

**DETERMINANTS OF SUCCESS OF URBAN INFRASTRUCTURE
PROJECTS FINANCED BY PUBLIC PRIVATE PARTNERSHIPS IN
KENYAN COUNTIES**

**BY
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DECLARATION

I declare that this research project is my original work and has not been submitted for an award of a degree in any other university for examination/academic purposes.

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This research project has been submitted for examination with my approval as the University Supervisor.

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DEDICATION

This research is dedicated to my late Parents, Elkana Bosire and Teresa Moraa for instilling the value of education in me and their sacrifice to see my siblings and I go to school. It is also dedicated to my husband Edward and my children Olivia, Vannesa, Elkana and Peterson for their patience and support during this study. Finally to my dear late Sister Isabella who always encouraged me to further my education.

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ABSTRACT

With the implementation of devolution in Kenya where county governments are responsible for development projects in decentralized regions in Kenya, urban infrastructure projects and their financing mode is of importance in academic discussions, government policies and public sector financial management. Various county governments have initiated PPP projects for infrastructure development to suffice their mandate; however, there is scanty academic information on the factors that determine the success of attracting funding for such projects as well as the factors for the success of the projects themselves. The constraints identified to hinder the success include financial constraints, government constraints and economic constraints. This descriptive study therefore sought to establish the determinants of success of urban infrastructure projects financed by public private partnerships in Kenyan counties. Primary data was collected using a semistructured questionnaire targeting 47 county employees responsible for PPP projects implementation. 41 questionnaires were returned providing a response rate of 87.23%. The study finds that all the counties have PPP units which is in line with the national governments initiative to encourage PPP funding for projects for improving infrastructure levels across the counties. It also found that 70.73% of the counties have in place PPP implementation guidelines which are instrumental in guiding the process. The study finds that 26.2 % of variations in the proportion of urban infrastructure projects funded within the PPP framework are explained by changes in macro economic conditions, government guarantees, project implementability and procurement process. The findings show a statistically significant positive relationship between government guarantess and success of the projects. There is also a statistically significant negative relationship between macro-economic conditions and success of the projects. The study also notes a positive relationship between project implementability and success as well as a negative relationship between procurement process and project success. The relationships are not statistically significant. The study recommends that government should support infrastructural development by providing project guarantees and ensuring the macro-economic environment is sound for private investments. Further, counties should address the concerns on procurement transparency and they should enhance their capacity for project feasibility inquiries, design and implementation. The study recommends further investigations on why various proposed projects are not financed and the studies should consider the other possible control variables outside the scope of the current study that may explain the variations in the success of the projects.

ABBREVIATIONS AND ACRONYMS

ADSCR	Annual Debt Service Cover Ratio
AICD	Africa Infrastructure Country Diagnostic
DT	Development Theory
GDP	Gross Domestic Product
IT	Institutional Theory
LMICs	Low Middle Income Countries
OECD	Organization for Economic Co-operation and Development
PAT	Principle Agent Theory
PPPs	Public Private Partnerships
SSA	Sub Saharan Africa
WEF	World Economic Forum

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Urban infrastructure has played a key role in economic growth of many countries (Frank 2006). In emerging countries experiencing population growth, increasing urbanization and rising per capita incomes, demand for roads, water and energy are also increasing. Due to increased decentralization, many countries have put most operational decision making at the cities, thus cities are key engines for economic growth. Lack of adequate urban infrastructure in Kenya is a major concern for sustaining the real gross domestic produce (GDP). Policy makers indicate that in order for Kenya to compete with other nations, it needs to improve its urban infrastructure such as rail and bridges, water system, sewer system and energy. However the limited resources will not cover the needed expansion of these services. i.e state governments are unable to finance initial public investments but instead resort to private sector (Bird & Slack, 2007).

In Kenya like many other African countries, public agencies are facing difficulties in implementing development agendas, as its tax revenues are not sufficient to meet the infrastructure demands. Studies have been conducted by some development agencies on the effects of financing infrastructures using Public Private Partnership (PPPs) to support this point. Caspary (2009) found a positive correlation between financing infrastructure using PPPs and its development. Financing infrastructures using PPPs in infrastructure tend to have greater productivity, more private investment and higher employment growth (Munnell,1990; Cutanda and Paricio,1994). A strong positive relation also exists

between measures of financing infrastructure using PPPs especially water and sanitation and per capita gross domestic product (Kessides,1993).

Rapid urbanization in Kenya has resulted in a very high demand for basic urban infrastructure and the need for sustained mechanisms of financing. As advocated by Parry et al (2009) this is attributed to rapid population growth in urban centres coupled with low economic growth and rising unemployment that widens the gap between the provision of infrastructure and shrinking budgets, forcing the government to reduce expenditure on infrastructures. These challenges are forcing the government to think strategically and creatively in order to improve infrastructure networks thus the concept of PPPs receives serious consideration.

1.1.1 Public Private Partnerships

PPPs refer to innovative methods used by the public sector to contract with the private sectors, who bring their capital and their ability to deliver projects on time and to budget. The public sector retains the responsibility to provide these services to the public in a way that benefits the public and delivers economic development and improvement in quality of life. It is a contractual agreement between a government and a private party for the provision of assets and the delivery of services that have traditionally been provided by the public sector (Ole Nkeri, 2014). PPPs aim at financing public sector facilities and services and their key characteristic is to transfer risks to the private sector (Laffont and Martimort, 2002).

A wide spectrum of PPP models has emerged. These models vary mainly by: ownership of capital assets, responsibility for investment, assumption of risks and Duration of contract. The PPP models can be classified into five broad categories in order of increased involvement and assumption of risks by the private sector. The five broad categories are: supply and management contracts, turnkey contracts, Lease, concessions and private Finance Initiative (PFI) and Private ownership (Pistor, Martin and Stanislaw, 2000).

There is a growing realisation that cooperation with the private sector in PPPs projects is able to offer a number of benefits. Fama and Jensen (1983) state that PPPs allocate risks to the party best able to manage it at the least cost, this optimizes rather than maximizing risk transfer to ensure best value is achieved. According to Laffont and Martimort (2002), allocation of project risk should incentivise a private sector to improve its management and performance. Siemiatycki (2009) found that private sector may be able to generate additional revenue from third parties thereby reducing the cost of any public sector subvention required.

1.1.2 Urban Infrastructure

Infrastructure means long-lived capital facilities used in providing certain types of services to households and also in providing services that enhance private sector production. Urban infrastructure thus includes services from water systems, solid waste management, sewer systems, power generating plants, roads, mass transportation,

electricity generation and telecommunications (Fox, 1994). Fedderkea et al. (2006) points out a strong association between infrastructure investments and output.

Improvement in infrastructure also have a beneficial effect of increasing households real income and quality of life. According to Munnell (1990), public capital is found to be positively related to output, and so are highway stock and water and sewer systems. Cutanda and Paricio (1994) confirmed that transport, communications, energy and water supply networks stand out exerting a major influence on regional income.

Urban infrastructure is the process by which towns obtain the right mix of funding that they need to extend and improve their physical infrastructure, so that eventually, all their residents have access to adequate services (Carter.et.al,1996). Bird and Slack (2007) state that urban infrastructure financing combines local government capital budget allocations, grants from state and central governments, bank and institutional loans, proceeds from long term municipal bonds, proceeds from pooled bonds issued by urban infrastructure funds on behalf of smaller local governments, micro-credits for the poor and other emerging financing options, such as leveraging municipal assets and private equity.

Urban infrastructure in Kenya is fundamentally different from that of most countries. In industrialized countries, borrowing is widely used as a key method because of the capital intensive nature of most urban infrastructure (Chan,1998; Bird,2004). Excluding borrowing, local taxes are the most important source of infrastructure financing (Chan,

1998). County governments have neither sufficient tax sources nor authority to borrow externally thus the need to resort to private sector in order to finance urban projects (Wong and Bird, 2004).

Financing of PPPs project consists principally of senior debt and equity. The financing structure may also include other forms of junior debt such as mezzanine debt, which ranks between senior debt and equity and in some cases grant funding. PPPs projects should seek to achieve optimum risk transfer between the public and private sector, but allocation of risks among the private sector parties is also crucial (Thomsen, 2005).

The higher the gearing of a project, the more affordable it is likely to be to the public sector. This is because senior debt is less expensive than other forms of financing apart from grants. Project gearing is determined by the variability of a project's cash flow, the greater the degree of riskiness in the cash flows, the greater the cushion lenders will need in the forecast of available cash flow beyond what is needed for debt service (Hassan and Soumare, 2006). Lenders will specify their requirement in terms of forward looking that is predicted annual debt service cover ratio (ADSCR), the value required ADSCR will depend on project risks and cash flows variability (Esty, 2000).

1.1.3 Public Private Partnerships and Urban Infrastructure Projects

Financing urban infrastructure using PPPs is important for growth of an economy as it provides a conducive atmosphere for growth and expansion of businesses. This is due to improved transport and communication network. The infrastructural projects can be

categorised into; social infrastructure i.e schools and hospitals and economical infrastructure i.e network utilities, energy, water, transport and digital communications which are essential ingredients for the success of a modern economy (Leibenstein, 1996).

Clark (2006) suggests that PPPs have more potential to improve the efficiency of infrastructure services than to mobilize new finances. Looking at the factors that contribute to signing PPPs deals, Jenson and Blanc-Brude (2006) found that the protection of property rights and the quality of bureaucracy emerge as the most important institutions that encourage PPPs. The rule of law and the control of corruption are other significant factors. Henisz and Reiner (2004) suggested that political backlash against policies linked with PPPs involvement may threaten projects.

1.1.4 Infrastructure Financing in Kenya

According to the Africa Infrastructure Country Diagnostic Report 2010 produced by the World Bank in collaboration with the African Development Bank and other development agencies, Kenya spends about US\$1.6 billion a year on infrastructure but requires a sustained expenditure of US\$4 billion a year, or about 20 percent of its Gross Domestic Product (GDP), over the next decade.

Ryan (2012) explains that investments in the infrastructure systems in Kenya feature a public-private partnership, and it is this combination of public and private investments that maintains and improves the country's core infrastructure. Although railroads, electric

utilities, airports and gas companies represent the private side of infrastructure provision, it is often with the aid of the public sector. Moreover, most assets in core infrastructure are public and government plays a pivotal role in supplying the infrastructure needs of the nation.

Kimenyi, Mbaku and Mwaniki (2009) underscore that the inadequate rate of public investment in the past 30 years has resulted in the deficiency and obsolescence of infrastructure in Kenya. The Government of Kenya is seeking to extend and deepen its partnership with the private sector to raise more private investment and expertise to accelerate infrastructure capital formation. The new initiative, through the Public - Private Partnership (PPP) Policy, will increase private participation in Kenya's infrastructure market across sectors to support national economic growth and employment creation.

The national treasury is mandated with ensuring that the PPP Act, 2013 is adhered to by establishing and mandating a database of PPP projects in Kenya, monitoring liabilities and accounting/budgetary issues related to PPP projects. PPP ensures that public funds are free for other projects and this leads to project books being debt free through off balance sheet transactions. The PPP Act establishes a facilitation fund to cover viability gap fund, government subsidies, contingent liabilities when they crystallize, project preparation funds and ensuring that the projects are attractive to the public sector.

1.2 Research Problem

Adequate and well maintained infrastructure is a necessary condition for economic growth and poverty reduction. Access to roads, water, sewer, communication technologies, and electricity are all essential to the economy (Kemp, 2005). Physical, technological and social infrastructure is a necessary condition for economic growth and industrial advancement. The availability of quality infrastructure has long been recognized as a critical input to productivity and competitiveness. Internationally, the Global Economic Forum's *World Competitiveness Yearbook* cites infrastructure as the second pillar of competitiveness (World Economic Forum, 2010).

Lack of adequate infrastructure is one of the major constraints for growth of business in Kenya. Kenya requires a major increase in infrastructure investment to alleviate growth constraints, respond to urbanization pressures and meet their crucial goals for inclusive growth, development and sustainability (Nderitu,2009). Kenya Infrastructure Investments Plan (KIIP) 2012-2020 needs a total of USD 62,853 Million, out of these, the government is able to provide USD 25,000 million for the infrastructure programme. On analysis of the KIIP 2012-2020, it is evident that there is an infrastructure deficit of USD 40,583 million. Further analysis shows that much of the funding is skewed towards urban infrastructure; energy, roads, housing, water and sanitation.

The government of Kenya has in the past relied on infrastructure bond financing. Mugwe (2011) notes that Kenya issued its first infrastructure bond of 18.5 billion shillings in February 2009 and was used to build roads, develop a geothermal energy project, and

boost water and irrigation systems. Ombok (2009) explains that the infrastructure bond was issued at 12.5% coupon rate over 12 years; redeemed in three stages in 2015, 2017 and 2021. The second infrastructure bond was a 12-year security with a 12 percent coupon valued at 18.5 billion shillings (\$249.16 million).

A number of studies have been done locally and internationally in relation to financing projects under PPPs. Caspary (2009) investigated on the link between improving sustainability in the financing of large urban infrastructure projects and project performance. The results of the study showed a positive correlation between project financing and infrastructure development. Ncube (2010) conducted a descriptive survey involving 200 urban infrastructural projects; a large panel data for 136 town centres, the results of the study indicated that financing of infrastructure has a positive correlation with economic development.

In Kenya Nguiri (2009) found that municipal projects ranging from infrastructure (roads,telecommunication, power water undertaking etc); housing projects; hospitals; schools and other institution of education can attract PPP finance. Other local studies Nderitu (2013) and Kamau (2010) concluded that infrastructure projects have a positive effect on growth of the economy. Mburu (2013) established that government investment in infrastructure development had a positive and significant effect on economic growth in Kenya. From the above studies, it is evident that little has been done in an attempt to examine the success factors for urban infrastructure financing by PPP contracts in Kenyan counties . This study therefore attempts to answer the research question: What

are the determinants of success of urban infrastructure projects financed through PPP in Kenyan counties?

1.3 Research Objective

To determine the determinants of success of urban infrastructure projects financed through public Private Partnerships in Kenya.

1.4 Value of the study

This study is resourceful to the government of Kenya, specific county governments and other policymakers in assisting them to think flexibly on the best way of financing its infrastructure projects and create a better framework on projects selection i.e project with high economic impact within a short period can be given priority.

Investors, project sponsors and government agencies benefit from the findings of this study because it sheds more light on the success factors for financing infrastructure projects under the public private partnerships.

For researchers and academicians, this study adds to the existing body of literature thereby acting as a source of reference. In addition, this study provides areas for further research where future scholars explore to widen the knowledge base on Public-Private-Partnership projects and contracts.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviews the literature on public private partnerships and urban infrastructure financing. It highlights the trend in the studies related to the research topic. It includes the theoretical approaches, constraints to urban infrastructure financing and an empirical review of related studies.

2.2 Theoretical Review

This section seeks to explain several theories that underscore public private partnerships and urban infrastructure financing. The study will be guided by three theories namely; Principal Agent Theory, Institutional Theory and Development Theory

2.2.1 Principal Agent Theory

The theory developed by Fama and Jensen (1983) argues that principals must solve two basic tasks in choosing and controlling their agents: first, they have to select the best agents, and to assure a certain level of performance the principal should give the agents incentive to perform. Second, they have to monitor the behavior of their agents to ensure that they are performing as agreed (Baysinger, Kosnick and Turk, 1991). The payment the agent receives from the principal depends on performance.

By modeling the relation between an informed party (the agent) and an uninformed party (the principal), Principal Agent Theory (PAT) highlights two problems arising from the information asymmetry; adverse selection and moral hazard. Both of them lead to high risks in the realization of the project outcome. The question is how to allocate efficiently these risks between partners in the reference contract.

In PPPs the principal agency relationships exists as the public partner as the principal and the private party as the agent. 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 (Hillman and Dalziel, 2003). The quality of the participants and relationships among them and how it is thought out at the beginning determines the success or failures of PPP (Bhagat and Black, 2002)

2.2.2 Institutional Theory

According to institutional theory (Scott, 2004), institutions are seen to serve vital social functions, including rule setting and enforcement and the promotion of comprehensibility, legitimacy, and social stability. Institutions, with their promise of stability, offer steadiness to the unpredictable and volatile project environment, and represent more sound investments for development organizations. Yet despite international development's declared interest in institutions and institution building, there has been little scholarly application of institutional theory to the field of international development.

Powell and DiMaggio (1991) define an emerging perspective in organization theory and sociology, which they term the 'new institutionalism', as rejecting the rational-actor models of classical economics. Instead, it seeks cognitive and cultural explanations of social and organizational phenomena by considering the properties of supra-individual units of analysis that cannot be reduced to aggregations or direct consequences of individuals' attributes or motives.

Scott (2004) indicates that, in order to survive, organizations must conform to the rules and belief systems prevailing in the environment because institutional isomorphism, both structural and procedural, will earn the organization legitimacy (Dacin, 1997; Deephouse, 1996; Suchman, 1995). Martinsons (1998) developed a theory of institutional deficiencies (TIDE) suggesting that relationship-based commerce will prevail where rule-based markets cannot flourish due to institutional deficiencies.

Martinsons (2008) extends TIDE to show how the development of relationship-based e-commerce in China has resulted from that country's lack of trustworthy and enforceable set of rules for doing business. His theory suggests that factors such as personal connections, informal information, and blurred business-government relations (which also encourage corruption) will constrain the transition from the physical marketplace to the general economic growth.

The investments in public infrastructure would therefore tend to perform more efficiently and achieve the expected developmental and economic outcome if they receive the

institutional support. In Kenya ,the provision of supportive policy and Legal framework will enable PPP to find a better enviroment to invest.

2.2.3 Development Theory

Development theory (DT) is a collective vision on how desirable change in society is best achieved. The theory as a field evolves continually, and past theory and practice have bearing on how agencies currently develop and enact policy (Gramlich, 2004).

How the investment in public infrastructure project and their outcomes is addressed depends on how the government and development agencies currently conceptualize development, and how the philosophies that government and the citizens subscribe to affect their work (Gramlich, 2004). Within development literature there is a strong focus on institutions: building institutions, fortifying institutions, ensuring projects' integration with existing institutions, etc. (Lepenes, 2008).

Thus, the government and the various agencies dealing with public infrastructure investments should consider the developmental effect of the investments. The selection of the various investment infrastructure projects to be given priorities according to economic impact i.e. on the economic growth of the country. Urban infrastructure has had a major contribution to economic growth of the country (Mwangi,2010) thus more consideration to be given to it.

2.3 Constraints for the Development of Urban Infrastructure Finance

This section sets out the findings from the literature on constraints that prevent urban projects from attracting PPP finance. The constraints are separated into institutional (legal) and financial (macroeconomic) components.

2.3.1 Institutional Constraints

OECD (2014) conducted a research to find out barriers to promoting urban infrastructure. Several development agencies identified political instability, weak public administration, corruption and unreliable legal framework. World Economic Forum (WEF) found that investors in developing countries are reluctant to participate in long term infrastructure projects if there is serious weakness in the legal framework.

Foster and Briceño-Garmendia (2010) conducted a study on The Africa Infrastructure Country Diagnostic (AICD) and found that there has been a limited focus on institutional strengthening of line ministries, with institutional inefficiencies estimated to result in a loss of around \$17bn per annum in the region due to uncollected bills, overstaffing and underpricing .They also found a lack of funding and expert personnel to be an issue when regulators have been established. Brookings Institute (2011) findings indicated that many countries in Sub-Saharan Africa have suffered from conflict resulting in high levels of political uncertainty, weak macroeconomic conditions and government institutions making it difficult to attract private capital into their economies.

Collier and Mayer (2014) found in their study that there is a significant possibility of delays in projects, particularly if discretionary regulatory powers are assigned in a corrupt environment. A research by the World Bank indicates that levels of infrastructure investment are highly sensitive to sovereign risks, particularly for brown field investments and for sectors and project types with higher retail risk, especially dependence on local currency earnings from household consumers. It is estimated that 10-30% of the total value of infrastructure projects is lost through corruption and lack of transparency in developing countries (WEF and BCG, 2013a; World Bank, 2014b).

2.3.2 Financial (Macroeconomic) constraints

Non cost recovery tariffs, exchange rates and an ambiguous climate are identified as the key macroeconomic constraints to mobilizing PPPs finance (Dethier and Moore, 2012). Andres, Biller and Dappe (2013) found out developing countries urban infrastructure services are too costly to implement sustainably without any cost recovery elements and thus fail in the long run. They also found that difficulties raising tariffs to cost recovery levels often lead to cancellation of projects.

Foster and Briceno-Garmendia (2010) found that only one fifth of utilities charge tariffs at levels sufficient to recover the full cost of investing in infrastructure, suggesting that if tariffs are revised efficiency gains could be raised. Urban projects can also be affected by force majeure risks, including accidents, extreme events and inaccurate predictions concerning wind and rainfall (OECD, 2012). Commonwealth Business Council (2013)

indicates that the private sector is unwilling to hedge exchange rate risks on currencies less commonly traded.

2.3.3 Government Constraints

Government constraints affect physical infrastructure development of a country. If the government lacks adequate funds to finance physical infrastructure this might negatively affect the development of a country. The government is likely to consider affordable projects for purposes of development of a country this is because most physical infrastructure projects are executed by the government since it is charged with the responsibility of developing a country (Allen, 2003).

2.3.4 Economic Policies

Economic policies have a significant impact on physical infrastructure development (Smyth and Edkins, 2007). The macroeconomic environment must be fairly sound for any investment to prosper. Physical infrastructure investment highly depends on carrying out the infrastructure development with sound decision processes and under sound economic policies to avoid any form of uncertainties (Robbins, Judge, Odendaal and Roodt 2009).

2.4 Empirical Review

This section reviews empirical evidence from past studies in the area of public private partnerships and urban infrastructure financing. Studies have been done in relation to

financing infrastructure projects using public private partnership on urban infrastructure development locally and internationally.

2.4.1 Global Studies

Jensen *et al.* (2005) analyzed the determinants of PPP in the water and sanitation sector in 60 developing countries. The results of the census study provided support for the hypothesis that PPP is greater in large market where the ability to pay is higher. The study recommended for replication of the study in specific countries as some of the determinants are country specific and are influenced by the political environment.

Casparly (2009) investigated on the link between improving sustainability in the financing of large urban infrastructure projects and project performance in 46 developing economies. A comparative study was conducted to compare the stringency of different types of public financing institutions safeguard mechanisms in the financing of large projects. This was achieved by examining: the institutional strategies and policies in place in a set of public financing institutions; and project-level case studies financed by these institutions and the stringency with which existing policies are applied by the key financing institutions. A trend analysis was carried out and the results of the study showed a positive correlation between project financing and infrastructure development.

Ncube (2010) conducted a descriptive survey involving 200 infrastructural projects, a large panel data for 136 countries. The objective of the study was to establish the relationship between financing infrastructure projects and its impact on economic

development. A comparative analysis was done on the projects in relation to the impact of projects on economic development. The results of the study found that financing of infrastructure has a positive correlation with economic development.

Wibowo and Alfen (2013) conducted a study on the effect of financing urban infrastructure projects using PPPs on growth of the developing economies. A descriptive survey was done on various categories of projects laying more focus on road construction projects from various countries. A sample of 100 projects was used and data was analyzed using a regression model, the results of the analysis showed that there was a positive relationship between financing infrastructure using PPP and growth of the level of GDP.

Tewodaj (2013) carried out a cross country panel data analysis to assess the determinants of PPP comparing SSA with low and middle income countries (LMICs). The findings of the study were that PPPs in LMICs seems to be determined by the expected factors; developed democracies with lower tax burden and a more stable macroeconomic environment receive more PPP finance.

Moszoro et al (2014) used a panel dataset including information from the PPP database to assess the determinants of financing of infrastructure in emerging markets and developing economies with a focus on institutional, political and governance characteristics. They used data from 130 cities in developing countries for the period

1990 to 2010. Their analysis found out that private participation in infrastructure financing is positively associated with freedom from corruption and rule of law.

Rarasati, Trigunarsyah and Too (2014) carried out a study to determine on the opportunity of Islamic project financing for public infrastructure development in Indonesia. A review was done to explore the applicability of Islamic financing in infrastructure development. Interviews were conducted as the first stage of Delphi method approach. This was followed by reviewing Indonesia's government policies and regulations on both infrastructure investment and Islamic financing support on the implementation of Islamic project financing.

In Tanzania, Chijoriga and Komba (2014) sought to investigate the effectiveness of public private partnerships in the infrastructure sector. The census survey that mapped seven infrastructure projects between 2009 to 2014 established that only one of the contracts was formal as the others were informal. Further, the study notes that practice does not meet modern PPPs financing and operating principles and the PPPs have not been effective to improve timeliness of completion, quality of services delivered, risk sharing and accountability. The identified challenges to implementation of PPPs are; Lack of clear PPP policy – Sector policies missing; Lack of clear sectoral regulations and guidelines; Inactive and underdeveloped private sector, Lack of credible and bankable projects to attract private investors, Long term financing model, Lack of competent staff for implementation and management of PPPs, Poor risk sharing mechanism between the public and public sector.

2.4.2 Local Studies

Nguri (2009) sought to establish the feasibility of urban projects attracting PPP finance. The descriptive study identified various types of PPP finance available for municipal projects where the most common ones are BOT, BOOT contracting and leasing, including concessions. Further the paper recommend for an investigation of the critical factors which need to be fulfilled before a country/municipal authority embark on a PPP type of project finance.

Kamau (2010) sought to establish the link between financing urban infrastructure projects and economic growth in Kenya using a descriptive study in which a questionnaire was administered to respondents on census basis. The results of the regression analysis showed that there was a positive relationship between financing infrastructure and economic growth.

Mwangi (2010) conducted a study to establish the effect of financing urban infrastructure projects on economic development in Kenya in a census survey where descriptive statistics such as mean and standard deviation were used to show the correlation between urban infrastructure finance and economic development. The regression analysis results concluded that urban infrastructure projects have a significant influence on economic development in Kenya.

Diba (2012) sought to investigate the critical success factors for PPP projects in the Kenyan road subsector. The explanatory study where purposive expert sampling was

undertaken administered a questionnaire on critical success factors to the selected respondents with relevant insight in PPP road projects, in the public sector, private sector and development partners. The study shows that the three most important factors are: a clear and favorable legal and regulatory framework, thorough and realistic assessment of costs and benefits and transparent procurement process.

Musyoka (2012) determined the factors that influence the performance of Public-Private-Partnerships in the Housing sector in Kenya. The descriptive survey found that political and socio-economic environment factors like stable political system and affordability and favorable economic conditions affected the performance of Public-Private-Partnerships. The findings further revealed that risk management factors including appropriate risk allocation, type of agreements in the contract and guarantees from the governments affected the performance of Public-Private-Partnerships. Public-Private-Partnerships enabled the public sector to leverage more financial resources by using the private sector as an intermediary to great extent; and Public-Private-Partnerships allowed the public sector to consider the implementation of the otherwise unaffordable infrastructure projects to a great extent.

Kariuki (2014) investigated the effect of financing infrastructure projects under public private partnership on the level of physical infrastructure in Kenya. The descriptive study based on a population of estimated 15,000 physical infrastructure projects conducted in Kenya in the last ten years applied a multivariate regression analysis approach. The study conducted a cluster sampling of 60 infrastructure projects from the listed obtained from

PPP unit and Medium term expenditure framework report, 2013. This was followed by a systematic selection of 30 infrastructure projects from each of the clustered list under public private partnership and the other physical infrastructure projects. The results of the regression analysis showed that there was a direct relationship as 42% of variations was explained by the variables under the study. The study concluded that financing infrastructure projects under public private partnership is critical since infrastructural development highly contributes to aggregate economic performance.

2.5 Summary of Literature Review

From the studies it is evident that most developing countries lack adequate finances for infrastructural development. There is little local literature on PPPs and their effects on growth of urban infrastructure financing considered in this review, much is produced by international studies. While a number of policy recommendations can be unpicked from the literature for both developing country governments and development partners, there is yet no strong evidence-base to support them. This study therefore finds it necessary to fill this gap by assessing the determinants of the provision of PPP finance for infrastructure in the urban centers.

There is need for additional research to enable the development of a consensus as to which sources of PPP finance have the most significant effect on urban infrastructure provision. There are a number of studies that sought determine the relationship of financing infrastructure projects under public private partnership on urban infrastructure in Kenya.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the research methodology that was used in conducting the research. The layout of this chapter consists of the research design, population, sampling procedures, and data collection methods and data analysis.

3.2 Research Design

The study applied a descriptive research design. Jupp (2006) describes a descriptive survey as a study aimed at highlighting a characteristics behavior on one variable because of another variable. It is concerned with finding out what, where and how of a phenomenon. This method was deemed appropriate because the study sought to gain familiarity and insight into the determinants of success of urban infrastructure projects financed by PPPs in Kenyan counties.

3.3 Population of the study

The population of the study comprised all the 47 Counties in Kenya

Given the small size of the population, a census approach was adopted for the study covered all the 47 counties.

3.5 Data collection

Kothari (2005) defined data collection as a method of gathering empirical evidence in order to gain new insights about a situation and answer questions that prompt undertaking of the study. The study used both secondary and primary data. Primary data was collected

by distribution of attached questionnaire to 47 respondents in charge of PPP projects at the respective counties. Secondary data was obtained from financial statements from treasury, PPP unit, office of budget controller and Medium term expenditure framework reports. Secondary data was reviewed for a period of 4 years (2010-2014).

3.6 Validity and Reliability

Validity is the degree to which evidence supports inferences based on the data collected using a particular instrument to check whether the information obtained was relevant to the study or not. Desk review was done on the financial information collected from treasury and controller of Budgets so as to collaborate the information to the audited financial statements of the Counties.

Reliability is a measure of the consistence of the results. To ensure reliability, the information collected was confirmed to be complete by taking into account all the years within the scope (2010-2014). All the urban centers in the forty seven (47) counties were also considered.

3.7 Data Analysis

McNeill and Chaoman (2005) explain that data must be cleaned, coded and properly analyzed in order to obtain a meaningful report. Data collected was sorted, cleaned and coded and then entered into statistical Package for Social Science version (SPSS) for analysis. A multiple regression was used to analyze the data.

The study used four variables to establish the relationship between the variables. Success of urban infrastructure finance was the dependent variable, the independent variables were the procurement process, project implement ability, government guarantee and macro - economic environment.

3.7.1 Analytical Model

The analytical model of the study was as follows;

$$\text{UIF} = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Where:

UIF = Proportion of successful UIF to total UIF projects initiated

X_1 = Procurement process

X_2 = Project implementability

X_3 = Government guarantees

X_4 = Macroeconomic environment

β = Slope of the regression was used to measure the amount of the change in Y associated with a unit change in urban infrastructure project.

α = Represents urban infrastructure development regardless of the number of projects financed under public private partnership.

ϵ = Error term within a confidence interval of 5% was used.

3.7.1.1 Operationalization of the Variables

Variable	Measure
Success in Urban Infrastructure development	Proportion of successful urban infrastructure finance projects to total infrastructure projects initiated.
Proportion of urban infrastructure finance using PPP	Amount of financing urban infrastructure projects under PPP divided by the total amount of financing all urban infrastructures.

3.7.2 Diagnostic Tests

A t-statistic test was used to determine the significance of the independent variables on infrastructure projects under PPP. Correlation was used to explain the relationship between financing urban infrastructure projects using PPPs and physical infrastructure development in urban. Coefficient of determination was used in indicating how well the data fits the statistical model. The test was performed at 95% level of confidence.

CHAPTER FOUR: DATA ANALYSIS, PRESENTATION AND DISCUSSION

4.1 Introduction

This chapter begins by presenting the key data of the survey from the respondents. It then summarizes and interprets the key findings of the study and compares the major findings with findings in other studies in the area of interest. Findings of the study are presented in tables, figures and related charts.

4.2 Response Rate

The targeted population was 47 respondents who are in charge of PPPs in the counties in Kenya, but only 41 questionnaires out of 47 given out were returned. This represented 87.23% of the population as indicated in table 4.1 below. Hence, the analysis was done using 41 questionnaires received from the respondents. Hence the response rate was adequate for the study

Table 4.1: Analysis of the Response Rate

	Frequency	Percentage
Questionnaire sent	47	100
Questionnaire returned	41	87.23

4.3 Background Information

The study sought to determine the number of years of experience on PPP projects structuring by the respondents. As indicated in table 4.2 below, majority of the respondents at 92.68% have 1 to 5 years' experience in structuring PPP projects as 7.31% have between 6 and 10 years experience. This confirms that most employees at the counties have interacted with PPP projects after the establishment of the county governments apart from the ones redeployed from the national government and had worked on PPP projects.

Table 4.2 : Experience in PPP in Number of Years

		Frequency	Percentage
PPPs experience (years)	None	0	0
	1-5 years	38	92.68
	6-10 years	3	7.31
	11-15 years	0	0
	16 – 20 years	0	0
	>20 years	0	0
	Total	41	100

As presented in table 4.3 below, majority of the respondents, 26.83%, indicated that they had handled just one PPP financing project, 19.51% of the respondents have worked on 2

and 4 PPP projects respectively, 17.07% of the respondents have worked on 3 and 5 projects respectively.

Table 4.3: Experience in Number of PPP Projects

		Frequency	Percentage
Number of PPPs handled	1	11	26.83
	2	8	19.51
	3	7	17.07
	4	8	19.51
	5	7	17.07
	>5 Projects	0	0
	Total	41	100

Source: Primary data

4.4 Existence of PPP Units in County Governments

The researcher sought to establish the existence of PPP units in the county governments. All the respondents indicated that there exists the unit in their respective governments. This is in line with the national governments initiative to encourage infrastructural developments in the national and county governments through PPP contracts. The national government encouraged the county governments to adopt this mode of financing development projects.

4.4. Existence of in House PPP Guidelines in the County Units

The study sought information on whether the county governments have in place in house PPP guidelines. The findings in table 4.4 below show that 70.73% of the counties have the guidelines while 29.27% do not have the guidelines.

Table 4.4: PPPs Guidelines

		Frequency	Percentage
PPP Guidelines Exist			
	Yes	29	70.73
	No	12	29.27
	Total	41	100

Source: Primary data

4.5 PPP Projects in the Counties

The study sought to identify the PPP projects that the county governments have initiated and the distribution in the sectors. The responses are as indicated in figure 4.1 below.

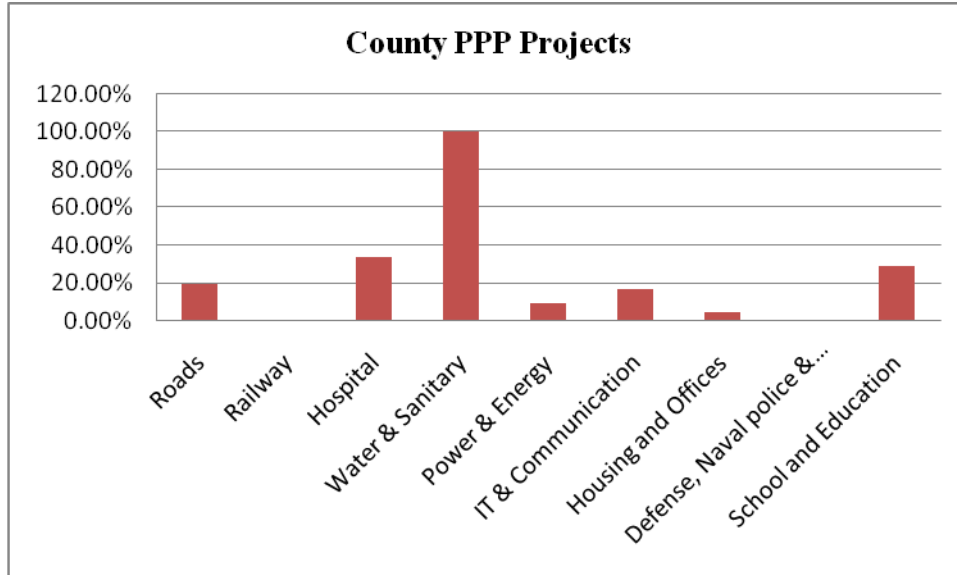


Figure 4.1: PPP projects initiated in Counties in Kenya

As indicated in figure 4.1 above, all the respondents, 100%, indicated that their counties have initiated projects in water and sanitary sector, 34.15% of the respondents have indicated that they have initiated healthcare (hospital) projects, 29.27% have initiated school and education projects, 19.51% have initiated roads projects, 17.07% have initiated IT and communications projects, 9.76% have initiated power and energy projects and 4.88% have initiated housing and office projects.

As indicated in figure 4.2 below, of the total amounts proposed to be invested in infrastructural developments by the counties, 72% of the proposals were directed to the roads project, 9% of the proposals were directed to water and sanitary sectors, 8% were directed to hospitals, 4% were in school and education and power and energy sectors respectively, 2% were in IT and communication sectors and 1% were housing

and office projects.

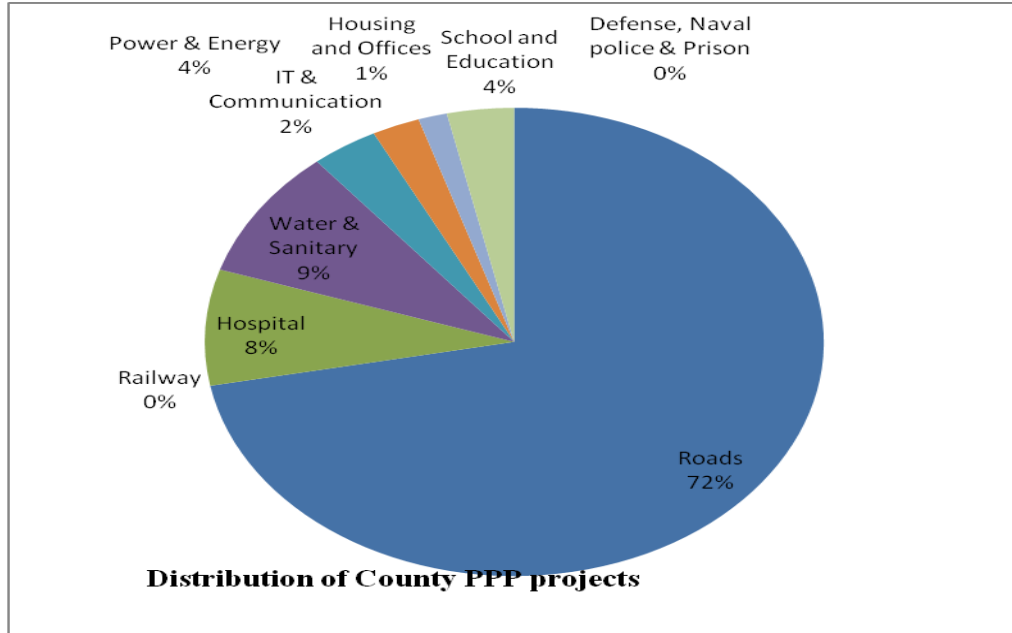


Figure 4.2: Proportion of Proposed PPP projects Funding

Figure 4.3 below shows that of the total successfully funded PPP projects by the counties, 55% have been directed to the roads sector, 16% of the funds were directed to the water and sanitary sectors, 13% of the funds were directed to the development of hospitals, 6% of the funds were for schools and education, 4% were for IT and communication and 3% were directed to housing and offices and power and energy sectors respectively.

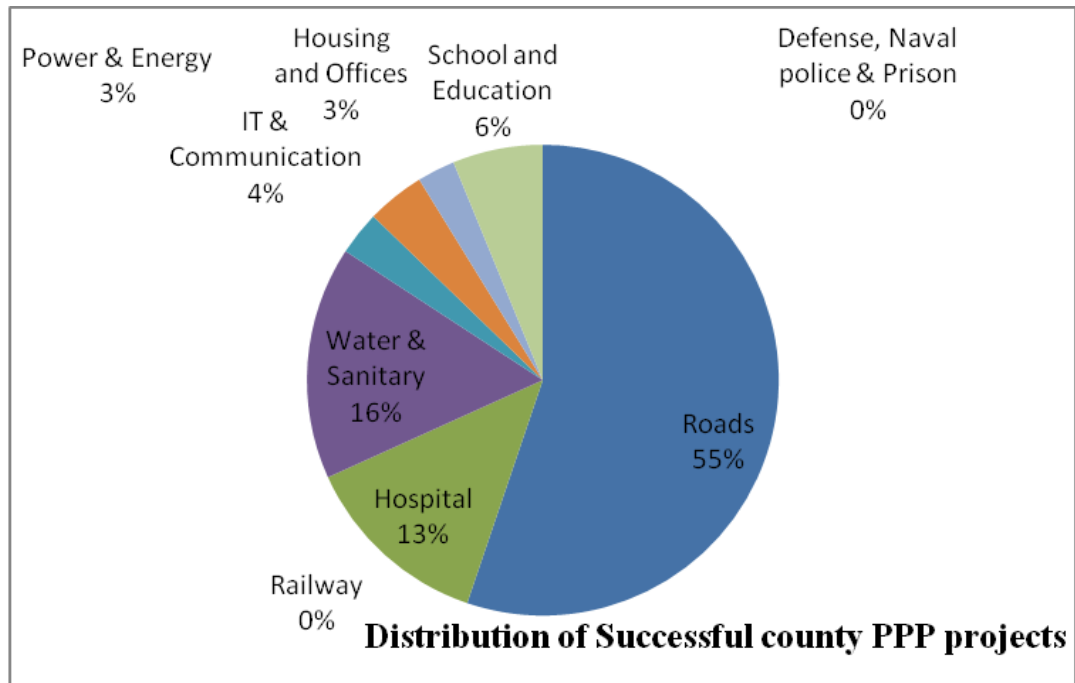


Figure 4.3: Proportion of Successful PPP Projects Funding

Figure 4.4 below shows the proportion of the successful PPP projects funds. Of the amounts sought for the roads, 40% were established to have been successful. For power and energy, 45% of the funding was successful. For IT and communication, 83% of the funding was successful, for the hospitals, 85% of the funding was successful, for housing and offices, 90% of the funding sought was successful, for schools and education, 92% of the funding sought was successful and for water and sanitary, 93% of the funding sought was successful.

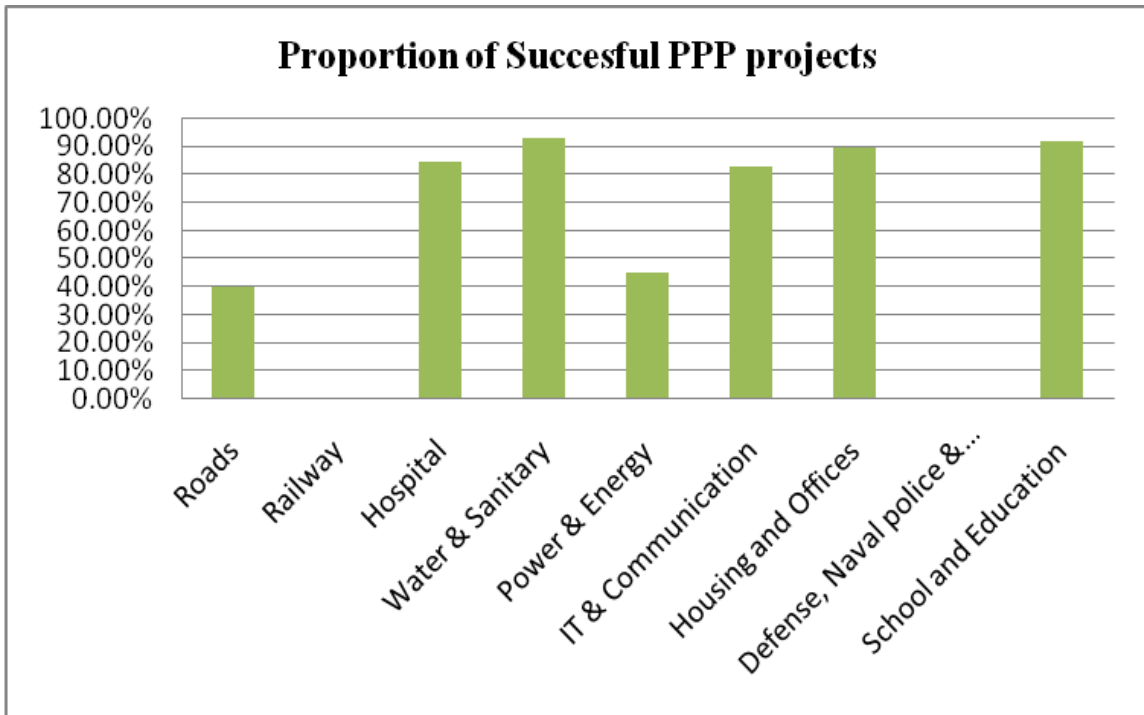


Figure 4.4: Proportion of Successful PPP Projects Funding

4.6 Factors that Determine Public Private Partnerships Success

The study sought to rank the effectiveness of the procurement processes, project implementability, government guarantee and macro-economic conditions on a scale of 1 to 5. Where: 5 (very effective), 4 (effective), 3 (neither nor effective), 2 (least effective) and 1 (not effective). The mean responses and standard deviations are indicated in table 4.5 below.

Table 4.5: Procurement Process

	N	Mean	Std. Deviation
Procurement transparency	41	1.4878	.71141
Competitive procurement process	41	1.7561	.94288
Good governance	41	3.0244	.42281
Committed public agency	41	3.2439	.79939
Social support	41	3.9024	.86037
Realistic assesment of costs and benefits	41	4.4146	.66991
Shared authority between private and public agency	41	1.5854	.74080
Valid N (listwise)	41		

The Likert responses summarized in table 4.5 infer that a mean response of less than 1 means not effective, between 1 to 2 means least effective, between 2 to 3 means moderately effective, between 3 and 4 means effective and between 4 and 5 means very effective. From the rankings, the respondents indicate that realistic assessment of costs and benefits is very effective with a mean response of 4.415 and a standard deviation of 0.669. Community social support for the projects is also rated as effective with a mean response of 3.902 and a standard deviation of 0.860. Committed public agency was found as effective with a mean response of 3.243 and a standard deviation of 0.799 and Good county governance was also established to be effective with a mean response of 3.024 with a standard deviation of 0.422. The respondents indicated that competitive

procurement process (mean = 1.756, SD = 0.942) and shared authority between public and private agencies (mean = 1.585, SD = 0.740) are established to least effective. Procurement transparency with a mean response of 1.487 and a standard deviation of 0.711 was also established to be least effective in implementation of PPPs.

Table 4.6: Project Implementability

	N	Mean	Std. Deviation
Favorable legal framework	41	3.7805	.72499
Project technical feasibility	41	3.7561	.53761
Risk allocation and risk sharing	41	3.4878	.59674
Committment and responsibility	41	2.2439	.73418
Strong positive consortium	41	3.4390	.67264
Stakeholder support	41	3.8537	.85326
Valid N (listwise)	41		

From the responses summarized in table 4.6 above, stakeholder support (mean = 3.853, SD = 0.853), favorable legal framework (mean = 3.780, SD = 0.724), project technical feasibility (mean = 3.756, SD = 0.537), strong positive consortium (mean = 3.439, SD = 0.672) and risk allocation and sharing (mean = 3.487, SD = 0.596) are established to be effective. Commitment and responsibility with a mean of 2.243 and a standard deviation of 0.734 are established as moderately effective in implementation of PPPs.

Table 4.7: Government Guarantee

	N	Mean	Std. Deviation
Grants	41	3.7317	.70797
Subsidies	41	1.8049	.81300
Government revenue guarantee	41	3.7073	.92854
Political risk	41	2.8780	.09989
Valid N (listwise)	41		

As presented in table 4.7 above, Grants (mean = 3.731, SD = 0.707), Government revenue guarantee (mean = 3.707, SD = 0.928) are established as effective. Political risks (mean = 2.878, SD = 0.099) is found to be moderately effective. Subsidies (mean = 1.804, SD = 0.813) are established as least effective in implementation of PPPs.

Table 4.8: Macro Economic Conditions

	N	Mean	Std. Deviation
Stable macro-economic conditions	41	2.8780	.05345
Sound economic policy	41	2.8780	.05345
Available financial markets	41	2.4146	.49878
Acceptable rates of return	41	3.7250	.01242
Valid N (listwise)	41		

Table 4.8 above shows that acceptable rates of return are effective in implementation of PPPs (mean = 3.725, SD = 0.012). Stable macro-economic conditions and sound economic policy (mean = 2.878, SD = 0.053) and available financial markets (mean = 2.414, SD = 0.498) are moderately effective.

4.7 Correlation Analysis

Table 4.9 below provides a correlation matrix between the study variables. From the correlation matrix, a statistically significant weak negative association is established between macroeconomic conditions and proportion of successfully funded PPP projects in the counties ($r=-0.377$). There is also a statistically significant weak positive association between project implementability and proportion of successfully funded PPP projects ($r=0.353$). There is a weak positive relationship between government guarantees and proportion of successfully funded PPP projects ($r=0.044$) and a weak negative relationship between procurement process and proportion of successfully funded PPP projects ($r=-0.104$).

Table 4.9: Correlation Matrix

	Successful PPPs	Procurement process	Project implementability	Government guarantees	Macroeconomic conditions
Successful PPPs	1				
Procurement process	-.104	1			
Project implementability	.353*	-.623**	1		
Government guarantees	.044	.853**	-.726**	1	
Macroeconomic conditions	-.377*	.267	-.205	.198	1

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

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

From table 4.9 above, there is a statistically significant strong negative association between project implementability and procurement process ($r=-0.623$) and a statistically significant positive association between government guarantees and procurement process ($r=0.853$). The study also establishes a weak positive relationship between macro economic conditions and procurement process ($r=0.267$). The study also establishes a statistically significant strong negative association between project implementability and government guarantees ($r=-0.726$) and a weak negative association between macroeconomic conditions and project implementability ($r=-0.205$). The study also finds a weak positive association between macro economic conditions and government guarantees ($r=0.198$).

4.8 Regression Analysis

The regression analysis results presented in table 4.10 below shows that 26.2% of variations in success of PPP funded urban projects in the counties in Kenya is explained by variations in macro-economic conditions, government guarantees, project implementability and procurement processes.

Table 4.10: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.579 ^a	.336	.262	.745523

a. Predictors: (Constant), Macro-economic conditions, Government guarantees, Project implementability, Procurement process

Table 4.11 below shows that the regression model is significant with F statistic of 4.546 and $P < 0.05$ which indicates that the points lie moderately close to the line of best fit in the scatter diagram. This indicates that the model is relatively suitable in explaining the variance of success of the urban infrastructure projects financed by PPP contracts in the Kenyan counties as determined by the study variables.

Table 4.11 : ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.107	4	2.527	4.546	.004 ^b
	Residual	20.009	36	.556		
	Total	30.116	40			

a. Dependent Variable: Successful PPP projects

b. Predictors: (Constant), Macro-economic conditions, Government guarantees, Project implementability, Procurement process

As indicated in table 4.12, there is a negative relationship between procurement process and success of urban infrastructure projects funded by PPP. The relationship is however not statistically significant ($\beta=-0.112$, $t=-0.423$, $p>0.05$). This finding suggests that a flaw in procurement process negatively affects the success of the projects to a proportion of 0.112.

Table 4.12: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	10.971	2.670		4.109	.000
Procurement process	-.142	.335	-.112	-.423	.674
Project implementability	1.793	.560	.635	3.204	.003
Government guarantees	.801	.411	.578	1.948	.059
Macroeconomic conditions	-.412	.176	-.332	-2.339	.025

a. Dependent Variable: Successful PPP projects

As shown in table 4.12 above, the study also shows a positive relationship between project implementability and success of the PPP projects ($\beta=0.635$, $t=3.204$, $p<0.05$). The relationship is established to be statistically significant. This finding suggests that for a unit increase in project implementability, there is a corresponding increase in success of the urban infrastructure PPP projects by a proportion of 0.635.

Table 4.12 shows statistically significant negative relationships between macro economic conditions and success of PPP funded urban infrastructure projects ($\beta=-0.332$, $t=-2.339$, $p<0.05$). This finding suggests that a unit increase in unfavorable macroeconomic environment leads to a decline in success of the PPP financed projects to a proportion of 0.332.

There is also a positive relationship between government guarantees and success of urban infrastructure projects funded by PPP contracts which is not statistically significant ($\beta=0.578$, $t=1.948$, $p>0.05$). This suggests that for a unit increase in government guarantees, there is a proportional increase in success of the PPP financed urban infrastructure projects by up to 0.578.

Table 4.12 above thus shows the coefficients of the fitted regression equation that translates to:

$$\text{UIF} = 10.971 - 0.112 (\text{Procurement process}) + 0.635 (\text{Project Implementability}) + 0.578 (\text{Government guarantees}) - 0.332 (\text{Macroeconomic environment})$$

4.9 Summary of Findings and Interpretations

As stated there is a negative relationship between procurement process and success of urban infrastructure projects funded by PPP. The relationship is however not statistically significant ($\beta=-0.112$, $t=-0.423$, $p>0.05$). This finding suggests that a flaw in procurement process negatively affects the success of the projects. Hence this indicates that the success of the urban infrastructure does not depend on the procurement process .

Government guarantees has a positive relationship with the success of urban infrastructure projects funded by PPP contracts which is not statistically significant ($\beta=0.578$, $t=1.948$, $p>0.05$). This suggests that for a unit increase in government guarantees, there is a proportional increase in success of the PPP financed urban infrastructure projects. Government guarantees reduces the initial cost of the urban

infrastructure hence improving its chances success in the long run.

Macro-economic conditions had a significant negative relationships with the success of PPP funded urban infrastructure projects ($\beta=-0.332$, $t=-2.339$, $p<0.05$). This finding suggests that a unit increase in unfavorable macroeconomic environment leads to a decline in success of the PPP financed projects. Hence the economic factors such as sound economic policy, available of financial markets, acceptable rate of return does not have any impact on the success and implementation of the urban infrastructure.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary findings and discussion of the study. It also covers recommendations for further studies on related issues on study not well covered as well as recommendation on determinants of success of urban infrastructure projects financed by public Private Partnerships in Kenyan counties. The study finally addresses the limitation of the conclusions of this study.

5.2 Summary of Findings and Interpretation

This study sought to determine the determinants of success of urban infrastructure projects financed by public Private Partnerships in Kenyan counties. Descriptive research design was used to attain this objective. The target population was all urban infrastructure projects already conducted in all 47 counties in Kenya between 2010 and 2015. Descriptive statistics such as frequency distribution, percentages, variations and measures of central tendency were used to summarize basic features of the study and the information collected from 41 respondents from the 47 counties providing a response rate of 87.23% of the overall population.

The study established that there exists a PPP unit in all the county governments in Kenya which is consistent with the national governments initiative to encourage infrastructural developments in the national and county governments through PPP

financing. From the findings, 70.73% of the counties have in house PPP guidelines while 29.27% do not have the guidelines.

The findings show that the county government's PPP contracts are varied across the sectors implying that the counties have divergent citizen needs. All the counties (100%) indicated that their counties have initiated projects in water and sanitary sector, 34.15% of the counties have initiated healthcare (hospital) projects, 29.27% of the counties have initiated school and education projects, 19.51% of the counties have initiated roads projects, 17.07% of the counties have initiated IT and communications projects, 9.76% of the counties have initiated power and energy projects and 4.88% of the counties have initiated housing and office projects. For the total amounts to be invested in infrastructural developments by the counties, 72% of the proposals focus on roads project, 9% focus on water and sanitary projects, 8% focus on hospital projects, 4% focus on school and education projects and 4% focus on power and energy projects, 2% focus on IT and communication projects and 3% focus on housing and office projects.

On the amounts sought for PPP projects, 40% for the roads projects, 45% for power and energy projects, 83% for IT and communication projects, 85% for hospital projects, 90% for housing and offices projects, 92% for schools and education projects and 93% for water and sanitary projects were successful.

Amongst the attributes of county procurement processes, realistic assessment of costs and

benefits is rated as very effective. Community social support for the projects, committed public agency and good county governance are rated as effective. Competitive procurement process, shared authority between public and private agencies are rated as least effective while procurement transparency is rated as least effective in implementation of PPPs.

For project implementability indicators, stakeholder support, favorable legal framework, Project technical feasibility, strong positive consortium and risk allocation and sharing are ranked as effective in implementation of PPPs. Commitment and responsibility are ranked as moderately effective in implementation of PPPs. For government guarantee indicators, grants and government revenue guarantees are ranked as as effective. Political risks are ranked as moderately effective while Subsidies are least effective in implementation of PPPs. For Macro-economic conditions, acceptable rates of return are effective in implementation of PPPs. Stable macro-economic conditions, sound economic policies and available financial markets are moderately effective.

On correlation analysis, the study established a statistically significant weak negative association between macroeconomic conditions and proportion of successfully funded urban infrastructure PPP projects. There is also a weak negative association between procurement process and proportion of successfully funded urban infrastructure PPP projects. The study also indicates that there is a statistically significant weak positive association between project implementability and the proportion of successfully funded urban infrastructure PPP projects along with a weak positive association between

government guarantees and the proportion of successfully funded urban infrastructure PPP projects.

The study findings show that 26.2% of variations in the proportion of successful urban infrastructure projects funded by the PPP contracts are explained by variations in macro-economic conditions, government guarantees, project implementability and procurement process. The study establishes a negative relationship between procurement process and the proportion of successful urban infrastructure projects which indicate that a unit weakness in the procurement process negatively affects the success of the projects by a proportion of up to 0.112. This finding corroborates Diba (2012) findings that one of the important factors for success of PPPs is transparent procurement process.

The study findings infer a statistically significant negative relationship between macro – economic conditions and the success of the urban infrastructure projects funded by PPP contracts. The findings imply that a unit increase in unfavorable macro-economic conditions results to a decline in success of the projects by a proportion of 0.032. This finding confirms the propositions of Smyth and Edkins (2007) and Robbins, et al. (2009) that economic policies have a significant impact on physical infrastructure development and the macro-economic environment should be fairly sound for the prosperity of investments.

There is a statistically significant positive relationship between project implementability and success of the urban infrastructure projects implying that a unit increase in projects

implementability results in a proportionate increase in success of the projects by up to 0.635.

Government guarantees also have a positive relationship with the success of the urban infrastructure projects suggesting that a unit increase in government guarantees results to a proportionate increase in success of the projects by up to 0.578. Cesar and Ada (2008) explained that government guarantee is a key success factor for PPP projects.

5.3 Conclusions

These study findings provide evidence of attempts by county governments to introduce urban infrastructure development projects applying the PPP technique. However, the proportion of the successful projects is lower when compared to the non successful projects.

From the study findings, it is estimated that 26.2% of variations in success of urban infrastructure projects funded within the PPP framework is affected by variations in project implementability, government grants, procurement processes and macro-economic conditions. The study finds a weak negative relationship between county procurement process and success of urban infrastructure PPP projects. This indicates that lack of transparency in the process may hinder the success of the proposals. There is also a statistically significant weak negative relationship between macroeconomic conditions and success of the projects explaining that unfavorable macro – economic environment is not suitable for PPP investments.

The study findings indicate statistically significant positive relationships between government guarantees and PPP success which indicates that the private investors are keen on safe investments which they are comfortable of when they have government guarantees. The positive relationship between project implementability and its success calls for a need for due diligence in project implementation and design.

5.4 Recommendations

From the study findings, it is recommended that the government should encourage infrastructural developments in the counties by providing guarantees to the private sector players. This will ensure the investors of the safety of their interests in the projects. Additionally, county governments should enhance their capacity especially for ensuring project implementability through proper conception, feasibility inquiry, design and implementation steps.

Given that macro - economic conditions negatively affects the success of the projects it is advisable that the government fosters an investment friendly economic environment with low levels of inflation and affordable interest rates that can spur private investments. There is also need to revisit the procurement procedures to make them transparent which encourages private participation in infrastructural development.

5.5 Limitations of the Study

The study was faced by limitations. Some of the respondents were engaged and were therefore unable to return the data collection instruments on time. Due to the long distances involved, most of the responses were on questionnaires sent through e-mails to the respective county officers.

The study presumed that the relationship between the study variables is linear. There is a possibility that there are other types of relationships that the current study did not consider. Some of the variables excluded from the current study could also moderate or mediate the expected relationships between the study variables.

5.5 Suggestions for further Research

This study focused only on the urban infrastructure projects already conducted in the 47 counties in Kenya between 2010 and 2014 and therefore generalization cannot adequately extend to other local infrastructure projects among others. It is therefore recommended that broad study covering all urban and local infrastructures in all the 47 counties countrywide be done to determine the success of urban infrastructure projects financed by public private partnerships in Kenya.

Because of the smaller proportion of actual projects financed as compared to the projects proposed for financing, further investigations should focus on the possible reasons why most of the projects are yet to attract financing. This could also look at the variations amongst the counties on accessing PPP finances for infrastructural development. Since

only 26.2% of variations in success of the urban infrastructure projects is explained by variations in the identified independent variables, further investigations should explore what other factors explain the remaining 73.8% of variations in success the projects.

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Appendix I: Questionnaire

Section A: Background Information

1. Name of County?.....
2. Department?.....
3. Designation.....
4. Does your county have any in – house PPP guidance/ practice notes?
Yes () No ()
5. How many years of PPP experience do you have?
None () 1 to 5 years () 6 to 10 years ()
11 to 15 years () 16 to 20 years () Above 21 years ()
6. How many PPP projects have you been involved in?
1 () 2 () 3 () 4 () Above 4 ()

7. Which of the following PPP project sectors has your county been involved in?

Amount (Shs)

- | | | |
|--------------------------------|-----|-------|
| Roads | ( ) | ..... |
| Railway | ( ) | ..... |
| Hospital | ( ) | ..... |
| Water & Sanitary | ( ) | ..... |
| Power & Energy | ( ) | ..... |
| IT & Communication | ( ) | ..... |
| Housing and office | ( ) | ..... |
| Defense, Naval police & Prison | ( ) | ..... |
| School and Education | ( ) | ..... |
| Others (Specify)..... |  | ..... |
| | | |
| | | |

8. Which of the following PPP project sectors that your county was involved in and were they successful?

		Amount (Shs)
Roads	()
Railway	()
Hospital	()
Water & Sanitary	()
Power & Energy	()
IT & Communication	()
Housing and office	()
Defense, Naval police & Prison	()
School and Education	()
Others (Specify).....	
	
	

Section B: Determinants of PPP Success

Rate the following attributes for the country / County where;

- 1 Not effective
- 2 Least effective
- 3 Neither nor effective
- 4 Effective
- 5 Very effective

1. Procurement Process

	1	2	3	4	5
a) Transparent procurement process (process is made open and public)					
b) Competitive procurement process (enough potential bidders in process)					
c) Good governance					
d) Well organized and committed public agency					
e) Social support					
f) Shared authority between public and private sectors					
g) Thorough and realistic assessment of the costs and benefits					

2. Project Implementability

	1	2	3	4	5
a) Favorable and legal framework					
b) Project technical feasibility					
c) Appropriate risk allocation and risk sharing					
d) Commitment and responsibility of public and private sectors					
e) Strong positive consortium					
f) Stakeholder support					

3. Government Guarantee

	1	2	3	4	5
a) Grants					
b) Guarantees					
c) Subsidies					
d) Revenue Guarantee					
e) Political risk					

4. Macro Economic Conditions

	1	2	3	4	5
a) Stable macroeconomic conditions					
b) Sound economic policy					
c) Available financial markets					
d) Acceptable rates of return					