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RP009

## **Enhancing Public Private Partnership for Effective Infrastructural Development of Lokoja Town**

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### **Abstract**

Public-Private Partnership (PPP) have been identified as one of the viable means to effectively address infrastructural deficit and maintenance of public structure. This study explores public private partnership as an effective means to infrastructural development of lokoja town. The study adopted survey method which involves the administration of structured questionnaire to collect primary data from respondents. The population of the study consist of the entire population of lokoja which stood at 195261 according to the 2006 census figure. To determine the sample size, the study adopted smith (1984) formula to arrive at a sample size of 397. Based on this, 397 questionnaire were distributed to respondents to elicit their view. 300 questionnaire were returned. The study made use of descriptive statistic and multiple linear regression analysis to test the hypothesis and analyze the data collected. Findings reveals that risk management is significant on infrastructural development based on the regression result (Beta =.409 ;P=0.000 < 0.05). The study also found that managerial expertise is significant on infrastructural development based on the regression result (Beta =.552 ;P=0.000 < 0.05). The study concludes that collaboration through public private partnership enhances infrastructural development and better standard of living in the area of social amenities. The study recommended that public private partnership should constitute stakeholders of high integrity to mitigate high risk factor in terms of Infrastructure Procurement . Also, the study recommends that quality project execution should be adhered to by all parties involved.

**Keywords:** public private partnership, Infrastructural development, Managerial expertise, Risk management.

### **1. INTRODUCTION**

Public private partnership often known as PPPs and P3s, it is also called Private Finance Initiative (PFIs) in the UK. Public private partnership is considered a new concept, though PPP have actually been around for hundreds of years. Kuriyan and Ree (2008) mention that PPPs has gained support in the 1990s because of the international environment that strongly support economic liberalization and less state intervention. The PPP in Nigeria has witness so many tremendous execution of public projects. The inability of the Nigerian government alone to effectively address and sustain numerous critical capital-intensive infrastructure projects has been a ban on economic growth and diversification in Nigeria , particularly in Abuja (Ofobruku & Nwakoby, 2015). Lokoja is the headquarter of kogi state located in North central Nigeria. It was created on August

27/ 1991 from Kwara and Benue state, the state is blessed with abundant mineral resources. Lokoja is the confluence of rivers Benue and Niger. Atulegwu (2020) observed that Kogi state is endowed with the following resources: limestone, bauxite, tar, coal, iron ore, field spar, dolomite. Effective collaboration with private partnership is very important in order to harness these resources. There is no universally accepted definition for public-private partnership, PPP is referred to as meaning different things to different people, which in such partnerships can make it difficult to assess and compare international experience. PPP generally refers to a form of cooperation between public and private authorities.

The public sector is saddled with the task of providing social and basic amenities to citizens of the country in order to ensure the welfare of the citizens. It is fundamental that the provision of public services and infrastructure has always been the government's sole responsibility, but with increasing population density, urbanization and other developmental needs, the government has been prevented from responding adequately to the much-anticipated needs of the people (Dominic, Ezeabasili, Okoro, Dim & Chikezie, 2015). The public sector is known for large budgetary allocation of funds for public infrastructure, but in achieving this task, it needs to partner with the private sector. On the other hand, the private sector is known to have the managerial expertise, technical knowhow and huge capital outlay for the delivery of quality projects. Public private partnership involves the mutual understanding between the private sector and public sector to form a partnership in financing, designing and developing infrastructure. PPP involves the private sector participating in the public sector to reach a memorandum of understanding in building infrastructure, power projects, modern transport systems, water projects etc.

Bicourtney Concession exercise to develop and manage Lagos-Ibadan Expressway into five lanes failed because Bicourtney (the concessioner) could not get a financier. Kuto-Bagana Bridge over the River Benue is a PPP between the federal government, Kogi and Nasarawa State governments. Nasarawa paid its counterpart fund of N1 billion to the development partner, but other parties did not pay their commitment and the development partner did not have the money it claimed it had (Oyedele, 2012).

### **1.1 Statement of Problem**

Public private partnership is a collaborative approach to provide infrastructural facilities to countries and a new dynamic procedure to manage risk both on the side of public and private sector. The provision of basic infrastructural facilities by authorities concerned is not yielding the desired result in comparison with the present level of population explosion and rapid industrialization. Ofobruku, Nwakoby, Omale & Okoye (2019) posited that the private sector involvement could be the answer to infrastructural challenge in Abuja, Nigeria. Poor infrastructural facilities is one of the key issues most PPP's collaborations are entered, this in most cases facilitates urban renewal projects that could foster development. Managerial expertise derivable from PPP ensures that technical knowhow are best utilized in the delivery of quality projects. Poor infrastructural facilities remains a major challenge in developing countries, projects that are executed in most cases are not given much managerial expertise making the risk factor to be high due to the level of resources committed towards the execution of such projects. This study tends to fill the knowledge gap in that direction.

## **1.2 Objective of the Study**

The broad objective of this study is to investigate the relationship between public private partnership and infrastructural development in Lokoja.

The specific objective is to :

- i) Examine the effect of risk management on infrastructural development.
- ii) To determine the level of managerial expertise on infrastructural development.

## **2. LITERATURE REVIEW**

### **2.1 Concept of Public Private Partnership**

Public private Partnership can be embarked upon in so many areas to include construction, design, maintenance and operation to increase synergies and discourage low-capital / high operating-cost. Public private Partnership offers a new and dynamic approach to risk management in the provision of infrastructure and services. Oyedele (2012) explains that the principal aim of PPP in the provision of infrastructure is financial, technical and management risks and should be distributed to the group best positioned to handle it at the lowest possible rate, appropriate.

The African Development Bank (ADB) has made infrastructure development a cornerstone in its development agenda with regional member countries (TMSA, 2012).

The private sector offers operational efficiencies, innovative technologies and managerial productivity, access to external resources, and sharing of building and commercial risk. The public sector is quiet aware that public private partnership involves significant fund to execute projects and so beneficiaries of PPP should realize that usage of such facilities are not for free (Escap ,2017). Two fundamental forms of Private public partnership exist: contractual and institutional. Contractual PPP are significantly more common, especially in developing economies. Institutional PPP have been quite successful in some circumstances, particularly in countries with well-developed institutional and regulatory capacities.

The public sector through PPP harmonizes their resources with the technical expertise from the private sector to give good value for their investment through the execution of good and quality services (ministry of finance, Singapore,2009). Oyedele (2012) asserted that Public private partnership (PPP) is an aspect of public finance initiative (PFIs) that involves contractual agreement between both the public and private sector that involves sharing of financial, management and technical risks in project development and management.

#### **2.1.1 Managerial Expertise**

Managerial expertise involves practices that requires proficiencies and expertise to successfully execute projects in other to attain the set goals of an enterprise. Managerial expertise is tasking and often demand skills and knowledge. Adhering to managerial expertise leads to cost effective , quality and timely execution of projects. Transparency and trust are also dependent on professional expertise, skilled professionals will be

equipped to handle the complexity of public private partnership successfully (Martinelli,2014).

### **2.1.2 Risk Management**

Risk management in public private partnership is very necessary in other to mitigate the adverse effect inherent in public private partnership projects. This will go a long way to increase the viability of PPP projects at the point of execution. Maslova and Sokolov (2017) argued that objective and justified criteria to define the risk concept in PPP projects are established and classified which would aid in proper management of risk and to systematize the classification of risk in PPP projects. Inherent risk from PPP projects include financial forecasting , operational cost, change in government legislation, social unrest, political legal factors, construction, technological change and a host of other factors. The allocation of sizable and significant risk elements to the private partner and public partner is essential to know that in the event that the project fail to generate the profit expected or amount to be recouped from the project, the risk is been shared by the two players involved in the partnership agreement.

### **2.1.3 Concept of infrastructural development**

Infrastructural development is key to the wellbeing of humanity. Infrastructural deficit makes it necessary for mobilizing heavy demand for assistance most especially from the private sector as a means of meeting Infrastructural challenges. Africa region are much in need of Infrastructure development in other to meet up with economic growth of the continent.

### **2.1.4 Need for public private partnership in Nigeria**

The desire to have an effective and effecient system cannot be over emphasized, this is as a result of the gap in infrastructure provison by past and present government (Oyeweso, 2011, Oyedele.2012).

Service delivery and availability is grossly inadequate and most often not available in some part of the country. The rapid urbanization often characterized by rural urban drift has led to a need for urban renewal project across the country , the financing of infrastructure has greatly increase leaving much burden on the maintenance of this structure which is difficult to achieve by the public authority alone hence the need for public private partnership . Obi-Anike, Ofobruku and Okafor (2020) in their view posit that any developing nation that anticipates greater economic diversification and growth needs to take the Public private partnership strategy seriously in order to finance infrastructural development. It is worthy of mention that the private sector involves operational efficiencies along with technical knowhow in the execution of project, this is as a result of their detailed knowledge in project management and would not compromise standard .

The public authorities is often characterise by bureaucracy, inadequate capital, poor staff morale, therefore such a sector is inadequate in the entire exercise of rendering quality of goods and services effectively.

### **2.1.5 Forms of public private partnership**

There are several forms of public-private partnership contracts depending on the type of project and level of risk transfer, investment involved.

**Build own operate:** But the facility is not being moved to a partner in the public sector. A BOO transaction can qualify for tax-exempt status and is commonly used to treat water or power plants.

**Build operate transfer :** A BOT model, for example a toll road, is usually used to build a single asset rather than a whole network. This simple arrangement gives the private sector partner the most flexibility during construction and the public sector carries the equity risk.

#### **Build – Own – Operate – Transfer (BOOT)**

The private sector builds and manages the facility for the duration of the contract, with the primary objective of recovering the construction costs during the operating period. When the transaction is done, the facility will be handed over to the Government. This framework is appropriate when the government has a broad funding gap for infrastructure, as equity and market risks remain.

#### **Design – Build**

The contract is awarded to a private partner for both the design and development of a facility or facilities providing the performance specified in the PPP contract. This form of collaboration can reduce time , save money, provide better guarantees because the work is with a single company rather than a consortium and transfer additional project risk to the private sector.

#### **Design – Build – Finance**

The private sector creates an asset and funds capital costs only during the construction phase.

#### **Design – Build – Finance – Operate (DBFO)**

Similar to BOOT, DBFO (and its variations) is more widely used in the United Kingdom for PFI (Private Finance Initiative) programs. The private sector designs, constructs, finances, manages an asset, then leases it back to the government, usually over a period of 25 – 30 years. Long-term risk for the public sector is minimized, and frequent payments make it an appealing choice for the private sector.

#### **Design – Construct – Maintain – Finance (DCMF)**

Plan, build, manage and finance are quite similar to DBFM. The private company builds the facility on the basis of the government body's requirements and rents it back to them.

#### **Contract Services Operation & Maintenance**

In this form of relationship, a private operator manages and retains an asset for a public partner, typically at a negotiated level with defined obligations. Often the work is subcontracted to specialist repair firms. Pay for this contract is either by a fixed rate, where the private party earns a lump sum, or, more generally or a performance dependent rate. In this case, success is induced by a pain-sharing / gain-sharing system that rewards

the private partner for over-performance or induces a penalty payment for short-term work.

### **Concession**

Concession is a partnership arrangement between the public authority and private collaborators to design and develop infrastructure that would constitute the involvement of participants and other stake holders which are consultants, contractors and major financiers.

## **2.2 Empirical Review**

Obi-Anike et al (2020) examined public private partnership and infrastructural development: implications for economic diversification in Abuja, Nigeria. The study adopted the questionnaire survey research method. The data collected for the research was analysed using the bivariate correlation ( $r$ ) statistics technique. The findings of the study showed that public private projects would improve infrastructure for economic diversification. The study therefore recommends that to ensure a permanent solution to the persistent challenges of the infrastructural deficit that impede economic growth and diversification in Abuja - Nigeria, the government has to boost the involvement of private investors on infrastructural development.

Osei-Kyei and Chan (2017) embarked on a study to empirically compare the risk factors in public-private partnership (PPP) projects in developing and developed countries, represented by Ghana and Hong Kong, respectively. A structured questionnaire survey was conducted with PPP practitioners in Ghana and Hong Kong. In total, 103 valid responses were received for analysis. Kendall's coefficient of concordance and mean ranking were used for data analysis. Findings show that respondents from Ghana ranked country risk factors higher which would also assist international investors of the management strategies to adopt when entering into PPP arrangements in any part of the world.

Ahmad and Ibrahim (2018) examine the Malaysian public private partnership. Primary source of data was adopted to elicit the views of practitioners of PPP in Malaysia. The study was also based on experience on the first person point of view. Findings reveals that Malaysian PPP arrangement comprises of the following five phases: Pre-planning phase, planning phase, construction, operation and transfer phase.

## **2.3 Theoretical Frame work**

This study is anchored on the theory of collaborative advantage. Chris Huxham viewed collaborative advantage as a potential for synergy from working collaboratively, the theory involves agreement and actions entered by consenting organizations to share resources to accomplish a mutual goal. The theory is structured as a set of overlapping theme, which are predominantly issues and practitioners sees as causing pain and reward in collaborative situations. Power , trust, membership structures, leadership.

The theory harmonizes collaborative situations and conveys it in a way that seems real to those involved. Effective relationship between collaborative partners can lead to future long term partnership that requires trust between one another.

The relevance of the theory to this study is that, through collaboration with various key players, effective public private partnership can be achieved and possible risk factors can be mitigated.

### 3. METHODOLOGY

The research design adopted for this study is the survey method which involves the administration of structured questionnaire to collect primary data from respondents. In order to effectively conduct a valid analysis on the topic. The population of the study consist of the entire population of Lokoja which stood at 195261 according to the 2006 census figure. To determine the sample size, the study adopted Smith (1984) formula to arrive at a sample size of 397. Based on this, 397 questionnaire were distributed to respondents who are registered contractors with the public authorities in Lokoja in order to elicit their views.

$$n = \frac{N}{3 + N(e)^2}$$

Where

N= Population

n=Sample Size

E= Tolerate Error Margin (0.05) 5%

3= Constant

Formular,

$$n = \frac{195261}{3 + 195261 (0.05)^2}$$

$$n = \frac{195261}{3 + 195261 (0.0025)}$$

$$n = \frac{195261}{3 + 488}$$

$$n = \frac{195261}{491} = 397$$

n= 397 sample size.

300 hundred questionnaire were filled and returned.

The questions were based on 5- point Likert scale which consist of Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree. The study made use of descriptive statistic and multiple linear regression analysis to analyze the data collected.

#### Model Specification

The dependent variable is infrastructural development (INDE) while the independent variable is public private partnership (PPP). In order to achieve the hypothesis stated, linear multiple regression was used to estimate the model. The model is presented thus:  
 $INDE = (PPP) \dots \dots \dots 1$

$$INDE = \beta_0 + \beta_1 RIMT + \beta_2 LMEX + \mu \dots 2$$

Where PPP= an indicator representing Public private partnership (independent variable)

INDE = Infrastructural Development (dependent variable parameter)

$\beta_0$  = a constant;

$\beta_1, \beta_{2,3}$  = coefficient of independent variable;

RIMT = Risk Management (a predictor representing Independent Variable)

LMEX = Level of managerial expertise (a predictor representing Independent Variable)

$\mu$  = Stochastic error term.

$f$  = Functional relationship.

### 3.1 Data Analysis

Management of risk on infrastructural development.

Table 1 Descriptive statistic

|                      | N   | Minimum | Maximum | Mean   | Std Deviation |
|----------------------|-----|---------|---------|--------|---------------|
| Q1)Pool of resources | 300 | 1.00    | 5.00    | 3.7833 | 1.18366       |
| Q2)risk mitigation   | 300 | 1.00    | 5.00    | 3.7567 | 1.03329       |
| Valid N (listwise)   | 300 |         |         |        |               |

*Sources: Authors' computation using SPSS version 20, field survey 2020*

From the descriptive table above, pooling of resources together by public and private authorities enhances the infrastructural development as indicated by the mean core of 3.7833 which is above the average means score of 2.5. Question 2 from the table indicates that risk mitigation among the key players of public private partnership is vital to the growth of infrastructural development, this is proven correct by the mean score of 3.7567 which is above the mean score of 2.5.

Managerial expertise on infrastructural development.

Table 2 Descriptive statistics

|                            | N   | Minimum | Maximum | Mean   | Std Deviation |
|----------------------------|-----|---------|---------|--------|---------------|
| 3)Technical knowhow        | 300 | 1.00    | 5.00    | 3.6567 | 1.48756       |
| 4)Quality project delivery | 300 | 1.00    | 5.00    | 3.4467 | 1.23785       |
| Valid N (listwise)         | 300 |         |         |        |               |

*Sources: Authors' computation using SPSS version 20, field survey 2020*

Question 3 shows that technical knowhow contributes to infrastructural development as indicated from the mean score of 3.6567 which is higher than the average mean score of 2.5. Question 4 indicates that quality project delivery enhances infrastructural



development, this is shown in the table with a mean score of 3.4467 which is higher than the average mean score of 2.5.

### Testing of hypothesis

Ho1 Risk management does not enhance infrastructural development.

Ho2 Managerial expertise does not enhance infrastructural development.

Table 3 Model Summary

| Model | R                | R Square | Adjusted R <sup>2</sup> | Std. Error of the estimate |
|-------|------------------|----------|-------------------------|----------------------------|
| 1     | .93 <sup>a</sup> | .889     | .888                    | .38209                     |

a. Predictors: (Constant), LMEX , RIMT

The r Square value of .889 in table indicates that the components of independent variable have a combined effect of 88.9% on the dependent variable. While the Adjusted r Square value of .888 also indicates the accurate influence of the combined variables of risk management and level of managerial expertise on infrastructural development. The implication of this is that about 88.8% of the variations in public private partnership are explained in the model, while the remaining 11.2% is explained by other factors which do not form part of this model.

Table 4 ANOVA<sup>a</sup>

| Model |            | Sum of Squares | DF  | Mean Square | F        | Sig. |
|-------|------------|----------------|-----|-------------|----------|------|
| 1     | Regression | 347.557        | 2   | 173.779     | 1190.337 |      |
|       | Residual   | 43.359         | 297 | .146        |          |      |
|       | Total      | 390.917        | 299 |             |          |      |

a. Dependent Variable: INDE

b. Predictors: (Constant), LMEX , RIMT

The F-Statistics value of 1190.337 and the significance level of .000 in Anova table 2 is less than the alpha level of 0.05% . This means that the result is good and the model is fit for the achievement of the overall objectives.

Table 5 Coefficients<sup>a</sup>

| Model       | Unstandardized Coefficients |           | Standardized coefficients | Collinearity Statistics |      |           |       |
|-------------|-----------------------------|-----------|---------------------------|-------------------------|------|-----------|-------|
|             | B                           | std error |                           | T                       | Sig  | Tolerance | VIF   |
| 1(constant) | .081                        | .085      |                           | .945                    | .346 |           |       |
| RMIT        | .215                        | .026      | .409                      | 8.203                   | .000 | .150      | 6.668 |
| LMEX        | .237                        | .021      | .552                      | 11.063                  | .000 | .150      | 6.668 |

- a. Dependent variable :INDE
- b. Source : Spss result,2020

The T-Statistics value of 8.203 and the corresponding significant level of .000 which is significant at 5% level of significance indicating that risk management has significant on infrastructural development, based on this, the null hypothesis ( $H_{o1}$ ) which says that risk management does not have significant influence on infrastructural development is rejected on the bases that the p- value \*\*\* is less than 0.05. More also, table 3 also shows that the result of T- statistics of 11.063 and the corresponding significant level of .000 which is significant at 5% also indicates that level of managerial expertise has significant effect on infrastructural development, this indicates that the Null hypothesis ( $H_{o2}$ ) that level of managerial expertise does not have significant effect on infrastructural development is rejected on the basis that the p-value \*\*\* is less than 0.05.

### **3.2 Discussion of Findings**

Findings shows that risk management has positive significant effect on infrastructural development in Ilokoja , Kogi state, Nigeria. This indicates that an increase in risk management between public and private authority will influence an increase in infrastructural development. This study is in tandem with the findings of Osei-Kyei and Chan (2017) who examined risk factors in public-private partnership projects in developing and developed countries. Oyedele (2012) emphasized that management risks should be distributed to the group best positioned to handle it at the lowest possible rate appropriate.

Findings also shows that managerial expertise has a significant positive relationship with infrastructural development. This suggest that an increase in managerial expertise will have an influence on infrastructural development in Ilokoja, Kogi state Nigeria. The findings of this study is in alignment with the work conducted by Obi-Anike et al (2020) whose findings indicates project improvement in infrastructure through public private partnership.

### **3.3 CONCLUSION AND RECOMMENDATIONS**

The study concludes that public private partnership enhances infrastructural development and better standard of living in the aspect of infrastructural development through provision of social amenities. Managerial expertise and risk management among others are effective mechanism to achieve public private partnership project in Ilokoja , Kogi state Nigeria.

The study recommends that public private partnership should constitute stakeholders of high integrity to mitigate high risk factor in terms of Infrastructure Procurement and project valuation.

The study also recommends that quality project execution should be adhered to by all parties involved, this would create good collaboration in future partnership arrangement.

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