

INFLUENCE OF PROJECT VIABILITY ON INFRASTRUCTURAL FINANCE THROUGH PUBLIC PRIVATE PARTNERSHIPS AT THE NATIONAL TREASURY IN KENYA

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Abstract

The study sought to assess the Challenges facing the mobilization of infrastructural finance through public private partnership in the national treasury in Kenya. More specifically, the study established the effect of project viability on infrastructural financing through public private partnerships. The study was premised on pecking order theory. The study employed cross sectional survey research design. The target population included all the management staff including chief executive officers, project managers, finance officers, procurement officers and transaction advisors in all government contracting authorities in Kenya. A sample of 145 respondents was drawn from the target population using Yamane's formula. The study employed questionnaire for data collection. Cronbach alpha coefficient was used to indicate the

reliability of the research instrument. Collected data was analyzed using descriptive and inferential statistics with the aid of Statistical Package for Social Sciences. The study concluded that project viability has a significant relationship with infrastructural financing through PPPs in Kenya. It was observed that in the long term, private companies make a lot of profit from the PPPs and that many investors in Kenya have benefited. The study recommends that investors in PPPs should be encouraged to have a long term view while investing in infrastructural projects.

Keywords: Infrastructural finance, Private partnership, National treasury, Financiers, Project viability

INTRODUCTION

The investment in infrastructure and public service delivery has traditionally been the sole domain of governments around the world. This is partly due to the huge cost of investment and the fact that the returns on such investments take a longer time to be realized. The state of infrastructure in many developing countries tends to be poor and inadequate to meet the rising demand. This reveals the constraints that governments in developing countries and especially in Sub-Saharan Africa (SSA), face in terms of scarcity of funds, corruption, poor planning and project formulation, as well as inefficient capacities (World Bank, 2012).

Public Private Partnerships (PPPs) have emerged as one of the ways to overcome these constraints. By tapping into private sector finance and ingenuity, governments are able to finance critical infrastructure, improve project preparation, execution and management and deliver efficient services to the citizens (UNDP, 2015). The main objective of procuring a public project through a PPP mechanism is to achieve value for money (VFM) (Grimsey & Lewis, 2004; Harris, 2004; Quiggin, 2004; Shaoul, 2005). Value for money implies the optimum combination of whole life cycle costs, risks, completion time and quality in order to meet public requirements (Grimsey & Lewis, 2004). Grimsey and Lewis (2005), however, imply that the value for money gains can only be achieved if there is a competitive environment, optimal risk allocation and if the comparison between the financing options is handled in a “fair, realistic and comprehensive” way.

In the early 1990s, PPPs were mostly concentrated in the transportation sector however more recently they have been used in a variety of areas. PPPs are used in the construction of roads, bridges, airports, schools, incarceration facilities, water and waste treatment, medical facilities, recreation facilities, property management, and utilities (Bettignies & Ross, 2004). Previous studies have found that financial markets of emerging regions are poor that's why

governments have to use wide range of PPP's instruments to activate investments in infrastructure projects (Bazylevich, 2009; Farquharson, Torres de Mastle & Yescombe, 2011).

Inderst (2013) found that financing of infrastructure investment requires private capital participation and underlines that institutional investors have to play a significant role in such projects. Although PPP projects are risky that's why financial markets have to offer special instruments for hedging such types of risks (Naumenkova & Gavrysh, 2013). Inadequate infrastructure is a constraint on growth worldwide, and particularly in developing countries. Infrastructure services are often inadequate to meet demand, resulting in congestion or service rationing.

Infrastructure services are also often of low quality or reliability, while many areas are simply un-served (World Bank, 2012). A well-developed transport and communications infrastructure network is a prerequisite for the access of less-developed communities to core economic activities and services (World Economic Forum, 2010). Due to rapid social and economic growth, a massive demand for investment in infrastructure has been witnessed in many countries. Infrastructure is vital to any development process and impacts on the quality of development of any country and consequently on the quality of life of its people.

Infrastructure quality, cost and reliability- whether in power, roads, rail, port or air is directly associated with levels of income; in general, the poorer a country's infrastructure, the poorer are its citizen. With globalization, it will be increasingly difficult for Africa to remain competitive if its infrastructure systems continue to be sub-standard (World Bank, 2008). The main aim of a PPP at the early stage of its development in the United Kingdom was to finance the public infrastructure projects (Grimsey & Lewis, 2004; IMF, 2006; Meidute & Paliulis, 2011). The issue at that time consisted of a growing need for public infrastructure development which also was the case in Hong Kong (Cheung, Chan, & Kajewski, 2009) and a lack of available public funds to finance this need.

As a result, a new initiative took place – Private Finance Initiative (PFI) – with the purpose to provide additional funds for public infrastructure projects. On the other hand, countries like Australia do not have such an issue. They are capable of financing projects by themselves. However, they still choose to involve the private sector for the possibility of achieving additional value (Cheung et al., 2009). Moreover, Hong Kong and Australia involve a private partner into the procurement of public services with the aim of ensuring better quality of services.

This, on the other hand, does not seem to be the prioritized reason for the PPP development in the United Kingdom, which emphasizes the point that reasons to implement PPP depend on the circumstances surrounding countries' economic and political environment.

Investments through PPPs are not a guarantee to delivering value for money for the public good in the absence of rigorous contracts, comprehensive feasibility studies and good governance. Indeed, the merits of engaging the private sector in public infrastructure development have been drawn into question (Inderst & Stewart, 2014).

The United Kingdom's National Audit Office, for instance, urged the government in April 2011 to critically examine the use of the Private Finance Initiative (the United Kingdom's most prevalent form of PPP), as the costs of debt finance had increased by 20–33 per cent since the credit crisis. It concluded that there was need for greater challenge of both the decision to use private finance and the scope of the deal (National Audit Office, 2011).

Other concerns about the financial viability of PPPs derive from the higher cost of private sector borrowing compared to government rates, and the high tendering, transaction and negotiation costs involved in such partnerships (Semple & Turley, 2013). PPP has been used internationally in more than 85 countries as a procurement method for delivering public infrastructure (Regan et al., 2009). There are well established programs in a number of countries (including Chile, Ireland, Mexico and the United Kingdom) (IMF, 2004). Its main characteristics include a competitive bidding process, appropriate balance of project risks, private sector innovation and expertise (Adams, Young and Wu, 2006).

A range of public private partnership arrangements are rapidly becoming the preferred way to provide public services worldwide because PPPs have been seen as a mechanism to tackle inefficiencies and insufficient governmental funds for infrastructure development (Jin & Doloi, 2008). Public private partnerships are an increasingly popular choice for policy makers in implementing public works projects especially in the face of a shortage of government financial resources and where it is necessary to counter public inefficiency (Alfen, et al., 2009). PPPs are more efficient than public investment and government supply of services. One particular concern is that PPPs can be used mainly to bypass spending controls, and public investment off budget and debt off the government balance sheet (IMF, 2004).

Global trends for PPPs relating to both the total amount of investment and the number of projects come from the Private Participation in Infrastructure (PPI) Project Database jointly produced by the Infrastructure Policy Unit (IPU) of the World Bank's Sustainable Development Network and the Public–Private Infrastructure Advisory Facility (PPIAF) (IPU, 2012). From 1991 to 2012, the overall trend for investment in PPP projects was increasing, despite a temporary downturn in 1997–2002. There was a 5.8% increase in the total nominal amount of investment commitments in 2012 compared with that in 2011. The number of PPP projects, on the other hand, oscillated between 200 and 400 projects per year since 1993.

In 2012, there was a 13% decline in the number of PPP projects worldwide. Overall, this means that the average size of investment commitments increased in 2012. Brazil and India constituted approximately 55% of all PPP commitments across the developing countries in 2012 (World Bank, 2012). The deplorable state of African infrastructure is attributed to budgetary deficit. The infrastructure deficit estimates for Sub-Saharan Africa is substantially higher than what domestic resources can meet, further it has been shown that there is insufficient public funding to close the gap between infrastructure needs and availability of funds. Leveraging the private sector through Public Private Partnerships (PPP) is one option that is increasingly being pursued the world over, to help address the infrastructure gap. The advent of the new millennium saw the re-introduction of PPPs in Kenya for the mobilization of resources (Shendy et al., 2011). These partnerships can leverage public funds and offer advantages of contracting with well qualified private enterprises to manage and deliver infrastructure services (Delmon, 2007). More importantly, PPP projects help mobilize competition to drive down project costs and improve innovation (Delmon & Juan, 2008). Leveraging private sector participation in infrastructure can bring experience, efficiency and finance in providing quality infrastructure services at better value for money than traditional government procurement (Shendy et al., 2011).

Public private partnership in Kenya

The development of a comprehensive investment framework for PPPs was initially driven by the Government's commitment to achieving the objectives of Vision 2030, the country's development blueprint that is focused on Kenya becoming a middle-income economy by 2030. To achieve this, Vision 2030 has set out a 10% per annum GDP growth target, and to realize these high growth rates the Government emphasized the importance of enabling PSP in infrastructure in Vision 2030's First Medium Term Plan (2008 – 2012) and the Second Medium Term Plan (2013 – 2017).

The First Medium Term Plan (2008 – 2012) provided the basis for improving the institutional and regulatory framework for PPPs, which was driven by the adoption of the Public Procurement and Disposal (Public-Private Partnerships) Regulations (2009). These regulations outlined what constitutes a PPP and also described the roles of the PPP Steering Committee and the PPP Secretariat, both of which were established in 2010. While the regulations provided the institutional and regulatory basis for PPPs, this was based largely on the Public Procurement and Disposal Act (2005), which was implemented to manage how obsolete and unserviceable entities and equipment would be procured by public entities, and did not provide an explicit legal basis for PPPs in infrastructure.

Therefore, to demonstrate the Government's commitment to PPPs a policy statement was released in 2011. The statement outlined steps the Government was looking to implement so that a more comprehensive framework for PPP development could be realized, and as such included the restructuring of the existing PPP Committee and the PPP Secretariat as well as developing procurement processes for PPPs. Such policies were formalized with the passing of the PPP Act (2013). This Act established the current structure of the PPP Steering Committee and the PPP Unit (which replaced the PPP Secretariat), and also laid the foundations for establishing PPP nodes within the line ministries responsible for screening and proposing new PPP projects. In 2014, national PPP regulations were also passed into law, and draft regulations were drawn up for sub national PPPs in Kenya's 47 counties and are currently under review through public consultation. More recently, the Public Private Partnerships (Project Facilitation Fund) Regulations 2015 were drafted and are currently awaiting approval in parliament.

Statement of the problem

Today's society expects to see the government more as a governor and regulator rather than the direct provider of public services. In addition, it requires infrastructure of better quality, more efficient provision of public services, as well as better use of public money. Considering all this, PPPs are seen as a project financing mode that may satisfy these changing needs. Nevertheless, PPPs are not a 'miracle' solution (European Commission, 2003; Harris, 2004; Meidute & Paliulis, 2011) to the problems of the conventional procurement; they are complex and expensive and, as a result, only certain projects qualify for the use of public-private partnerships. Kenya's Africa Infrastructure Country Diagnostic (AICD) report estimates that, to address the country's infrastructure deficit will require sustained expenditures of approximately \$4 billion per year (20% of GDP) over the next decade. As of 2006, Kenya needed an additional \$2.1 billion per year (11 percent of GDP) to meet that funding goal. The need shot up considering the desire to meet the vision 2030 and remain the regional hub for East Africa and beyond.

Currently, the Government of Kenya faces a growing gap between public investment needs and available resources to finance them. Indeed, the Government and development partners have over the years been the main financiers of public infrastructure and services. This has however been limited by the level of resources available from these sources. Unfortunately, the investment resources emanating from these sources have remained far below the requirements needed to support the accelerated economic growth as set forth in Vision 2030. To address this end, the Government has developed a policy framework for engaging the

private sector through Public Private Partnerships (PPP) arrangements to facilitate the closing of the gap in investment capital, technology and know-how needed to improve the efficiency and delivery of public services.

Few studies have been done focusing on the determinants of mobilization of infrastructural finance through PPPs. Reetika, Ashish and Nidhi (2015) did a study on critical success factors for implementation of PPP based on literature review in India. The study establishes five underlying factors including: favourable economic condition; project implementability; effective procurement; stable political and social environment; and government control as Critical Success Factors (CSF) for PPP. Amanyo (2013) undertook a study on public-private partnership in local governance in Ghana. Further James and Jane (2015) did a study on factors affecting the performance of public-private-partnerships in infrastructure financing in Kenya. The study found that political risks influence the performance of PPPs in infrastructure financing in Kenya Urban Roads Authority most followed by corruption, management and control and regulatory framework. The study established that implementation performance of PPP depends on policy standards and objectives, communication and enforcement of regulations and contract terms as well as resources and administrative structures employed. The researcher notes that these studies failed to cover financial risks, project viability, initial capital and community support as factors determining the success of PPPs. Further none of the studies have investigated the moderating role of legal framework on factors influencing implementation of PPPs. Based on the foregoing; this study looked into the determinants of mobilization of infrastructural finance through public private partnership in the National Treasury in Kenya.

Objective of the study

The study aimed at examining the influence of project viability on mobilization of infrastructural finance through public private partnership in the national treasury in Kenya.

Hypothesis of the study

H₀₁: Project viability has no significant influence on mobilization of infrastructural finance through public private partnership in national treasury in Kenya.

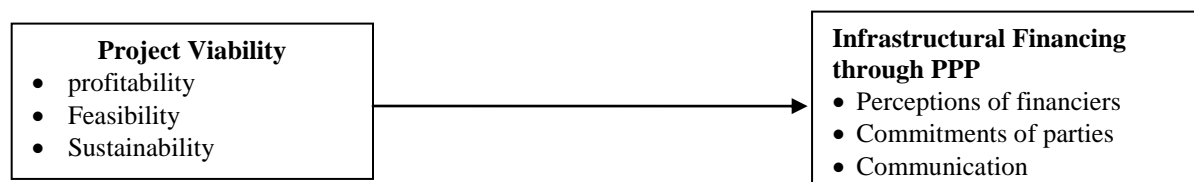


Figure 1. Conceptual Framework

THEORETICAL REVIEW

Pecking Order Theory (POT)

The theory was developed by Myers in 1984. The theory explains business managers' financial preferences using a pecking order approach. According to Myers, business managers prefer internal to external financing and debts to external equity. In summary, the 'POT' states that businesses adhere to a hierarchy of financing sources and prefer internal financing when available; if external financing is required, debt is preferred over equity.

This hierarchical ranking is due to the presumed fact that the relationship between the financier and the manager is characterized by information asymmetry. Several empirical studies have supported Myers' reasoning (Holmes & Kent, 1991; Norton, 1991; Scherr et al., 1993; Paul et al., 2007; Gebru, 2009). Holmes and Kent (1991) found that owner and managers prefer internal funds because this form of funding ensures that they can maintain control over operations and assets. If debt financing becomes necessary, the managers are assumed to favour short-term debt because this source does not tend to involve any demand for collateral security. One of the aspects of pecking order theory implies that when it comes to profitable firms, they would always prefer internal financing rather than taking up new debts or equity. Even though, debt is considered cheaper than equity within certain proportions.

Myers (1984) suggests that it is because the value of firm and wealth of shareholders associated with firm is disturbed by asymmetry of information. This argument is supported by Fama and Fench (2000) who found that profitable firms were less levered as compared to non-profitable firms. Murray Frank and Goyal (2003) held that large firms tend to accumulate debts in order to support and keep up with the payments of dividends while small firms tend to behave in opposite behavior. In this study the theory will help to establish the financing options preferred by the private sector participating in public private partnership in infrastructural financing. As such the theory will help evaluate the procedures employed by firms in determining the project viability of individual projects for financing purposes.

Project Viability and Infrastructural Financing

Public-private partnerships (3Ps) are based on the idea that the State can maximize the value of the public's assets by taking advantage of the private sector's profit motive and market discipline. The public sector is given a share of the benefits of the free market that come from increased competition, more accurate and sensitive pricing, expanded financing options, and more timely response to customer demand. In return, the private sector is given the opportunity to earn profits that might otherwise be unavailable. A well-designed 3P balances public and private sector capabilities and interests (Thomas, 2013).

Any savings that might accrue to the State from a privately financed P3 project must be found in areas other than the financing itself, such as lower costs for employee compensation, reduced operations and maintenance costs and the monetary value of shifting risks from the public to the private sector. Many of these potential savings are hard to quantify, which makes comparing public and private procurement methods difficult, especially for large and long-term projects. Effective use of P3 procurements requires the governmental authority to make most of its major decisions early in the process, ensuring that financial and other safeguards are built into the contracts it signs with private entities (Thomas, 2013).

In contrast, traditional public procurement methods allow the State to put off questions of operations and maintenance to the future. A partnership is a process not a product. Successful navigation through the process results in net benefits for all parties. Public sector entities can leverage and maximize public assets, increase their control over the development process, and create a vibrant built environment. Private sector entities are given greater access to land and infill sites and receive more support throughout the development process.

Many developers earn a market niche as a reliable partner with the public sector and are presented with an opportunity to create public goods (Mary, et.al, 2005). The acceptance of public private partnerships should be based on mutual benefits and not intended to benefit the investors at the expense of the local citizens. This explains why countries like Hong Kong are very sceptical on PPP (Cheung & Chan, 2011). The government acknowledges that in some cases, the private sector can be more efficient than public sector in service delivery, but this should not be expensive for the ordinary man.

Hong Kong in the sixties had already adopted the build, operate and transfer (BOT) Public private partnership arrangements in the transport sector and they were not all successful (Cheung, and Chan, 2011; Kwan 2005; Ho 2005). Davies and Eustice (2005) in their report highlighting a number of fundamental issues that impact the success of a project implemented using PPP model. They issues they believed were important across a wide spectrum of PPP projects were legislative impediments, accounting issues and the balance sheet treatment of PPP transactions, procurement and state aid issues, the speed and cost of PPP procurement, existence of PPP center of excellence and the sharing of refinancing benefits.

Alfen and Tegner (2005) studied the possibility of privatization of the federal highways in Germany. The formal, the functional and the material privatization had been analyzed. Most of the studies with focus on privatization showed an economic feasibility and possibility for privatization. In the field of alternative procurement modes many pros and cons appeared since the complexity of such projects is increased due to the delegation of responsibility to different

stakeholders. The outcomes of several case studies had been very different. Until today only a few pilot projects had been realized.

Low et al. (2005) investigated relative costs and benefits of PPPs in comparison with the traditional procurement methods in Scotland. The study covered all PPP infrastructure projects implemented up to 2005 in that country. The approach involved sending questionnaires to the public authority and private sector contractor responsible for each operational PPP as well as interviewing public and private sector PPP contract managers. 84% of the projects used PSC in project evaluation and indicated the PPP returned a saving versus the PSC.

However, from the procurement and construction standpoint, the PPP procurement process is shown to be expensive and particularly burdensome for small projects. Here, the mean time taken to procure the PPP projects surveyed of 28 months was deemed to be slower than non- PPP procurement. Besides this, the study found that authorities were satisfied with design quality and innovation levels inspired by PPPs in the construction of infrastructure. In addition they promoted appropriate sharing of risks between the public and private sectors.

On the flipside, they found no evidence on the improvement of the standard of service delivery by PPPs against the public sector. Further, the PPP contracts were found to be less flexible than non- PPP contracts. In general, majority of authorities considered PPPs to represent good or excellent VFM. Empirical evidence suggests that weaknesses in project planning, design and contracting can contribute directly to project failure. It is well known that excessive demand forecasts, severe risk misallocation in contracts, and underestimation of project risks, can all contribute to failure (Flyvbjerg, Bruzelius, & Rothengatter 2003; Flyvbjerg, Holm, & Buhl 2002 and Flyvbjerg, Holm, & Buhl 2005).

The World Bank in their report PPP reference guide version 1.0 note that for a successful PPP program, one must establish a PPP appraisal criteria which should be used to decide whether the project make sense (World Bank, 2012). The proposed criterion is feasibility and economic viability of the project, commercial viability, value for money or the PPP and fiscal responsibility.

Infrastructural Financing Through Public Private Partnership

PPP is an effective approach to enhance project productivity by bringing in management efficiency and creative skills from business practice, and reducing governmental involvement by using private sectors in the provision of public services (Shen et al., 2006). Ample evidence exists in developing countries of the efficiency role of public private partnerships in public projects. Arthur Andersen and LSE (2000) evaluated 29 projects in the UK already in operation, a third of all PPPs in the UK at that time, and showed that the average percentage of estimated

saving (against a public sector comparator) was 17 percent. Risk transfer accounted for 60 percent of forecast cost savings. Additionally, the National Audit Office in the UK in 2003 examined construction performance in 37 UK projects compared to projects built by the public sector.

The results show: 80 percent of PPP/PFI deals delivered price certainty; small price increases were evident in 20 percent of deals; 73 percent of publicly built projects experienced significant cost overruns; and 66 percent of PPP deals delivered on time compared to 30 percent for those publicly built. Furthermore, the motorway in Finland between Helsinki and Lahti was built five years earlier than expected and at lower cost. Finally, figures published by the European Construction Industry Federation (FIEC) in December 2010 state that the global savings of PPPs is estimated around 25 percent compared to classical procurement. This evidence on sound performances of private participation should not be regarded without recognizing the critical role of a strong enabling environment.

Gassner and Pushak (2008) examine the impact of private sector participation in water and electricity distribution using a data set of more than 1,200 utilities in 71 developing and transition economies. The results of the study show that the private sector delivers on expectations of higher labor productivity and operational efficiency, convincingly outperforming a set of comparable companies that remained state owned and operated. These findings echo those for Latin American countries where Andres (2004) and Andres, Foster, and Guasch (2006) find significant increases in quality, investment, and labor productivity and a decrease in employment in telecommunications, electricity, and water distribution services.

Apart from Guasch (2004), there are a number of anecdotal studies on the outcomes of PPP projects. Chief among these is a study by Woodhouse (2006), which analyzed global anecdotal evidence from 33 independent power producer (IPP) projects. Woodhouse argued that sophisticated risk engineering in contracts; payment security and official credit support; participation by MFIs; and arbitration and dispute resolution were of limited effectiveness in improving IPP outcomes. Instead, strategic management of IPP programs, including competitive bidding and cost management; managing counterparty risk; commercial planning and flexible management; local partnerships; and managing rights, responsibilities, and incentives, were more effective in mitigating IPP problems.

RESEARCH METHODOLOGY

The study employed cross sectional survey research design. Cross-sectional survey research design is a design in which a group of subjects (sample) is selected from a defined population (source population) and contacted at a single point in time. This study sought to obtain

descriptive and self-reported information from the financial officers in the national treasury in Kenya. The design allows the researcher to expose the respondents to a set of questions to allow comparison. The target population included all the management staff including chief executive officers, project managers, finance officers, procurement officers and transaction advisors in all government contracting authorities in Kenya. A sample of 145 respondents was drawn from the target population using Yamane's formula. To arrive at the sample, the researcher employed stratified random sampling method where different parastatals were treated as strata. The researcher then used proportionate sampling to allocate the number of respondents to be picked from each stratum. Finally, simple random sampling was used to pick out the respondents from each stratum. The study used a structured questionnaire that was distributed to all the management staff involved in the sample. The questionnaire contained various items seeking different information from the targeted respondents. The questionnaire contained a five point Likert scale (5-strongly agree, 4-agree, 3-neutral, 2-disagree and 1-strongly disagree) to measure the variables under the study. The questionnaire was pilot tested to check for validity and reliability prior to the actual data collection. Cronbach alpha coefficient was used to indicate the reliability of the research instrument. Factor analysis was done to explore the underlying relationships and the structure of the measurement models for the independent variable items and dependent variable items and to summarize data. The collected data was analyzed using both descriptive and inferential statistics with the aid of Statistical Package for Social Sciences (SPSS). Descriptive analysis involved frequencies, percentages, means and standard deviations while inferential statistics included correlation analysis to test for relationships between independent and dependent variables and both simple and multiple regression analysis to test the hypothesis. Regression analysis showed that R square, t-tests and F-tests and Analysis of Variances (ANOVA) tests were all generated by SPSS to test the significance of the relationship between the variables under the study and establish the extent to which the predictor variables explain the variation in dependent variable. In testing the hypothesis the following model was used.

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon \dots\dots\dots (I)$$

Where; Y = Public private partnership

X_i = each independent variable (Where i=1, 2, 3, & 4)

ANALYSIS AND FINDINGS

Out of 145 questionnaires distributed to the respondents for the purposes of data collection, 133 of them were returned. This constitutes 91.7% which exceed 70% suggested by Mugenda and Mugenda (2003) as very good.

Project Viability

Factor analysis was performed on the project viability questionnaire. The KMO and Bartlett's test of sphericity was applied to measure the sampling adequacy of the questionnaire. Field (2005) recommended that the measure of sampling adequacy should be above a threshold of 0.5 units. Thus, in carrying factor analysis the researcher sought to achieve an instrument that meets the threshold for sampling adequacy thus ensure the factorability of the inter-correlation matrix.

Table 1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.645
	Approx. Chi-Square	66.498
Bartlett's Test of Sphericity	df	28
	Sig.	.000

From the table, the KMO measure of sampling adequacy was .645 which was above the threshold of 0.5 (Field, 2005). The Bartlett's test of sphericity gave a Chi-square value of 66.498 which was significant at $p < .05$ level of significance. Therefore, the inter-correlation matrix on the data could undergo factorization. The data was then analyzed using Eigen value criterion for valuable extraction. The findings were as presented in table 2.

Table 2: Total Variance Explained

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	4.040	50.506	50.506	4.040	50.506	50.506	3.581
2	1.769	22.107	72.613	1.769	22.107	72.613	2.826
3	.670	8.372	80.984				
4	.602	7.522	88.506				
5	.445	5.563	94.068				
6	.279	3.482	97.551				
7	.129	1.613	99.164				
8	.067	.836	100.000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

The table demonstrated the existence of two components with Eigen values greater than one explaining cumulatively 72.613% of the total variance in the project viability. Clear factor solution

was obtained for eight out of the thirteen items regarding project viability. Five items were found to be redundant and were excluded from further analysis of the data. Pattern matrix was derived to establish the loading pattern of the items on the components that were extracted. This was presented as shown in table 3 below.

Table 3: Pattern Matrix

	Component	
	1	2
We find many companies in Kenya competing for PPPs	.889	
In the long term private companies make a lot of profit from PPPs	.704	
Many investors in Kenya have benefited by partnering with the public sector thus increasing its competitiveness and market share in the country	.668	
PPPs are based on mutual benefits of both the public and the private investors		.834
Delegation of PPPs functions to many private parties to implement PPP's makes them lack sustainability	.838	
The government benefit from reduced operations and maintenance costs by private parties in execution of PPPs		.874
Private sector earns popularity resulting to higher market share by partnering with public sector through PPPSX	.884	
The procurement process for PPPs is expensive and complex process and time consuming		.848

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

- a. Rotation converged in 5 iterations.

From the table, five items loaded strongly on the first component (profitability) while three items loaded on the second component (feasibility). The findings showed that the item indicating that companies in Kenya compete for PPPs had the highest factor loading (0.889) on the first component followed by the item that private sector earns popularity resulting to higher market share by partnering with the public sector through PPPs with a factor loading of 0.884. The item that delegation of PPPs functions to many private parties to implement PPPs makes them lack sustainability loaded strongly on the first component with a factor loading of 0.838.

On the other hand, the assertion that in the long term private companies makes a lot of profit from PPPs loaded on the first component with a factor loading of 0.704. The item that many investors in Kenya have benefitted by partnering with the public sector thus increasing its

competitiveness and market share in the country had the lowest factor loading of 0.668 on the first component. All the three items that loaded on the second component had factor loadings greater than 0.8 indicating that they significantly could account for the variation in the project feasibility of PPP projects.

The study further established the views of the respondents regarding the project viability by computing the percentages, mean and standard deviation of their responses. The findings were as presented in Table 4.

Table 4: Descriptive Statistics on Project Viability

	SA (%)	A (%)	U (%)	D (%)	SD (%)	Mean	Std. Dev
We find many companies in Kenya competing for PPPs	15.8	32.3	18.8	26.3	6.8	3.24	1.201
In the long-term private companies make a lot of profit from PPPs	16.5	46.6	21.8	13.5	1.5	3.63	.965
Many investors in Kenya have benefited by partnering with the public sector thus increasing its competitiveness and market share in the country	22.6	51.9	9.8	11.3	4.5	3.77	1.065
PPPs are based on mutual benefits of both the public and the private investors	28.6	56.4	9.0	3.8	2.3	4.05	.856
Delegation of PPPs functions to many private parties to implement PPP's makes them lack sustainability	6.8	41.4	21.1	27.1	3.8	3.20	1.035
The government benefits from reduced operations and maintenance costs by private parties in execution of PPPs	21.1	59.4	9.0	9.0	1.5	3.89	.890
Private sectors earn popularity resulting to higher market share by partnering with public sector through PPPs	18.0	47.4	18.8	13.5	2.3	3.65	1.000
The Procurement process for PPPs is expensive and complex process and time consuming	29.3	33.8	16.5	17.3	3.0	3.69	1.156
Valid N (listwise)	133						

Findings from the table demonstrate that respondents were undecided whether they find many companies in Kenya competing for PPPs or whether delegation of PPPs functions to many private parties to implement PPP's makes them lack sustainability which was equivalent to a mean of 3(undecided). Thomas (2013) had observed that increased competition led to expanded financing options and more accurate and sensitive pricing and more timely response to consumer demands. In addition, he observed that a well-designed PPPs balances public and private sector capabilities and interests.

On the other hand, 46.6% and 16.5% of the respondents strongly agreed and agreed respectively that in the long-term private companies make a lot of profit from PPPs registering a mean of 3.63 and a standard deviation of .965. This was in line with the OECD (2015) findings that infrastructure projects may not generate positive cash flows in the early phases yet they tend to produce stable cash flows once the infrastructure facility moves into the operational phase. Further the researcher observed that majority of the respondents represented as 74.5% agreed that many investors in Kenya have benefited by partnering with the public sector thus increasing its competitiveness and market share in the country. This aspect registered a mean of 3.77 and a standard deviation of 1.065. Mary et.al, (2005) noted that many developers earn a market niche as a reliable partner with the public sector and are presented with an opportunity to create public goods.

Also, the findings indicated that 85% of the respondents agreed that PPPs are based on mutual benefits of both the public and the private investors registering a mean of 4.05 and a standard deviation of .856. This agrees with the findings of Cheung and Chan (2011) who observed that the acceptance of public private partnerships should be based on mutual benefits and not intended to benefit the investors at the expense of the local citizens. 80.5% of the respondents agreed that government benefits from reduced operations and maintenance costs by private parties in execution of PPPs giving a mean of 3.89 and a standard deviation of .890. This was in line with Thomas (2013) findings that PPPs help the government in terms of lower cost for employee compensation, reduced operation and maintenance costs and the monetary value of shifting risks from the public to the private sector.

However, respondents agreed that private sectors earns popularity resulting to higher market share by partnering with public sector through PPPs of which 47.4% of respondents agreed while 18% of them strongly agreed recording a mean of 3.65 and standard deviation of 1.000. The findings from the analysis indicated that a mean of 3.69 and standard deviation of 1.156 was registered where the respondents agreed that procurement process for PPPs is expensive and complex process and time consuming where 33.8% of them agreed and 29.3% strongly agreed. The findings were in agreement with Inderst and Stewart, (2014) observations that securing the investment grade rating necessary for institutional investors to invest in certain projects may be particularly challenging. Froud (2003) did note that PPPs are criticized as often being more expensive than publicly financed projects due to higher borrowing costs incurred by the private sector, excessive profits made by the private sector to the detriment of the public and adverse effects on the pay and conditions of the employees.

Infrastructural Financing through Public Private Partnership Initiatives

Infrastructural financing through public private partnership initiatives was the dependent variable in this study. Factor analysis was performed on all of its questionnaire items to examine the adequacy of the questionnaire. The findings from the analysis were as shown in Table 5.

Table 5: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.506
	Approx. Chi-Square	87.609
Bartlett's Test of Sphericity	df	36
	Sig.	.000

From the table the KMO measure of sampling adequacy is 0.506 which is above the minimum threshold of 0.5. On the other hand, Bartlett's test of sphericity chi-square value was 87.609 which was significant at $p < .05$ level of significance. This means that factorization of the inter-correlation matrix can be done for the data. Component extraction was further done using Eigen value criterion and the findings presented as shown in Table 6.

Table 6: Total Variance Explained

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	3.769	41.879	41.879	3.769	41.879	41.879	3.304
2	2.158	23.979	65.859	2.158	23.979	65.859	2.132
3	1.396	15.516	81.374	1.396	15.516	81.374	2.526
4	.807	8.965	90.339				
5	.334	3.715	94.054				
6	.244	2.711	96.765				
7	.174	1.938	98.703				
8	.078	.872	99.575				
9	.038	.425	100.000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

The table findings indicated the presence of three components with Eigen values greater than 1 accounting cumulatively for 81.374% of the variance in infrastructure financing. A clear factor solution was obtained by 9 out of the eleven items in infrastructural financing. Two items were

found to be redundant and were excluded from further analysis of the data. The nine items extracted were used to develop a pattern matrix to show their distribution on the three components. The findings from the analysis were as shown in Table 7.

Table 7: Pattern Matrix on Infrastructural Financing

	Component		
	1	2	3
Kenyan banks are very supportive of Infrastructural finance through PPPs.		.950	
Local investors have been very cooperative in financing infrastructure through PPPs		.946	
The economic environment in Kenya has helped attract foreign investors in the PPPs	.854		
Private investors are willing to commit their investments in PPPs			-.862
Guarantees from the government make it easier for investors to commit their funds to PPPs			-.881
Clear communication channels are set up to ensure smooth communication between the contracting authorities, the government and the private investors regarding PPPs	.856		
Frequent communications on PPPs projects makes them very transparent and forthright	.857		
PPP projects are delivered on time in comparison to public funded projects	.796		
The government honors' its commitments towards the PPPs			-.679

Extraction Method: Principal Component Analysis. Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 7 iterations.

The table indicated that four items loaded strongly on the first component, two on the second component and three on the third component. The statements that Kenyan banks are very supportive of Infrastructural finance through PPPs and that local investors have been very cooperative in financing infrastructure through PPPs loaded strongly on the second component. The two had factor loadings of 0.950 and 0.046 respectively. On the first component, four items had strong loadings on it. That the economic environment in Kenya has helped attract foreign

investors in the PPPs had a loading factor of 0.854 while that clear communication channels are set up to ensure smooth communication between the contracting authorities, the government and the private investors regarding PPPs had a loading factor of 0.856 on the first component. That frequent communications on PPPs projects makes them very transparent and forthright had a loading factor of 0.857 while that PPPs projects are delivered on time in comparison to public funded projects had a loading of 0.797.

The study further proceeded to establish the responses regarding infrastructural financing through public private partnership initiatives. The findings of the analysis were as indicated in Table 8.

Table 8: Descriptive Statistics on Infrastructural Financing

	SA (%)	A (%)	U (%)	D (%)	SD (%)	Mean	Std. Dev
Kenyan banks are very supportive of infrastructural finance through PPPs	6.8	54.1	25.6	9.8	3.8	3.50	.901
Local investors have been very cooperative in financing infrastructure through PPPs	6.0	50.4	26.3	15.8	1.5	3.44	.882
The economic environment in Kenya has helped attract foreign investors in the PPPS	22.6	48.9	15.0	10.5	3.0	3.77	1.012
Private investors are willing to commit their investments in PPPs	19.5	56.4	15.0	6.0	3.0	3.83	.914
Guarantees from the government make it easier for investors to commit their funds to PPPs	24.1	48.1	10.5	11.3	6.0	3.73	1.129
Clear communication channels are set up to ensure smooth communication between the contacting authorities, the government and the private investors regarding PPPs	15.8	57.1	13.5	11.3	2.3	3.73	.938
Frequent communications on PPPs projects make them very transparent and forthright	16.5	53.4	18.0	8.3	3.8	3.71	.968
PPPs projects are delivered on time in comparison to publicly funded projects	21.1	42.9	12.9	16.5	6.8	3.55	1.190
The government honors its commitments towards the PPPs	13.5	51.1	24.8	6.0	4.5	3.63	.949
Valid N (listwise)	133						

From the findings it was observed that 54.1% of the respondents agreed that Kenyan banks are very supportive of infrastructural finance through PPPs. The mean of this aspect was 3.50 and a standard deviation of 901. The respondents agreed that local investors have been very cooperative in financing infrastructure through PPPs. 50.4% of the respondents agreed registering a mean of 3.44 and a standard deviation of .882. On the other hand, majority of the

respondents agreed that economic environment in Kenya has helped attract foreign investors in the PPPs. These findings concur with (Ozen, Sahin, & Unalmis 2013) findings in turkey who observed that the remarkable economic environment of the country helped attract foreign direct investments in infrastructural projects thus spurring economic growth in the country.

Further 48.9% and 22.6% of the respondents agreed and strongly agreed with a mean of 3.77 and a standard deviation of 1.012. 79.5% of the respondents agreed that private investors are willing to commit their investments in PPPs registering a mean of 3.83. Mean while a mean of 3.73 was registered where the respondents agreed that guarantees from the government make it easier for investors to commit their funds to PPPs and that clear communication channels are set up to ensure smooth communication between the contacting authorities, the government and the private investors regarding PPPs consecutively. Additionally, respondents agreed that frequent communications on PPPs projects make them very transparent and forthright. A mean of 3.71 and a standard deviation of .968 were registered where 53.4% of the respondents agreed and 16.5% of them strongly agreed.

However, findings indicated that respondents agreed that PPPs projects are delivered on time in comparison to publicly funded projects. 42.9% of the respondents agreed and 21.1% of the respondents strongly agreed with a mean of 3.55 and standard deviation of 1.190. In conclusion, the respondents were in agreement that the government honors its commitments towards the PPPs where 51.1% and 13.5% of the respondents agreed and strongly agreed respectively registering a mean of 3.63 and a standard deviation of .949

Project Viability and Infrastructure Financing through Public Private Partnership

The researcher sought to establish whether there existed any significant relationship between project viability and infrastructural financing through public private partnership initiative in national treasury. The findings were shown in Table 9.

Table 9: Correlations between Project Viability and Infrastructural Financing

		Project viability	PPPs Infrastructural financing
Project viability	Pearson Correlation	1	.455**
	Sig. (2-tailed)		.000
	N	133	133
PPPs Infrastructural financing	Pearson Correlation	.455**	1
	Sig. (2-tailed)	.000	
	N	133	133

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

A strong positive significant relationship was established between project viability and infrastructural financing through public private partnership initiative. The correlation coefficient obtained was 0.455 which was found to be significant at $p < 0.01$ level of significance. This implies that project viability was significant determinant of infrastructural financing through public private partnership initiative. Thomas (2013) observed that well designed PPPs balances the public and private sector capabilities and interests. According to Halil et.al (2016), a project is considered viable and efficient if it meets the objectives of the participants in terms of the best results and at the lowest cost.

Table 10: Correlations between indicators of project viability and infrastructural financing

		Profitability	Feasibility
Financiers Perceptions	Pearson Correlation	.400**	.359**
	Sig. (2-tailed)	.000	.000
	N	133	133
Financiers Commitment	Pearson Correlation	.199*	.408**
	Sig. (2-tailed)	.021	.000
	N	133	133
Communication	Pearson Correlation	.265**	.392**
	Sig. (2-tailed)	.002	.000
	N	133	133

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

* . Correlation is significant at the 0.05 level (2-tailed).

The analysis indicated that all the indicators of project viability had significant relationships with infrastructural financing through PPPs. From the findings, profitability of the project had a relatively weak positive significant ($r=0.400$, $p < 0.05$) relationship with financiers' perceptions of infrastructural financing through PPPs. As literature indicates, private sector corporations must maximise profits if they are to survive (Hall, 2015). Therefore, the potential for realizing profits in PPPs influences the financiers' perceptions in that increased profit making potential improves financiers' perceptions of the undertaking.

Further, a weak positive but significant ($r=0.359$, $p < 0.05$) relationship was established between project feasibility and financiers perceptions on infrastructural financing through PPPs. Hence, to enhance the financiers' perceptions of the PPPs projects, the projects must be seen to be feasible. On the other hand, a weak positive but significant ($r=0.199$, $p < 0.05$) relationship was established between project profitability and financiers commitment towards PPP projects. This indicates that the financiers' commitment towards funding infrastructural projects through

PPPs is determined by project profitability. Further, a relatively weak positive but significant ($r=0.408$, $p<0.05$) relationship was established between project feasibility and financiers' commitment towards infrastructural financing through PPPs. As such, project feasibility is a key determinant of financiers' commitment towards funding infrastructural projects through PPPs.

According to Zhang (2006) technical feasibility is the key that can provide an imaginative technical solution for the PPP projects. Improving constructability of PPP projects is the responsibility of all project stakeholders: public sector, private sector, designers, and subcontractors. On the basis of technical feasibility and constructability, maintainability is a necessary considered factor in the operation stage of PPP projects which can improve internal value of facility and prolong facility's operation period that can provide a good condition for project transfer (Zhang, 2006).

On the other hand, the findings indicated the presence of a weak positive but significant ($r=0.265$, $p<0.05$) relationship between project profitability and communication in infrastructural financing through PPPs. Therefore, the stakeholders' communication in PPPs is motivated by project profitability. Additionally, a weak positive but significant ($r=0.392$, $p<0.05$) relationship was established between project feasibility and communication in PPPs infrastructural financing. Therefore, project feasibility is key motivation for communication by stakeholders in infrastructural financing in PPPs.

According to Li et.al (2005), return on investment is one of the factors that encourage the private sector to operate PPP projects more efficiently and the public to take full responsibility to supervise the projects because of sharing the profits with the private sector. However Ye and Tiong (2003) observe that tariff/tolls or price adjustment mechanism should safeguard consumers' interests without undermining the project viability, while maintaining a certain incentive for the private sector to develop and operate projects efficiently. According to Abdul-Rashid et al. (2006) supporting the government, competent authorities and ministries in the procurement process, such as assessment of feasibility and value for money for potential PPP and in formulating the basic plan for PPP, formulation of the request for proposal enhances financing of infrastructure projects.

Hypotheses Testing Results

H₀₂: Project viability has no significant influence on mobilization of infrastructural finance through public private partnership in national treasury in Kenya.

Simple regression analysis was performed to check the association between project viability and infrastructural financing through PPPs. ANOVA was used for hypothesis testing at $p<0.05$ level of significance. The findings from the analysis were as shown in table 11.

Table 11: Model Summary for project viability and infrastructural financing

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.455 ^a	.207	.201	.55563

a. Predictors: (Constant), project viability

The obtained R-Squared from the first model summary was .207. This shows that project viability could only count for only 20.7% of the total variance in infrastructural financing through PPP initiative. The remaining percentage could be accounted for by factors not included in the above model. The analysis of variance gave the results shown in Table 12.

Table 12: ANOVA for Project Viability and Infrastructural Financing

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	10.576	1	10.576	34.258	.000 ^b
1	Residual	40.443	131	.309		
	Total	51.019	132			

a. Dependent Variable: Infrastructural financing

b. Predictors: (Constant), project viability

From table 12, all the F-statistic values were found to be significant at $p < 0.05$. Therefore, the null hypothesis that project viability has no significant influence on mobilization of infrastructural finance through PPPs in national treasury in Kenya was rejected. The researcher observed that project viability have a significant influence on mobilization of infrastructural finance through PPPs. The coefficients for the model were as shown in 13.

Table 13: Coefficients on Project viability and infrastructural financing

Model		Unstandardized Coefficients		Standardized	T	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	1.614	.352		4.586	.000
	Project viability	.560	.096	.455	5.853	.000

a. Dependent Variable: Infrastructural financing

From Table 13, the model findings indicated that without consideration of project viability, infrastructural financing through PPPs would be a constant value of 1.614 units. However, a unit increase in the level of project viability consequently leads to an increase in infrastructural financing through PPPs by 0.56 units. The t-values for the coefficients were significant at $p < 0.05$

level of significance. Therefore, project viability significantly influences financing of infrastructural projects through PPPs. The fitted regression model for the first model is as shown by the equation below.

$$Y = 1.614 + 0.56X_2$$

CONCLUSION

The study concluded that project viability has a significant relationship with infrastructural financing through PPPs in Kenya. It was observed that in the long term, private companies make a lot of profit from the PPPs and that many investors in Kenya have benefited by partnering with the public sector thus increasing their competitiveness and market share in the country. Findings also indicated that PPPs are based on mutual benefit of both the public and private investors. The government benefits from reduced operations and maintenance costs while the private sector earns the popularity resulting to higher market share by partnering with the public sector. It was also concluded that both project profitability and project feasibility had significant relationship with financiers' perceptions of, and commitment towards infrastructural finance mobilization through PPPs.

The study also concluded that project viability significantly accounts for the variation in infrastructural financing through PPPs in Kenya. The study demonstrated that project viability significantly accounts for a significant portion of the variation in infrastructural finance mobilization through PPPs. The study recommended that PPP projects should be attractive to the private sector i.e. have a strong business case or satisfy key commercial terms. This may require a feasibility analysis to establish whether the project makes sense at all and if it has the potential to be implemented as a PPP. The PPP policy emphasizes feasibility of a project as a condition precedent in delivering a successful project and states that a good and comprehensive feasibility study has to be undertaken to assess, among other criteria; affordability of project to both Government and the general public, bankability to attract private sector to commit finances in a project, value for money, optimal risk allocation among the parties, economic and social benefits and citizens empowerment. The study was limited to government parastatals in the National government in Kenya. Kenya has two levels of government; National and county governments. Hence for generalization of findings, further studies should consider replicating this study in the county governments in Kenya. On the other hand the study was limited to the influence of project viability on infrastructural finance mobilization through PPPs in Kenya. Further research should consider other factors that have an instrumental role in mobilization of infrastructural finance through PPPs.

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