Effects of Public Sector Procurement Practices on Project Performance in Ondo State, Nigeria

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Abstract

One of the important reasons why public entities embark on procurement is to exploit the developmental gains that can be derived from such procurements. In order to ensure that this goal is achieved, many entities worldwide put in place enacted procurement guidelines for professionals. The Ondo State government as a procurement entity is yet to do this, instead, it carries out procurement under a regime of multiplicities of ad hoc procurement practices, among which the traditional procurement method predominates. One therefore wonders whether the 62 construction procurements executed under the various procurement practices between 2010 and 2015, in the state have turned in good performance outcomes. Of the 62 construction projects procured, 54 were selected for the study. A two-stage sampling technique was used to select procurement professionals who were involved in the 54 projects. Structured questionnaires were administered to these respondents. Descriptive and inferential statistics were used to analyse the data collected. The chi-square test of association results showed that the projects procured by the state government during the studied period experienced cost and time overruns and

abandonment. The logistic regression of the 10 identified performance variables on performance showed that 8 out of the 10 variables positively influenced performance. The study therefore recommended that the Ondo State government should formulate and enact a procurement policy. The enacted policy should have enshrined in it the 8 empirically-identified pro-performance variables so that the human development index of the state can improve significantly.

Introduction

The positive developmental role that private and public procurement can potentially play in developed and developing economies around the world cannot be overemphasised. Many countries, especially in the developing world, have expended huge scarce resources in the area of public procurement on such projects as highways, bridges, dams, schools, hospitals and railroads, with a view to achieving some sorely-needed economic and social development. In this vein, Kwakkenbos (2015) submitted that public procurement is playing a vital role in financing development projects as allocation to and expenditure in this area amounted to over 17% of world GDP and as much as 70% of public expenditure in developing countries. However, the outcomes of this huge outlay and spending on procurement projects have been anything but encouraging. Transparency International (2010) estimated that procurement of services, works and goods, for instance, in Pakistan and Indonesia (two developing countries) amounted to between 15 and 30 percent of GDP on the average. Poor outcomes due to corruption can be estimated at 10 to 25 percent of the contract value (Transparency International, 2010).

Looking at the construction industry in Nigeria, for instance, Ayangade, Wahab and Alake (2009) submitted that the industry is characterised by a wide range of problems including high cost of procurement, substandard products, project collapse and abandonment. These failures do not only make the investment made on such projects not worth the while, they also lead to untold hardship for the citizens who are

directly and/or indirectly affected by the projects. Once a project is abandoned, the government hardly revisits such a project since it (the project) would be assumed completed on paper. In fact, according to Ogunsemi (2015), public procurement in Nigeria was so terrible in the not-too-distant past that the World Bank's Country Procurement Assessment Report conducted between 1999 and 2000 put it that 60 kobo out of every Nigerian naira spent by the government was lost to underhand practices. Adeyeye (2015), citing the same report, submitted that Nigeria was losing $10 billion annually to corruption in public award of contracts.

The revelation led to the establishment of the Budget Monitoring and Price Intelligence Unit (BMPIU) in the presidency in 2002 with a mandate to restore transparency, competition, competence, integrity and value for money in the award and execution of public contracts in Nigeria (Aduda, 2007). The BMPIU then introduced "due process" into public procurement in the country. The president of the country at the time, Olusegun Obasanjo, thereafter sent the public procurement bill to the National Assembly. The bill was passed by the body and signed into law by President Musa Yar'Adua on 4th June, 2007. The bill is what has now come to be known as the Public Procurement Act (PPA) of 2007 (Akanmu, 2015; Ogunsemi, 2015). The Act is aimed at providing a legal and institutional framework for the enthronement of transparency, accountability, value for money and efficiency in the procurement of works, goods and services in Nigeria. Some observers have given the Act a positive review so far. Nadi (2009), for instance, is of the view that slowly but surely, the enactment of the Act seems to be yielding the desired results as it has been helping to sanitise the public procurement business, especially at the federal level.

Regrettably though, Adeyeye (2015) has pointed out that the PPA is only applicable to the federal government's procurements due to the federating nature of the country. Other tiers of government (state and local) are expected to adopt the act of their own volition. This leeway has made it easy for many states to decide against keying into the PPA. The few states that have done so have remarkably tinkered with the law in order to achieve objectives other than good governance (Adeyeye, 2015). Ondo State is one of the many states in the country that have not adopted the PPA and therefore does not have any procurement law enacted. The public procurement bill sent by the state government to the State House of Assembly in 2010 was returned to the executive governor of the state for

review and corrections. Up till the time this study was commenced, it had not been returned to the House of Assembly for further action; and the Ondo State government has been procuring using a multiplicity of *ad hoc* procurement procedures, among which the traditional method of procurement predominates. These procedures, more often than not, engender the use of discretionary standards in evaluating and awarding bids. This practice may not be in consonance with the requirements of transparency, accountability, seeking value for money and efficiency which should be the hallmark of public procurement ethics in the state.

This study therefore evaluated the performance of some public construction projects procured by Ondo State government between 2010 and 2015. The study also determined the possible contributions of some identified performance variables as suggested by Akanmu (2015) and Ogunsemi (2015) to the outcomes of some projects procured by the Ondo State government in terms of project completion or execution without cost and time overruns and abandonment between 2010 and 2015. Drawing from the outcomes of these objectives, the study recommended which of the important performance variables the state and other entities with similar peculiarities worldwide (emerging and developing economies) should consider and perhaps, enshrine in their procurement policy documents.

Literature Review

Conceptual issues and theoretical review

Procurement Definition and Entities

The term public procurement can be described as the purchase, by national or local governments, of services, goods and works that are needed in order for the tier of government to operate effectively (Kashap, 2004). Such goods range from simple items to sophisticated high-tech equipment (Kashap, 2004). Akanmu (2005) defined public procurement as procuring using public funds for the direct or indirect benefit of the public. Kwakkenbos (2015, p.1) saw procurement (public) as "the purchase of goods and services by government to implement public projects or provide public services such as infrastructure or health and education services".

In undertaking public procurement, the procuring entities which, according to Akanmu (2015), can be institutions, ministries, departments or

agencies that have the capacity to transact on behalf of the government must be guided by some principles and procedures. These principles and procedures should be enshrined in a procurement policy which can be described as a set of rules and regulations that govern the process of acquisition of goods and services needed by a public or private organisation. Procurement process encompasses the whole cycle which starts from need identification to the completion of the contract (IFAD, 2010).

Standards of Good Procurement Process and Policy

Some authors have highlighted some standards that should feature in a good procurement process and hence policy. These features govern the management of public procurement and also set the framework for a code of conduct for public procurement practitioners and other officials who are directly or indirectly associated with the public procurement process. First is good governance (IFAD, 2010; Kashap, 2004), which is whether public resources are utilised efficiently in the buying of services, works and goods by the procuring entities by providing value for money. Value for money is a characteristic that should be demonstrated by procuring entities to consider a host of objectives other than "lowest cost" when spending government funds to procure (Akanmu, 2015). Other standards that should feature in a good procurement process are: economy and efficiency (Kashap, 2004; IFAD, 2010; World Bank, 2010a; Asian Development Bank, 2015; Weel, 2010; European Bank for Reconstruction & Development, 2014; United Nations, 2010). Economy and efficiency call for a thorough evaluation of cost versus benefits of the project (Kashap, 2004). Another standard is transparency (Kashap, 2004; IFAD, 2010; World Bank, 2010a; Jorge, 2013; Asian Development Bank, 2015; European Bank for Reconstruction & Development, 2014; United Nations, 2010). Transparency refers to the ability of the procuring entity to ensure that all participants comprehend the means and processes by which contracts are awarded (Kashap, 2004). There should also be integrity of the public procurement process and of the public procurement practitioners. Integrity is essentially reliability. Jorge (2013) submitted that integrity of the procurement process means that bidders and all other stakeholders must be able to rely on any information disseminated by the procurement entity formally or informally.

Open and effective competition is another standard that must be present in a good procurement process (Kashap, 2004; IFAD, 2010; World

Bank, 2010a; Asian Development Bank, 2015). This standard requires media publicity of the process so that competent suppliers can competitively bid for contracts (Kashap, 2004). Accountability is another important feature. This means that anyone involved in the procurement process is responsible for his actions and decisions with respect to the public procurement process (Jorge, 2013).

Types of Procurement Methods

In deciding on the type of procurement method to adopt, a procuring entity must consider the following parameters before opting for a particular method if it is to achieve a successful procurement: topography, logistics, weather, available technology, finance, labour availability and services (SpendEdge, ND; BuildUp, 2017). In the main, there are generically about four procurement methods in the construction industry. These are traditional, design and build (D&B), management contracting (SpendEdge, ND; Richards, 2006 and BuildUp, 2017), and collaborative working or joint venture or partnering (SpendEdge, ND; BuildUp, 2017). Under traditional procurement, the engineer or consultant would undertake the design and management of the contract while the contractor only builds (BuildUp, 2017). A D&B arrangement requires that the contractor assumes the responsibility of designing and building the project (Richards, 2006). According to SpendEdge(ND), management contracting is about the clients, consultants and specialised contractors participating in the project. The contractor manages the project while the specialised contractors undertake to build as the project requires of their areas of specialisation. However, the client must see to how the project is financed. A joint venture or partnering arrangement in procurement occurs when two or more procuring entities form an alliance by contributing resources in the form of land, capital, intellectual property, skills or equipment to the venture (Designing Buildings Wiki, 2018). This alliance allows them to share risks and rewards. For a successful partnering, the contract must be well spelt out and agreed to and the vision of the partners must not be divergent.

Measuring Project Performance

Performance measurement is referred to as the process of determining to what extent the (general) aim and (specific) objectives of a project are achieved (Sinclair & Zairi, 1995). Essentially, certain standards exist by which a procurement is judged.

The common assessment of the success of construction projects is that they are delivered on time, to budget, to technical specification and meet clients' satisfaction (non-abandonment) (Turner, 1993). According to Cleland & King (1975), a project is termed successful if it passes four success test criteria, namely, the time test, i.e. project being completed on time; the cost or money test, i.e. project being completed within budget; the effectiveness test, i.e. project being completed in accordance with the original set performance and quality standards and client's satisfaction; and non-abandonment test, i.e. the project being accepted by the intended user or clients whether the client is internal or from outside the organisation. Navarre & Schaan (1990) are of the view that at project level, success is measured on the basis of time, monetary cost and project performance. In the construction industry, project abandonment and delays in project execution are considered to be the common problems. These have negative effects on projects in terms of performance.

Key Players That Drive the Procurement Process

The government in power may be headed by a president or a prime minister, a governor or a local government chairman. The head of government may be compelled to fulfill a campaign promise by initiating a developmental project so that he is not thrown out of office during the next election. This study sees him as a principal representing a constituency. In order for the project or procurement to be executed, the head of government must instruct a relevant line ministry headed by a minister to initiate a procurement process. In other words, the minister, supported by other junior bureaucrats, would initiate the procurement process. In the process, they must engage the services of contractors to execute the procurement. This study views the bureaucrats and the contractors as agents of the head of government who in turn represents the people in his constituency.

However, in order for the contractors to successfully execute procurement, the bureaucrats would draw up contracts that would force the hands of themselves and the contractors to abide by the letters of the procurement contracts, which should be drawn up in alignment with a procurement policy. But, what compels the bureaucrats to draw up these contracts? There are three theories that may explain this. These are agency, legitimacy and institutional theories of compliance.

Tanzi (2000) submitted that due to hidden or partial information which can also be called asymmetric information, there is an engendering of moral hazards, thus causing a lack of interest convergence to develop between those on whose behalf tasks are performed (the principals) and those who perform tasks (the agents). Usually, a rent capture by the agents at the expense of the principals is at play (Tanzi, 2000).

There is an agency cost involved because the cheating rent more often than not is associated with the lowering of the level of effort relative to the compensation received by, for instance, the contractor by way of reduction in output produced by him (the contractor) to what is economically efficient (Tanzi, 2000).

This is the argument of the agency theory or the principal-agent dichotomy and "the principals' problem (therefore) is to design the contract that most efficiently forces the agents to meet the requirements" (Tanzi, 2000; p. 5) to be in consonance with the procurement policy upon which the contract was drawn.

Suchman (1995, p. 274) defined legitimacy as "a generalised perception or assumption that the actions of an entity are desirable, proper or appropriate within some socially-constructed system of norms, values, beliefs and definitions". The legitimacy theory of compliance proposes that an organisation (governmental or non-governmental) is bound by a social contract between itself and the society such that the organisation must always be willing to abide by the norms of the society (Brown & Deegan, 1998). Deegan (2007, p. 123) defined a social contract as the "multitude of implicit and explicit expectations that society has about how an ogranisation should conduct its operations". When the organisation's activities are not in congruence with the dictates of the social contract with the institutional actors (society), then a legitimacy gap is said to exist (Behram, 2015).

This gap is tantamount to saying that such organisation lacks legitimacy and as such is seen as not worthy of respect and trust and should not be deserving of the societal resources for survival (Behram, 2015). When this is interpreted within the context of the head of government, the bureaucrats/contractors, it means that the constituency of the head of government must always see him, the bureaucrats (the organisation) and the contractors as complying with the social contract the head of government made with members of his constituency by delivering on his campaign

promise to provide them with, for instance, better roads and schools and an efficient rail system. It is only when the head of government is able to deliver on his promise that he would not create a legitimacy gap. He would therefore be returned to office where societal resources would be available to him to further pursue his political interests.

There are basically three types of institutional theories of compliance: historical institutionalism (see for instance Thoenig, 2011), political institutionalism (see for instance Amenta & Ramsey, ND), and sociological institutionalism.

This paper adopts the third type of institutional theory of compliance which is sociological institutionalism. Under the framework of sociological institutionalism, the organisation or the bureaucracy is capable of being influenced by, according to Hall and Taylor (1996, pp. 938 & 947; Thoenig, 2011, p. 5), "cognitive scripts, moral templates and symbol systems" of possibly a "supra state or super organisation" or a superior system. What these contributors referred to here as cognitive scripts, moral templates and symbol systems are the norms of the influencing entity. Meyer (2007) submitted that human activity is quite enmeshed in institutional contexts, i.e. human activity is to a large extent choreographed by norms. By humans, it is meant that "local actors, whether individuals, organisations, or nation states are affected by institutions" (Meyer, 2007; p. 790), therefore norms have some binding authority over actors (Meyer, 2007) since they are inculcated into them through a process called socialisation (Meyer, 2007).

Ways Institutions and Norms Influence Procurement Actors

The ways by which institutions can affect actors that make up organisations are referred to as isomorphism (Meyer, 2007; Frumkin & Galaskiewicz, 2004; Di Maggio & Powell, 1991 and Thoenig, 2011) and there are three types, namely coercive isomorphism (actors, especially public sector organisations, being influenced by, for instance, regulation, licensing and accreditation); normative isomorphism (actors being influenced by the peer associations to which they belong); and mimetic isomorphism (actors, especially public sector organisations, striving to behave like other public sector organisations) (see Meyer, 2007; Frumkin & Galaskiewicz, 2004, Di Maggio & Powell, 1991; and Thoenig, 2011). The forces of sociological institutionalism may compel the head of government to abide by his campaign promises and also the minister, along with junior bureaucrats, to

ensure that the contractor executes the procurement efficiently, properly and promptly by entering into a contract with him (the contractor).

Potential Gains Derivable from Procurement

Governments utilise public procurement to achieve developmental goals such as addressing some social issues like gender inequality and racial discrimination (Bolton, 2010; p. 10) as evidenced in post-Apatheid South Africa, promotion of local industries, and protection of the environment (Bolton, 2010; ADB, 2014). Kashap (2004) added fighting diseases and reducing poverty to the list of developmental goals listed above. The realisation of these enviable goals may be hampered though by incidents of fraud and corruption in public procurement (Kashap, 2004), especially in developing areas of the world. This has been described by Mattson (2010) as having the proclivity to weaken society and putting upright and competent vendors at a disadvantage; thereby precluding a typical developing country from attaining its potential gross domestic product (GDP) or output.

There seems to be a glimmer of hope however. Many countries around the world seem to have agreed to abide by the Paris Declaration of 2005 and the Accra Agenda for action of 2008 for effectiveness in procurement. One of the agreements at these meetings between the donor world and the recipient world was that of 'untying of tied aid' so that the beneficiary countries can experience capacity development (see for instance, Mattson, 2010; Noble, 2010; ADB, 2014).

Another agreement at these meetings was that the recipient countries should take full ownership of procurement. An example in this regard was the 22 developmental community procurements that were successfully executed in India in 2009 (see World Bank, 2010).

Other ways by which procurement can be used to achieve development (poverty eradication) can be seen in the purchase for progress (P4P) in about 21 countries around the world in 2008 (see World Food Programme, 2010). Also, it has been suggested by Pollin, Heintz & Wicks-Lin (2015) that innovative procurement by way of domestic content requirement can be used to promote reshoring and revival of the decline in US manufacturing due to offshoring and outsourcing practices of US firms.

Conceptual framework

Figure 1 presents the conceptual framework of this study. The figure shows that since the head of government, the minister and junior bureaucrats are influenced by the three theories of compliance in the left cell, they would be compelled to ensure that all the parties involved in the procurement process, including the contractors, abide by the terms of the contract which should be drawn in tandem with the legislated performance-based procurement policy in the middle cell. However, it must be mentioned that simply identifying the instruments that can be utilised for successful procurement may not be a panacea.
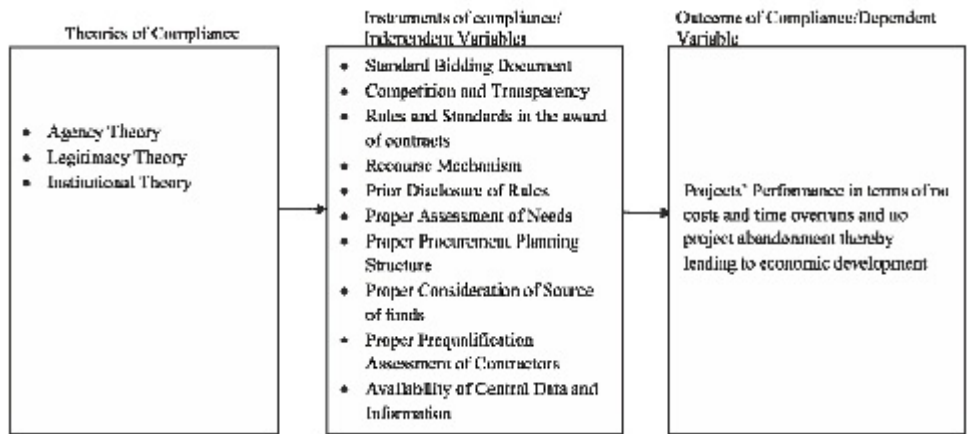

Theories of Compliance	Instruments of compliance/ Independent Variables	Outcome of Compliance/Dependent Variable
• Agency Theory • Legitimacy Theory • Institutional Theory	• Standard Bidding Document • Competition and Transparency • Rules and Standards in the award of contracts • Recourse Mechanism • Prior Disclosure of Rules • Proper Assessment of Needs • Proper Procurement Planning Structure • Proper Consideration of Source of funds • Proper Prequalification Assessment of Contractors • Availability of Central Data and Information	Projects' Performance in terms of no costs and time overruns and no project abandonment thereby lending to economic development

Figure 1: Conceptual framework of effect of procurement practices on performance.

Source: Authors' conception based on literature consulted.

Successful procurement may not be realised in the polity if some intervening variables that may exist in the polity are not carefully considered and ameliorating actions taken to forestall their negative effects on procurements. These variables are: unwieldiness of the legislature to enact a working procurement policy, a dysfunctional judiciary, endemic corruption, lack of ICT software, hardware and infrastructure, and limited skill capacities of procurement practitioners. With ameliorating actions taken, provision of these projects would be done without cost and time overruns and project abandonment, thereby fostering economic

development in the constituency of the head of government as shown in the right cell.

Empirical review

Past works on procurement policy and performance and on procurement reforms and performance are reviewed in this section.

Mokogi, Mairura and Ombui (2015) carried out a study to know the effect of procurement practices on the performance of some state-owned commercial enterprises in the Nairobi County of Kenya. The analyses showed that among other things, supplier selection procedures and procurement process management practices strongly influenced performance in these enterprises. Owuoth and Mwangagi (2015) analysed the effects of compliance with extant public procurement regulations on procurement performance in Kenya. The analyses carried out revealed that there was a lack of compliance with public procurement regulations which caused poor procurement performance. Relatedly, Ameh and Ogundare (2013) evaluated the impact of due process policy on construction projects delivery in the Lagos State area of Nigeria. The results of the analysis showed that adherence to due process proceedings had the highest impact on cost savings, prequalification of contractors and detailed project design, quality of project delivery and project duration. Similarly, Moturi, Arasa and Ombui (2013) investigated the effects of public procurement policies on the performance of Kenya's Water Services Regulatory Board (WASREB). The analyses performed revealed that public procurement policy positively influenced integrity, fairness, accountability, professionalism and level of service provision. Raymond (2008), in her review, utilised benchmarking to identify the standards in the Sri-Lankan procurement process that can improve performance. The identified standards are accountability, transparency, value for money, a professional workforce and ethics.

Sometimes, a lack of procurement policy or the use of ad hoc rules in the procurement process with poor outcomes has forced governments to embark on reforms. But the impacts of these reforms have been mixed at best. Huka, Mchopa and Kimanbo (2014) for instance, sought to know if the procurement reforms carried out by the government of the United Republic of Tanzania since the mid-1990s have improved procurement performance and enhanced value for money. The analysis carried out showed that reforms have improved procurement procedures and hence performance via

enhanced transparency, accountability and competitiveness in the face of some minor vexing resistance. Submitting a contradicting finding, Shwarka and Anigbogu (2012) investigated the impact of public procurement reforms on public projects delivery in Abuja, Nigeria. The analyses performed showed that the reforms introduced have not been effective in addressing cost and duration overrun issues in public building projects in the country. Suggesting a plausible reason for this type of outcome, Achua (2011) submitted in his review that the reforms have not yielded significant positive results because corruption still plagues the country's public procurement process.

Methodology

This study was carried out in Ondo State, Nigeria. The state is located on latitude 7^0 10' North and longitude 5^0 05' East (Wikipedia, ND). It consists of 18 local government areas and its capital city is Akure. Between 2010 and 2015, many developmental road and building construction projects were implemented in the state.

The population for this study comprised all stakeholders who contributed directly to the procurement and execution of the 62 construction projects (56 road and 6 building) carried out by the Ondo State government in the different parts of the state between 2010 and 2015. These stakeholders included staff of the Ondo State Project and Price Monitoring Unit (PPMU), professionals such as engineers, architects, builders, and surveyors who are staff of Ondo State Ministry of Works and Housing, and the contractors who submitted bids for these projects.

The Yamane (1967) formula was used to determine a sample size of 54 randomly selected projects out of the 62 projects for the study. A two-stage sampling technique was adopted in selecting the staff of the construction firms, PPMU, and Ministry of Works and Housing who were involved in the 54 selected projects to serve as respondents in the study. First, purposive sampling was used to identify the staff of these organisations who may have in their custody the data/information relevant to the study. Second, simple random sampling was used to select as many as could be reached; the staff belonging to the different categories of staff involved in the projects. A total of 146 staff of these outfits were reached. Out of 150 copies of the well-structured questionnaire taken to the field, 146 were administered on the three categories of randomly selected staff who

were custodians of the requisite information for the study. The three categories were professionals such as engineers, architects, builders, quantity surveyors and accountants who were staff of Ondo State Project and Price Monitoring Unit (PPMU), Ondo State Ministry of Works and Housing and staff of the contracting firms (who were also engineers, architects, builders, quantity surveyors and accountants) who had been involved in the 54 projects procured by the Ondo State government during the study period.

Close-ended questions requiring "I agree" and "I disagree" answers were asked on qualitative performance variables such as cost overruns, time overruns, project abandonment, standard bidding document, competition and transparency, adherence to rules and standards in the award and execution of public contracts, prior disclosure rules , availability of central data and information, proper assessment of needs by government procurement entities before award of contract, proper procurement planning structure, proper consideration of source of funds (budgetary appropriation) and prequalification of contractors. The survey was carried out between the fourth quarter of 2017 and the first quarter of 2018.

Two (2) hypotheses were postulated in the null form for the study. These hypotheses are:

H_{01}: The public construction projects procured by Ondo State government between 2010 and 2015 did not have poor outcomes in terms of cost, time and scope.

H_{02}: Some of the identified procurement performance variables did not contribute positively to the outcomes of construction projects procured by Ondo State government between 2010 and 2015.

In order to test the 2 postulated hypotheses, the data collected from the survey were descriptively and inferentially analysed. Descriptive statistics such as percentage, mean, frequency were used to analyse the bio-data of the respondents. The chi-square test of association was used to determine whether the construction procurements embarked upon by the Ondo State government performed well in terms of cost, time and scope. Logistic regression was used to qualitatively evaluate the nature of the contribution of the qualitative performance variables to the outcomes of the projects. A model was specified of the form:

$$PERF = \beta_0 + \beta_1 SBD + \beta_2 CT + \beta_3 ARS + \beta_4 RM + \beta_5 PDR +$$

$$\beta_6 ACD + \beta_7 PAN + \beta_8 PPP + \beta_9 PCS + \beta_{10} PPC + U_i$$

where:

PERF	=	Performance of public construction variable. PERF is a binary variable which assumes a value of 1 for "agree" and a value of 0 (zero) for "disagree".
SBD	=	Standard bidding document variable.
CT	=	Competition and transparency in the project procurement process variable.
ARS	=	Adherence to rules and standards in the award and execution of public contracts variable.
RM	=	Recourse mechanism to address issues from aggrieved bidders variable.
PDR	=	Prior disclosure of rules for evaluating bidders variable
ACD	=	Availability of central data and information on procurement variable.
PAN	=	Proper assessment of needs by government procurement entities before contract award variable.
PPP	=	Proper procurement planning structure variable
PCS	=	Proper consideration of source of funds (budgetary appropriation) variable.
PPC	=	Proper prequalification of contractors variable.
β_0	=	Estimator of the intercept term.
β_1	=	Estimator of standard bidding document variable.
β_2	=	Estimator of competition and transparency in the project procurement process variable.
β_3	=	Estimator of adherence to rules and standards in the award and execution of public contracts variable.
β_4	=	Estimator of recourse mechanism to address issues from aggrieved bidders variable.
β_5	=	Estimator of prior disclosure of rules for evaluating bidders variable.

β_6 = Estimator of availability of central data and information on procurement variable.

β_7 = Estimator of proper assessment of needs by government procurement entities before contract award variable.

β_8 = Estimator of proper procurement planning structure variable.

β_9 = Estimator of proper consideration of source of funds (budgetary appropriation) variable.

β_{10} = Estimator of proper prequalification of contractors variable.

U_i = Stochastic disturbance term.

Findings and Discussion

Information collected from the respondents is presented and discussed in this section. Table 1 shows that 41.11% of the respondents hold bachelor's degrees, 33.56% have postgraduate diplomas, while 13.01% hold master's degrees. Only 12.32% of the respondents are non-university graduates. This implies that the respondents were sufficiently educated enough to understand and respond to the questions in the questionnaires.

Table 1: Distribution of respondents by level of education

Educational Qualification	Frequency	%
Ordinary National Diploma (OND)	9	6.16
Higher National Diploma (HND)	9	6.16
Bachelor of Science (B. Sc)/Bachelor of Technology (B. Tech)/Bachelor of Engineering (B. Eng)	60	41.11
Postgraduate Diploma (PGD)	49	33.56
Master of Science (M.Sc) / Master of Technology (M.Tech)	19	13.01
Total	146	100

Source: Field survey, 2017/2018.

Table 2 shows that all the respondents belong to at least one professional body as either a graduate member or corporate member. The majority of them that belong to professional bodies are registered with such bodies as corporate members. For instance, 66.67% of them were corporately registered with NIA, 55.56% with NIOB, 73.02% with NSE, 65.52% with

NIQS, 100% with ICAN and 100% with NIM. Since the corporate members of each professional body were the highest number of respondents, this implies that they are likely to possess the requisite skills, would be inclined to follow ethical practices as outlined by the statutes of the bodies, engage in networking with fellow members for exchange of ideas and mentoring.

Table 2: Distribution of respondents by professional bodies

Body	Graduate Membership		Corporate Membership		Fellow Membership	
	Frequency	%	Frequency	%	Frequency	%
Nigerian Institute of Architects (NIA)	6	33.33	12	66.67	0	0.00
Nigerian Institute of Building (NIOB)	12	44.44	15	55.56	0	0.00
Nigerian Society of Engineers (NSE)	17	26.98	46	73.02	0	0.00
Nigerian Institute of Quantity Surveyors (NIQS)	10	34.48	19	65.52	0	0.00
Nigerian Institution of Estate Surveyors and Valuers (NIESV)	3	100.00	0	0.00	0	0.00
Institute of Chartered Accountants of Nigeria (ICAN)	0	0.00	5	100.00	0	0.00
Nigerian Institute of Management (NIM)	0	0.00	5	100.00	0	0.00
Total	48*		102*		0	

*Multiple responses.

Source: Field survey, 2017/2018

Table 3 reveals that 79.45% of the respondents had worked on projects procured by the Ondo State government for 5 years and above. Only 20.55% of them had worked on such projects for less than 5 years. This shows that the majority of the respondents were well acquainted with the construction projects and could therefore provide the needed information.

Table 3: Distribution of respondents by years of involvement with Ondo State government construction projects

Years of Experience	Frequencies	Percentage (%)
Less than 5 years	30	20.55
5 – 10 years	65	44.52
11 – 15 years	42	28.77
Above 15 years	9	6.16
Total	146	100.00

Source: Field survey, 2017/2018.

Table 4 reveals hat 92% of the respondents affirmed that the construction projects procured by the Ondo State government during the studied period were procured with cost overruns (failure in cost) while 8% disagreed with this position. The table shows that 94% of the respondents were of the view that the construction projects procured by the Ondo State government were procured with time overruns (failure in time). Only 6% of the respondents held a contrary view. It can also be seen from the table that the majority (90%) of the respondents reported that construction projects were abandoned during the studied period.

Table 4: Distribution of respondents by the outcomes of construction projects procured by Ondo State government from 2010 – 2015

Outcome of Project	Affirmative Response	(%)	Negative Response	(%)
Cost Overrun (failure in cost)	134	92	12	8
Time Overrun (Failure in time)	137	94	9	6
Abandonment (Failure in scope)	132	90	14	10

Source: Field survey, 2017/2018

Table 5 shows that the outcomes of construction projects in Ondo State are significantly associated with cost overrun (i.e. spending more on a project than outlay), time overrun (i.e. delays in completion of project and project abandonment. This further affirms the results presented in Table 4 which show that 92%, 94% and 90% of the respondents answered in the

affirmative as to whether the construction projects procured by the Ondo State government between 2010 and 2015 experienced cost overrun, time overrun and abandonment respectively. The null hypothesis postulated for this test is that public construction projects procured by Ondo State government between 2010 and 2015 did not have poor outcomes in terms of cost, time and scope. The table shows that the chi-square coefficients of the performance variables (cost overrun, time overrun and project abandonment) are 25.507, 101.055 and 73.247 respectively and are statistically significant at 5% level. Since this is so, the null hypothesis must be jettisoned in favour of the alternative hypothesis which is that the projects procured by the Ondo State government had poor outcomes in terms of cost overrun, time overrun and abandonment between 2010 and 2015.

Table 5: Chi-square test of association results between performance variables and outcome of the construction projects in Ondo State from 2010 to 2015

	Cost Overrun (failure in cost)	Time Overrun (failure in time)	Project Abandonment (failure in scope)
Chi-square coefficient	25.507*	101.055*	73.247*
Asymp. significance	0.000	0.000	0.000
DF	3	4	4

*Significant at 5% level

Source: Authors' computation based on data collected from Field Survey, 2017/2018

Table 6 presents the results of the logistic regression of the identified policy variables on performance. With a pseudo R^2 value of about 0.88, the model can be adjudged to be generally well-behaved in that about 88% of the variations in the dependent variable are caused by the independent variables while about 12% of the variations are ascribable to unknown factors. The SBD variable was statistically significant, which shows that ensuring that contractors bid with standard bidding documents can positively influence performance of projects. Specifically, if bidding for contracts with standard bidding documents improves by 1% then there is a probability that this will positively affect performance by about 12%. This is because bidding with standard documents deters sharp practices and curbs corruption during the bidding process in the sense that only qualified contractors will be engaged to execute projects. Unqualified contractors who

do not submit their bids in standard bidding documents form would be screened out. This corroborates the submission of Akanmu (2015).

The CT variable is statistically significant at 5% level. With an estimator of about 0.20, it means that if competition and transparency improve by 1% then there is a probability that performance would improve by about 20%. This is because a procurement policy in which CT is enshrined would engender a level playing field for all bidders. This would allow the best contractor to be selected for the job. A selection of the best contractor may prevent cost overrun due to the experience of the contractor. Also, if there is transparency in the bidding process, bidders who lose out to the eventual winner would not have any reason to be aggrieved thus shielding the process from wanton litigations that may cause delays in the execution of the project. This result corroborates the findings of Raymond (2008), Ohashi (2009) and Huka, Mchopa and Kimmanbo (2014).

The estimator of the ARS policy variable is statistically significant at 5% level. The numerical value of the estimator is about 0.21. This implies that if adherence to rules and standards in the award and execution of procurement contracts improve by 1%, then there is the probability that performance would improve by 21%. Improvement in performance here means that when rules and standards are followed, the project would be executed effectively and efficiently. This agrees with the submission of Ogunsemi (2015).

The estimator of the RM policy variable is not statistically significant at 5% level. This may be due to the fact that Nigeria's institutions, including the judiciary, are not well developed and are very weak. This may make bidders reluctant to use the avenue of seeking redress for their grievances.

The estimator of the PDR policy variable is statistically significant at 5% level. The numerical value of the estimator is 0.13 which means that if prior disclosure of rules for evaluating bids improves by 1% for instance, performance has the probability of improving by 13%. This would be so because prior disclosure of rules would enhance openness and transparency which would in turn reduce grievances that may engender litigation as bid losers would readily know why they lost.

The estimator of the ACD policy variable is not statistically significant at 5% level. This shows that availability of a central data base and

information on procurement does not significantly affect performance in the Nigerian environment.

The estimator of the PAN policy variable is statistically significant at 5% level. The estimator of this variable has a numerical value of 0.37. This means that if proper assessment of needs by government procurement entities improves by 1%, then the probability of improving performance would increase by about 37%. What this means is that if project proposals are evaluated using economic and value-for-money appraisal standards as against political and emotive standards, then the costs associated with the project proposals would not be underestimated thereby avoiding abandonment of such projects. This aligns with the submission of Akanmu (2015).

The estimator of the PPP policy variable is statistically significant at 5% level. The numerical value of the estimator is 0.36. This can be interpreted to mean that if proper procurement planning structure improves by 1%, this would cause the probability of improving performance to increase by 36%. This is because proper planning would reduce variations during execution as all the factors that can lead to variations would be addressed during the bidding stage. Also, proper planning would ensure that each activity involved in the project is properly and adequately scheduled for execution. Both of this would reduce cost and time overruns.

The estimator of the PCS policy variable is statistically significant at 5% level. The numerical value of the estimator is about 0.23. This can be interpreted to mean that if proper consideration of source of funds (budgetary appropriation) before embarking on projects improves by 1%, then the probability that this would positively affect performance would improve by about 23%. This is because, if uninterrupted funding of projects is guaranteed, then the possibility that projects would be abandoned would be reduced.

The estimator of the PPC policy variable is statistically significant at 5% level. This estimator has a value of about 0.18. This implies that if proper prequalification of contractors improves by 1%, then the probability that this would positively influence performance would increase by about 18%. This is because PPC ensures that contracts are awarded to contractors that would competently execute projects and not to the cronies of politicians who would eventually abandon projects.

It should be recalled that the hypothesis postulated about the relationship between the procurement policy variables and performance of construction projects in Ondo State during the study period was that "some of the identified procurement policy variables did not contribute positively to the performance of construction projects procured by Ondo State government between 2010 and 2015". Given the results of the logistic regression in Table 6, the null hypothesis postulated should be rejected in favour of the alternative hypothesis since some of the identified procurement variables did indeed contribute positively to the performance of construction projects procured by Ondo State government between 2010 and 2015.

Table 6: Results of the Multinomial Logistic Regression of Policy Variables on Project Performance

Independent Variables (Policy Variables)	Coefficient	Standard Error	t-value	Significance
Constant	0.478	0.223	2.147	0.034
SBD	0.118*	0.017	6.941	0.001
CT	0.198*	0.068	2.912	0.024
ARS	0.208*	0.067	3.105	0.017
RM	0.036	0.073	0.492	0.624
PDR	0.130*	0.072	1.806	0.042
ACD	-0.012	0.014	-0.849	0.397
PAN	0.369*	0.068	5.426	0.030
PPP	0.360*	0.060	6.000	0.002
PCS	0.233*	0.084	2.774	0.032
PPC	0.178*	0.085	2.093	0.038

Dependent Variable: PERF;   *Significant at a 0.05% level

Likelihood Ratio Test = 509.043; Goodness of Fit Test=52.090; Pseudo R^2 = 0.874; N=146

Source: Authors' computation based on data collected from field survey, 2017/2018.

Conclusion and Recommendations

Conclusion

From the findings in this study, the following conclusions can be drawn:

Firstly, projects procured by the Ondo State government during the study period failed in cost because there were usually cost overruns, i.e. spending more than what was budgeted.

Secondly, projects procured by the Ondo State government during the study period failed in time because they experienced time overruns, i.e. there were delays in completion of the construction projects.

Thirdly, projects procured by the Ondo State government during the study period failed in scope because construction projects were often abandoned.

Fourthly, most of the identified procurement performance variables were performance-promoting. Also, from the literature consulted, it can be said that innovative procurement can be used as a veritable tool to promote development and improvement of the Human Development Index (HDI) of developing countries as evidenced by the many variants of the purchase for progress (P4P) programme (World Food Programme, 2010) such as Warehouse Receipt System in Uganda, P4P Partner Afrique Verte in Mali, Purchase for Progress in Liberia, Pesote in El Salvador, Koptegei Widows' Group in Kenya, community-based procurement in India (World Bank, 2010), the untying of tied aid which makes aid recipients to take ownership of procurement thereby fostering local capacity development (Mattson, 2010; Noble, 2010 and ADB, 2014), South Africa's use of public procurement policy to address some social issues like gender inequality and past racial discrimination (Bolton, 2010), promotion of local industries and protection of the environment (Bolton, 2010; ADB, 2014), fighting diseases and reducing poverty (Kashap, 2004).

Recommendations

Based on the conclusions, the following are recommended:

Formulation and passage into law of a procurement policy in Ondo State: The executive arm of the Ondo State government must draft and formulate a procurement policy for consideration and passage into law by the legislature. This would replace the present unwieldy procurement system. In drafting and formulating the policy, it must ensure that the 8 performance-inducing policy variables are enshrined in the formulated

policy. These performance variables are: SBD, CT, ARS, PDR, PAN, PPP, PCS and PPC.

Organisation of workshops and seminars for procurement professionals: The Ondo State government must ensure that the enacted   procurement policy is well publicised and circulated. Also, workshops and seminars should periodically be organised for procurement professionals in both the public and private sectors of the state so that they would be familiarised with the provisions of the sections of the enacted policy.

Reforming the judiciary: It is common knowledge that most institutions in most developing countries are not well developed and therefore dysfunctional. Ondo State, a constituent part of a developing country, Nigeria, is not immune to this situation. The situation can make the enforcement of any well-written and good-intentioned law very difficult. If the Ondo State judiciary is reformed and therefore strengthened, adjudicating in litigations arising from matters that pertain to the interpretation and enforcement of the provisions of the sections of the enacted policy becomes much easier, thus making the policy document to be effective.

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