CHALLENGES OF CONSTRUCTION PROCUREMENT: A DEVELOPING NATION’S PERPESPECTIVE

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**Abstract**

Procurement has been identified as the link between a desire by the client for a construction project and the delivery of value products to agreed standards. Thus, it is an arrangement which define contractual processes, funding patterns, risk allocation, work structure and relationship amongst parties on a project. There is sufficient evidence in literature that procurement of public works in developing nations has failed to deliver necessary infrastructure required for economic development of these nations. Particularly in Nigeria, much resources have been committed to the delivery of infrastructure projects but limited benefits have been obtained. This research entails an exploratory qualitative study into the challenges of construction procurement in Nigeria. The study uses an interview of construction industry professionals who were purposively sampled to identify factors mitigating effective construction procurement. Findings from the study show that improper implementation of legislative framework, funding, corruption, hostile operating environment, inadequate knowledge of practitioners of procurement methods and unstable economic environment are factors affecting public procurement in Nigeria. The study concludes that for construction procurement to meet the need of delivering necessary infrastructure for economic development in a nation like Nigeria, intrinsic issues within the national environment have to be handled by relevant stakeholders.

**Keywords:** Construction, Procurement, Developing Nations, Infrastructure, Challenges.

**Introduction**

Procurement of infrastructure projects is facing a global challenge. However, the case of developing nations is of unique interest. Studies have confirmed a short fall in the global supply of good shelter, potable water, schools, hospitals, electricity, roads, and telecommunication (Oyeranti, Babatunde, and Ogunkola, 2011; Inderst and Stewart, 2014). The Sustainable Development Goals identified 17 critical areas of need that demands urgent attention if millions of people are to live above the poverty line and have enhanced quality of life (United Nations, 2015). Among the 17 areas identified 12 are directly related to infrastructure delivery. Also, studies have linked construction industry performance in delivering infrastructure projects to success of its procurement strategy (Love, Skidmore and Earl, 1998; Chartered Institute of Building, 2010). Unravelling such a topic as the challenges of construction procurement has become pertinent at time that the major source of revenue for Nigeria (one the largest producers of crude oil) have continued to dwindle and the resources for infrastructure
development grossly limited. This study builds on the works of Ofori, (2011), Musazikwa (2013) and Ogunsanya (2016). The gap this research seeks to fill is in identifying procurement challenges peculiar to Nigeria as a developing nation. Though some of the identified challenges are shared by other developing nations.

2. Objective

The objective of this paper is to identify the factors affecting construction procurement in the developing nations through an exploratory study. Thus, providing useful inputs to policy makers.

3. Literature Review

3.1 The Construction Industry

According to Pantz, Watermeyer, and Jacquet (2003), the commitment of South Africa to economic and social development has caused a significant increase in the levels of investment in infrastructure. Thus, compelling all aspects of the government to increase efficiency of construction delivery. The approach of the country to procurement of infrastructure is not just the delivery of projects to required cost, quality and time but being a tool for social and economic engineering and development. The Preferential Procurement Policy Framework allows certain categories of people in the country who have been formerly disadvantaged to be accommodated in the procurement process.

Ofori (2001) acknowledges that efforts are being made by stakeholders to increase the performance of construction industry in many nations. The establishment of Construction Industry Board (CIB) in the United Kingdom, Construction Industry Development Board (CIDB) in South Africa, CIDB in Malaysia, Institute of Construction Training and Development in Sri Lanka to mention a few are steps towards achieving this objective. However, the industry continues to face the following problems:

a) Poor Cost, Time and Quality performance
b) Low level of professionalism
c) Poor implementation of existing statutes and codes
d) Obsolete governing legislations and codes of practice
e) Inadequate work opportunities
f) Administrative bottlenecks in planning approvals and administration

Ofori (2000) admits that even though the construction industry globally also faces some of the challenges above, developing nations have the additional load of economic stress, resource insufficiency and institutional weakness.

3.2 Construction Procurement

procurement as “an organisational system that assigns specific responsibilities and authorities to people and organisations, and specifies how different elements of a construction project would relate”. There are various construction procurement methods which hails from the need to develop strategies that will meet the clients need in different circumstances (Babatunde, Opawole, and Ujaddugbe, 2010). These requirement varies from the level of client’s involvement, management of risks, funding arrangements, payment regimes, type of contracts to be used, the contractor’s financial commitment and who are the Clients (Rwelamila, 2010).

The procurement methods according to literature are: Traditional, Design and Build, Build - Operate -Transfer, Management Contracting, Construction Management, Labor Only, Direct Labor, Partnering, Public Private Partnerships, Strategic Alliances, Private Finance Initiatives, Collaborative Agreements, Concessions etc. (Latham, 1994; Odusami and Bamisile, 1997; Turner, 2003; Mathonsi and Thwala 2012). Research have shown that Nigerian Construction Industry adopts all the various procurement methods in one form or another (Idoro, 2012; Ikediashi,Mendie, Achuenu and Oladokun, 2010; Ibrahim, 2008; Ojo, Adeyemi and Fagbenle, 2006). Even though the most prominent is the traditional method adopts separation of the design and construction functions in project procurement.

3.3 Theoretical Perspectives of the Challenge of Construction Procurement.

3.3.1 Economist view of the challenge of Procurement

Most economic analysis of procurement agree that the challenge of procurement is that of information asymmetry at the start of the transaction. This case presents information ex-ante to production cost. It is believed that one party to the transaction is at a position of advantage by holding some proprietary information about certain aspects of the production whether in terms of cost, material availability, government regulations or others (Bajaris and Tadelis, 2001). This position is buttressed by the application of transaction cost theory, game theory and principal agent theory to various aspects procurement. Decarolis (2014) agrees that this is the basis for competitive bidding and the reason for governments putting regulations that promote value for money, equity, transparency and competition. The nature of construction contracts is that they are one off products that are quite different and unique from any other construction. This makes price comparison to be difficult as each project is unique (PMI, 1996).

3.3.2 Traditional Engineering and Construction Managements view

Contrary to the argument above, Bajaris and Tadelis (2001) posit that there is limited evidence in literature to show that any of the parties to a construction project (the Client, consultants, the contractor and the suppliers) are in a position to have any unique information that is not readily available to all the parties in the construction procurement process. The authors argue however that the greater challenge is in terms of uncertainties associate with a construction project in terms of the design and construction process. Sometimes changes are effected by the Client due to inevitable circumstances, others due to natural disasters, changes in site condition and conflicts. These factors the authors called ex- post
adaptation factors are critical challenges of construction procurement. The position is supported by Chartered Institute of Building (2010) which claims the factor that distinguishes construction procurement from other industries as the complexity of projects. The study also posit such complexities are influenced by the following:

i) Ground conditions  
ii) Topography  
iii) Logistics  
iv) Weather  
v) Available technologies  
vi) Availability of labor and services

Each of the factors above introduce uncertainties to the project and invariably to the procurement process.

### 3.3.3 The TFV perspective from Lean Production

Pekuri, Pekuri and Haaspasalo (2014) argued that the main role of procurement is not just solving the problems of the ex-ante information asymmetry nor the ex-post adaptation factors after contract signing but attending the matter of value loss. Thus getting a production system that makes procurement strategy fit for its intended purpose. The authors used transformation (T), Flow (F) and Value generation (V) theories from Lean Construction’s perspective of production to evaluate the initial postulates of the problems of construction procurement. Koskela (2000) describe value loss at the difference between the optimum value that could be realized from a construction project and the value delivered by the construction project. Others have argued that this concept is difficult to measure quantitatively as the phenomenon of value in the Construction Industry have usually been related to the functions of the features of a product and not really about the derivable benefits from the products from the users perspective. Construction projects usually are long term entities with use spanning decades, so the concept of whole life benefits to users make VALUE LOSS fuzzy and difficult to evaluate.

The lesson from the above postulates is that while it is good to concentrate on making the procurement process better the end game is that the product of the process must meet the needs of the intended stakeholders.

### 3.4 Factors Affecting Construction Procurement in a Developed Nation: Japan

Terakawa (2011) posits that the challenges facing procurement in Japan’s public sector as regards construction are:

a) **Improving and ensuring the quality of works:** Rather than having a procurement systems regulated by competition and cost regimes alone there is need to move to a procurement based on competition, cost and quality regimes. This new order makes evaluation of a bid to be done on a broad spectrum of requirements instead of cost alone (Koike, 2014).

b) **The role of construction industry exhibiting local leadership:** Construction industries should be structured and capacitated to respond to relief works during disaster times and managing repair
and maintenance works at local levels. Some repair works if appropriately done will prevent future spending on replacing infrastructure.

c) **Harmonizing with international public procurement processes:** For the nation to explore international markets in terms of offering construction services, there must be an alignment of current practices with international standards. The current effort to start the use of International Federation of Consulting Engineers (FIDIC) contract types is one of such steps (Terakawa, 2011).

d) **Ensuring the formation of a recycling culture:** It is not just enough to develop a culture of use and re-use within the construction industry which makes use of huge materials and generate lots of wastes, the industry must find use for waste from other segments of the society. The eco-friendly design and initiatives are steps in the right direction.

e) **Using Public Procurement as tool for social change:** After the Earthquakes of 2011, the procuring opportunities have seen the need to partner with local contractors and private entities in implementing the minimum wage structure. Thus, ensuring living standards of workers are improved through efficient procurement delivery by competent contractors (Koike, 2014)

### 3.5 Challenges of Construction Procurement in Developing Nations: Nigeria and Zimbabwe

Inuwa, Wanyona and Diang’a (2014) identified 22 factors plaguing the indigenous contractors in the Nigerian Construction Industry in their procurement efforts and ranked them. The categorization is after an intensive literature search, questionnaire administration and interview sessions in the northern states. The authors argue that these challenges emanates from the clients, consultants and contractors. Table 1 illustrates the factors.

<table>
<thead>
<tr>
<th>S/N</th>
<th>FACTORS</th>
<th>RANK</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lateness in honoring payment certificates</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Too many variations</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Technical incompetence</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Design deficiencies</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>Material shortage or late delivery</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Delays</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>Increase in price of material</td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>Inadequate project documentation</td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>Project complexity</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>Disputes</td>
<td>10</td>
</tr>
<tr>
<td>11</td>
<td>Plants, equipment, and machines</td>
<td>11</td>
</tr>
<tr>
<td>12</td>
<td>Claims</td>
<td>12</td>
</tr>
<tr>
<td>13</td>
<td>Poor work definition</td>
<td>13</td>
</tr>
<tr>
<td>14</td>
<td>Organizational problems</td>
<td>14</td>
</tr>
<tr>
<td>15</td>
<td>Project risks and uncertainties</td>
<td>15</td>
</tr>
<tr>
<td>16</td>
<td>Clients dissatisfaction</td>
<td>16</td>
</tr>
</tbody>
</table>
The factors that ranked 1st to 5th are lateness in honoring payment certificates, variations, technical incompetence, design deficiencies and material shortage. The issue of funding and prompt payment has continually been a challenge in the procurement of infrastructure in developing nations as opposed to developed nations where funding for infrastructure is available before the procurement process is initiated. Variation and design deficiencies introduce changes to projects which sometimes cause delays and cost increment. The impact may be mitigated by the procurement method adopted and the payment regime.

Also, Mohammad, Adamu and Ladi (2015) acknowledge that the problems affecting construction procurement in Nigeria are kidnappings, vandalism, civil unrests, and other factors that have increased the risks associated with the construction process. The study further identified that lack of the knowledge and working processes of the Public Procurement Act, refusal to comply by some individuals, political influence, administrative bottlenecks, and knowledge gap in terms of the variety of procurement options available are common challenges.

Musanzikwa (2013) identified the following as the challenges of public procurement in Zimbabwe; Delays in project implementation, corruption, indigenization policy, incompetence, inadequate market enquiry and political influence and proposed that these challenges can be mitigated by adoption of professional procurement practice, training of procurement officers and staff, transparency and the decentralization of the process.

The paper progress to the discussion of the research methodology adopted for the research in the next section.

4. Methodology

This paper employs an exploratory qualitative approach. The choice of research methodology is based on the ontological and epistemological basis of the research and position of literature. Thus, it is important to discuss what constitutes a qualitative research. Mason (2002) succinctly describes qualitative research as that which uses the interpretivist philosophical approach. Its data generation processes are flexible and sensitive to social context in which the data is produced. Methods of data analysis involves case building which consist of understanding of complexities, details and context. This position is supported by Creswell (1994) and Saunders, Thornhill, and Lewis (2003). It suffices to say, that certain quantitative researchers view qualitative research as less systematic and anecdotal or at best illustrative. Sufficient proof exists in literature which shows that this position is far from the truth. The
strength of qualitative research is the strategic significance of context and in-depth understanding of the social world which it provides.

The study uses a purposive non-probabilistic sampling to identify key stakeholders in the Nigerian Construction Industry based in Lagos and Abuja. The use of non-probabilistic sampling technique is encouraged when there is no reliable database of the survey population (Creswell, 1994). The Criteria for selecting the participants include a minimum education level of university bachelor’s degree in built environment/engineering discipline, minimum of 15 years experience in the Nigerian Construction Industry, membership of professional body and evidence of knowledge in construction procurement. Ten (12) stakeholders were interviewed via the telephone. Ten (10) guide questions have been prepared before the interviews were scheduled. The participants were approached for their consent and willful involvement in the research process as being part of an ongoing doctoral research. All the sessions were recorded and transcribed for analysis. Color coding was used to match respondents’ answers to the key attributes identified in literature. The researcher ensures to seek the meaning and sense of the respondents’ answers. The categorization of respondents according to their industries in illustrated in Table 2.

<table>
<thead>
<tr>
<th>Type of stakeholder</th>
<th>No of interviewees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government Agency/ Procuring Authority</td>
<td>2</td>
</tr>
<tr>
<td>Construction Consultants (Architect, Engineers, Builders, Quantity Surveyors)</td>
<td>7</td>
</tr>
<tr>
<td>Construction Companies</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

5. Findings and Discussion

Findings from the respondents to the interview question show that all the interviewees agree that infrastructure delivery is closely linked with efficient construction procurement. All the respondents have proven record of experience and contribution to the construction industry development in the country either as practitioners or policy makers. The factors identified has affecting construction procurement in Nigeria are discussed.

5.1 Improper Implementation of Legislative Framework

The passing of Public Procurement Act, 2007 into law was a development applauded by several people who have experience of the bureaucracy and the entrenched inefficiency of government procurement processes. Likewise, most of the stakeholders adjudge the document capable of bringing about the much needed change in the procurement of works and services in Nigeria. However, implementing the act has been bedeviled with problems. First, the National Council on Public
Procurement is supposed to regulate the Bureau of Public Procurement charged with midwifing government procurement. The Council derives its powers from the President. Almost 10 years after the passing of the law, Federal Government Procurements are still being administered by the Central Executive Council whose composition is 70 - 80% politicians. Second, some procurement officers in the government offices lack a broad knowledge and understanding of the procurement processes. Third, it is not uncommon to find certain highly placed government officials coerce the junior procurement officers into bending the rules because of their status. Likewise, Infrastructure Concession and Regulatory Act of 2005 has also not delivered crisis proof projects when one considers the case of Lagos- Ibadan Expressway which initially given in concession to a company. The contract was revoked and re-awarded to a multinational company on a traditional procurement basis. After some years, it is re-awarded as a concession to another company.

5.2 Cessation of Funding

Respondents identified that the foundation for the Public Procurement Act is that contracts for infrastructure projects should not be approved and commissioned if there are no sufficient budgetary allocations. Budget performance in Nigeria over the past five years has not exceeded 71% while the ratio of funding for capital expenditure to total expenditure has not exceeded 25%. This ratio dropped to 15% in 2015 due to dwindling oil revenue (Barungi, 2014 and Barungi et al., 2015). This makes funding of certain projects to slow down and some to cease. This situation is inevitable as falling oil prices have significantly affected government revenue and thus influence performance of the construction procurement.

5.3 Corruption

Respondents posit that recent developments in the country have shown that procurement of public works is not yet immune to contract inflation, outright change of contract content and failure to deliver projects for which allocations and payments have been made. Though the arms deal contract are classified under special clauses in the Public Procurement Act (PPA), 2007 there are rules that must be followed in the execution. It is common in the country for the anti-graft agencies (Economic and Financial Crimes Commission and Independent Corrupt Practices and Related Offences Commission) to initiate corruption charges on former political office holders and heads of government agencies regarding infrastructure procurement contracts. These has been a major set-back for construction procurements in Nigeria.

5.4 Hostile Operating Environment

In certain parts of the country due to security challenges, execution of infrastructure projects have come with kidnapping of staff, most especially expatriate staff. The menace of Boko Haram insurgency has led to the abandoning of certain projects due to security concerns. This challenge is not limited to the
North East Region of the country. The Niger-Delta area has remained volatile due to active militancy of the youths. Executing projects in these areas are accompanied with armed police or military personnel. This scenario inhibits creativity if you have to work in an atmosphere of fear. The respondents suggest a secure work environment is required for infrastructure delivery.

5.5 Inadequate Knowledge of Practitioners of Procurement Methods

The respondents have used the traditional, direct labor, labor only and design and build methods but with limited knowledge in the newer forms of procurement such as Public Private Partnership, Collaborative Frameworks, Strategic Alliances and Concessions. This is indicative of the knowledge level of professional who are in the position to influence the Clients in choosing the most appropriate procurement route for the unique circumstance of their project. This position is supported by Rwelamil (2012) that lack of knowledge by professionals in a broad sense of the available procurement options is one of the challenges of project success.

5.6 Unstable Economic Environment

In recent times, the economy of the nation has experienced a heavy knock from falling oil prices. This situation has had its toll on exchange rates and inflation rates. The cost of materials have doubled due to these events. This has impacted on the procurement deliveries as benchmarks used for determining prices are no longer realistic. The respondents complained about the ease of access to funds from financial institutions and the cost of such funds as exchange rate in the parallel market is $1 = ₦310 as opposed to $1 = ₦200 a year ago. Though the Central Bank has managed to keep official interest rate at 11% the lowest in the past 7 years, Loans from banks are only available at 17.9% at the minimum. All these have consequences for construction procurement in an import driven economy like Nigeria.

5.7 Political Influence

Award of infrastructure contracts according the PPA is to be given to most responsive bidder. This does not necessarily mean the lowest bidder in terms of cost but the bidder that will offer the best value for the funds expended on the project after going through a process of pre-qualification and tendering. Difficulties arise when these rules are blatantly disregarded because of political considerations or filial relationships. Respondents opined that politics influence who get what project in some instances.

a. Project Uncertainties

Even when all project management priorities have been put in place, there is still attendant risks of the project overrunning the target cost, delays due to unforeseen circumstances, parties breaching the contract and contractors compromising on quality. Projects have inherent challenge of risks due to their nature. They are temporary and unique endeavors to bring about change. No two projects are entirely the
same. Though identical structures are to be erected, the fact that they are placed on different geographical locations can introduce certain dynamics to the project that will affect the procurement process. Site conditions, topography, weather, sub-soil conditions and force majeure do have impact on procurement processes. For example, the Lagos Metro Rail Project was scheduled to deliver the first line in 2014 but due to delays arising from legal issues regarding right of way for the project. The new delivery date for the blue line arm of the project is now December, 2016.

5.9 Standardization of materials

Basic construction materials such as steel, cement, glass, tiles, aluminum sheets, light fittings, cables etc. are largely imported into the country. The materials must meet certain standards to fit the purpose of construction and engineering use. It is of concern to respondent that the weak institutions available are not able to ensure compliance of materials to quality and safety standards. There is a challenge of ensuring imported materials conform to standards and are appropriately used according to the design in the industry. Efforts need to be intensified to ensure compliance to design specifications.

5.10 Inadequate knowledge of clients of procurement methods

Clients are most of the time certain about what they want in terms of infrastructure delivery but oftentimes lack the knowledge of how best this can be delivered. It is not uncommon in private projects that the Client has started relating with potential contractors and sub-contractors before the project brief and initial designs are produced. This can be due to experience on previous projects and preferences. This idea is sometimes transmitted into public projects where a chief executive may want to specify the preferred contractor without any selection process. The feedback from the respondents suggest that the more informed the Clients/ Client Organizations are about various procurement options available, the better for the procurement process in general.

A careful analysis of the factors identified from interviews show that some the factors align with the information asymmetry view, others post adaptation factors and some the value for stakeholder’s emphasis. The theoretical perspectives provide lens through which the study was framed.

6. Conclusion

This research set out to identify the challenges of construction procurement in Nigerian Construction Industry as a developing nation. The study explores a few theoretical views that explains these challenges: The Economics, the Engineering and Construction Management and the TVF theory perspectives. These perspectives acknowledge the challenges as pre- construction information flow, post contract award uncertainties and the slippery scenario of value loss. The study explained the procurement methods in use and those adopted in many developing nations. The methodology adopts an exploratory qualitative research design which uses an in-depth interview of Twelve (12) construction industry professional purposively selected. The study reveals the factors affecting construction procurement in
Nigeria as Improper implementation of regulatory frameworks, lack of adequate knowledge of procurement methods by clients, corruption, political influence, lack of material standardization, unstable economic environment, hostile working environment, projects uncertainties and lack of broad knowledge of procurement options by professionals. These factors have limited the successes intended when investments are made into infrastructure delivery in the country. Hence, the findings are useful to policy makers and stakeholders in the construction industry. It provides contextual understanding of the impact of these factors. A limitation of the study is that it employs a qualitative research design which is inadequate in predicting characteristics in entire population and not sufficient in making generalization however the study has provided unique insight into the dynamics of the procurement environment in the Nigerian Construction industry as indicative of a number of developing nations. Further research can use the findings of this study to study larger population by using more samples in a quantitative research and proceeding to identify possible directions for mitigating these challenges. It suffices to say that the need to increase the provision of infrastructure in developing nations cannot be over emphasized, creating a conducive environment for sustainable construction procurement is a sure means of meeting this target.

References


