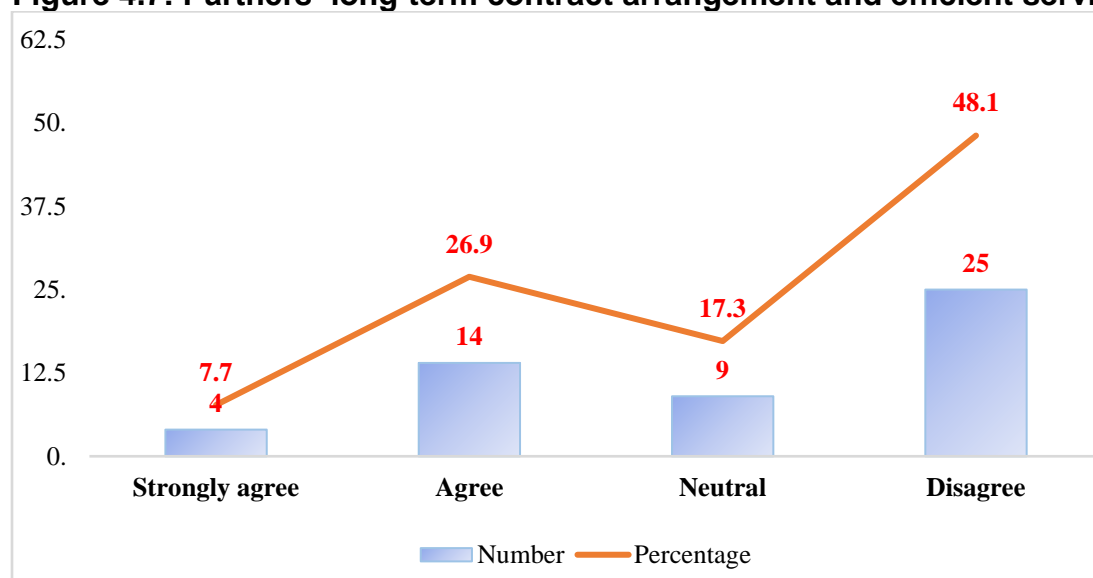
As presented in Figure 4.6, 36 respondents that represent 58.1% agreed with the statement while 10 respondents that represent 16.1% disagreed. This confirms that the perception held by some of UNRA stakeholders is in line with what the researcher intended to measure.

This finding agrees with debates by scholars and development partners such as Qistina & Salmiah, (2018:1), Chunga and Hensherb (2018:1), Obayelu (2018:2), Chauhana & Marisetty (2018:1), Berrone, Fageda, Llumà, Ricart, Rodríguez, Salvador and Trillas (2018:14), Sablina and Dubolazov (2018:1), Chauhana and Marisetty (2018:3), Renda and Schrefler (2006:7), NCPPP (2002:4), European Commission (2003:16) and World Bank Group (2014:14) who assert that a PPP is a long-term contract between a private party and a government entity for providing a public asset or service, in which the private party bears significant risk and management responsibility, and remuneration is linked to performance.

4.3.1.1.2 Partners' long-term contractual arrangement and efficient service delivery

The study examined the statement that “a PPP is a long-term contractual arrangement between public and private sector to provide a service to the citizens while VFM is about providing such a service in an efficient manner.” In all, 28 respondents representing 44.5% agreed with the statement compared to 25 respondents representing 40.5% that disagreed with it. A total of 9 respondents that represent 14.5% were not sure about this statement. The fair rating is confirmed by a mean of 2.94 and standard deviation of 1.037, thus corresponding to other stakeholders' perception of the concept of PPPs and VFM. They look at a PPP as a long-term contractual arrangement between the public and private sector to provide a service to the citizens and also look at VFM as an efficient way of providing such a service to the public. The scale was intended to measure perceptions of some UNRA stakeholders who look at a PPP and VFM from such an angle of a public-private sector long-term contractual arrangement and efficient service delivery. Figure 4.7 below confirms the statistics generated.

Figure 4.7: Partners' long-term contract arrangement and efficient service delivery



Source: Primary data

(2018)

n=52

As presented in Figure 4.7 above, 28 respondents representing 44.5% agreed with the statement that a PPP is a long-term contractual arrangement between the public and private sector to provide a service to the citizens while VFM is about providing such a service in an

efficient manner, compared to 25 respondents representing 40.5% that disagreed with the same statement. This confirms other UNRA stakeholders' perception that a PPP and VFM is a public-private sector long-term contractual arrangement and efficient service delivery. This finding agrees with what the researcher intended to measure. This finding of the study agrees with Khadka (2018:1), Krol (2018:21), Qistina and Salmiah (2018:2), Stevenson (2018:7), Mehmet and Cuma (2018:4), Alaghbandrad and Hammad (2018:1), Marzouk and Ali (2018:3) and Garvin and Bosso (2008:163) who suggest that a PPP is a long-term contractual arrangement between the public and private sectors where mutual benefits are sought and ultimately the private sector provides management and operating services which puts private finance at risk.

4.3.1.1.3 Co-operation between public-private entities and economic asset delivery

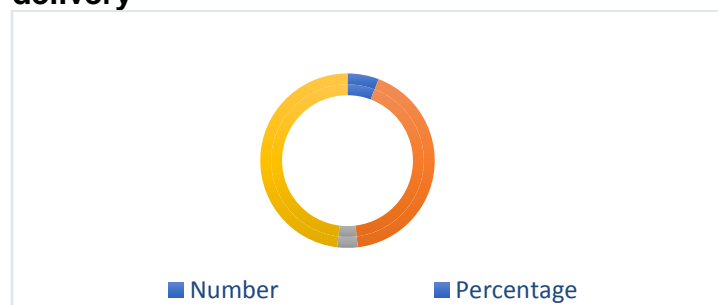
The study discussed the statement that “a PPP is a form of co-operation between a public and private entity to provide a certain asset to the public while VFM is about providing such an asset in an economic manner.”

On this issue, 25 respondents representing 40.3% agreed with the statement compared to 31 respondents representing 50.0% that disagreed with it. A total of 6 respondents that represent 9.7% were not sure.

The fair rating is confirmed by a mean of 2.06 and standard deviation of 1.074. Therefore, the above statistical results do not correspond to the majority of UNRA stakeholders' perceptions of the concept of PPPs and VFM in the roads sector in Uganda. Such stakeholders do not look at a PPP as a form of co-operation between a public and private entity to provide an asset to the public.

They also do not look at VFM as an economic way of providing such an asset to the public. The scale was intended to measure perception of the rest of UNRA stakeholders who look at a PPP and VFM from such an angle of co-operation between a public and private entity and as an economic asset delivery. As shown in the descriptive statistics, Figure 4.8 below confirms the statistics generated.

Figure 4.8: Fraction measurement scale for PP entity co-operation & economic asset delivery



Source: *Primary data* (2018) **n=62**

As presented in Figure 4.8 above, 28 respondents representing 40.3% agreed with the statement compared to 31 respondents representing 50.0% that disagreed with it.

This confirms the perception held by the majority of UNRA stakeholders that a PPP is a public-private entity co-operation and an economic asset. This finding is not in agreement with what the researcher intended to measure.

This finding agrees with Yan, Chong, Zhou, Sheng and Xu, (2018:1), Chauhana and Marisetty (2018:3), Guofeng, Qingjuan and Kedi Wang (2018: 1), Chunga and Hensherb (2018:2), Badasyan and Alfen (2018:3) and Lukamba (2006:26) who contends that a PPP is a form of co-operation between public authorities and the world of business to provide infrastructure and that VFM is a concept used to assess an organisation's capacity to obtain the maximum benefit from the goods, services or work it acquires or provides, in relation to the resources available to it.

4.3.1.1.4 The average index for the three items

In order to have a general overview of how the respondents rated themselves on UNRA stakeholders' perception of the concepts of PPP and VFM in the roads sector in Uganda, an average index was computed from the three statements in Table 4.9 below giving relevant descriptive statistics.

Table 4.9: Summary of descriptive statistics on self-rating of concepts of PPPs & VFM

Mean		3.21
95% Confidence Interval for Mean	Lower Bound	2.97
	Upper Bound	3.44
Median		3.17
Std. Deviation		.856
Minimum		2
Maximum		5
Range		3
Skewness		0.201

Source: *Primary data* (2018)

n=62

Results from Table 4.9 above showed that respondents' ratings on UNRA stakeholders' perception of the concepts of PPP and VFM in the roads sector was average with a mean of 3.21 and a median of 3.17.

The opinions ranged from 2.97 to 3.44 at the 95% Confidence Interval for Mean. In spite of such average rating, results from the above table reflected that some respondents scored very poorly at a minimum of 2.00 while others scored best at a maximum of 5.

This gave a broad difference as reflected by a high range of 3.00. Results also showed that the respondents' opinions were similar regarding UNRA stakeholders' perceptions of the concepts of PPP and VFM in the roads sector in Uganda, with a relatively small deviation value of 0.856.

This suggests that respondents' views about UNRA stakeholders' perceptions of the concepts of PPPs and VFM do not differ very much.

The difference in opinions among UNRA stakeholders was at 3.00 and is supported by the aforementioned standard deviation of 0.856. Results from Table 4.9 further showed that there was some degree of skewness, implying that the respondents' opinions were almost normally distributed with skewness of 0.609.

4.3.1.2 Qualitative findings on stakeholder perception of the concepts of PPP and VFM

During interviews with respondents concerning their perceptions on the concept of PPP, the majority of them said that *“PPPs are about government working with private companies to provide services to the people.”*

Other respondents said that they did not know because it was their first time to hear about such a term.

Concerning the concept of PPP, one respondent said: *“I think a PPP is where government makes a contract with a private organisation to do some work on its behalf.”*

Another respondent asked: *“You mean we have such a term in Uganda?”* On their perception of the concept of VFM, the majority of respondents said that *“VFM is about making sure that taxpayers’ money is put to proper use by government.”*

Some respondents said that although they had ever heard about such a term, they did not know how to explain it.

One respondent explained the concept of VFM as follows: *“VFM is about ensuring that whatever money you spend is worth it.”*

Another study participant commented that *“VFM is about spending wisely.”*

All the above qualitative findings agree with the quantitative data on UNRA stakeholders’ perception about PPPs and VFM in the roads sector in Uganda and are almost in line with what the researcher intended to measure.

4.3.2 Findings on the PPP models being used by UNRA in the roads sector in Uganda

The items on PPP models being used by UNRA to ensure VFM in the roads sector in Uganda were derived from research objective 2.

The items that were cross examined in this objective catered for short, intermediate and long-term PPP models being used by UNRA to ensure VFM in the roads sector in Uganda as shown in Table 4.10 below.

Table 4.10: PPP models used by UNRA to ensure VFM in the roads sector in Uganda

PPP models to be used by UNRA	SD	D	N	A	SA	Mean	S.Dev
UNRA uses Private Finance Initiative, Concession and Joint Venture PPP Models to ensure VFM in the roads sector in Uganda	7 (11.3%)	34 (54.8%)	12 (19.4%)	8 (12.9%)	1 (1.6%)	2.40	.896
UNRA uses Design and Build (DB) and Build, Own and Operate (BOO) PPP Models to ensure VFM in the roads sector in Uganda	3 (4.8%)	28 (45.2%)	12 (19.4%)	17 (27.4%)	2 (3.2%)	2.49	1.012
UNRA uses Leasing and affermage PPP Models to ensure VFM in the roads sector in Uganda	1 (1.6%)	31 (50.0%)	17 (27.4%)	7 (11.3%)	6 (9.7%)	3.08	.821
UNRA uses Build Operate Transfer (BOT) and Build Own Operate Transfer (BOOT) PPP Models to ensure VFM in the roads sector in Uganda	5 (8.1%)	10 (16.1%)		24 (38.7%)	23 (37.1%)	3.44	.769
UNRA uses Contracting out, Management contract and Service contract PPP Models to ensure VFM in the roads sector in Uganda	2 (3.2%)	3 (4.8%)	10 (16.1%)	19 (30.6%)	28 (45.2%)	3.34	1.114
UNRA uses Design Build Finance, Design Build Finance Maintain, Design Build Finance Operate and Design Build Finance Operate Maintain PPP Models to ensure VFM in the roads sector in Uganda	21 (33.9%)	21 (33.9%)		2 (3.2%)	18 (29.0%)	2.62	.903

Source: Primary data (2018)

n=62

SA = Strongly Agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly Disagree, S.Dev = Standard deviation.

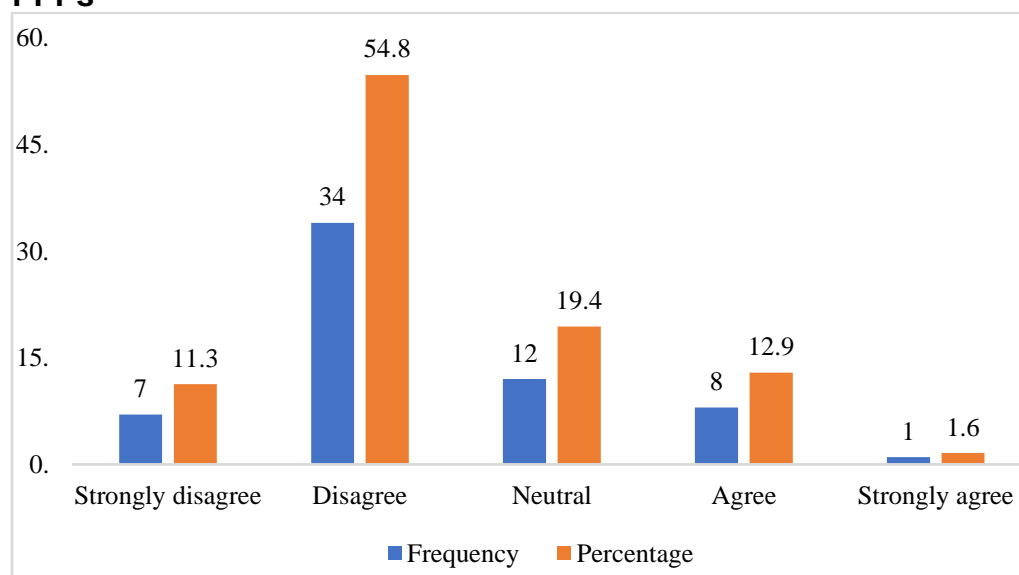
In line with the statistical computations in Table 4.10 above, the details hereunder interrogate the empirical results through advanced statistical tests to demonstrate the views of the respondents on the different PPP models used by UNRA in the roads sector.

4.3.2.1 Findings on use of Public Finance Initiative (PFI), Concession and Joint Venture PPPs

4.3.2.1.1 Quantitative findings on the use of PFI, Concession and Joint Venture PPP models

As to whether UNRA uses Private Finance Initiative, Concession and Joint Venture PPP models to ensure VFM in the roads sector in Uganda, Table 4.10 above shows that 41 respondents representing a larger percentage of 66.1% disagreed with the statement compared to a smaller number of 9 respondents representing 14.5 % that agreed with the statement. However, only 12 respondents that represent 19.4% were not sure about the statement. The mean of 2.40 shows that the majority of respondents disagreed with the item implying that UNRA is currently not using Private Finance Initiative, Concession and Joint Venture PPP models. It is not in line with what the researcher intended to measure as shown in Figure 4.9 below.

Figure 4.9: Histogram for Public Finance Initiative, Concession and Joint Venture PPPs



Source: Primary data

(2018)

n=62

Figure 4.9 is in agreement with the descriptive statistics of Table 4.10 above. Cumulatively, 41 respondents representing 66.1% disagreed with the statement compared to a smaller number of 9 respondents representing 14.5 % that agreed with it. 12 respondents that represent 19.4% were not sure. This confirms that UNRA may currently not be using Private Finance Initiative, Concession and Joint Venture PPP models to ensure VFM in the roads sector in Uganda and so it is not in line with what the researcher intended to measure.

This finding of the study does not reflect the reviewed debates by scholars such as Krol, (2018:3), Chunga and Hensher (2018:2), Yan, Chong, Zhou, Sheng and Xu (2018:2), Obayelu (2018:255), Jinbo, Yunpeng, Lulu and Yan (2018:2), Kwak et al. (2009:53), Delmon (2011:118), Yescombe (2007:5) and Mouraviev et al. (2016:164) who assert that a concession is a PPP structure where the public sector grants a concession or a series of rights to the private contractor to construct or renovate and operate an asset for a pre-determined period (usually 20 and 30 years) referred to as a concession period.

4.3.2.1.2 Qualitative findings on the use of PFI, concessions and joint venture PPP models

During interviews with respondents concerning the use of Private Finance Initiative, concession and joint venture PPP models in the roads sector, the majority of respondents said that they did not know because they had never heard about such terms. However, one respondent said: *“I believe if UNRA uses concession PPP models in the roads sector, it may not be good for our country because the private companies may over exploit the public.”* Another respondent said: *“I think it may be a good idea for UNRA to use joint ventures because if it works with private companies, for them they are more serious”*. Another one respondent said: *“If not mistaken, I am not quite sure whether we have a Private Finance Initiative here in UNRA. May be I need to first do my homework before I confirm.”*

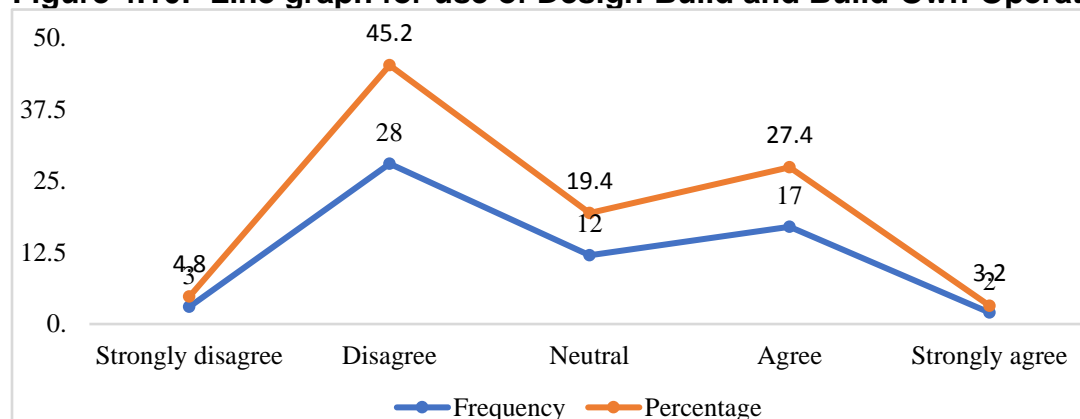
All the above qualitative findings support quantitative data that UNRA may not be using Private Finance Initiative, concession and joint venture PPP models, so they are not in line with what the researcher intended to measure. Over all, the statistics show that UNRA is currently not using such PPP models in the roads sector and as already noted, the results are not all in line with what the researcher intended to measure.

4.3.2.2. Findings of Design Build and Build Own Operate PPP models used by UNRA

4.3.2.2.1 Quantitative findings on the use of DB and BOO by UNRA in the roads sector

As to whether UNRA uses Design Build and Build Own Operate PPP models, Table 4.10 above shows that cumulatively 31 respondents representing 50.0% disagreed with the statement compared to 19 respondents representing 30.6% that agreed with it. However, 12 respondents that represent 19.4% were not sure that UNRA uses those PPP models to ensure VFM. The mean of 2.49 was slightly below the median score of 3, implying that currently UNRA is not using these PPP models. This finding is not in line with what the researcher intended to measure as shown in Figure 4.10 below.

Figure 4.10: Line graph for use of Design-Build and Build-Own-Operate PPP Models



Source: Primary data

(2018)

n=62

Figure 4.10 above and Table 4.10 show that 31 respondents representing 50.0% disagreed with the statement compared to 19 respondents representing 30.6% that agreed with the statement. However, 12 that represent 19.4% were not sure about this statement. This confirms that UNRA is currently not using the above PPP models in the roads sector in Uganda and, therefore, it is not in line with what the researcher intended to measure. Therefore, this finding of the study does not agree with the debates by scholars and development partners such as Khadka, (2018:19), Warner et al. (2008:52), USDOT (2014:2), ADB (2008:34) and IMF (2004:7) who postulate that BOO PPP model is where the public entity enters into contract with a private entity so that the private agency can finance, build, own, and operate a road facility for a certain period of time.

4.3.2.2.2 Qualitative findings on use of Design-Build and Build-Own-Operate by UNRA

Concerning UNRA's use of Design and Build (DB) and Build, Own and Operate (BOO) PPP models in the roads sector, the majority of respondents said that they were not aware of such PPP arrangements in UNRA. Respondent 1 said: *"I doubt there are such PPPs in this organisation but if UNRA has a plan to introduce them, it is okay."* Respondent 2 said: *"I don't know whether we are using such PPPs but even if UNRA was planning to have such PPPs in place, personally I won't support it because it attracts more Chinese firms to grab people's land and put up fake roads."*

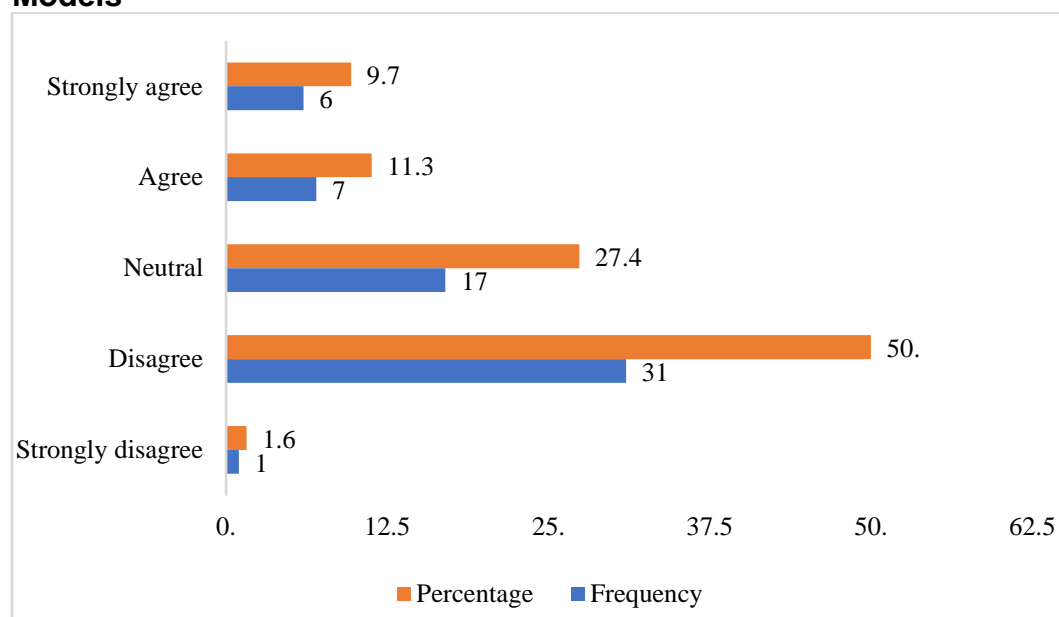
On the other hand, Respondent 3 said: *"I am not aware of the existence of such type of PPP in UNRA but if UNRA intends to use such a PPP in the near future that will be good."* Respondent 4 said: *"I am not quite sure that we have such a PPP here and so I can't say much"* while Respondent 5 said: *"For sure I can't deceive that I have ever heard about something like that."* All the above support the findings from quantitative data that showed that UNRA is currently not using these PPP models. The findings are not in line with what the researcher intended to measure.

4.3.2.3 Findings on the use of Leasing & Affermage Models by UNRA in the roads sector

4.3.2.3.1 Quantitative findings on use of Leasing & Affermage by UNRA in the roads sector

As to whether UNRA uses Leasing and affermage PPP models to ensure VFM in the roads sector in Uganda, Table 4.10 above shows that 32 respondents representing 51.6 % disagreed with the statement compared to 13 respondents representing 21.0% that agreed with it. However, 17 respondents that represent 27.4% were not sure about this statement. The average rating is confirmed by a fair mean of 3.08 and standard deviation of 0.821, implying that currently, UNRA is not using Leasing and affermage PPP models to ensure VFM in the roads sector in Uganda and so it is not in line with what the researcher intended to measure as shown in Figure 4.11 below:

Figure 4.11: Histogram for UNRA's intention to use Leasing and affermage PPP Models



Source: Primary data (2018)

n=62

As presented in Figure 4.11, cumulatively 32 respondents representing 51.6 % disagreed with the statement compared to 13 respondents representing 21.0% that agreed with the statement. However, a total of 17 that represent 27.4% were not sure about this statement. This confirms that at present, UNRA is not using leasing and affermage PPP models in the roads sector in Uganda and so it is not in line with what the researcher intended to measure. This finding does not reflect the reviewed debates by scholars and development partners such as Obayelu (2018:255), Warner et al. (2008:53), Delmon (2010:12) Farquharson and Yescombe (2011:10) WB, (2017:1), Bouman et al. (2013:18) and ADB (2008:33) who note that leasing is a longer term arrangement where a private entity can design, build, refurbish, operate and maintain a service delivered directly to consumers.

4.3.2.3.2 Qualitative findings on use of Leasing and Affermage PPP Models by UNRA

Interviews with respondents concerning UNRA's usage of Leasing and affermage PPP models to ensure VFM in the roads sector revealed that the majority of respondents said that they don't know whether such contracts are being used in constructing roads in Uganda. Some of the respondents said that *"if such idea existed, they would support it especially when it comes to management of weigh bridges."* Actually one of the respondents said: *"I am not aware of*

such a PPP in UNRA but if it was there, it would be a good opportunity especially when it comes to management of street parking in Kampala"; While another respondent said: *"Well, I have not yet heard about it but if it ever comes up, I don't think I would support such because many people here in Uganda are thieves."* All the above qualitative findings support quantitative data that shows that UNRA is not using Leasing and affermage PPP models to ensure VFM in the roads sector and so they are not in line with what the researcher intended to measure.

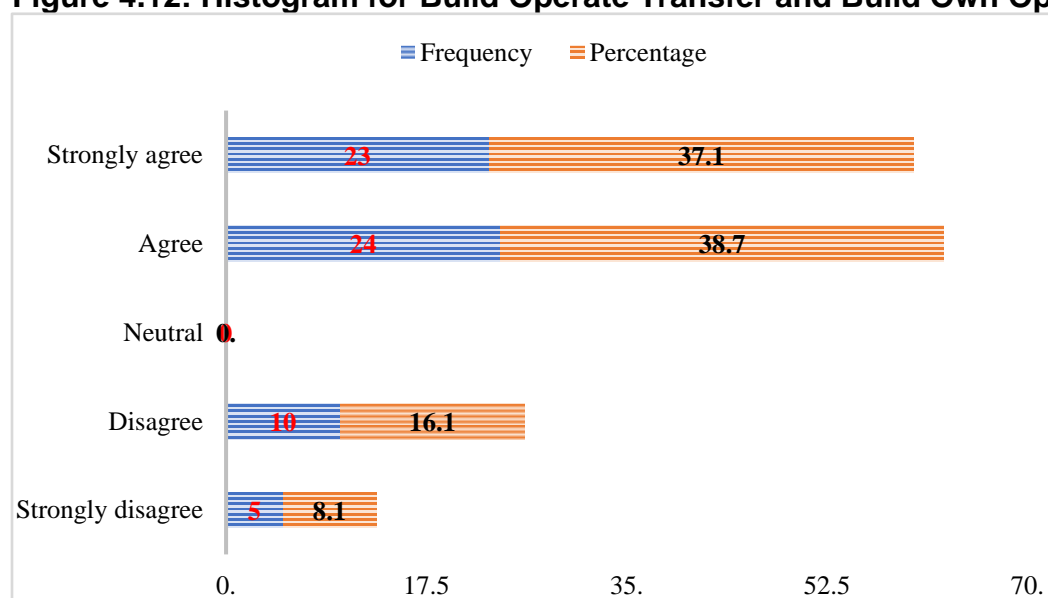
4.3.2.4 Findings for use of Build Operate Transfer and Build Own Operate Transfer PPPs

4.3.2.4.1 Quantitative findings for the use of BOT & BOOT PPPs models by UNRA

As to whether UNRA is using Build Operate Transfer (BOT) and Build Own Operate Transfer (BOOT) models to ensure VFM in the roads sector in Uganda, Table 4.10 above shows that 47 respondents representing a high percentage of 75.8 % agreed with the statement compared to a smaller number of 15 respondents representing 24.2% that disagreed with the statement.

The mean of 3.44 and standard deviation of 0.769 implies that there is a very high likelihood that UNRA is using or may be planning to use Build Operate Transfer (BOT) and Build Own Operate Transfer (BOOT) PPP models to ensure VFM in the roads sector in Uganda. Some study participants indicated in the qualitative findings that UNRA is currently designing a Build Operate Transfer model for Kampala-Jinja Express Highway. The scale below was intended to measure whether UNRA is using these PPP models to ensure VFM in the roads sector in Uganda and the descriptive results are in line with what the researcher intended to measure. The Figure 4.12 below shows more information on UNRA's use of such PPP models to ensure VFM in the roads sector in Uganda.

Figure 4.12: Histogram for Build Operate Transfer and Build Own Operate Transfer



Source: Primary data (2018)

n=62

As observed in Figure 4.12, cumulatively 47 respondents representing a high percentage of 75.8% agreed with the statement compared to a smaller number of 15 respondents representing 24.2% that disagreed with the statement.

This confirms that UNRA is either using or is planning to use Build Operate Transfer (BOT) and Build Own Operate Transfer (BOOT) PPP models to ensure VFM in the roads sector in Uganda. All these findings agree with what the researcher intended to measure.

This finding of the study is in line with scholarly debates by Tsukada (2018:5), Adjarko, Ayerakwah and Fynn (2018:1), Obayelu (2018:255), Vahdatmanesh (2018:2), (Jinbo et al.(2018:5), Gwary et al. (2016:52), Shukla et al. (2016:113), Kwak et al. (2009:54) and Warner et al. (2008:52) who argue that BOT is where the private entity has the sole responsibility for financing, designing, building and operating infrastructure works according to performance standards set by the public sector based on a long period within which the private sector operates the project to pay off costs, make profit and then transfer the asset to the public entity after such a period.

4.3.2.4.2 Qualitative findings for use of Build Operate Transfer & Build Own Operate Transfer

On interview with respondents concerning UNRA's intention to use Build Own Operate Transfer and Build Operate Transfer PPP models in the roads sector, a number of respondents said that currently these PPPs are not operational but they are being designed for some roads such as Kampala Jinja express highway.

One of the respondents asked: *"So, how did you know we already have a plan in place to use such PPPs?"*

Respondent 2 said: *"Of course the plan is already there and I don't think there is anyone who does not support that plan because it is going to enable us work with private companies that can provide us with better expertise and more resources that we may not be having at hand currently."*

Respondent 3 said: *"I reserve my comments because a number of other good plans have always been in place but they never materialise."*

Respondent 4 said: *"I am aware of such a plan where UNRA is trying to get private developers to construct a number of flyovers along the major routes in the different divisions of Kampala city that will connect to Wakiso, Mpigi and Mukono districts under greater Kampala master plan."*

Respondent 5 said: *"UNRA has a plan to use those PPPs and I think such a plan is good because since such a contract requires heavy investment of capital which UNRA may not be having currently, many international companies like those from China will support the plans".*

Respondent 5 went ahead to say " Chinese companies can support the plans by investing in alternative means of reducing traffic jams that is common in Kampala, through constructing of more dual carriage roads in its major suburban areas."

Respondent 6 commented: *"I hear the plan is already in place to use such PPPs but some of the issues involved in implementation of such plans are really very complicated and I doubt whether such a plan will ever come to pass"*

Respondent 7 added: *“Much as the plan to use such PPPs is already drawn, some of such plans are not feasible in the short run due to a number of technicalities involved in getting a private company on board to implement such plans.”*

All the above qualitative findings support the quantitative data on UNRA’s intention to use Build Operate Transfer (BOT) and Build Own Operate Transfer (BOOT) PPP models in the roads sector and are in line with what the researcher intended to measure.

The statistics show that UNRA has a plan already in place to use the above PPP Models to ensure VFM in the roads sector in Uganda before the end of 2018.

All the results above agree with what the researcher intended to measure.

4.3.2.5 Findings for use of Contracting out, contract management and service contract PPPs

4.3.2.5.1 Quantitative findings for contracting out, contract management & service contract

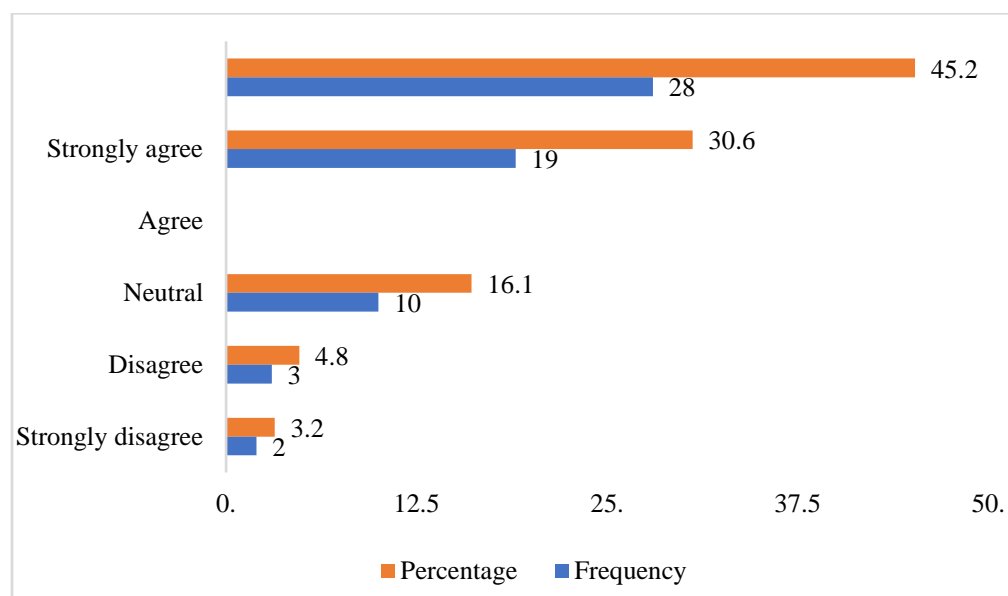
As to whether UNRA is using contracting out, contract management and service contract PPP models to ensure VFM in the roads sector in Uganda, Table 4.10 above shows that cumulatively 47 respondents representing 75.8 % agreed with the statement compared to a smaller number of 10 respondents representing 16.1% that disagreed with the statement.

However, only 10 representing 16.1% were not sure of the statement.

The mean of 3.34 and standard deviation of 0.1.114 implies that UNRA is mainly using contracting out, contract management and service contract PPP models to ensure VFM in the roads sector in Uganda and this finding is in line with what the researcher intended to measure.

As illustrated above, the scale was intended to measure whether UNRA is currently using the above PPP models to ensure VFM in the roads sector in Uganda. These findings are illustrated in Table 4.10 above and in Figure 4.13 below.

Figure 4.13: Contracting out, contract management and service contract by UNRA



Source: *Primary data* (2018)

n=62

Figure 4.13 above shows that 47 respondents representing 75.8 % agreed with the statement compared to a smaller number of 10 respondents representing 16.1% that disagreed with it. However, only 10 that represent 16.1 were not sure about the statement. This confirms that generally, UNRA is currently using mainly the PPP models of contracting out, contract management and service contract to ensure VFM in the roads sector. This is in line with what the researcher intended to measure. This finding reflects the reviewed debates by scholars and development partners such as Obayelu, (2018:255), Kwak et al. (2009:54), Gwary et al. (2016:52), Delmon (2011:135), Bouman et al. (2013:18) and ADB (2008:31) who believe that contracting out, management or operation and maintenance (O&M) contract are PPP arrangements where a private entity provides some operation and maintenance services for a fee, usually based on delivering satisfactory services.

4.3.2.5.2 Qualitative findings of contracting out, contract management and service contract

Interviews with respondents on whether UNRA is currently using contracting out, management and service contracts to ensure VFM in the roads sector, showed the the majority of the respondents agreed that “UNRA has been mainly using contracting out model to construct

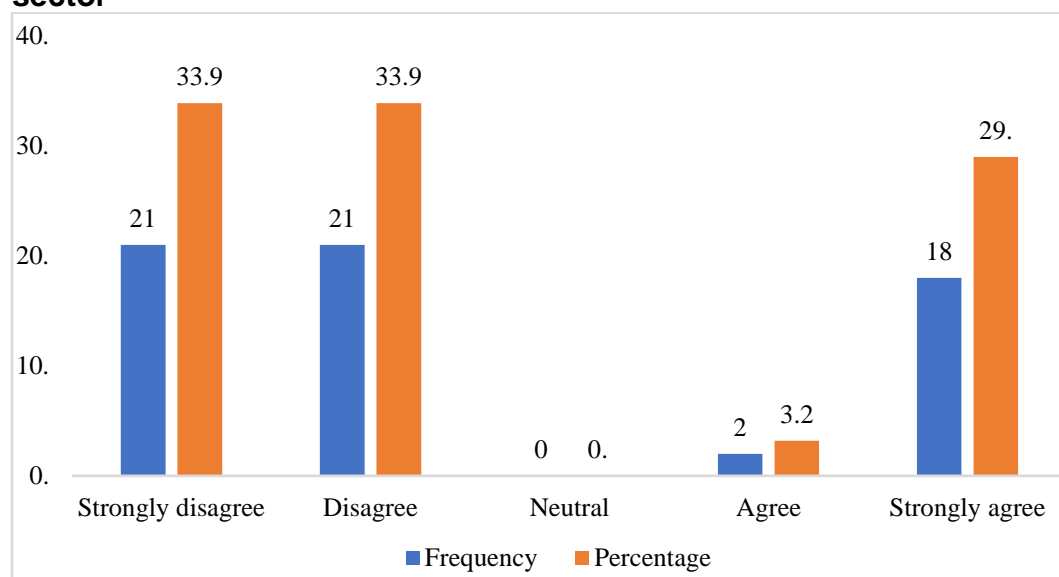
most of the roads in Uganda since 2015.” One of the respondents said: “It is true UNRA has found a private firm to take over management of the Kampala-Entebbe express highway so that it can charge toll fees from the motorists.” Another respondent noted: “We are currently using service contract with Face Technologies to issue electronic driving licenses” While, another observed: *‘I think it may not be a good idea to have a service contract with some private firms to do vehicle inspection all over Uganda because there will be some level of compromise which may lead to many accidents due to a number of vehicles that may be in dangerous mechanical conditions being allowed on our roads.’* All the above support the findings from quantitative data on the use of contracting out, contract management and service contract by UNRA in the roads sector in Uganda and they agree with what the researcher intended to measure. Over all, statistics show that UNRA is currently using mainly contracting out, contract management and service contracts to ensure VFM in the roads sector in Uganda.

4.3.2.6 Findings for the use of DBF, DBFO, DBFM and DBFOM PPP models by UNRA

4.3.2.6.1 Quantitative findings for the use of DBF, DBFO, DBFM and DBFOM PPP models

As to whether UNRA is using Design Build Finance (DBF), Design Build Finance Operate (DBFO), Design Build Finance Maintain (DBFM) and Design Build Finance Operate Maintain (DBFOM) PPP models to ensure VFM in the roads sector in Uganda, Table 4.10 above shows that cumulatively 42 respondents representing 67.8% disagreed with the statement compared to a smaller number of 20 respondents representing 32.2% that agreed with the statement. The fair mean of 2.62 and standard deviation of 903 implies that UNRA is currently not using any of the above PPP models at all. As revealed from the computations above, the scale was intended to measure UNRA’s use of such models to ensure VFM in the roads sector in Uganda. Unfortunately, the results are not in line with what the researcher intended to measure. In relation to the descriptive statistics above, Figure 4.14 below gives more light on whether UNRA is using such PPP models in the roads sector.

Figure 4.14: DBF, DBFO, DBFM and DBFOM PPP models used by UNRA in the roads sector



Source: *Primary data* (2018) **n=62**

From Figure 4.14 above, it is shown that 42 respondents representing 67.8% disagreed with the statement compared to a smaller number of 20 respondents representing 32.2% that agreed with the statement. The statistics confirm that UNRA is not currently using these PPP models in the roads sector in Uganda; hence, the above results do not reflect what the researcher intended to measure.

Finally this finding is in line with scholars such as Steinfeld et al. (2018:3), USDOT (2014:2) and Warner et al. (2008:52) who believe that a DBFOM PPP model, on the other hand, is one where the public entity enters into a contractual arrangement with the private sector entity so that the latter provides services to the public under an arrangement similar to that of BOOT. These scholars go ahead to say that where as DBFOM contracting has been understood as a method to transfer risk from the public partner to the private partner, it is argued herein that DBFOM contracting may actually increase the risk of transaction costs for the procuring entity resulting in issues of accountability.

4.3.2.6.2 Qualitative finding for the use of DBF, DBFO, DBFM and DBFOM PPP models

During interviews with respondents concerning UNRA's intention to use Design, Build and Finance (DBF), Design Build Finance and Maintain (DBFM) and Design, Build, Finance,

Operate and Maintain (DBFOM) PPP Models to ensure VFM in the roads sector in Uganda, many of the respondents commented that they *“had never heard about such PPPs in the circles of UNRA.”*

Actually one respondent lamented: *“I am afraid that is just here say. Who told you we have such PPPs here?”* Respondent 2 asked: *“Are you sure of what you are talking about? Better check your notes properly.”*

On the other hand, Respondent 3 observed: *“I wish we had such a plan in place at present because many international companies like those from china would be willing to invest in construction of underground tunnels to modernise our city transport as long as UNRA is ready to support such firms to do so.”*

Respondent 4, however, noted that *“a lot of dialogue with different stakeholders is required before such PPPs can be introduced since it may even call for parliament’s approval.”*

Respondent 5 commented: *“Even if we had plans for those PPPs, such plans are not easy to implement in the short term due to heavy expenses involved,”* while Respondent 6 said: *“I am afraid you are in a wrong place if you are talking about such PPPs.”*

All the above qualitative findings support those from quantitative data on those PPP models and so they are not in line with what the researcher intended to measure.

The statistics show that UNRA is currently not using these PPP models in Uganda and as such they do not reflect what the researcher intended to measure.

4.3.2.7 The average Index for six items of the different PPP models being used by UNRA

The purpose of this sub-section was to help give a general overview of how the respondents rated themselves on UNRA’s use of different PPP models to ensure VFM in the roads sector. An average index was computed from the six items in Table 4.11 below giving relevant descriptive statistics.

Table 4.11: Summary of descriptive statistics on respondents' self-rating on PPP models

Mean		3.67
95% Confidence Interval for Mean	Lower Bound	0.522
	Upper Bound	3.94
Median		3.00
Std. Deviation		.486
Minimum		1
Maximum		4
Range		3
Skewness		0.101

Source: *Primary data* (2018)

Table 4.11 above shows respondents' ratings on the different PPP models being used by UNRA to ensure VFM in the roads sector. The opinions were ranging from 0.522 to 3.94 at the 95% Confidence Interval for Mean. In spite of the existing average rating, results from Table 4.10 indicated that some respondents scored very poorly at a minimum of 1.00 while others scored best at a maximum of 4.

This gave a broad difference as exemplified by a high range of 3.00. Results also showed that the respondents' opinions tended to have some similarity regarding the ratings on the some PPP models being used by UNRA to ensure VFM in the roads sector in Uganda with a relatively small deviation value of .486.

This suggests that respondents' views concerning the ratings on PPP models being used by UNRA to ensure VFM in the roads sector in Uganda do not differ so much from one respondent to another. The difference in opinions regarding low and high levels of the ratings on PPP models being used by UNRA was at 3.00 and is supported by the aforementioned standard deviation 0.486. Results from the table further showed that there was some degree of skewness, suggesting that the respondents' opinions were almost normally distributed with skewness of 0.101.

4.3.3 Findings for factors affecting PPP models used by UNRA in the roads sector in Uganda

In this sub-section, the items under consideration were derived from the third objective of the study. Using 18 quantitative statements, respondents rated themselves on environmental, organisational and personal factors affecting such PPP models used by UNRA. The responses were based on Likert's scale ranging from 1 - strongly disagree, 2 - disagree, 3 - not sure, 4 - agree and 5 - strongly agree. Table 4.12 below was used as a basis for the associated appropriate frequencies, means and standard deviations.

Table 4.12: Descriptive statistics on self-rating of factors affecting PPP models used by UNRA

Environmental factors	SD	D	N	A	SA	Mean	S.Dev
Politics and Political approach affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda.		4 (6.54%)	2 (3.2%)	50 (80.6%)	6 (9.7%)	4.94	.524
Policy guideline, procedures and enforcement affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda.		21 (33.9%)	18 (29.0%)	21 (33.9%)	2 (3.2%)	0.624	.903
Legislative framework and enforcement affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda		29 (46.8%)	16 (25.8%)	14 (22.6%)	3 (4.8%)	2.85	.938
Regulatory framework and enforcement affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda	6 (9.7%)	35 (56.5%)	12 (19.4%)	8 (12.9%)	1 (1.6%)	2.40	.896
Policy, legislation and regulation monitoring affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda	3 (4.8%)	28 (45.2%)	12 (19.4%)	17 (27.4%)	2 (3.2%)	2.79	1.010
Organizational factors	SD	D	N	A	SA	Mean	S.Dev

Criteria for using PPP arrangements and Risk Management affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda.	1 (1.6%)	31 (50.0%)	7 (11.3%)	17 (27.4%)	6 (9.7%)	3.08	.821
Performance measurement and capacity to manage the PPPs affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda		7 (11.3%)	12 (19.4%)	39 (62.9%)	4 (6.5%)	4.42	.095
Undertaking PPPs for good reasons and reliance on Non-Government Organizations affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda	5 (8.1%)	23 (37.1%)	10 (16.1%)	24 (38.7%)		2.85	1.069
Choice of the partner and flexibility between the partners affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda.	2 (3.2%)	28 (45.2%)	10 (16.1%)	19 (30.6%)	3 (4.8%)	2.94	1.114
Public and private sector objectives and goals affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda.		9 (14.5%)	14 (22.6%)	30 (48.4%)	9 (14.%)	4.65	.770
Focus by both public and private bodies affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda.			6 (9.7%)	48 (77.4%)	8 (12.%)	4.03	.398
PPP funding priorities and estimation of PPP costs affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda.		9 (14.5%)	4 (6.5%)	41 (66.%)	8 (12.%)	3.89	1.042
PPP accountability mechanisms and PPP implementation complexities affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda.		6 (9.7%)	6 (9.7%)	45 (72.6%)	5 (8.1%)	4.63	.610
Ambiguity in PPP implementation and organizational capacity affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda.		11 (17.7%)	10 (16.1%)	31 (50.0%)	10 (16.1%)	4.93	.378

Autonomy by partners and Stakeholders Management affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda.	2 (3.2%)	9 (14.5%)	11 (17.7%)	35 (56.5%)	5 (8.1%)	4.77	.657
Personal factors	SD	D	N	A	SA	Mean	S.Dev
The competence of PPP Unit staff and PPP Unit staff roles affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda.		4 (6.54%)	2 (3.2%)	50 (80.6%)	6 (9.7%)	4.79	.627
Corruption and communication among public and private entities' staff affect the PPP models used by UNRA to ensure VFM in the roads sector.		9 (14.5%)	14 (22.6%)	30 (48.4%)	9 (14.5%)	4.65	.760
Conflict among public and private sector staff and competition among individual bidders affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda.		7 (11.2%)	12 (19.4%)	39 (62.9%)	4 (6.5%)	4.52	.654

Source: Primary data (2018)

n=62

SA = Strongly Agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly Disagree, S.Dev = Standard deviation. Table 4.12 above shows the appropriate frequencies, means and standard deviations about the respondents' self-rating regarding the effect of environmental, organisational and personal factors on the PPP models used by UNRA. The details of the effect of each factor on the PPP models used by UNRA in ensuring VFM in the roads sector is presented below and in the proceeding sections.

4.3.3.1 Findings for effects of environmental factors on the PPP models used by UNRA

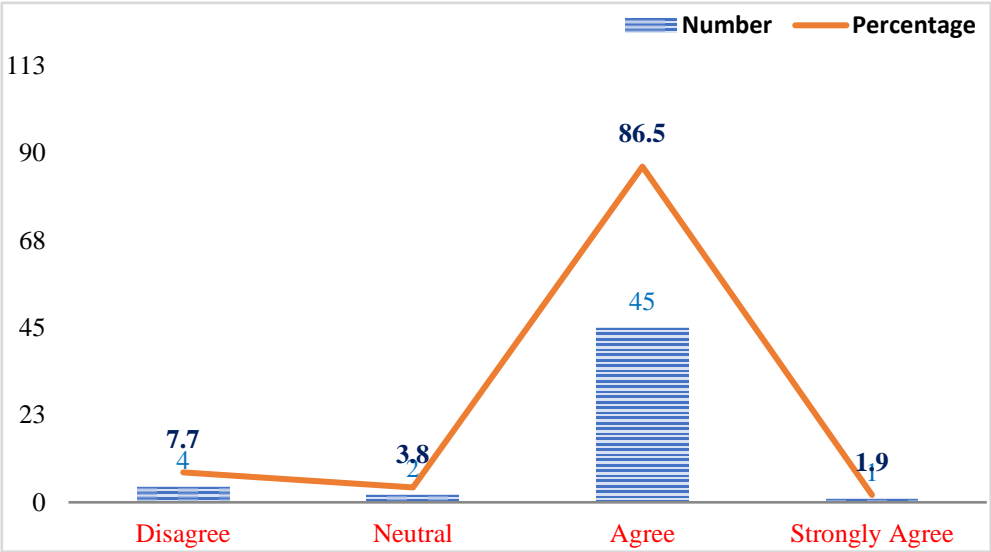
4.3.3.1.1 Findings for the effect of politics and political approach on PPP models

4.3.3.1.1.1 Quantitative findings for effect of politics & political approach on PPP models

As to whether the political environment affects PPP models used by UNRA, Table 4.12 above shows that cumulatively, 56 respondents that represent 90.3% agreed with the statement compared to 4 respondents that represent 6.54% who did not agree. A total of 2 respondents that represent 3.2% were not sure that political environment affects PPP models used by

UNRA to implement construction and maintenance projects in the roads sector. The good rating is confirmed by a mean value of 4.94 and standard deviation of 0.524, thus corresponding to the statement that the political environment affects PPP models used by UNRA. As shown in Table 4.12 above, the Figure 4.15 below gives more details of the statistics on the effect of the political environment on PPP models that were generated.

Figure 4.15: Effect of political environment and approach on the PPP models used by UNRA



Source: Primary data (2018) **n=62**

As presented in Figure 4.15 above, 56 respondents that represent 90.3% agreed with the statement compared to 4 respondents that represent 6.54% who did not agree with it. A total of 2 respondents that represent 3.2% were not sure. This confirms that the political environment and approach indeed highly affects the PPP models used by UNRA in ensuring VFM in the roads sector in Uganda and so the results were in line with what the researcher intended to measure. This finding conforms to the debates by scholars and development partners such as Albalate et al. (2018:1), Krol (2018:4), Khallaf et al (2018:3), Obayelu (2018:256), Jadha and Choudhury (2018:3), Lee et al. (2018:4), Ashery (2018:7). Pongsiri (2002:491), Smith (1997:1), Bird et al. (2003:11), Namara (2012:2), Hodge and Greve (2007:547), Feder et al. (2011:2352), UNECEF (2008:20), WB (2017:2) and FAO (2016:118), who argue that politics provides the context for PPP implementation and sustainability in all countries.

4.3.3.1.1.2 Qualitative findings for the effect of politics on the PPP models used by UNRA

An interview conducted with respondents concerning the effect of politics and the political approach on the PPP models used by UNRA revealed that there were diverging views on this item from the different respondents.

For example, Respondent 1 said that *“there is influence peddling and a lot of political interference when it comes to the issue of using PPP model to construct some roads.”*

Respondent 2 noted: *“Political leadership is opposed to the use of some PPP models in the roads sector especially those where they can’t personally benefit”.*

Respondent 3 said: *“Our Executive Director who is the over all Accounting Officer for UNRA is a political appointee so she has to implement PPP models that are politically pleasing,”* while

Respondent 4 said: *“We are happy that government has given us full support to use a PPP arrangement in the construction of Kampala Jinja Express Highway.”*

Respondent 5 agreed that. *“The government is fully committed to improve our road networks using PPPs because it will be one way in which vision 2040 for country will be realised”.*

Respondent 6 said: *“But you know that President Museveni is the one behind all these reforms of using PPPs in the road sector so as to achieve the sustainable development goals;”*

While, Respondent 7 concluded: *“Definitely without government support, we can’t do much as far as using PPPs in the roads sector is concerned.”*

Therefore, from the above responses, it can be observed that qualitative findings for effect of politics and a political approach on the PPP models being used by UNRA concur with the quantitative findings from the questionnaires.

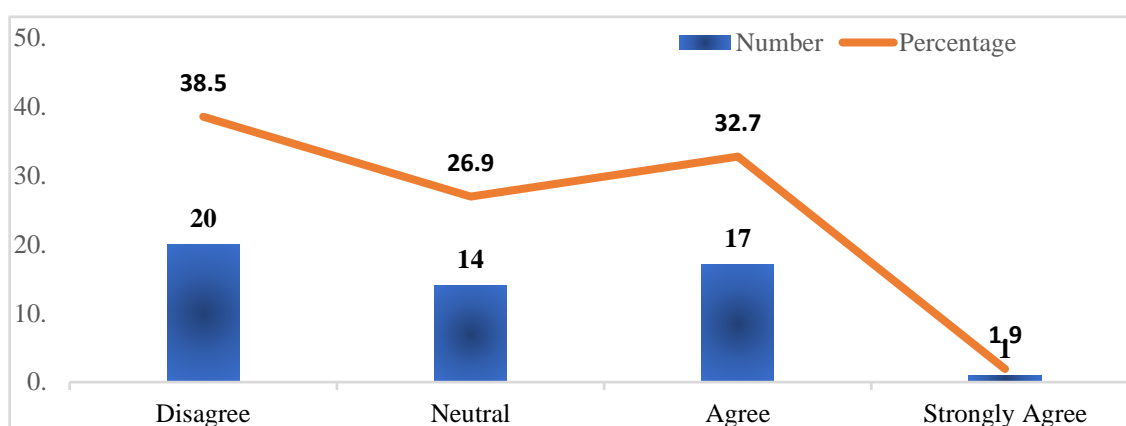
This implies that politics and a political approach have a strong bearing on the PPP models used by UNRA and so the results were much in line with what the researcher intended to measure.

4.3.3.1.2 Findings for effect of policy framework and enforcement on the PPP models

4.3.3.1.2.1 Quantitative findings for effect of policy framework on the PPP models

As to whether a policy framework affects the PPP models used by UNRA, Table 4.12 above shows that 23 respondents that represent 37.1% agreed with the statement compared to 21 respondents that represent 33.9% who disagreed with it. 18 respondents that represent 29% were not sure. The fair rating was confirmed by a mean value of 0.624 and standard deviation of 0.903, thus confirming that a policy framework and enforcement affect the PPP models used by UNRA in ensuring VFM in the roads sector. As shown in the descriptive Table 4.12 above, the Figure 4.16 below gives more details of the effect of a policy framework and enforcement on the PPP models that were generated.

Figure 4.16: Histogram for effect of Policy framework on the PPP models



Source: Primary data

(2018)

n=62

Figure 4.16 shows that 23 respondents that represent 37.1% agreed with the statement compared to 21 respondents that represent 33.9% who disagreed with the statement. A total of 18 respondents that represent 29% were not sure. The statistics further reveal that a policy framework fairly affects the PPP models used by UNRA to ensure VFM in the roads sector in Uganda and so the results were in line with what the researcher intended to measure. This finding of the study agrees with debates by scholars and development partners such as Howella & Sadowski (2018:3), Lee et al. (2018:1), Hard castle et al. (2005: 459-471), Akintoye et al. (2005:459-471), Chan (2010; 484-494), Ndandiko (2006:44), Tion (1990:229), Zou (2014: 270), Akintoye et al. (2005:459-471), Farlam (2005:4), Poulton and Macartney (2012:96),

Feder et al. (2011:2348), Yong (2010:30), Pongsiri (2002:490), Cheng and Wang (2009:5), UNECE (2008:18), ADB (2008:26) and FAO (2016:3) who agree to the fact that a sound policy framework is necessary for developing sustainable relationships in PPPs since it articulates the intent to deliver public services and provides the broad picture for design and implementation that are critical in managing stakeholder expectations in addition to guiding monitoring progress of PPPs.

4.3.3.1.2.2 Qualitative findings for the effect of Policy framework on the PPP models used

In an interview with one respondent concerning the effect of a policy framework on the PPP models used by UNRA, had this to say: *“Management partially implements policies on PPPs in the roads sector.”*

She added: *May be it is because implementing such PPP policy in the roads sector has some very complicated issues that management needs to first sort out. For instance, a lot of dialogue with different stakeholders is required before implementation of any PPP policy in the roads sector. That is why UNRA has to first consult some other agencies when it comes to adoption and implementation of PPP policies in the roads sector.*

However, another respondent said: *“But you know the plan to develop Kampala Jinja express highway is a result of existing PPP policy that UNRA is using. Actually UNRA intends to use the existing PPP policy to improve the other major highways in the country. The PPP policy is important if our roads are to be improved in order to contribute to the achievement of the objectives of the national development plan.”*

Therefore, from the above responses, it can be observed that qualitative findings for effect of policy framework on PPP models used by UNRA concur with the quantitative findings from the questionnaires.

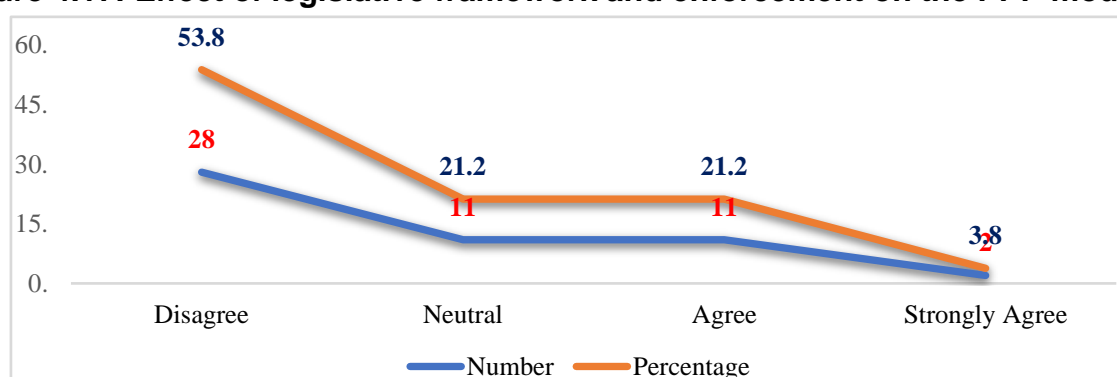
This implies that the policy framework actually has a strong effect on the PPP models used by UNRA in ensuring VFM in the roads sector and so the results were in line with what the researcher intended to measure.

4.3.3.1.3 Findings for the effect of the legislative framework & enforcement on the PPP models

4.3.3.1.3.1 Quantitative findings for the effect of the legislative framework on PPP models

Regarding whether a legislative framework and enforcement affect the PPP models used by UNRA in ensuring VFM in the roads sector in Uganda, Table 4.12 above shows that 29 respondents that represent 46.8% disagreed with the statement compared with a small number of 17% respondents that represent 27.4% who agreed with the statement. A total of 16 respondents that represent 25.8% were not sure of this statement that legislative framework and enforcement affect the PPP models used by UNRA. The mean of 2.85 which was used to measure items on the five-point Likert scale was slightly below the median score of 3. This implies that the effect of the legislative framework and enforcement on the PPP models used by UNRA is minimal. The purpose of this scale was to quantify whether a legislative framework and enforcement affect the PPP models used by UNRA. In addition to the descriptive statistics in Table 4.12 above, Figure 4.17 below gives more details on the effect of the legislative framework and enforcement on the PPP models that were generated.

Figure 4.17: Effect of legislative framework and enforcement on the PPP models



Source: Primary data

(2018)

n=62

The results from Figure 4.17 above showed that 29 respondents that represent 46.8% disagreed with the statement compared with 17 respondents that represent 27.4 who agreed with the statement.

16 respondents that represent 25.8% were not sure of this statement.

In spite of the existing fair mean of 2.85, the median score of 3 on the five-point Likert scale used to measure items implied that legislative framework and enforcement does not affect much the PPP models used by UNRA in the roads sector and so the results were not fully in line with what the researcher intended to measure.

This finding was from the majority of UNRA respondents who disagreed on one hand and the minority of UNRA respondents that agreed on the other hand with the debates by scholars and development partners such as Lee et al., (2018:2), Yong, (2010:31), FAO (2016:105), EIU (2015:13), Shediak et al. (2008:9), Mouraviev and Kakabadse (2015:7), Pongsiri (2002:488), Samii et al.(2002:1002), EC (2003:38), Yong (2010:3), Mouraviev and Kakabadse (2015:6) FAO (2016:116), Abdel Aziz (2007:921), Hodge and Greve (2007:546-547), Farquharson et al. (2011:19), (KPMG, 2015:16), UNECE (2008:30) and (ADB et al.2014:78) who argue that the most developing countries are implementing PPPs without a specific PPP law although passing such laws can harmonise practices and establish consistent frameworks across government ministries, departments and agencies.

4.3.3.1.3.2 Qualitative findings for the effect of legal framework on the PPP models

Interviews were conducted with respondents concerning the effect of the legal framework on the PPP models used by UNRA and one respondent said: *“Definitely a legal framework on the use of PPPs in the roads sector is important if management is to improve our roads in the country.”*

Respond 2 said: *“The challenge we have in Uganda is that we have very good laws for PPPs in the roads sector but enforcement is a problem”.*

While Respondent 3 commented: *“Much as we already have PPP laws in place for the road sector, sometimes they are not followed and that is why nothing much has been done to work on our roads.”*

Respondent 4 noted, *“Implementation of PPP legal reforms specifically for the roads sector in Uganda may first call again for parliament approval!”*

On the other hand, Respondent 5 observed: *“The challenge with PPP laws in the roads sector is that there is a lot of conflict of interest.”*

Respondent 6 said: *“The existence of a legal framework has enabled us to get a company to manage the Kampala-Entebbe express highway.”*

From the above responses, it can be observed that qualitative findings for effect of the legal framework on the PPP models used by UNRA concur with the findings from the questionnaires.

The findings imply that a legal framework slightly effect the PPP models used by UNRA in ensuring VFM in the roads sector in Uganda and so the results were not exactly in line with what the researcher intended to measure.

4.3.3.1.4 Findings for effect of regulatory framework and enforcement on the PPP models

4.3.3.1.4.1 Quantitative findings for effect of regulatory framework on the PPP models

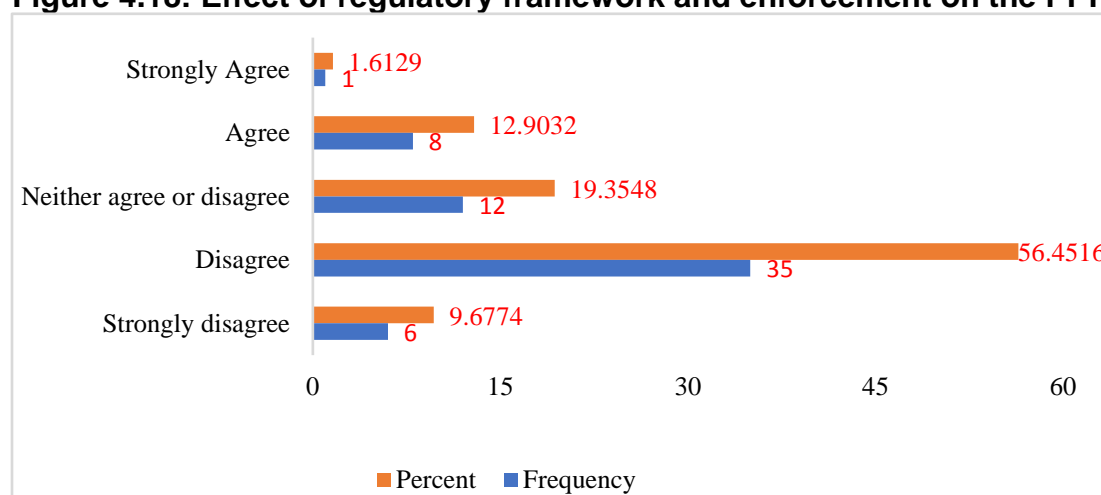
As to whether regulatory framework and enforcement affect the PPP models used by UNRA in ensuring VFM in the roads sector in Uganda, Table 4.12 above shows that 41 respondents that represent 66.2% disagreed with the statement as compared to 9 respondents that represent 14.5 who agreed with the statement.

A total of 12 respondents that represent 19.4% were not sure of this statement. The fair rating is confirmed by a fair mean value of 2.40 and standard deviation of 0.896 which implied that to a less extent, the regulatory framework and enforcement affect the PPP models used by UNRA.

The purpose of this scale was to quantify whether a regulatory framework and enforcement affect the PPP models used by UNRA.

In addition to the descriptive statistics in the Table 4.12 above, Figure 4.18 below gives more detailed statistics on the effect of a regulatory framework and enforcement on the PPP models that were generated.

Figure 4.18: Effect of regulatory framework and enforcement on the PPP models



Source: Primary data (2018) **n=62**

Figure 4.18 above confirmed that 41 respondents that represent 66.2% disagreed with the statement compared with 9 respondents that represent 14.5 who agreed with it. A total of 12 respondents that represent 19.4% were not sure. In spite of the existing fair mean of 2.40, the median score of 2 on the five-point Likert scale used to measure items implied that to a less extent, the regulatory framework and enforcement affect the PPP models used by UNRA and so the results were not in line with what the researcher intended to measure.

This finding from UNRA respondents partly disagrees and partly agrees with the debates by scholars and development partners such as Lee et al. (2018:3), Marques and Berg (2010:2), Mouraviev and Kakabadse (2015:8), ADB (2008:87), Smith (1997:1), Yong (2010:34), Pongsiri (2002:488), (Shediac et al.(2008:2), Yong (2010:34), (EIU, 2015:49) and WB (2017:2) who contend that PPP requires effective regulation to tame the varying actors and their interests such as protecting investors from political influence and protecting consumers from exploitation.

4.3.3.1.4.2 Qualitative findings for effect of regulatory framework on the PPP models

In an interview that the researcher had with respondents concerning the effect of the legal framework on the PPP models used by UNRA, most of the respondents agreed with the quantitative results highlighting that a *“regulatory framework and enforcement are important for any PPP model to be used by UNRA to construct roads in Uganda.”*

For instance one respondent said: *“But you know, without a PPP regulatory framework in place, the PPP policy and legal frameworks cannot be operationalised in the roads sector in Uganda.”* Respondent 2 said: *“UNRA has so far used the existing PPP regulatory framework to come up with a number of plans to implement PPP projects in the different parts of the country.”*

Respondent 3, on the other hand, noted, *“I think a PPP regulatory framework in the roads sector is crucial to guide us on how well the road sector in Uganda can contribute to the achievement of the sustainable development goals as a country”* while Respondent 4 agreed that, *“Definitely without a PPP regulatory framework in place, we can’t do much.”*

Therefore, it can be observed that for qualitative findings, they supported the notion that a regulatory framework has a high effect on PPP models used by UNRA in the roads sector in Uganda compared to the quantitative results and so they were in line with what the researcher intended to measure.

4.2.3.1.5 Findings for effect of policy, legislation and regulation monitoring on PPP models

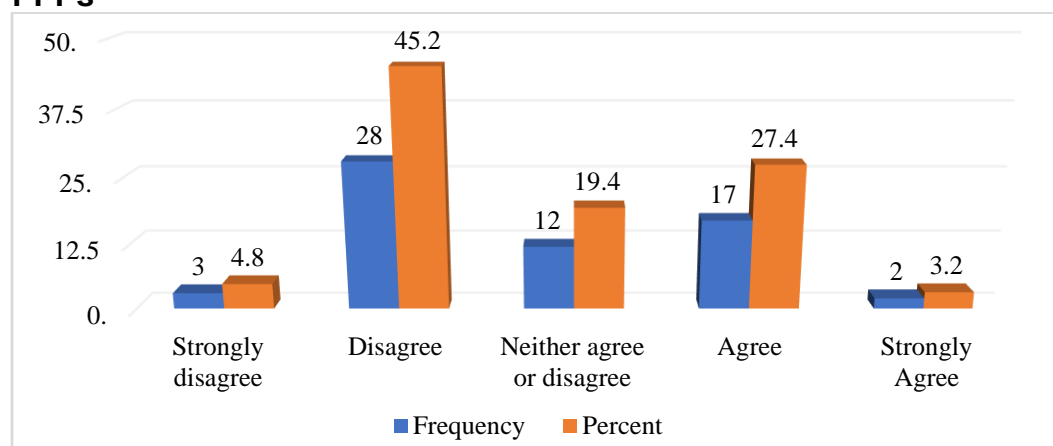
4.3.3.1.5.1 Quantitative findings for effect of policy, legislation & regulation monitoring

As to whether policy, legislation and regulation monitoring affect the PPP models used by UNRA, Table 4.12 above showed that cumulatively, a large number of 31 respondents that represent 50% disagreed with the statement compared to 19 respondents that represent 30.5% who agreed with it.

A total of 12 respondents that represent 19.4% were not sure. The mean of 2.79 was slightly above the median score of 2.50, implying that to a smaller extent, policy, legislation and regulation monitoring influence the PPP models used by UNRA.

As illustrated above, the scale was intended to measure the realistic influence of policy, legislation and regulation monitoring on the PPP models. In addition to the descriptive statistics in the Table 4.12 above, Figure 4.19 below gives more details of the effect of policy, legislation and regulation monitoring on the PPP models that were earlier generated.

Figure 4.19: Histogram for effect of policy, legislation and regulation monitoring on PPPs



Source: Primary data (2018) **n=62**

Figure 4.19 above confirmed that 31 respondents that represent 50% disagreed with the statement compared to 19 respondents that represent 30.5% who agreed with it.

A total of 12 respondents that represent 19.4% were not sure of this statement.

The existing fair mean of 2.79 that was slightly above the median score of 2.50 implies that, to a smaller extent, policy, legislation and regulation monitoring have an influence on the PPP models used by UNRA in ensuring VFM in the roads sector in Uganda and so the results were some how in line with what the researcher intended to measure.

This finding from UNRA respondents disagrees on one hand but also partly agrees on the other hand with the debates by some scholars and development partners such as Lee et al. (2018:4), Marques and Berg (2010:2), Mouraviev and Kakabadse (2015:8), ADB (2008:87), Smith (1997:1), Yong (2010:34), Pongsiri (2002:488), Shediach et al.(2008:2), Yong (2010:34), (New Vision, 2016:27), Auditor General(2016 :2), (EIU, 2015:49) and WB (2017:2).

All these scholars who concur that effective PPP project management requires effective policy, legislative and regulation monitoring to ensure that better performance requirements are adhered to and social needs are realised. Unfortunately, governments tend to exert rigorous regulations to some sectors like energy, oil and gas compared to the roads sector.

4.3.3.1.5.2 Qualitative findings for effect of policy, legislation & regulation monitoring on PPPs

The researcher conducted interviews with respondents concerning the likely effect of the policy, legislation and regulation monitoring on PPPs models being used by UNRA and one Respondent said: *“effective monitoring of the implementation of PPPs policy, legal and regulatory frameworks is necessary if UNRA is keep on track as far as implementing PPP Projects is concerned”*. Respondent 2 said: *“Continuous monitoring of the operationalisation of PPP policies, laws and regulations to ensure that they are being well applied in the roads sector gives confidence to international companies to come and invest in refurbishing, construction and maintenance of our roads in Uganda.”*

Respondent 3 said: *“That is why UNRA should put in place effective and efficient monitoring mechanisms to ensure that the existing PPP policy, legal and regulatory frameworks are strictly adhered to when implementing any PPP project in the roads sector in Uganda.”* Therefore, from the above responses, it can be observed that qualitative findings highly support the statement that policy, legislation & regulation monitoring affect PPP models used by UNRA as compared to the findings from the questionnaires, implying that PPP policy, legal and regulatory frameworks indeed effect on the PPP models being used by UNRA and so the results were in line with what the researcher intended to measure.

4.3.3.2 Findings for effects of organisational factors on PPP models being used by UNRA

4.3.3.2.1 Findings for PPP criteria and risk management on PPP models used by UNRA.

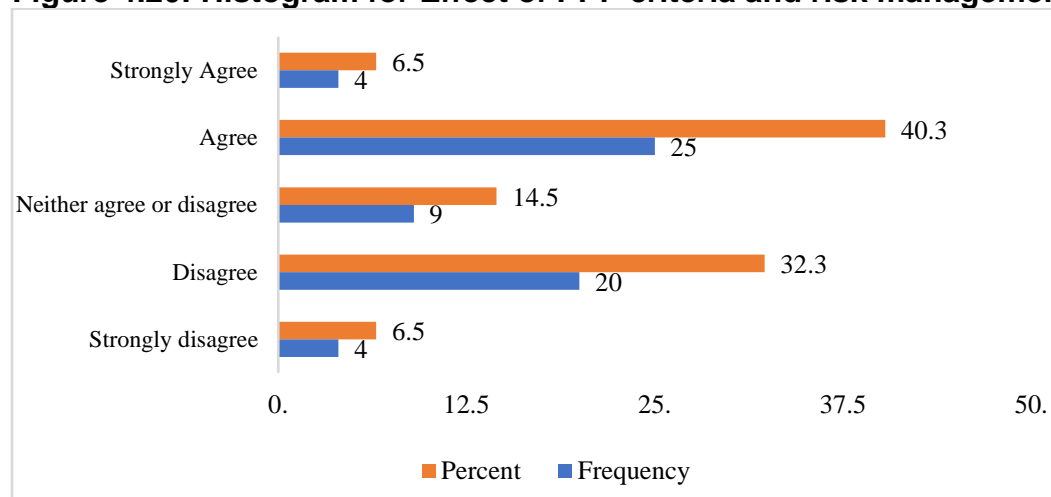
4.3.3.2.1.1 Quantitative findings for PPP criteria and risk management on PPP models

The study inquired whether the PPP arrangement criteria and risk management affect the PPP models used by UNRA in ensuring VFM in the roads sector in Uganda.

Table 4.12 above revealed that 29 respondents that represent 46.9 % agreed with the statement while 24 respondents that represent 30.8% disagreed with it. A total of 9

respondents that represent 14.5 % were not sure about this statement. The results were supported by a mean of 3.08 and a standard deviation of 0.821. The median score of 3 on the five-point Likert scale used to measure items implies that to some extent, the criteria for PPP arrangement and risk management affect the PPP models being used by UNRA. As illustrated above, the purpose of this scale was to quantify whether the criteria for PPP arrangement and risk management affect the PPP models used by UNRA and it reflects what the researcher intended to measure. In addition to the descriptive statistics in the Table 4.12 above, Figure 4.20 below gives detailed statistics on the effect of the PPP arrangement criteria and risk management on the PPP models that were earlier generated.

Figure 4.20: Histogram for Effect of PPP criteria and risk management on PPP models



Source: *Primary data* (2018) **n=62**

Figure 4.20 above confirms that 29 respondents that represent 46.9 % agreed with the statement compared to 24 respondents that represent 30.8% who disagreed with it. 9 respondents that represent 14.5 % were not sure. The results were supported by a mean of 3.08 and a standard deviation of 0.821 with a median score of 3 on the five-point Likert scale used to measure items.

All these imply that to some extent, the criteria for the PPP arrangement and risk management affect PPP models to be used by UNRA and so the results were in line with what the researcher intended to measure.

This finding from UNRA respondents agrees with the debates by the some scholars and development partners such as Chauhana and Marisetty (2018:6), Kyei et al. (2018:2), Rondinelli (2004:17) and IMF (2004:9) who argue that the criteria for using a PPP arrangement need to be clearly stipulated to provide a factual basis for PPP initiation.

4.3.3.2.1.2 Qualitative findings for effect of PPP criteria & risk management on the PPP models

Interviews conducted with respondents concerning the effect of the PPP criteria and risk management on the PPP models to be used by UNRA, revealed several responses.

Respondent 1 said that, *“effective PPP project risk management in the roads sector is essential for quick gains. Also the criteria for adoption of PPPs in the roads sector need to be made known to all actors if they are to support PPP projects.”*

Respondent 2 noted that *“early identification of risks that are likely to affect implementation of PPP projects is important if such risks are to be effectively managed”*.

Respondent 3 commented: *“There is a need to recruit project risk management experts that can advise top management on what projects to implement or not to implement in the roads sector based on thorough risk assessments done”*

Respondent 4 had this to say: *“UNRA needs to build the capacity of its staff in how to deal with risks that are likely to affect the PPP projects in pipeline”*.

Respondent 5 added: *“The right criteria should be followed when identifying the private partners to work with in implementing PPP projects”*. Respondent 6 concluded *“If management does not follow the right criteria in adopting PPPs, more risks are likely to occur.”*

Therefore, it can be observed that qualitative findings for effect of PPP criteria and risk management on the PPP models used by UNRA concur with the findings from the questionnaires.

This implies that PPP criteria and risk management have a big effect on the PPP models being used by UNRA and so the results were in line with what the researcher intended to measure.

4.3.3.2.2 Findings for effect of performance measurement & management capacity on the PPPs

4.3.3.2.2.1 Quantitative findings for performance measurement & management capacity effect

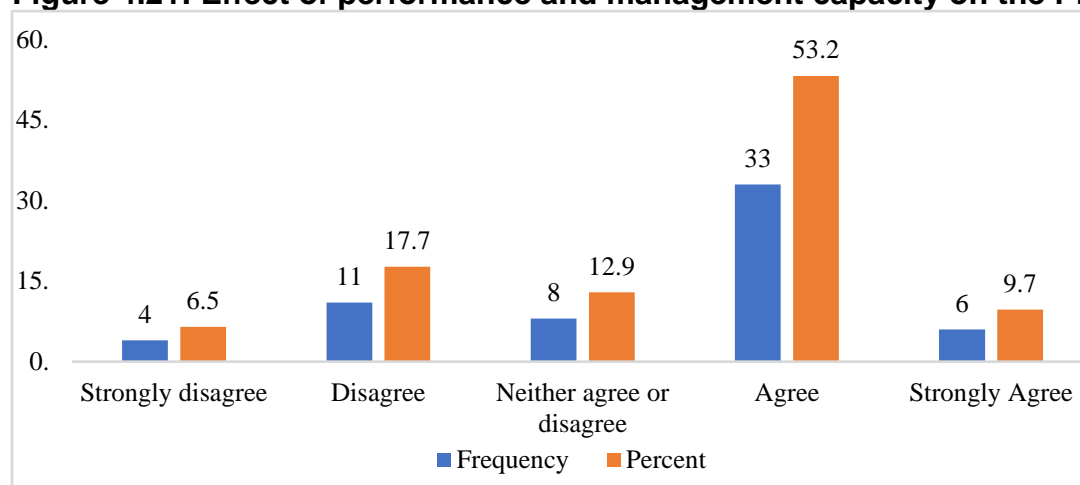
With respect to whether performance measurement and management capacity affect PPP models used by UNRA in the roads sector in Uganda, Table 4.12 above shows that 39 respondents representing 62.9 agreed to the above statement while 15 respondents with a percentage of 24.2 disagreed with it.

A total of 8 respondents that represent 12.9 % were not sure. The mean of 4.42, which corresponds to those who “agreed”, showed that performance measurement and management capacity indeed affect the PPP models used by UNRA.

As illustrated above, the purpose of this scale was to quantify whether performance measurement and management capacity affect the PPP models by UNRA in in the roads sector.

In addition to the descriptive statistics in Table 4.12 above, Figure 4.21 below gives more details of the statistics of the effect of performance measurement and management capacity on PPP models that were earlier generated.

Figure 4.21: Effect of performance and management capacity on the PPP models



Source: Primary data

(2018)

n=62

As observed in Figure 4.21 above, 39 respondents representing 62.9% agreed to the above statement while 15 respondents representing 24.2% disagreed. A total of 8 respondents that represent 12.9% were not sure.

This confirms that performance measurement and management capacity indeed affect the PPP models being used by UNRA in ensuring VFM in the roads sector in Uganda and so the results were in line with what the researcher intended to measure.

This finding agrees with scholars such Dewulf et al. (2011:15), Mitchell (2007:13) and National Treasury (2007:23) who add that the public sector has to increase its capacity to measure the performance of PPPs, while private entities must contribute to the development of the PPP market and improve the quality of the services provided to the public.

Otherwise, such partnerships often fail because of lack of capacity to measure the performance of PPPs in the implementation of any PPP project.

4.3.3.2.2 Qualitative findings for effect of performance and management capacity on PPPs

Interviews conducted with respondents on the effect of performance measurement and management capacity on the PPP models used by UNRA, show that a number of study participants had different views.

For instance, Respondent 1 said: *“Of course it is necessary to measure the performance of UNRA on management of national roads so that the results can be used to attract more private players in implementing PPP projects in the roads sector as it has been the case of Kampala-Entebbe express high way.”*

Respondent 2 said: *“It is difficult to realise successful implementation of PPPs in the roads sector if UNRA does not have enough capacity to manage the process of executing PPP projects.”*

Respondent 3 commented: *“I doubt whether anything tangible can be done if top management lacks the capacity to supervise the execution of PPP projects in the roads sector.”*

While Respondent 4 noted: *“don’t expect anything tangible if no one assesses the performance of PPP project implementers in the roads sector.”*

Therefore, it can be observed that qualitative findings on the effect of performance measurement and management capacity on the PPP models used by UNRA concur with the quantitative results from the questionnaires, implying that performance measurement and management capacity indeed have an effect on the PPP models used by UNRA in the roads sector and so the results were in line with what the researcher intended to measure.

4.3.3.2.3 Findings for effect of undertaking PPPs for good reasons & use of NGOs on the PPPs

4.3.3.2.3.1 Quantitative findings for effect of undertaking PPPs for good reason & use of NGOs

With respect to whether undertaking PPPs for good reasons and relying on NGOs to implement PPPs affect the PPP models used by UNRA to ensure VFM in the roads sector, computations from Table 4.12 above show that 34 respondents with a percentage of 52.9% strongly agreed compared to 28 respondents that represent 45.2% who disagreed.

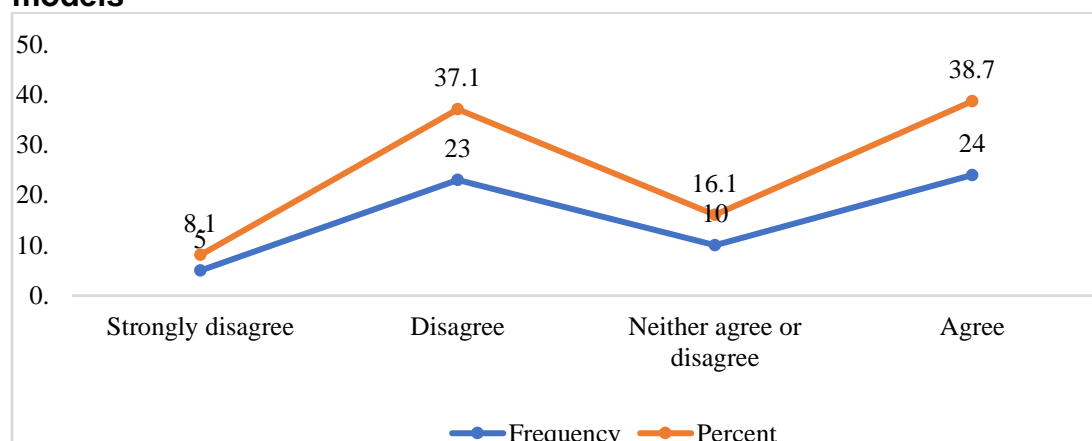
A Total of 10 respondents that represent 16.1% were unsure.

The mean of 2.85 and standard deviation of 1.069 confirmed that the respondents agreed with the statement that undertaking PPPs for good reasons and reliance on NGOs to implement PPPs has some bearing on the PPP models used by UNRA to ensure VFM in the roads sector in Uganda.

As illustrated above, the purpose of this scale was to quantify whether undertaking PPPs for good reasons and reliance on NGOs has an effect on the PPP models used by UNRA.

In addition to Table 4.12 above, Figure 4.22 below gives more details of the statistics for the effect of undertaking PPPs models that were earlier generated.

Figure 4.22: Effect of undertaking PPP for good reason and reliance on NGOs on PPP models



Source: Primary data (2018) **n=62**

Figure 4.22 above confirms that 34 respondents equivalent to 52.9% strongly agreed with the statement compared to 28 respondents that represent 45.2% who disagreed, while 10 respondents that represent 16.1% were not sure.

The mean of 2.85 and standard deviation of 1.069 showed that the respondents agreed that undertaking PPPs for good reasons and reliance on NGOs in implementing PPPs has some bearing on the PPP models being used by UNRA to ensure VFM in the roads sector in Uganda and so the results were to some extent in line with what the researcher intended to measure.

This finding of the study agrees with scholars such as Smith (2008: 132), Babiak and Thibault (2009:117) who note that PPPs have not been well developed in Sub-Sahara Africa for the last 30 years because most governments depend on a good number of Non-Government Organisations to deliver some services to their citizens that they are unable to provide.

4.3.3.2.3.2 Qualitative findings for effect of PPPs for good reasons & use of NGOs on PPPs

Respondents were interviewed on whether undertaking PPPs for a good reason and over reliance on NGOs had an effect PPPs models being used by UNRA and so one of the Respondents commented: “*You don’t need to ask me that. That is obvious because you cannot succeed in implementing PPPs in the roads sector if they are not for any good reasons at all*”.

Respondent 2 said: *“Yes, I would think so since NGOs can advocate for social protection of the vulnerable people that are normally displaced by the construction of roads under PPP arrangements so that they can be well compensated in instances where part of their land has been taken to build such roads”.*

Respondent 3 observed: *“Of course there are instances where some PPPs may be used purely out of personal vested interests, just to benefit certain so called ‘special caliber of people’ but not out of public interest no matter what the costs are involved in such a contract”.*

Respondent 4 said: *“Don’t tell me about working with those NGOs because they are just there to show donors that they are working even when certain things are going wrong as long as they keep getting money”.*

Therefore, from the qualitative responses, it can be observed that undertaking PPPs for good reasons and reliance on NGOs indeed have a great effect on the PPP being used and so the results were in line with what the researcher intended to measure.

4.3.3.2.4 Findings for the effect of choice of partner & flexibility among the partners on PPPs

4.3.3.2.4.1 Quantitative findings for effect of choice and flexibility among the partners

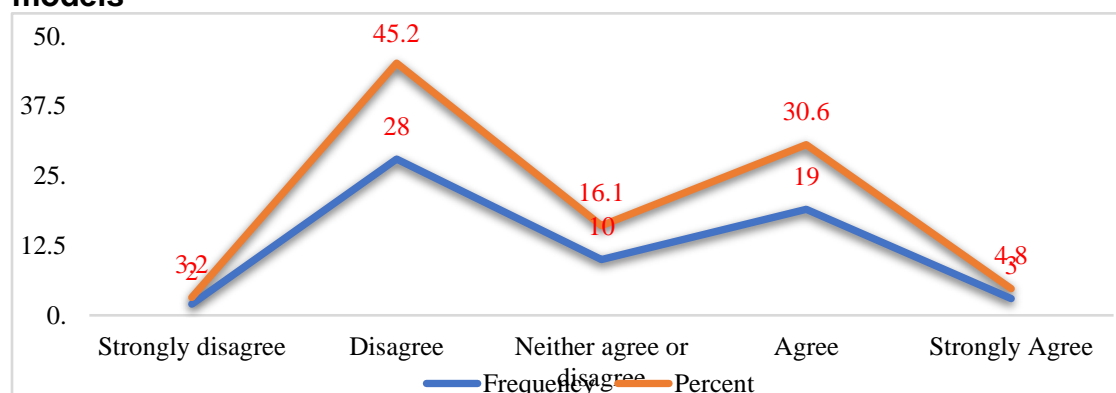
With respect to whether the choice of the partner and flexibility between the partners had an effect on the PPP models being used by UNRA, Table 4.12 above, shows that 30 respondents constituting 48.4% disagreed with the statement compared to 22 respondents that constitute 35.4% who agreed with it.

Generally, 10 respondents representing 16.1% were not sure. The fair rating is confirmed by a mean value of 2.94 and standard deviation of 1.114.

The median score of 3 on the five-point Likert scale used to measure items implies that the choice of the partner and flexibility between the partners is fairly important when it comes to implementing the PPP models used by UNRA in ensuring VFM in the roads sector.

As illustrated above, the purpose of this scale was to quantify whether choice of the partner and flexibility between the partners is fairly important in implementing the PPP models being used by UNRA. In addition to the descriptive statistics in the Table 4.12 above, Figure 4.23 below gives more details of the statistics that were earlier generated.

Figure 4.23: Line graph for effect of the choice of the partner and flexibility on PPP models



Source: Primary data (2018)

n=62

Figure 4.23 above indicates that cumulatively 30 respondents constituting 48.4% disagreed with the statement while 22 respondents that constitute 35.4% agreed.

Generally, 10 respondents representing 16.1% were not sure. The fair rating is confirmed by a fair mean value of 2.94 and standard deviation of 1.114.

The median score of 3 on the five-point Likert scale used to measure items implies that the choice of the partner and flexibility between the partners is fairly important in implementing PPPs and ensuring VFM in the roads sector and so the results were slightly in line with what the researcher intended to measure.

This finding is supported by scholars and development partners such as Wang (2018:6), Marques and Berg (2010:5), Landow and Ebdon (2012:729) and National Treasury (2007:23) who concur that the public party should always choose the right partner through competitive bidding.

Otherwise, if it chooses the wrong partner and it cannot evade a renegotiation of the contract, it would be doubly harmed.

4.3.3.2.4.2 Qualitative findings for effect of choice and flexibility of the partners on PPPs

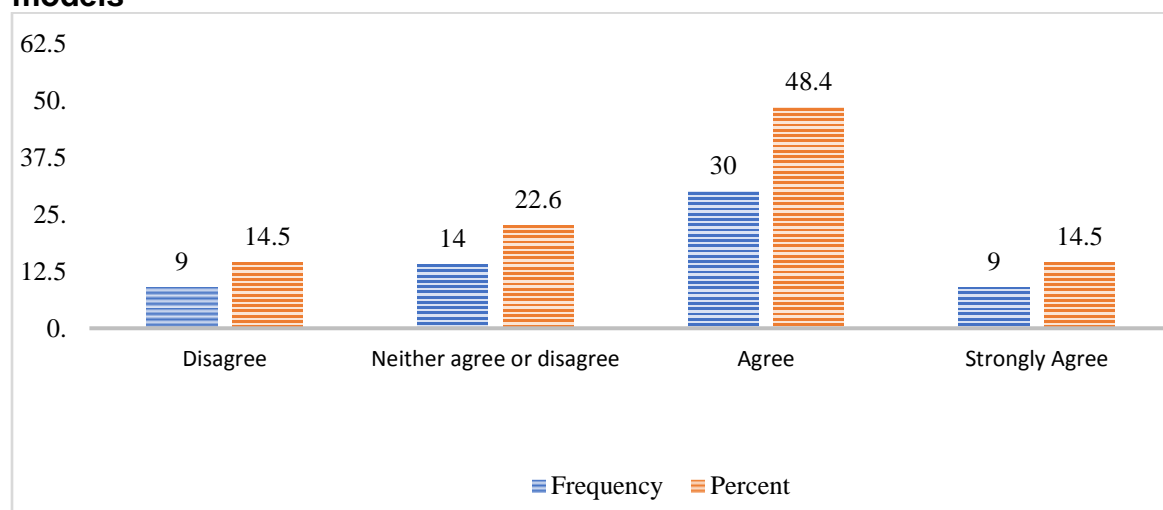
Concerning the effect of choice of partner and flexibility between the partners on the PPP models used by UNRA, Respondent 1 asked: *“What do you mean? What matters here is money. For me, I don’t think that is important. As long as someone has a lot of money and is willing to work with us, I don’t see why we can’t work with him!”* Respondent 2 said: *“Gentleman, what are you talking about? Can you really work with someone who is so rigid? ... I can’t”*. Respondent 3 said: *“Even if the partner is not willing to change but has enough money we need, I think we can look for a way of how well to work with him”* While Respondent 4 said: *“Of course a partner that is cooperative in all matters concerning PPP contracting process in the roads sector will be the best one to work with.”* Therefore, from the above responses, it can be observed that the qualitative results indicate that choice of partner and flexibility between the partners highly affect PPP models being used by UNRA as compared to quantitative results choice of partner and flexibility between the partners and so the results were in line with exactly what the researcher intended to measure.

4.3.3.2.5 Findings for effect of partners’ objectives on the PPP models used by UNRA

11.3.3.2.5.1 Quantitative findings for effect of partners’ objectives on the PPP models

With respect to whether public and private sector objectives and goals affect the PPP models used by UNRA, Table 4.12 above shows that 39 respondents constituting 62.9 agreed with the statement while 9 respondents that constitute 14. 5% disagreed with the same statement. Generally, 14 respondents representing 22.6 % were not sure. The mean of 4.65 which corresponded to those who “agreed” and a standard deviation of 0.770 indicated that to a great extent, public and private sector objectives and goals influence the way the PPP models used by UNRA are implemented in order to ensure VFM in the roads sector. As illustrated above, the purpose of this scale was to quantify whether public and private sector objectives do influence the way the PPP models by UNRA are implemented in line with ensuring VFM in the roads sector. In addition to Table 4.12 above, Figure 4.24 below confirms statistical details that were earlier generated.

Figure 4.24: Histogram showing effect of Public and private sector objectives on PPP models



Source: Primary data (2018)

n=62

As illustrated above, Figure 4.24 confirms that 39 respondents constituting the larger percentage of 62.9 agreed with the statement compared to 9 respondents that constitute 14.5% who disagreed with the statement. Generally, 14 respondents representing 22.6% were not sure.

The mean of 4.65 which correspond to “agreed” and a standard deviation of 0.770 also confirm that to a great extent, public and private sector objectives affect the PPP models used by UNRA in the roads sector in Uganda and so the results were highly in line with what the researcher intended to measure. This finding is supported by scholars such as Ahmadabadi and Herav, (2018:3), Ferris and Williams (2013: 24) who say that the partners’ objectives need to be compatible if they are to harmoniously work together in implementing PPP projects. If they are incompatible, this may fail smooth implementation of such PPP projects, especially where public sector objectives tend to be more long term than those of the private sector.

4.2.3.2.5.1 Qualitative findings for effect of partners’ objectives on PPPs models

Respondents gave various views concerning the effect of partners’ objectives on the PPP models being used by UNRA. Respondent 1 said: *“As a staff of one of the private firms that works with UNRA in implementing some roads construction projects, it is kind of hard for us to continue working with them if with time, both of our objectives cannot be well aligned.”*

Respondent 2 said: *“When working with UNRA, the first thing we should do is ensure that each of their objectives is well catered for if such a partnership is to be successful.”*

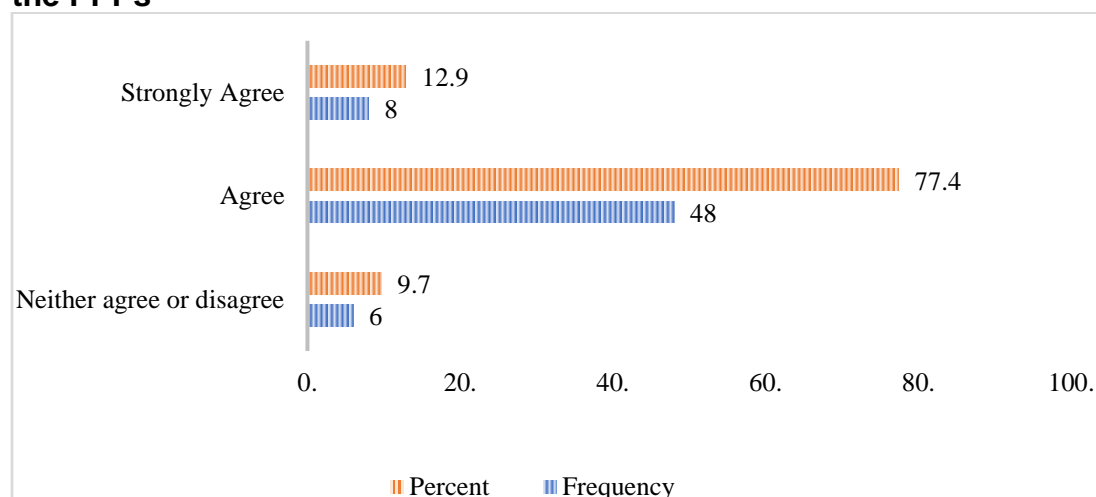
Respondent 3 said: “Yes we know that what will keep us working together with UNRA is focusing on each other’s objectives and we see how best to nourish them.” Respondent 4 noted: “Definitely the UNRA is focusing at providing a service to the public and yet for us, we are profit motivated and so we have to look for a way of striking a balance.” From the above responses, qualitative findings agree with the quantitative findings from the questionnaires that the public and private sector objectives have a strong effect on the PPP models being used by UNRA in ensuring VFM in the roads sector in Uganda and so the results were fore sure in line with what the researcher intended to measure.

4.3.3.2.6 Findings for effect of focus by both public and private partners on PPP models

4.3.3.2.6.1 Quantitative findings for effect of focus by both public & private partners on PPPs

On whether focus by both public and private bodies affects the PPP models used by UNRA in the roads sector, Table 4.12 shows that cumulatively, 56 respondents constituting 89.4% agreed with the statement. None of the respondents disagreed with the statement apart from 6 respondents representing 9.6 % that were not sure. The mean of 4.03 and a standard deviation of 0.398 that were above the median score clearly indicated that the above variables extremely and highly affect the PPP models being used by UNRA to ensure VFM in the roads sector in Uganda. As illustrated above, the purpose of this scale was to quantify whether the focus by public and private bodies affect the PPP models used by UNRA. In addition to the descriptive statistics in Table 4.12 above, Figure 4.25 below confirms more statistical details that were earlier generated.

Figure 11.25: Histogram showing the effect of focus by public and private partners on the PPPs



Source: Primary data (2018)

n=62

Figure 4.25 above reveals that 56 respondents constituting 89.4% agreed with the statement. No one disagreed with the statement apart from 6 respondents representing 9.6% that were not sure. The mean of 4.03 and a standard deviation of 0.398 that were above the median score clearly confirm the above findings and so the results were extremely and highly in line with what the researcher intended to measure. This finding agrees with Obayelu (2018:257), Ferris and Williams (2013: 25) and Babiak and Thibault 2009:119) who argue that having the same focus helps both public and private entities to agree while implementing PPPs. When they focus on different things all together, it derails the success of PPP implementation, maintenance, management and sustainability.

4.3.3.2.6.2 Qualitative findings for effect of focus and flexibility between the partners on PPPs

On the effect of choice of partner and flexibility between the partners on the PPP models being used by UNRA, Respondent 1 said that *“PPPs in the roads sector can only succeed if we as a private firm that works with UNRA as implementing partners have the same focus.”* Respondent 2 said: *“It may be difficult for us to continue working with UNRA once their area of focus changes.”* Respondent 3 noted: *“One thing I believe that will enable us to continue working with UNRA well as partners in development is to ensure that each of us focus on how best to deliver on our agreed areas of cooperation in implementing certain projects in the roads sector.”*

Respondent 4 observed: *“Much as UNRA is focusing on improving service delivery in the roads sector to the Ugandans and for as private individuals focus on return on investment, we can always see how best to meet our different focuses.”*

From the above responses, it can be observed that qualitative findings concur with the findings from the questionnaires. This implies that focus and flexibility between the partners have a great effect on the PPP models being used by UNRA in the roads sector in Uganda and so the results were precisely in line with what the researcher intended to measure.

4.3.3.2.7 Findings for effect of funding priorities and costs estimates on the PPP models

4.3.3.2.7.1 Quantitative findings for effect of funding priorities and costs estimates on the PPPs

Regarding the effect of PPP funding priorities and estimation of PPP costs on the PPP models UNRA uses in the roads sector, Table 4.12 above shows that 49 respondents representing 79.0% agreed with the statement compared to 9 respondents representing 14.5% who disagreed with it.

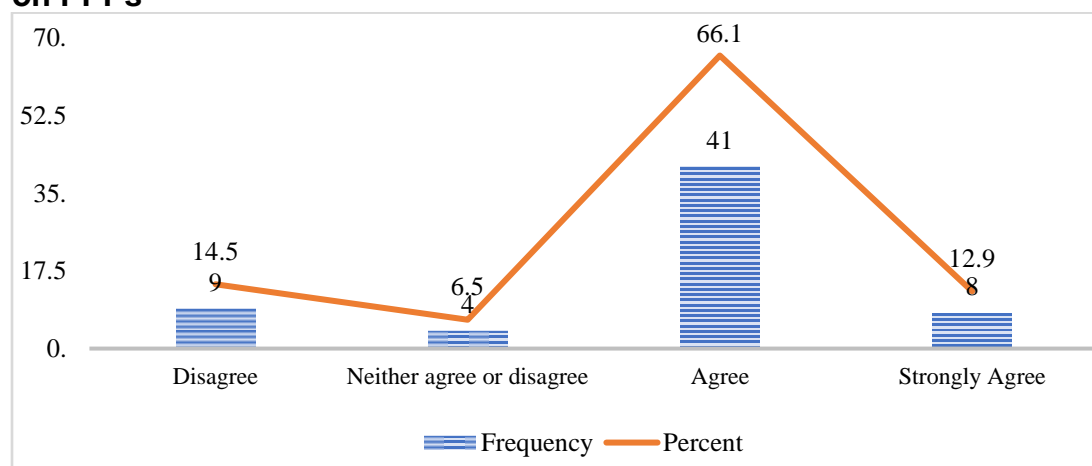
A total of 4 respondents representing 6.5% were not sure that PPP funding priorities and estimation of PPP costs on the PPP models ensure VFM in the roads sector.

The average rating is confirmed by a fair mean of 3.89 and standard deviation of 0.402 showing that indeed PPP funding priorities and estimation of PPP costs play a big role in the implementation of the PPP models being used by UNRA to ensure VFM in the roads sector in Uganda.

As illustrated above, the purpose of this scale was to quantify whether funding priorities and estimation of PPP costs have an effect on the PPP models used by UNRA.

In addition to the descriptive statistics in Table 4.12 above, Figure 4.26 below provides more statistical details of the effect of the funding priorities and estimation of PPP costs on the PPP models that were earlier generated.

Figure 4.26: Histogram showing the effect of funding priorities and estimation of costs on PPPs



Source: Primary data (2018)

n=62

As indicated in Figure 4.26 above, 49 respondents representing 79.0% agreed with the statement compared to 9 respondents representing 14.5% who disagreed with the statement. A total of 4 respondents representing 6.5% were not sure of the same statement. The average rating is confirmed by a fair mean of 3.89 and standard deviation of 0.402 showing that indeed PPP funding priorities and estimation of PPP costs play a great role in the use of different PPP models by UNRA to ensure VFM in the roads sector in Uganda and so the results were to a greater extent in line with what the researcher intended to measure. This finding agrees with some scholars such as Du, Wu & Zhu (2018:10) and Smith (2008: 133) who argue that public entities should not focus on areas that involve self-vested interests but they should design PPP contracts that have terms and conditions that are in line with the interests of the citizens.

4.3.3.2.7.2 Qualitative findings for effect of funding priorities and cost estimation on PPPs

Looking at the interviews held with respondents concerning the effect of funding priorities and estimation of costs on the PPP models being used by UNRA to ensure VFM in the roads sector, many respondents gave varied opinions. Respondent for instance had this to say: *“The implementation of PPP projects should be given a priority when it comes to resource allocation”*

While Respondent 2 argued: *“The challenge we are currently facing is that funding PPP projects in the roads sector is not yet a priority because government focuses more on defence*

and that why we are still struggling to look for a private partner to start on the Kampala-Jinja express high way.”

Respondent 3 said: *“But for sure that is obvious because if you don’t estimate well the costs to be incurred in constructing a certain road, expect a problem.”* Respondent 4 noted: *“Of course what has delayed the commissioning of the northern by pass is because they underestimated the costs that were required to implement the project. It’s until recently when UNRA got more funds that work commenced again.”*

From the above responses, it can be observed that these findings concur with the findings from the questionnaires that funding priorities and estimation of costs have an effect on the PPP models used by UNRA and so the results were to a greater extent inline with what the researcher intended to measure.

4.3.3.2.8 Findings for effect of implementation and accountability mechanism on PPP models

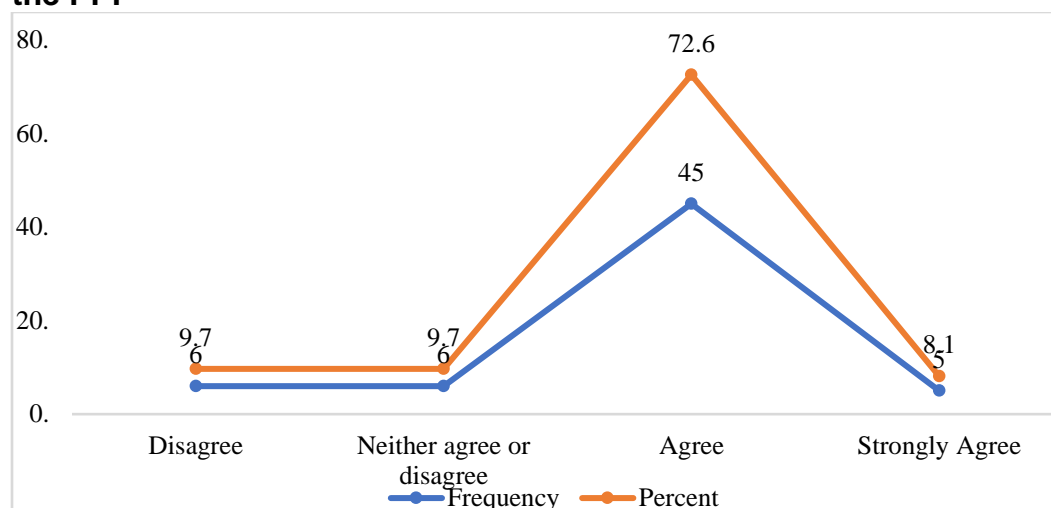
4.3.3.2.8.1 Quantitative findings for effect of implementation & accountability on PPPs

With regard to the effect of implementation complexities and accountability mechanisms on the PPP models used by UNRA, results from Table 4.12 above indicated that 50 respondents representing 80.7% agreed with the statement compared to 6 respondents representing 9.7% who disagreed with the statement. 6 respondents representing 9.7 % were not sure that implementation complexities and accountability mechanisms have an effect on the PPP models being used by UNRA in the roads sector in Uganda.

The mean of 4.63 and standard deviation of 0.610 show that to a great extent, implementation complexities and accountability mechanisms affect the PPP models used by UNRA in the roads sector in Uganda. As illustrated above, the purpose of this scale was to quantify whether implementation complexities and accountability mechanisms affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda. In addition to the descriptive statistics in

Table 4.12 above, Figure 4.27 below also confirms the effect of the implementation complexities and accountability mechanisms on the PPP models that were earlier generated.

Figure 4.27: Histogram showing effect of implementation and accountability plan on the PPP



Source: Primary data (2018) **n=62**

Figure 4.27 above indicates that 50 respondents representing 80.7% agreed with the statement compared to 6 respondents representing 9.7% who disagreed with it. 6 respondents representing 9.7% were not sure of the same statement.

The mean of 4.63 and standard deviation of 0.610 confirm that to a great extent, implementation complexities and accountability mechanisms affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda.

Over all, quantitative results confirm that implementation complexities and accountability mechanisms extremely affect the PPP models used by UNRA in ensuring VFM in the roads sector and so the results were to a very bigger extent in line with what the researcher intended to measure.

This finding agrees with literature by some scholars, practitioners and agencies such as Nayak (2018:10), Mitchell (2007:23), Castalia Strategic Advisors and Ukhamba Advisory Services (2007:i-ii) and Gauteng Provincial Government, (2013:21) who note that the public and private sectors need to always avoid certain complexities if the implementation of a PPP is to be successful.

4.3.3.2.8.2 Qualitative findings for implementation and accountability plan on PPP models

Concerning the interview the researcher had with respondents on the effect of implementation complexities and accountability mechanisms on the PPP models used by UNRA, Respondent 1 said: *“I definitely envisage that the moment UNRA starts to implement more PPP projects, some accountability problems may arise due to the nature of the attitudes that many Ugandans have towards public money since most of them tend to always be money hungry.”* Respondent 2 noted: *“Absolutely, a lot of issues some of which are pertaining to land acquisition and compensation for those that will be displaced by roads construction under PPP arrangements need to first be sorted out before implementation of such PPP projects in the roads sector is embarked on.”* Respondent 3 said: *“I think when it comes to implementation of PPP projects in the roads sector, accountability will not be a problem because we have new top management which is nonsense when it comes to issues of accountability. Besides we have an integrated financial management system which automatically tracks expenditure against funds disbursed for implementation of any road construction project.”* Respondent 4 suggested: *“I believe using PPPs to construct more better roads in Uganda sounds good but there are lots of technicalities that need to be worked on first before embarking on implementation of such PPP projects.”* The above responses show that qualitative findings agree with the quantitative findings from the questionnaires, implying that implementation complexities and accountability mechanisms have a much greater effect on the PPP models and so the results were extremely in line with what the researcher intended to measure.

4.3.3.2.9 Findings for effect of implementation structure and organisational capacity on PPPs

4.3.3.2.9.1 Quantitative findings for effect of implementation & organisational capacity on PPPs

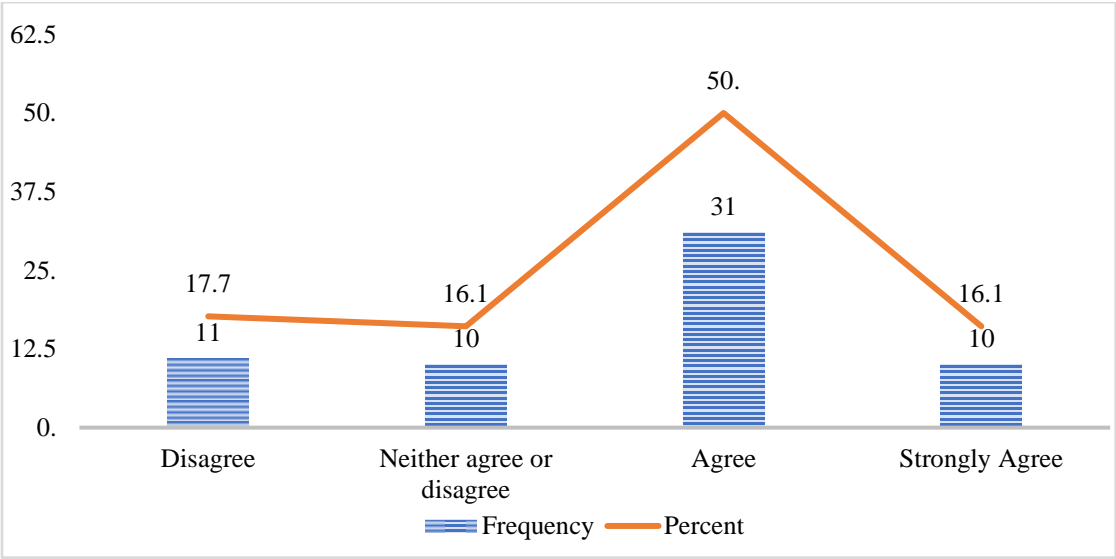
Focusing on the effect of implementation structure and organisational capacity on the PPP models being used by UNRA, the study participants' responses in Table 4.12 above revealed that 41 respondents representing 66.1% agreed to the statement compared to 11 respondents

representing 17.7% who disagreed with it. Also, a total of 10 respondents representing 16.1% were not sure.

The mean of 4.63 and standard deviation of 0.610 implied that to some extent, implementation structure and organisational capacity do affect the PPP models being used by UNRA.

As illustrated above, the purpose of this measurement scale was to quantify whether the implementation structure and organisational capacity indeed affect the PPP models used by UNRA. In addition to Table 4.12 above, Figure 4.28 presents more statistical details on the effect of the above variables on PPP models that were earlier generated.

Figure 4.28: Histogram on the effect of implementation and organisational capacity on PPP



Source: *Primary data* (2018) **n=62**

Figure 4.28 above confirmed that 41 respondents representing 66.1% agreed to the statement compared to 11 respondents representing 17.7% who disagreed with it. 10 respondents representing 16.1% were not non-committal.

The mean of 4.63 and standard deviation of 0.610 also confirmed that implementation structure and organisational capacity indeed do affect the PPP models being used by UNRA in the roads sector and so the results were in line with what the researcher intended to measure.

This finding is in line with studies by Awortwi (2004: 29-30) and UHCHS Habitat (2000:19) who claim that in the East Africa, a baseline study was done and the study findings indicated that there were a lot of ambiguities in partnerships with private firms to deliver services to people living in different municipalities, because the PPP project implementation modalities were not clearly defined and understood by the LGs.

4.3.3.2.9.1 Qualitative findings for effect of implementation & organisational capacity on PPPs

During interviews concerning the effect of implementation structure and organisational capacity on the PPP models used by UNRA, Respondent 1 lamented: *“How do you expect us to adopt PPPs in constructing roads in different parts of the country without a proper implementation structure in place?”*

Respondent 2 agreed: *“I think since top management has done a lot of restructuring, there are many new staff with better competence that have been recruited to provide technical support to the adoption and use of PPPs”.*

Respondent 2 added on *“We now have better: procedures, structures, systems, culture and resources that we can ride on to effectively handle the issues pertaining to implementation of new PPP projects in the roads sector.”*

Respondent 3 also noted: *“I think when it comes to implementation of PPPs in the roads sector, there is need to first define and allocate roles and responsibilities pertaining to implementation of such PPPs before they can be adopted.”*

Respondent 4 reacted: *“With all the resources at UNRA’s disposal, how dare you think UNRA can fail to handle the issues pertaining to implementation of new PPPs in constructing more roads in Uganda? That would be sheer madness.”*

Therefore, from the above responses, it can be observed that implementation structure and organisational capacity do affect the PPP models being used by UNRA in the roads sector and so the results were in line with what the researcher intended to measure.

4.3.3.2.10 Findings for effect of autonomy by partners and stakeholders management on PPPs

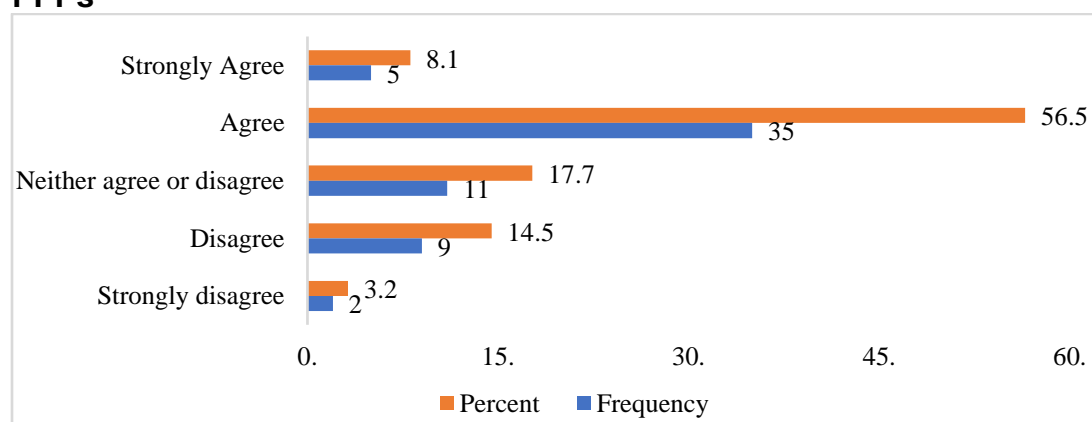
4.3.3.2.10.1 Quantitative findings for effect of partners' autonomy & stakeholder management

With respect to whether autonomy by partners and stakeholder management affect the PPP models being used by UNRA, from Table 4.12 above 40 respondents representing 64.6% agreed to such a statement compared to 11 respondents representing 17.7% who disagreed with it. Also, a total of 11 respondents representing 17.7% were not sure of the same statement.

The mean of 4.77 and standard deviation of 0.657 implied that to a great extent, autonomy by partners and stakeholders do affect PPP models used by UNRA. As illustrated above, the purpose of this measurement scale was to quantify whether autonomy by partners and stakeholder management have an effect on the PPP models used by UNRA to ensure VFM in the roads sector.

This finding was in line with what the researcher intended to measure. In addition to the descriptive statistics in the Table 4.12 above, Figure 4.29 below presents more statistical details on the effect of the above variables.

Figure 4.29: Histogram showing the effect of autonomy & stakeholder management on PPPs



Source: Primary data

(2018)

N=62

As observed from Figure 4.29 above, 40 respondents representing 64.6% agreed to the statement compared to 11 respondents representing 17.7% who disagreed. Also, 11 respondents representing 17.7% were non-committal. The mean of 4.77 and standard deviation of 0.657 implied that to a great extent, autonomy by partners and stakeholder management indeed affects UNRA's PPP models in the roads sector. This finding agrees with what the researcher intended to measure. This finding is supported by scholars such as Muralidhar and Koteswara (2013: 21) who suggest that although working as a team is very crucial, ability to have some level of autonomy in handling some components of the PPP project as an individual and being a self-starter where necessary during the entire period of PPP Project implementation is equally important.

4.3.3.2.10.2 Qualitative findings for effect of autonomy & stakeholders management on PPPs

Regarding the effect of autonomy by partners and stakeholders on management of the PPP models being used by UNRA, Respondents 1 said: *“Much as government has to regulate the way we as private partners have to work with public agencies like UNRA when using PPPs to construct some projects in the roads sector, there is also need for them to allow us take certain independent decisions.”*

Respondent 1 also had this to say: “When it comes to handling certain technical issues involved in implementation of such PPP projects, we are usually the ones with better technical capacity to handle such issues.”

Respondent 2 reacted: *“How do you expect us to construct more roads in Uganda using PPPs without involving different stakeholders especially those that are usually affected by the implementation of such PPPs?”*

Respondent 3 noted: *“We always consult a number of stakeholders when it comes to the issues of land acquisition to construct new roads using PPPs and compensating people that are usually displaced by the road construction projects.”*

Respondent 4 commented: *“Sincerely, how do you expect us not to allow the private partners we are currently working with not to have an independent mind when it comes to handling of certain issues involved in the PPPs implementation.”*

From the above responses, it can be observed that qualitative findings concur with those from the quantitative results from the questionnaires.

Thus, the implementation structure and organisational capacity have some effect on the PPP models being used by UNRA to ensure VFM in the roads sector in Uganda and so the results were to some extent in line with what the researcher intended to measure.

4.3.3.3 Findings for effects of personal factors on the PPP models used by UNRA

4.3.3.3.1 Findings for effect of competence of PPP Unit staff on the PPP models used by UNRA

4.3.3.3.1.1 Quantitative findings for effect of competence of PPP Unit staff on the PPP models

Under this variable, respondents were asked whether the competence of PPP Unit staff affects the PPP models used by UNRA. Based on Table 4.12, cumulatively 56 respondents representing 90.3% agreed with the statement compared to 4 respondents representing 6.54% who disagreed with it.

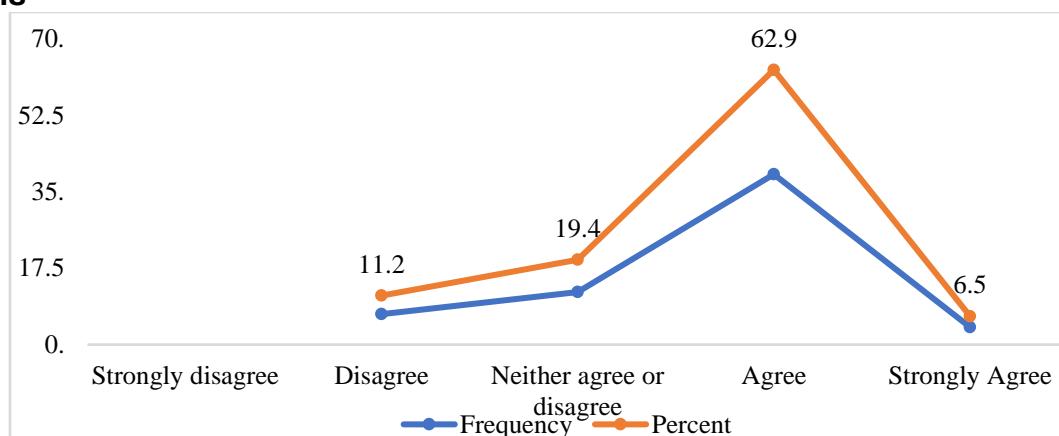
Also, a total of 2 respondents representing 23.2% were non-committal.

The mean of 4.79 and standard deviation of 0.627 implied that to a great extent, the competence of PPP Unit staff and their roles have an effect on the PPP models being used by UNRA.

As illustrated above, the purpose of this measurement scale was to quantify whether the competence of PPP Unit staff and their roles do influence the PPP models in one way or another.

In addition to Table 4.12 above, Figure 4.30 below provides more statistical details on PPP Unit staff and their roles on the PPP models that were earlier generated.

Figure 4.30: Histogram for effect of competence of PPP Unit staff & their roles on PPP models



Source: Primary data (2018)

N=62

Figure 4.30 above confirms that 56 respondents representing 90.3% agreed with the statement compared to 4 respondents representing 6.54% who disagreed with it. Only 2 respondents representing 23.2% were not sure. The mean of 4.79 and standard deviation of 0.627 implied that to a much greater extent, the competence of PPP Unit staff and their roles have a bigger bearing on the PPP models being used by UNRA and so the results were extremely and highly in line with what the researcher intended to measure. This finding is in line with debates by practitioners such as Castalia Strategic Advisors and Ukhamba Advisory Services (2007:i-ii) who argue that the PPP Unit staff should be well knowledgeable and skilled in order to play their coordination roles for effective implementation of PPP projects.

4.3.3.3.1.2 Qualitative findings for competence of PPP Unit staff on PPP models

During interviews with respondents concerning the likely effect of PPP Unit staff on the PPP models used by UNRA, Respondent 1 said the *“the capacity of staff in the PPP unit to coordinate different stakeholders in the implementation of PPP projects is not worrying because they are all well qualified, skilled and experienced in handling PPP matters.”* Respondent 2 noted: *“We have recruited the head of PPP unit who has a professional qualification in PPPs and so I believe he is providing good team leadership skills to all other staff in the unit and so far they are doing a good job as far as handling certain critical PPP*

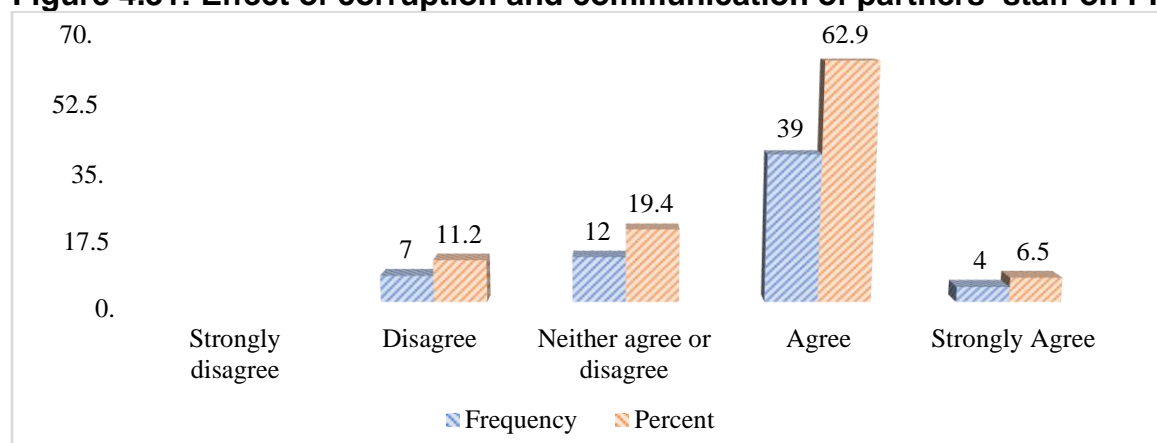
issues are concerned.” From their responses, it can be observed that qualitative findings agree with the quantitative findings from the questionnaires that the competence of PPP Unit staff highly affects the PPP models that UNRA uses in the construction and maintenance of roads in Uganda and so the results were extremely in line with what the researcher intended to measure.

4.3.3.3.2 Findings for effect of corruption & communication among partners’ staff on PPPs

4.3.3.3.2.1 Quantitative findings for effect of corruption & communication of partners’ staff

On the effect of corruption and communication among public and private sector staff on PPP models used by UNRA, Table 4.12 shows that 39 respondents representing 62.9% agreed with the statement compared to 9 respondents representing 14.5% who disagreed. 14 respondents representing 22.6% were not sure. The mean of 4.65 and standard deviation of 0.760 strongly suggest that the respondents agreed with the statement. As illustrated above, the purpose of this measurement scale was to quantify whether corruption and communication among public and private sector staff affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda. In addition to the descriptive statistics in Table 4.12 above, Figure 4.31 below confirms more statistical details on the effect of corruption and communication among public and private sector staff on the PPP models that were earlier generated.

Figure 4.31: Effect of corruption and communication of partners’ staff on PPP models



Source: Primary data

(2018)

n=62

As presented in Figure 4.31, 39 respondents representing 62.9% agreed to the statement, 9 respondents representing 14.5% disagreed with the statement, while 14 respondents representing 22.6% were not sure. The mean of 4.65 and standard deviation of 0.760 strongly suggested that to some extent, corruption and communication among public and private sector staff do affect the use of different PPP models by UNRA to ensure VFM in the roads sector in Uganda and so the results were in line with what the researcher intended to measure as far as effect of corruption and communication among public and private sector staff on PPP models being used by UNRA were concerned and so the results were for sure in line with what the researcher intended to measure. This finding is in line with debates by Harris (2004:288), Agina (2004:1) and WB (2004:7), Mitchell (2007:23), Van and Koppenjan (2007:600), Babiak and Thibault (2009:122), and Price Water House Coopers (2010:13) who note that good and active communication among PPP project staff has to be set up in the early stage of PPP projects, if such agreements are to be successful in the long run.

4.3.3.3.2.2 Qualitative findings for corruption and communication among staff on PPPs

The researcher interviewed respondents on the likely effects of corruption and communication among staff from both public and private sector partners on the PPP models being used by UNRA.

For that case respondent 1 had this to say: *“Are you really living in Uganda? Why not! Definitely some corruption issues cannot miss when it comes to implementing some PPPs in the roads sector since some times its hard for us to win some PPP road construction tenders with out first cooperating well with those who matter in this country.”*

Respondent 2 observed: *“Although I am not sure because officially it is not yet confirmed, there is a rumour that the reason why PPPs that had been originally planned to be used in the construction of the Kampala-Entebbe express highway, were not used to finance that project is because the private investor who had at first been solicited to handle the project was discouraged after one official from UNRA’s former management team requested for a bribe before the contract could be endorsed. So government had no alternative but to get a loan*

from Exim Bank of China so that it could be able to go ahead with the implementation plan of the project.

Respondent 3 lamented: “I suspect the reason why the Kampala-Jinja express highway has delayed to start since 2015 could be because there might be someone standing in its way so that something can be done for him first before the project is allowed to commence.”

Respondent 4 said: “Obviously effective communication is very key when it comes to the interaction of different PPP project staff.”

On the other hand, Respondent 5 commented: “How do you expect things to move smoothly where there is no open communication among the partners’ staff especially when it comes to construction of new roads throughout the country?”

From the above responses, it can be observed that the qualitative findings highly concur with the quantitative findings from the questionnaires that corruption and communication among project staff thus have a strong effect on the PPP models being used by UNRA in ensuring VFM in the roads sector of corruption and communication among public and private sector staff on PPP models and so the results were obviously in line with what the researcher intended to measure.

4.3.3.3.3 Findings for effect of staff conflicts & competition among individual bidders on PPPs

4.3.3.3.3.1 Quantitative findings for effect of conflicts & competition among individual bidders

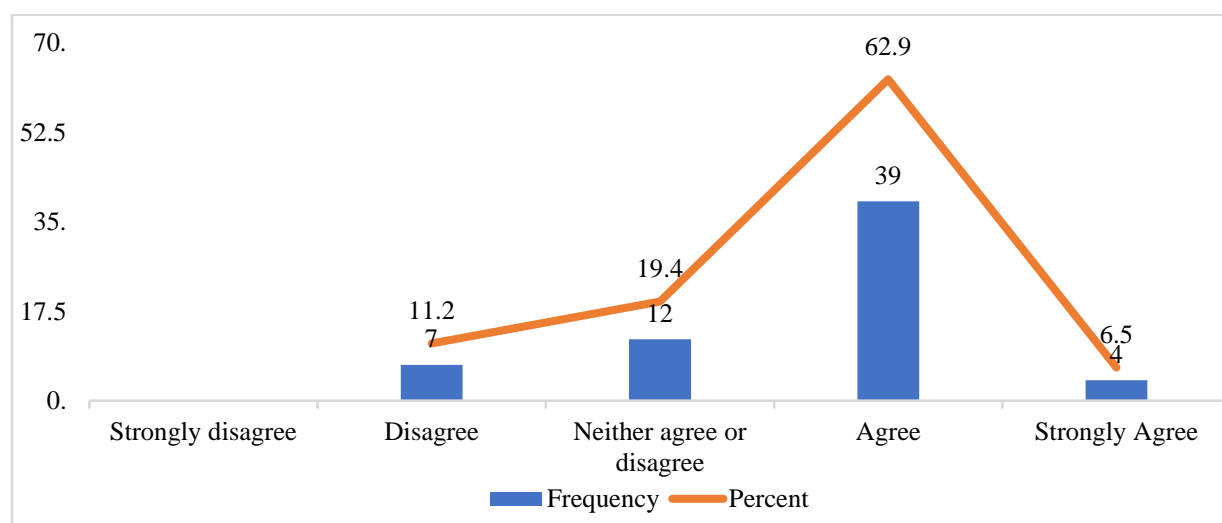
Respondents were asked whether conflict among PPP project staff and competition among individual bidders affect the PPP models used by UNRA. Based on Table 4.12 above, 43 respondents representing 69.4% agreed, 7 respondents representing 11.3% disagreed, while 12 respondents representing 19.4% were non-committal.

The good rating is confirmed by mean = 4.52 and standard deviation = 0.654, thus revealing that to a great extent, conflict among public and private sector staff and competition among individual bidders to some extent affect the PPP models being used by UNRA.

As illustrated above, the purpose of this measurement scale was to quantify whether conflict among public and private sector staff and competition among individual bidders do affect the PPP models being used by UNRA, and that was in line with what the researcher intended to measure.

In addition to the descriptive statistics in Table 4.12 above, Figure 4.32 below confirms more statistical details on the effect of conflict among public and private sector staff and competition among individual bidders on the PPP models that were earlier generated.

Figure 4.32: Histogram showing the effect of staff conflicts & individual bidders' competition



Source: Primary data (2018)

n=62

Figure 4.32 above shows that 43 respondents representing 69.4% agreed with the statement compared to 7 respondents representing 11.3% who disagreed and 12 respondents representing 19.4% who were not sure. The mean of 4.52 and standard deviation of 0.654 confirmed that to a great extent, conflict among public and private sector staff and competition among individual bidders to some extent do affect the PPP models being used by UNRA to ensure VFM in the roads sector in Uganda and so the results were concisely in line with what the researcher intended to measure. This finding is supported by scholars such as Mitchell (2007:19), Eschenfelder (2011:36), Cairns and Harris (2011:311) who contend that PPPs are associated with a number of conflicts during the implementation phase that come up as a result of failure of partners to fulfil their right obligations. This is especially so since partners come

from different political, economic, social, technological, ecological, legal and ethical backgrounds.

4.3.3.3.1 Qualitative findings for effect of staff conflict and bidders' competition on PPPs

The researcher also interviewed several respondents on the effect of conflict among PPP project staff and competition among individual bidders on the PPP models used by UNRA.

In line with the above, respondent 1 had also this to say: *"I have heard that there are some disagreements among PPP unit staff as to whether the Kampala-Jinja express highway should either pass through Kayunga or via Mayuge, along the shores of Lake Victoria."*

Respondent 1 went ahead to comment: "Unless management comes in to resolve those disagreements, the project is likely to delay further."

Respondent 2 argued: *"How do you expect people like us in the private sector trying to work with people with UNRA to work together in implementing some road construction and maintenance projects, without any slight misunderstanding at all and yet all of us we are from different political, economic, social and technical backgrounds?"*

Respondent 3 said "Definitely they are there but what matters is for each of us to look for better ways of handling them so we don't fail to work together in a better harmonious manner when implementing such projects"

Respondent 4 commented: *"We have always used open competition to identify the potential bidder to work with, through getting a number of bidders from which we select the firm with the best capacity needed to implement PPPs in the roads so far we are currently constructing."*

Respondent 5 agreed: *"Competition among us as different bidders to work with UNRA in constructing new roads is healthy because it promotes transparency, efficiency, equity and participation of different stakeholders in the PPP procurement process."*

Therefore, it can be observed that qualitative findings highly concur with the quantitative results of the questionnaires, implying that conflict among PPP project staff and competition among

individual bidders indeed have a great effect on the PPP models used by UNRA. This finding is also in line with what the researcher intended to measure.

4.3.3.4 Average Index for eighteen items (factors) affecting PPP models used by UNRA

In order to have a general overview of how the respondents rated themselves on environmental, organisational and personal factors affecting different PPP models used by UNRA to ensure VFM in the roads sector in Uganda, an average index was computed from the eighteen items in Table 4.13 below, giving relevant descriptive statistics.

Table 4.13: Summary of descriptive statistics of self-rating on factors affecting PPPs

Mean		3.88
95% Confidence Interval for Mean	Lower Bound	0.624
	Upper Bound	4.94
Median		4.00
Std. Deviation		.556
Minimum		1
Maximum		5
Range		3
Skewness		0.201

Source: *Primary data* (2018)

n=62

Results from the Table 4.13 revealed respondents' ratings on the environmental, organisational and personal factors in relation to the PPP models being used by UNRA to ensure VFM in the roads sector. The opinions ranged from 0.624 to 4.94 at the 95% Confidence Interval for Mean. Despite the average rating, results from the above table reflected that some respondents had a low score at a minimum 1.00 while others scored best at a maximum of 4.94.

This gave a wide difference as reflected by a high range of 3.00. Results also revealed that there was similarity in respondents' opinions regarding the effect of environmental, organisational and personal factors on different PPP models being used by UNRA to ensure VFM in the roads sector with a relatively small deviation value of 0.556. This suggests that

respondents' views concerning these factors do not differ so much from one respondent to another.

The difference in opinions on low and high levels was at 3.00 and is supported by the aforementioned standard deviation of 0.556. Results from the table further revealed that there was some degree of skewness, suggesting that the respondents' opinions were almost normally distributed with skewness of 0.201. From the above analysis we can, therefore, deduce that environmental, organisational and personal factors have a strong influence on PPP models being used by UNRA to ensure VFM in the roads sector in Uganda.

4.3.4 Chapter summary

This chapter presented the quantitative and qualitative results of the study. The researcher used SPSS version 25.0 to do quantitative analysis of the data collected from different respondents. The quantitative findings have been presented basing on each objective in line with the perception of UNRA stakeholders on PPP and VFM concepts, different PPP models being used by UNRA to ensure VFM in the roads sector in Uganda and factors affecting such PPP models. The quantitative findings were followed by qualitative findings from different interviews that the researcher had with various U respondents on their perception of PPPs and VFM concepts, the PPP models used to ensure VFM in the roads sector in Uganda, and factors affecting such PPP models.

Over all, the qualitative findings agreed with the quantitative findings on major issues pertaining to the above variables, although in some instances the qualitative and quantitative findings did not agree. Several statistical procedures were applied to screen the data to deal with outliers and normality issues. Screening was important to edit and clean the data for purposes of consistency, credibility, conformance and generalisability of final results for broad interpretation and understanding of the phenomenon under investigation. Results revealed that there were very few outliers. It was, however, decided to retain some cases, as there was sufficient evidence that these outliers were not part of the entire population. The next chapter looks at discussion of research study findings.

CHAPTER FIVE

DISCUSSION OF RESEARCH FINDINGS

5.1 Introduction

The previous chapter looked at presentation of findings. This chapter discusses the findings in line with scholarly literature reviewed and it gives an overview of the general research objective that guided this study. It presents a summary of the discussion on response rate, key findings of the study in line with related literature and the descriptive statistical results. It also presents the summary of the research study by focussing on the specific objectives that were used. The chapter finally presents the conclusion on findings in line with the reviewed related literature.

This chapter is structured into five sections; section one presents the the summary of the discussion of research findings. Section two focuses on discussion of key findings for UNRA stakeholders' perception on concepts of PPP and VFM. The third section presents discussion of key findings for different PPP models being used by UNRA. Section four covers the discussion of key findings for factors affecting PPP models used by UNRA. The last section presents chapter summary for discussion of key findings.

5.2 Summary of the research findings

This sub-section presents the summary and discussion of the response rate, participants' demographic characteristics, general and specific objectives that guided the study.

5.2.1 Response rate

The study employed a mixed approach using a survey design, case study design and exploratory design to collect data. 62 responses from survey study and 35 responses from interviews were obtained which were included in the data analysis. The final response rate in the study was 76 per cent. The over all useable response rate in the study was higher than the researcher's initial anticipation drawn from the response rate reported in previous studies in the same domain. The response rate achieved in the study is reasonably higher than that of Molise Moloi (2016:10) suggested in earlier studies on PPPs in the roads sector. Therefore,

the response rate in this study can be considered relatively better than the previous studies mentioned above.

5.2.2. Participants' demographic characteristics

The results of participants' demographic characteristics revealed that the majority of respondents with 42.2 per cent were holders of a bachelor's degree. This was not surprising because looking at the latest educational statistics of Uganda's education profile report of 2014, it asserts that the country has a young educated population, with up to 4% holding bachelor's degrees.

5.2.3 Study objectives

The main objective of this study was to make an assessment of PPPs in ensuring VFM in the roads sector in Uganda. Specifically, the study sought to examine UNRA stakeholders' perceptions on the concepts of PPPs and VFM, different PPP models used by UNRA and the factors influencing the use of such PPP models to ensure VFM in the roads sector in Uganda. The study developed and empirically tested research instruments for analysing and interpreting data for the UNRA stakeholders' perception, knowledge and experience on PPPs.

The study used the Principal-Agency theory to understand the relationship that UNRA as a government body, has with private partners in the adoption and implementation of PPPs in Uganda. The specific objectives of the study were to establish UNRA stakeholders' perception of the concepts of PPP and VFM in the roads sector in Uganda; to examine the different PPP models used in ensuring VFM in the roads sector; to find out the factors that influence the use of such PPP models in ensuring VFM in the roads sector; and to suggest and develop an appropriate PPP model that can be used to ensure VFM in the roads sector.

The results and findings of the study on the subject under investigation are discussed in this chapter. They were compiled by analysing information gathered from the 97 respondents. The results are presented as per the research question and objective, with descriptive statistical analysis to identify percentages and qualitative analysis in form of narratives, used to answer all questions in the survey. However, the results are discussed based on only the responses

from 62 study participants who were involved in quantitative part of the study since they are the ones that were the majority that participated in this research study.

5.3 Detailed discussion of the study findings

5.3.1 Stakeholders' perception of the concept of PPPs and VFM in the roads sector

The first objective of the study was “to establish UNRA stakeholders' perception of the concept of PPPs and VFM in the roads sector in Uganda.” Findings revealed that respondents' ratings on UNRA stakeholders' perception of these concepts was average with Mean = 3.21 and Median = 3.17. The opinions ranged from 2.97 to 3.44 at 95% Confidence Interval for Mean.

The difference in opinions on low and high levels of the UNRA stakeholders' perception of the concept of PPPs and VFM was at 3.00 and is supported by the standard deviation of 0.856. The findings revealed that 74.2% agreed that a PPP is a long-term contract between a public and private party for providing a product to the public while VFM is about providing such a product in a cost effective manner. This implies that the perception held by some UNRA stakeholders on these concepts is truly in line with what the researcher intended to measure.

This finding agrees with debates by scholars and development partners such as Qistina & Salmiah, (2018:1), Chunga and Hensherb (2018:1), Obayelu (2018:2), Chauhana & Marisetty (2018:1), Berrone, Fageda, Llumà, Ricart, Rodríguez, Salvador and Trillas (2018:14), Sablina and Dubolazov (2018:1), Chauhana and Marisetty (2018:3), Renda and Schrefler (2006:7), NCPPP (2002:4), European Commission (2003:16) and World Bank Group (2014:14) who assert that a PPP is a long-term contract between a private party and a government entity for providing a public asset or service, in which the private party bears significant risk and management responsibility, and remuneration is linked to performance.

These scholars also consent that the main objective of PPPs is to deliver services to the citizens in a more effective and efficient manner than what the conventional public procurement approaches would do. This finding of the study also agrees with Tajani Morano, Liddo and Locurcio (2018:2), Martin, Mark and Siddharth (2018:14), Mehmet and Cuma (2018:5), Lemos & Charles (2018:147), Aghroum, (2018:1), Khallaf, Naderpajouh, Hastak (2018:1) and Abdul et al. (2015:1) who claim that increased expectation from the infrastructure industry on delivery

of VFM has resulted in customers placing emphasis on the delivery of quality products in a safe and environmentally friendly manner.

In addition, it was revealed that 44.5% agreed with the statement that a PPP is a long-term contractual arrangement between public and private sector partners to provide a service to the public while VFM is about providing such a service in an efficient manner. This indicates that the perception held by some UNRA stakeholders who look at a PPP and VFM from an angle of a public-private sector long-term contractual arrangement and efficient service delivery respectively, is in line with what the researcher intended to measure. This finding of the study agrees with Khadka (2018:1), Krol (2018:21), Qistina and Salmiah (2018:2), Stevenson (2018:7), Mehmet and Cuma (2018:4), Alaghabandrad and Hammad (2018:1), Marzouk and Ali (2018:3) and Garvin and Bosso (2008:163) who suggest that a PPP is a long-term contractual arrangement between the public and private sectors where mutual benefits are sought and ultimately the private sector provides management and operating services which puts private finance at risk.

This finding is also in line with Chauhana and Marisettyv (2018:2), Yu, Chen and Sun (2018:1), Leigland (2018:1), Hu and Han (2018:1), Kavishe1 & Chileshe (2018:446), Qistina and Salmiah, (2018:2) and UK Treasury (2006:7) that views VFM as the optimum combination of whole-of-life costs and quality or fitness for purpose of the good or service to meet the user's requirement. In addition, this finding agrees with debates from development agencies who assert that this has compelled many governments globally to acknowledge the role PPP plays in ensuring VFM to promote efficiency, effectiveness and economy in the provision of services to the citizens.

Finally it was discovered that 40.3% agreed that a PPP is a form of co-operation between a public and private entity to provide certain assets to the public while VFM is about providing such an asset in an economic manner. That implies that the perception held by UNRA stakeholders who look at a PPP and VFM from an angle of a public-private entity co-operation and economic asset delivery, is in line with what the researcher intended to measure. This finding agrees with Yan, Chong, Zhou, Sheng and Xu, (2018:1), Chauhana and Marisetty (2018:3), Guofeng, Qingjuan and Kedi Wang (2018: 1), Chunga and Hensherb (2018:2),

Badasyan and Alfen (2018:3) and Lukamba (2006:26) who contends that a PPP is a form of co-operation between public authorities and the world of business to provide infrastructure and that VFM is a concept used to assess an organisation's capacity to obtain the maximum benefit from the goods, services or work it acquires or provides, in relation to the resources available to it.

In addition, this finding agrees with of scholarly debates from researchers such as Dossa, Yadong, Xiaoxian, Changrong, Chongjiao and Qiqi (2018:4), Ren, Li, Jiao and Zhang (2018:1). Renda and Schrefler (2006:7), development partners such as NCPMP (2002:4) and agencies such as European Commission (2003:16) who concur that the main objective of a PPP is to ensure VFM through delivering services to the citizens in a more economic manner.

5.3.2 Different PPP models used by UNRA to ensure VFM in the roads sector

The second objective of the study was "to examine the PPP models used by UNRA to ensure VFM in the roads sector in Uganda." Findings revealed that UNRA uses some PPP models to ensure VFM in the roads sector. Accordingly, respondents' ratings on some PPP models used by UNRA revealed that the opinions ranged from 0.624 to 4.94 at 95% Confidence Interval for Mean.

Despite the average rating, results reflected that some respondents scored low at a Minimum of 1.00 while others scored best at a Maximum of 4.94. This gave a wide difference as reflected by a high range of 3.00. As already discussed, there is limited literature on PPP models and VFM in the roads sector in Uganda, the researcher relied more on literature on PPP models and VFM in the roads sector outside Uganda.

The findings revealed that 66.1% disagreed with the statement that UNRA uses Public Finance Initiative, Concession and Joint Venture PPP models to ensure VFM in the roads sector compared to 14.5 % that agreed with it. The mean of 2.40 showed that the majority of respondents disagreed with the item implying that UNRA may currently not be using Public Finance Initiative, Concession and Joint Venture PPP models to ensure VFM in the roads sector in Uganda. This implies that that UNRA may not even be planning to use such PPP models in the near future.

Therefore, this finding of the study does not reflect the reviewed debates by scholars such as Krol, (2018:3), Chunga and Hensher (2018:2), Yan, Chong, Zhou, Sheng and Xu (2018:2), Obayelu (2018:255), Jinbo, Yunpeng, Lulu and Yan (2018:2), Kwak et al. (2009:53), Delmon (2011:118), Yescombe (2007:5) and Mouraviev et al. (2016:164) who assert that a concession is a PPP structure where the public sector grants a concession or a series of rights to the private contractor to construct or renovate and operate an asset for a pre-determined period (usually 20 and 30 years) referred to as a concession period.

This finding is also not in line with debates by scholars and development agencies such as Jinbo et al. (2018:2), Jiangfan and Xiongzhi (2018:2), Zhang and Dong (2017:1), Bouman et al. (2013:19), Mouraviev et al. (2016:161) and WB (2017a) who say that a joint venture is a contract agreement where the public and private sector partners can either form a new company or assume joint ownership of an existing company through a sale of shares to one or several private investors.

Again, this study is not in line with debates from scholars and agencies such as Mehmet and Cuma (2018:33), Hu and Han (2018:2), Kamau (2016:9) and HM Treasury (2012:5) who contend that a Public Finance Initiative (PFI) PPP model is where the public entity enters into a contractual arrangement with the private sector entity so that the private entity is authorised to provide services to the public through designing, building, financing and operation of a road facility.

The main goal is providing a very high quality and well maintained facility. These same debates assert that with PFI, the private entity developer is paid by the public entity for the work so far done on agreed standards, parameters, specifications and expectations in terms of the delivery of services through facility maintenance, rehabilitation, renovation and refurbishment.

In addition, it was revealed that 50.0% of respondents disagreed with the statement that UNRA uses Design Build (DB) and Build Own Operate (BOO) PPP models compared to 30.6% that agreed with the statement. The mean of 2.40 implies that there aren't any such PPP models being used by UNRA in the roads sector but there is likelihood that UNRA may adopt such PPP models in future.

Therefore, this finding of the study does not agree with the debates by scholars and development partners such as Khadka, (2018:19), Warner et al. (2008:52), USDOT (2014:2), ADB (2008:34) and IMF (2004:7) who postulate that BOO PPP model is where the public entity enters into contract with a private entity so that the private agency can finance, build, own, and operate a road facility for a certain period of time. Again this finding is in line with scholars such as Khadka (2018:18), Bouman et al. (2013:19) and development partners such as WB, (2017a) who assert that Design Build Operate (DBO) model, the private entity designs, constructs and maintains the road facility to the extent of meeting a specific amount of deliverables agreed upon with the public entity.

The private entity receives payment in instalments from the public entity for designing and constructing the road facility after accomplishing the agreed milestones in addition to being paid an operating fee for the period the private entity will be maintaining the road facility. Also, this finding is not in line with the views of scholars such as Khadka (2018:17) and Gwary et al. (2016:52) who assert that with the DB PPP model, the private entity designs and builds a facility in line with the needs of the public entity for a specific amount of money. Once the road facility is completed, the public entity assumes full responsibility for the operation, maintenance, control and overall management of the road facility and thus transfers the risks of cost overruns to the private entity.

It was also discovered that 51.6% disagreed with the statement that UNRA uses leasing and affermage PPP models to ensure VFM in the roads sector compared to 21.0% that agreed with the statement. The average rating was confirmed by a fair mean of 3.08 and standard deviation of 0.821 which implies that there is no such PPP model used by UNRA to ensure VFM in the roads sector in Uganda. Therefore, this finding does not reflect the reviewed debates by scholars and development partners such as Obayelu (2018:255), Warner et al. (2008:53), Delmon (2010:12), Farquharson and Yescombe (2011:10), WB, (2017:1), Bouman et al. (2013:18) and ADB (2008:33) who note that leasing is a longer term arrangement where a private entity can design, build, refurbish, operate and maintain a service delivered directly to consumers. The financial risk for operation and maintenance is borne entirely by the private sector operator.

This finding of the study is also not in line with debates by scholars and development agencies such as Delmon (2010:12), WB (2017:1) and ADB (2008:33) who reveal that unlike a lease where the private sector retains revenue collected from consumers and makes a specified lease payment to the public sector, an affermage allows the private sector to collect revenue from the consumers, and pays the contracting authority an affermage fee, and retains the remaining revenue.

Thirdly the findings revealed that 75.8% agreed with the statement that UNRA uses Build Operate-Transfer (BOT) and Build Own Operate Transfer (BOOT) PPP models to ensure VFM in the roads sector in Uganda compared to 24.2% that disagreed with the statement. The mean of 3.44 and standard deviation of 0.769 implies that UNRA is either using or planning to embark on the use of such PPP models to ensure VFM in the roads sector.

This finding of the study is in line with scholarly debates by Tsukada (2018:5), Adjarko, Ayerakwah and Fynn (2018:1), Obayelu (2018:255), Vahdatmanesh (2018:2), (Jinbo et al.(2018:5), Gwary et al. (2016:52), Shukla et al. (2016:113), Kwak et al. (2009:54) and Warner et al. (2008:52) who argue that BOT is where the private entity has the sole responsibility for financing, designing, building and operating infrastructure works according to performance standards set by the public sector based on a long period within which the private sector operates the project to pay off costs, make profit and then transfer the asset to the public entity after such a period.

The finding is also in line with what scholars such as Marzouk and Ali (2018:5), Berrone et al. (2018:98), Holzner and Schwarzhappel (2018:5). Gwary et al. (2016:52) say that while Build Own Operate Transfer (BOOT) bears characteristics of BOO and BOT, the main difference is that under BOOT, the private entity introduces a service charge throughout the concession period, before the facility is handed over to the public entity in perpetuity.

In addition, it was revealed that 75.8% agreed with the statement that UNRA uses Contracting out, Management contract and Service contract PPP models in the roads sector compared to 10% that disagreed with the statement. The mean of 3.34 and standard deviation of 0.1.114 implies that UNRA may be using such PPP models to ensure VFM in the roads sector in Uganda. This finding reflects the reviewed debates by scholars and development partners such

as Obayelu, (2018:255), Kwak et al. (2009:54), Gwary et al. (2016:52), Delmon (2011:135), Bouman et al. (2013:18) and ADB (2008:31) who believe that contracting out, management or operation and maintenance (O&M) contract are PPP arrangements where a private entity provides some operation and maintenance services for a fee, usually based on delivering satisfactory services.

This finding also agrees with debates by scholars and development agencies such as Obayelu (2018:254), Abdel Aziz (2007:918), Renda and Schrefler (2006:8), Warner et al. (2008:12) and ADB (2008:29) who contend that a service contract is a PPP model where the public sector hires a private company to carry out certain specified tasks or services for a period, typically 1–3 years, which is aimed at exploiting private sector skills, innovation and management competencies to boost time and cost efficiencies in delivery of public services.

This finding is again in line with scholars and development agencies such as Nepal Health Sector Reform (2014:1-3), Department of Health & Family Welfare (2012:33) and India department of Health and Family Welfare (2012:33) who contend that Contracting out can be viewed as a form of PPP based on principal-agency models, where the public sector acts as the contracting agency (the principal), mandating a private company (the agent) to deliver specific services based on a contract between the parties. These scholars go ahead to say that contracting out refers to a situation where private entities receive a budget to provide certain services and manage a government facility. The two parties usually agree on the quantity, quality and the duration of the contract

It was also discovered that 67.8% disagreed with the statement that UNRA uses Design Build Finance, Design Build Finance Maintain, Design Build Finance Operate and Design Build Finance Operate Maintain PPP models to ensure VFM in the roads sector in Uganda compared to 32.2% that agreed with the statement. The fair mean of 2.62 and standard deviation of 9.03 implies that UNRA does not implement such PPP models in the roads sector in Uganda. This finding does not agree with the views of development agencies such as USDOT (2014:2) who point out that DBF involve the private partner providing the necessary capital investment for a new infrastructure facility and is generally repaid by the public sector in a series of instalments funded by taxes, fees or tolls, which is not the case with UNRA.

Also, this finding does not reflect the reviewed debates by scholars and agencies such as Gwary et al. (2016:52) and USDOT (2014:2) who contend that DBFM is where the public entity enters into a contractual arrangement with the private sector so that the private entity can design, build and fund a project and thereafter carry out maintenance work on the facility as part of the contractual obligations before transferring the road facility back to the public entity.

This finding is again not in line with debates by agencies and development partners such as Berrone et al. (2018:100), USDOT (2014:2) and IMF (2004:7) who indicate that DBFO PPP model is where the public entity enters into a contractual arrangement with the private sector entity so that the private entity funds the facility construction through debt financing or through lending. The private partner then operates it during the period agreed on with the public entity before transferring the road facility back to the public entity.

More to the above, this finding is not in line with what other scholars such as Steinfeld, Carle and Koala (2018:3), Gwary et al. (2016:52) and USDOT (2014:2) agree on that Design Build Finance Maintain (DBFM) is where the private entity designs, builds and funds a project and thereafter carries out maintenance works as part of the contractual obligations before transferring it to the public entity.

Finally this finding is in line with scholars such as Steinfeld et al. (2018:3), USDOT (2014:2) and Warner et al. (2008:52) who believe that a DBFOM PPP model, on the other hand, is one where the public entity enters into a contractual arrangement with the private sector entity so that the latter provides services to the public under an arrangement similar to that of BOOT. These scholars go ahead to say that where as DBFOM contracting has been understood as a method to transfer risk from the public partner to the private partner, it is argued herein that DBFOM contracting may actually increase the risk of transaction costs for the procuring entity resulting in issues of accountability.

5.3.3. Factors affecting PPP models used by UNRA to ensure VFM in the roads sector

The third objective of the study was “To find out the factors affecting PPP models used by UNRA in ensuring VFM in the roads sector in Uganda.” Findings revealed that to a great extent, some organisational, personal and environmental factors indeed affect such PPP models that

UNRA is currently using in ensuring VFM in the roads sector in Uganda. The results also revealed respondents' ratings on the organisational, personal and environmental factors in relation to PPP models used by UNRA in the roads sector.

The opinions ranged from 0.522 to 3.94 at the 95% Confidence Interval for Mean, reflecting that some respondents scored very poorly at a Minimum 1.00 while others scored well at a Maximum of 4. Despite the high range, the difference in opinions regarding low and high levels of the organisational, personal and environmental factors was at 3.00 and was supported by the standard deviation 0.486.

This sub-section provides discussion on the ratings of constructs or latent items obtained through exploratory factor analysis (EFA). For this construct, participants were measured by eighteen items. The findings revealed that the mean scores for eighteen measured items reflected the respondents' strong belief about the importance of environmental, organisational and personal factors as a basis for internal assessment of VFM in any PPP model.

5.3.3.1 Environmental Factors (EF)

The item (EF1) was whether the political environment and approach affects the PPP models used by UNRA in ensuring VFM in the roads sector in Uganda. The findings revealed that 90.3% agreed with the statement while 6.54% did not. The good rating is confirmed by a mean value of 4.94 and standard deviation of 0.524. This confirms that the political environment and approach indeed affect the PPP models used by UNRA in the roads sector. This finding conforms to the debates by scholars and development partners such as Albalade et al. (2018:1), Krol (2018:4), Khallaf et al (2018:3), Obayelu (2018:256), Jadha and Choudhury (2018:3), Lee et al. (2018:4), Ashery (2018:7). Pongsiri (2002:491), Smith (1997:1), Bird et al. (2003:11), Namara (2012:2), Hodge and Greve (2007:547), Feder et al. (2011:2352), UNECEF (2008:20), WB (2017:2) and FAO (2016:118), who argue that politics provides the context for PPP implementation and sustainability in all countries. That is why they recommend that PPP management needs to be followed by an assessment of the political context because it determines which PPPs are developed and implemented.

The item (EF2) was whether the policy framework and enforcement affect the PPP models used by UNRA in ensuring VFM in the roads sector. Findings revealed that 37.1 agreed with

the statement compared to 33.9% who disagreed with the statement. The fair rating was confirmed by a mean value of 0.624 and standard deviation of 0.903.

This proved that the policy framework and enforcement indeed affect the PPP models used by UNRA in the roads sector. This finding of the study agrees with debates by scholars and development partners such as Howella & Sadowski (2018:3), Lee et al. (2018:1), Hard castle et al. (2005: 459-471), Akintoye et al. (2005:459-471), Chan (2010; 484-494), Ndandiko (2006:44), Tion (1990:229), Zou (2014: 270), Akintoye et al. (2005:459-471), Farlam (2005:4), Poulton and Macartney (2012:96), Feder et al. (2011:2348), Yong (2010:30), Pongsiri (2002:490), Cheng and Wang (2009:5), UNECE (2008:18), ADB (2008:26) and FAO (2016:3).

All these agree on the fact that a sound policy framework is necessary for developing sustainable relationships in PPPs since it articulates the intent to deliver public services and provides the broad picture for design and implementation that are critical in managing stakeholder expectations in addition to guiding monitoring progress of PPPs.

The item (EF3) was whether the legislative framework affects the PPP models used by UNRA. The findings revealed that 46.8% disagreed with the statement compared 27.4% who agreed with it. The mean of 2.85 was slightly below the median score of 3 which implied that the effect of the legislative framework and enforcement on the PPP models used by UNRA is minimal. This finding was from the majority of UNRA respondents who disagreed on one hand and the minority of UNRA respondents that agreed on the other hand with the debates by scholars and development partners such as Lee et al., (2018:2), Yong, (2010:31), FAO (2016:105), EIU (2015:13), Shediak et al. (2008:9), Mouraviev and Kakabadse (2015:7), Pongsiri (2002:488), Samii et al.(2002:1002), EC (2003:38), Yong (2010:3), Mouraviev and Kakabadse (2015:6) FAO (2016:116), Abdel Aziz (2007:921), Hodge and Greve (2007:546-547), Farquharson et al. (2011:19), (KPMG, 2015:16), UNECE (2008:30) and (ADB et al.2014:78).

All these scholars argue that the partnership agreement is protected by a legal framework and will be upheld amidst all the challenges encountered during PPP implementation. However, developing countries are implementing PPPs without a specific PPP law although passing such laws can harmonise practices and establish consistent frameworks across government ministries, departments and agencies.

The item (EF4) was whether the regulatory framework affects the PPP models used by UNRA in ensuring VFM in the roads sector in Uganda. Here the findings revealed that 66.2% disagreed with the statement while 14.5% agreed with it. The fair rating is confirmed by a mean value of 2.40 and standard deviation of 0.896, which implied that to a less extent, the regulatory framework and enforcement affect the PPP models used by UNRA.

This finding from UNRA respondents partly disagrees and partly agrees with the debates by scholars and development partners such as Lee et al. (2018:3), Marques and Berg (2010:2), Mouraviev and Kakabadse (2015:8), ADB (2008:87), Smith (1997:1), Yong (2010:34), Pongsiri (2002:488), (Shediac et al.(2008:2), Yong (2010:34), (EIU, 2015:49) and WB (2017:2). These scholars believe that PPP requires effective regulation to tame the varying actors and their interests such as protecting investors from political influence and protecting consumers from exploitation.

The item (EF5) was whether policy, legislation and regulation monitoring affect the PPP models used by UNRA in ensuring VFM in the roads sector. These findings revealed that 50% disagreed compared to 30.5% who agreed with the statement. The mean of 2.79 was slightly above the median score of 2.50, which implied that to some extent, policy, legislation and regulation monitoring influences the PPP models used by UNRA. This finding from UNRA respondents disagrees on one hand but also partly agrees on the other hand with the debates by some scholars and development partners such as Lee et al. (2018:4), Marques and Berg (2010:2), Mouraviev and Kakabadse (2015:8), ADB (2008:87), Smith (1997:1), Yong (2010:34), Pongsiri (2002:488), Shediac et al.(2008:2), Yong (2010:34), (New Vision, 2016:27), Auditor General(2016 :2), (EIU, 2015:49) and WB (2017:2). These scholars concur that effective PPP project management requires effective policy, legislative and regulation monitoring to ensure that better performance requirements are adhered to and social needs are realised. Unfortunately, governments tend to exert rigorous regulations to some sectors like energy, oil and gas compared to the roads sector.

5.3.3.2 Organisational Factors (OF)

Item (OF1) was on whether PPP arrangement criteria and risk management affect the PPP models used by UNRA in ensuring VFM in the roads sector in Uganda. The findings revealed

that 46.9% agreed with the statement compared to 30.8% who disagreed with it. The results were supported by a mean of 3.08 and a standard deviation of 0.821 which implied that, to a large extent, the criteria for PPP arrangement and risk management affect the PPP models used by UNRA.

This finding from UNRA respondents agrees with the debates by the some scholars and development partners such as Chauhana and Marisetty (2018:6), Kyei et al. (2018:2), Rondinelli (2004:17) and IMF (2004:9) who argue that the criteria for using a PPP arrangement need to be clearly stipulated to provide a factual basis for PPP initiation.

In addition, this finding agrees with other scholars such as Cristina and Jonathan (2005: 2) who say that the level of management of risks involved in implementing PPP projects in the roads sector largely relies on the foundations of the PPP arrangement, the contractual clauses for management of risks and the extent to which the terms and conditions of implementing the PPP project are adequately adhered to.

Item (OF2) asked whether performance measurement and management capacity affect the PPP models used by UNRA. The findings revealed that 62.9% agreed while 24.2% disagreed with the statement. The mean of 4.42 implied that, to a great extent, performance measurement and management capacity affect the PPP models UNRA uses to ensure VFM in the roads sector in Uganda. This finding of the study agrees with the debates by a number of scholars and development partners such as Camacho and Singh (2018:1), Gebremedhin (2010:6), Liu et al.(2014:1), (Yuan et al.(2009:254), (Love et al. (2015:26), Javed et al. (2013a:615), Melnyk et al. (2014:173), Bassioni et al.(2004:42), (Yang et al.(2013:46) Jaaskelainen et al. (2014:1468-1469), Forrer et al. (2010:481), Johnston and Romzek (2005:122), Henjeweale et al.(2011:2), Yong (2010:48), (Reynaers (2014:42), Forrer et al. (2010:482), Javed et al.(2013:18), FAO (2016:122), HM Treasury (1998:7), Lam et al.(2003:121), Robinson & Scott (2009:181), OECD (2012:7), Bloomfield (2006:407), Martinez et al.(2007:306), Johnston and Romzek (2005:122), Birner et al. (2009:350), McDermott et al.(2015:599), Hashim et al. (2017:266), Yang et al. (2013:47), McDermott et al.(2015:596), FAO (2016:122), Van Den Hurk and Verhoest (2016:281), EC (2003:90), Robinson and Scott (2009:182), Brown et al. (2006:328), Marques and Berg (2010:4) and ADB (2008:87).

All these scholars agree that performance measures are essential in not only building trust but also aligning stakeholders on the intended outcomes of the PPP project. They also point out that performance measures and deliverables act as pointers to guide delivery by the private actor in any PPP arrangement and are designed to address the publics' demand for better service delivery.

In addition, this finding agrees with other scholars such as Dewulf et al. (2011:15), Mitchell (2007:13) and National Treasury (2007:23) who add that the public sector has to increase its capacity to measure the performance of PPPs, while private entities must contribute to the development of the PPP market and improve the quality of the services provided to the public. Otherwise, such partnerships often fail because of lack of capacity to measure the performance of PPPs in the implementation of any PPP project.

Item (OF3) asked whether undertaking PPPs for good reasons and reliance on NGOs affect the PPP models used by UNRA to ensure VFM in the roads sector. Findings revealed that 52.9% strongly agreed compared to 45.2% who disagreed. The mean of 2.85 and standard deviation of 1.069 confirmed that undertaking PPPs for good reasons and reliance on NGOs has a bearing on the PPP models used by UNRA to ensure VFM in the roads sector. This finding of the study agrees with the debates by scholars and development partners such as Ahmadabadi and Herav (2018:3), Maskin and Tirole (2007:3), Sadka (2007:487-488) and WB, (2007:49) who believe that if PPPs are not chosen for the right reasons, they can not become the long-term tool for the development of infrastructure that they could potentially become. In addition, this finding of the study agrees with scholars such as Smith (2008: 132), Babiak and Thibault (2009:117) who note that PPPs have not been well developed in Sub-Sahara Africa for the last 30 years because most governments depend on a good number of Non-Government Organisations to deliver some services to their citizens that they are unable to provide.

Item (OF4) was on whether choice of the partner and flexibility between the partners on PPP models used by UNRA, can ensure VFM in the roads sector. The findings revealed that 48.4% disagreed compared to 35.4% who agreed with the statement. The fair rating was confirmed by a fair mean value of 2.94 and standard deviation of 1.114. These implied that choice of the

partner and flexibility between the partners is fairly important in implementing the PPP models by UNRA to ensure VFM in the roads sector in Uganda. The finding is supported by scholars and development partners such as Wang (2018:6), Marques and Berg (2010:5), Landow and Ebdon (2012:729) and National Treasury (2007:23). These scholars concur that the public party should always choose the right partner through competitive bidding. Otherwise, if it chooses the wrong partner and it cannot evade a renegotiation of the contract, it would be doubly harmed. This finding of the study also agrees with the debates by other scholars such as Babiak & Thibault (2009:118) who add that there is need for flexibility to allow some contract variations due to certain unavoidable circumstances. Without flexibility, one partner may think that they will lose control when they enter into such an arrangement; thus they tend to come up with rigid policies other than sorting out their differences amicably so that they continue working as a team in a harmonious manner.

Item (OF5) asked whether public and private sector objectives and goals affective the PPP models by UNRA to ensure VFM in the roads sector. The findings revealed that 62.9% agreed compared to 14.5% who disagreed with the statement. The mean of 4.65 and a standard deviation of 0.770 imply that public and private sector objectives and goals largely influence the way the PPP models are being implemented by UNRA. This finding is supported by scholars such as Ahmadabadi and Herav, (2018:3), Ferris and Williams (2013: 24) who say that the partners' objectives need to be compatible if they are to harmoniously work together in implementing PPP projects. If they are incompatible, this may fail smooth implementation of such PPP projects, especially where public sector objectives tend to be more long term than those of the private sector.

Item (OF6) was on whether focus by both public and private bodies affects the PPP models used by UNRA in the roads sector in Uganda. The findings revealed that 89.4% agreed with the statement while 9.6 % were non-committal. The mean of 4.03 and a standard deviation of 0.398 clearly indicated that the focus by public and private bodies affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda. This finding agrees with Obayelu (2018:257), Ferris and Williams (2013: 25) and Babiak and Thibault 2009:119) who argue that having the same focus helps both public and private entities to agree while implementing

PPPs. When they focus on different things all together, it derails the success of PPP implementation, maintenance, management and sustainability.

Item (OF7) focused on whether PPP funding priorities and cost estimation affect the PPP models used by UNRA in the roads sector. The findings revealed that 79.0% agreed with the statement compared to 14.5% who disagreed. The average rating was confirmed by a fair mean of 3.89 and standard deviation of 0.402 showing that indeed PPP funding priorities and estimation of PPP costs play a large role when it comes to implementation of the PPP models by UNRA to ensure VFM in the roads sector in Uganda.

This finding agrees with some scholars such as Du, Wu & Zhu (2018:10) and Smith (2008: 133) who argue that public entities should not focus on areas that involve self-vested interests but they should design PPP contracts that have terms and conditions that are in line with the interests of the citizens. This finding also agrees with other scholars and agencies such as Reside (2009:47) and Gauteng Provincial Government (2013:21) who suggest that while designing a PPP, the capacity of the off-takers and customers to pay the planned tariffs must be carefully analysed and any overestimation must be avoided.

Item (OF8) asked whether implementation complexities and accountability mechanisms have an effect on PPP models used by UNRA to ensure VFM in the roads sector in Uganda. The findings revealed that 80.7% agreed with the statement as compared 9.7% who disagreed. The mean of 4.63 and standard deviation of 0.610 shows that implementation complexities and accountability mechanisms highly affect the PPP models used by UNRA in ensuring VFM in the roads sector in Uganda.

This finding agrees with literature by some scholars, practitioners and agencies such as Nayak (2018:10), Mitchell (2007:23), Castalia Strategic Advisors and Ukhamba Advisory Services (2007:i-ii) and Gauteng Provincial Government, (2013:21) who note that the public and private sectors need to always avoid certain complexities if the implementation of a PPP is to be successful. This finding of the study also agrees with literature by some scholars such as De Bettignies and Ross (2004:136), Reside (2009:47), Dewulf et al. (2011: XXX), Mitchell (2007:19), Landow and Edbon (2012:729) who agree that proper accountability is necessary

for successful PPP implementation but also that lack of transparency and determination of accountabilities in the contract can raise the overall costs of a PPP project.

Item (OF9) focused on whether implementation ambiguities and organisational capacity have an effect on the PPP used by models to ensure VFM in the roads sector in Uganda. Findings revealed that 66.1% agreed compared to 17.7% who disagreed with the statement. The mean of 4.63 and standard deviation of 0.610 implied that the implementation structure and organisational capacity affect the PPP models used by UNRA.

This finding is in line with studies by Awortwi (2004: 29-30) and UHCHS Habitat (2000:19) who claim that in the East Africa, a baseline study was done and the study findings indicated that there were a lot of ambiguities in partnerships with private firms to deliver services to people living in different municipalities, because the PPP project implementation modalities were not clearly defined and understood by the LGs.

This finding is also in line with studies by Koppenjan (2005:140-142) who assert that both public and private sector partners need to have organisational capacities in terms of adequate professional and technical staff and financial resources if they are to successfully implement PPP projects.

Item (OF10) focused on whether autonomy by partners and stakeholders affect PPP models used by UNRA to ensure VFM in the roads sector. The findings revealed that 64.6% agreed compared to 11 respondents representing 17.7% who disagreed with the statement. The mean of 4.77 and standard deviation of 0.657 implied that autonomy by partners and stakeholder management do affect the PPP models used by UNRA. This finding is supported by scholars such as Muralidhar and Koteswara (2013: 21) who suggest that although working as a team is very crucial, ability to have some level of autonomy in handling some components of the PPP project as an individual and being a self-starter where necessary during the entire period of PPP Project implementation is equally important. This finding is also supported by Mitchell (2007:19) who asserts that concerns of all major stakeholders in PPPs projects need always to be addressed in time before questionable issues arise; for instance, excessive profit at the public expense.

5.3.3.3 Personal Factors (PF)

Item (PF1) focused on whether the competence of PPP Unit staff and their roles have an effect on the PPP models used by UNRA. Here, the findings revealed that 90.3% agreed to such a statement compared to 6.54% who disagreed with it. The mean of 4.79 and standard deviation of 0.627 implied that the competence of PPP Unit staff and their roles have a great effect on the implementation of PPP models by UNRA in ensuring VFM in the roads sector. This finding is in line with debates by practitioners such as Castalia Strategic Advisors and Ukhamba Advisory Services (2007:i-ii) who argue that the PPP Unit staff should be well knowledgeable and skilled in order to play their coordination roles for effective implementation of PPP projects.

Item (PF2) focused on whether corruption and communication among public and private sector staff have an effect on PPP models used by UNRA. The findings revealed that 62.9% agreed to such a statement compared to 14.5% who did not. The mean of 4.65 and standard deviation of 0.760 implied that to a great extent, corruption and communication among public and private sector staff highly affect the implementation of PPP models by UNRA to ensure VFM in the roads sector in Uganda. This finding is in line with debates by Harris (2004:288), Agina (2004:1) and WB (2004:7) who note that PPPs deal with far more complex services and thus the choice of companies to work with in implementing the PPP project cannot be reduced to the single variable of price.

This makes them offer far greater latitude for manipulation by foreign or local firms or government officials that are hard for the public and anti-corruption systems to spot. Mitchell (2007:23), Van and Koppenjan (2007:600), Babiak and Thibault (2009:122), and Price Water House Coopers (2010:13) also agree that good and active communication among PPP project staff has to be set up in the early stage of PPP projects, if such agreements are to be successful in the long run.

Last but not least, Item (PF3) focused on whether conflict among public and private sector staff and competition among individual bidders affect the PPP models being used by UNRA to ensure VFM in the roads sector in Uganda. The findings revealed that 69.4% agreed to such a statement compared to 11.3% who disagreed. The mean of 4.52 and standard deviation of 0.654 implied that to a large extent, conflict among public and private sector staff and

competition among individual bidders indeed have a high effect on the PPP models being used by UNRA. This finding is supported by Mitchell (2007:19) who argues that the concerned public institution must study carefully the private entities involved in the bidding process in order to get the right partner to work with to implement the PPP project. This finding is also in line with debates by scholars such as Eschenfelder (2011:36), Cairns and Harris (2011:311) who contend that PPPs are associated with a number of conflicts during the implementation phase that come up as a result of failure of partners to fulfil their right obligations. This is especially so since partners come from different political, economic, social, technological, ecological, legal and ethical backgrounds.

5.3.4 Chapter summary

This chapter discussed the key findings of the study and it observed that the response rate of 62% for quantitative part of this study and 35% for qualitative part of this study achieved in this research was higher than initially expected. It compared reasonably well with earlier studies carried out to assess PPPs and VFM in the roads sector. The demographic information suggested that the majority of respondents were bachelor's degree holders (48.4%) while 47 per cent of participants in this survey had worked with UNRA for more than 16 years. In addition, the findings revealed that the level of education of most of the participants was a bachelor's degree, which was higher compared to the educational level of an average citizen in Uganda. The study findings on different UNRA stakeholders' perception of the concepts of PPPs and VFM in the roads sector in Uganda have been well discussed in line with the different scholarly debates from the reviewed literature. The findings on the different PPP models used by UNRA to implement construction and maintenance projects in the roads sector in Uganda have also been thoroughly discussed in line with the different scholarly debates from the reviewed literature.

Finally, the study findings on the environmental, organisational and personal factors affecting the different PPP models used by UNRA to implement construction and maintenance projects in order to ensure VFM in the roads sector in Uganda, have as been discussed in line with different scholarly debates from the literature reviewed. The next chapter looks at discussion and development of the appropriate PPP model that can be used by UNRA to ensure VFM in the roads sector.

CHAPTER SIX

APPROPRIATE PPP MODEL THAT CAN BE USED IN THE ROADS SECTOR

THE INTEGRATIVE PPP MODEL

6.1 Introduction

The previous chapter looked at the discussion of findings. This section analyses whether there is a more suitable PPP model from among the many alternatives already presented, and whether such a model can deliver better VFM compared to other PPP models (ADB et al., 2014:132). Appropriateness denotes the ability for such a PPP model to deliver results through improvement in road sector service delivery and meeting the needs and expectations of the stakeholders in an excellent manner compared to the rest of the PPP models.

This chapter analyses existing debates by researchers and practitioners on an appropriate PPP model that can be used in the roads sector. It also analyses scholarly and development partner debates on different approaches for identifying and embracing such an appropriate PPP model in implementing road sector projects (Gibson et al., 2015:16).

The chapter adopted an exploratory analysis of the appropriate PPP model that can be used in implementing projects in the roads sector all over the world (ADB et al 2014:18). Therefore, the researcher has been able to review various approaches used in identifying and embracing such an appropriate PPP model in implementing road sector projects. The researcher went ahead to also investigate their linkages to VFM in the roads sector projects, in addition to other sectors since PPP implementation in developing countries like Uganda is quite new and there is limited literature on the subject (Mouraviev et al., 2016:170).

There is, therefore, lack of expertise in this particular area in many countries. Most of the studies on PPPs capture information on infrastructural development outside Uganda, which means that the conceptualisation is based on broader debates drawn from other sectors such as education, water and agriculture. The chapter therefore mainly focuses on exploring various approaches used in identifying and embracing an appropriate PPP model to implement road sector projects in developing and developed countries. The chapter is organised as follows; the first section gives a back ground of the issues associated with the contracting out PPP

model currently being used by UNRA in the roads sector. The second section provides the justification for developing a new PPP model for roads sector anchored on study findings. While section three conceptualises models to provide an understanding of what they are and the foundation from which the proposed PPP model has been developed.

The fourth section examines the methodological approach to developing the proposed PPP model for the roads sector. This section also includes the methods followed in developing the model. The fifth section provides the contextual understanding of contracting out public service provision system. The sixth section discusses the development of the new integrated PPP model. The chapter ends with section seven which presents the general conclusion and recommendations in line with the new appropriate PPP model developed for road sector projects in Uganda.

6.2 Approaches used in identifying appropriate PPP model for the road sector in Uganda

Scholarly and practitioner debates on PPPs in the roads sector point out that the approaches used in identifying appropriate PPP models in the roads sector are differentiated factors such as the extent of private sector risk, the role of the private actors, how the private party is paid, type of asset (new or old) and the types of PPP projects being proposed (Farquharson and Yescombe (2011:9) & (Bouman et al., 2013:11).

Some PPPs involve financing, building and managing new projects in the roads sector and public assets, while others transfer responsibility for upgrading and managing existing (old) assets to the private sector (Farquharson & Yescombe, 2011:9; Gibson et al., 2015:16; WB, 2017a) & (ADB et al 2014:18). Some scholars points out that there is no universally agreed position on the most suitable PPP model to be used to implement construction and maintenance projects in the road sector.

While there are diverse PPP models which are being used by different countries, some may not be suitable to developing countries like Uganda (Roehrich et al., 2014:112). Therefore, PPP stakeholders from different countries and sectors need to come up with strategies for identifying the most appropriate PPP model that can be used to effectively implement various road construction and maintenance projects (Delmon, 2010:17). Delmon (2010:10) suggests

that identifying and embracing appropriate PPP models is critical in coming up with better strategies for implementing various road construction and maintenance projects that ensure VFM (Delmon, 2010:10). This is because no attempt has been made over the last two decades to document literature and provide a holistic view on an appropriate PPP model that can be used in the roads sector, especially in a developing country like Uganda (Delmon, 2010:5; Roehrich et al., 2014:110). Consequently, there is fragmented literature and a limited systematic approach on how one can be able to identify, embrace, plan, design, implement, maintain, monitor, evaluate, sustain and manage such an appropriate PPP model, which has occasionally resulted in inconsistency and confusion across global, national, regional, local, sectorial and organizational divides, thus complicating PPP studies in Uganda (Delmon, 2010:5-8; Roehrich et al., 2014:111; Mouraviev et al., 2016:157).

Delmon (2010:11) & Mouraviev et al. (2016:158) recommend harmonisation of terminologies and concepts used in identifying and embracing an appropriate PPP model, especially those that have already been extensively discussed at the global level. This will not only simplify dialogue between policy makers and practitioners on an appropriate PPP model to be used in the roads sector but it will also allow literature on an appropriate PPP model from different sources to be compared, thereby benefiting from experiences of other economies (Delmon 2010:10 & Mouraviev et al. 2016:157).

In addition, Delmon (2010:9) recommends that policy makers should conduct a comprehensive analysis of the appropriate PPP model by focusing on others that have a high likelihood to ensure VFM in terms of efficiency, effectiveness and economy. Delmon (2010:9) & Farquharson and Yescombe (2011:6) agree that the choice of such an appropriate PPP model in the roads sector may depend on environmental, organisational and personal factors (Delmon 2010:9 & Farquharson and Yescombe 2011:6). Therefore, the analysed literature covers a number of approaches that can be used to identify the most appropriate PPP model to be used from the global to the local point of view. The literature on an appropriate PPP model for the roads sector in the western world does not contradict that of the developing world. The analysis guided the researcher in identifying an appropriate PPP model that UNRA can use in implementing road sector construction and maintenance projects. The information

analysed below points out the approaches that can be used to identify and embrace a PPP model to execute various projects in the roads sector.

6.3 A synthesis of the model currently being used by UNRA in the roads sector in Uganda

As earlier observed, UNRA has been using the contracting out model to finance, implement and manage road construction and maintenance projects. As noted from literature, using such a model has not enabled UNRA to realise VFM as a result of many reported flaws that are associated with that approach.

This is because contracting out has been associated with a number of cases of alleged corruption among UNRA officials and its service providers, cancellation of road contracts, allegation of breach of procurement procedures, use of poor quality materials, cracks in the newly constructed roads, sub-substandard narrow roads and delayed construction and commissioning of roads in the on-going projects as was the case with procurement for the contractor of Mukono-Katosi road (New Vision, 2016: 27).

In addition, documents reviewed show that over the last few years, using the PPP model of contracting out could have partly increased the cost of road construction in Uganda from \$180,000 per km to about \$1,000,000; a cost most stakeholders in the road sector in Uganda think is grossly exaggerated (Auditor General, 2010: 2). While UNRA is using contracting out to manage national roads in Uganda, the above flaws associated with such an approach have compelled it to plan to use of other PPP models to ensure VFM, such as Build Operate Transfer for Kampala-Jinja highway and a Management Contract for Kampala Entebbe Express highway.

However, as earlier analysed from scholarly literature, the plan to use other PPP models has not been supported by some stakeholders, especially those who get personal gains from the use of contracting out model (Abdul, et al., 2015: 1). Other stakeholders are not supporting the use of the other PPP models in the roads sector because they think that since the use of other PPP models is a new experience in Uganda, UNRA may fail to use the best suitable PPP models to ensure VFM in the roads sector (Mutabazi, 2012:3, 4). Some stakeholders actually

believe that the use of other PPP models in the roads sector may not lead to VFM as has been the case with the contracting out model (Dan, 2015: 1).

Although some scholars argue that the use of other PPP models in Uganda is good for increasing access to technical and financial resources (Ndandiko, 2006: 702), its planned use raises questions by some sections of stakeholders in Uganda (Ssebugwawo, 2012: 2), (Dan, 2015: 1), (Benon et al., 2013: 49).

A study by Mutabazi (2012) did not consider other PPP models as having a negative effect on the quality of road sector services provided. However, the study did not do an in-depth analysis of other PPP models in Uganda, nor did it ascertain whether Uganda will be able to use the right PPP models to implement road construction and maintenance projects (Mutabazi, 2012:3).

This backdrop not only reveals some information gaps in the use of other PPP models to ensure VFM in the road sector, but it also indicates that the use of other PPP models is less known in Uganda. In spite of this unfavourable environment for use of other PPP models, no research in Uganda has so far been undertaken to specifically explore the use of PPPs and whether Uganda will be able to use the right PPP models to implement road construction and maintenance projects.

Based on research findings, this study, addressed this gap by proposing a model which is hinged on internal assessment of VFM in line with the interactions between environmental, organizational and personal factors for realization of different levels of results to the satisfaction of the different expectations of the citizens.

6.4 Justification of the proposed PPP model

Developing a new PPP model seeks to address the challenges embedded in contracting out model coupled with a number of reported flaws in the roads sector in Uganda. The model proposed is anchored on findings from views, suggestions and recommendations made by study participants during the research study and scholarly literature and debates from different researchers, academicians, PPP experts and development partners. Mwesigye et al. (2017:4) recommends exploration of an integrated PPP model should be tagged to the interactions

between environmental, organisational and personal factors in assessing the VFM elements within the PPP construction and maintenance projects being initiated, designed, planned, implemented, monitored, evaluated, sustained and managed in the roads sector. The integration in this model is the facilitation of interactions among environmental factors, organisational factors and personal factors (Knickel et al., 2009:140).

It is argued that the contemporary roads sector requires integrated approaches to supporting road construction and maintenance projects (Paton & Dorst, 2011:573), which according to Knickel et al. (2009:138) may include reconfiguration of relational patterns of environmental factors, organisational factors and personal factors that can be used to ascertain whether VFM elements such as effectiveness, efficiency and economy are present in any PPP arrangement.

The design thinking approach has been adopted as the appropriate methodology for initiating and developing the proposed PPP model to resolve the challenges entrenched in the current models being used by UNRA to ensure VFM, which VFM has not yet been achieved (Windahl, 2017:283).

6.5 Model conceptualisation

Models are believed to be very dynamic through scientific thinking and form bedrock for making meaning out of the existence of a particular phenomenon (Van der Waladt, 2013:4-5). Van der Waladt (2013:3) contends that models portray scientific knowledge in making sense of a particular phenomenon and they present best practices in dealing with some constraints associated with a certain phenomenon.

Quade (1989:143) refers to models as a symbol of reality while Van der Waladt (2013:6) considers them as a foundation for theory. Models are, therefore, very crucial in developing knowledge as well as enabling related understanding and they articulate a phenomenon in terms of dealing with certain unavoidable constraints in a much better way (Graham et al., 2014:13). Models are usually used to make a flashback of existing structures and similarities within such structures so that some improvements can be made from those already existing (Van der Waladt, 2013:5). While some scholars assert that there is a difference between a theory and a model, other scholars use them synonymously and thus some principles in a

theory can be used as a basis for developing a model (Van der Walddt, 2013:6; Graham et al., 2014:14).

6.6 Approaches used in developing the appropriate PPP model

6.6.1 Design thinking approach

This study adopted the design thinking approach to develop the proposed PPP model. Design thinking is a coherent process represented by a model, based on theory and grounded in data while focusing on dealing with a particular problem (Tracey & Baaki, 2014:2). The design school of thought encourages use of integrated innovations in dealing with any constraints that result from changing conventional approaches to modern methods of dealing with such constraints (Dorst, 2015:1).

The design practice according to Graham et al. (2014:15) explores how to ensure that certain things occur whether others like it or not. This approach focuses on designing techniques that can be employed to realise tangible and quantum results after employment of certain inputs (Reigeluth, 2013:7; Ben Mahmoud-Jouini et al., 2016:145). The same researchers point out strategies that can be used to achieve the predetermined objectives, purpose and goal to realise immediate, intermediate and long-term results in form of outputs, outcomes and impact (Graham et al., 2014:15).

The outcomes may include using certain symbols such as graphs and charts (Ben Mahmoud-Jouini et al., 2016:148). The outcomes from the design process should aim at realising more value to the key stakeholders in addition to providing excellent market opportunities (Ben Mahmoud-Jouini et al., 2016:148). Gibbons and Langton (2016:101) argue that design thinking is hinged on coming up with new approaches (Ben Mahmoud-Jouini et al., 2016:145). Design thinking is an approach that utilises the designer's techniques to ensure that certain specifications and expectations of individual stakeholders are realised in an efficient, effective and economic manner (Thoring & Müller, 2011:1). The main issue with design theories is whether the proposed techniques can sufficiently help us to realise the intended objectives in comparison with any other techniques (Reigeluth, 2013:8). This shows that design thinking makes use of integrated means that focus on use of better quality inputs so as to adjust the

current status quo into better results in terms of outputs, outcomes and impact via a unique creative and innovative domain (Ben Mahmoud-Jouini et al., 2016:148).

Thoring and Muller (2011:1) point out that design thinking brings about integrated innovations in terms of creativity, problem analysis and idea generation of identifying and using the right inputs to produce better levels of results in form of outputs, outcomes and impact using appropriate technology in order to deal with the problem at hand.

For Reigeluth (2013:8), design approach is a basis for giving a clear sense of direction to scholars, practitioners and development agencies to deal with the existing constraints, realise better results in terms of outputs, outcomes and creating more impact (Liedtka, 2015:926; Ben Mahmoud-Jouini et al., 2016:148; Gibbons & Langton, 2016:101).

Windahl (2017:283) views design practice as an approach used for discovering a realistic challenge and conceiving an idea on how best to deal with such a challenge (Ben Mahmoud-Jouini et al., 2016:146-147).

Ben Mahmoud-Jouini et al. (2016:148) view design thinking as being driven by existing predictions and generalisations that focus on identifying a particular constraint and coming up with feasible intervention to deal with such a constraint (Liedtka, 2015:926).

The design approach articulates the best practice to be used in order to have more probability for realising the short term results in form of outputs, intermediate results in form of outcomes and long-term results in form of impact.

This calls for choosing structures and their main features to ensure that the model is functional within the domain of existing problems and how such problems can best be solved (Graham et al., 2014:27; Gibbons & Langton, 2016:101).

The reasons behind choosing such key features need to be precisely, candidly and vividly noted to provide a starting point for other scholars to predict and generalise reality in line with such a model. Design thinking has changed over time to embrace approaches that focus on human beliefs, experiences, perceptions and actions in line with this study (Ben Mahmoud-Jouini et al., 2016:148). Design thinking has been acknowledged by both practitioners and

scholars as an invaluable approach to generating innovative outputs, outcomes and impact in different domains including product delivery and service provision (Liedtka, 2015:926; Ben Mahmoud-Jouini et al., 2016:144).

The practice has been viewed as a method that is useful for identifying a challenge or problem and coming up with an integrated approach to solve such a problem (Windahl, 2017:283).

6.6.2 Instructional design approach

The delivery of road sector services involves the transfer of PPP knowledge by putting in place capacity building programmes. This study also adopted some aspects of the instructional design approach which emphasises facilitating human learning and development and the situations in which to apply the methods (Reigeluth, 2013:8).

The instructional design approach provides contextual methods rather than universal approaches. This approach, therefore, targets instructional situations which include the nature of what is supposed to be learned, characteristics of the learner, the nature of the learning environment at home or in groups and the nature of instructional development constraints.

These conditions facilitated development of methods that achieve the desired outputs, outcomes and impact (Reigeluth, 2013:8). The proponents of the design practice such as Windahl (2017:282) and Ben Mahmoud-Jouini et al. (2016:148) have agreed on three iterative phases for developing a model which the study adopted.

The phases include exploring the existing establishment and the relationships therein in order to discover the problem and its root causes. The study explored the adoption of PPPs to ensure VFM in Uganda. It targeted PPP technical persons, implementers, and the private service providers involved in the programme.

Using questionnaires and interviews augmented with literature, the study discovered that the enabling environment did not support private sector investment. It did not also support the model of contracting out which UNRA used to work with such private sector investors in implementing construction and maintenance projects in the roads sector. In addition, the PPP model was affected by political and technical differences which were never aligned. It was also

revealed that there was a lot of misinterpretation and misunderstanding of contracting out service delivery model, as well as poor management, and these caused a lot of flaws in roads sector construction and maintenance projects.

There were a lot accountability issues raised and actions taken which affected stakeholder perception about the use of such a model. This exploration phase also focused on conducting a roads sector needs assessment and documenting citizen needs. The second phase involved developing ideas and concepts that explain and address the problem in order to suggest opportunities available.

Based on findings from views, suggestions and recommendations made by study participants during the research study and scholarly literature and debates from researchers, academicians, PPP experts and development partners, it was evident that the delivery system for contracting out model is relatively weak, which offers prospects to the private sector to improve service delivery in a demand-driven and market-oriented economy.

The third phase involved using a prototype to test the concepts as an answer to the problem at hand (Thoring & Müller, 2011:2; Graham et al., 2014:16; Liedtka, 2015:927; Ben Mahmoud-Jouini et al., 2016:148; Windahl, 2017:282).

The researcher made consultations with his study participants, technical persons, practitioners and academia about the research findings to get their contributions and verify whether the model is applicable. The feedback received guided the review, modifications and final development of the model.

The PPP model proposed in this study was developed in consultation with participants and technocrats who were involved in the study process based on study findings. The process included conducting interviews, administering close-ended questions and reviewing a number of documents on PPPs to support their views on developing an appropriate PPP model for the road sector in Uganda (Thoring & Müller, 2011:2).

6.7 Contracting out service delivery system

Contracting out the delivery of road sector services presents a viable solution to many challenges facing government institutions like UNRA. The critical elements for this process to

proceed can be found in the political will to contract out road sector services and the current financial pressure on roads authorities. Contracting out road sector services has mainly become a pragmatic response to budgetary problems. The quest for services by all communities together with the call for quality services has further culminated into a call for drastic action.

Transforming road sector services holds the potential for increasing VFM elements of effectiveness efficiency and economy. Resources are likely to be allocated more effectively, efficiently and economically because a contracted out service holds the potential for improved VFM. Output is likely to be produced more cheaply, outcomes are likely to be more easily realised, impact is likely to be well created and the organisation is likely to be more market oriented with a more motivated management (Johan, 1998:1).

To contract out in the road sector is, however, a daunting task. Each stage of this process involves balancing economic and political goals. The possibilities are dependent on the specifics of the business involved. Office bearers and politicians are approaching this technical task with self-vested interests. That is why as already noted, the contracting out model has been associated with a number of flaws.

Therefore, to use such a PPP model one should determine the policy, legal, regulatory and institutional frameworks and approaches to such a model, how to structure each contracted out service, the steps that need to be taken in preparing such a model, and how to manage the sale and negotiations. The model developed in this study could be used as a framework which addresses the viability of any road sector service to be contracted out in a more systematic and organised manner of implementing a decision to either investigate or to contract out road sector services in a much better manner (Johan, 1998:2).

6.8 The Integrative PPP model

From study findings, majority of the UNRA stakeholders were of the view that a PPP is a long term contract between government and private companies, while VFM is where a product is delivered to the citizens in a more cost effective manner. Secondly, majority of the UNRA

stakeholders were of the view that UNRA uses contracting out, management contract and service contract models.

Thirdly, majority of the UNRA stakeholders were of the view that politics is main factor influencing the adoption and use of PPPs in the roads sector in Uganda. Also, majority of the UNRA stakeholders were of the view that focus by both public and private partners is main organizational factor affecting adoption and implementation of PPPs in Uganda. In addition, majority of the UNRA stakeholders suggested that competence by PPP unit staff is the main personal factor affecting adoption and implementation of PPPs in Uganda.

Based on these findings, a model was developed in line with the assessment of VFM in contracting PPPs based on the interactions that exist between environmental factors of mainly politics, organisational factors of mainly focus by both public and private parties and personal factors of mainly competence of PPP unit staff that affect long term contractual relations between the principal and the agent to provide a product to the public in a more cost effective manner so as to meet the expectations of the key PPP project stakeholders.

Therefore the findings based on views, suggestions and recommendations made by study participants during the research study and scholarly literature and debates from other researchers, academicians, PPP experts and development partners, were considered in the development of the new model that focuses on delivery of different levels of results of outputs, outcomes and impact in line with cost effectiveness and other VFM elements of efficiency and economy to the satisfaction of the citizens and using their feedback as a basis for continuous improvement of the PPPs.

6.8.1 Factor analysis and the integrative PPP model development

Factor Analysis (FA) techniques are utilised to analyse the correlations among a large number of measurement items by defining a large set of common underlying dimensions, known as factors. It takes a large set of variables and summaries or reduces them using a smaller set of variables (Hair et al., 2006:104).

The main purpose of the factor analysis is to understand the structure of a set of variables, constructing a questionnaire to measure any underlying variables, and reducing a data set to

a more manageable level (Field, 2006: 619). Normally, the researcher identifies latent dimensions of the structure of the data and then determines the degree to which a test item (also referred to as a variable) is explained by each factor.

This is followed by summarisation and data reduction which are the primary uses of Factor Analysis. This purpose can be achieved by either exploratory factor analysis or confirmatory factor analysis techniques.

It is generally accepted that the exploratory factor analysis technique is used for “take what the data gives you”, whereas the confirmatory factor analysis technique involves combining variables together on a factor or the precise set of factors for analyzing any predications made (Hair et al., 2006:105).

In this thesis, the researcher first conducted exploratory factor analysis (EFA) to examine the dimensions of each construct (herein called as a factor) and then confirmatory factor analysis (CFA) was performed for analysing and confirming the interrelationships among a set of variables under environmental factors of mainly politics, organisational factors of mainly focus by both public and private parties and personal factors of mainly competence of PPP unit astaff (Hair et al., 2006:106).

6.8.1.1 Exploring factor analysis in integrative PPP model development

Factor analysis was used to explore the interrelationships among a set of variables (Julie, 2016:23). It is an interdependence technique, whose primary purpose is to define the underlying structure among the variables in the analysis (Hair et al., 2006:107). It is a technique that is used to digest the information contained in a large number of variables as a smaller number of subsets or factors (Hair et al., 2003:35).

Generally, metric data is a requirement in factor analysis which was satisfied in this thesis because of the Likert scale that was used in the questionnaire. The requirement of the population, that data should be three times larger than the examined variables, was also fulfilled (Malhotra Simon, 2008:5).

The strong relationship between environmental factors of mainly politics, organisational factors of mainly focus by both public and private parties and personal factors of mainly competence of PPP unit staff in assessing VFM in long term contracting PPP arrangements of contracting out, management contract and service contract is not surprising because prior studies support the influence of such factors on VFM elements of mainly cost effectiveness in addition to efficiency and economy within such long term PPP contractual obligations. Environmental factors such as politics, organisational factors such as focus by both public and private parties and personal factors such as competence of PPP unit staff interact with each other to influence the realisation of VFM in any contracting PPP project.

There is a positive correlation between environmental factors such as politics, organisational factors such as focus by both public and private parties and personal factors such as competence of PPP unit staff with VFM in any PPP arrangement. Organisations are subjected to forces of change which they must respond to. These forces could be internal and external to the organisation and they drive changes within the organisation (Robbins, Odendaal & Roodt, and 2007:10).

These forces would explain why there is a positive correlation between environmental factors such as politics, organisational factors such as focus by both public and private parties and personal factors such as competence of PPP unit staff with VFM in any long term contracting PPP arrangement.

6.8.2 Basis for developing an integrative PPP model

6.8.2.1 Environmental factors (EF) and Internal Assessment of VFM in a PPP (IA)

The findings revealed that Internal Assessment of VFM in long term contracting PPP models to provide a product to the public (IA) should be done based mainly on politics and any other environmental factors in line with cost effectiveness and any other VFM indicators of efficiency and economy.

These findings agree with conclusions reached by Klein (1997:5), Abdul et al. (2015:1), UK Treasury (2006:7) and Matti (2014: 8), who agree that VFM can be internally analysed in any long term contracting PPP arrangement in terms of delivering a product to the public in the

most cost effective manner and any other VFM indicators of efficiency and economy. Such an internal assessment of VFM in a PPP model (IA) can be effectively done based on the environmental factors of mainly political commitment and other environmental factors of policy, legal, regulatory and their corresponding monitoring frameworks.

If VFM is to be internally assessed by public organisations like UNRA, it should be in line with the kind of impact a long term contracting PPP has on the key project stakeholders within the confines of mainly political commitment and other environmental factors of policy, legal, regulatory and their corresponding monitoring frameworks.

6.8.2.2 Organisational (OF) and Internal Assessment of VFM in a PPP model (IA)

The findings revealed that Internal Assessment of VFM in any long term contracting PPP model (IA) should be done in line with mainly cost effectiveness and other VFM indicators of efficiency and economy based on mainly focus by both public and private partners and any other organisational factors.

These findings agree with conclusions reached by Whitfield (2010:183), Deloitte and Touche (2011: 20), PricewaterCoopers (2009: 9) and Ruchi Sharma (2015:253), who believe that VFM can be analysed in any long term contracting PPP in terms of delivering a product and other services to the public in the most cost effective manner and any other VFM indicators of efficiency and economy. Such an internal assessment of VFM in any long term contracting PPP model (IA) needs to be done based on mainly focus by both public and private partners and any other organisational factors of: PPP criteria and risk management, performance measurement and capacity to manage the PPPs, undertaking PPPs for good reasons and reliance on NGOs, choice of the partner and flexibility between the partners, public and private sector objectives and goals, PPP funding priorities and estimation of PPP costs, PPP accountability mechanisms and PPP implementation complexities, ambiguity in PPP implementation and organisational capacity, autonomy by partners and stakeholder management.

If VFM is to be internally assessed, it should be in line with the kind of impact a long term contracting PPP has had on the key stakeholders within the confines of mainly focus by both public and private partners and any other organisational factors.

6.8.2.3 Personal factors (PF) and Internal Assessment of VFM in a PPP model (IA)

The findings revealed that internal assessment of VFM in any long term contracting PPP model (IA) should be done in line with mainly cost effectiveness and other VFM indicators of efficiency and economy based on mainly the competence of PPP unit staff and any other personal factors.

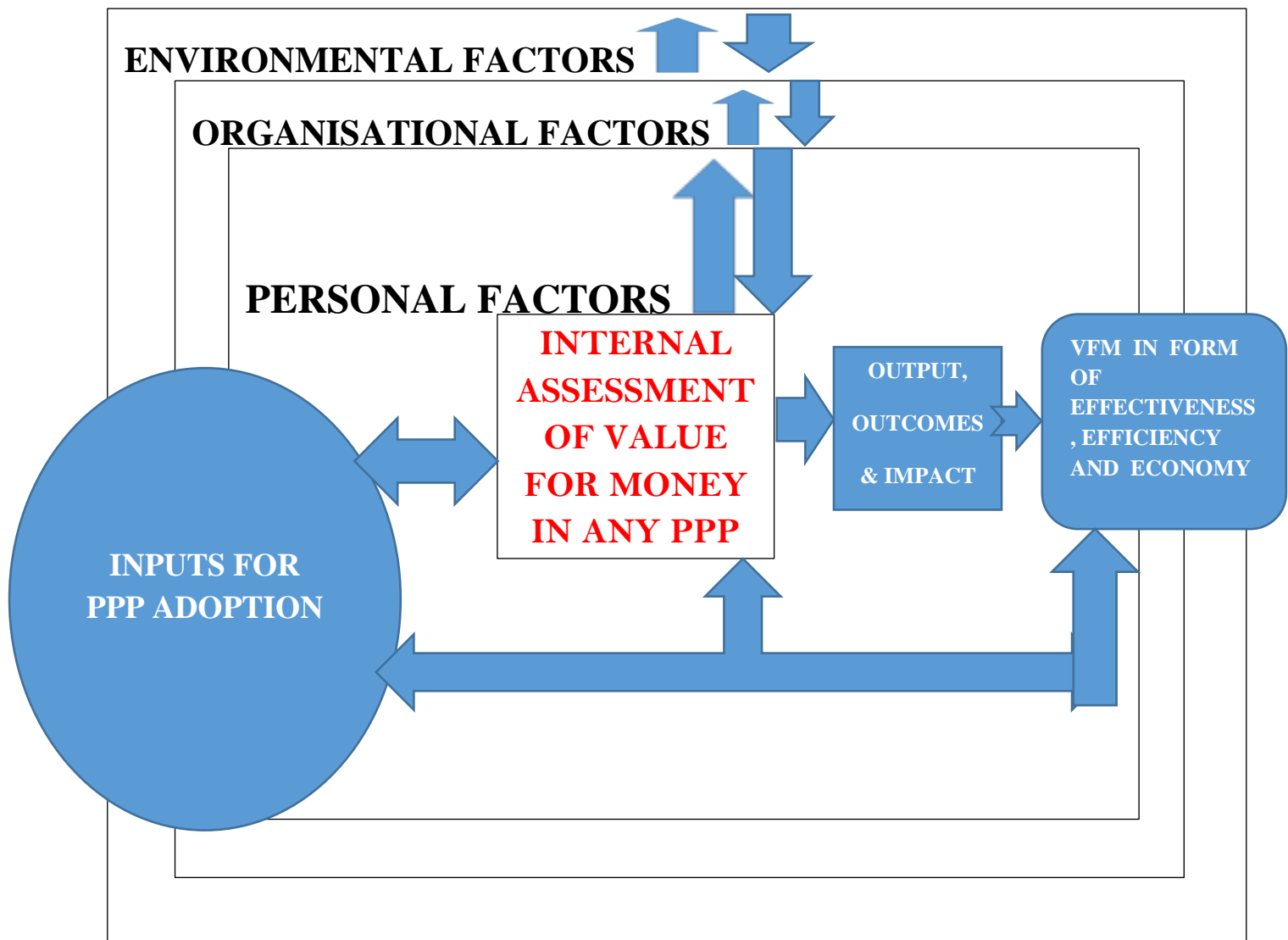
These findings agree with conclusions reached by Jomo et al. (2016:12), Blanc, Gold and Valila (2006:2), Michael, Jim and Peter (2014:151), Boardman and Vining (2012: 125) that VFM can be internally analysed in any long term contracting PPP arrangement in terms in terms of delivering a product and other services to the public in the most cost effective manner and any other VFM indicators of efficiency and economy.

Such internal assessment of VFM in any long term contracting PPP model (IA) needs to be effectively done based on the competence of PPP unit staff and any other personal factors of integrity and communication among PPP Project staff, nature of conflict among PPP project staff and competition among individual bidders. If VFM is to be internally assessed by public organisations like UNRA, it should also be in line with the kind of impact a long term contacting PPP has had on the key project stakeholders within the confines of mainly competence of PPP Unit staff and any other personal factors of integrity and communication among PPP Project staff and nature of conflict among PPP project staff and competition among individual bidders.

6.8.3 The operationalisation of the Integrative PPP model

This model aims at ensuring that key elements of VFM such as cost effectiveness and other indicators of efficiency and economy are put into consideration when implementing any long term contracting PPP based on the interaction between environmental factors of mainly politics, organisational factors of mainly focus by both public and private parties and personal factors of mainly competence of PPP unit staff as illustrated in the figure 13.1 below.

Figure 6.1 interactions of different factors when assessing VFM in a PPP



Source: Own illustration, (2018)

The model ensures that the expectations of both public and private actors are adequately met through use of the principal-agency relationship. This kind of model calls for involvement of the various stakeholders in any long term contracting PPP implementation.

The model assumes that all stakeholders' views, needs, expectations, specifications, tests and preferences are put into consideration. The model requires that VFM in any long term contracting PPP used should always be internally assessed within the existing PPP systems, structures, processes, policies and procedures based on environmental factors of mainly

politics, organisational factors of mainly focus by both public and private parties and personal factors of mainly competence of PPP unit staff.

The model emphasises that the public sector and private sector players should always ensure that the process of delivering products and any other services to the contracting PPP project beneficiaries should focus on VFM in line with the different levels of results such as outputs, outcomes and impact based on key VFM aspects of mainly cost effectiveness and any other indicators of efficiency and economy.

The model premises that the different levels of results to be realised should be short-term deliverables in form of outputs, intermediate results in form of outcomes and long term results in form of creating impact to bring about a change in the lives of the PPP project beneficiaries.

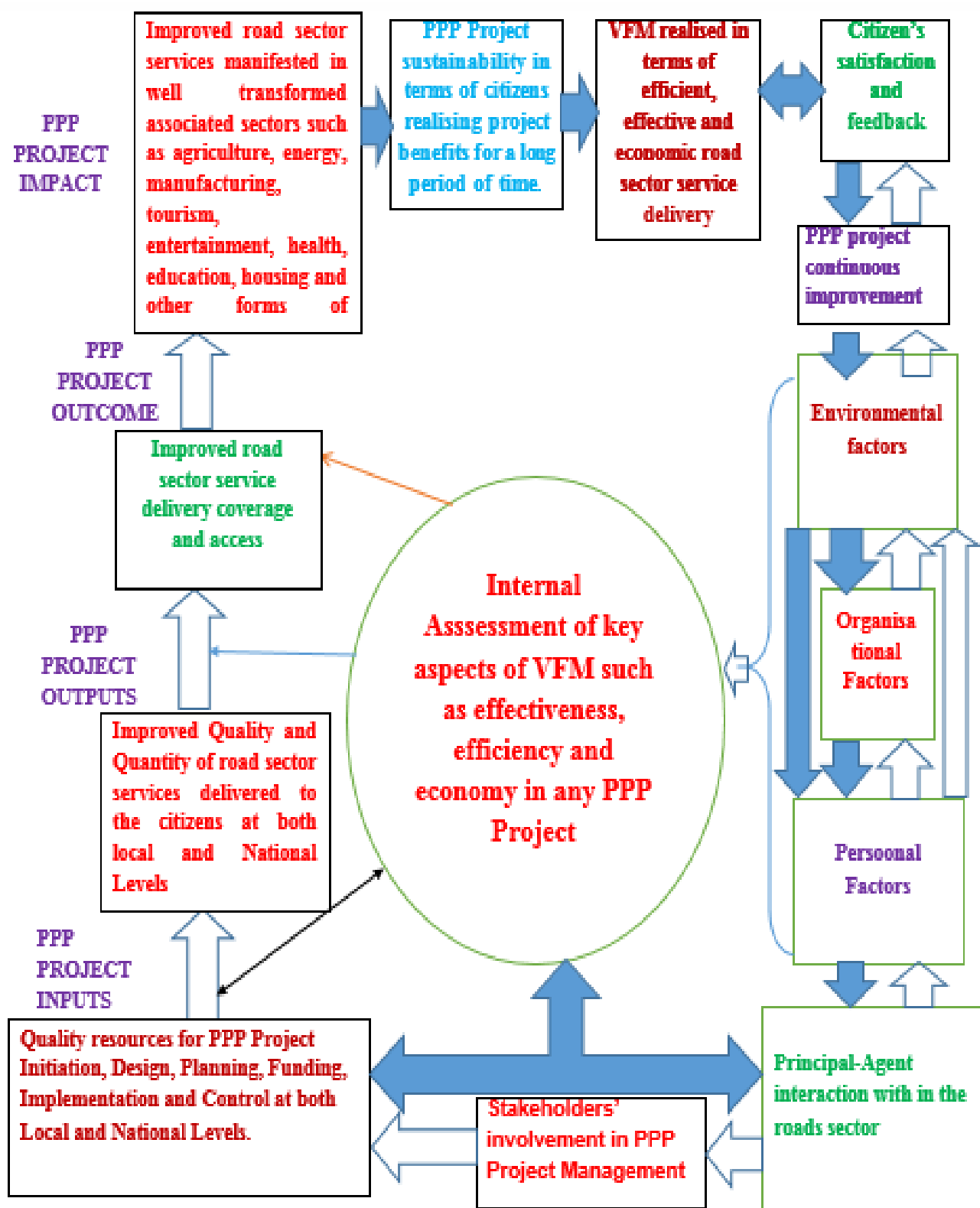
This could be through improved road sector services manifested in well transformed associated sectors such as agriculture, energy, manufacturing, tourism, entertainment, health, education, housing and other forms of infrastructure.

The model encourages PPP actors to not only focus on different levels of PPP project results but also to go ahead and ensure that such results are technically, financially, socially, environmentally, institutionally and administratively sustained in a manner which ensures that long term contracting PPP project benefits will continue to be realised by citizens for a long period of time so that the current generation can enjoy such benefits without compromising the needs of the future generation.

The model believes that once the different levels of results in form of outputs, outcomes and impact in addition to their better sustainability are in place, that's when the key VFM elements of mainly cost effectiveness and those of efficiency and economy can fully be realised.

Once such elements of VFM have been fully realised, then it will lead to the satisfaction of all the stakeholders involved in the adoption and implementation of any long term contracting PPP project.

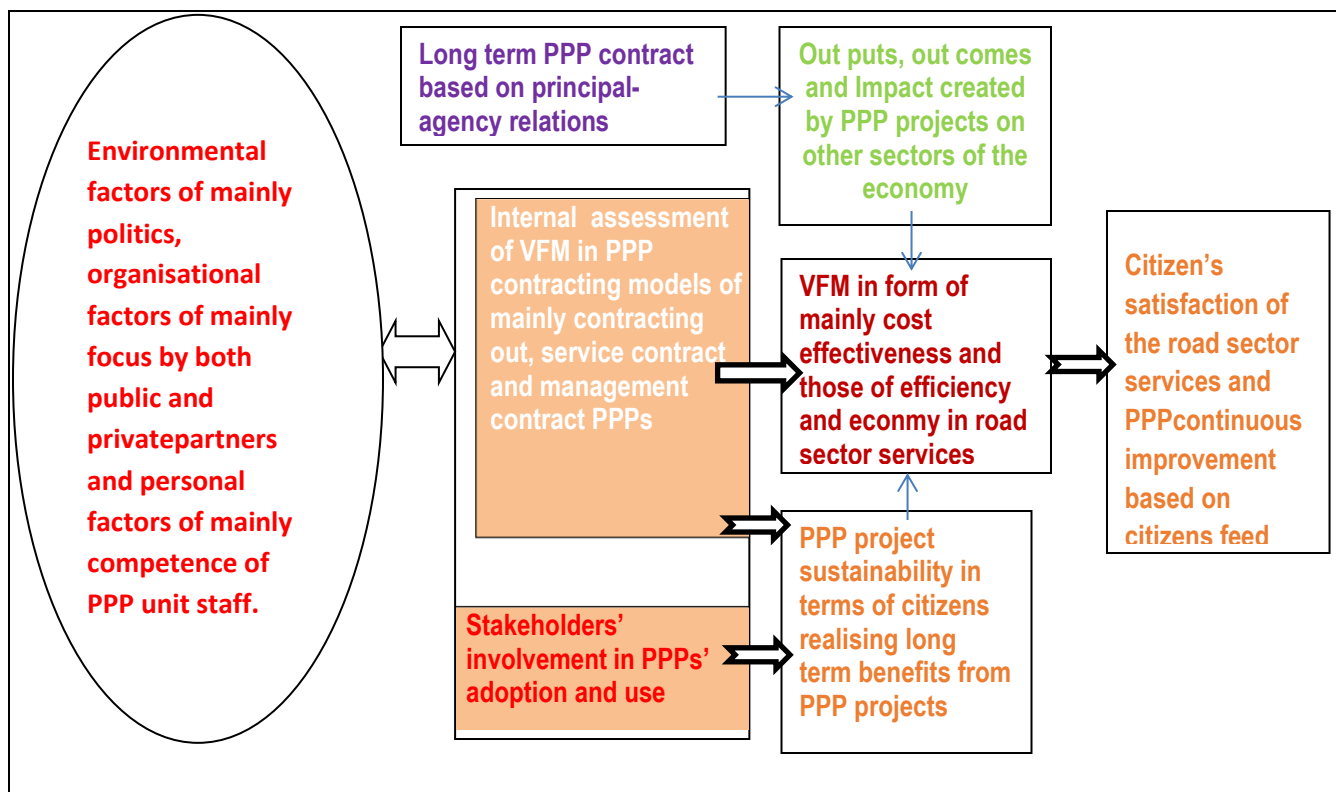
Figure 6.2: Detailed Integrative PPP model



Source: Own illustration, (2018)

Specifically a summarised model was developed from the research findings in line with the assessment of VFM in contracting PPPs based on the interactions that exist between environmental factors of mainly politics, organisational factors of mainly focus by both public and private parties and personal factors of mainly competence of PPP unit staff. The above specific factors were considered in adopting and implementing contracting PPP projects to deliver different levels of results such as out puts, out comes and impact in line with VFM elements of mainly cost effectiveness and those of efficiency and economy to the satisfaction of the citizens and using their feedback as a basis for continuous improvement of the PPPs as indicated in the figure 6.3 below:

Figure 6.3: Summarised Integrative PPP model with direct linkage to the findings



Source: Own illustration (2019)

6.8.4 The Integrative PPP model and the principal-agency theory

It is envisioned that internal assessment of VFM in the roads sector long term contracting PPP will be conducted by both UNRA (principal) and private service providers (agent). In order to strengthen the principal-agent relationship, the model suggests an agreement between UNRA and private service providers stipulates the roles, expectations and obligations of all partners.

The model proposes an orientation of the long term contracting PPP arrangement into the operational framework of the long term contracting PPP with clear objectives and expectations. In order to avoid discrepancies in the nature of the contract, the partners should ensure that the long term contracting PPP arrangement is clarified amongst all stakeholders to confirm that all have understood and commit to their obligations. The commitment of the political and technical wing at the corporate, directorate, functional and operational levels is also paramount in enforcing the agreements. The agreement should align interests of the partners into mutually agreed commitments. The agreements should empower key long term contracting PPP project stakeholders to revoke or reject a long term contracting PPP arrangement that is not meeting their expectations.

The model anchors on horizontal power relations where there is participation of all stakeholders, collective action and decision making with no party superior to another or capable of invoking closure rules (Wettenhall, 2003:90). The assumption is that collaboration among the actors will help to restructure and re-develop service delivery without much interference after political decisions have been made (Kort & Klijn, 2013:93; Goldstein & Mele, 2016:195). The model supports mutual dependence and some degree of equality in decision-making, rather than domination of one or more partners (Brinkerhoff & Brinkerhoff, 2011:4). The model thus subscribes to integrated approaches for realising results in line with the stakeholder specifications and expectations.

It recognises the contribution of all project stakeholders in supporting long term contracting PPP project imitation, conception, design, planning, financing, implementation, monitoring, sustainability and management. The model suggests continuous interaction of the public and private sector stakeholders to effectively undertake internal assessment of VFM in any long term contracting PPP arrangement based on environmental factors of mainly politics, organisational factors of mainly focus by both public and private parties and personal factors of mainly competence of PPP unit staff. This should be aimed at having holistic and traceable VFM elements of mainly cost effectiveness and any other VFM indicators of efficiency and economy at different levels of PPP project results such as outputs, outcomes, impact and sustainability in order to ensure stakeholder (citizen) satisfaction.

6.9 Chapter summary

The study sought to make an assessment of PPPs in ensuring VFM in the roads sector in Uganda. The study confirmed that different perceptions are held by UNRA stakeholders concerning the concepts of PPP and VFM, PPP models being used in the roads sector and factors affecting such PPP models. The study found that although UNRA has been and is still using the contracting out PPP model in the roads sector, this model was associated with many flaws that have frustrated UNRA from achieving VFM (New Vision, 2016: 27). It was also discovered that while UNRA would like to adopt other PPP models in addition to the already existing models, there are different responses to the adoption of other PPP models. In addition, the study found out that there are a number of environmental, organisational and economic factors that are affecting the already existing models being used by UNRA and they may also affect other PPP models to be adopted by UNRA in future. There were mixed views about the type of relationship UNRA is likely to have with its private partners. Even those who reported contracting out, contract management and service contracts that are being used by UNRA as PPPs could not comprehend the types of PPP models being implemented. On the basis of the findings above, the researcher has developed a new Integrative approach model that UNRA can adopt when constructing and maintaining projects in the roads sector. This new PPP model has been developed to complement the contracting out service delivery system which is currently experiencing several constraints in addition to a few other models of management contract and service contract that have just been introduced on one or two road projects. The new model, therefore, aims at establishing a platform for assessing VFM during PPP implementation based on environmental, organisational and personal factors. This is aimed at better delivery of results in line with the key elements of VFM in order to ensure citizen satisfaction and using their feedback for continuous PPP project improvement. This model will enable health interaction between the public and private sectors based on the principal-agency theory. However, the success of this model depends on political and technical support in terms of creating an enabling environment which aids private sector investment and involvement. Therefore the Ministry of Works and Transport where UNRA lies should develop sector-wide policies that support the integrative model to complement the already existing models in Uganda. The next chapter will focus on conclusion and recommendations.

CHAPTER SEVEN

CONCLUSION AND RECOMMENDATIONS

7.1 Introduction

The previous chapter looked at the appropriate PPP model to be used in the roads sector. This chapter summarises the key study findings, conclusions and recommendations. It presents the theoretical and managerial implications of the research findings, research contributions and limitations of the research study. It highlights areas for future research to be conducted in order to understand further PPPs and VFM in the roads sector in developing and developed countries. This chapter is structured into eight sections; section one presents the conclusion of the study. Section two looks at recommendations. The third section covers theoretical and managerial implications of the research findings. Section four looks at research contributions. Section five looks at limitations of the research study. Section six focuses on areas of future research to be conducted. Section seven looks at the chapter summary. Then the last section presents overall conclusion about the main study findings in line with assessing the use PPPs to ensure VFM in the roads sector in Uganda.

7.2 Conclusion

The research study has mainly focused on conducting an assessment of PPPs in the roads sector in Uganda. The first chapter stressed that the main objective of the study was assessing how PPPs can be effectively used to ensure VFM in the roads sector in Uganda. This was covered by by undertaking a thorough literature review on PPPs and VFM, PPP models and factors affecting such PPP models, identifying gaps in literature and the current PPPs service delivery system by UNRA and then developing an appropriate PPP model that can be used in the roads sector.

7.2.1 UNRA stakeholders' perception of the concept of PPPs and VFM

In terms of establishing UNRA stakeholders' perception of the concept of PPPs and VFM in the roads sector, the study revealed that some UNRA stakeholders perceive a PPP and VFM from an angle of public-private party long-term contract and effective product delivery. Other UNRA stakeholders perceive a PPP and VFM from an angle of a public-private sector long-

term contractual arrangement and efficient service delivery. The rest of UNRA stakeholders look at a PPP and VFM from an angle of public-private entity co-operation and economic asset delivery.

7.2.2 PPP models used by UNRA to ensure VFM in the roads sector in Uganda

In examining the PPP models used by UNRA in the roads sector in Uganda, the study revealed that UNRA is currently not using Public Finance Initiative, Concession and Joint Venture PPP models to ensure VFM in the roads sector in Uganda. Secondly UNRA is currently using mainly the PPP models of contracting out, management contracts and service contracts to ensure VFM in the roads sector in Uganda. Thirdly there is a very low probability that UNRA is using or planning to use leasing and affermage PPP models to ensure VFM in the roads sector in Uganda.

Also there is a very low likelihood that UNRA is currently using or planning to use Build, Own (BO) and Build, Own and Operate (BOO) PPP models to ensure VFM in the roads sector in Uganda. In addition, there is a very high chance that UNRA is currently using or planning to adopt the Build, Own and Transfer (BOT) Build, Own, Operate and Transfer (BOOT) PPP model to ensure VFM. There is a very minimal opportunity that UNRA is currently using or may be planning to adopt the use of Design Build (DB), Design, Build Finance (BF), Design Build Finance (DBF), Design, Build, Finance and Operate (DBFO), Design Build Finance Maintain (DBFM) and Design Build Finance Operate Maintain DBFOM PPP models to ensure VFM.

7.2.3 Factors affecting PPPs used by UNRA to ensure VFM in the roads sector

In terms of finding out the factors affecting PPPs used by UNRA to ensure VFM in the roads sector in Uganda, the study revealed that there are five main environmental factors including political, policy legal, regulatory frameworks together with their monitoring mechanisms, that influence the adoption and implementation of PPP models being used by UNRA to ensure VFM in the roads sector in Uganda, in one way or another.

There are also ten organisational factors including PPP criteria and risk management, performance measurement and capacity to manage the PPPs, undertaking PPPs for good reasons and reliance on NGOs, choice of the partner and flexibility between the partners,

public and private sector objectives and goals, focus by both public and private bodies, PPP funding priorities and estimation of PPP costs, PPP accountability mechanisms and implementation complexities, ambiguity in PPP implementation and organisational capacity, autonomy by partners and stakeholder management, that influence the adoption and implementation of the PPP models being used by UNRA to ensure VFM in the roads sector in Uganda in one way or another.

Finally, there are three personal factors of competence of PPP Unit staff and their roles, integrity and communication among PPP project staff, nature of conflict among PPP project staff and competition among individual bidders, which also influence the adoption and implementation of the PPP models being used by UNRA to ensure VFM in the roads sector in Uganda.

Last but not least, in terms of developing an appropriate PPP model that can be used to ensure VFM in the roads sector in Uganda, the study revealed that a model was developed in line with conducting Internal Assessment of VFM in a PPP model (IA) based on five Environmental Factors (EF), ten Organisational Factors (OF) and three Personal Factors (PF) that affect PPPs and VFM in the roads sector.

7.3 Recommendations

As UNRA uses different PPP models to ensure VFM in the roads sector in Uganda, the following recommendations have been suggested:

14.3.1 Recommendations for stakeholder perception of the concepts of PPPs and VFM

From study findings, majority of the UNRA stakeholders were of the view that a PPP is a long term contract between government and private companies, while VFM is where a product is delivered to the citizens in the most cost effective manner. Based on this finding, UNRA needs to educate its staff regarding the concept of VFM and how it can be effectively applied and achieved in the current contracting out PPP model being used. This capacity building will develop them to understand that VFM is about doing road works and delivering road sector services based on the key parameters of efficiency, effectiveness and economy in line with a number of other considerations: optimum combination of whole-of-life costs, output

specification, performance measurement, risk transfer, management skills, competition, quality of the good or service and other incentives to meet the user's requirement when delivering infrastructure projects.

7.3.2 Recommendations for PPP models to ensure VFM in the roads sector

From study findings, majority of the UNRA stakeholders were of the view that UNRA uses contracting out, management contract and service contract models. Based on this finding, UNRA should not use only contracting out model but also should endeavor to use other models that can to ensure more VFM such as design build operate and transfer. All such PPP models should always be used by UNRA based on the following recommendations outlined below:

- (a) Any PPP model to be used by UNRA should always present enough opportunities for generation of new ideas when working with its private sector partners to implement different PPP projects in the roads sector in Uganda.
- (b) A PPP model used by UNRA should always be one that ensures that VFM is reaped from use of resources provided to UNRA when working with its private sector partners to implement different PPP projects in the roads sector in Uganda.
- (c) A PPP model used by UNRA to ensure VFM in roads sector should be one that leads to substantial reduction in construction time for national roads when working with its private sector partners to implement different PPP projects in the roads sector in Uganda.
- (d) Any PPP model UNRA uses to ensure VFM in the roads sector should lead to improved efficiency in terms of reducing wastage and using minimum inputs to maximize outputs, in construction of national roads.
- (e) UNRA should use a PPP model that ensures VFM in terms of providing alternative benefits in the roads sector in Uganda and it should be implemented by a private sector firm with enough experience.

(f) A PPP model used by UNRA should always lead to improvements in the quality of service as well as effectiveness in terms of ensuring that what ever is being done is in line with achieving the set VFM objectives.

(g) A PPP model used should ensure VFM in the roads sector and should enable UNRA to have a high degree of monitoring, evaluation and control.

(h) Any PPP model used to ensure VFM in the roads sector should enable UNRA to reduce costs and achieve substantial savings.

7.3.3 Recommendations for factors affecting PPP models used by UNRA in the roads sector

7.3.3.1 Recommendations pertaining to environmental factors affecting PPP mdels

From study findings, majority of the UNRA stakeholders were of the view that politics is main factor affecting adoption and implementation of PPPs in Uganda. Based on this finding, there is therefore need for the Government of Uganda to ensure a conducive political environment for realising successful PPPs.

Therefore, political commitment, political control and political ambition should all be geared towards creating a conducive environmental for effective implementation of different PPP models in order to ensure VFM in the roads sector. Government should ensure that strong political commitment is used to support different PPP models being used by UNRA to improve service delivery.

In addition, government should ensure that political control and political ambition are well used as a basis for the success of planning and implementation of different PPP models being used by UNRA.

UNRA should also know that the evolution of PPPs is demanding for exceptional but challenging forms of governance for both public and private sector actors. UNRA should ensure that its PPPs are used to nurture a cross-sectorial relationship where the public and private sectors work towards commitment and competence that creates a synergy which recognises that the whole is more than the sum of the parts.

Also, from study findings, a few of the UNRA stakeholders pin pointed to the fact that other environmental factors such as legal, policy and regulatory frameworks in addition to effective monitoring of such frame works, to some extent also influence the adoption and implementation of PPPs to ensure VFM in the roads sector in Uganda.. Based on this finding, the following recommendations can also be given to UNRA:

UNRA needs to have a robust PPP policy for the roads sector projects in place because the policy provides a clear operational arrangement which not only facilitates a cordial relationship between partners but also aids VFM from the PPPs. Such policies will provide the platform for effective implementation of PPPs in the roads sector.

It is, therefore, recommended that policy preparation be followed by an assessment of the political context because it determines which policies are developed and implemented. In the same breath, technical expectations of given policies should also be well aligned. UNRA should understand that failure to harmonise the technical and political expectations at design, implementation, monitoring and evaluation stages will restrain PPP project sustainability.

UNRA needs to ensure that it uses an effective PPP legal framework because for PPPs to blossom there should be a landscape which offers transparency, participation and promotion of the rule of law. This will attract and build confidence among private sector actors to invest in the roads sector knowing that their investments will be protected and channeled towards planned activities. In addition, the partnership agreement should be protected by a legal framework and upheld in spite of all the challenges encountered during PPP implementation.

In order to ensure that PPPs thrive successfully in the roads sector, UNRA stakeholders must ensure that they establish legislative frameworks that support quick and transparent decision making, allow for competitive bidding and develop regulations that specifically apply to each type of PPP.

Therefore, UNRA should ensure that the legal and regulatory frameworks take a centre piece in developing, shaping and controlling the adoption, implementation, sustainability and management of different PPPs models used to ensure VFM in the roads sector.

UNRA should ensure that there are proper PPP regulations for roads sector projects through strengthening the national and institutional capacity to provide an effective framework for PPPs. UNRA needs to know that PPPs require regulation to ensure that PPP design, planning, implementation, maintenance, monitoring, sustainability and management mechanisms are adhered to and social needs are achieved. Where a separate regulator does not exist for UNRA, a unit within the line Ministry of Works and Transport should be set up to monitor compliance, publish reports on performance, and enforce any penalties for non-performance.

7.3.3.2 Recommendations pertaining to organisational factors affecting PPP models

From study findings, majority of the UNRA stakeholders were of the view that focus by both public and private partners is main organizational factor affecting adoption and implementation of PPPs in Uganda. Based on this finding, there is therefore need for both public and private entities to always have the same focus altogether as they join such a partnership to work together under a PPP arrangement when designing, constructing, maintaining and managing various roads infrastructural projects.

None of the partners should ever focus on personal interests instead should always focus on the main purpose of adopting such PPP projects. Therefore both public and private partners should always easily reach a consensus as to which areas of the partnership they can be focus on at first so that they can avoid a situation of wasting of resources for such PPP projects as has been the case with some PPP contractual arrangements in some countries.

Secondly, from study findings, a few of the UNRA stakeholders indicated that other organizational factors such as PPP criteria and risk management, performance measurement and capacity to manage the PPPs, undertaking PPPs for good reasons and reliance on NGOs, choice of the partner and flexibility between the partners, public and private sector objectives and goals, PPP funding priorities and estimation of PPP costs, PPP accountability mechanisms and PPP implementation complexities, ambiguity in PPP implementation and organisational capacity, autonomy by partners and stakeholder management, to a smaller extent also influence the adoption and implementation of PPPs to ensure VFM in the roads sector in Uganda. Based on this finding therefore, UNRA can also put into consideration the following recommendations: There is need for effective PPP performance measurement by UNRA using

financially based measurement approaches which include return on Investment, discounted cash flow, residual income and economic value added. It should establish that an effective performance measurement approach begins with understanding the needs and expectations of stakeholders involved in delivery of the PPP.

In PPP performance measurement, UNRA should define the expectations which include scope, service level, outcome measures, costs, financial incentives, sanctions, monitoring and reporting requirements, in line with the policy and legal frameworks. UNRA should ensure that the effectiveness of PPP performance measurement depends on clear targets, details, acceptable procedures of measuring performance results, and the reporting regime.

UNRA should always ensure effective risk management for PPP projects by establishing consensus on the transfer of levels of risk to the private partner. However, UNRA should know that such transfer of risk does not serve to fully protect the agency from negative external factors such as the bankruptcy of private partners.

Government funding, therefore, will be required to compliment private financing and consequently mitigate financial risks. UNRA should make sure that all parties are under an obligation to strike a balance between protecting public interest and ensuring that the transaction is executable and financeable.

UNRA should ensure that PPPs are undertaken for good reasons especially regarding their intrinsic qualities. UNRA should not implement PPPs to evade, for instance, budget constraints. It should not spread public expenditure over many years or decades instead of paying the bill immediately.

This can lead to the risk of stakeholders perceiving UNRA as an agency that does not design contracts properly, or one that does not make sure that the right incentives are in place for a PPP to succeed. UNRA needs to ensure that together with its private partners, the two agencies have good capacity to manage PPPs. UNRA has to increase its capacity to implement and manage PPPs through continuous training needs assessment, mentoring, coaching and training. It should also develop its strategic, functional and operational staff by equipping them with different conceptual, human relation and technical skills pertaining to

effective initiation, conception, design, planning, financing, implementation, maintaining, monitoring, sustainability and management of the different PPP projects in the roads sector in Uganda. Private entities must contribute to the development of the PPP market and improving the quality of advisory services provided to public institutions.

UNRA should always undertake stakeholder mapping, identification, analysis and management. It should do so through active consultations and engagement with stakeholders, and involving the public in the budgetary process of PPPs projects. This practice will enable UNRA to uphold transparency and as a result fiscal risks will be minimised and the integrity of the process will be maintained.

Concerns of all major stakeholders in PPPs projects need always to be addressed by UNRA in time before questionable issues arise; for instance, excessive profit at the public expense and hence questionable value for taxpayer's money in the roads sector in Uganda.

UNRA should always endeavour to choose the right PPP project partner because it would be doubly harmed if she chose the wrong partner and yet it cannot avoid a renegotiation of the contract. In order to avoid such a situation, UNRA should always ensure that it conducts an open competition for the PPP market.

It should know that the more bidders there are for each PPP project, the higher the competition is in the market and the likelier it is that UNRA will find the right partner to undertake the implementation of such a PPP project. UNRA should always ensure effective accountability because lack of determination of accountability in the contract can raise the over all costs of a PPP project.

Moreover, UNRA should clearly specify the service quality that has to be met by the private sector, and provide the means to measure it. UNRA also needs to clearly stipulate dispute resolution mechanisms. The contracts, which must be extensive and detailed, must describe without ambiguity the roles and responsibilities of UNRA and the private partners. This is because well designed PPP contracts are an indispensable long-term tool for the development of Uganda's road infrastructure. UNRA should always avoid over-estimation of PPP project costs. While designing a PPP, the agency must analyse the capacity of off-takers and

customers to pay the planned tariffs. Although government can provide income guarantees in some cases, these should be clearly defined in advance in order to avoid any opportunistic behaviour by the private party.

UNRA should know that achieving better VFM is one of the reasons for undertaking a PPP. Therefore, if income streams are not assured in such partnerships, it can hardly encourage the use of such PPP agreements in future road construction projects. UNRA should ensure that the PPP implementation processes are not complex because if such projects are subjected to complicated implementation processes, they can become very onerous.

UNRA should know that these agreements can take longer to set up than traditional procurements. UNRA should also know that PPP implementation modalities that are too complex can have a negative impact on the pace at which PPPs are implemented in the roads sector in Uganda which will definitely erode the purpose for which they were adopted.

7.3.3.3 Recommendations pertaining to personal factors affecting PPP models

From study findings, majority of the UNRA stakeholders suggested that competence by PPP unit staff is main personal factor influencing the adoption and implementation of PPPs in Uganda. Based on this finding, there is therefore need for UNRA to always ensure that she has autonomous, active, efficient and competent PPP Unit staff that are well qualified, knowledgeable, skilled and experienced in initiation, conception, design, planning, financing, implementation, maintaining, monitoring, sustainability and management of the different PPP projects in the roads sector in Uganda.

Roles of the PPP Unit should be well defined, allocated and utilised in the implementation and management of the different PPP projects in the roads sector in Uganda. UNRA should also endeavour to provide her PPP unit staff with the required resources available to promote PPPs all over the country. If UNRA wants to promote PPPs as a long-term tool for the development of its roads infrastructure, its PPP Unit staff members have to be active and efficient. This is because such Unit staff plays a fundamental role for the long-term success of the PPP programme in the roads sector.

In addition, from study findings, a few of the UNRA stakeholders indicated that other personal factors such as integrity and communication among PPP Project staff, nature of conflict among PPP project staff and competition among individual bidders, to a smaller extent also are key factors that one can base on when adopting and implementing PPPs to ensure VFM in the roads sector in Uganda. Based on this finding therefore, the following strategies have been recommended to UNRA:

UNRA should ensure open PPP project competition among all her individual credible bidders by making sure that the best value of the potential private partners must be considered in the long-term, and not only in the short-term. Factors such as the candidate's experience in a specific field should play an important role in the selection of the right partner.

UNRA must study carefully the bidding documents in order to avoid, among other things, inappropriate assumptions made in aggressive bidding strategies, such as excessively optimistic population growth forecasts or unrealistic forecasts of consumption per customer.

In addition, UNRA should always ensure that there is effective communication among all her staff. It must make sure that good and active communication with all her staff and other stakeholders is set up in the early stage of PPP projects, if such agreements are to be successful in the long run.

That is why it is necessary for UNRA staff to learn to always work as a winning team if communication among them is going to be effective. That means UNRA needs to put in place effective communication channels that their staff can always use when implementing PPP projects if VFM is to be ensured in the roads sector.

7.3.4 Recommendations for appropriate PPP model that can be used in the roads sector

Based on study findings of a PPP being a long term contract between government and private companies, VFM being the aspect of delivering a product to the citizens in the most cost effective manner, UNRA having been using of contracting out, management contract and service contract models, politics being the main environmental factor, focus by both public and private partners being the main organizational factor and competence by PPP unit staff being the main personal factor influencing adoption of PPPs in Uganda, an integrative PPP model

was developed. Based on the above finding therefore, the Ministry of Works and Transport where UNRA lies should develop sector-wide policies that support the developed integrative PPP model to complement the already existing models being used by UNRA in the roads sector in Uganda.

The policy should be developed in line with the National Development Plan. This should be followed by implementation of the policies to ensure efficiency and effectiveness of the integrative PPP model. There should be regular review of the policy to ensure that it addresses contemporary needs of all road sector stakeholders.

A private sector partner should manage the implementation of the integrative PPP model. The management of the model should integrate a timely accountability mechanism supported by technology, which defines who accounts for what, when and how and who holds another accountable.

Unlike in the contracting out PPP model, the integrative PPP model recommends a participatory approach to developing the performance indicators so that all parties can understand and own the results before embarking on implementation.

The adoption of the integrative PPP model should be adequately regulated to tame the personal vested interests of some of the PPP project stakeholders, protect the PPP project design, financing and implementation from influence peddling and political interference.

It should also ensure that both public and private partners do not exploit each other. The regulation should be based on competent analysis and it should be free of any political influence.

Regulation should also promote results and collective interest to improve service delivery to all Ugandan citizens that use the national roads being developed and maintained by UNRA, to transport their goods and services to and from other parts of Uganda.

Therefore, the success or failure of the integrative PPP model will largely depend on how well the model will exhibit credibility and commitment in implementing, monitoring, sustaining and

managing the construction and maintenance of projects in the roads sector in Uganda based on the best practices that have been demonstrated within the model itself.

7.4 Implications of Research Findings

The implications of the results of this research study are both theoretical and managerial as discussed below.

7.4.1 Managerial implications

Results of this research study have many managerial implications for different stakeholders such as the internal PPP project auditors, project contract committee members, accounting officers, senior management staff in different ministries and business managers. The increase in the adoption, implementation and management of PPP projects is compelling internal PPP project auditors, contract committee members, accounting officers, procurement and disposal unit staff, senior management of UNRA and other government agencies, to develop systems that provide assurance to private partners and PPP project beneficiaries that such projects are being adopted, implemented and managed in line with public interests.

Given the large investment to be done in the roads sector PPP projects, an understanding of the process and factors that influence adoption, implementation and management of PPP projects is useful to all project stakeholders. That is way, they are able to prioritise their efforts in conception, design, planning, financing, implementation, monitoring, evaluation, sustainability and over all management of PPP projects.

For example, organisational factors were found to be the most important in adoption and implementation of PPPs in the roads sector in Uganda. On the other hand, there appears to be a role for PPP project managers to provide better technical support in the implementation and sustainability of PPP projects in order to ensure VFM in the roads sector in Uganda.

7.4.2 Theoretical implications

The study contributes to the relationship between organisational, personal and environmental factors and it assesses VFM in the execution of PPP projects in the roads sector in Uganda.

The study widens knowledge on how effective implementation of PPP projects in Uganda can be done. The significant theoretical contributions of this study will benefit scholars who can use the findings to support other studies.

Based on the over all empirical findings, organisational factors have a strong and significant influence on adoption, implementation and management of PPP projects in the roads sector in Uganda. The research study confirms that there is an interrelationship between organisational, personal and environmental factors in the assessment of VFM in the implementation of PPPs in the roads sector in Uganda.

7.5 Research Contributions

The primary objective of the study was to assess the role of PPPs in ensuring VFM in the roads sector in Uganda. This has been achieved. In terms of contribution of the study to knowledge, the researcher used an empirical model which can inform the development of a theory that identifies the links between problem, intervention and outcome. This is the first study to analyse this problem in Uganda's road sector.

In particular, the study has identified gaps as far as adoption, implementation and management of PPP projects in the roads sector in Uganda is concerned. This empirical study research is particularly helpful for future researchers who may want to answer questions on how phenomena work in real life contexts based on the empirical model.

This study applied statistical techniques such as SPSS version 25 that allows simultaneous evaluation of the adequacy of the measurement model and the causal model that was proposed to investigate the intended behaviour.

The measurement model validated the constructs (organisational, personal and environmental factors) as developed in the conceptual framework. In addition, the structural model showing empirical support for the interrelationships between the important constructs, contributed to the knowledge in PPPs and VFM recommendations in general and effective response to the findings and recommendations in particular.

The findings of this research suggest that the adoption, implementation and management of PPP projects in the roads sector in Uganda may not be effective. The results are expected to encourage boards of directors and managers to develop and improve the effective strategies for adoption, implementation and management of PPP projects in the roads sector in Uganda.

Furthermore, this study could be useful for scholars to improve their understanding of effective adoption, implementation and management of PPP projects in the roads sector. For practitioners, it may help them to solve the practical problems facing adoption, implementation and management of PPP projects in order to ensure VFM in the roads sector in Uganda.

7.6 Limitations of the Research study

This research study has some limitations as most field surveys do. They include risks associated with the choice of methodology, the process for analysing data and the results of the study as indicated. There was no prior statistical database for reference since this was the first study ever conducted on Uganda's roads sector. The researcher did not come across any research conducted elsewhere in Uganda related to the topic under study.

This, therefore, limited the comparison of the research findings. The research study partly adopted a survey design which is done once and which means there is no follow up survey in future that could help establish the sustainability of the research findings. The third limitation is that the findings of this study rest on the perceptions of different UNRA stakeholders.

The most obvious limitation of this study was the selection of the groups to represent the study: senior managers, PDU staff, CC members, board members and user department staff. However, other groups such as those from PPP Units of Ministry of Finance, Planning and Economic Development and Ministry of Works and Transport that were not part of the unit of analysis, could have also contributed to the study findings.

Hence, the results of the data could not be generalised beyond the selected groups. In general, the results of this research study cannot be generalised to adoption, implementation and management of PPP projects in the roads sector in other countries because each country has

its unique boundaries. Therefore, it could be argued that the findings of the study are not necessarily generalisable to the PPP projects in the roads sector in developing countries.

The fifth limitation is that it is restricted to UNRA under Ministry of Works and Transport and focuses on assessing of PPPs in ensuring VFM in the roads sector in Uganda. In other words, it is a study about adoption, implementation and management of PPP projects in the roads sector in Uganda.

However, organisation type characteristics were not used as a basis of analysis in this study as they were outside the scope of the research questions. The selection of the three types of independent variables of environmental, organizational and personal factors merely ensured the presence of effective adoption, implementation and management of PPP projects in the roads sector findings.

The sixth limitation relates to the process of conducting qualitative studies and in analysing the data. Chua (1996:13) states that qualitative research data is less structured and it is easier to use than all relevant data.

The researcher partly adopted a structured approach to data analysis. However, even using structured and disciplinary approaches poses serious limits to how much of that rich data can make its way into the analysis, particularly in this type of study.

The interviewee responses are voluminous and the time commitment to transcription, editing, coding and analysis appears overwhelming. Nonetheless, the process of analysing data is limited to the amount of data that is incorporated into the final thesis.

Not all the qualitative data is reported. Interviewee responses produced different interpretations of elements of the semi-structured interviews. However, it is important to ask whether the findings reported would have been convincing without that disciplined, rigorous protocol (Lillis 1999:5).

The availability of interviewees only at a specific time is thought to be an additional limitation. Gaining access to the UNRA headquarters and regional sites proved difficult at times. The time

limitations of participants resulted in interview scheduling problems where many interviews were scheduled close to each other.

This impacted on practical issues such as the researcher failing to gather sufficient archival and other data while on site, becoming tired, occasionally losing enthusiasm and concentration and thereby resulting in loose ends in interviews, which should have been followed up.

This is a major drawback of fleeting site visits. While site access was generally open for return visits, the opportunity to return was limited because of the number of interviews to be conducted, and delays between data collection and analysis.

7.7 Areas for further future research

This thesis has developed an integrated PPP model that provided systematic ways to assess PPPs in the roads sector in Uganda. However, to augment PPP research, further studies could be conducted in countries where PPPs are well developed and implemented, as well as in developing countries such as Uganda where PPPs in the roads sector are relatively new.

More specifically, and stemming from one of the limitations of the study, further research in a private sector could help provide additional evidence and extend the generalisability of the results. Future research studies exploring the relationship between PPPs and VFM are another potential area of future research.

This could encompass stakeholders from other sectors, ministries, departments and agencies besides those from roads sector. The limited previous research studies, which address the issue of PPPs in the roads sector, provided mixed findings on adoption, implementation and management of PPP projects in the roads sector in Uganda because it has utilised different criteria.

Therefore, examining the factors that influence PPPs in the roads sector and the possible interactions among them is likely to bear fruit. In other words, further research into identifying factors that influence adoption, implementation and management of PPP projects in other ministries and agencies could contribute to reducing the gap in the literature.

This will also deepen the understanding of PPPs and VFM and establish whether PPPs add value to implementation of other government ministries' PPP programmes and projects. In addition, this approach could be employed to further develop PPP management as a profession and augment its acceptance in other organisations in Uganda.

14.8 Chapter summary

This chapter has looked at introduction to conclusion and recommendation. It has also looked at the conclusive remarks of the study as far as the UNRA stakeholders' perception of the concepts of PPPs and VFM, the different PPP models being used by UNRA in the roads sector in Uganda, factors affecting the different PPP models used by UNRA to ensure VFM in the roads sector in Uganda and the appropriate PPP model to be used by UNRA to ensure VFM in the roads sector in Uganda are concerned.

Secondly, it has looked at various recommendations for UNRA stakeholders' perception of the concepts of PPPs and VFM, the different PPP models being used by UNRA to ensure VFM in the roads sector in Uganda, factors affecting the different PPP models used by UNRA to ensure VFM in the roads sector in Uganda and the appropriate PPP model to be used by UNRA to ensure VFM in the roads sector in Uganda.

Thirdly it has looked at implications of the research study in terms of managerial implications and theoretical implications. In addition, it has looked at the contributions of the research study and limitations of the research study.

Finally the chapter has looked at the areas of further researcher that other researchers, scholars, academicians, practioners and development agencies can in future focus at when planning to conduct any research study in the field of Public Private Partnerships and VFM in any part of the developing and developing countries globally.

7.9 Overall conclusion of the main study findings

This research which has assessed the role of PPPs in ensuring VFM in the roads sector in Uganda was stimulated by the irony that the current contracting out model being used in the implementation of construction and maintenance of projects in Uganda was mired with several flaws.

These included alleged corruption among UNRA officials and its service providers, cancellation of road contracts, allegation of breach of procurement procedures, use of poor quality materials, sub-standard roads and delayed construction and commissioning of roads.

The study addressed this research issue by developing an integrated PPP model highlighting the process of assessing VFM in any PPP model before it is adopted by a government agency to deliver a service to the public.

The current research study assessed PPPs in the roads sector to examine the adoption, implementation and management of PPPs to ensure VFM in the roads sector.

The thesis examined organisational, personal and environmental factors, which provide a conceptual framework to explain the adoption, implementation and management of PPPs in order to ensure VFM in the roads sector in Uganda.

The results of this research study provided empirical support for the extended and refined model, which was discussed in detail.

The proposed model in this research study was based on the principal-agent theory which postulates that an organisation consists of a nexus of contracts between the owners of economic resources (the principals) and managers (the agents) who are charged with using and controlling those resources.

The model was then tested against data collected on environmental, organizational and personal factors from 62 participants of UNRA and it was found out to be an appropriate model that can be used to implement a number of construction and maintenance projects in the roads sector.

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List of Annexures

Annexure 1: Data collection instruments

1. Questionnaire



Questionnaire for different stakeholders of Uganda National Roads Authority (UNRA).

Dear respondent,

My name is Innocent Nuwagaba pursuing a PhD in Public Management and Governance at North West University, Vaal Triangle Campus in South Africa. My thesis is entitled “**An Assessment of Public Private Partnership in the roads sector; A case of Uganda National Roads Authority (UNRA)**”. This study aims at identifying the most appropriate PPPs Model that can be used to ensure values for money in the roads sector in Uganda. The participants of this study include the different stakeholders of Uganda National Roads Authority (UNRA). You have been identified as one of the respondents and I am kindly requesting for your time and cooperation to respond to the questions in this questionnaire. Please note that this exercise is voluntary and you may withdraw at any time especially if you feel the study is causing any mental, emotional or physical harm. The researcher will uphold and guarantee confidentiality and anonymity (use of pseudo names on subjects). The information gathered from the participants will be used for academic purposes only and the responses will be kept for the duration stipulated by the University. Accordingly, I am kindly requesting you to spare your precious time and participate in this exercise by attending to this questionnaire. Your name may not be required. Thank you for your time and co-operation.

SECTION A: BACKGROUND DATA

Please circle the numbers representing the most appropriate responses for you in respect of the following items:

1. Your gender

- a) Male b) Female

2. Your age group

a) 20-29, b) 30-39, c) 40-49, d) 50 and above

3. Your highest level of education

a) Bachelor's degree, b) Post Grad Diploma, c) Masters' degree, d) Doctorate

e) Others (specify) -----

4. The position you hold at UNRA.....

6. The years you have worked with UNRA.

a) Less than one year b) 1-5 years c) 6-10 years 4) Over 10 years

7. Your terms of employment with UNRA.

a) Temporary staff b) Contract staff c) Permanent Staff d) Other (specify).....

SECTION B: ASSESSING PPPS IN THE ROADS SECTOR IN UGANDA

In this section please tick in the box that corresponds to your opinion/view according to a scale of 1 = strongly disagree, 2 = disagree, 3 = not Sure, 4 = agree, 5 = strongly agree

1. STAKEHOLDERS' PERCEPTION OF THE CONCEPTS OF PPP AND VFM

No	MEASURES	1	2	3	4	5
1	A PPP is long-term contract between public & private party for providing a product to the public while VFM is about providing such a product in a cost effective manner.					
2	A PPP is a long-term contractual arrangement between public and private sector to provide a service to the citizens while VFM is about providing such a service in an efficient manner					
3	A PPP is a form of co-operation between a public and private entity to provide an asset to the nationals while VFM is about providing such an asset in an economical manner					

2. PPP MODELS USED BY UNRA TO ENSURE VFM IN THE ROADS SECTOR

No	MEASURES	1	2	3	4	5
1	UNRA uses Private Finance Initiative, Concession and Joint Venture PPP Models to ensure VFM in the roads sector in Uganda					
2	UNRA uses Design and Build (DB) and Build, Own and Operate (BOO) PPP Models to ensure VFM in the roads sector in Uganda					

No	MEASURES	1	2	3	4	5
3	UNRA uses Leasing and affermage PPP Models to ensure VFM in the roads sector in Uganda					
4	UNRA uses Build Operate Transfer (BOT) and Build Own Operate Transfer (BOOT) PPP Models to ensure VFM in the roads sector in Uganda					
5	UNRA uses Contracting out, Management contract and Service contract PPP Models to ensure VFM in the roads sector in Uganda					
6	UNRA uses Design Build Finance, Design Build Finance Maintain, Design Build Finance Operate and Design Build Finance Operate Maintain PPP Models to ensure VFM in the roads sector in Uganda					

3. FACTORS AFFECTING PPPS USED BY UNRA IN THE ROADS SECTOR

	MEASURES	1	2	3	4	5
A.	Environmental factors					
1	Politics and Political approach affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda.					
2	Policy guideline, procedures and enforcement affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda.					
3	Legislative framework and enforcement affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda					
4	Regulatory frame work and enforcement affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda					
5	Policy, legislation and regulation monitoring affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda					
B	Organizational factors					
6	Criteria for using PPP arrangements and Risk Management affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda.					
7	Performance measurement and capacity to manage the PPPs affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda					

8	Undertaking PPPs for good reasons and reliance on Non-Government Organizations affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda					
9	Choice of the partner and flexibility between the partners affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda.					
10	Public and private sector objectives and goals affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda.					
11	Focus by both public and private bodies affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda.					
12	PPP funding priorities and estimation of PPP costs affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda.					
13	PPP accountability mechanisms and PPP implementation complexities affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda.					
14	Ambiguity in PPP implementation and organizational capacity affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda.					
15	Autonomy by partners and Stakeholders Management affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda.					
C	Personal factors					
16	The competence of PPP Unit staff and PPP Unit staff roles affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda.					
17	Corruption and communication among public and private entities' staff affect the PPP models used by UNRA to ensure VFM in the roads sector.					
18	Conflict among public and private sector staff and competition among individual bidders affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda.					

THANK YOU FOR YOUR PARTICIPATION.

2. Interview guide



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NOORDWES-UNIVERSITEIT
VAAL TRIANGLE CAMPUS

®

Interview guide for different stakeholders of Uganda National Roads Authority (UNRA).

Dear Respondent,

My name is Innocent Nuwagaba pursuing a PhD in Public Management and Governance at North West University, Vaal Triangle Campus in South Africa. My thesis is entitled “**An assessment of Public Private Partnerships (PPPs) in the roads sector in Uganda; A case of Uganda National Roads Authority (UNRA).**” This study aims at identifying the most appropriate PPPs Model that can be used to ensure Values for Money (VFM) in the roads sector in Uganda. The participants of this study include the different stakeholders of Uganda National Roads Authority such as board members, senior managers, contracts committee members, staff of the procurement and disposal unit and private firms that partner with UNRA in implementing PPPs in the roads sector. You have been identified as one of the respondents and I am kindly requesting for your time and cooperation to respond to the questions in this interview. Please note that this interview is voluntary and you may withdraw at any time especially if you feel the study is causing any mental, emotional or physical harm. The researcher will uphold and guarantee confidentiality and anonymity (use of pseudo names on subjects). The information gathered from the participants will be used for academic purposes only and the responses will be kept for the duration stipulated by the University. The interview will take 60 minutes to complete. This is therefore to re-enforce the request for you to participate in this study.

Date _____

Time _____

Location _____

Name of Interviewer: _____

Interviewee _____

Position of Interviewee _____

Gender_____

Age_____

—

Highest Education qualification_____

Number of years worked in the organization_____

Notes to interviewee:

- Thank you for your participation. I believe your input will be valuable to this research
- Your input will also help Uganda achieve more value for money from adoption of PPP's in the roads sector.
- Confidentiality of responses is guaranteed
- Approximate length of interview: 60 minutes

Your participation will be greatly appreciated.

1. Interview questions on stakeholders' perception of the concepts of PPPs and VFM.

1. In your own opinion, what does the term PPP in the roads sector in Uganda mean to you?
2. In your own view, what do you think value for money in the roads sector in Uganda is all about?

2. Interview questions on PPP models used by UNRA in the roads sector in Uganda

1. Does UNRA use Private Finance Initiative, Concession and Joint Venture PPP Models to ensure VFM in the roads sector in Uganda?
2. Does UNRA use Design and Build (DB) and Build, Own and Operate (BOO) PPP Models to ensure VFM in the roads sector in Uganda?
3. Does UNRA use Leasing and affermage PPP Models to ensure VFM in the roads sector in Uganda?
4. Does UNRA use Build Operate Transfer (BOT) and Build Own Operate Transfer (BOOT) PPP Models to ensure VFM in the roads sector in Uganda?
5. Does UNRA use Contracting out, Management contract and Service contract PPP Models to ensure VFM in the roads sector in Uganda?
6. Does UNRA use Design Build Finance, Design Build Finance Maintain, Design Build Finance Operate and Design Build Finance Operate Maintain PPP Models to ensure VFM in the roads sector in Uganda?

2. Interview questions on factors affecting PPPs used by UNRA in the roads sector

1. Do you think Politics and Political approach affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda? If so, how?

2. Do you think Policy guideline, procedures and enforcement affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda? If so, how?
3. Do you think Legislative framework and enforcement affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda? If so, how?
4. Do you think Regulatory frame work and enforcement affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda? If so, how?
5. Do you think Policy, legislation and regulation monitoring affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda?
6. Do you think Criteria for using PPP arrangements and Risk Management affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda? If so, how?
7. Do you think Performance measurement and capacity to manage the PPPs affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda? If so, how?
8. Do you think Undertaking PPPs for good reasons and reliance on Non-Government Organizations affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda? If so, how?
9. Do you think Choice of the partner and flexibility between the partners affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda? If so, how?
10. Public and private sector objectives and goals affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda? If so, how?
11. Do you think Focus by both public and private bodies affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda? If so, how?
12. Do you think PPP funding priorities and estimation of PPP costs affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda? If so, how?
13. Do you think PPP accountability mechanisms and PPP implementation complexities affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda? If so, how?
14. Do you think Autonomy by partners and Stakeholders Management affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda? If so, how?
15. Do you think Ambiguity in PPP implementation and organizational capacity affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda. If so, how?
16. Do you think the competence of PPP Unit staff and PPP Unit staff roles affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda? If so, how?
17. Do you think corruption and communication among public and private entities' staff affect the PPP models used by UNRA to ensure VFM in the roads sector? If so, how?
18. Do you think conflict among public and private sector staff and competition among individual bidders affect the PPP models used by UNRA to ensure VFM in the roads sector in Uganda? If so, how?

Thank you for your participation.

Annexure 2: Registration of Title



NORTH-WEST UNIVERSITY
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NOORDWES-UNIVERSITEIT

Web: <http://www.nwu.ac.za>

Higher Degree Administration

Tel: 016 910 3033

Email: Jenna.Wilson@nwu.ac.za

Dear Mr I Nuwagaba (28158156)

REGISTRATION OF TITLE

At the Faculty Board, Humanities meeting, your title was approved as follows:

An Assessment of Public Private Partnerships in the Road Sector: A Case of Uganda National Roads Authority

The above-mentioned title may under **no circumstances** be changed without consulting your supervisor/promoter and obtaining the approval from the Faculty Board.

Your attention is drawn to the following publications / web addresses:

- A Rules:
http://www.nwu.ac.za/sites/www.nwu.ac.za/files/files/i-governance-management/policy/7P-Arules2015_e_1.pdf
- Manual for Postgraduate Studies:
<http://www.nwu.ac.za/sites/www.nwu.ac.za/files/files/i-research-support/Manuals/ICRI/2016-04->

We wish you a pleasant and successful period of study.

Yours sincerely

Ms J Wilson

FOR REGISTRAR

Original details: (22989064) c:\users\22989064\desktop\labels and templates\title registration.docm. 23 Sept. 2018 file reference: 7.1.11.2.1

Annexure 3: Title letter



PO Box 1174, Vanderbijlpark
South Africa 1900

Tel: 016 910 3033/3107
Web: <http://www.nwu.ac.za>

Email: 24123129@nwu.ac.za

8 August 2018

Dear Mr I Nuwagaba

NOTICE OF SUBMISSION

Note has been taken that you wish to submit your mini-dissertation/dissertation/**thesis** for examination. The registered title as it must appear on the examining copies and on the title page of the final copies is indicated below.

AN ASSESMENT OF PUBLIC PRIVATE PARTNERSHIPS IN THE ROAD SECTOR: A CASE OF UGANDA
NATIONAL ROADS AUTHORITY

An example of your title page will be sent together with this letter. **Your attention is drawn to the following matters regarding the above. You may submit on 1 September 2018 until 20 November 2018 to qualify for the Autumn graduation ceremony in 2019. No submission for examination for this ceremony will be accepted after 21 November 2018. You are required to submit your examination copy in the format mentioned below. One electronic copy in Word format and one electronic copy in PDF format should be submitted to the Higher Degree Office (Building 24 - G14/13).**

The following forms should be included when you submit for examination:

- The signed Solemn Declaration form
- A copy of your identity document/passport
- Personal particulars form (only applicable for PhD students)

Yours sincerely

Ms P van Rhyn
FOR REGISTRAR

Original details: (10512187) M:\HDA Toolbox\Phase 3\2. Notice of Subm\Letter to student\July 2018\NOS July 2018 letter .docm
6 March 2018 File reference: 7.1.11.2.1

**Annexure 4: Central Committee for Advanced Degrees (C-CAD) approval
Letter**



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Basic Sciences

Central Committee for Advanced Degrees (C-CAD) Tel: 0169103483

Email:

charmaine.lekonyane@nwu.ac.za

2nd December 2016

Mr I Nuwagaba (Review 30)

Student no: 28078780

Research title as approved by the CAD committee:

An assessment of Public Private Partnerships (PPPs) in the Roads Sector. A case of Uganda National Roads Authority.

Dear Mr Innocent

This letter serves to confirm that your PhD-research proposal has been approved by the Central Committee of Advanced Degrees in the School of Basic Sciences.

Committee members involved:

Present (Internal reviewers)	External reviewers (non-CAD reviewers)
Prof Elize S van Eeden	Dr T Molokwane and Prof G Zhou

The ethics application is referred to the:

* Research Ethics Committee- BaSSREC: X.

* Research Ethics Committee-HHREC: .

You have received the details on the procedure that you will have to follow to submit to the Ethics Committee as indicated. For the CAD-records, please inform Mrs C Lekonyane (CAD-secretariat) when the ethical submission has been successfully completed and approved.

Yours sincerely

A handwritten signature in cursive script, appearing to read 'Elize van Eeden'.

Prof Elize van Eeden

Chairperson: Committee of Advanced Degrees Basic Sciences

Annexure 5: Ethics Approval Certificate of Study



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South Africa, 2520
Tel: (018) 299-4900 Faks: (018) 299-4910
Web: <http://www.nwu.ac.za>

Institutional Research Ethics Regulatory Committee
Tel: +27 18 299 4849 Email: Ethics@nwu.ac.za

ETHICS APPROVAL CERTIFICATE OF STUDY

The revised application submitted to BaSSREC was ratified 22 February 2018. There is an adequate risk/benefit ratio and the protocol is acceptable. The study may be initiated, using the ethics number below.

Project title: An assessment of Public Private Partnerships (PPPs). A case of Uganda National Roads Authority.									
Project Leader/Supervisor: N W U - HS - 2 0 1 7 - 0 1 6 4									
Student: I Nuwagaba									
Ethics number:									
Institution					YearProject Number				
Application Type: Original project									
Commencement date: 2018-05-05					Expiry date: 2021-05-02				
					Risk: Low				

Special conditions of the approval (if applicable):

- x Translation of the informed consent document to the languages applicable to the study participants should be submitted to the BaSSREC (if applicable).
- x Any research at governmental or private institutions, permission must still be obtained from relevant authorities and provided to the BaSSREC. Ethics approval is required BEFORE approval can be obtained from these authorities.

General conditions:

While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, please note the following:

x The project leader (principle investigator) must report in the prescribed format to the NWU-IRERC via BaSSREC:

- annually (or as otherwise requested) on the progress of the study, and upon completion of the project
- without any delay in case of any adverse event (or any matter that interrupts sound ethical principles) during the course of the project. - Annually a number of projects may be randomly selected for an external audit.

The approval applies strictly to the proposal as stipulated in the application form. Would any changes to the proposal be deemed necessary during the course of the study, the project leader must apply for approval of these changes at the BaSSREC. Would there be deviation from the study proposal without the necessary approval of such changes, the ethics approval is immediately and automatically forfeited.

The date of approval indicates the first date that the project may be started. Would the project have to continue after the expiry date, a new application must be made to the NWU-IRERC via BaSSREC and new approval received before or on the expiry date.

x In the interest of ethical responsibility the NWU-IRERC and BaSSREC retains the right to: withdraw or postpone approval if:

- any unethical principles or practices of the project are revealed or suspected,
- x BaSSREC can be contacted for further information or any report templates via Charmaine.Lekonyane@nwu.ac.za or 018 210 3483.

The IRERC would like to remain at your service as scientist and researcher, and wishes you well with your project. Please do not hesitate to contact the IRERC or BaSSREC for any further enquiries or requests for assistance.

Yours sincerely

Digitally signed by

Prof LA

Prof LA Du Plessis

Du Plessis Date: 2017.06.23

07:34:01 +02'00'

Prof Linda du Plessis: Chair NWU Institutional Research Ethics Regulatory Committee (IRERC)

Chairperson: Committee of Advanced Degrees Basic Sciences Do not type here

Annexure 6: Gate Keepers' letters
1. Letter of permission to do research study with UNRA



2. Ethics approval letter from Uganda National Council for Science and Technology



Uganda National Council for Science and Technology

(Established by Act of Parliament of the Republic of Uganda)

Our Ref: SS 4580

18th June 2018

Mr. Innocent Nuwagaba
Principal Investigator
Uganda Management Institute
Kampala

Dear Mr. Nuwagaba,

Re: Research Approval: Assessing Public Private Partnerships in the Roads Sector. A Case of Uganda National Roads Authority

I am pleased to inform you that on **20/04/2018**, the Uganda National Council for Science and Technology (UNCST) approved the above referenced research project. The Approval of the research project is for the period of **20/04/2018** to **20/04/2019**.

Your research registration number with the UNCST is **SS 4580**. Please, cite this number in all your future correspondences with UNCST in respect of the above research project.

As Principal Investigator of the research project, you are responsible for fulfilling the following requirements of approval:

1. All co-investigators must be kept informed of the status of the research.
2. Changes, amendments, and addenda to the research protocol or the consent form (where applicable) must be submitted to the designated Research Ethics Committee (REC) or Lead Agency for re-review and approval prior to the activation of the changes. UNCST must be notified of the approved changes within five working days.
3. For clinical trials, all serious adverse events must be reported promptly to the designated local IRC for review with copies to the National Drug Authority.
4. Unanticipated problems involving risks to research subjects/participants or other must be reported promptly to the UNCST. New information that becomes available which could change the risk/benefit ratio must be submitted promptly for UNCST review.
5. Only approved study procedures are to be implemented. The UNCST may conduct impromptu audits of all study records.
6. An annual progress report and approval letter of continuation from the REC must be submitted electronically to UNCST. Failure to do so may result in termination of the research project.

LOCATION/CORRESPONDENCE

Plot 6 Kimera Road. Ntinda

COMMUNICATION

TEL : (256) 414 705500



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Below is a list of documents approved with this application:

	Document Title	Language	Version	Version Date
1.	Research proposal	English	N/A	January 2018
2.	Informed consent documents	English	2.0	N/A
3.	Questionnaire for different stakeholders of Uganda National Roads Authority (UNRA)	English	2.0	N/A
4.	Interview guides	English	2.0	N/A

Yours sincerely,

Isaac Makhuwa

For: Executive Secretary

UGANDA NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

Copied to: Chair, Gulu University, Research Ethics Committee.

GULU

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UNIVERSITY

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+256776812147

RESEARCH ETHICS COMMITTEE

2nd Feb 2018

APPROVAL NOTICE

To: Mr. Innocent Nuwagaba
Principal Investigator
North West University, Vaal Campus
South Africa

Re: Application No. GUREC-018-18

Type of review:

- ☒ Initial review
☐ Amendment
☐ Continuing review
☐ Termination of study
☐ SAEs
☐ Other, Specify: _____

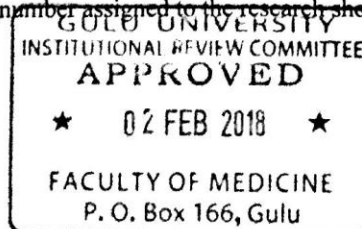
Title of proposal: **"An assessment of Public Private Partnerships (PPPs) in the roads sector. A case of Uganda National Roads Sector (UNRA)"**

I am pleased to inform you that the Gulu University Research Ethics Committee (GUREC) has approved the above referenced application.

Approval of the research is for the period **2nd Feb 2018 to 1st Feb 2019.**

As Principal Investigator, you are responsible for fulfilling the following requirements of approval:

1. All co-investigators must be kept informed of the status of the research.
2. Changes, amendments, and addenda to the protocol or the consent form must be submitted to the **GUREC** for re-review and approval prior to the activation of the changes. The **GUREC** application number assigned to the research should be cited in any correspondence.



3. Any unanticipated problems involving risks to participants must be promptly reported to the **GUREC**. New information that becomes available which could change the risk: benefit ratio must be submitted promptly for the **GUREC** review.
4. Only approved and stamped consent forms are to be used in the enrollment of participants. All consent forms signed by participants and/or witnesses should be retained on file. The **GUREC** may conduct audits of all study records, and consent documentation may be part of such audits.
5. Regulations require review of an approved study not less than once per 12-month period. Therefore, a continuing review application must be submitted to the **GUREC** eight (8) weeks prior to the above expiration date of **1st Feb 2019** in order to continue the study beyond the approved period. Failure to submit a continuing review application in a timely manner may result in suspension or termination of the study, at which point new participants may not be enrolled and currently enrolled participants must be taken off the study.
6. You are required to register the research protocol with the Uganda National Council for Science and Technology (UNCST) for final clearance to undertake the study in Uganda.

The following documents have been approved in this application by the **GUREC**:

	Document	Language	Version	Version Date
1	Protocol	English	Version 2.0	31 st Jan 2018
2	Data Collection Tools	English	Version 2.0	31 st Jan 2018
3	Informed consent Document	English	Version 2.0	31 st Jan 2018

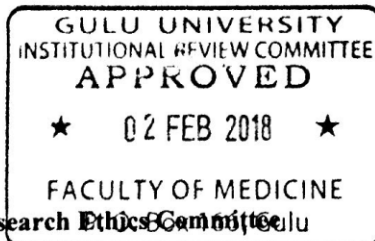
Signed,

[Signature]

Dr. Gerald Obai

Chairperson

Gulu University Research Ethics Committee



Annexure 7: Notice of Submission



NOTICE OF SUBMISSION

Notice of intention to submit for examination must be given to Higher Degree Administration **three months** prior to submission

Student title, first names and surname: INNOCENT NUWAGABA

Address (correspondence): CONSULTANT, PROJECT PLANNING& MANAGEMENT. UGANDA MANAGEMENT

Email: innocentnuwagaba@gmail.com

University no: 28158156 Cell nr: +256782929024

Promoter/Supervisor: PROF MT.LUKAMBA

Qualification currently registered for: PHD IN PUBLIC MANAGEMENT & GOVERN.

Title: AN ASSESSMENT OF PUBLIC PRIVATE PARTNERSHIPS IN THE ROAD SECTOR: A CASE OF UGANDA
NATIONAL ROADS AUTHORITY.
(It should be exactly the same as registered/approved title)

This title must appear exactly as registered by the faculty. **No deviation from the registered title will be accepted** on the Title page for examination copies and final copies
Titles in Title Case only (ALL CAPS), are not accepted as an NWU style for Title registrations

Intended submission date: 30/01/2018 Ethics clearance number: NWU-HU-2017-0164

Signature of student:

Date: 1/8/2018

I, LUKAMBA MUHIYA TSHOMBE the promoter/supervisor of abovementioned student
hereby confirm that:

- the student will most likely be ready to submit by abovementioned date; ☒
- the title for the study has been registered; ☒
- the registered title mentioned above is correct; ☒
- and that the examiners have been appointed. ☒

Promoter/Supervisor

Signature: Prof MT.Lukamba
Digitally signed by Prof MT.Lukamba
Date: 2018.08.01 09:34:11 +02'00'

Date: 01/08/2018

Annexure 8: Proof of editing

MAKERERE



UNIVERSITY

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SCHOOL OF LANGUAGES, LITERATURE & COMMUNICATION

Office of the Dean

25th September, 2018

Prof. Lukamba Muhiya Tshombe

North-West University, Vaal Triangle Campus, Republic of South Africa.

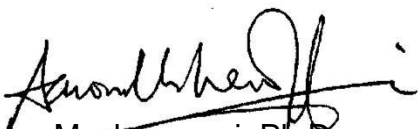
Dear Prof. Tshombe,

Re: Clearance Letter for Editing Mr. Innocent Nuwagaba's PhD Thesis

I hereby confirm that I have read and edited the text of Mr. Innocent Nuwagaba's PhD thesis titled, "**An assessment of Public-Private Partnerships (PPPs) in the Roads Sector. A case of Uganda National Roads Authority.**"

The edited version of the thesis generally reads well structurally and semantically, and the candidate can submit it with permission from his supervisor(s).

Yours sincerely,



Aaron Mushiengyezi, Ph.D.

**Associate Professor & Dean
School of Languages, Literature & Communication**