

An Analysis of Risks Factors in Public/Private Partnership Projects and their Mitigation Measures by Contractors as a Strategy for Infrastructure Procurement in Katsina State, Nigeria.

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Abstract

Public Private Partnership, a cooperative venture between the public and private sectors, built on the expertise of each partner has been a veritable procurement strategy in many developed and developing nations of the world. In Katsina state, the desire by the public authorities to enhance infrastructure development led to a number of partnerships with the private sector in the housing and other sectors. Risk factors associated with PPP in Katsina state were studied and the contractors risk mitigation measures were assessed in this research. Using a survey approach, the perception and feelings of stake holders in the construction industry were obtained from a sample of 76 respondents drawn from a population of 101 registered contractors and consultants in Katsina state. Using questionnaires, data for the study was generated and analyzed using descriptive statistics. The results of the data analysis show that 80.7% have ever been engaged in PPP projects and 50% of the respondents have encountered risks in most of their projects. Political risk factors from unstable security circumstances, Poor Governance and New governmental acts or legislations, Lack of coordination/cooperation between partners, Changes in management ways and poor information availability, Poor communication and Ambiguous planning due to project complexity, Undocumented change orders, Design changes and Lower work quality in presence of time constraints, Environmental risks from adverse weather condition and Difficulty to access the site are major risk factors and variables in the implementation of PPP in the state. 84.7% of the respondents have proactive measures for checking out risks in

their firms. Given the huge amount needed and the drive necessary for development; it has been recommended that in order for the government to address the problems of huge infrastructure deficit, the use of Public Private Partnerships (PPPs) for infrastructure development and thus addressing the challenges constraining the growth of the Nigerian economy is a necessary option. Contractors must not just have proactive measures to check against risk, but should be able to ascertain the suitability and reliability of the measures based on risk factors and project peculiarities. Public sector involvement should be encouraged by provision of more concessions.

Introduction

According to the European Investment Bank (2005), Public Private Partnerships are risk sharing investments in the provision of public goods and services. It is a cooperative venture between the public and private sectors, built on the expertise of each partner that best meets clearly defined public need through the appropriate allocation of resources, risk and rewards (Grant, 1996).

Traditionally, in both the developed and developing countries of the world, public infrastructure development has been the domain of the public sector, essentially using the traditional design-bid-build procurement system. Ibrahim *et al.*, (2006) observed that in Nigeria for example, the construction and management of mega facilities, structures and infrastructure projects have been the exclusive responsibility of the government and this has attributed to soaring budgetary deficits and foreign debts, and decrepit infrastructural and industrial capacities.

The need for infrastructural development in countries, particularly the developing countries of the world have necessitated governments to look out wards for financial and professional support from the private sector. Many of these countries have ventured into Private Public Partnership (Reform, 2007). The huge infrastructural deficits in most Nigerian communities and the wide budgetary gaps and deficits in foreign earnings has made it imperative for Nigeria to adopt the use of Public Private Partnership (PPP) procurement method. This is particularly necessary due to the wide range of infrastructure deficit caused by financial constraint (Draft national policy on Public Private Partnership, 2009 as cited in Oyewobi 2011). PPP in Nigeria as observed by Ibrahim *et al.*, (2006) has become increasingly popular for both new projects (such as road construction, market development, car parks and estate development) and for the operation and management of old facilities. The essence of a public private partnership is essentially to improve infrastructural provision in a region or particular place which of course is needed to provide for the citizens and or for supplementary development which can be through the different modes of public private partnership (Dominic, 2010). In order to enhance

its application, and for the country to maximize its impacts in this regard, the federal government of Nigeria further established the Infrastructure Concession Regulatory Commission by the enactment of the ICRC Act in 2005.

However, every human Endeavour involves risk and the success or failure of any venture depends crucially on how we deal with these risks. Every project is therefore associated with some elements of risks. Contractors faces many challenges and do not want surprises. This is because they are more likely to engage in Arbitration than litigation when things go wrong. (Joshua and Jagboro, 2007). Perry and Hayes (1985) observed that whenever a construction project is embarked upon, there are physical, environmental, logistics, financial, legal and political risks among others risk elements inherent in it. Day and Ogunlana (2004) argued that risk occurs in every facet of human life and as such construction projects are not exempted from this as they are characterized by activities that are predisposed to different types of risks ranging from political risks to construction risk.

Several researchers have studied the nature and performance of PPP projects all over the world. Oyedele, (2008) in his work identified that a typical PPP is characterized by numerous participants and that several benefits accrue to various participants. But nonetheless, there is evidence of some pit falls and risks. Jagafa (2008) in his study found out that many PPP projects have failed in Nigeria while some have been revoked. He asserted that many PPP projects around the world have failed due to lack of good management of risks. Ibrahim *et al.*, (2006) and Chapman & Ward (1997) have identified and analyzed risk factors associated with PPP projects in Nigeria and elsewhere.

Sources of Risks in PPP Projects

Chapman & Ward (1997) identified that the main sources of risks of the PPP projects comes from the complexity of the arrangements between public and private sector bodies. This is further compounded by the fact that the organizational structures of Nigeria public sector bodies are very complex due to essentially very poor privatization process, insufficient modernization, involvement and implementation of international standards. Major sources of risks identified include Political Risk; those that relate to implementation; those that relate to construction; those that relate to operation; revenue short falls; financial, force majeure and environmental challenges. Some of these elements of risks are short-term while others may crucially be long-term (Chapman & Ward, 1997).

Risks Associated with PPP in Projects Procurement in Katsina State

The following risk variables identified in (Chapman & Ward (1997) were used as indices to assess risk factors in PPP in Katsina State.

Political/Regulatory Risks

In Nigeria and Katsina state in particular, laws and regulations change from time to time to suit prevailing conditions and circumstances. These regulations may change without notice and may have immediate (short term) or long term effects on partnerships and collaborations. Sudden introduction of new governmental acts or legislations are a major source of concern for PPP in Katsina state. Over the last few months, the enactment of movement laws regarding use of motorcycles, road closures, traffic tariffs and restrictions may have both immediate and long lasting effects.

There are also risks associated with political will and decisions. Different regimes demonstrate different interests in infrastructure development. Differences in party affiliation and manifesto, differences in leadership and other politically motivated decisions (such as zoning) are a major risk factors in PPP. Projects were abandoned by succeeding administrations regardless of their viability due to changes in governance and leadership which is generally party based. The Katsina Dubai market, the Katsina City mall and a host of other projects were abandoned for these reasons.

Implementation Risks

Some risks may only be associated with implementation levels of a project. Critical question posed by (Chapman & Ward, 1997) is that have all stakeholders agreed to the PPP? This is because according to them, objectors can delay or even stop a PPP going ahead particularly when they feel disadvantaged by the process.

General Risks that are connected with implementation in PPP are those connected with ambiguous planning due to project complexity, Resource management, Changes in management ways, poor information management, Lack of coordination and cooperation between partners, poor construction project risk management and Poor communication between parties involved.

Construction Risks

Most PPP projects in Nigeria are in infrastructure development involving construction. Certain components of the project may pose risk to the partnership. Gaps between the implementation and the specifications due to misunderstanding of drawings and specifications, Undocumented change orders, Lower work quality in presence of time constraints, Design changes, Faulty construction techniques, Cost escalation and Delays in construction were some of the sources of risk identified by Chapman & Ward (1997).

Operating Risks

PPP is also associated with risk in operational processes. Some partnerships require a party to operate an infrastructure or a facility for a contracted amount or duration. This is particularly

important for pure operating contracts. Supplies of defective materials, Physical varied labor and equipment productivity, Higher operating and maintenance costs and Occurrence of accidents because of poor safety procedure are sources of risk in PPP identified by Chapman & Ward (1997). According to them, normally the private sector takes the risk of higher operating costs unless the increases are due to causes outside its control, such as new or increased taxes.

Revenue and Financial Risks

Partners may experience revenue deficiency particularly at operations levels of a project. In some cases, the volume of cash flow or revenue growth may be low particularly due to traffic shortfall or failure to extract resources or the volatility of prices and demand for products and services sold. On many instances, partners experience difficulty to get permits due to ambiguity of work legislations (Chapman & Ward (1997)). They may also experience revenue deficiency resulting from legal disputes during the construction phase among the parties of the contract and subsequent delayed disputes resolutions. Certain financial risks are also associated with PPP. These may arise from inflation, delayed payments on contract, financial failure of the contractor, poorly managed cash flow and Exchange rate fluctuation.

Force Majeure Risks

Natural disasters occur from time to time without notice. When they occur, they may be mild causing low damage and low financial or other losses; they may also be extensive causing huge concerns. These events are usually outside the control of stakeholders. Major events that poses risk to PPP include flood or erosion, damage from an earthquake, landslides and earth quakes, social instability involving riot or general strike, strife, other health hazards (Pandemics, epidemics and outbreaks), and calamities considered as acts of God.

Environmental Risks

Major environmental risks in PPP are those relating to the nature of the physical and human environment. Of particular importance is the nature of the terrain that may cause difficulty to access the site, Security challenges posed by man and animals, adverse weather conditions. Other variables include technical risks resulting from engineering and design failures, complex bureaucratic procedures and corruption.

The Case Study

Research Design

Using a survey method, the perception and feelings of stake holders in the construction industry were obtained from a sample of 76 respondents drawn from a population of 101

registered contractors and consultants in Katsina State. Using questionnaires, data for the study was generated and analyzed using descriptive statistics.

Results

The results of the data analysis show that 49.1% of the respondents were engineers, 33.3% were Quantity Surveyors, 12.2% were Architects and 5.2% were Builders. Of these respondents, 33.3% have worked in the sector for more than 16 years, 31.5% have worked for between 11 and 15 years, 24.5% have worked for less than 5 years and 10.7% have worked for between 6 and 10.

A total of 46 respondents equivalent to 80.7% have ever been engaged in PPP projects. In the cause of their career, 50% of the respondents have encountered risks in most of their projects, 41.2% encountered risks in a few of their projects and 8.7% in all of the projects they have undertaken.

Risk Factors in PPP Projects in the Study area

In order to assess the strength of PPP risk factors, scores by all respondents were summed and a mean score computed for each of the factors. These results show that political risk factors from unstable security circumstances has a mean of 3.10, Poor Governance 2.95 and New governmental acts or legislations 2.91.

Lack of coordination/cooperation between partners has a mean of 2.71, Changes in management ways and poor information availability (include uncertainty) 2.58, Poor communication streaming 2.19, and Ambiguous planning due to project complexity 1.89. Undocumented change orders have a mean of 3.02, Design changes has a mean of 2.67 and Lower work quality in presence of time constraints 1.89. Environmental risks show that Environmental Adverse weather condition has a mean score of 2.06 and Difficulty to access the site 1.73.

Mitigation Measures by Contractors

84.7% of the respondents have admitted to having proactive measures for checking out risks in their firms while 15.2% of respondents admitted that there have no measures for checking risks in their firms. This analysis further show that 60.8% of respondents implement some form of risks mitigation measures partially, 23.9% strictly mitigated risks and 15.2% of respondents have no means of mitigating their risks.

On risk mitigation mechanisms, the analysis show that establishing a clear exit strategy from the beginning to the end of the partnership is the most important strategy with a mean score of 3.41, Coordinating closely with partners 3.39, Development of insurance policy 2.91, Changing the construction method 2.86, Providing a reliable communication channel 2.81,

Increase working hours 2.80, Consideration of where there may be gain/loss for all parties 2.65, Clearly Defining objectives and set end goals/targets 2.45, Change the sequence of work by overlapping activities 2.10, Increased manpower and/or equipment 1.89, and identifying benefits, risks, costs and priorities for each partner 1.86. From this analysis, (63.6%) of these mitigation mechanisms were positive decisions to concessioners and only (36%) were negative.

Conclusion

Several risk factors have played part in PPP projects in the study area. The most important of these factors are political risk factors associated with unstable security circumstances, Poor Governance and the enactment of new governmental acts or legislations. Lack of coordination/cooperation between partners have also been identified as a major factor. Other sources of risk identified include changes in management ways and poor information availability, Poor communication streaming and Ambiguous planning due to project complexity. Undocumented change orders, Design changes and Lower work quality in presence of time constraints have also been identified as sources, each, at different impact magnitudes. Because Katsina state lies at the northern part of Nigeria sharing borders with the Niger republic and at the fringes of the Sahara, environmental factors have also been identified as risk factors to PPP.

Contractors in the study area have exhibited an excellent knowledge of risks associated with PPP projects and have devised several mitigation measures. Majority of them have proactive measures for checking out risks in their firms. Only a few of them have no means of mitigating their risks.

Recommendations

The outcome of the analysis has provided interesting results with respect to the case study. Given the huge amount needed and the drive necessary for development; in order for the government to address the problems of huge infrastructure deficit that has greatly constrained economic growth and development, and for the development of an infrastructure base comparable to those of other nations of the world that are critical in achieving and sustaining a high double-digit annual growth rate, the use of Public Private Partnerships (PPPs) for infrastructure development and thus addressing the challenges constraining the growth of the Nigerian economy is a necessary option. Contractors must not just have proactive measures to check against risk, but should be able to ascertain the suitability and reliability of the measures based on risk factors and project peculiarities. Public sector involvement should be encouraged by provision of more concessions.

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