

Alternative Project Systems for Private Sector Participation in Road Infrastructure Delivery in Nigeria¹

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Abstract

Cybernetics from road research in Nigeria indicates the road network totalled 200,000Km; and over 50% are unpaved. Faced with systemic pressure to close deficiency gap, Nigeria embraced policy to boost private sector's participation. Public private partnership (PPP) evolved into two broad categories concession and purchase of service (private finance initiative (PFI)). The models used in Nigeria tend to favour concession. The problems faced in current practice suggest fundamental incongruity with concession and in-country's systemic variables including cultural fitness and procurement practice. Studies that explore these dimensions are rather very few. The aim of this paper was to critically evaluate PFI ethos for suitability as an alternative PPP model for road infrastructure delivery in Nigeria. The study was an explorative literature review and SLEEPT tool was adopted to analyse the social, legal, environmental, economic, political and technological dimensions of the Nigeria supra system. The study revealed the social, legal, technological, environmental and political institutions are fragile to support private investment in road infrastructure. This study identifies PFI as a robust model for checking leakage in the weak institutions. There is also strong meta-analysis correlation between PFI and cultural fits and procurement practice in Nigeria. These variables require clear identification through empirical studies. These dimensions are currently being investigated to unravel the cultural ingredients that prevailed against the concession model.

Introduction

Nigeria road network totalled about 200,000km and over 50% are unpaved (Onolememen, 2012; Ubogu, Ariyo, and Mamman, 2011). Financing infrastructure development globally remains a major fiasco to its provision and efficiency. The situation is not faring better in the face of dwindling resources. Till date, the provision of infrastructure remains the responsibility of the public sector in many places including Nigeria. Public work construction in Nigeria is funded through budgetary provisions in the short term yearly appropriation. Successive studies have

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identified budget-financing as one of the leading barriers to infrastructure provision in the country (Olayiwola & Oyegoke, 2010; Opawole, Jagboro, Babalola and Babatunde, 2012; and Onwusonye, 2015). Related outcome is reported elsewhere in Ghana (Mensah, Dansoh. and Amoah, 2011). Schwarka & Anigbogu (2012) found that budgetary releases impact on project performance. The challenge is not just in releases, but also insufficient allocation. The dominant reason is that there are competing needs to allocate resources. Sanusi (2012) stated the federal government of Nigeria spends 7.5% GDP on infrastructure development, a proportion which is quite significant and compares with best in class allocation worldwide. Alufohai (2012) acknowledged substantive contribution to GDP of 2% by the construction sector in Nigeria. This proportion translates to 27% releases if the two reports are examined side by side. Faced with challenges of unsatisfactory performance in projects delivery and deficiency gap to close for sustained economic growth and development; Nigeria keyed to developing policy to boost private sector participation.

The involvement of the private sector in the provision of public infrastructure is not new. Evidence of the use of public-private partnership (PPP) in Nigeria abound. What is not apparent is whether the context upon which PPPs are implemented in Nigeria actually recognises the peculiarities of existing procurement practices and cultural ethos. The developing nations including Nigeria tend to be in haste in accelerating development. The systemic competition predisposes stakeholders to practice dubbing. Not much attention is given to carefully examine practices in relation to their cultural fits. How well the dubbed practices have fared is a subject of multiple research papers. Failures of concession model are plethora. However, the leading example well pronounced, is the Lagos-Ibadan Express way. Stakeholders have attempted to account for the cause of failure (Babatunde, 2013, 2014). Despite pockets of few successful endeavours in the related sectors including housing, application of PPP in Nigeria is simply re-channelling of public fund directly or indirectly into private hands and commercialization (NIQS, 2010). This experience might be ubiquitous in many places including Hong Kong (Hayllar and Wettenhall, 2010). The eschewing argument supports the different arrangements that heralds PPP structure across the globe. For instance in China, Beh (nd) cited in Hayllar and Wettenhall (2010) assert the ‘so called private context in PPP is partially government-owned corporation than a pure private enterprise. In this way, the term PPP is used as a ‘language game’ that helps politicians conceal the reality of the long term financial debts they are incurring (Hayllar and Wettenhall, 2010).

There are basically three models of PPP including joint venture, financially free standing projects (concession) and private finance initiatives (Cartlidge, 2011). Joint venture and concession have witnessed expansive adoption in the Nigerian infrastructure concession regime including the oil sector. Current models of PPP used in the Nigeria road sector shows inclination towards concession. The incompatibility of this model and its cultural unfitness for the Nigeria’s

system is pronounced. By concession, the users pay directly for the service (Blanc-Brude, Goldsmith and Väililä, 2006). In other words, the project is recourse financed and is financially free standing. The private finance initiative (PFI) is used to describe the service buying or 'purchase of service contract' (POS). This model simply makes the granting authority (government) rather than users responsible for payments, whilst demand risk is transferred to the private sector (Cartlidge, 2011). Careful examination of the Nigeria's failed endeavours was intended to foist the burden of payment on the users of the facilities. In analysing factors associated with the failure of concession in Nigeria, issues of cultural compatibility have seen limited discussion.

This study is therefore an explorative review of PPP current practice in Nigeria using both empirical and literature based facts. The objective is to explore the areas needing further studies and to identify and illustrate that PFI can be beneficial to Nigeria as an alternative to concession. The goal of the study is a factor of importance given current dwindling resources of the states. The status quo persists in the face of wide deficit in road infrastructure need. Greater participation of the private sector using in-country special purpose vehicles is more important now than ever.

Compatibility Problems in Public Private Partnership

Countries of the world differ significantly in socio-economic and political institutions. Galilea and Medda (2010) found that a country's economic and political attributes influences the outcome of PPP endeavours. This postulation had been examined using corruption and democratic accountability dimensions (Galilea and Medda, 2010). Even within a country, there is institutional diversities, most countries adopts differing approaches with respect to user charges and ownership structures (Hayllar and Wettenhall, 2010). In fact, one of the most important incentives linked to PPP is its flexibility in implementing risk-sharing and incentives beneficial to the economic and institutional environment (Galilea & Medda, 2007). Scholars therefore cautioned that, it is clench to replicate a model across sectors. Variances in approaches have been accounted for. Difference in approaches is therefore as a result of cultural variances and backgrounds in planning and management of public works. The need to balance political awareness and acceptability of the PPP arrangement are also widely opinionated (Galilea and Medda, 2007). The political significance of a country's past experience in attracting PPP investors is acknowledged (Hammami, Ruhashyakiko and Yehoue, 2006). The studies that explore this context are rather very few; and scholars' interests in the related constructs in Nigeria's context do not exist.

The cultural compositions of most societies are multi-dimensional including Nigeria. Eaton, Akbiyikli, de Lemos, Gunnigan, Kutanis, Casensky, Ladra, El Sawalhi (2007) stated clearly the

need to explore cultural discrepancies between a country's model with other places where a PPP is adopted for use. The study identified that; identifying these discrepancies prior adoption will facilitate refinements towards ameliorating their effects. The effect of the discrepancies include difficulty in structures, systems, strategies or attitude of the people involved in the implementation of PPP projects (Eaton, Akbiyikli, de Lemos, Gunnigan, Kutanis, Casensky, Ladra, El Sawalhi, 2007). Carassus (2007) agreed to context discrepancies in the political, cultural and local procurement management practices. One way have other systems have responded to the cultural fits issues is to propose a change to the structures, systems and attitudes of the people involved in PPP implementation. Unfortunately growing volumes of literatures have done very little about this in the Nigerian context. The perspective has not change despite current systemic failings facing PPP implementation. Rather, researcher's mind tools are tied to determining stakeholders' perception about performance issues and challenges faced; including determining critical success factors. Research, on the other hand also portrays un-dimensional proclivity pertaining current practice. What model is suitable for the Nigeria state is widely unexplored. This paper argues that low investment in PPP in Nigeria is no longer news and the experience is not difference in so many places including the US (Isrtrate and Puentes, 2011; Roin, 2011; and Dannin, 2011).

As earlier noted, most Nigeria's experiences are products of developed economies contexts; and their templates are holistically or partially adopted for in-country application without review and refinement. Gundes and Yildirim (2015) citing Panayotou (1994) assert these experiences are not readily transferable for a number of reasons. Three dimensions of these difficulties are discussed in Gundes and Yildirim (2015). But the strongest dimension relates to the significant interlace between environmental and economic regulatory elements. Traditional economic theory stipulates that improving environmental outcome through enabling policies negatively impact economic performance (Jaffee, Peterson, Portney and Stavins, 1995). Aspect of cultural practice is environment specific but developing countries tend to jettison environmental problems to secondary needs despite their prevailing elements and attributes (Gundes and Yildirim, 2015). Another dimension is inadequate documentation of in-country's experience that impedes knowledge, policies transfer. The impact of this development is significant. For instance, the scenery has seen no significant improvement despite increasing research effort to document experiences. Given the importance of cultural compatibility to the efficacy of PPP, there it is exigent to explore cultural mechanics influencing the success of PPP in road infrastructure development using the Nigerian case studies. Nigeria is in the primary phase of infrastructure development using PPP; cultural parameters to developing a successful PPP are not created.

State of Road Infrastructure in Nigeria

Road transport is the most popular means of transportation in Nigeria, and is responsible for about 90% movement of people, goods and produce (Adetola, Goulding and Liyanage, 2011). Vast proportions of Nigerian roads are largely unpaved; and pocket of paved ones were procured decades ago. The state of these roads is in utter needs of re-construction and repairs and so many are impassable. The cultural context toward maintenance is very poor, and this is largely responsible for the current of state of Nigerian roads.

‘A road can be describe as a thoroughfare, route, or way between two places, which typically has been improved to allow travel by some conveyance, including a horse, cart or motorised vehicle’ (Adetola, Goulding and Liyanage, 2011). The road network in Nigeria is estimated to be the largest in West Africa. The approximate mileage is 196,000Km but often quoted as 200,000Km in many print pages. Each tier of government is completely responsible for the planning, construction, operation and maintenance of its roads (Ubogu et al. 2011); although in recent years, local governments are handicapped to discharge these duties. Other classification systems recognises these roads as Trunk A, B and C representing links between states, states to local headquarters and link roads within the local government units. The economic importance of roads is plethora in expanding volumes of literature including Heggie and Vickers (1998), Brushett, (2005) and Adetola, Goulding and Linanaye (2011). The key challenges to private sector participation in road infrastructure provision in Nigeria include inadequate maintenance, misuse of roads, over dependence on roads, poor inter-modal transport system, institutional issues, and inadequate funding (Adetola, Goulding and Linanaye, 2011).

Private Finance Initiative

PFI was invented in 1992 by the UK Government and this model is widely used across mainland England, Scotland and Ireland. In this model, the private sectors are motivated to provide services on behalf of the public sector. The private sector creates and make available complete project of interest to the government (Cartlidge, 2011; Gidado, 2010). The private sector partner develop and fully fund the project and operate it for agreed period, during which the services produce are to be purchased by the government in the form of unitary payment. The unitary payment covers the project cost, risk, maintenance cost, cost of finance and other cost but is a fixed charge paid on an agreed period of time notably yearly.

The key concepts in PFI include government purchase of services not assets; seek value for money for the public authority; transfer risk to the private sector; incorporate private sector know-how and expertise; encourage innovation and provide whole life costing for the entire project life-cycle (Eaton et al. 2007). The driver for the use of PFI is not different from the basic

necessities enthrusting private sector partnership. The driver include increasing demand for public sector services, search for efficiency and creativity, quest for innovation, paucity of fund and public sector funding problems and the need to introduce competition in traditional government services. The tenets for the model demand clear responsibility in capital investment from the private sector, output specification of services by the public authority, defined operation and service content availability, and improved risk transfer to the party best able to control the specific risk. According to Akbiyiki and Eaton (2004), the underpinning philosophy in PFI is ‘A government policy to tackle financial problems in service provision and to integrate management skills to increase efficiency, effectiveness and quality and to exploit new opportunities’.

There remains definition ambiguity surrounding the use of PFI (Eaton et al. 2007). Haylar & Wettenhall (2010) assert that the concept is subject to what a given system chooses to define it as. Hickman (2000) held a homogenous view about PPP and PFI. Audit Commission (2003) considered PFI a sub-set of the general PPP arrangement. This view strongly explains the basic delineation between the broad classification of PPP into concession and PFI. However Gidado (2010) defined PFI as ‘scheme submitted to the public sector for consideration in which the public sector may, or may not, previously had thought about, and the full financial initiative is raised by the private sector, which designs, builds, finances and operates the project’. PFI is a public service delivery type of PPP where responsibility for providing public services like transportation, sanitation, etc. is transferred from the public to the private sector for a considerable period of time’ (Akintoye, Beck, Hardcastle, Chinyio and Asenova, 2001).

However, the concept is government policy aimed at incorporating private skills to improve efficiency, effectiveness and quality (HM Treasury, 2000). The concept is widespread across numerous construction sector including South Africa, Greece, Portugal, Japan, Denmark, Canada and Australia (Eaton & Akbiyili, 2005). A number of studies have examined the applicability of PFI within the Nigeria socio-cultural and technical systems. Gidado (2010) explored risks, constraints and problems within in-country context (socio-economics and political environment. Gaidado (2010) generated an implementation framework for in-country application including identification of key enablers. The present of other implementation frameworks for other models is acknowledged. Predominant literatures also keyed to a single perspective, inclining to provide details but subsequently presenting an incomplete outcomes.

The Nigeria Supra System: Overview

Studies that seek to account to systemic impediments to the application of PFI in Nigeria must first explore the context barriers in other places. Though the peculiarities of Nigeria’s problems are sacrosanct but the experiences of other countries would shape the fundamentals for outlining

our priorities. This study adopted the social, legal, economic, environmental, political and technological perspectives (SLEEPT) in analysing the cultural system's constraints to the adoption of PFI. According to Eaton et al. (2007), social context refers to the acceptance of private sector involvement; legal deals with consistency in documentation; economic assesses financing related issues; environmental clearly defined sustainability issues; political defined the strength of the will to push through the desire to involve private sector; and technological concerns with quality.

One of the key issues the pursuant of effective PFI uptake must resolve is public opposition and acceptability by the end users. The role of the end-users is necessary given the socio-economic realities on ground. The Nigerian populace may not take to the street to protest the transfer of traditionally 'free' public sector asset to the private sector for charge, but there seems to be evidence of avoiding usage of these facilities. Public opposition to PPP deals are not new, the UK is deep embedded in this, a movement that introduces re-negotiation clause into PFI deals. Somewhere in Taiwan, Chen (2007) identified strong public opposition among the first five forces against the use of BOT in infrastructure. State of Nigeria social, economic, technological, environmental, political and legal systems variables are examined in the following sections.

Political

The political perspective cannot be ignored because PPP projects are instituted by government only (Eaton et al. 2007). The relevant indicators of veritable political atmosphere for successful PPP are stability and strong will and continuity of governance legacies. These three factors have suffered severely in the sub-Saharan Africa including Nigeria. Political stability is needed for securing long term financing needed by the private partners in the investment (Eaton et al. 2007). The political (public sector) class in Nigeria is seen to lack the capacity to provide the requisite leadership and do not recognize the need to avail necessary motivations for PFI activities (Gidado, 2010). One of the key issues stakeholders must tackle is seeking refinement to handle unsolicited proposal in an economy embedded in corruption. This practice is responsible to the obnoxious position held that, our PPP endeavours is mainly re-channelling of public funds into private hands (NIQS, 2010). Although, unsolicited proposal are imminent in an emerging and non-regulated market perceived as cash-in for quick profit. The government need be concern minimally about this trend, experience from China and the UK shows this practice often die a natural death as the market evolves (Gidado, 2010). There is a significant political constraint in respect of change in government. The practice of democracy in its skewed federalism state at the moment presents a smokescreen with no leading foresight to the direction it is leading. Before the current administration in Nigeria, the indices were robust and directions easily decipherable. Right now it is not certain how much of the in-country contexts the government is willing to tap towards infrastructure delivery. Rather, the opium tends to favour

the international markets that are yet to see clear investment incentives. The government need to exhibit liberalism to encourage investment influx from local and international communities. This will mean a move away from conservative institutional preserving instinct to open policy that clearly dethrone cultural conservancy and clear direction on how it intend to safeguard private investments.

Economic

The economic base of Nigeria is often times likened to China in terms of human and natural resources, and is positioned to grow a wealthy economy (Gidado, 2010). Such economic based will support poverty reduction; provide healthcare and requisite infrastructure services needed to carter for the populace. The oil wealth seems to have impacted very minimally on the social wellbeing of the citizenry; and the energy sector still have less than required to support small and medium scale businesses alone. The use of PFI has reached advanced status in the oil and gas sector but relatively unknown in the mainstream infrastructure services that support life.

Gidado (2010) identified economic variables influencing the use of PFI to include difficulties in securing credit, delay in receiving payments, and difficulties in obtaining foreign exchange. Increased affinity towards the use of concession PPP in Nigeria has failed to recognise compatibility problem associated with capacity of users (public) to pay tariff that is user wealth or income. In a country where an average per capita income is less than 1\$, so much is left to be worried about how this population can afford tariff. Bansoll and Kelly (2005) recognised that user fee (tariff) imposes barrier to low income people; this is also a problem to service demand. Willingness of the citizenry to pay tariff is a popular risk issue in PPP concession contract that must be evaluated. This factor formed the most critical driver of demand risk (Bain, 2009).

Elsewhere in London and Edinburgh, UK, the citizenry voted against congestion charge that saw the City Council in Edinburgh cancelling its plans on this (Hensher and Puckett, 2005). Competition from alternative facilities and amount of user fee debilitates tolling in concession projects. The MM2 concession has seen a fair share of competition trouble, and similar trend is reported by Bain (2009) in Chile. High user fee is fuelled by two significant factors that is, haste to recover investment and expensive construction cost (Alasad, Mottawa and Ogunlana, 2011).

There is need to tackle therefore inflation and high exchange economics variable instituting high construction cost in Nigeria. Other factors include toll collection method, availability of supporting facilities and population growth rate in the facility area. There is need to increase public convenience and add values using appropriate technologies (Menzies and Perrott, 2010). Economic growth of the concession facility era is a correlate of demand risk in PPP that stakeholders in Nigeria must explore in wider context (Alasad, Mottawa and Ogunlana, 2011).

This factor can induce both positive and negative forecasts. High growth index strongly support movement towards supporting tariff payment and declining; and static growth rate is unfavourable. Most Nigeria landmass is rural, existing urban centre suffers migration drift in search for enabling infrastructure to support life.

Legal

The legal system of a country influences the cultural responses to the general construction activities. Gedes and Wagner (2013) highlights basic legal problem that must be resolved by officious legal governance including treatment of unsolicited bids, prior legislative approval issues and mixing of public and private funds. Statistics of states with PPP legislation is not clear yet everyone tend to be seeking development through this mechanism. Absence of state-level legislation in support of PPP investment is universal including the US (Reinhardt, 2011). PPP laws are expected to create enabling framework for conducting PPP business (Gedes and Wagner, 2013). Basically in multi-cultural settings like Nigeria, community response to construction work varies significantly with the tribe, location and presence of natural resources in the area. The UK PFI is embedded in common law, though this is applicable and fundamental to Nigeria due to colonial affiliations. The Legal fabric of the country is deeply entrenched in customs, beliefs and traditions. Transmitting the common law practice to traditionalist setting is faced with difficulties. Empirical experiences in Nigeria witnessed non-predetermined issues emerged as disputes and shifting ground from project environment to courts. There is also the fundamental legal issue of how best to settle eschewing disputes. The responsibility in disputes is bound to alter by the actor's origin and location and significantly on that basis (Eaton et al. 2007). The practice across the world shows disparity in legal resolution mechanisms. The UK is strictly on the basis of 'strict legal liability' Portugal refer dispute to 'college' or 'local' for settlement, Turkey, Palestine and Czech republic adopts 'informal negotiation or arbitrage' (Eaton et al. 2007). In Nigeria, it seems the practice is drawn according to the UK's strict legal liability approach.

It is necessary to establish the intended contractual relationship between PFI partners and the host country prior agreement. Two approaches are obtainable from the global practice, partnering and individual approach. In the UK, agreement is seen as one-off and independent; Ireland show affinity towards longer contract proclivity (a form of partnering); Portugal prioritises personal relationship than legal relationship. In this practice, relationship with particular senior individual in the private sector and public sector is importance than continued contractual relationship. Other places, Palestine, Turkey and Czech Republic practice a combination of individualistic approach and partnering approach.

Until recently, there was no standard regulatory framework for private investments. The Infrastructure Concession Regulatory Commission (ICRC) act only provide a skeletal

framework for PFI, and this must be re-visited (Gidado, 2010). There are also problems of inadequate guidelines and procedures; complex negotiation process, weak judiciary, weak contract enforceability and weak implementation of rule of law.

Social

The social and cultural parameters within a country can greatly influence and alter the attitude of the people in the system towards the operation structures and systems ((Eaton et al. 2007). Effective and efficient PFI strategies are tailored towards national cultural values and perceptions. Till date, it is not clear what cultural fundamentals underpin the value system in Nigeria. Gidado (2010) stated clearly that graft, conflict of interest, transparency and accountability issues significantly constraints the use of PFI in Nigeria. Aspect of developing of service culture is buttressed by Carassus (2007). Service culture is a prerequisite to specifying service performance. This is missing in Nigeria and many other places including France and Italy where the technical aspect overarch.

Dimension of public acceptance need be explored. Public acceptance of the project is closely linked to capacity to pay. Bain (2002) stated clearly that public acceptance of new toll road is interdependent on tolling culture. Probably, the tolling may not be alien to the Nigerian public, but its re-introduction is expected to receive repulsion. To resolve public opposition, Alasad, Motawa and Ogunlana (2011) advocated public participation in the project through evaluation and assessment. Exclusion of the public is capable of igniting pressure on government towards cancellation. Miranda (2007) argues PFI contract requires transformation to entrench transparency that can ensure public participation in this manner.

Technological

The use of information technology in Nigeria is very low. This is responsible for the poor feedback, appraisal and evaluation systems in existing endeavours. There is preponderance of small and medium-sized indigenous contractors in Nigeria. The few large sized contractors are foreign and the leakage problem created already is incompatible for managing PFI related concerns such as renegotiation. Re-negotiation for instance requires strong nationalistic affinity to obtain favourable national outcome. Perhaps PPP regulatory agency should focus on creating local consortia or smaller sized PFI projects to stimulate growth for higher responsibility. This is similar to the Palestinian experience. The Turkey experience can be beneficial also. In Turkey, there are few large contractor limited by scope, obtained practice through joint venture created with small smaller local companies (Eaton et al. 2007). France and Italy have witnessed a growing number of these alliances. The perspective of local differences including procurement practices and business management and local construction practice need be galvanised in selecting foreign investors (Carassus, 2007).

Difficulties in specifying quality and performance standard are fundamental problems in the use of PFI (Gidado, 2010). The lack of requisite knowledge and experience by the public sector participants is also a significant high. Lack of value management system, lack of spare parts, poor appraisal systems, and poor evaluation systems are also very pronounced. It is requisite to de-emphasize technical performance to focus on service and operational performance.

Environmental

There is now a strong convergent thinking linking environmental issues to sustainability. This is seen in the number of environmental controls promulgated by various national governments. Well-developed environmental control would ensure that PFI projects are well scrutinized. Unfortunately, the national government in Nigeria have enacted very few environmental control laws, and the most promising of the related acts ‘The Petroleum Industry Bill’ is currently witnessing apathy from current government. It was reported recently by the Senate that the Presidency have refused to forward the bill for consideration after several request.

This is the macro outlook of the Nigeria supra system in perspective. Vast untapped market remains the most attractive indicator for investors but the in-flow of foreign direct investment does not correlate this improvement. Analyst attribute this to the lack of framework to appropriately assessed and mitigate risks on the part of the proponents, stand out unscathed. Imperatives for improvement should aim at attaining midpoint between systemic impediments and the perceived weak institutions (Ekung, 2015).

Discussion

PFI model transfers the burden of payment to government who simply contract the service of providing, and operating the facility except ‘technical services’ where a facility so demands for a unitary payment. The approach does not insert financial pressure on the system as the project is debt free and charges are off balance sheet except payment for the current year. The PFI originally is the UK model and its adoption in a different context requires modification to address inherent cultural and procurement practices. For instance, the UK model assumes that PFI infrastructure can initiated and delivered by a national/international main contractor. Using this concept elsewhere in the world for instance in Nigeria with no indigenous main contractors is seen to create intra-cultural inconsistency for the application of the UK model. It is therefore prerequisite to identify these potential discrepancies in PPP model adopted in Nigeria with countries where they are dubbed from. Lack of deal structuring skills of professionals and the lack skills by project sponsors requires robust training and development.

This study proposes that PFI can be compatible with the cultural fits and existing procurement practice in Nigeria. Impetus originates from the premise that it is still public sector financed in terms of payment for the services. This can be conveniently planned and incorporated in current

budgetary practice. In the current practice, projects only proceed when appropriated for and fund release. But current funding regime through appropriation is generating negative cybernetics (Olayiwola & Oyegoke, 2010; Opawole, Jagboro, Babalola & Babatunde, 2012). When awarded, the award criteria are based on lowest price rather than value for money in pursuit of public procurement criteria. Rule regularization is criticised from the viewpoints of inhibiting value for money and not enhancing commercial practice in project procurement. The cost overrun that eschew after award resulting from poor funding and variations and other factors are also alarming (Schwarka & Anibogu, 2012). The Nigeria's East-west road has a record cost increases over 300%, attaining cost growth from N67Billion initial cost to N367Billion yet uncompleted, without any substantial change to the mileage of the project. This cost is exclusive of the long-term running and maintenance costs that will be funded from public purse. The high risk context and exposure of public sector is also alarmingly high, aggravated by its inexperience to appropriately manage them. PFI inadvertently transfer all risk to the private sector throughout its useful life which is the service contract period.

The robustness of Nigeria's supra system to support investment in PFI in the road sector have been briefly explored but largely in the minds of intervening best practices across the world. Although skeletal systemic variables are discussed at spots, this is not enough. Rather a long-term correlational study is needed to fully document inherent systemic variables. The leading variables are the cultural readiness to pay user charge and inherent ethos towards public works procurement.

Conclusion and Recommendations

Leading expertise in road infrastructure has linked efficiency to private sector participation in the planning, procurement, financing, construction and management. Nigeria, like other developing countries is submerged in practice dubbing, which fails to examine in-country implications of dubbed practices. The public private partnership experience in Nigeria therefore leans towards a model-concession. Successive studies have adopted bandwagon corollary to apprising challenges to private sector participation in this regards. The one-directional research focus has failed to unravel systemic failing triggers, and the way forward remains inclusively elusive. This study explored the reliability of alternative model to concession projects systems toward infrastructure efficiency in the country.

The review of PPP model in road infrastructure is speckled by the inability to guarantee return on investment to the private investor. The poor guarantee is linked with the unwillingness to pay user charge, inability to pay, amount of user charge and opposition by the public. The convenience of the public sector to pay for service in road infrastructure supplied by the private sector investor thereby leveraging the public of user charge positioned the PFI type model as the best alternative to the cultural fit and procurement compatibility within Nigeria's supra system.

The common understanding underpinning the departure to alternative model to concession is tied to the fundamental principles, that is, ‘finding how to finance the provision or refurbishment of much needed public infrastructure in ways that could get around formal public sector’s debt and ease pressures in public sector budgets’.

The review nevertheless warned of the incomplete nature of PFI contracts, re-negotiation issues and others. The incomplete contract is deficient in not specifying and adequately measuring inputs. This lacuna tends to give suppliers incentives to cut costs at the expense of quality. Re-negotiation eschew from the lack of tactical and strategic flexibility to deal with future uncertainties. The lack of transparency notably in assessing publicly available data need be understood in the context that, PPP is never a form of collaboration but simply a transactional relationship. Again, the PFI type PPP has generated superlative results in many contexts for infrastructure projects with better value for money, compared to concession type and other traditional procurement approaches. The conclusion reached is that unilateral options for the public sector (government) to purchase the services at different milestones during the service lifespan represents the significant departure to stimulating increased private sector investment.

The overarching recommendation towards improving the performance of the generic PPP practice in Nigeria should be directed towards research and development. The overseas model Nigeria keyed into naively is vastly a product of research, and till date these places have not ceased from continuously developing these models through research. The Nigerian Building and Road Research Institute must institutionalise and fund appropriately research in the requisite themes. The baseline could be to aggregate the numerous PPP frameworks and their outputs generated through various correlational studies abroad notably the UK. Study their recommendations and seek new areas for further research. It should be noted that the deficiency gap in the road sector will never be achieved in isolation from research.

References

- Adetola, A. Goulding, J. & Liyanage, C. (2011). A critical Appraisal of Road Transport Infrastructure Management in Nigeria, in Akintoye, A.; Liyanage, C. and Renukkapa, S. (eds) Public Private Partnership, CIB TG72/ARCOM Doctoral Research,, University of Central Lancashire, UK, 12th October, 2011.
- Agren, R. (2011). Contract Design to Prevent Underinvestment in Public Private Partnership, in Akintoye, A.; Liyanage, C. and Renukkapa, S. (eds) Public Private Partnership, CIB TG72/ ARCOM Doctoral Research, University of Central Lancashire, UK, 12th October,
- Alasad, R.; Mottawa, I. and Ogunlana, S. (2011). Identifying Demand Risk in Public Partnerships (PPPs): an empirical Analysis for the Case of Spain, in Akintoye, A.;

- Liyanage, C. and Renukkapa, S. (eds) Public Private Partnership, CIB TG72/ARCOM Doctoral Research, , University of Central Lancashire, UK, 12th October, 2011
- Alufohai, A.J. (2012). Adoption of Building Information Modelling and Nigeria's Quest for Project Cost Management, TS08J - Building Information Modelling – BIM, FIG Working Week 2012, Knowing to Manage the Territory, Protect the Environment, Evaluate the Cultural Heritage, Rome, Italy, 6-10 May 2012.
- Akbiyikli, R. and Eaton, D. (2004). Private finance initiative (PFI): Unity in Diversity in Public Sector Service Provision, paper presented at 4th International Postgraduate Conference, 1st and 2nd April 2004, University of Salford, Salford.
- Bain, R (2009). Error and Optimism Bias in Toll Road Traffic Forecasts. —*Transportation*, 36(5), 469-482.
- Bain, R and Wilkins, M (2002). The Credit Implications of Traffic Risk in Start-Up Toll Facilities, Standard & Poor's, London. Available at: http://www.infrastructureaustralia.gov.au/publications/files/Traffic_Risk_in_start_up_toll_facilities_2002.pdf. Accessed 4th March 2016.
- Babatunde, S.; Perera, S.; Udejaja, C. and Zhou, L. (2014). Identification of Barriers to Public Private Partnerships Implementation in Developing Countries. In: International Conference on Construction in Changing World, 4-7 May 2014, Heritance Kandalama, Sri Lanka.
- Babatunde, S.; Perera, S.; Udejaja, C.; and Zhou, L. (2013). Challenges in Implementing PPP Strategy for Infrastructure Delivery in Nigeria. In: Public Private Partnership (PPP) Body of Knowledge (3P Book) International Conference, 18th March 2013, Preston.
- Blanc-Brude, F.; Goldsmith, H.; and Vällilä, T. (2006). Ex-Ante Construction Costs in the European Road Sector: A Comparison of Public-Private Partnership and Traditional Public Procurement, Electronic copy available at: <http://ssrn.com/abstract=1104070>
- Bonsall, P and Kelly, C (2005). Road User Charging and Social Exclusion: The Impact of Congestion Charges on At-Risk Groups, Institute for Transport Studies, University of Leeds, Special Issue of Transport Policy.
- Brushett, S. (2005). Management and Financing of Road Transport Infrastructure in Africa, Sub-Saharan Africa Transport Policy Programme Discussion Paper No. 4. The Sub-Saharan Africa Transport Policy Programme.
- Carassus, J. (2007). Public Private Partnership as Innovation in Services: Global Solution, Local Issues, CIB 2008 Paper

- Cartlidge, D. (2011). *New Aspects of Quantity Surveying Practice*, 3rd Edition, Spon Press
- Chen, C (2007). Institutional barriers to private participation in infrastructure: the Case of Electronic Toll Collection in Taiwan. In: Boyd, D (Ed) *Procs 23rd Annual ARCOM Conference*, 3-5 September 2007, Belfast, UK, Association of Researchers in Construction Management, 673-682
- Dannin, E. (2011). Crumbling Infrastructure, Crumbling Democracy: Infrastructure Privatization Contracts and their Effects on State And Local Governance, *North Western Journal of Law and Social Policy*, 6 (Winter), 47–105.
- De Lemos, T. and Eaton, D. (2004). Risk Management in the Lusoponte Concession – a Case Study of the Two Bridges in Lisbon, Portugal, *International Journal of Project Management*, 22, 63-73.
- Eaton, D.; Akbiyikli, R.; de Lemos, T.; Gunnigan, L.; Kutanis, R.; Casensky, M.; Ladra, M.; El Sawalhi, N. (2007). An Examination of the Suitability of a UK PFI Model within the Czech Republic, the Republic of Ireland, Palestine (Gaza-West Bank), Portugal and Turkey, *Construction Innovation: Information, Process, Management*, 7(1), 122 – 142
- Ekung, S. (2014). Risk and Financial Management Practice in the Construction Sector in Nigeria, System Thinking Perspective, *International Letters of Social and Humanistic Sciences*, 30(2), 165-175
- Gedes, R.R. and Wagner, B. (2013). Why do US States Adopt Public-Private Partnership Enabling Legislation, *Journal of Urban Economics*, 78, 30-41
- Galilea, P. & Medda, F. (2007). Influence of Foreign Private Investors and Multilateral Lenders on the Success of Public Private Partnerships In Transport. Second International Conference on Funding Transport Infrastructure, Leuven Belgium.
- Gidado, K. (2010). A Model for PFI Implementation in Sub-Saharan Africa-Nigeria as a Case Study, In Soetanto, R. and Davies, J.W. (eds) *Proceedings of the Third International World of Construction Project Management Conference*, Coventry University, UK, 20th -22nd October.
- Galilea, P. & Medda, F. (2010). Does the Political and Economic Context Influence the Success of a Transport Project? AN Analysis of Transport Public-private Partnership, *Research in Transportation Economics*, 30, 102-109
- Gunigan, L. and Eaton, D. (2005). An Examination of the Effect of Organisational Culture of the Implementation of Public-Private Partnership (PPP) in Ireland, CIB W92/T23/W107 International Symposium on Procurement Systems, Las Vegas, NV., USA.

- Gundes, S. and Yildirim, S.U. (2015). The Use of Incentives in Fostering Green Buildings, *JFA*, 2(3), 45-59
- Istrate, E. and Puentes, R. (2011). Moving Forward on Public–Private Partnerships: U.S. and International Experience with PPP Units, Brookings-Rockefeller Project on State and Metropolitan Innovation
- Heggie, I. G and Vickers, P. (1998). Commercial Management and Financing of Roads, World Bank Technical Paper 409, Washington D.C
- Hammami, M., Ruhashyankiko, J. F., & Yehoue, E. (2006). Determinants of Public Private Partnerships in Infrastructure. IMF Working Paper WP/06/99.
- Hayllar, M.R. and Wettenhall, R. (2010). Public-Private Partnership: Promises, Politics and Pitfalls, *The Australian Journal of Public Administration*, 69(S1), S1-S7.
- Hensher, D. A. and Puckett, S. (2005). Road User Charging: the Global Relevance of recent Developments in the United Kingdom, *Transport Policy*, 12, 377-383.
- Jaffee, A.B., Peterson, S.R., Portney, P.R., Stavins, N.R. (1995). Environmental Regulation and Competitiveness of us Manufacturing: What Does the Evidence Tell Us, *Journal of Economic Literature* 33 (1) 132-63.
- Menzies, I, and Perrott,C (2010). Private Sector Participation in Urban Rail: Getting the Structure Right, Note No. 54. Washington DC: PPIAF. Available at: <http://www.ppiaf.org/ppiaf/sites/ppiaf.org/files/publication/Gridlines-54-PSP%20in%20Urban%20Rail%20-%20IMenzies%20CMandri-Perrot.pdf>. Accessed 13 April, 2016.
- Mensah, S., Dansoh, A. and Amoah, P. (2011). Performance of Building Projects Funded by Public Organizations: Potentially Influencing Management Practices In: Laryea, S., Leiringer, R. and Hughes, W. (Eds) *Procs West Africa Built Environment Research (WABER) Conference*, 19-21 July 2011, Accra, Ghana, 783-793.
- NIQS (2010). Post-Conference Communiqué on Public Private Partnership, Nigeria Institute of Quantity Surveyors, Abuja
- Olayiwola, M.K.A., & Oyegoke, S.A. (2010). The Effect of Budget Appropriation on Project Delivery in Nigeria and its Subsequent Effects on the Supply Chain. In Barrett, H.P., Amaratunga, D. Haigh, R., Keraminiyage, K., Chaminda, P. (eds) *Proceeding W092-Procurement Special Track*, 18th CIB World Building Congress, May, Salford,
- Onolememen, O.M. (2012). Nigeria Vision 2020: Building the Infrastructure, The African Executive, <http://www.africanexecutive.com/module/magazine/article.php>

Onwusonye, S.I.J. (2015). Critical Success Factors in the Public Procurement Economy for Sustainability of Quantity Surveying Profession and National Economy, Text of paper prepared and presented to Common Wealth Association of Surveyors and Land Economy (CASLE) Conference 2016: Sustainability of the Surveying Professions and National Development in the 21st Century held between 21st and 23rd April, 2016 at Abuja, Nigeria.

Opawole, A.; Jagboro, G.O.; and Babatunde, S.O. (2011). An Evaluation of the Trend of Budgetary Allocations for Infrastructural Development in Osun State, South-Western, Nigeria, *In: Laryea, S., Leiringer, R. and Hughes, W. (Eds) Procs West Africa Built Environment Research (WABER) Conference, 19-21 July 2011, Accra, Ghana, 105-117.*

Opawole, A.; Jagboro, G.O.; and Babatunde, S.O. (2012). Evaluation of the Contribution of Construction Professionals in Budgeting for Infrastructure Development in Nigeria, *International Journal of Sustainable Construction Engineering & Technology, 3(2), 83-95*

Panayotou, T. (1994) *Economic Instruments for Environmental Management and Sustainable Development*, Environmental Economics Series Publication no.16, United Nations Environment Programme (UNEP), Environment and Economics Unit (EEU).

Reinhardt, W. (2011). The Role of Private Investment in Meeting U.S. Transportation Infrastructure Needs, *Public Works Financing* 260.

Roin, J.A. (2011). Privatization and the Sale of Tax Revenues, *Minnesota Law Review* 95, 1965– 2034

Sanusi, L.S. (2012). The Role of Development Finance Institutions in Infrastructure Development: what Nigeria can learn from BNDES & the Indian Infrastructure Finance Company, Key Note Address at 3rd ICRC PPP Stakeholder Forum, July 18

Shwarka S.M and Anigbogu N.A (2012). Impact of the Public Procurement Reform on Public Building Projects Delivery in Nigeria *In: Smith, S.D (Ed) Procs 28th Annual ARCOM Conference, 3-5 September 2012, Edinburgh, UK, 969-977.*

Ubogu, A.E., Ariyo, J. A., Mamman, M (2011). Port-hinterland Trucking Constraints in Nigeria, *Journal of Transport Geography* 19,106-114

Viegas, J. M (2010). Questioning the need for full Amortization In PPP Contracts For Transport Infrastructure, *Research in Transportation Economics*, 30, 139-144.

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