Challenges of Public Private Partnership (PPP) Implementation on Infrastructural Development: A Study of Pharmaceutical Industry in Zaria Kaduna State, Nigeria

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Abstract: **Infrastructure deficit has prevented development and economic growth and PPP was introduced to close the gap. The aim of the study is to examine the challenges facing the smooth implementation of PPP in Zaria Pharmaceuticals Industry (ZPI). Objective is to determine a PPP model adjudged most suitable for application in ZPI project based on the project peculiarity. The research design employed was the quantitative method and structured questionnaire was adopted and administered to the parties involved in the concession. Purposive sampling technique was used in selecting 25 respondents and only 22 responses were used for data analysis. Descriptive statistics and non-parametric statistic Chi square were used for the analysis. The study recommends that both public and private parties should encourage private participation in infrastructure provision in every sector thereby creating an enabling environment for investors The study further recommends, with respect to the overall Mean Score (MS), the top 3 suitable PPP model with high probability of occurrence are: DBFT, IM/IS and BOT. Although, among these top three suitable PPP model, there were significant differences of opinion between the groups under DBFT, as their associated significant value (Asymp. Sig. value) of 0.030 which is less than 0.05. DBFT as one of the PPP Suitable model that would Increase the transparency and capability of building within the ZPI.**

Keywords: **Challenges, Implementation, Public Private Partnership**.

I. INTRODUCTION

Physical infrastructure has long been identified as a catalyst for economic growth. In developed countries, the involvement of the private sector in the development and financing of public facilities and services has increased substantially [43]. However, in Nigeria, recent government agenda shows that infrastructure development is gaining momentum. In the past ten years, over 25 major infrastructure projects have been rolled out through Partnership. The Federal Government of Nigeria (FGN), States and Local Government Authorities (LGA) have contributed over N10 trillion to these. However, the total investment required to meet the vision 2020 target for infrastructure projects is N32 trillion [9].Government is a traditional provider of public services and operator of public service delivery institutions and development projects using resources from public sources that is, taxes and levy [42]. Most countries in Africa including Nigeria adopted socialist policies after independence. In line with this, the provision of social amenities, services, utilities and physical infrastructure was considered to be a sole responsibility of the government. In Nigeria, this model of development was based on direct provision of services by government agencies as opposed to engaging private actors to provide the service through a structure relationship [56].

However, the ever-increasing disparity between the capacity of the public sector to generate resources and the public demand for new facilities has forced governments to look for new funding methods and sources. Public private partnership (PPP) as a new funding method is an increasingly popular phenomenon and a global trend [69]. For instance, many PPP projects in the UK and other developed economies are regarded as successful [49][43]. Nigeria's infrastructure challenge is huge. Recent reports suggest that the country requires between $12b and $15b annually for the next six years to meet the standard infrastructure requirements [17]. It has become evident that the government alone cannot muster the resources (finance and expertise) to meet this need and the involvement of the private sector is not just desirable, but necessary. It is no wonder therefore that majority of infrastructure projects currently underway at both State and Federal levels are powered by PPPs [17]quoting from [9].

The public private partnership is an attempt by government to tap from the enormous private resources by way of diversification and letting private hands partake in the provision of fundamental government responsibility of providing basic social and infrastructural amenities [18]. The collaboration between a public sector authority and private sector creates a new approach to risk management by

combining the skills and expertise of each partner in the delivery of public goods and services [44].

Thus, the introduction of PPP to tap resources from private investors in infrastructural provisions recorded successes as well as failures as it is currently the focus of the government in the provision of infrastructure such as Road & Highways, Bridges, Rail network, Educational & Health facilities, Sea Port, Airport, and Refineries etc. Various attempts by both the Federal government and State government to bridge the infrastructure gap in the country are documented in the various PPP projects initiated, proposed and executed for the growth of the Nigerian economy. Federal government of Nigeria (FGN) initiated the first PPP project in Nigeria through the concession of Murtala Mohammed International Airport to Bi- Courtney Aviation services from 2003-2007. This project has since been completed and also operational [56]. Various States in Nigeria are not left out infrastructure development as States like Niger, Kaduna, Zamfara, Sokoto, Yobe, Bauchi, Nassarawa, Edo, Bayelsa and Delta have also joined this bandwagon of infrastructure development in Nigeria [60].

Nigeria is the most populous black nation in Sub-Saharan Africa and the ninth most populous country in the world. It was estimated that the population of the country likely to rise to 193 million by the year 2020 (United Nation Department for Economic and Social Affairs DESA, 2009). The state of Nigeria's infrastructural facilities with its daunting economic prospects and swift national development mean the country remains among the community of developing nations. It is evident throughout the country that the basic social and economic infrastructures are inadequate to cope with the demand placed upon them by its increasing population. As with other developing nations across the world over the past three decades, governments in Nigeria at all levels (i.e. Federal, State and local) have been responsible for the development of infrastructural facilities [59]. Theconditions have changed recently the government is now seeking alternative means of financing infrastructures across the economic and social spectrum through the use of PPP. Although private sector participation is increasingly invoked in the context of developing countries Nigeria inclusive, various problems have been encountered in this regard due to the short history and lack of PPP experience and expertise [59].

It is evident that in health care sector infrastructure plays a significant role in service delivery. PPP has emerged as an important and effective model for achieving the sector goals through various programmes. [64] opined that, Public-Private Partnership in Healthcare is a collaborative relationship between the public and private sector for providing health services and infrastructure. [50] defines PPP as any formal collaboration between the public sector at any level (national and local governments, international donor agencies, bilateral government donors) and the non-public sector (commercial, non-profit, and traditional healers, midwives, or herbalists) in order to jointly regulate, finance, or implement the delivery of health services, products, equipment, communications, education and research. The University teaching hospital has an existing pharmaceuticals production unit known as pharmacy unit located along hospital road Tudun Wada Zaria, the units normally makes production of tablets and syrups. Teaching hospital partner with ZPI through a concession for the period of ten years, under Renovate, operate and transfer model, the company renovated the already existing building which henceforth permitted to operate so as to recoup their investment before transferring it back to the teaching hospital for an agreed duration. It is evident that health care facilities cannot perform satisfactorily without infrastructures. Therefore, the projects recorded some challenges of implementation. However, the concession recorded some success as well as challenges, therefore the need for the study to identify those challenges and determine measures that could be used to minimise the challenges for PPP projects.

II. REVIEW OF RELATED LITERATURE

2.1 Concept of Public Private Partnership

Public-Private Partnership (PPP) has been defined as a contractual arrangement which is formed between public and private sector partners which involves the private sector in the development, financing, ownership and or operation of a public facility or service [34] Furthermore, explains that PPP refers to a form of co-operation between public authorities and the private sector to finance, construct, renovate, manage, operate or maintain an infrastructure or service. PPP also involves some form of risk sharing between the public and the private sector for providing the infrastructure of service. The concept of PPP is not entirely new in infrastructure development as indicated by (Oyewobi*et al.,* 2012). Documentations on PPP suggest that PPP has been used worldwide and according to[14] developments on PPP procurement frameworks are traceable to UK government that pioneered its use through the Private Finance Initiative (PFI). PPP utilization in infrastructure development has taken a global phenomenon and most developed and developing countries have resulted in using this concept of which Nigeria is no exception.

According to [70], PPP has been considered and favoured as the way out for Nigeria to meet her infrastructure deficit. Also, [58] also confirms that Nigeria finally took a major step towards accessing the benefit of PPP by creating the Infrastructure Concession Regulatory Commission Act that creates the enabling environment for private sector participation in infrastructure development. Similarly, in the views of African Development Bank [4] that PPPs are seen as part of the solution for Nigeria infrastructure deficit because of their ability to attract finance, share risks, mobilize technical and managerial know-how, avoid the usual cost

escalation associated with conventional construction contracts and change the project focus from short to long-term. The concept of PPP has been used for procuring some projects in Nigeria and the concept is still embraced by most States for their infrastructure procurement. The concept of PPP is advocated for use in development of more infrastructure projects so that governments at State and Federal levels can free its capital for use in other areas of the economy.

2.2 Models of Public Private Partnership

Different models of Public Private Partnership (PPP) have continued to emerge in the recent. [17] identified the following classifications that are common in literature as:

2.2.1 DBFT (Design, Build, Finance and Transfer)

In this system, the developer develops the structure using his own generated finance, after construction and certain agreed period of ownership transfers the whole facility back to the government.

2.2.3 BOT (Build, Operate and Transfer)

This system allows the developer a use of the project for a certain period of time before transferring the project to the government.

2.2.4 BOO (Build, Operate and Own)

In this format the ownership is not transferred.

2.2.5 DBFO (Design, Build, Finance and Operate)

In this system, the government owns the project but leases it to the consortium.

2.2.6 BRT (Build, Rent, and Transfer)

This system allows for the consortium to obtain payment from the government before the actual transfer of the project.

2.2.7 BOOST (Build, Own, Operate, Subsidize, and Transfer)

In this system, government provides incentives to users of the completed project in other to make it financially viable for the private consortium.

2.2.8 BTO (Build, Transfer, Own)

This variation relieves the consortium of the insurance cost for operation.

2.2.9 BOOT (Build, Own, Operate and Transfer)

Under this variation, the developer is allowed full unalloyed ownership of the completed structure for a specific period of time at the end of which he relinquishes his full right to the actual owner, while the building is still in completely functional state.

2.2.10 ROT (Renovate, Operate and Transfer)

Under this variation, the developer renovates an already existing building which he is henceforth permitted to operate so as to recoup his investment before transferring it back to the original owner This variant is relatively different from others in that the structure in question is already in existence as against other variants in which the structure is developed by the developer.

2.2.11 BLT (Build, Lease and Transfer)

Under this variation, the developing firm or consortium is allowed to lease out the completed facility out and recoup her money before transferring the completed facility to the owner at an agreed time.

2.2.12 IM/IS (Investment Management and Investment Services)

This variation allows a development firm to complete the construction of the facility while independent investment management firm manages the facility on behalf of both parties for the period of occupancy by the developer for the purpose of recouping the capital invested by the developer and for ensuring that the facility is in good standing by the time of handing over to the owner at the expiration of the lease.

III. METHODOLOGY

The study employed quantitative method survey design using questionnaire as data collection instrument. The questionnaire was adapted from the work of [14] and [30] and developed. [54] Described questionnaire as: “It involves a clearly defined problem and definite objectives. It requires expert and Imaginative planning, careful analysis and interpretation of the data gathered and logical and skillful reporting of the findings.

The questionnaire was divided into four major sections: Section A covers the demographic background of respondents, Section B request the respondent to rate a suitable PPP model for application in ZPIL project based on the project peculiarity. The research population covers only the management staff of public organisation. Fourteen (14) management staff from Teaching hospital and eleven (11) from selected pharmaceutical industries were obtained from the two organizations making a total population of twenty five (25) this depicts the only respondents that were involved in the concession between the two organisations in the study area. Purposive sampling was adopted in the administration of the questionnaires because the study only involved respondents who knew about the PPP projects. This is justified by Blaxter et al. (2006) and cited by [69], which state that non-probability sampling is employed when the researcher lacks a sampling frame for the population in question, or where a probabilistic approach is not judged to be necessary.

IV. RESULTS AND DISCUSSIONS

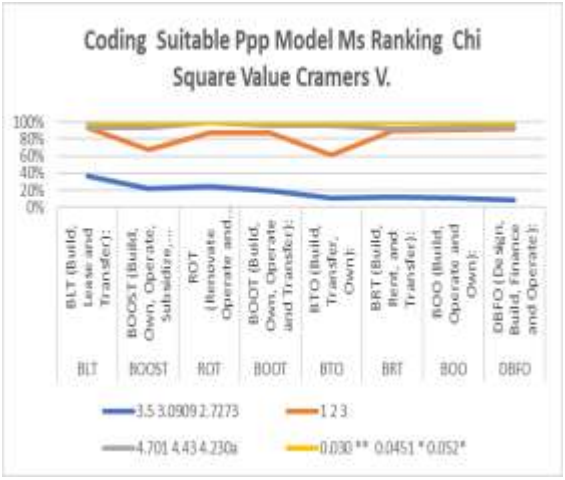
Three (3) responses were obtained from the questionnaire distributed.

3.1 Chi Square result for PPP model adjudged most suitable for application

Table-1 chi square result for PPP model adjudged most suitable for application

Coding	Suitable Ppp Model	Ms	Chi Square Value	Cramers V.	
DBFT	DBFT (Design, Build, Finance and Transfer)	3.5000	4.701	*0.030***	*1st*
IM/IS	IM/IS (Investment Management and Investment Services):	3.0909	*4.430*	*0.0451**	*2nd*
BOT	BOT (Build, Operate and Transfer):	2.7273	*4.230a*	*0.052**	*3rd*
BLT	BLT (Build, Lease and Transfer):	2.5909	*1.612a*	*.447*	*4th*
BOOST	BOOST (Build, Own, Operate, Subsidize, and Transfer):	2.4545	2.82	*.671*	*5th*
ROT	ROT (Renovate Operate and Transfer)	2.4091	1.224	*.059*	*6th*
BOOT	BOOT (Build, Own, Operate and Transfer):	1.9091	0.799	*.436*	*7th*
BTO	BTO (Build, Transfer, Own):	1.8182	5.652	*.669*	*8th*
BRT	BRT (Build, Rent, and Transfer):	1.3636	0.282	*.868*	*9th*
BOO	BOO (Build, Operate and Own):	1.3182	0.361	*.747*	*10th*
DBFO	DBFO (Design, Build, Finance and Operate):	1.0455	0.224	*.747*	*11th*

Chi square result for PPP model adjudged most suitable for application



Moreover, From the table DBFT ranked as the first PPP model and agreed by the respondents with mean value of 3.5 and the second PPP model ranked is IM\IS model that suitable for the projects uniqueness mean value of 3.09, third is BOT with mean value of 2.72, forth is the BLT and the mean value is 2.59 and the last ranked by the respondents is BOOST with mean value of 2.45.

3.3 Discussions

Table above has shown the overall mean score of the rating given to each suitable PPP model by the two groups (i.e. public and private). It is evident, going by the overall Mean Score (MS), the top 3 suitable PPP model with high probability of occurrence are: DBFT, IM/IS and BOT. Although, among these top three suitable PPP model, there were significant differences of opinion between the groups under DBFT, as their associated significant value (Asymp. Sig. value) of 0.030 which is less than 0.05. DBFT as one of the PPP Suitable model that would Increase the transparency and capabiity of building within the ZPIL. The result was also supported by (Turolla, & De Faria, 2004). The research conducted by (Padova, 2010) and (Taleski, 2012) contradicted with the result of this research may be due to the geographical location of the researches.

Moreover, IM/IS haveAsymp. Sig.value of 0.0451 and less than 0.05, this shows that there is significance difference between the model used. Cramers V test revealed that there significance difference in the opinion between the two models Asymp Sig. p value of 0.04 was less than 0.05. Furthermore, the probability of occurrence of suitable PPP model was equally assessed. MS across the groups, the overall MS, Chi-Square values and the cramers v test this results was contradicted by the result obtained from [22] and (sale, 2008).

It is evident that BOT have MS of 2.7273 and as the Chi value of 0.05 equal to 0.05. It can be deduced from this result that the BOT has no significance difference with the model used by the ZPIL for that particular project uniqueness, this result has concurred with the assertion made by (Weber, Staub-Bisang, & Alfen, 2016) and (Rebeiz,2011) stated that, The complexities and long-term operation of projects to meet uncertainty and project risk ranking to illustrate their potential applications in BOT projects. (Ebrahimnejad & Seyrafianpour, 2010) supported the findings of this research.

V. CONCLUSION

The study used quantitative design method through literature review and questionnaires survey approach to achieve the study objectives. The finding of the research shows that, the model of PPP used on the study area was a lease concession under renovate, operates and transfer model and the respondent agreed that DBFT and IM\ IS model are consider suitable for the particular project at hand.

VI. RECOMMENDATION

The following recommendation may be drawn base on the outcome of the study

(i) The government should encourage private participation in infrastructure provision in every sector thereby creating an enabling environment for investors

(ii) The study recommends that the most suitable model agreed by the respondent are DBFT and IM\ IS model are consider suitable for the particular project at hand. severe factor affecting the implementation of PPP, a design should be made for adequate regulatory framework properly as far as project decision-making, policy formulation and planning processes are concerned.

(iii) The public and private should develop the PPP unit to have the capacity of carrying out the enormous task of engaging, implementing and monitoring partnership projects.

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