

TOWARDS THE IMPLEMENTATION OF PERFORMANCE INFORMATION
PROCUREMENT SYSTEM IN THE NIGERIAN CONSTRUCTION INDUSTRY

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DEDICATION

To my beloved wife, daughter, and son,
for understanding the many nights, I was away thanks!
To God be the glory.

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To God be the glory.

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ABSTRACT

A majority of the procurement of projects in Nigeria are faced with the lack of transparency, accountability and corruption in contract awards and execution. These have been well documented in literature. Besides, the existing traditional procurement model has not been able to address issues of non-performance in the Nigerian construction industry (NCI) related to cost, time, quality and client's satisfaction. Based on a review of relevant literature, it has been ascertained that the Best Value Procurement / Performance Information Procurement System (BVP/PIPS) is the best system to minimise risk of non-performance, increase transparency, accountability and add value to projects through the use of expertise thereby, improving project delivery. Hence, this research developed a framework for PIPS implementation in the NCI to guide professionals in addressing non-performance in the industry. Thus, a deductive research using quantitative research approach was adopted. Data related to existing weaknesses in the Nigerian procurement system, association of the traditional procurement approach to project performance, factors that can hinder PIPS implementation in Nigeria, PIPS unique success factors and existing factors that can aid in implementing PIPS in Nigeria were collected using a survey questionnaire. The survey was administered to 314 construction professionals. Consequently, the data were analysed using descriptive and inferential statistics. The results showed that the traditional procurement approach did have an association with project performance, and construction professionals did agree that both PIPS unique factors and existing factors can help improve project delivery in the NCI. The results were confirmed through the use of Partial Least Squared Structural Equation Modelling (PLS-SEM) using SmartPLS3 software. Based on the findings, a PIPS implementation framework to improve project performance in Nigeria was developed and this was validated by expert opinion through an online questionnaire which revealed that the framework can guide the implementation of PIPS in the NCI to improve project delivery.

ABSTRAK

Majoriti perolehan projek di Nigeria berhadapan dengan kekurangan ketelusan, akauntabiliti dan rasuah dalam pengurniaan dan pelaksanaan kontrak. Ini telah didokumentasikan dengan baik dalam kajian lepas. Selain itu, model perolehan tradisional yang sedia ada tidak dapat menangani isu-isu ketidakpatuhan dalam industri pembinaan Nigeria (NCI) yang berkaitan dengan kos, masa, kualiti dan kepuasan pelanggan. Berdasarkan kajian lepas diketahui bahawa, *Best Value Procurement / Performance Information Procurement System (BVP / PIPS)* adalah sistem terbaik untuk meminimumkan risiko ketidaksempurnaan, meningkatkan ketelusan, akauntabiliti dan menambah nilai kepada projek melalui penggunaan kepakaran dengan itu, meningkatkan penyampaian projek. Oleh itu, penyelidikan ini telah membangunkan satu rangka kerja bagi pelaksanaan PIPS di NCI untuk membimbing para profesional dalam menangani ketidakpatuhan dalam industri. Oleh itu, penyelidikan deduktif menggunakan pendekatan kuantitatif telah diterima pakai. Data yang berkaitan dengan kelemahan sedia ada dalam sistem perolehan di Nigeria, pengaruh pendekatan perolehan tradisional terhadap prestasi projek, faktor-faktor yang boleh menghalang pelaksanaan PIPS di Nigeria, faktor kejayaan PIPS yang unik dan faktor sedia ada yang boleh membantu dalam melaksanakan PIPS di Nigeria dikumpulkan dengan menggunakan borang soal selidik. Soal selidik ini ditadbir kepada 314 profesional pembinaan. Hasilnya, data dianalisis menggunakan statistik deskriptif dan inferens. Hasilnya menunjukkan bahawa pendekatan perolehan tradisional mempunyai pengaruh terhadap prestasi projek dan profesional pembinaan bersetuju bahawa kedua-dua faktor PIPS yang unik dan faktor yang ada dapat membantu meningkatkan penyampaian projek di NCI. Hasilnya disahkan melalui penggunaan Kuasa dua Terkecil Separa Model Persamaan Struktur (PLS-SEM) melalui perisian SmartPLS3. Berdasarkan dapatan ini, rangka kerja pelaksanaan PIPS untuk meningkatkan prestasi projek di Nigeria telah dibangunkan dan disahkan oleh pakar melalui soal selidik dalam talian yang menunjukkan bahawa rangka kerja ini dapat menyokong pelaksanaan PIPS di NCI untuk meningkatkan penyampaian projek.

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CHAPTER 1

INTRODUCTION

This chapter gives a brief background on Nigeria being the area of the research and the identification of the problem that lead to this research. Also, the root cause of this problem, research gap, research question, research sub-questions, research aim and objectives, research hypothesis, research scope, significance of the research, research method used were discussed as well.

1.1 Research Background

In years past lots of development has occurred in the construction industry. Numerous project delivery systems like design-bid-build, the low-bid, construction management at risk, etcetera were Proposed. (Kashiwagi et al, 2004). The various types of the available methods of procurement today came about from the quest to improve project delivery in the construction sector, to be precise, completing projects within time and cost while achieveing greater quality.

Daniel (2006), emphasises that procurement methods are mainly for optimising altogether the factors considered essential in project delievery namely, cost, time and quality. Project procurement within these constraints has being continuously a challenge to the managers of investments, the design team and, the contractors (Adesanya, 2008).

The usual approach in procurement focuses on the low-bid system which can be a time consuming process in producing the full contract documentation. Tender documents are produced out of an incomplete design leading to less certainty of time and cost out of which, disputes are inevitable and project overall duration can be longer compared to other procurement routes. This occurs because, it operates a sequential strategy which construction cannot begin prior to design completion also, contractors are not appointed during the design stage thus, the contractor has no contribution in both design and planning of the project (Cooperative Research Centre for Construction Innovation, 2004). The Nigerian construction industry uses this approach most frequently (Alejo, 2015; Kadiri and Ogunkola, 2014). The sequencing and separation of activities in which design is completed before construction commences became the traditional sequence and it is now referred to as Design-Bid-Build (Daniel, 2006).

ENR Staff Writer 2003; Illia 2001 and Post 1998, asserted that The low-bid approach has continued to be the most prevalent procurement system. Several managers have recorded poor performance and poor quality of contractors procured with the low-bid approach. The low-bid process have created a huge number of shortcomings as regard projects time overrun and project cost overrun (Illia, 2001).

Post (2001), established that the systems of Project delivery in the likes of construction management-at-risk and various forms of design-build, have solved some problems and generated others. The worries of clients been the point in this matter remains that, projects not being within budget, on-time, and the inability of contractors to achieve the expected quality of the owners, have persisted (Kashiwagi et al, 2004) thereby, making client not to be satisfied as a result of poor project value.

In seeking value, through the best value selection, judges of reasonable value seek out such provider, offering, at its best the combination of performance qualifications and price. Public clients, in their quest for enhanced value, are turning time and again to selections that are not tied inflexibly to price (AGC of America & NASFA, 2008). As regards this, Kelly et al (2006), noted that, the choice of a

procurement method is basically and tactically associated with best value and the value for money. Both procurement approach and contract approach are not tactical choices within projects. They are naturally related with the management and the legal frameworks set up for risk. Also, related with the delivery of functionality in the design and construction stages as well as the relationship between cost, time and quality. These value measures are set-out in Figure 1.1.

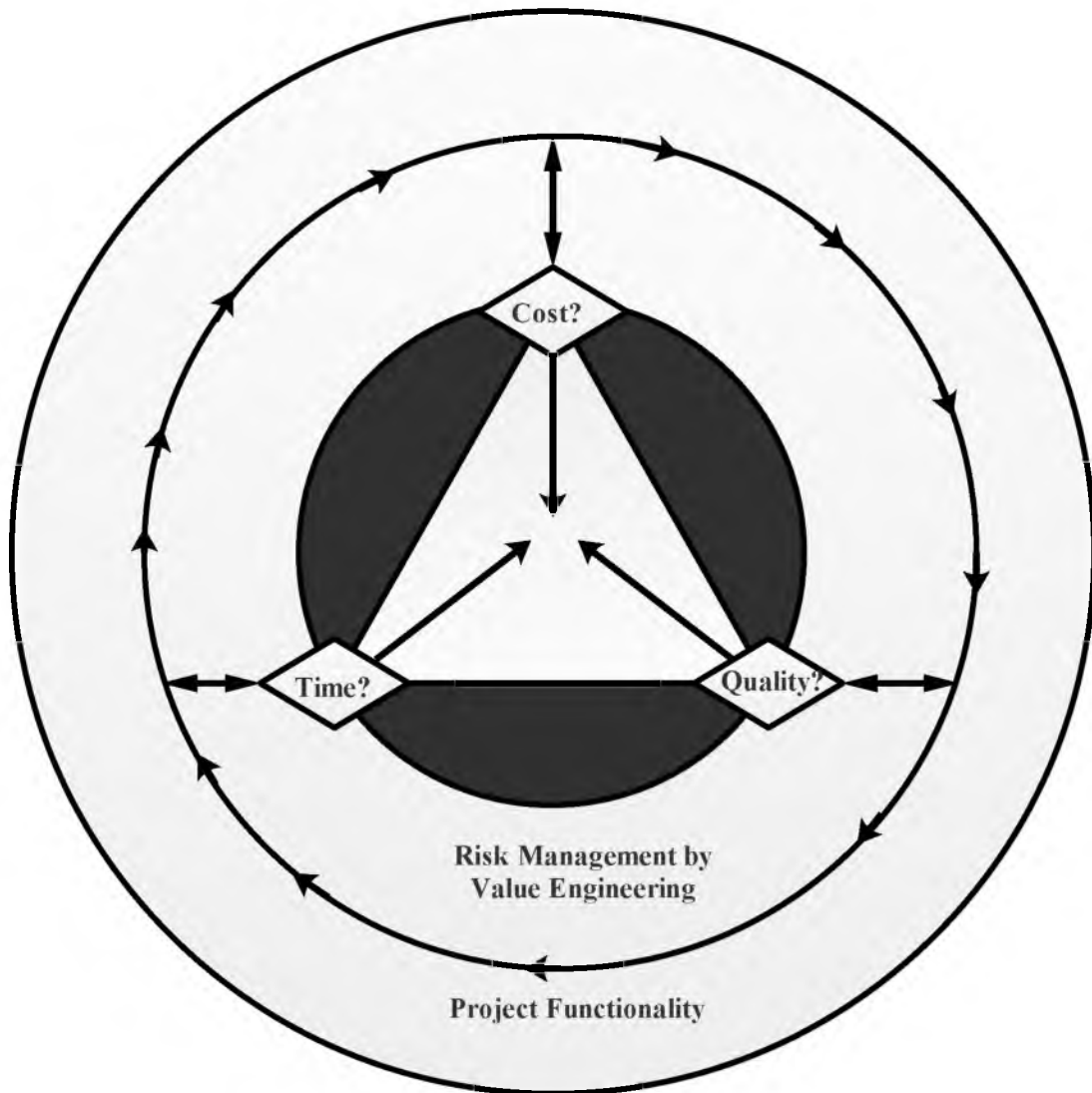


Figure 1.1 Value Criteria- Managing Time, Cost, Quality, Risk and Project Functionality. Source: Kelly et al (2006). Pg. 31

Kelly et al (2006), concluded that most projects cost commitment are majorly generated by the design team and the client. Nonetheless, they are only in charge of

about 15% of the client's expenditure, mainly through the fees of the design team. While, the contractor is in control of the main element of expenditure, roughly 85% of the project cost yet, depending on the procurement route adopted, may be removed from a direct influence on client and design team thinking and their commitment to cost and arriving at the best value in the early stages of projects.

Consequently, this has brought about the idea of early contractor involvement (ECI) as a new development undertaking delivery strategy that generally leads to improved drawing quality, material supply, flow of information and normal task overall performance particularly, on complex projects that has to do with risk mitigation and sure bet of delivery (Nibbelink et. al., 2017).

Eadie (2014), opined that ECI helps project sustainability which results in added value for money, saves time and better project control. To fully benefit from the ECI, contractor's direct involvement and early involvement in the early stage is essential because, the direct involvement permits greater cooperation while, the early involvement enables for a better contribution (Wondimu *et.al.*, 2016)^a. Wondimu *et. al.* (2016),^b contributed that it is broadly acknowledged that contractor involvement in the front end can influence the outcome of the project in a positive way.

According to Wondimu *et. al.* (2018), different models of ECI are available depending on when the contractor gets involved in the project. In their study, two approaches were compared these are, Competitive Dialogue (CD) and Best Value Procurement (BVP) both approaches allow interactions between a client and contractors in early phases of projects and before contract signing. Their study concluded that BVP is a more effective procurement process than CD as regards procurement phase. For that reason, considering any project from a best value viewpoint for a client, certain procurement methods exclude the contractor's knowledge and expertise from being accessed to the benefit of the project and possibly adding value much earlier in the project process. On best value selection, Steyaert (1997), established that a contractor's past performance record is a fundamental pointer for foretelling performance in the near future. For instance, Steyaert (1997),

added that, the United States Federal Government has established past performance information, alongside the price/cost, as one of the two compulsory evaluation factors in any source selection over a set dollar threshold.

The Best Value Procurement uses what is called Performance Information Procurement System (PIPS), as a tool used by the client to pick out and select the Best Value contractor for tasks primarily based on overall performance as a substitute of lowest price. The Best Value Performance Information Procurement System is the newest amongst construction procurement systems. In essence, it was developed so as to address the problems of non-performance in the construction industry. As the name suggests, PIPS makes use of overall performance information to evaluate the participating contractors. Rather than procuring building subjectively or based fully on price, PIPS lends objectivity by means of adopting a threat minimization strategy with the use of past performance information alongside with the price for selecting contractors (Kashiwagi et al, 2004).

1.2 Problem Statement

The procedure of construction procurement is far-reaching and requires every single phase of the project delivery system (Hughes, 2012; Anyadike, 2000; Aqua Group, 1999). For that reason, procurement is considered as the key to performance optimisation in the construction industry (Ibrahim, 2008). The construction industry is imperative as it concerns any country's economic development and, this can never be exaggerated. In Nigeria, the construction industry accounts for almost 70% of the nation's fixed capital formation, 1.4% GDP (Odediran *et al* 2012; Federal Office of Statistics, 1998) and employs approximately 25% of Nigeria's workforce; the largest in Africa (Ibrahim & Musa-Haddary, 2010).

The World Bank in the year 2000 in its country evaluation record pointed out that Nigeria's procurement assessment identified some weaknesses in the then current

procurement approach which included lack of suitable legislation, scarcity of fundamental skill and inappropriate organisation of the procurement process. This makes the procurement system in Nigeria lack transparency and accountability. This used to be generally ascribed to a high degree of corruption or maladministration of public assets closely linked up with the public sector procurement structures (Fayomi, 2013). The former Chairman of the Nigerian Institute of Quantity Surveyors, NIQS, Lagos chapter, Mr Jide Oke, in Vanguard Newspaper by Jude Njoku (2013) stated that the fundamental hassle going through the procurement of projects in Nigeria is corruption and lack of transparency in contract awards and execution.

The pronounced root motive of these problem in the Nigerian building enterprise from investigating literature indicates that the public procurement system in Nigeria like many other growing countries is a long way from being efficient. According to Adeyemi and Kashiwagi, (2014), and Ekpenkhio (2003), That Nigeria lacks a contemporary law on Public Procurement and permanent oversight body to provide guidance and monitor purchasing entities and, the Finance (Control and Management) Act, 1958, collectively with the Financial Regulations which set fundamental rules for managing public expenditure have gaps, deficiencies and inaccurate implementation of existing guidelines on procurement (e.g. lack of permanent preparations for control and surveillance) which create possibilities for bribery and corruption.

Also, due to inflation and lack of everyday adjustments on the thresholds of, the approving limits of the tender boards, their authorisations have continuously been eroded ensuing in abuses, distinguished amongst which is splitting of contracts. The tender board was proliferated and as perceived by means of the non-public sector as sources of delays and non-transparency. In addition, these tender boards seemed to have limited mandates with powers to determine contracts de facto resting with the Permanent Secretary and the Minister/Commissioner.

Furthermore, that the Nigerian customs structures and processes were cumbersome and major causes of delay in clearing goods, and therefore, a source of corruption; and that Procurement is regularly carried out by way of team of workers that appreciably lacks relevant training.

Evidently, adopting the ethos of transparency, objectivity and accountability in value-based public procurement systems had been given eager consideration in many nations (Wong and Holt, 2003; Salama et al, 2006). This has introduced a public procurement reform in Nigeria recognised as 'Due Process'. The Due Process was enacted in 2002, earlier than the enactment of the Nigerian Public Procurement Law of 2007. The purpose of this process is to entrench a high-quality contractor selection model that is based totally on world's exceptional practices (Olatunji, 2008). He added that arguably, objectivity in contractor selection for public building projects is crucial and vital to the success of the project. The terrible monetary state of affairs in Africa has strong relationships with the performance of public construction projects and this cannot be separated from the contract procurement system.

Consequently, the traditional lowest bid procurement method of contractor selection, which is used in the Nigerian construction industry is known for using the contract, to control both parties particularly, a tighter control, directing and management of the expert in the person of the contractor who is supposed to be the visionary in the project; leading to variations, dissatisfaction and simply, additional work (Kashiwagi et al., 2012). These price-based approach by nature is adversarial of which each party works for themselves as a result of the control measures, high expectations, lack of performance information and other aspect from the lack of measurement (Dorée, 2004). Also, contractors are not involved from the inception and, end up not utilising their expertise being that the client by means of their bureaucracy tend to create a non-transparent, lose-lose, reactive and relationship based environment which the larger contractors felt so uncomfortable with (Bos, Kashiwagi and Kashiwagi, 2015).

Before the creation of the Due Process Policy, contract procurement method for public development initiatives in Nigeria was facing a lot of challenges. These challenges included the implication of project failures on the image of the Nigerian construction enterprise in terms of project abandonment, delay in project delivery, cost inflation, bad quality of work, and high initial price of projects and so on. Arguably, poor strategies and approaches of choice of contractor could be linked to this. However, these strategies are no longer solely subjective; choices on public contract awards are based on informal relationships between contractors, public officials, and project teams. Thus, most of the models of evaluation used for the determination of contractors are not based totally on cost and merits of bids however, on tender price and initial lowest bids, as well as other casual factors (Olatunji, 2007).

Olajide Familoye et al (2015) cited that unfortunately, Nigeria Public Procurement Act is yet to be in a position to gain the principal objectives of transparency, accountability, and value for money. Public Procurement Acts of most countries particularly developing countries have not been in a position to achieve the motive for which it was set to achieve. Hence, the challenges, amongst others, confronting the stakeholders in the implementation of the Acts are due to the economic, social and political surroundings where the Act is operating.

Olalere (2015), contributed that the Bureau of Public Procurement is being challenged by some stakeholders, especially Consultants, MDA Officials, Politicians, Contractors and, the act of refusal by the Indigenes of areas where some projects are sited as to accepting the change in the new public procurement reform and paradigm. Hence, having a feeling that, this new practice will hinder their accessibility to easy money from the public sector, therefore, they employ all sorts of campaigns to frustrate the practice in the course of the bid solicitation and evaluations and contract execution stages.

Abdulahi *et al* (2015), also agreed that, this lead to the following major corrupt practices associated with the Nigerian public procurement procedures. they are: bribery, fraud, and conflict of interest. These were principally due to the lack of any

legislative provisions and legal framework that oversees the procurement protocols preceding the enactment of the PPA 2007.

Similarly, Inuwa *et.al* (2014), cited in Ogunsanya *et.al.* (2016), identified the construction procurement challenges in developing nations, particularly Nigeria, after intensive literature review, questionnaire dissemination, and interviews from clients, construction consultants and contractors. They are: Too many variations, technical incompetence, lateness in honouring payment certificates, design deficiencies, delays, material shortage or late delivery, inadequate project documentation, increase in price of material, Dispute, poor work definition, project risk and uncertainties, client dissatisfaction etc. this agrees with what Olatunji (2007).

Hence, the Due process policy has not been able to tackle issues of non-performance in the construction industry as to cost, time, quality and, client satisfaction. As established by Oladinrin *et. al.* (2013), that the major problem in the Nigerian construction project execution is delay in their delivery also, the industry is faced with the challenge of cost overrun, declining level of client's satisfaction, poor quality performance of the projects, time overrun and poor workmanship by contractor.

Public bodies have constantly been the principal buyers, dealing with large budgets (Roodhooft and Abbeele, 2006). Mahmood (2010), argued that, public procurement embodies 18.42% of the world GDP. In emerging countries, public procurement is gradually acknowledged as fundamental in service delivery (Basheka and Bisangabasaija, 2010). This explains the high proportion of the whole spending. Hence, indicates how essential public procurement is, particularly, procuring an expert contractor. Nevertheless, the procurement system in Nigeria lack transparency and accountability of which bad contractor selection strategies and procedures could also be related to this.

On the other hand, the PIPS approach according to Bos, Kashiwagi and Kashiwagi (2015), uses no element of management, direction and control of the contractor rather, replaces it with the utilisation of the contractor's expertise. Thereby, identifying that the expert has no technical risk except the risk which the expert cannot control. Hence, the PIPS structure forces the expert to create transparency to minimise the risk that they cannot control. This proposes that an expert that knows what he is doing making him a visionary, can minimise project cost, and increase the contractors, profit by so doing creating a win-win environment. According to Van de Rijt and Santema (2013), in solving the common issues in procurement, the early involvement of the contractors where each of the parties is bonded by a single contract is vital. After the client's requirement identification by the client, the contractor who is the expert then, identifies the risks throughout the entire project. With PIPS, the contractor takes the lead during the project Execution Phase instead of the client. Based on the identified needs of the client, the contractor is the one who will finally decide what will be delivered. Hence, decision making is then shifted towards the contractor which decreases the amount of risks, especially since clients typically do so (Kashiwagi et al., 2012).

Here is how PIPS addresses these challenges. Challenges such as client's project management procedure, bad contract administration and delays of period in-between payment can be resolved via developing a best value environment inside the organisation. Best value relies upon the penalty principles associated to common sense. Best value decreases management, decision-making, and control by way of utilising expertise and increasing transparency. These are concepts that aid's owners in utilising specialist opinion to increase the approval rate of design documents. When an organisation increases transparency and decreases control, the organisation's growth increases, which solves delays in progress payments to contractors, cuts out poor contract administration which is associated to client's project management technique that is, the traditional procurement. Also, expert Contractors will perceive this problem as a threat in their risk evaluation files at some stage in the selection phase and clarify it in clarification phase, which assists in the solution of delays in progress payments to contractors (Alzaraa et. al., 2016).

The next set of challenges like construction professional's inability to define clients' objectives, can be solved in the selection phase of PIPS. In this phase, the owner finds an expert contractor who has a high performance level and can complete works that already prove his or her abilities during the selection phase. So, expert contractors do the work well, which reduces the need for construction professional employed by the clients. A more detail review of the PIPS selection phase is shown in Figure 3.2 in chapter 3.

While, poor workmanship from the contractor, shortage of requisite skills and manpower as a challenge can be solved in the selection phase of PIPS. This phase has many filters that determine the level of contractor's experience. Also in this filter, contractors should submit risk-assessment documents that show the contractors' capability to see risks that could affect projects and how the contractor can mitigate risks. Moreover, the interview with the people who will do the work—or the project manager—will show if contractors have poor performance or lack experience. Interview assists owner to recognize if contractors have clear vision of projects. Additionally, poor contractor performance can be reduced by implementing the clarification phase. In this phase, a contractor who has already been selected clarifies their offerings and planning process. The contractor should identify the scope of the work and submit a detailed technical schedule and a milestone schedule. That will show if the contractor can complete the work by so doing negating the challenges of unrealistic schedules, inappropriate contingency allowance, inaccurate estimates and reduce variation of works. The challenge of manpower shortage should be clarified in the risk assessment as a risk. Contractors should show how they can deal with this problem in the selection phase (Alzaraa et. al., 2016).

In the Best Value environment that PIPS is used for selecting the expert contractor the following benefits are obtainable: reduce cost by 98%, reduce time overrun by 98%, minimise cost, create a win-win environment, maximise technical competency, maximise customer satisfaction, create transparency and accountability (Kashiwagi, 2017). Hence, the following challenges: inability to reduce project cost,

project delay, conflict among stakeholders, time overrun and cost overrun will all be a thing of the past with an improved project delivery environment.

Finally, the issues of price fluctuation and high cost of materials cannot be controlled with the use of BVPIPS as they are beyond the control of both the owner and contractor even though these challenges should be clarified in the risk assessment as a risk by the contractor thereby, catering for such unforeseen. After all, with BVPIPS, past performance information of contractors will be published for record keeping thus, creating historical data for future usage (Kashiwagi, 2016). Thus, Figure 1.2 shows in summary how PIPS contractor selection approach can address the issue of non-performance in the lowest-bid approach.

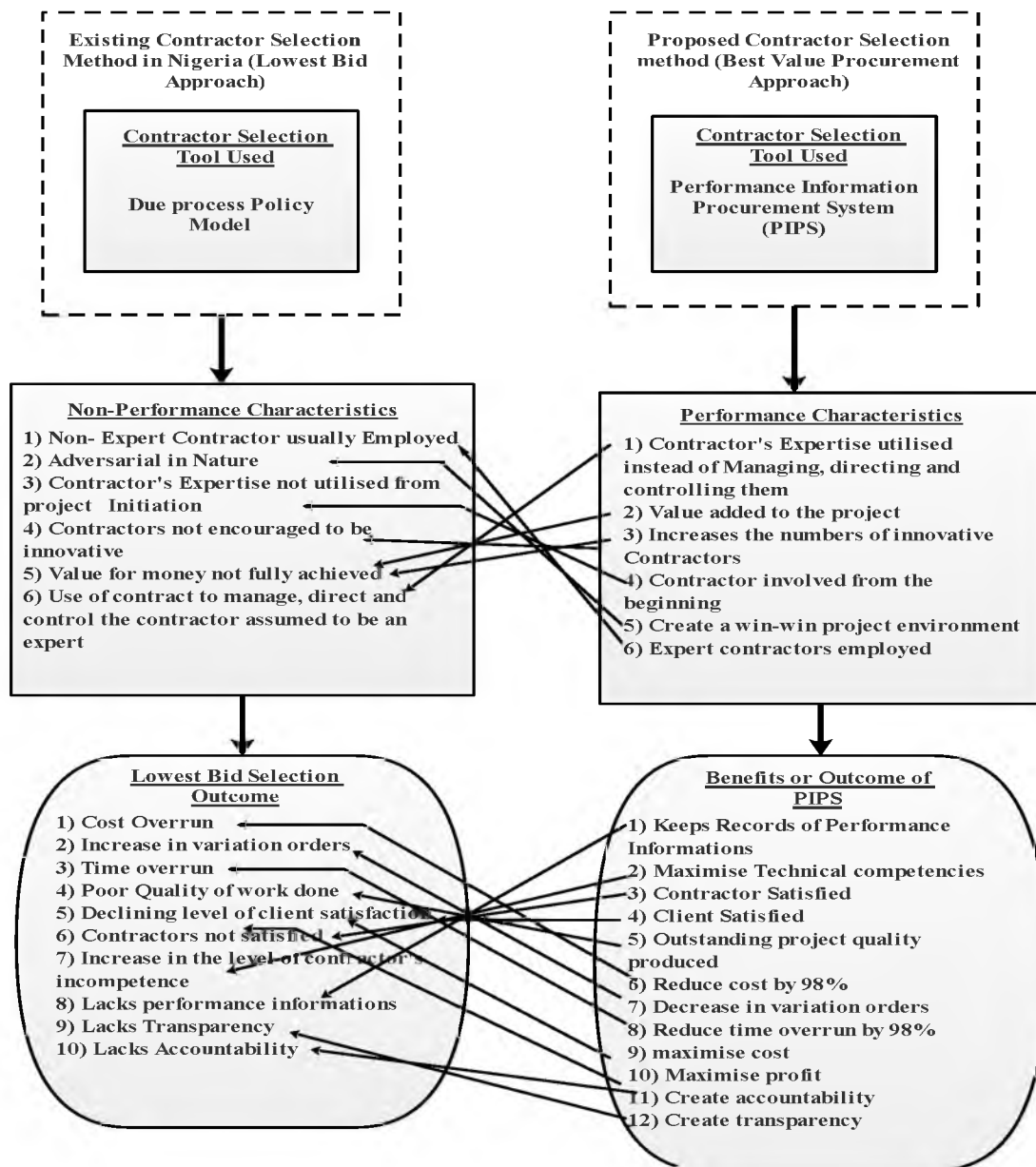


Figure 1.2 PIPS Contractor Selection Addressing the Lowest-Bid Non Performances

Here are some few case studies of the PIPS utilisation which shows how PIPS improves service delivery while saving cost, time, reduce change orders and increases client satisfaction. In the case of School District 287, USA, the facility manager with the support of the performance based study research group (PBSRG) was able to use the PIPS process to hire best value contractors by so doing saved the school district a sum of \$2.6 million in construction management fees (Rosemeyer, 2013 and Smithwick et al., 2013). While, the case of Rochester Convention Centre Extension,

USA, the project manager utilised the PIPS process for a long time thereby, becoming more accustomed to the process and clearly laying out the project in the beginning of the project, and identifying the project risks that they could not control and how they proposed to mitigate the risks. Due to the transparency they did not have project contingency funding for risk that they did not control. Hence, produced and outstanding performance while, being highly accountable to service the client needs (PBSRG, 2015). See Table 1.1 for the performance rating of both project.

Table 1.1: Case Studies of Optimised Project Delivery by the use of PIPS

S/No.	Projects	Total Awarded Cost (\$M)	Performance Metrics (Rating)		
			Budget Deviation By Contractor %	Average Contractor Delay %	Customer Satisfaction Rating (1-10)
1	School District 287, USA				
	(i) NEC- General Construction	\$25.9	1.51%	0%	10.0
	(ii) NEC- Demountable Walls	\$2.0	1.4%	0%	9.0
2	Rochester Convention Center Extension, USA	\$29.6	0%	0%	9.9

Thus, owing to the need for an improved delivery of construction project specifically, projects completed within budget, on time with an expected quality while, achieving value for the client's money in return making the client satisfied. There is a need to develop a PIPS implementation framework for the Nigerian construction industry. As there is no recognised method to implement any kind of Best Value Procurement Approach in the Nigerian Construction Industry. Also, the existing procurement act in Nigeria has not achieved its primary objectives of transparency, accountability and value for money. Besides, the due process policy has not been able

to tackle issues of non-performance in the construction industry as to cost, time, quality and client's satisfaction. This has been identified and addressed in this research.

The reason for developing the framework for PIPS implementation in the Nigerian construction industry is to provide a suitable approach to improve the contractor selection process and help improve the infrastructure development in the Nigerian construction industry. According to the Collins Dictionary (2019), a framework is a particular set of rules, ideas, or beliefs which you use in order to deal with problems or decide what to do. Also, in agreement, Liu *et. al.* (2019), contributed that a framework is used to address challenges or problem. Elsayah (2016), developed a framework for the sole purpose of improving the contractor selection procedures on major construction project in Libya while, Fohom (2016), also, developed a framework for improving infrastructure projects development in the sub-Saharan: Towards the best value approach. Hence, this framework developed, will be of importance as it will serve as a guide for PIPS implementation in the Nigerian construction industry so as to minimise the risk of non-performance. Thereby, help improve project delivery.

Therefore, this research looked into how PIPS can be employed in the Nigerian construction industry so as to attain an improved result in both contractor selection and, the construction project performance.

1.3 Research Question

What framework is required for a successful implementation of PIPS in the Nigerian construction industry to minimise complexity and increase transparency, enable owners to utilise expertise to improve project performance in the construction industry and add value to the project?

1.3.1 Research sub-Questions

- 1) What existing weaknesses and loopholes are there in Nigerian construction industry's procurement system?
- 2) Does the contractor's selection model for public projects in Nigeria affect the performance of the project?
- 3) What are the factors that can hinder the implementation of PIPS in the Nigerian construction industry?
- 4) What are the existing conditions that will help in implementing PIPS in the Nigeria Construction Industry?
- 5) What are the factors that make PIPS different from the traditional procurement system?
- 6) What are the benefits of BV/PIPS when implemented in the Nigerian construction industry?

1.4 Research Aim and Objectives

This research aims at developing a framework for PIPS implementation in the Nigerian construction industry. In achieving this research aim the following objectives are to be achieved:

- [1] To identify the weaknesses and loopholes in the existing procurement system in Nigerian construction industry.

- [2] To determine whether the performance criteria of a project in the Nigerian construction industry depends on how the contractors are being selected for public projects in Nigeria.
- [3] To investigate those factors that can hinder the implementation of PIPS in the Nigerian construction industry.
- [4] To identify the existing conditions that can aid in the implementation of PIPS in the Nigerian construction industry.
- [5] To identify the success factors of PIPS that makes it unique.
- [6] To develop PIPS implementation framework for Nigerian Construction industry.

The above-mentioned aim and objectives were identified through a thorough literature review which was considered necessary to investigate both the known and the unknown about the topic, develop a conceptual framework, and derive the significance of the research so as to determine the most appropriate research design.

1.5 Research Scope

The importance of contractor selection is mostly underestimated and neglected in construction (Turksi, 2008). The contractor selection is a risk management process for the fact that the duly selected should be competent to bear portions of the risks in the project. As construction projects become more complex, so also is the contractor selection process as observed by Li *et al* (2005). This involves the elimination of incompetent contractors from the bidding process following a set of pre-determined criteria. This practice and procedure of contractor selection in the construction industry are found in most countries, Nigeria inclusive. Several researchers have proposed some selection criteria in order to minimise contract failure and also meet the client's objective. Selection of competent contractor has been observed to be a key to the success of a project (Anagnostopoulos and Vavatsikos, 2006). Therefore, this research

is focusing on contractor's selection processes in the Nigerian construction industry and how they relate to some of the performance criteria such as cost, time, and quality.

Also, the research is looking into the traditional procurement system used in selecting contractors in the construction industry in Nigeria and how it can be improved by the use of PIPS in selecting contractors. The subject of this research is applicable to the procurement and delivery of construction, IT, and professional services, but the investigation will be delimited to the Nigerian construction industry in particular due to the fact that identifying the weaknesses and loopholes in the existing Procurement system in Nigerian construction industry which has to do with contractor's selection and the performance of the project is a significant objective of this research.

The location for this research is Nigeria. Hence, data was collected from four significant locations which are: Abuja (Federal Capital Territory of Nigeria); Kaduna State (located in the north-western region of Nigeria, the capital of the former northern region of Nigeria); Jos, Plateau State (located in the middle belt of Nigeria) and Minna, Niger state (located in the west-central region of Nigeria).

1.6 Significance of the Research

This research derives its significance from the need to stabilise the procurement system in Nigeria by transferring the risk and control to contractors who must act in the best interest of the client. This new initiative in best value procurement can bring about transparency and accountability by the use of the PIPS process. The risk management orientation of the PIPS structure disengages relationships, inaccurate expectations, and bureaucratic and political actions (Adeyemi and Kashiwagi, 2014). This to say that the proposed procurement approach is capable of extricating corruption, collusion, fraud, bid rigging, ethical violations and negative headlines from developing countries' procurement environment rather than advancing measures that

only scratches the problems on the surface. The new initiative in Best Value Procurement using PIPS contractor selection process can revolutionise the procurement environment in Nigeria in particular and the developing countries as a whole (Adeyemi and Kashiwagi, 2014).

The main advantage of best value is that it identifies expertise as the only factor that can minimise the risk of non-performance and any attempt to manage and control a contractor is inefficient and costly (Kashiwagi and Byfield, 2002). By using performance information, expert contractors show their high performance on similar projects and address the needs and concerns of the client (Abdelrahman *et al.*, 2008). Best value encourages the contractor to describe and provide accurate solutions to the problem and methodology that a non-expert contractor can identify expert contractor and utilise expertise to lower cost and risk (Kelly *et al.*, 2009).

With the traditional procurement approach that is the 'low-bid' practices result in poor wages, poor working condition and low environmental standards, therefore reducing the quality and sustainability of products and services (Baloi and Price, 2003). Designers, project managers, politicians, and contractors are comfortable with the existing traditional "low-bid" process. This process "assumes" that all contractors will provide an "equal" quality product but most of the clients find the contractor who offers to undertake the project at the lowest price (Flyvbjerg, 2013). D. Kashiwagi et al. (2014), gave the major reason why the low-bid process continues to be used, despite its subjectivity and bias, is because it is easy to document and explain. Best value is not an isolated concept, it has its origins and contributions within the project performance and team related factors. It is suggested that Best Value is most effective when it is based on key evaluation criteria for contractors (Hasnain and Thaheem, 2016).

1.7 Research Methodology

In an attempt to develop a framework for implementing PIPS that will help improve the procurement process in the Nigerian Construction Industry, due to the statement of problem mentioned above and its root cause, six objectives were derived so as to achieve the desired aim. The research method used is Quantitative research method. This is because, it involves making measurements in collecting data. The approach is built upon previous work which has developed principles, laws and theories to help to decide the data requirements of the particular research project (Fellows and Liu, 2008). A quantitative approach is important for the research because, it concentrates more on the categorisation of features and statistical model and figures for explaining the observed data in research (Wilson, 2014).

For the purpose of data collection questionnaire survey was used. The questionnaire used in this research was designed to record the attitudes or perception of the respondents being professionals in the construction industry to particular statements or scenarios arising from the research questions and hypothesis.

The data collected was analysed by means of both descriptive and inferential statistics so as to see the relationship that exist between the variables and draw conclusion on the findings.

1.8 Thesis Organisation

This thesis consists of seven (7) chapters structured in a logical and coherent process to achieve the aim and objectives of the research, by addressing the research questions. The chapters are as follows:

Chapter one provides the background of the research; the problem statement; research questions; aim and objectives; defined the scope of the research; Significance of the research and brief methodology employed in this research.

Chapter two which is the first part of the literature review discusses about the construction industry; the location of the research; the Nigerian construction industry; procurement methods and its importance in the construction industry; contractor selection method and its impact on project performance as well as, procurement methods and contractor selection in Nigeria.

Chapter three which is the second part of the literature review discusses about the Best Value Procurement and its tool for selecting expert contractors which is PIPS; the major components of PIPS; PIPS selection process; the concept of PIPS and its validation; the state of Best Value Procurement in Nigeria; the success factors of PIPS; the existing factors shared by both PIPS and the Lowest Bid approach; hindering factors of PIPS implementation in Nigeria and how PIPS creates transparency and accountability.

Chapter four outlines the philosophical standpoint of this research; the research logic adopted for this research; the research strategy employed and the research approach; the research technique and procedure involved; sampling techniques utilised; research design and methods of data analysis.

Chapter five presents and discusses the data analysis conducted and the findings. Also, details out how objective 1, 2, 3, 4 and 5 were achieved.

Chapter Six presents the development of a framework for PIPS implementation in the Nigerian construction industry by establishing the relationship between the existing factors shared by PIPS and the Lowest bid approach and the unique success factors PIPS. The validation of the framework was likewise, presented.

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