EVALUATING THE PERFORMANCE OF PUBLIC PRIVATE PARTNERSHIP IN THE DELIVERY OF PUBLIC HOUSING SCHEMES IN NORTH CENTRAL NIGERIA

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Public Private Partnership (PPP) has been defined as a mutual scheme between the public and private sectors, built on the expertise of each entity that perfectly meets evidently defined public requirements through the applicable sharing of resources, risks and profits. PPP was proffered as a resort delivery option as against the traditional method for procurement of infrastructure such as housing and road projects in both developed and growing countries. It is anticipated that projects executed through PPP should meet cost and time requirements of the stakeholders involved. The problem noticed therefore, is that PPP is being engaged at various levels to develop housing schemes in North Central Nigeria but its performance in terms cost and time has not been termed satisfactory to the parties involved. The aim of this research is to evaluate the performance of Public Private Partnership in the delivery of public housing schemes in North Central Nigeria through understanding the principles of PPP, evaluating the cost and time performance of PPP and developing a framework for PPP for public housing delivery. Survey approach was used for this research work because of the broad population. Non-probability sampling technique was employed as well as primary and secondary sources of data. The research method adopted is stratified sampling with the use of structured questionnaire. Descriptive statistics such as Mean and Standard Deviation was engaged to solve the research inquiry. The results reveal that PPPs is a rapidly growing means of developing public housing schemes and PPP is continuing to be developed to suit the needs of housing schemes due to demand for infrastructure. It also shows that cost and time overruns sometimes experienced in PPP housing schemes are influenced by the private sector and, public and private sector requires a structured and programmatic approach such as a framework to promote the effective, efficient and sustainable delivery of the PPP programme. In conclusion, the study developed a framework for public housing delivery through PPP.

Keywords: Public Private Partnership (PPP), Infrastructure, Public Housing Schemes, North Central Nigeria

INTRODUCTION

A growing country like Nigeria, with dwindling resources, creation of needed infrastructure such as housing, establishment of job chances for our vibrant youths and uncertainties among other factors are problems of the nation's interest which have been a special task for our government. Aside from dwindling resources, budgets are equally not enough to finance needed operating services, such as low maintenance of existing infrastructures, not to talk of embarking on the creation of fresh ones. This growth has placed a herculean task on the ability of government to deliver its social responsibility of providing needed infrastructures (Ajanlekoko, 2001; Jimoh *et al.* 2015). In Nigeria, at the Federal level, various initiatives that adopt the efforts at the State and Local Government levels have been channelled at strategizing the part of the government in overseeing its buildings and properties. To deliver on these fiscal needs, Federal agencies are increasingly focused in overseeing structures in a more profit-making approach, including venturing the synthesizing of partnerships between the Federal Government and the private body. This is to reduce the dependence on National budget which is a typical characteristic of the traditional method of procurement (Federal Ministry of Power Works and Housing, 2016).

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Khaled *et al.* (2014) highlighted that there has been minimal infrastructure strategy or setting up for housing in a lot of the growing nations. Housing deficit is not totally tackled, because of the rise in housing request. Ogunsanmi (2012) opined that traditional method of obtaining contracts has being a long time procedure which has revealed great uncertainty of late finish of construction works as established by various researches and sometimes leads to duration escalation.

Public Private Partnership (PPP) is greatly used in various nations to involve the non-government body in instances where government authorities and agencies formerly control because it is now known as a major provider to aiding the nation get workable country growth. The momentum and extent of the needed growth of the nation might have put burden on current skills and assets on ground to get such motivated focus making use of more traditional procuring processes (Dulaimi *et al.* 2010)

Public–private partnership (PPPs) was proffered as a resort delivery option for procurement of infrastructure such as housing and road projects in both developed and growing countries. One of the reasons governments are resorting to PPP in construction project delivery is to enable them tap from the required skills, inventions and managerial capability of the private body to optimize efficiency especially in procurement of infrastructure projects (Aziz 2007; Laishram and Kalidindi 2009).

As the housing deficit in Nigeria has been noticed, several hard works had been embarked upon by continuing authorities in seeing to this challenge. The Government of Niger State had looked for a way in curbing this shortcoming by carrying out erection of large scale housing; among the programmes are the 500 M.I Wushishi housing estates in Minna with the aid of collaboration with non-government entities (Jide, 2010; Jimoh *et al.,* 2015).

Despite several intercessions carried out by the authorities to include the non-government organizations to partake in amenities development/sheltering, the challenges posed by housing shortage is still a severe job still to be tackled by the authorities. (Jimoh *et al.,* 2015)

Wibowo and Kochendoerfer (2011) pointed out that lots of governments, especially in growing economies, are often in want of financial resources needed for building fresh and sustaining existing infrastructure facilities. Affected by low efficiency and little or no transparency in their management, poor quality infrastructure service to the settlement is cannot be avoided.

The public service in Nigeria is in a serious situation, for the reason that it is not up to the requirements of the funding party; it prevents venture capital and shoots up the price of carrying out commercial intentions in the nation (FGN, 2004; Iloh and Muktar, 2013).

The task of delivering housing infrastructures using traditional method among other shortcomings is huge responsibility placed on Government as the sole risk taker and financier and, have necessitated many government of the world including Nigeria to move towards alternatives such as PPP. The recent economic recession in Nigeria has led to drastic reduction in budgetary allocation for government funded projects and is considering other alternatives such as PPPs to enhance timely delivery of projects within acceptable cost and risk reduction and quality guaranteed. The public sector which has been finding it very difficult to create, implement and sponsor effective and efficient housing delivery policies in Nigeria have lots of services to be delivered to the citizenry but with very few resources. However, becoming aware of the fact that private home owners and rental housing sector have been and will continue to be the significant creator of the large chunk of housing in the country, the Nigerian Government not too long ago imbibed public private partnerships through restructuring the housing aspect in the new National Housing Policy of 2006 as a policy structure for encouraging private sector participation on the housing delivery (Aluko, 2009; Olofa and Nwosu, 2015).

LITERATURE REVIEW

Contract Procurement in the Nigerian Construction Industry

Alabi (2000) observed that contract procurement methods are defined as the process of procuring drawings and the development of a structure or amenity from briefing through to design, construction, commissioning and subsequent occupation.

Shwarka and Anigbogu (2012) discussed that procurement systems in Nigeria have become an area of increased public interest, in part because of the need to obtain the most advantageous pricing and contractual conditions and work quality and also due to increase need to ensure probity and accountability in public procurement. The procurement process is normally considered to start from the completion of design to the successful commissioning of the assembly of building. They also suggested that several systems of procurement have been introduced over the years in the quest for better project performances. These include the different variants of the separated, integrated, management and discretionary procurement systems. It is important for public clients to determine the right procurement system after assessing the stage of client involvement needed in the construction project, the strategy to design solutions, the time available for construction and the method of funding the project. The choosing of suitable procurement method has to highlight the magnitude, difficulty, uncertainties involved, economic situations and employer's needs to make certain proficient infrastructure provision.

With the modern contract obtaining techniques, there is a gradual shift from merely getting employer's requirements to sharing of risks, as developers are steadily assuming their position as venture firms with the focus of getting maximum gains with lesser uncertainty, and it has resulted to the growth of incorporated strategies of contract obtaining which are combinations of conventional and modern contract obtaining modes (Babatunde *et al.,* 2010). Aluko (2000) opined that contract procurement in Nigeria has always been developed to meet the contractual needs of basically the clients and the other participant needs ranges between arriving at a realistic completion time and cost through a healthy relationship among the participants.

There exist a wide range of procurement methods in Nigeria such as the Traditional method, Management Contracting, Construction Management, Design and Management Contract and, Public Private Partnerships.

Concept of Public Private Partnership in Construction Procurement

Morley (2002) noted the concept Public Private Partnership procurement system is that which is collaboration among the public and private sector to provide huge financial gulping infrastructural project making use of private money which the expended fund is recouped from the money derived by the exploitation of the finished facility over a timeframe of specified years. It signifies the pivotal role played by the conjunction of the public and private sectors which is different from privatization.

Australian Government Department of Infrastructure and Regional Development (2015) pointed out main factors in the usage of PPPs as Value for capital; General public concern; Optimal risk sharing; Productivity oriented; Clearness; Accountability; Involving the consumers; Upgraded funding and financing and; Sustainable long-term contracting.

Nnachi (2011) discussed that Public-Private Partnership (PPP) or P3 in infrastructure growth in Nigeria involves private entity involvement in any or all of the design, construction, and financing and operation stages of a public utility infrastructure, service or a combination of both. PPP entails an agreement between a public body and a private entity, of which the private organization develops a public utility or infrastructure and takes up significant sponsoring, procedural and active risk in the task.

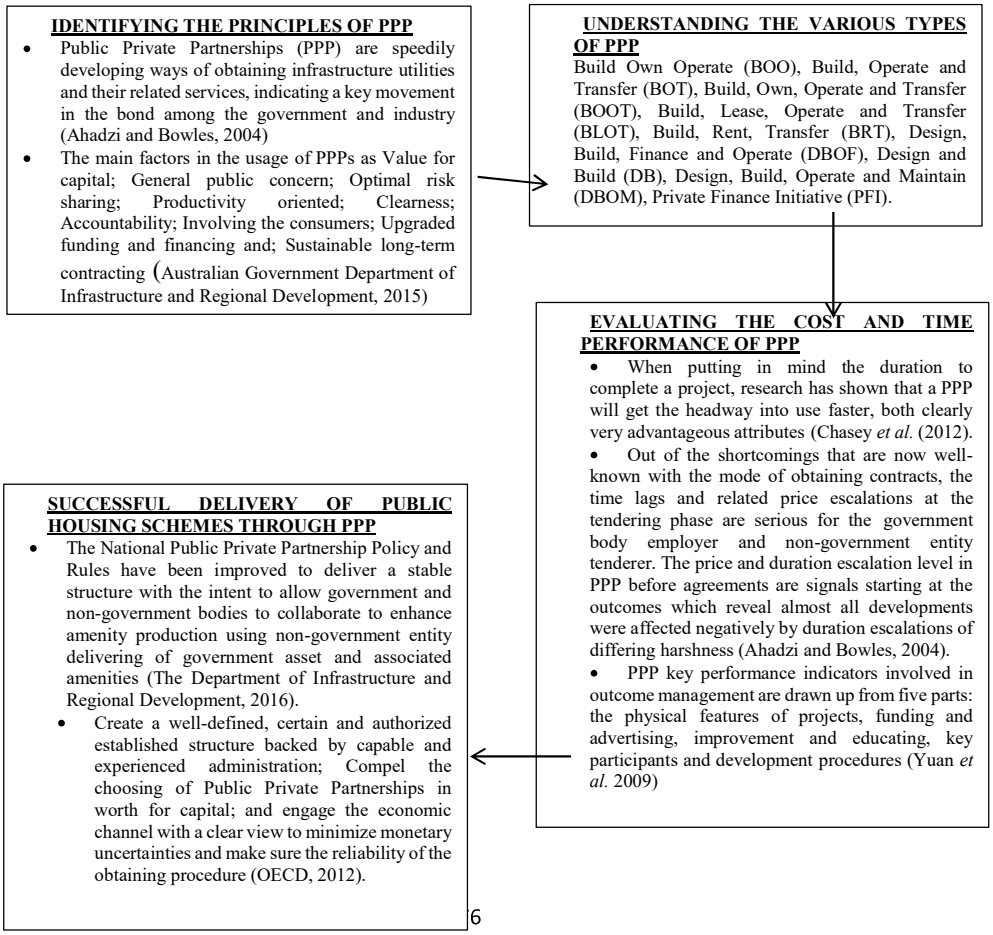
The PPP idea is greatly being adopted by lots of nations and backed by a considerable figure of worldwide establishments/ministries. Significantly noted are countries like the USA, the United Kingdom, Canada, Australia, South Africa, Japan, Finland, the World Bank, the European Investment Bank and the United Nations (Brook; 2001; Hamilton, 2001; Kouvarakis, 2001; The PFI Report, 2001; Ahadzi and Bowles, 2004). The whole PPP obtaining procedure may be categorized to four distinct segments; which is the setting up

and viability segment, the request and discussion segment, the development segment, the running phase and if need be, the transmission and/or a start-all-over again segment (Ahadzi and Bowles, 2004).

Herpen (2002) noted that a public private partnership could be discussed as a combined effort among the public and the private industry, in which the government body and the private entity execute a project together on the grounds of an agreed sharing of labour and risks, each party holding unto its own identity and roles. The perceived demand in PPPs is rising, notably as a result of the increase in the requirement for infrastructure, reducing public funds to cater for current and future needs and acceptance for the non-public institutions in the provision of community projects. The key understanding behind PPPs is that, though the public sector may be required to be responsible for the provision of a particular service/infrastructure, it does not have to be responsible for really delivering the service or for carrying out the investment themselves. With this method, all participants of a public private partnership can give full focus on carrying out what they are likely to do best.

Public private partnership (PPP) is greatly made use of in lots of nations to absorb the private bodies in situations only public agencies and government bodies initially carried out tasks. The idea is somehow not common to the United Arab Emirates (UAE) in a place the government undertakes the obligation for delivering most of the public utilities. So far, the private industry in the UAE has failed in performing a vital part in delivering public infrastructures as shown by the minute collaborations and joint agreements entered into by the public agency and the private entity channelled at delivering public utilities. Of recent, the consumers have seen quite several efforts to ameliorate this circumstance. A key frontier is government of the United Arab Emirate concept to trim the public agencies and create awareness for more valuable PPP (Ghazal 2008; Dulaimi *et al*. 2010).

Figure 1: Conceptual framework for the delivery of public housing schemes through PPP



The Need of Public Private Partnership in the Delivery of Public Housing Schemes

Daramola *et al.* (2005) explained that the bringing on of private and public comprehensive responsibilities in the infrastructural (housing) market was largely backed up by the worldwide market accessible trade well referred to as the world trade organization (WTO). Steps of worldwide involvement, which brings about continuous increase of associations and all-round connections all over the global space, introduced this method. Worldwide firms such as the World Bank, International Monetary Fund and WTO have continuously forced growing quantity of encouragements on various countries relations. Improving cross border impacts with socio-political governance firms of large figure nations already exists.

It was in search of alternative procurement methods that brought the idea of PPP in the procurement of public building and infrastructure projects in Nigeria (Sanda *et al*. 2016). The PPP ideology is relatively not common in Nigeria and other developing countries; however, its application gaining popularity in among developing countries (Adeogun & Taiwo, 2011, Sanda *et al*. 2016).

The creation of the National Housing Policy (NPH) in beginning of 1990s and its further review in beginning of the millennium gave an explosion to organized private sector (OPS) to take a place in the delivery of housing in the country (FGN, 1991; 2006; Abdullahi and Abd Aziz, 2010). Quite a number of laws, motivations, structures and plans are drawn and carried out through the years to establish robust OPS in infrastructure (housing) aspect of the nation and authority to settle down to a state of implementer. Amongst these are establishment of industrial frameworks; start-up of funding organs; reformation, strength formation and monetary rearrangement of funding agencies; examination of policies and statues to ensure they are proficient and should be enacted, forming of fresh departments and establishment, development and skilfulness of the OPS in housing sector (Fortune-Ebie, 2006; Abdullahi and Abd Aziz, 2010).

Rufai (2010) discussed that Public – Private partnership in housing ensures systematic and speedy development of houses and its associated components to the people. It takes care of the possibility of having uncompleted or totally abandoned housing projects that were the usual case of conventional practice. Collective actions lead to sharing of knowledge, ideas, skills and financial resources. The importance of PPP is: it is bound to ensure the provision of shelter or housing to greater proportion of Nigerians, it improves easy access to home ownership through the mortgage system of home-ownership, Public – private partnership in housing and urban development can be an important factor in the security and safety of cities through the involvement and the commitment of all stakeholders and, PPP projects carries all those involved in the scheme together.

Types of Public Private Partnerships

According to Zakari (2007) the PPP can come in several modes and methods depending on the target and objectives of the partnership, the variant, nature and characteristics of the stakeholders/participants and the beneficiaries; the type of contractual agreement and policies imbibed, and a clearly defined allocated responsibilities and means of financial and material support to ensure development, sustenance and better return on investment.

Leiringer (2005) opined that the definition of PPP looks at the context of the most usual contractual procedures employed on PPP developments such as Build, Operate and Transfer (BOT); Build, Own, Operate and Transfer (BOOT); Build, Transfer and Operate (BTO); Design, Build, Finance and Operate (DBOF) and; Design, Construct, Manage and Finance (DCMF).

The general procurement method for privately funded developments are: Build operate and transfer (BOT) and Build on Operate and Transfer (BOOT). Other derivate and abbreviations employed to explain concession contracts are: DBFOT; (Design, Build, Finance, Operate Transfer), FBOOT; (Finance, Built, Own and Transfer), BOO; (Build Own Operate), BOL; (Build Operate Lease), DBOM (Design, Build, Operate and Maintain), BOD; (Build,

Operate, Deliver), BOOST; (Build, Own, Operate, Subsidies Transfer), BRT; (Build, Rent, Transfer) and BTO; (Build, Transfer, Operate). (Omole 2001; Mac-Barango 2015)

Cost And Time Performance Of Public Private Partnership Procurement

Raisbeck *et al.* (2010) opined the terminology PPPs as a contract procuring alternative which has to be provided to the Australian policy creators in the scenario government funds is dwindling and development magnitude is important. The Australian authority suggests that risks sharing in the context of PPP settings are not usually involved in price escalations and entitlements. When empirical and measurable statistics point out that tendering and its prices are truly costing more in the context of PPPs, this could be too high for the contractors to bear. It may also give explanations as to the reason Australian developers may choose traditional contract procuring method if the uncertainty–profit detail from traditional procuring method is viewed to be potentially of benefit.

According to Chasey *et al.* (2012), Public Private Partnerships do not serve as a final solution. Also, there are lots characteristics of a project's development that feed into its achievement than just the observation of cost and schedule point of view. Pertinent to the fact that every PPP researched took into consideration the characteristics of a design and build construction contract within it, it can be concluded that the involvement of design and build as a method to contract for the construction of complex projects caters for costs better than a design-bid-build (traditional) construction. Further, when putting in mind the duration to complete a project, research has shown that a PPP will get the headway into use faster, both clearly very advantageous attributes.

The Allen Consulting Group (2007) noted that PPP ambassadors argue that greater design freedom exists, raised incentives to motivate, more chance for partnership work and a more efficient sharing of uncertainties between parties in the PPP model. PPP critics argue that there are no merits and that there are escalated costs related with PPPs such as tendering costs and uncertainties compounded by a noticed absence of transparency in the PPP mechanism. Arguably, many of the problems that are seen as plaguing PPPs are also needed to projects carried out by governments using the Traditional models of procurement.

Walker *et al*. (2015) opined that joint ventures are applicable and turns out to be a success within particular defined situations. They can be costly to start with, coupled with difficult interfaces and are most applicable to construction projects where there is magnanimous uncertainty and undefined large choice, as a result the development obtaining requirements has to be fully digested by the Project Owner/Project Owner Representative and Non-Owner Participants in alliance. The collaborating party should be competent to execute tasks in the context of deeply agreed esteem, confidence and obligation. Flexibility is needed to change plans with a view to achieve infrastructural development objectives, without recourse to unwanted suspicions and conflicts. The requirements of this professionalism that is usually not typical and very hard to get. A 'quality for development' mechanism falls on the project party commending that excellent lengthy duration productions will better coming dealings.

Ahadzi and Bowles (2004) indicated that the importance of construction works gotten using PPP modes of contract obtaining is rising globally, as authorities want to include non-government body funds and mechanisms of execution in the delivery of varieties of amenities. Out of the shortcomings that are now well-known with the mode of obtaining contracts, the time lags and related price escalations at the tendering phase are serious for the government body employer and non-government entity tenderer. The price and duration escalation level in PPP before agreements are signals starting at the outcomes which reveal almost all developments were affected negatively by duration escalations of differing harshness.

Common views in international PPP literatures shows that co-ordination of construction projects through the use of PPP method betters the time completion compared with traditional procured projects, which have a negative record (Grimsey and Lewis 2005; Li *et al*. 2005, Kwak *et al*., 2009; Carpintero and Petersen 2014).

Findings from a research conducted by Ling and Leong (2002) also reveal that most employers, designers and contractors generally assert to the fact that PPP projects, especially the Design and Build (DB) can be executed in a shorter duration. The key motive for this is contractors' early inclusion in the project, giving them the chance to add input to the design

leading of the construction process. However, the shorter construction time is irrelevant to some degree by the longer timeframe used by employers in the pre-contract stage.

Developing a Framework for PPP for Delivery of Public Housing Schemes

APM Group (2017) suggests that Governments should adopt a structured and programmatic approach such as a framework if they want to rely significantly on the PPP model for new infrastructure development. This is a way to attract stronger and more consistent interest from the private sector. The PPP framework should aim to promote the effective, efficient and sustainable delivery of the PPP program in the jurisdiction. PPP program objectives that will give designers of the framework the direction needed to formulate appropriate processes, decision criteria, and institutional responsibilities can include the following: Allowing enough venture in assets by raising development sponsoring alternatives; Getting worth for funds in the delivery of assets and community amenities; Enhancing responsibility in the delivery of asset and community amenities; Exploiting non-government entity advancement and proficiency; Ensuring that the long-term delivery and management of PPPs is sustainable, especially when stakeholders change over time (political actors, champions, representatives in ministries or PPP units); and Stimulating growth and development in the country.

The National Public Private Partnership Policy and Rules have been improved to deliver a stable structure with the intent to allow government and non-government bodies to collaborate to enhance amenity production using non-government entity delivering of government asset and associated amenities (The Department of Infrastructure and Regional Development, 2016).

Australian Government Department of Infrastructure and Regional Development (2015) noted that a main point in successful procurement of infrastructure and related services is that it comes before an integrated approach to key infrastructure planning and robust frameworks for conclusions to invest in infrastructural development, including the use of project examination methodologies such as thorough cost benefit analysis.

The successful start-up of PPPs demands an institutional and regulatory framework that is functional and allows projects to be finished so that the advantages of increased private sector participation and improved service delivery may be achieved (Ministry of Finance and Development Planning Botswana, 2009).

Asian Development Bank (2012) posits that PPPs are separately regulated by the contract that spells out the roles of parties involved (off taker and/or grantor, and the private sector and/or concessionaire). The contract spells out the procedure, time, and under what conditions the private sector would be due to receive reimbursements (at intervals as well as termination) and how any indexation of payments would be created.

Authorized framework for PPPs relates to the statutes, acts, rules, regulation, and administrative processes that oversee the particular sector/project. This framework describes the rights and responsibilities of the various key participants in the PPP therefore, the uncertainty sharing and apportionment to each of the parties involved. Essential features of legal framework for a PPP project include: Comprehensiveness of rights; Acceptable to erect, sketch, construct, possess, control, manage, and upkeep the infrastructure facilities; Right to fully know, gather, retain, and appropriate tariffs from the consumers of the infrastructure facilities. A large variety of institutional framework and capacity modes have now been imbibed for determining and obtaining PPPs around regions and key/main departments, distinct types of that have possessed a quantity of levels of achievements. At the region phase, the three main mechanisms have been: joining dedicated institutions with cross-cutting legislation; creating and using cross-sectorial PPP advisory modules to help line departments where there is no overarching legislation; and basing on line departments and sectorial agencies to develop capacities (Government of India, 2012).

RESEARCH METHOD

The states selected for this research include Benue, Nasarawa, FCT and Niger because of the presence of on-going and completed PPP projects as well as professionals vast in the

knowledge of PPP. Sampling frame for this study basically consists of construction professionals, consultants, government/ public and private firms in PPP procurement projects. The population is clustered into four states from North Central Nigeria (Benue, Nasarawa, FCT and Niger) in which stratified random sampling were employed to pull out the respondents from the clustered areas. These consists of 28 Quantity Surveyors, 22 Architects, 23 Engineers, 12 Builders, 15 Project Managers and 18 Contractors (a total of 118 which serves as the entire sample size adopted). Quantitative approach was employed to collect data and it shall include the use of questionnaires to be distributed to professionals engaged to handle PPP projects in North Central Nigeria. It will be structured in a pattern for collecting statistics and elicits feedbacks or facts from respondents on the research work. The questionnaire was segmented in a pattern that the respondents are required to pick from the remedy given by ticking appropriately. The questionnaire aimed to highlight the key areas of curiosity to the investigator and at such giving important facts to the investigation objectives. An expanse variety of literature examination from journals, articles, Internet surfing, and other professional materials was employed to gather facts from the subordinate supply.

Descriptive statistics such as mean and standard deviation will be engaged to solve the research inquiry while the results are presented in tables and figures. The cut-off point of 2.50 and above was considered accepted while 2.49 and below will be considered not accepted for the answers to the items on the instrument.

RESULTS AND DISCUSSION

As earlier noted, sample size for the study were 118. Accordingly, 118 questionnaires were sent but 110 returning. Hence, the percentage returned is 93% showing reasonable high percentage.

Table 1 Percentage of Questionnaires Returned and Not Returned

Questionnaire	Number	Percentage
Distributed	118	100
Completed and returned	110	93
Not Returned	8	7

Table 1 shows the response rate of respondents in the study. As shown in this Table, out of a total of 118 questionnaires distributed, 110 (93%) were completed and returned, while the remaining 8 (7%) were not returned. The outcome of a survey could be taken as biased and of little significance if the rate of return was lesser than 30-40%, the number of questionnaires completed and returned were therefore considered adequate for analysis.

Table 2 Designation of respondents

Designation	Number	Percentage
Architecture	23	21
Quantity Surveyor	45	41
Builder	30	27
Engineer	12	11
Total	**110**	**100**

Table 2 shows the designation of respondents in the study. As shown in this Table, 23 are architects (21%), 45 are quantity surveyors (41%), 30 are builders (27%) while 12 are engineers (11%). This implies that there are sufficient professionals to proffer answers required for the research.

Table 3 Academic qualification

Academic Qualification	Number	Percentage
HND	35	32
B.Sc./B.Tech	53	48
M.Sc./M.Tech	14	13
Ph.D.	8	7
Total	**110**	**100**

Table 3 provides information relating to academic qualification. As shown in the table, 32% of the respondents had HND, 48% of the respondents had B.Sc./B.Tech, while 13% and 7% had M.Sc. / M.Tech and PHD respectively. The result implies that the respondents are academically qualified to give information to the research questions.

Table 4 Professional qualification

Professional qualification	Number	Percentage
NIA	18	15

NSE	10	9
NIQS	32	30
NIOB	27	25
Total	**87**	**79**

Table 4 provides information relating to professional qualification of respondents for the study. As shown 15% of the respondents had NIA, 9% had NSE, while 30% and 25% had NIQS and NIOB respectively. The result means the respondents are professionally qualified to give research input.

Table 5 Years of working experience

Working experience	Number	Percentage
0 – 5 years	13	12
5 – 10 years	27	25
11- 20 years	10	9
21 – 30 years	11	10
31 – 40 years	18	16
41 and above	31	28

As shown in table 5, 12% of the respondents have 0 -5 years working experience, 25% have 5 -10 years working experience, 9% have 11 – 20 years working experience, while 16% and 28% have 31 – 40 years and 41 and above years working experience respectively. This means the respondents have adequate number of years of experience required for giving information in the research field.

Table 6 Projects involved

Projects involved	Number	Percentage
0 - 5	42	38
5 - 10	24	22
11 - 20	15	14
21 to 30	13	12
31 – 40	8	7
41 and above	8	7

Also, as shown in the Table 6, 38% of the respondents had been involved in projects within last 5 years, 22% of the respondents had been involved in projects within 5 – 10 years, 14% of the respondents had been involved in projects within 11-20 years, 12% of the respondents had been involved in projects within the last 21 – 30 years while 7% and 7% had been involved in projects within the last 31 – 40 years and 41 and above years respectively. This shows that the respondents are involved in sufficient number of projects in relation to the research work.

Table 7 Projects executed using the public private partnership

Projects Executed	Number	Percentage
0 - 5	18	16
5 - 10	61	55
11 - 20	12	11
21 - 30	5	5
31 - 40	8	7
41 and above	6	5

In Table 7, 16% of the respondents had been involved in executing projects using the public private partnership within last 5 years, 55% had been involved in executing PPP projects within 5 – 10 years, 11% of the respondents had been involved in executing projects using the public private partnership within 11-20 years, 5% of the respondents had been involved in executing projects using the public private partnership within the last 21 – 30 years while 7% and 5% had been involved in executing projects using the public private partnership within 31 – 40 years and 41 and above years respectively. This implies the respondents are adequately involved in PPP projects to give information required for the research.

Based on the foregoing information about the respondents to the study, it is reasonable to conclude that reliable information was derived for the study. Since majority of the respondents did not only belong to consultancies which are actively involved in the

construction industry activities, but also belong to top management in their respective firms, with a relatively high number of years of experience.

Table 8: Principles of PPP in construction procurement

Table 8 shows the extent of agreement of the principles of PPP in construction procurement. As shown in these tables, respondents ranked PPPs as a rapidly growing means of developing public housing schemes and PPP is continuing to be developed to suit the needs of housing schemes due to demand for infrastructure as the two most important concept of PPP in construction procurement.

Item No	Principles Guiding Ppp In Procurement	Mean (X)	Std	Rank
1	PPPs are a rapidly growing means of developing public housing schemes	3.84	0.14	1
2	PPP is continuing to be developed to suit the needs of housing schemes due to demand for infrastructure	3.82	0.19	2
3	The use of PPP is always as a result of the public sector not having adequate capital in providing public housing	3.76	0.25	3
4	The entire PPP procurement process comprise four main stages: the planning and feasibility phase, the bidding and negotiation phase, the construction phase, the operation phase and possibly the transfer and/or renegotiation phase	3.75	0.29	4
5	The use of PPP in developing housing schemes have improved the relationship between the public and private sectors	3.56	0.25	5
6	PPP procurement forms are only for high capital intensive infrastructural project	3.53	0.58	6
7	Under the principle of PPP, the public sector is being converted to purchasers of services while the private entity becomes long time provider of such services	3.42	0.46	7
8	The PPP concept is greatly being accepted and supported by many states in North Central Nigeria	3.4	0.24	8
9	The private entity is solely responsible for financing the project	2.87	1.02	9
10	The public and private sectors work together from the design to the construction and operation of the facility	3.23	0.5	10
11	The public sector does not have to be responsible for actually providing the service or for undertaking the investment themselves	2.85	0.59	11
	Cluster Mean	**3.46**	**0.41**	

The cluster mean and standard deviation are 3.46 and 0.41 respectively; since the cluster mean is above 2.5, hence it is accepted. It should be noted that if it is below 2.5, it will be rejected.

Table 9: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.897	0.914	11

Table 9 shows the cronbach's alpha computed to measure the internal consistency among ratings of respondents and thus the Cronbach alpha was very close to one, indicating the scales used were reliable and the respondents understood the questions being put forward to them.

Table 10 shows the extent of agreement of cost performance of PPP procurement. As shown in these tables, respondents ranked Cost overruns sometimes experienced in PPP housing schemes are influenced by the private sector and Cost performance of PPP procured projects have effect on the whole lifecycle of the infrastructure as the two most important cost performance of PPP procurement.

Table 10: Cost performance of PPP procurement

ITEM NO	COST PERFORMANCE OF PPP PROCUREMENT	MEAN (X)	STD	Rank
1	Cost overruns sometimes experienced in PPP housing schemes are influenced by the private sector	3.71	0.35	1
2	Cost performance of PPP procured projects have effect on the whole lifecycle of the infrastructure	3.69	0.21	2
3	High bidding costs, delays and lack of transparency are more common when PPP is used to deliver public housing	3.52	0.63	3
4	Proper risk allocation under PPP arrangements are less subject to cost overruns and claims	3.48	0.58	4
5	The use of PPP helps in the reduction of government's debt profile when delivering public housing	3.46	0.47	5
6	PPP contractors involve value engineering to minimize costs without lowering quality	3.38	0.67	6
7	The use of PPP helps government in development and delivery of infrastructures such as public housing schemes	3.35	0.74	7
8	Cost overruns sometimes experienced in PPP housing schemes are influenced by the public sector	3.27	0.74	8
9	The use of PPP contains cost better at pre-contract and post-contract stages of housing schemes	3.25	0.51	9
10	Prevailing economic climate (such as recession) has cost effect on PPP procured projects	3.22	0.64	10
11	PPP should be used for large complex and uncertain projects	2.62	1.18	11
	Cluster Mean	**3.36**	**0.61**	

The cluster mean and standard deviation are 3.36 and 0.61 respectively; since the cluster mean is above 2.5, hence it is accepted.

Table 11: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.953	0.976	11

Table 11 shows the cronbach's alpha computed to measure the internal consistency among ratings of respondents and thus the Cronbach alpha was very close to one, indicating the scales used were reliable and the respondents understood the questions being put forward to them.

Table 12 shows the extent of time performance of PPP procurement. As shown in these tables, respondents ranked time overruns sometimes experienced in PPP projects are influenced by the private sector and, increased level of consultation, working together and good channel of information ensures that design differences are tackled quickly in PPP projects as the two most important time performance of PPP procurement.

Table 12: Time performance of PPP procurement

Item No	Time Performance Of PPP Procurement	Mean (X)	Std	Rank
1	Time overruns sometimes experienced in PPP projects are influenced by the private sector	3.15	0.42	1
2	Increased level of consultation, working together and good channel of information ensures that design differences are tackled quickly in PPP projects	3.1	0.47	2
3	Contractors' early involvement in the project especially during design, makes PPP projects completed quickly	3.02	0.85	3
4	Time performance of PPP procured projects have effect on the whole lifecycle of the infrastructure	2.95	0.31	4
5	Considering the time to deliver a project, PPP delivers projects on schedule than other forms of procurement	2.93	0.83	5
6	Time overruns sometimes experienced in PPP projects are influenced by the public sector	2.92	0.68	6
7	Simultaneous design and construction stages in PPP shortens overall project duration	2.79	0.8	7
8	PPP should be used in complex and customized projects with high uncertainty and long duration coupled with severe time pressure	2.78	1.37	8

	Cluster Mean	**2.95**	**0.72**	

The cluster mean and standard deviation are 2.95 and 0.72 respectively; since the cluster mean is above 2.5, hence it is accepted.

Table 13: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.913	0.934	8

Table 13 shows the cronbach's alpha computed to measure the internal consistency among ratings of respondents and thus the Cronbach alpha was very close to one, indicating the scales used were reliable and the respondents understood the questions being put forward to them.

Table 14 shows the extent of agreement of developing a framework for PPP for delivery of public housing schemes. As shown in these tables, respondents ranked Public and Private sector require a structured and programmatic approach such as a framework to promote the effective, efficient and sustainable delivery of the PPP programme and, Legal framework is required for successful PPP in public housing schemes as the two most important ways of developing a framework for PPP for delivery of public housing schemes.

Table 14: Developing a framework for PPP for delivery of housing schemes

ITEM NO	DEVELOPING A FRAMEWORK FOR PPP	MEAN (X)	STD	Rank
1	Public and Private sector require a structured and programmatic approach such as a framework to promote the effective, efficient and sustainable delivery of the PPP program	3.89	0.21	1
2	Legal framework is required for successful PPP in public housing schemes	3.85	0.23	2
3	Jurisdiction/Location of the PPP public housing scheme will determine how the framework will be developed	3.64	0.23	3
4	Institutional and regulatory framework is required for successful PPP in public housing schemes	3.6	0.24	4
5	Monitoring procedure in obtaining services will have an effect in the development of the PPP public housing framework	3.6	0.35	5
6	National and State PPP Policies and Guidelines will aid in providing a consistent framework to deliver public housing	3.55	0.25	6
7	Size of the PPP public housing scheme contract will determine how the framework will be developed	3.35	1.19	7
8	Sector that will benefit from the PPP public housing scheme will determine how the framework will be developed	3.04	1.19	8
9	PPPs are individually regulated by the contract that specifies the responsibilities of both parties	3	1.09	9
10	Conflict resolution procedure will have an effect in the development of the PPP housing scheme framework	2.99	0.97	10
11	The procurement procedure in selecting the private entity and contract type being entered into by both parties will determine the development of the framework	2.96	0.76	11
	Cluster Mean	**3.41**	**0.61**	

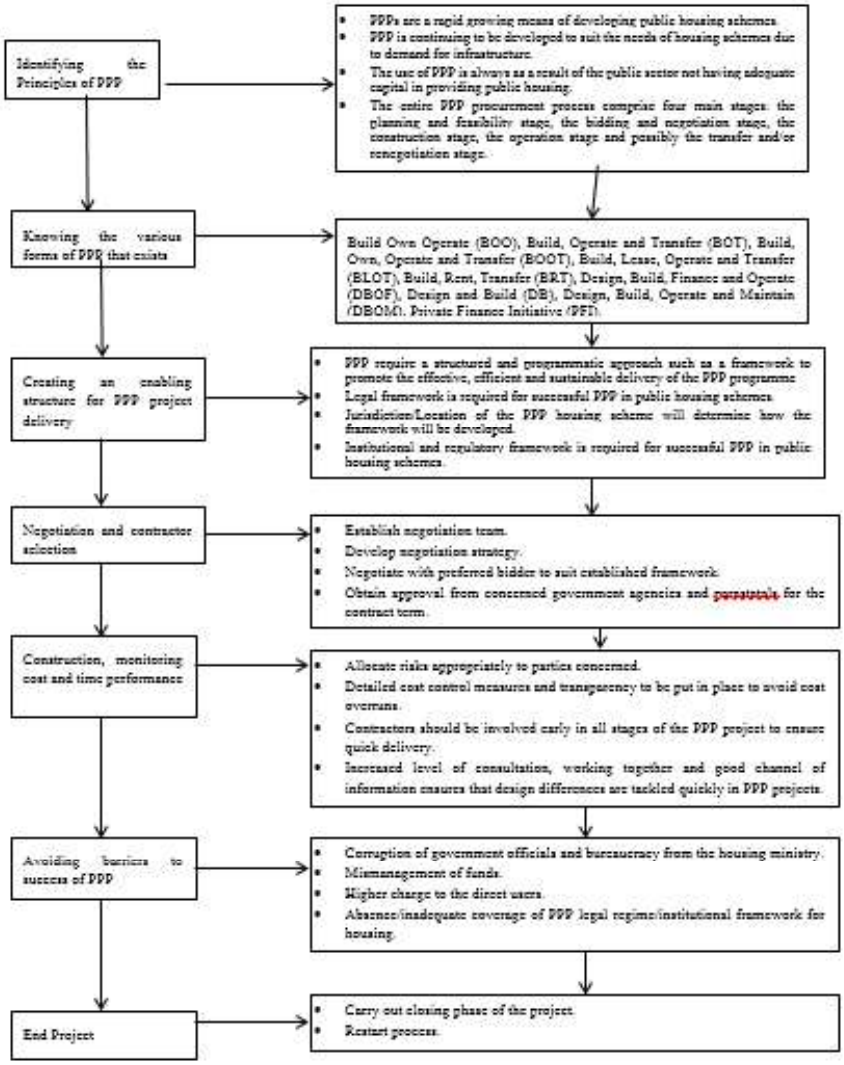
The cluster mean and standard deviation are 3.41 and 0.61 respectively; since the cluster mean is above 2.5, hence it is accepted.

Table 15: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.941	0.956	11

Table 15 shows the cronbach's alpha computed to measure the internal consistency among ratings of respondents and thus the Cronbach alpha was very close to one, indicating the scales used were reliable and the respondents understood the questions being put forward to them. Based on the results gotten and discussed upon, a framework for the delivery of public housing schemes through PPP is thus formulated.

Figure 1: Framework for PPP for Delivery of Public Housing Schemes in North Central Nigeria



CONCLUSION

Based on the comprehensive research carried out on evaluating the performance of Public Private Partnership in the delivery of public housing schemes in North Central Nigeria, the following conclusions were brought up: Public Private Partnerships are a rapidly growing means of developing public housing schemes in North Central Nigeria; Cost and time overruns sometimes experienced in PPP public housing schemes are influenced by the private sector; Increased level of consultation, working together and good channel of information ensures that design differences are tackled quickly in PPP projects; Public and private sectors require a structured and programmatic approach such as a framework to promote the effective, efficient and sustainable delivery of the PPP program and also Legal framework is required for successful PPP in public housing schemes. The following recommendations hereby stem from the outcome of the study:

Sustainability: Government in Nigeria is popular for programme abandonment and discontinuity, especially when there is administration change. For effectiveness of PPP, North central Nigeria should endeavour to keep these programmes running beyond the administration that initiated them in as much as they remain relevant and meet needs. They should not be scarified on the altar of political negligence and lack of continuity which is the trade-mark of Nigerian politics.

Even spread of infrastructures: There is the need to open up the rural areas through infrastructural establishments. This will decongest urban centres in North Central of overcrowding and discourage rural-urban migration in the state.

Improving the already existing relative security (PPP laws) to attract more investors. This will bring about more employment generation, economic empowerment, reduction of social vices and political stability in the state.

Proper implementation of guides and frameworks: Several governments have passed into law various PPP laws and frameworks but little of these laws and acts have been implemented on government projects at various levels.

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