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Factors Influencing the Use of Public-Private Partnership Model in Implementation of Road Projects In Kenya: A Case of Kenya National Highways Authority

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Abstract: Both developed and developing countries are facing unprecedented fiscal problems, and are unable to devote the resources necessary to properly expand and maintain it. PPPs are risk-sharing investments in the provision of public goods and services, seen by governments as a means to launch investment programmes that would not be possible in reasonable amounts of time within the available public sector budget. Kenya has had some degree of PPP failures in the road sector. The current study, hence, sought to establish the factors influencing the use of public-private partnership model in implementation of road projects in Kenya. The study specifically sought to establish the influence of public accountability, project financing, government policies and project risk management on the use of PPP model. This study employed descriptive research design. The target study population included 62 officers from KENHA. The study conducted a census on all the respondents. A multiple ordinary regression model was used. All statistical tests were conducted at 5% level of significance. The findings of correlation and regression analysis revealed that there was a significant relationship between project risk management, project financing, government policies and public accountability and use of public-private partnership model in implementation of road projects in Kenya. The study concluded that concluded that public accountability through transparency in budgetary process, fair contracting and accessibility of accounting information enhance the use of public-private partnership model in implementation of road projects in Kenya. The study further concluded that project financing is a key component in the use of public-private partnership model in implementation of road projects in Kenya. The study also concluded that adequate policies ensures that stakeholders in the PPP projects remain committed to use of public-private partnership model in implementation of road projects in Kenya.

Keywords: *Public Accountability, Project Financing, Government Policies, Project Risk Management, Implementation of Road Projects*

Introduction

Over the last few decades, economists dealing with problems of transport infrastructure have believed that infrastructure is no longer perceived as a public product and should not be provided only by the state (Quinet, 2014). The private sector should participate in the implementation of transport infrastructure projects which have been the domain of activities of public authorities so far. One of these assumptions is a concept of public-private partnership (PPP), as one of the models of financing public investments (Quinet, 2014). In order to maintain a high level of economic investment, Governments all over the world are increasingly seeking to develop financing mechanisms, which bring together the public and private sectors, not only to control budgetary expenditure but also to pool these two sector specific know-how. Public Private Partnerships (PPPs) are about promoting authority-led initiatives that encourage commercial investment in facilities and services, give better value for money and transfer significant risk and the management of projects and services to the private sector (Rosenau, 2010). The fundamental justification for adopting PPP would significantly reduce the upfront costs for the government in providing and maintaining public facilities and that it allows for improvement in the public facilities and services because PPP encourages innovation by the private sector (Bing, Akintoye, Edwards & Hardcastle, 2014).

The multiple objectives of PPPs including promoting infrastructure development, developing the local economy, reducing costs, increasing construction and operation efficiencies, and improving service quality by incorporating the private sector's knowledge, expertise and capital, have attracted increasing interest from policy makers, researchers and industry practitioners(Bing et al., 2014). Governments believe that PPP procurement can provide a wide variety of net benefits for society, including enhanced government capacity, innovation in delivering public services; reductions in the costs and times associated with project implementation, and transfer of major risk to the private sector, with the net result of securing value for money for taxpayers (Gruneberg, Hughes & Ancell, 2011). In Kenya, there has been one success in the road sector through the use of PPP and the Nairobi Thika Corridor (Thika Road super highway) is a good example which is in the northeast of the Nairobi Metropolitan Region and extends from Nairobi City Centre to Thika (Chami, 2015). Kenya has had some degree of PPP failures in the road sector, according to Treasury, the Nairobi Urban Toll Road Project (2009), which includes 106 km rehabilitation and expansion of trunk road and bypasses through central Nairobi (including a viaduct flyover through downtown), did not materialize, owing to the fact that there was concern that the Kenyan government had cancelled concession talks for the Sh67 billion Nairobi Urban Toll Road Project, following lack of interest from the World Bank to finance it (Chami, 2015).

Statement of the Problem

Maintenance and development of any infrastructure is being recognized as catalyst of sustainable economic growth and investment opportunity (Ali, Khamidi & Idrus, 2009). However, both developed and developing countries are facing unprecedented fiscal problems, and are unable to devote the resources necessary to properly expand and maintain it. PPPs are risk-sharing investments in the provision of public goods and services, seen by governments as a means to launch investment programmes that would not be possible in reasonable amounts of time within the available public sector budget (European Investment Bank, 2010). In Africa, most countries are still struggling to improve on their infrastructure.

The World Bank's Africa Infrastructure Diagnostic Study (2011) estimates that inefficiencies in State owned utilities and infrastructure providers in Sub-Saharan Africa cost around US$6 billion a year. This is because often construction projects managed by government run well over budget and behind schedule and any changes to the project cost are often at the expense of the Government. More so service delivery by Government entities is often poor due to limited capacity and weak management incentives (The World Bank's Africa Infrastructure Diagnostic Study, 2011).According to a research done by Flyvbjerg (2009) in global construction, it was found that 9 out of 10 projects had overruns. Ngure (2013) also agrees that for the last three decades, many projects have been in existence in Kenya, with very huge sum of money invested both from donors and from tax payers but the completion rate of the projects are still low.A survey byMishra and Soota (2016) indicated that close to 40% of large engineering projects researched on a worldwide basis experienced serious performance problems. According to Kenya Roads Board (KRB) report, Kenya National Highways Authority is annually allocated approximately 30% of the total fund allocated to the ministry of roads. Many projects experience cost overrun and thereby exceed initial contract amount.

In Kenya, the number of public roads construction projects is increasing from time to time. However, it becomes difficult to complete projects in the allocated cost budget. Taking into account the scarce financial resources of the country, cost overrun is one of the major problems in Kenya. Statistics from the republic of Kenya report show that KeNHA has been experiencing cost overruns in its Roads projects. For instance, in the construction of Thika Super Highway, the cost escalated from 26.44 billion to 34.45 billion (World Bank, 2014). Kenya has had some degree of PPP failures in the road sector, according to Treasury, the Nairobi Urban Toll Road Project (2009), which includes 106 km rehabilitation and expansion of trunk road and bypasses through central Nairobi (including a viaduct flyover through downtown), did not materialize, owing to the fact that there was concern that the Kenyan government had cancelled concession talks for the Sh67 billion Nairobi Urban Toll Road Project, following lack of interest from the World Bank to finance it (Hansard, 2009). This is the practical gap that the current study wishes to address.

Several studies have been undertaken on PPPs**;** Nsasira, Basheka and Oluka (2013) investigated the use of Public Private Partnerships (PPPs) as a strategy to address deficiencies in the energy sector of Uganda, Kariuki (2013) determined effect of financing infrastructure projects under public private partnership on the level of physical infrastructure in Kenya, Wibowo and Alfen (2013) conducted a study on the effect of financing PPP infrastructure projects on growth of the economy, Ismail (2014) scrutinized the challenges in implementing PPP by examining the factors that hinder the successful adoption of PPP in Malaysia and Rajkumar (2013) identify the critical factors influencing the infrastructure development projects under public private partnership. None of the reviewed studies assessed the factors influencing the use of public-private partnership model in implementation of road projects in KeNHA. This is the knowledge gap that the current study aimed to fill.

Objectives of the Study

i. To determine the Influence of public accountability on the use of public-private partnership model in implementation of road projects in Kenya
ii. To examine the Influence of project financing on the use of public-private partnership model in implementation of road projects in Kenya

iii. To determine the Influence of government policies on the use of public-private partnership model in implementation of road projects in Kenya
iv. To determine the Influence of project risk management on the use of public-private partnership model in implementation of road projects in Kenya

Literature Review

Agency Theory

This theory was postulated by Fama (1980), agency theory is commonly referred to as the principal-agent theory, and the theory formalizes assumptions about the distribution of property rights and information in the writing of contracts that define organizations. In particular, it focuses on the relationship between principals and agents who exercise authority on behalf of organizations (Fama & Jensen, 1983). The theory argues that principals must solve two basic tasks in choosing and controlling their agents: first, they have to select the best agents, whether employees or contractors, and create inducements for them to behave as desired. Second, they have to monitor the behaviour of their agents to ensure that they are performing as agreed (Fama, 1980). A problem arises when the parties' goals conflict or when it is difficult or expensive for the principal to verify what the agent is actually doing. If the relationship between the two parties is not well articulated, then the problems associated with the agency theory, like the information asymmetry would normally occur .The quality of the participants and the relationships among them and how it is thought out at the beginning determines the success or failure of PPP.

Stakeholder Theory

Stakeholder theory which was developed by Freeman (1984) begins with the assumption that values are necessarily and explicitly a part of doing business. It asks managers to articulate the shared sense of the value they create, and what brings its core stakeholders together. It also pushes managers to be clear about how they want to do business, specifically what kinds of relationships they want and need to create with their stakeholders to deliver on their purpose. Stakeholder theory reflects and directs how managers operate rather than primarily addressing management theorists and economists. The theory informs the dependent variable of the study which is implementation of PPP model. Implementation of the model takes into account the role of stakeholders in government projects. According to the model, managers must develop relationships, inspire their stakeholders, and create communities where everyone strives to give their best to deliver the value the organization promises.

X-efficiency Theory

Leibenstein (1966) proposed the X-efficiency hypothesis of PPPs according to which government backed public entities are inherently inefficient such that PPPs are necessary to reduce the sources of inefficiency in such organizations as based on a few basic postulates. Imperfect markets, incomplete labor contracts/production function, discretionary effort, rationality as a continuum, and inert areas. First, x-efficiency theory focused on imperfect markets caused by monopoly power or asymmetric information. Second, labor contracts may completely define hours to be worked and wages to be paid but it cannot list in great detail every sequence of behaviors workers are expected to perform.

The involvement of the private sector allows public entities to respond to market forces and become more competitive. This explanation is rooted in the belief that government interventions in the operations of public entities to bail them out during potential failure, introduces inefficiencies in their operations.

Conceptual Framework

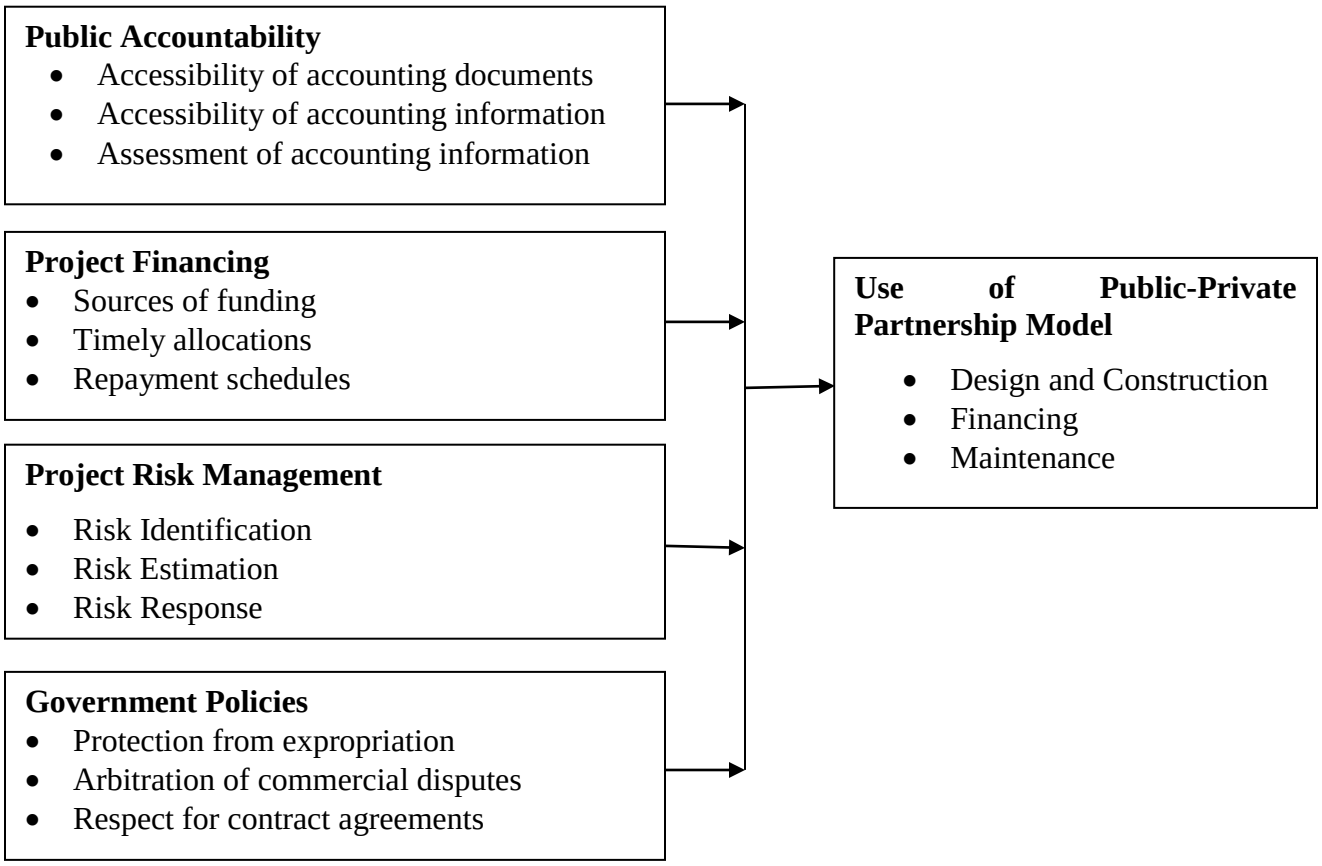

Figure 1: Conceptual Framework

Public Accountability

The public needs to know that its interests will be protected in a number of specific areas. Firstly, that the PPP will obtain 'value for money', secondly, that the project has clearly defined goals which can be measured, and should be met. Thirdly, procedures for the award of the contract will be fair and according to the criteria as laid down in the project specification. Lastly, that if the financingof the projects involves a subsidy from the state, the size of the subsidy will be known the citizen since financing of PPPs is a complicated exercise that creates political and regulatory risks for all the parties involved. PPPs involve future financial obligations on the taxpayers (Forrer, Kee, Newcomer & Boyer, 2010).

Project Financing

Another important defining element of the PPP structure is the aspect of project financing. It therefore becomes imperative to assess the financing structures for the purpose of determining the funding mixes used in PPP arrangements. Fundamentally, one of the aims of PPP is to bring the private sector's finance as well as management skills into the provision of facilities and services traditionally delivered by public sector (Siemiatycki & Farooqi, 2012).The financial elements would include the sources of funding, interest rate, capital structure, repayment and drawn down schedules, currency of loans and payments (Li, Akinyoye & Hardcastle, 2010).

Government Policies

An independent, fair and efficient legal framework is a key factor for successful PPP project implementation. Sufficient legal resources at reasonable costs should be available to deal with the amount of legal structuring and documentation required. A transparent and stable legal framework should help to make the contracts and agreements bankable. An adequate dispute resolution system should help to ensure stability in the PPP arrangements (Moszoro& Spiller, 2012).Pongsiri (2012) emphasizes the establishment of a transparent and sound regulatory framework as a necessary precursor to private sector participation in a PPP.

Project Risk Management

The risks associated with PPP can be grouped into two broad categories: endogenous (directly related to the project) and exogenous (outside the scope of the project occasioned by external factors) risks. Most risks are exogenous, thus the private partner is not better informed about this risk than the public partner, nor can it manage it better. The public party therefore is required to insulate or isolate the contractor from these kinds of risks (Jin, 2009)..

Public-Private-Partnerships in Projects

Public-private-partnerships are contractual arrangements between public sector organizations and private sector investors for joint, symbiotic and collaborative provision and financing of public projects and services. These arrangements arise out of the realization that although the public sector is responsible for the delivery of infrastructure projects, it often encounters financial, technical and institutional limitations in availing such

projects hence the necessity of collaborating with the Private sector in provision of such services (Verweij, 2015).

Research Methodology

This study adopted a descriptive research design for the purpose of accessing the study's general intent. Descriptive research is appropriate as it generally allows making comprehensive inferences about the investigated variables in the target populations (Mugenda & Mugenda, 2012).The target population of this study was the PPP Unit within the National Treasury and KeNHA Nairobi regional office under the Ministry of Transport and Infrastructure. The study respondents comprised 62 officers representing both the private sector and the public sector partners for each of' the PPPs surveyed. This ensured a balanced mix of information for each PPP. The study conducted a census on the total target population since the number of targeted population is small. Gall, Gall and Borg (2013) as well as Israel (1967) argue that a census is allowed whenever a population size is smaller than two hundred respondents and this gives more detailed feedback than if sampling was conducted. The study used a questionnaire to collect data. Data was analyzed using descriptive statistics involving percentages and mean scores to determine varying degrees of response-concentration regarding credit risk mitigation. Equation below shows the linear regression model of the independent variables against the dependent variable.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e$$

Where:

Y = the dependent variable which is use of PPP model

i. $\{\beta_i; i=1,2,3,4\}$ = The coefficients for the various independent variables

ii. X_i for; X_1 = Public accountability, X_2 = Project financing, X_3 = Government policies , X_4= Project risk management, e is the error term which is assumed to be normally distributed with mean zero and constant variance. Descriptive statistics were used to describe the characteristics of collected data.

Results

Response Rate

The study administered a total of 62 officers representing both the private sector and the public sector partners for each of' the PPPs surveyed out of which56 questionnaires were dully filled and returned which represented a response rate of 90%. According to Babbie (2004) a return rates of 50% is acceptable to analyze and publish, while 60% is good and above 70% is very good. The high response rate of 90% was attributed to personal commitments and regular follow up.

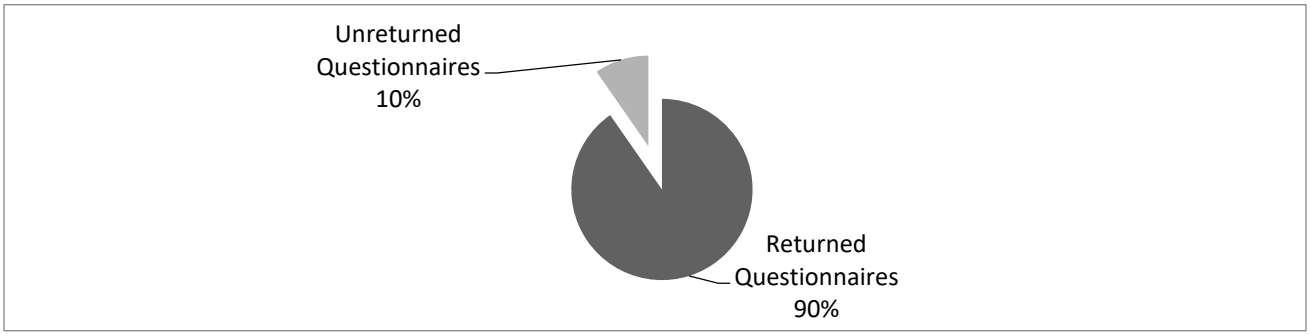

Figure 2 Response Rate

Demographic Results

Age of the Respondents

The results on age of the respondents revealed that majority (50%) were above 51 years, 21.4% were between 41 and 50, and another 21.4% were between 31 and 40 years while only 7.1% were below 30 years. The findings implied that officers that work in PPP Unit within the National Treasury and KeNHA were above 40 years. This could be attributed to need to hire experienced individuals in matters of road constructions. Wamuthenya (2010) also showed that the determinants of employment in public, private and informal sectors of Kenya's urban labour market vary by age cohort and gender.

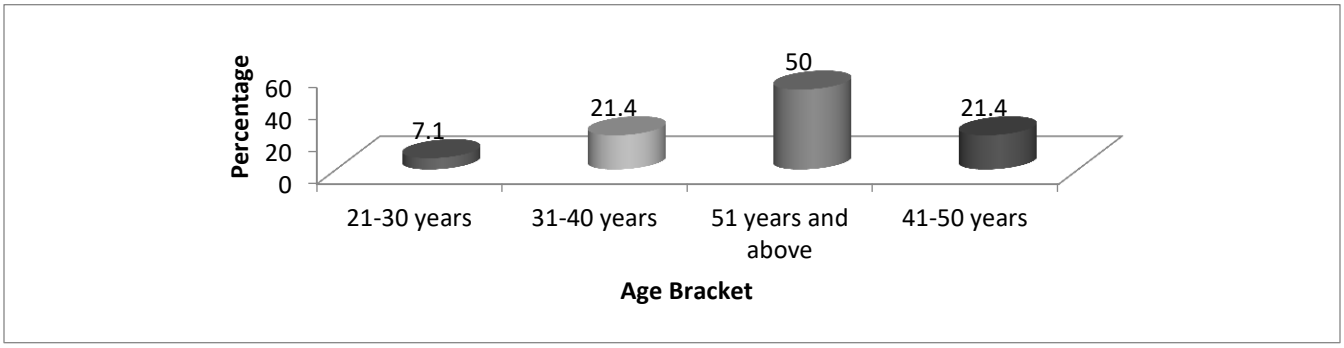

Figure 2 Age of the Respondents

Gender of the Respondents

The findings showed that majority (73%) of the respondents were male while 27% of the respondents were female. The findings showed that most officers that work in PPP Unit within the National Treasury and KeNHA were male. This was an indication that female still shy away from engineering related fields which is regarded technical and best suited for male counterparts. Wamuthenya (2010) also showed that the determinants of employment in public, private and informal sectors of Kenya's urban labour market vary by age cohort and gender.

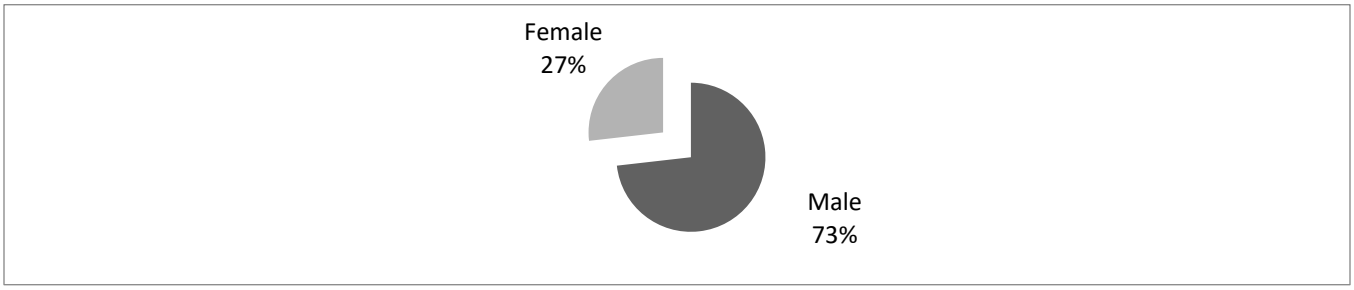

Figure 3 Gender of the Respondents

Highest Level of Education

The findings on the level of education showed that 58.9% of the respondents had university level of education, 23.2% had post graduate level of education while 17.9% had college level of education. These findings indicate that National Treasury and KeNHA had profession officers working on PPP Units within Nairobi. Kasika(2015) findings also confirmed that educational qualifications have a significant bearing on job performance. The higher the education level the more are the effects of education and skill on job performance.

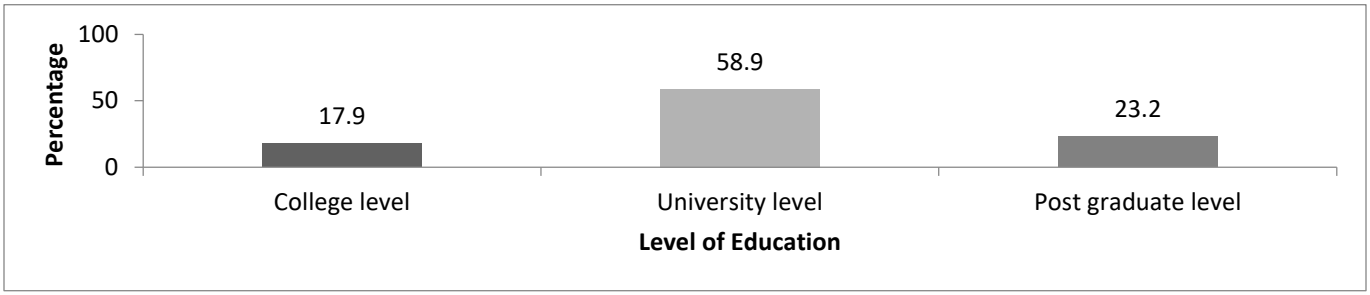

Figure 4 Highest Level of Education

Working Experience

The findings on working experience revealed that 33.9% of the respondents had a work experience of between 6 and 10 years, another 25 % had work experience of between 1 and 5 years. Those who had work experience of over 10 years were 60 % while 3% indicated to have worked for less than 1 year. The findings implied that majority of the respondents had enough experience and were well placed to respond to questions regarding the use of public-private partnership model in implementation of road projects in Kenya. Karanja, Ndunga, and Mugambi (2014) also noted that employee selection is the process by which the most efficient and qualified employee is selected to occupy a position.

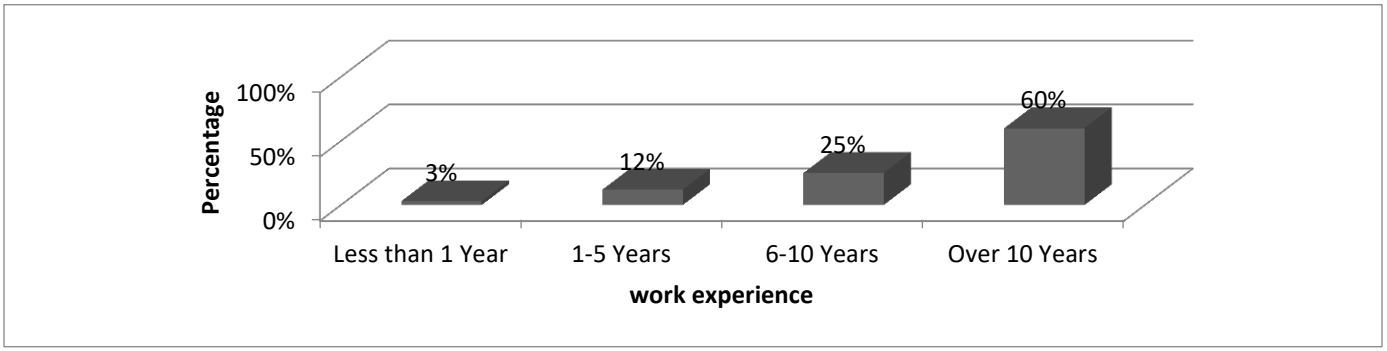

Figure 5 Working Experience of the Respondents

Current Position

The study findings on the current position of the respondents showed that 35.7% were PPP experts, 26.8% were financial advisors, 19.6% were road engineers, 8.9% were legal advisors and another 8.9% were transport economists. The findings implied that the study covered all the professionals involved in implementation of use of public-private partnership model in implementation of road projects in Kenya and they were desirables to the study since the information they provided was reliable. Karanja, Ndunga, and Mugambi (2014) also noted that employee selection is the process by which the most efficient and qualified employee is selected to occupy a position.

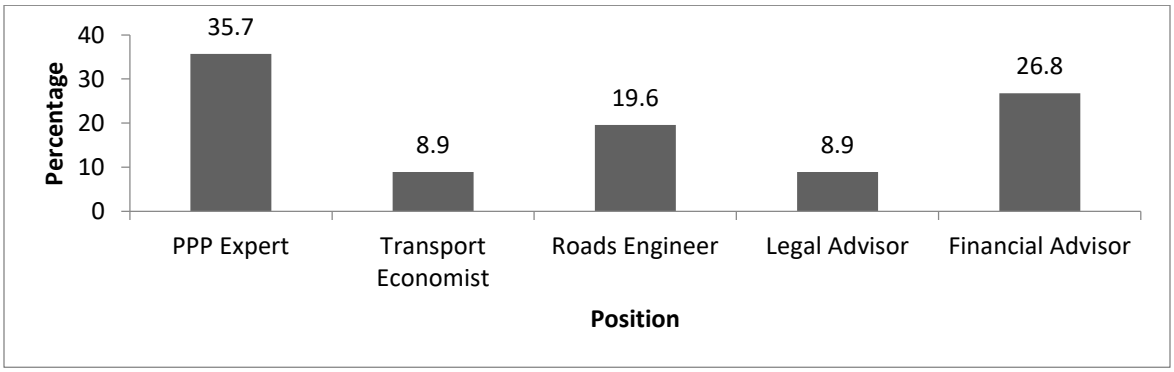

Figure 6 Current Position of the Respondents

Descriptive Results of the Study Variables

Public Accountability

The first objective of the study was to establish the effect of public accountability on the use of public-private partnership model in implementation of road projects in Kenya. The study intended to establish whether there was transparency in budgetary allocations, 30.4% indicate to great extent, 26.8% indicated very great extent, 12.5% were neutral while 12.5% and 17.9% indicated very low extent and low extent respectively.

The study further sought to find out whether procedures for the award of the contract were fair and according to the criteria as laid down in the project specification, 39.3% indicated very great extent, 25.0% indicted great extent, a combined 25% indicated low extent. The statement had a mean response of 3.64 which confirmed that majority indicated great extent. On whether the financing of the projects involved a subsidy that is known by the citizen, 37.5% indicated very great extent, 28.6% indicated great extent while those who indicated very low extent and low extent were 14.3% and 12.5% respectively. This statement further revealed a mean of 3.63 showing that most of the responses leaned towards great extent. The study further sought to find out whether there was accessibility of accounting documents, the findings showed 37.5% and 28.6% indicated great extent and very great extent respectively. Finally the study sought to find out whether there was accessibility of accounting information, the findings showed that 33.9% indicated to a great extent, 25.0% indicating to a very great extent while 12.5% and 8.9% indicated to low extent and very low extent respectively. The statement had a mean of 3.54 and a standard deviation of 1.25 which implied that most of the respondents indicated great extent.

Table 1 Descriptive Results for Public Accountability

Statement	Very Low Extent	Low Extent	Neutral	Great Extent	Very Great Extent	Mean	Std. dev
There is transparency in budgetary allocations	12.5%	17.9%	12.5%	30.4%	26.8%	3.41	1.39
Procedures for the award of the contract are fair and according to the criteria as laid down in the project specification	14.3%	10.7%	10.7%	25.0%	39.3%	3.64	1.46
The financing of the projects involves a subsidy that is known by the citizen	14.3%	12.5%	7.1%	28.6%	37.5%	3.63	1.46
There is accessibility of accounting documents	14.3%	8.9%	10.7%	37.5%	28.6%	3.57	1.37
There is accessibility of accounting information	8.9%	12.5%	19.6%	33.9%	25.0%	3.54	1.25

Project Financing

The second objective of the study was to examine the influence of project financing on the use of public-private partnership model in implementation of road projects in Kenya. The study sought to find out whether there was enough amount of funds allocated to finance infrastructure project. The results showed that 32.1% of the respondents indicated very great extent, 30.4% indicated great extent, 14.3% were neutral, and 16.1% indicated low extent and finally 7.1% indicated very low extent as shown in Table 4.3. The study further sought to find out whether there were flexible repayment schedules for borrowed loans financing projects. The findings showed that 33.9% of the respondents indicated great extent, 28.6% indicated very great extent, 16.1% were neutral, and 12.5% indicated low extent while 8.9% indicated very low extent. The results further showed that the statement had a mean of 3.61 which confirmed that most of the respondents indicated great extent. The study further sought to find out whether the institutional set-up of the financial market affected project financing. The results indicated that 35.7% indicated very great extent, 33.9% indicated greet extent, and 14.3% were neutral while 12.5% and 3.6% indicated to low very extent and low extent respectively.

Table 2 Descriptive Results for Project Financing

Statement	Very Low Extent	Low Extent	Neutral	Great Extent	Very Great Extent	Mean	Std Dev
There is enough amount of funds allocated to finance infrastructure	7.1%	16.1%	14.3%	30.4%	32.1%	3.64	1.29
There is flexible repayment schedules for borrowed loans financing projects	8.9%	12.5%	16.1%	33.9%	28.6%	3.61	1.27
The institutional set-up of the financial market affects project financing	12.5%	3.6%	14.3%	33.9%	35.7%	3.77	1.32
The sources of project financing are diversified	12.5%	16.1%	16.1%	25.0%	30.4%	3.45	1.40
There is timely allocations of project funds	12.5%	8.9%	21.4%	33.9%	23.2%	3.46	1.29

Government Policies

The third objective of the study was to determine the influence of government policies on the use of public-private partnership model in implementation of road projects in Kenya. The study sought to find out whether there were policies on PPP that stipulate PPP procurement guidelines. The results showed that majority (44.6%) of the respondents indicated to very great extent, 16.1% indicated great extent, 12.5% were neutral, and 17.9% indicated very low extent while 8.9% indicated low extent. The statement mean of 3.61 further confirmed that most of the respondents leaned towards great extent and very great extent. The study further sought to find out whether there were sufficient legal resources to enhance respect for contract agreements, 41.1% of the respondents indicated to great extent, 19.6% indicated to very great extent, 14.3% were neutral, a combined 25% indicated low extent and very low extent.

On whether there was a transparent legal framework to make the contracts and agreements bankable, the findings revealed that 33.9% and 26.8% of the respondent indicated great extent and very great extent respectively. Those who indicated very low extent and low extent were 21.4% and 8.9% respectively. The findings also revealed that 35.7% and 38.6% of the respondent indicated great extent and very great extent that there was a dispute resolution system to help ensure stability in the PPP arrangements. The study finally sought to establish whether the contractors were protected legally from expropriation. The results showed that 35.7% indicated very great extent, 23.2% indicated great extent, 14.3% were neutral, and 17.9% indicated low extent and finally 8.9% indicated very low extent. The statement had a mean of 3.59 which further confirmed that most of the response leaned towards great extent as demonstrated by the standard deviation that showed slight variation of the responses from the mean. The implications of these findings were that the government of Kenya had policies that were adequate in ensuring the use of public-private partnership model in implementation of road projects in Kenya was successful.

Table 3 Descriptive Results for Government Policies

Statement	Very Low Extent	Low Extent	Neutral	Great Extent	Very Great Extent	Mean	Std Dev
There are policies on PPP that stipulate PPP procurement guidelines	17.9%	8.9%	12.5%	16.1%	44.6%	3.61	1.56
There is sufficient legal resources to enhance respect for contract agreements	12.5%	12.5%	14.3%	41.1%	19.6%	3.43	1.29
There is a transparent legal framework to make the contracts and agreements bankable	21.4%	8.9%	8.9%	33.9%	26.8%	3.36	1.51
There is a dispute resolution system to help ensure stability in the PPP arrangements	16.1%	7.1%	12.5%	35.7%	28.6%	3.54	1.40
The contractors are protected legally from expropriation	8.9%	17.9%	14.3%	23.2%	35.7%	3.59	1.37

Project Risk Management

The final objective of the study was to determine the effect of project risk management on the use of public-private partnership model in implementation of road projects in Kenya. The study sought to find out whether the public party insulated the contractor from exogenous kinds of risks. The findings showed that 32.1% of the respondents indicated great extent, 28.6% indicated very great extent, 14.3% were neutral, and 10.7% indicated low extent while 14.3% indicated very low extent. On whether there was better risk estimation before a project was implemented, the results showed that 33.9% indicated to very great extent while 26.8% indicated great. The finding implied that majority of the respondents agreed as confirmed by the mean of 3.50. The study also sought to find out whether risks were allocated to the party that is best able to manage them.

The results revealed that 33.9% and 26.8% of the respondents indicated very great extent and great extent respectively. The finding also implied that majority of the respondents agreed with the statement. The study further sought to find out whether there was accuracy in presumed transfer of a package of risks to the private sector. The statement had a mean of 3.59 which indicated that majority of the respondents agreed with the statement as shown by 39.3% and 21.4% of the respondents who indicated very great extent and great extent respectively. The statement had a mean of 3.66 which implied that majority of the responses leaned towards great extent and very great extent. The study findings implied that there was effective risk management in ensuring the use of public-private partnership model in implementation of road projects in Kenya was successful.

Table 4 Descriptive Results for Project Risk Management

Statement	Very Low Extent	Low Extent	Neutral	Great Extent	Very Great Extent	Mean	Std Dev
The public party insulates the contractor from exogenous kinds of risks	14.3%	10.7%	14.3%	32.1%	28.6%	3.50	1.39
There is better risk estimation before a project is implemented	17.9%	8.9%	12.5%	26.8%	33.9%	3.50	1.49
Risks are allocated to the party that is best able to manage them	10.7%	16.1%	12.5%	26.8%	33.9%	3.57	1.39
There is accuracy in presumed transfer of a package of risks to the private sector	14.3%	12.5%	12.5%	21.4%	39.3%	3.59	1.47
There is accuracy in presumed identification of risks	14.3%	3.6%	14.3%	37.5%	30.4%	3.66	1.34

Use of Public-Private Partnership

This section intended to measure the level of agreement on statements on the use of public-private partnership model in implementation of road projects in Kenya. The study sought to find out whether KENHA had put in place partnerships with the private sector involving road project designing. The results showed that 28.6% strongly agreed, 28.6% agreed, 16.1% were neutral, 17.9% disagreed and 8.9% strongly disagreed. The mean of 3.50 implied that majority of the respondents agreed with the statement. The study also sought to find out whether KENHA had put in place partnerships with the private sector involving road project construction. The results showed that 33.9% strongly agreed, 28.6% agreed, 23.2% were neutral, 7.1% disagreed and another 7.1% strongly disagreed. The mean of 3.70 further showed that majority of the respondents felt that KENHA had put in place partnerships with the private sector involving road project construction. The study sought to find out whether KENHA had put in place partnerships with the private sector involving road project financing.

The results showed that 41.1% and 32.1% of the respondents agreed and strongly agreed respectively. The mean of 3.80 implied that majority of the respondents agreed that KENHA had put in place partnerships with the private sector involving road project financing. The results further that most of the respondents agreed that KENHA had put in place partnerships with the private sector involving operation of services to meet public needs. This was shown by the 30.4% and 25.0% who agreed and strongly agreed respectively. The study sought to find out whether KENHA had put in place partnerships with the private sector involving road project maintenance. The results showed that 44.6% and 26.8%agreed and strongly agreed respectively. The mean of 3.79 further showed that majority of the respondents agreed that KENHA had put in place partnerships with the private sector involving road project maintenance. According to Verweij (2015) Public-Private Partnerships are designed to enhance the mutual sharing of costs, risks and benefits of infrastructure projects between the public and the private sector by exploiting the strengths of either side while simultaneously overcoming their limitations.

Table 5 Descriptive Results on Use of Public-Private Partnership

Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std Dev
KENHA has put in place partnerships with the private sector involving road project designing	8.9%	17.9%	16.1%	28.6%	28.6%	3.50	1.32
KENHA has put in place partnerships with the private sector involving road project construction	7.1%	7.1%	23.2%	33.9%	28.6%	3.70	1.17
KENHA has put in place partnerships with the private sector involving road project financing	8.9%	7.1%	10.7%	41.1%	32.1%	3.80	1.23
KENHA has put in place partnerships with the private sector involving operation of services to meet public needs	10.7%	21.4%	12.5%	30.4%	25.0%	3.38	1.36
KENHA has put in place partnerships with the private sector involving road project maintenance	5.4%	8.9%	14.3%	44.6%	26.8%	3.79	1.11

Correlation Tests Results

The study used correlation to ascertain the association between independent variables and dependent variables. Kothari (2014) further stated that the importance of correlation is to determine the extent to which changes in the value of an attribute is associated with changes in another attribute.

Table 6 Correlation Tests Results

		Public Accountability	Project Financing	Government Policies	Project Risk Management
Public Accountability	Pearson Correlation	1			
	Sig. (2-tailed)				
Project Financing	Pearson Correlation	0.383			
	Sig. (2-tailed)	0.004			
Government Policies	Pearson Correlation	0.265	0.378		
	Sig. (2-tailed)	0.049	0.004		
Project Risk Management	Pearson Correlation	0.29	0.201	0.224	
	Sig. (2-tailed)	0.03	0.138	0.098	
Use of PPP	Pearson Correlation	0.593	0.56	0.618	0.559
	Sig. (2-tailed)	0.000	0.000	0.000	0.000
	N	**56**	**56**	**56**	**56**

The finding in Table 6 indicated that the correlation between Public Accountability and use of public-private partnership model in implementation of road projects in Kenya was 0.593 with a corresponding p value of 0.000. The results implied that Public Accountability had a positive and significant correlation with use of public-private partnership model in implementation of road projects in Kenya. The findings of this study concur with Kamwana and Muturi (2014) study who found that majority of the respondents agreed that financial planning; financial monitoring, financial evaluation and financial controls contribute to project performance. Similarly, Okekeocha (2013) study found out that corrupt bureaucracy will lead to a decrease in the quality of goods and services being provided by the government, which will increase public cynicism. The findings further indicated that the correlation between project financing and use of public-private partnership model in implementation of road projects in Kenya was 0.56 with a corresponding p value of 0.000.

The results implied that project financing had a positive and significant correlation with use of public-private partnership model in implementation of road projects in Kenya. Similarly, Wibowo and Alfen (2013) showed that there was a positive relationship between financing of PPP infrastructure and growth of the level of GDP. Siborurema, Shukla and Mbera (2015) also found that both the cost estimation and technical design interfere with the projects funding policy and affect negatively the scheduled projects implementation time. The findings further indicated that the correlation between Government Policies and use of public-private partnership model in implementation of road projects in Kenya was 0.618 with a corresponding p value of 0.000. The results implied that Government Policies had a positive and significant correlation with use of public-private partnership model in implementation of road projects in Kenya. Yang, Hou and Wang (2013) similarly demonstrates that the nature of regulation and control are crucial in decisions about PPPs, outlining that PPPs generally necessitate a more direct control relationship between the public and private sector than would be achieved by a simple (legally-protected) market-based and arms-length purchase.

Multivariate Regression Analysis

The results presented in Table 7 revealed a relationship R= 0.856, indicating a strong positive association between project risk management, project financing, government policies and public accountability. R-squared= 0.733 indicated that 73.3% of variation in the use of public-private partnership model in implementation of road projects in Kenyacan be explained by project risk management, project financing, government policies and public accountability.

Table 7 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.856	.733	.712	.43159

Table 8 Analysis of Variance (ANOVA) Results (Overall Model Significance)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26.082	4	6.521	35.005	0.000
	Residual	9.500	51	.186		
	Total	**35.582**	**55**			

The results of ANOVA test showed that the F value was 35.005with a significance of p value = 0.000 which was less than 0.05, meaning that there is a significant relationship between project risk management, project financing, government policies and public accountability and use of public-private partnership model in implementation of road projects in Kenya. The ANOVA statistics at 5% level of significance showed that the value of F calculated(F computed) is 35.005 and the value of F critical(F tabulated) at 4 degrees of freedom and 51 degrees of freedom at 5% level of significance is 2.55. F calculated (F-computed) is greater than the F critical (F tabulated) (35.005 >2.55), this showed that the overall model was statistically significant at 5% significance level.

Table 9 Regression Coefficients Results

Predictor	Beta	Std. Error	t	Sig.
(Constant)	0.237	0.332	0.712	0.048
Public Accountability	0.265	0.07	3.781	0.000
Project Financing	0.187	0.066	2.828	0.007
Government Policies	0.34	0.072	4.688	0.000
Project Risk Management	0.269	0.061	4.427	0.000

Dependent Variable: Use of PPP

The multiple Model $Y=\beta_0+\beta_1X_{1+}\beta_2X_2+\beta_3X_{3+}\beta_4X_{4+}\varepsilon$, therefore became,

Use of PPP model = 0.237+ 0.34 (Government Policies**) +0.269 (**Project Risk Management**)+0.265 (**Public Accountability**) +0.187 (**Project Financing**) +ε**

Y= **Use of PPP model**, β_0= **0.237 (**Constant), β_1 =**0.34 (**Coefficients forGovernment Policies), β_2 =**0.269 (**Coefficients forProject Risk Management), β_3 =**0.265 (**coefficients forPublic Accountability), β_4 =**0.187 (**coefficients for Project Financing), **ε** = Represents the Error Term

The regression coefficient of public accountabilitywas (β=0.265, p=0.000, <0.05) showed a statistically significant relationship between public accountabilityand use of public-private partnership model in implementation of road projects in Kenya. The results implied that a unit increase in public accountability would results to an increase of 0.265units in use of public-private partnership model in implementation of road projects in Kenya. The findings of this study concur with Kamwana and Muturi (2014) study who found that majority of the respondents agreed that financial planning; financial monitoring, financial evaluation and financial controls contribute to project performance. The regression coefficient of project financingwas (β=0.187, p=0.007, <0.05) which showed a statistically significant relationship between project financingand use of public-private partnership model in implementation of road projects in Kenya. The results implied that a unit increase in project financing would results to an increase of 0.187units in use of public-private partnership model in implementation of road projects in Kenya. Similarly, Wibowo and Alfen (2013) showed that there was a positive relationship between financing of PPP infrastructure and growth of the level of GDP.

The regression coefficient of government policieswas (β=0.34, p=0.000, <0.05) which showed a statistically significant relationship between government policiesand use of public-private partnership model in implementation of road projects in Kenya. The results implied that a unit increase in government policies would results to an increase of 0.34units in use of public-private partnership model in implementation of road projects in Kenya. Moszoro and Spiller (2012) also emphasized that a transparent and stable legal framework should help to make the contracts and agreements bankable. The regression coefficient of Project Risk Managementwas (β=0.269, p=0.000, <0.05) which showed a statistically significant relationship between Project Risk Managementand use of public-private partnership model in implementation of road projects in Kenya. The results implied that a unit increase in Project Risk Management would results to an increase of 0.34 units in use of public-private partnership model in implementation of road projects in Kenya. According to Waring, Currie and Bishop (2013) the accuracy of the presumed transfer of a package of risks to the private sector, together with the identification and valuation of risks are essential to the construction of a meaningful PPP project.

Conclusion

These study findings established that project risk management, project financing, government policies and public accountability have a significant effect on use of public-private partnership model in implementation of road projects in Kenya. Based on the findings on this study, it was concluded that public accountability through transparency in budgetary process, fair contracting and accessibility of accounting information enhance the use of public-private partnership model in implementation of road projects in Kenya. The study further concluded that project financing is a key component in the use of public-private partnership model in implementation of road projects in Kenya. One of the aims of PPP is to bring the private sector's finance as well as management skills into the provision of facilities and services traditionally delivered by public sector. The financing structure could be through equity, debt financing or a mixture of both. The two extreme cases of PPP financing are total equity and total debt financing. In general, PPP projects are financed using a combination of both with varying ratios of equity to debt.

Recommendations for the Study

The study established that public accountability had a positive and significant with use of public-private partnership model in implementation of road projects in Kenya. The study recommends that stakeholders in the public-private partnership model in implementation of road projects should ensure that there is adequate public accountability in all their projects. They should ensure that there is transparency in budgetary process, fair contracting and public accessibility of accounting information regarding the project. The study established that project financing had a positive and significant with use of public-private partnership model in implementation of road projects in Kenya. The study recommends that both government and private should be involved in mobilizing the resources for implementation of road projects in Kenya. Involvement of the private sector in project financing ensure there high accountability and that the projects do not stall because of lack of financing.

Conflict of Interest

No potential conflict of interest was reported by the authors.

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