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Assessment of governance structures of large infrastructure projects (LIPs) in Nigeria

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Abstract:
Governance Structure (GS) of a project has been identified as one of the key factors that determine the effectiveness or otherwise of its governance and performance. This study investigated the GSs used in governing the delivery of seven Large Infrastructure Projects (LIPs) and how the structures impacted the projects' performance with the aim of developing a GS that could improve projects' governance and performance. Extensive literature review and semi-structured interviews with key role players who participated in the projects' governance were used to conduct the study. The study discovered that different types of GSs were used to govern the projects. Complexity or otherwise of the structure used to govern a project was also discovered to have great impact on the effectiveness or otherwise of its governance and performance. The study further discovered that use of one GS to govern both LIPs and other activities of their PAs' organisations. The study finally concluded that there was no uniformly accepted PGS for governance of LIPs in Nigeria and accordingly developed and recommended one (PGS) for use in the governance of the projects in the country.

Keywords: *Complex, Governance, Infrastructure, Performance, Procuring, Projects Structure*

1. Introduction

Large Infrastructure Projects (LIPs) which belong to the class of Large Complex Projects (LCPs) have been described differently by different institutions and scholars. The UK Parliamentary Office of Science and Technology [2002] described LIPs as large-scale projects of national importance such as new trunk roads, airports, ports, power stations, and so forth while Large Project Governance Research Project Report [1] described them as significant undertakings characterised by involvement of multiple organisations seeking success with differing objectives.

The report further observed that the projects are important to society and its welfare but their track record was often poor as they have failed partially or completely due to lack of appropriate governance and concluded that a broader view on governing and managing the projects (LIPs) was needed and accordingly proposed a framework for designing effective Project Governance Structures (PGS) for LIPs to address governance challenges associated with the projects. This position corroborated the views of Too and Weaver [2] who observed that despite emerging researches and increase in publications in the area of Project Governance (PG) related to project management, PG approaches so far adopted emphasized the need for the development of good PGS and processes.

1.1 Project Governance Structure (PGS)

LPG [1] defined a Project Governance (organisational) Structure (PGS) was described as a structure consisting of mechanisms and policies for coordinating and safeguarding exchanges between firms participating in a project. It consists of variety of players working together to achieve orderly and timely decision making for project success. A PGS defines relationships between all internal and external stakeholders involved in project delivery; describes proper flow of information between project participants and stakeholders; ensures that appropriate review and management of risks/issues is undertaken; ensures that timely approval and direction for a project is obtained at each appropriate stage; as well as ensuring that quality is embedded in a project's processes [3].

Project accountability is defined by PGS which shows how power and control are cascaded throughout project organisation from work streams at the bottom to Project Board at the top [3]. A PGS reflective of a project's size and complexity should be established at the initiation phase of a project because hierarchical mechanisms associated with normal organisational structure may not provide adequate framework, flexibility, and timely decision making required for effective project delivery [4].

Project GSs overcome this by drawing relevant key decision makers out of the organisational structure and placing them to work together with other appropriate stakeholders in a forum thereby avoiding the serial decision-making process associated with organisational hierarchies, the institution added.

The PG structure should be independent of the GS of the organisation executing the project in order to avoid slow decision making, ensure qualitative project decisions and avoid compromising the authority of the project governance body [5].

Several studies have identified the importance of effective PGS to effective PG and successful project delivery. One of such studies by VT [3] identified inadequate project GS as one of the major causes of ineffective project governance and subsequent project failure while Robinson, *et al.* [4] identified inappropriate PGS as the cause of lack of clear accountability; conflicts between and among role players. Inadequate PGS was discovered to have impacted negatively on project deliverables and key milestones by Patel and Robinson [6]

The identification of non-involvement of host communities as risks associated with PPP projects in Nigeria [7] can be addressed by an effective PGS as it (PGS) would ensure that all relevant stakeholders are represented and involved at the right decision-making forum. Zoufa and Ochieng's [8] identification of lack of effective governance mechanism as one of the major causes of projects failure in Nigeria meant that the PGSs being used in PG in the country were in adequate because an effective PGS was identified as a key element of PG by Office of Government Commerce [9].

It has however been observed that despite the importance of PGS to effective governance and outcomes of LIPs, the subject (PGS) has not been adequately addressed in Nigeria. This study will therefore address the following research questions:

a. How are the current PGSs for LIPs in Nigeria constituted and used in the governance of the projects?
b. How should an effective PGS for LIPs in Nigeria be constituted and used in the governance of the projects to improve their delivery and outcome?

2. Methodology

A combination of extensive literature review, and semi-structured interviews was used to address the study's research questions in two phases. The first phase comprised comprehensive literature review on procurement and governance of LIPs, PG, and PG Principles contained in books, journals, magazines, newsletters, conference proceedings, internet, etc. The second phase consisted of data collection through semi - structured interviews which is a qualitative research approach. Semi-structured interview was used for the study because it enables a researcher to probe for further insights and clarification while maintaining some structure in the views collected; assists in overcoming the problems of incomplete, restricted or often unavailability of data [10]; and offered considerable flexibility, allowed for preparation ahead of time and encouraged discussion of sensitive issues with the interviewees [11].

Purposive sampling was used in the selection of both the sample LIPs and key role players in their governance who provided information for the study. The samples were selected from LIPs executed by state and federal governments, educational institutions, and private organisations, in the country in order to assess the PGSs used by the various PAs in governing their projects with a view to determining how the respective features of the PAs influenced their PGSs. Data for the study was collected from key role players such as clients' representatives, project managers, consultants, contractors, etc. who participated in the procurement of the LIPs. with a view to obtaining the broadest range of information and perspectives on the study in line with the views of [12] while the role players were selected as sources of data because they were considered to be in a position to provide relevant information for the study. The characteristics of the study samples and role players that provided data are contained in Table 1.

Table 1: Characteristics of study samples and interviewees

S/N	LIP Title	Value in N Billion	Role Players Interviewed
A	Construction of 5KM Asphaltic Dual Carriage Way with Street Lights, Side Drainages, etc. at the Headquarters of all the Local Government Areas of a State	Over N75.00 billion	Managing Consultant and three contractors
B	Redevelopment of a Game Reserve	N5.60 billion	Project Manager
C	Construction of a new Government House complete with Infrastructure	N8.00 billion	Project Manager
D	Establishment of 2 new Schools for a Federal College of Education	N1.80 billion	Secretary, Procurement Planning Committee
F	Establishment of a National Skill Acquisition Centre	Over N18.00 billion	Project Manager
G	Construction of Head Office Complex for a Media House	N1.234 billion	Project Manager
H	Establishment of 3 new Housing Estates	Over N27.00 billion	Managing Consultant and PA's

S/N	LIP Title	Value in N Billion	Role Players Interviewed
			Representative on the MIP

Source: Study Findings

3. Findings

Four different types of GSs as shown in Figures 1 to 4 were discovered to be used in the governance of the studied LIPs's delivery by their respective role players. The PGSs as described and shown below varied from one LIP to another mostly due to the different governance policies used to govern them.

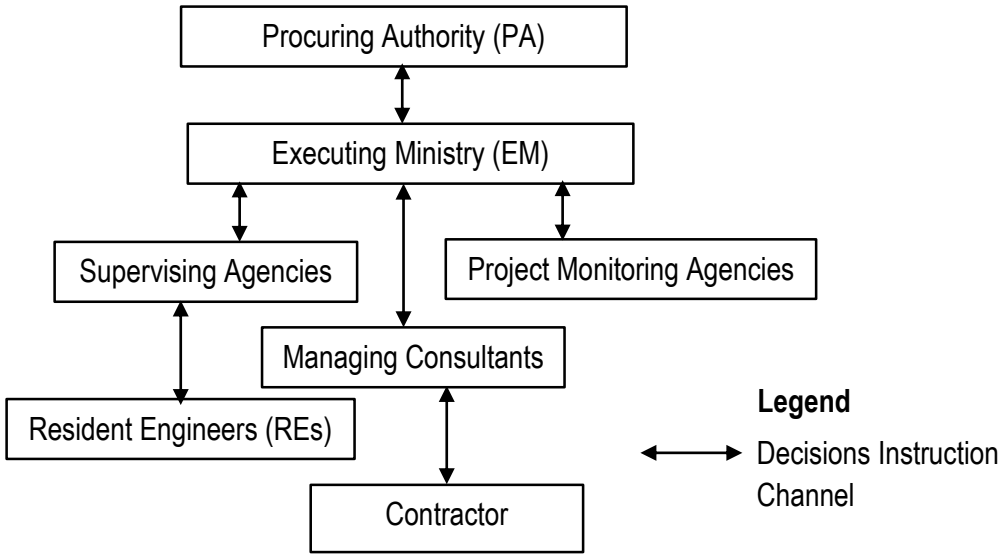

Figure 1: PGS (Type A) of LIPs A & M. Source: Study findings

A bottom to top approach was used to govern LIPs A and M using PGS type A. Under the PGS the PA took all major project decisions ranging from decision to execute the projects; appointment of PG team members, consultants and contractors; approval of payment to contractors and changes to the projects. The EM that was expected to serve like a steering committee coordinated the activities of the supervising agencies, managing consultants and project monitoring agencies but lacked authority to take decisions. It had to refer everything to the PA for decision and this used to cause undue delay. This development therefore disqualified the EM from being referred to as the steering committee.

The supervising agencies were responsible and accountable for ensuring that the projects were executed according to set standards and specifications while the managing consultants were responsible and accountable to the for day-to-day management of the LIPs but both of them also lacked authority to take decisions. The PMAs were responsible and accountable for ensuring that the LIPs met the PA's objectives through vetting designs, reports and submissions made by the supervising agencies and/or managing consultants. The PMAs also lacked approving authority as they only made recommendations on any issue requiring approval to the PA through the EM for appropriate decisions. Under the structure, issues emanating from Managing Consultants (MCs) requiring the attention of either the supervising agencies or Monitoring Agencies must be channelled through the executing ministry (EM) and vice versa. Issues for PAs' attention from MCs had to first be sent to Project Monitoring Agencies (PMAs) through EM for vetting/appropriate suggestion before being forwarded to the PAs under the governance arrangements of the structure. It was only after the PMA had forwarded their views on the issues to the EM that they were referred to the PA for appropriate decision. The use of this GS which was described as complex served as control and risks prevention measures in some instances because mistakes and/or omissions in designs, reports, estimates, etc. that could have negative effects on the LIPs were at times detected and corrected in the course of the vetting exercises while the monitoring aspect of the PGS helped in ensuring that the LIPs were executed in accordance with set standards and specifications. Respondents from the LIPs the PGS was used to govern however complained bitterly that its (PGS) use caused delay in decision making and conflict between some role players.

PGS type B (Figure 4.2 above) was used to govern LIP G. The PGS which was specifically designed to fast track the procurement of the LIP in view of the urgent need for the services to be provided by the project allowed the PM to refer issues to either the Board's Project Committee or Chairman Board of Director of the PA or both whenever he deemed fit. This opportunity given to the PM disqualified the Board's Project Committee from being considered as a steering committee in addition to causing conflict between the PM and chairman of the Board's Committee. The opportunity also deprived the chairman of the project committee of the right to be referred to as the project

sponsor. The PM who was responsible and accountable for the day-to-day management of the LIP had authority to approve changes that did not have financial implications and those that were contained by the contingency provision. The Board's committee was responsible for overseeing the LIP's implementation in addition to being accountable for it successful delivery. Both the PM and chairman of the Project Committee were accountable to the Board of Directors of the PA. Decisions using this PGS were relatively faster than those of PGS type A.

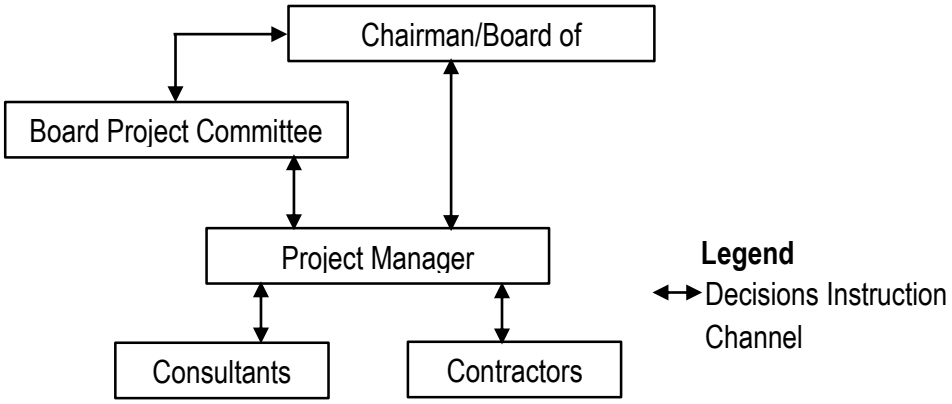

Figure 4.2: PGS (Type B) of LIP G. Source: Study findings (2014/2015).

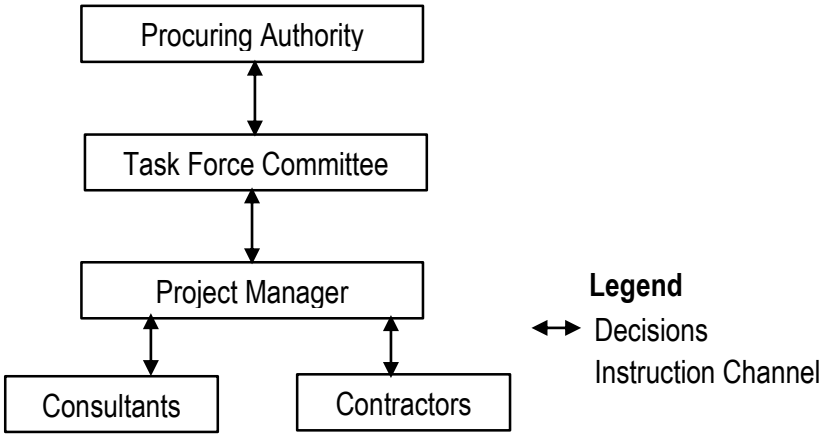

Figure 4.3: PGS (Type C) of LIP B. Source: Study Findings (2014/2015).

Type C structure (shown in figure 4.3 above) was used to govern LIP B. It was made up of consultants and contractors at the bottom who reported to and received instructions from the project manager who in turn reported to an autonomous task force set up to oversee the delivery of the project. The task force which has authority to approve payments to contractors and other project issues reported to and received instructions from the PA. The autonomous task force committee set up to oversee the management of the LIP served like a steering committee while its chairman handled the roles of the project sponsor. The task force had the authority to approve payments and other issues without referring to the PA's chief executive and was accountable for the success of the project. The PM was under the PGS responsible and accountable for the day-to-day management of LIP.

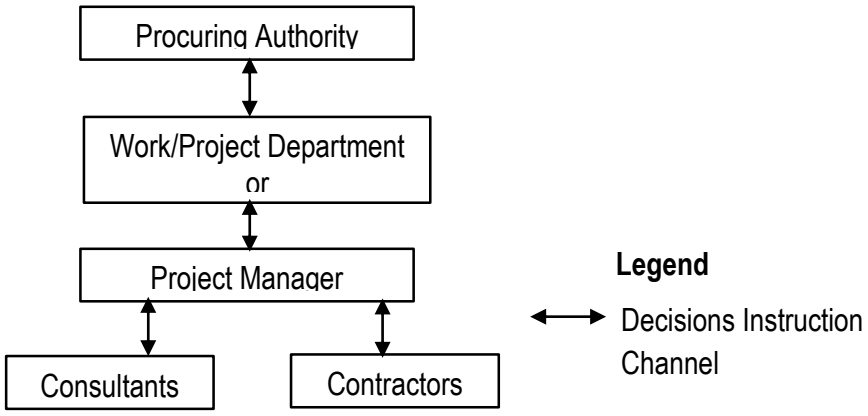

Figure 4.4: PGS (Type D) of LIPs C, D, & F. Source: Study Findings

PGS Type D (Figure 4.4 above) which was described as simple and clear by the study's respondents was similar in outlook to type C but different in the parties involved in the structure. Whereas no government agency was involved in C, government agencies which included Works or Physical Planning Departments of PAs and/or an executing ministry (EM) were involved in D which made decisions in it to be slower than in C in addition to some bureaucratic bottlenecks experienced from time to time in their governance. Nobody was officially designated as the project sponsor for each of the projects this PGS served while Executing Agencies/Ministries and/or Works/Project Departments expected to serve as steering committees did not have the responsibilities, authorities and accountabilities such committees were expected to have.

It was also discovered from the interviews that one GS was used to govern both the LIP and the LIP' procuring orgnisations' other activities at certain levels in six out of the seven PAs' organisations which in most cases resulted in considerable delays (particularly with respect to processing and approval of payments), rejection of professionals' recommendations without valid reasons, reducing or taking over the authority of the LIPs' governance teams and unsound decisions because some of the people who used to take decisions at the PAs' organisations were mostly politicians or administrative officers who lacked prerequisite knowledge and experience for effective project decisions.

4. Discussion

An analysis of the responses of the interviewees on the various types of PGSs used to govern the LIPs clearly indicated that type A which was the most complex served as control and risk prevention measures by making it mandatory to vet all designs/reports/submissions before they were presented to the respective PAs for consideration. The PGS on the other hand caused delays, duplication of duties between some role players, lack of clear authority and accountability for role players with their attendant cost and time implications on the LIPs' delivery. PGS type B which was simply made decisions very fast as it allowed the PM to refer issues to either the project committee or chairman of the PAs' Board of Directors. This structure too had its own shortcomings because it caused conflicts and mistrust between the PM and the chairman of project committee in addition to being open to abuse. PGS type C was the simplest and most effective of all the structures because it did not involve any government agency or department apart from the PA in the governance of its LIPs. This made decisions very fast and eliminated unnecessary bureaucracy. In fact the PM said contractors used to get payments for their certificates within forty eight hours because the autonomous task force which served like a steering committee had the necessary authority to take financial decisions. Even though PGS type D was similar in outlook with type C, role players involved in the governance of LIPs with type D did not have the same authority with those of type C and this made decisions slower. Moreover, the involvement of the PAs' works/project departments in the governance of the LIPs by PGS type D caused delays due to the bureaucracy involved in decisions by those departments.

It was also generally observed that no committee was designated as steering committee in any of the PGS except C where as stated above the task force in the structure served like a steering committee. The executing agencies and/or works/project departments of other projects expected to serve as steering committees could not be considered as proxies to the committees because both their compositions and the roles, they performed were not in consonance with what were expected of steering committees. Lack of an individual formally designated as project sponsor in any of the PGS probably with the exception of C was another major shortcoming which caused lack of clear accountability and delayed decisions in the delivery of the projects.

The identified inadequacies of the various PGSs used to govern the LIPs and use of one GS to govern both the LIPs and other activities of the projects' PAs highlighted the need for a more effective PGS that will lead to timely and effective decision making in the course of LIPs delivery in Nigeria. Most of the respondents suggested the use of a PGS that will not involve any PA's agency apart from its decision-making organ and at the same time ensure that the PGS will be used solely for the governance of LIPs. This unanimous suggestion and the need to improve the effectiveness of LIPs' governance led to the development and recommendation of the use of the PGS below in the governance of LIPs' delivery in Nigeria.

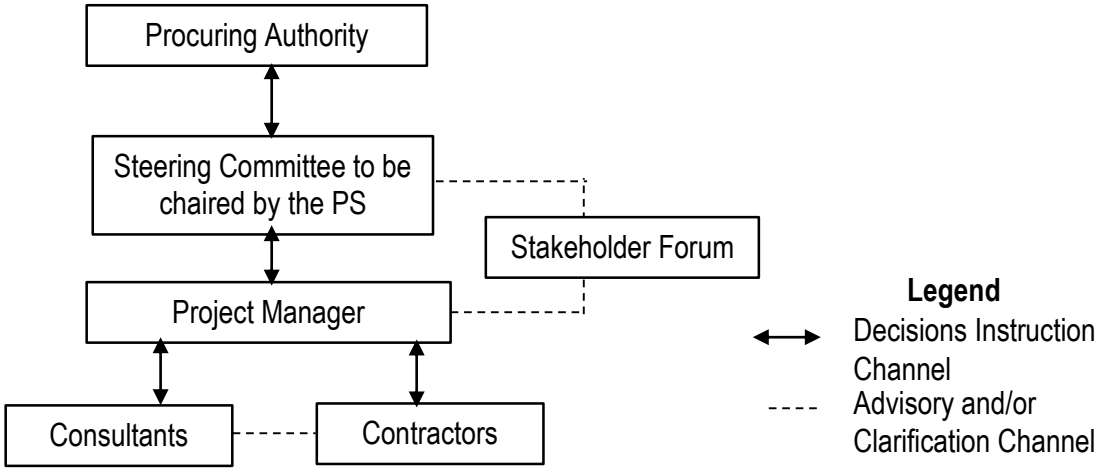

Figure 5.1: Proposed Governance (Organisation) Structure for MIPs' Delivery in Nigeria.
Source: Study Findings

5.1.1 Proposed GS Components

5.1.1.1 Procuring Authority (PA)

This should be highest decision-making hierarchy in the GS of any LIP's delivery. It has the responsibility for decision to procure an LIP and all resources required to procure the project. It should also have the exclusive authority for assessing and approving business case and changes to it; approval of implementation plan and changes to it; approval for contract award; and approval of essential changes that exceed contract sum by more than 10%. It should also take decisions on all issues escalated to it by the steering committee (SC) and direct the SC on issues related to the LIP's delivery with a view to ensuring that the LIP meets its objectives.

5.1.1.2 Steering Committee (SC)

This committee under the leadership of the PS which is the second decision making hierarchy in the proposed PGS should be accountable to the PA for successful delivery of LIP. It should support the PS and have authority to take decisions on all issues referred to it by the PM while excalating issues it could not handle or beyond its purview to the PA for appropriate handling. It should have exclusive authority for approving payments to contractors and changes not exceeding 10% above contract sum. It should also liaise between the PA and stakeholders' forum in addition to handling issues emanating from stakeholders to be brought to it by the PS in the same manner with those from the PM.

5.1.1.3 Project Sponsor (PS)

The PS should be the chairman of the SC and ultimately accountable to the PA for the success of the LIP since he/she owns the business case. The PS should among other thing be the go between the LIP team and PA, reponsibile for MIP's budget and its management, major governance decisions as well as chairman of the stakeholder forum.

5.1.1.4 Project Manager (PM)

The PM should be accountable to the SC for successful execution of the MIP within approved time and budget and to required quality in addition to being responsible for decisions on day to day management of the project. He/she should have the authority to approve changes with no financial implications and those that can be contained within contingency provision. Issues beyond the purview of the PM should be escalated to the SC for appropriate handling.

5.1.1.5 Project Team

The project team made up of consultants and contractors should be accountable to the PM for successful execution of the LIP in accordance with set standards and specifications. Consultants should ensure that their designs are implemented accurately by contractors while issues they cannot resolve should be escalated to the PM for appropriate handling.

5.1.1.6 Stakeholder Forum

This forum should be an advisory avenue for stakeholders to air their views and concerns on the LIP's procurement. Such views should be channeled to the SC through the forum's chairman (PS) for appropriate decisions.

5. Conclusions

The study, which developed a project GS for governance of LIPs' delivery, established that different types of PGSs were used in the governance of MIPs in Nigeria due to lack of uniformly accepted one. The study also discovered and highlighted the inadequacies of the PGSs currently being used in the governance of LIPs in the country. The use of the developed PGS is expected to improve the effectiveness of governance and subsequent outcomes of LIPs in Nigeria

It should however note that the study has some limitations which include the problem of generalisation due to small sample size (seven LIPs) and limited number of interviews conducted with key role players. The use of only semi-structured interview which is a qualitative method to conduct the study was another limitation that may be

addressed by the use of quantitative or a combination of qualitative and quantitative methods to conduct further studies. Findings of the study could, in spite of the limitations, serve as subjects for future studies,

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