



## **INHERENT RISK FACTORS IN THE PROCUREMENT PROCESS OF TERTIARY INSTITUTIONS IN NIGER STATE**

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### **ABSTRACT**

One of the challenges facing construction procurement in public tertiary institution is the failure to determine the risks limiting its success. These risks can cause a significant increase in the procurement cost leading to an increase in the overall project cost, time extension and poor quality. The purpose of this study was to examine inherent risk factors in procurement process of public tertiary institution in Niger State with a view to ensuring satisfactory project delivery. The study adopted the survey design approach by administering well-structured questionnaire to procurement officers and building professionals in the procurement and physical planning units of the tertiary institutions. A total of 197 questionnaires were administered to Procurement officers, architects, quantity surveyors, engineers and contractors of which 187 were returned and found valid for analysis. The data collected was analysed using Relative Important Index (RII). The results revealed the following important risks factors under each category. Procurement plan (need assessment-improper project planning and budgeting and impractical time frame. Selection of procurement strategy (political interference and adopted procurement policy). Budgetary appropriation (political interference and insufficient funding). Advertisement (inappropriate time allocation and non-adherence to procurement code of ethics). Transparent prequalification (lack of commitment to transparency and misunderstanding of contract clauses). Bid submission (unacceptable terms and conditions to bidders and onerous requirements on the bidders in the contract conditions). Bid opening (actual/perceived breach of confidentiality, and favouritism in providing information). Bid evaluation (inappropriate evaluation criteria and un-confidential tender evaluation process). Tender board approval (political interference and conflict of interest) and contract execution (poor communication gap between project team). From these results, risk factors are inherent throughout the construction procurement processes of tertiary institutions in Nigeria. The study recommends that adequate management of these procurement risks would translate into efficient delivery of construction projects.

**Keywords:** construction procurement, public tertiary institutions, risk factors, risk management, project deliver.

### **INTRODUCTION**

Public procurement has for a long period, been overshadowed with inefficiencies, corruption and disregard of fundamental "value for money" considerations. This has adversely impacted the rate and quality of progress in realising the objectives of national development, especially in developing and transition countries, like Nigeria. Despite the reforms in Public Procurement, it

still suffers from poor performance characterised by non-compliance with the procurement Act, slow with lots of bureaucracy, overspending, poor planning, poor project monitoring, lack of open competition and transparency, addressing collusion in the tender evaluation and award, inadequate training of the procurement officers especially on the technical fields (Misati and Atambo, 2017).

Public tertiary institutions in Nigeria are part of government Ministries, Departments and Agencies (MDAs) expected to implement Public Procurement Act (PPA, 2007) in all their procurement activities, with Bureau of Public Procurement (BPP) as the regulatory authority for the monitoring and implementation of the Act (Ebenezer *et al.*, 2019; Bamidele *et al.*, 2019). However, the procurement of construction projects in these institutions are faced with risks of mismanagement, fraudulent practices, inefficiencies, corruption, among others which affect the delivery of construction projects (Bamidele, 2020). Unfortunately, these risks and their management strategies are given less attention in procurement process of most tertiary institutions in Nigeria and thus, some of the projects are being delayed unnecessarily, and having impact on cost, time and quality objectives of the projects (Emeka, 2016; Bamidele, 2020).

The BPP requires that all public construction procurement by government agencies in Nigeria be executed in line with the 9 essential steps, which include efficient procurement plan driven by need assessment, budgetary appropriation, advertisement, transparent prequalification, bid submission, bid opening, bid evaluation, (technical and financial), tender board/Federal Executive Council (FEC) approval, and contract execution (BPP, 2012; Emeka, 2016). Additionally, that the key aspects of the 9 essential steps (for instance, appropriate market surveys, extensive feasibility and viability studies, fund sourcing/cash flow analysis, selection of procurement routes/options, and contract management plans), are mostly being compromised by tertiary institutions in Nigeria (Bamidele *et al.*, 2019; Bamidele, 2020; Ezeanyim *et al.*, 2020). These problems attributed to risks in procurement process of these institutions which is affecting the delivery of construction projects (Bamidele, 2020). Additionally, during the procurement planning process of the project development, most of these risk factors are not properly identified and assessed (Faruk *et al.*, 2013). Fabi *et al.* (2015) has also advocate that no procurement system is risk free. Therefore, it becomes imperatives to identify and assess risk factors related to procurement planning process for improving the overall procurement performance. Previous studies have assessed risks, but this study focused specifically on procurement of public tertiary institution construction projects in Niger State, because of their involvement in large projects through Tetfund interventions, needs assessment and through internally generated revenue and others. The aim of this study is to assess inherent risk factors in construction procurement process of public tertiary institution in Niger State with a view to ensuring effective project delivery.

## **RISK FACTORS IN PROCUREMENT PROCESS**

Risk is a complex phenomenon that has physical, monetary, cultural and social dimension (Musa *et al.*, 2014). Risk is the probability of occurrence of uncertain, unpredictable and undesirable events that would change the projects for the probability on a given investment. Project in controlled environment describe risk as the chance of exposure to the adverse consequence of

future event (Odimabo and Oduoza, 2013). Abba (2008) stressed that risk factors are inherent in every construction project from small to large project running million to billions of Naira and it is impossible for all risk to be avoided. According to Gyamfi *et al.* (2016) risk is an uncertain event or condition which has a positive or negative consequences on project objective. As the size and the complexity of the project increases, the ability to managed risk throughout procurement process become a central element to prevent unwanted consequence. There are elements of risk in procurement process which include selection of inappropriate procurement strategy planning, failure to observed effective evaluation procedure, fraud and corruption, used of inappropriate evaluation criteria, and provision of inadequate information (Sukulpat, 2007).

Osabutey (2016) highlighted that procurement risks can be internal or external. The internal risks include selection of inappropriate procurement method within the control of the procurement entity, while the external risks are outside the control of the procuring organisation. For example, risks associated with a legal reform in procurement are external because they go beyond the control of the procurement unit. As a result of these risks, construction projects may cause delay(s) in the project completion time. Oso (2017) added that procurement process risk is a variable in the process of procurement, whose occurrence results in uncertainty as to the final cost, duration, or the quality of the project. The procurement process involves a wide range of skills for which training and development may be required (Dosumu, 2016).

Risk in construction procurement process have been considered in relation to separation of design from construction, lack of integration poor communication, uncertainty, changing environment and economic changes such as inflation and deflation, and regional economic crises (Sukulpat, 2007). Procurement today has also been adversely affected by kidnappings, vandalism, civil unrests and other such factors which have increased the risks associated with procurement (Muhammad *et al.*, 2015). American Institute of Architects (2011) identified the specific risk and issue that may encountered in procurement process, such as understanding of the need, overstatement of the need, inadequate information, insufficient number of responses, fraud and corruption, and failure of evaluation to identify clear winner. Other are impractical time frame, inadequately administration of contract, poor quality of works, lack of technical knowhow by consultants, failure of either party to fulfil the condition of contract, terms and conditions, unacceptable to tenderers and variation in price and foreign exchange. These risk factors have likely consequence of no improvement in the procurement management process and possibility of failure in future procurement processes respectively.

Asenso-boakye and Etse (2016) maintain that some procurement process risks are manifested in a variety of schemes including bribery, bid rigging, embezzlement, and false claims. Bribery according to Jennings (2013) is the paying or promising to pay a bribe, and receiving the offer of bribe. Bid rigging is any agreement between bidders for the purpose of limiting competition in a tendering process. Bribery and bid rigging are anticompetitive practices which hinder effectiveness of procurement and lead to significant cost increases in procurement (Jennings, 2013).

Bribery may take the form of public servants accepting bribes to steer. contract award in favour of the briber, or the acceptance of kickbacks from vendors in return for allowing overcharging (Asenso-boakye and Etse, 2016). Bribery and corruption are rarely isolated crimes; they are often associated with other offenses or misdeeds such as money laundering, tax evasion, accounting crimes, political party financing, collusion, fraud, conflict of interests, and organised crimes (Oso, 2017). Embezzlement in public procurement often entails the creation of fictitious companies or submitting fake invoices for payment. False claims; a related crime to embezzlement involves making false statements about products supplied or misleading the government as to the nature of a product or production process in the bid to defraud the state for private gains (Asenso-boakye and Etse, 2016).

## **RESEARCH METHODOLOGY**

The study commenced with a systematic approach to review related literature on the nature and application of construction procurement systems in Nigeria. The constraints surrounding the application of construction procurement systems which provides good basis for understanding where the problems exist and the resultant gap in procurement process. The study adopted a survey design approach rooted into the quantity research method. This was done by administration of a well-structured questionnaire to the procurement officers and building professionals in the procurement and physical planning units who are involved in the contract administration. The institutions covered are the Federal University of Technology, Minna; Federal Polytechnic, Bida; Federal College of Education Kontagora; Niger State College of Education, Minna; and Niger State Polytechnic, Zungeru. The breakdown of the respondents is shown in Table 1.

**Table 1: Breakdown of respondents**

Tertiary Institutions	Respondents					Total
	Procurement officers	Architects	Quantity Surveyors	Engineers	Contractors	
Federal University of Technology, Minna	7	9	6	9	6	37
Federal Polytechnic, Bida	8	12	7	14	8	49
Federal College of Education Kontagora	8	6	8	12	5	39
Niger State College of Education, Minna	6	7	6	8	7	34
Niger State Polytechnic, Zungeru	5	7	7	11	8	38
<b>Total</b>	<b>34</b>	<b>41</b>	<b>34</b>	<b>54</b>	<b>34</b>	<b>197</b>

Table 1 shows a population of 197 respondents within the 5 tertiary institutions in Niger State. The questionnaire was broadly divided into the two sections: Section A covers the personal information of the respondents' while Section B covers questions relating to risk factors in construction procurement process on 5 Point Likert-scale (5= Strongly agree, 4 = Agree, 3= Undecided, 2= Disagree, 1= Strongly disagree). A total of 197 questionnaires were distributed to the respondents (procurement officers, Architects, Quantity Surveyors, Engineers, and

Contractors) of which 188 were returned and found valid for analysis. The analysis was done using descriptive method by employing the Relative Importance Index (RII), in order to determine relatively, the most important risks factors to address in the procurement process.

## RESULTS AND DISCUSSION

The results of inherent risk factors across procurement processes of tertiary institutions as highlighted by the BPP are presented in this section in the following order: Procurement plan driven by need assessment; selection of procurement strategy; budgetary appropriation; advertisement; transparent prequalification; bid submission; bid opening; bid evaluation; tender board/Federal Executive Council (FEC) approval; and Contract execution

**Table 2: Risk factors related to procurement plan driven by need assessment; selection of procurement strategy- budgetary appropriation**

S/N	Risk factors along procurement process	RII	Rank
<b>A Risk factors related to efficient procurement plan driven by need assessment</b>			
1	Improper project planning and budgeting	0.82	1 <sup>st</sup>
2	Impractical time frame	0.81	2 <sup>nd</sup>
3	Lack of communication between team group	0.79	3 <sup>rd</sup>
4	Un clarity of client's requirements	0.79	3 <sup>rd</sup>
5	Informal agreement on contract	0.78	5 <sup>th</sup>
6	Improper project feasibility study	0.77	6 <sup>th</sup>
7	Consideration of un-prioritised needs	0.76	7 <sup>th</sup>
8	Definition of inappropriate project	0.75	8 <sup>th</sup>
9	Ineffective project technical feasibility	0.75	8 <sup>th</sup>
10	Lack of adequate need assessment	0.74	10 <sup>th</sup>
11	Inadequate statement of requirements	0.73	11 <sup>th</sup>
<b>B Risk factors related to selection of procurement strategy</b>			
1	Political interference	0.82	1 <sup>st</sup>
2	procurement policy	0.78	2 <sup>nd</sup>
3	Selection of inappropriate method	0.75	3 <sup>rd</sup>
4	Unfavourable Client's financial capability	0.75	3 <sup>rd</sup>
5	Lack of proper justification for non-competitive procurement	0.74	5 <sup>th</sup>
6	Unfavourable procurement framework	0.69	6 <sup>th</sup>
7	Ineffective procurement approach	0.68	7 <sup>th</sup>
8	Client's experience in procurement methods	0.66	8 <sup>th</sup>
<b>C Risk factors related to budgetary appropriation</b>			
1	Political interference	0.81	1 <sup>st</sup>
2	Insufficient funding	0.79	2 <sup>nd</sup>
3	Inadequate forecast about market price	0.76	3 <sup>rd</sup>
4	Delays in obtaining approval	0.75	4 <sup>th</sup>
5	price fluctuations	0.72	5 <sup>th</sup>
6	Unclear budgeting procedures	0.63	6 <sup>th</sup>

### **Risk factors related to procurement plan driven by need assessment; selection of procurement strategy; and budgetary appropriation**

Table 2 shows that the top three (3) risk factors related to efficient procurement plan driven by need assessment along procurement process are: improper project planning and budgeting (0.82), impracticable time frame (0.81) and lack of communication between team group (0.79) which are ranked 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> respectively. The top three (3) risk factors related to selection of procurement strategy are: political interference (0.82), procurement policy (0.78) and selection of inappropriate method (0.75). The result corroborated Mohammad *et al.* (2015) finding which opined that political influences has negative effect on public procurement process. Furthermore, the top ranked risk factors related to budgetary appropriation are: political interference (0.81), insufficient funding (0.79) and inadequate forecast about market price (0.76). The result corroborated Tipili and Ibrahim (2015) finding which revealed that insufficient funding and inadequate forecast about market price are some of the risk factors influencing construction projects generally.

### **Risk factors related to advertisement, transparent prequalification & bid submission**

Table 3 shows that the top risk factors related to Advertisement in procurement are: inappropriate time allocation (0.80), non-adherence to procurement code of ethics (0.79), and improper advertisement of proposal request (0.79) respectively. Additionally, risk factors related to transparent prequalification are: are lack of commitment to transparency (0.80), misunderstanding of contract clauses (0.79) and discrimination/unequal treatment of tender (0.76). They are ranked 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> respectively.

The results corroborated the findings of Bamidele *et al.*(2019) that unfamiliarity with the provisions of the Procurement Act, are the major risks and causes of non-compliance. The study found equally that risk factors related to Bid submission, the top three (3) risks are terms and conditions unacceptable to bidders (0.76), and unfair or onerous requirements on the bidders in the contract conditions (0.65) and changes in the bids made after their formal receipt (0.63). The results also corroborated the findings of Oso (2017) which identified the specific risk having negative consequence on procurement process, such as terms and conditions unacceptable to tenderers, impractical time frame and changes in the bids made after their formal receipt.

### **Risks related to bid opening, bid evaluation, tender board approval & contract execution**

Table 4 shows that the top risk factors related to Bid opening. These include actual or perceived breach of confidentiality (0.81), actual or perceived favouritism in providing information (0.80), and lack of independent and trustworthy references of bidders (0.76), ranked 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> respectively. The risk top factors related to Bid evaluation (technical and financial) are: use of inappropriate evaluation criteria (0.82), un-confidential tender evaluation process (0.81), inconsistencies in tendering evaluation and interferences in the contract awarding process by unauthorised parties (0.81). The top risk factors related to contract execution, are: poor contract



administration (0.82), communication gap between project team (0.81), inadequate cash-flow (0.81), level of project team commitment (0.79) which were ranked 1<sup>st</sup>, 2<sup>nd</sup> and 4<sup>th</sup> respectively.

**Table 3: Risk factors related to advertisement, transparent prequalification & bid submission**

		RII	Rank
<b>D</b>	<b>Risk factors related to Advertisement</b>		
1	Inappropriate time allocation	0.80	1 <sup>st</sup>
2	Non adherence to procurement code of ethics	0.79	2 <sup>nd</sup>
3	Improper advertisement of proposal request	0.79	2 <sup>nd</sup>
4	Non posting of invitation to apply for eligibility and to bid in a right national daily	0.78	4 <sup>th</sup>
5	Inadequate publicity (advertisement of procurement procedure for tenders)	0.76	5 <sup>th</sup>
6	Communication barriers	0.67	6 <sup>th</sup>
7	Inadequate training of procurement staff	0.64	7 <sup>th</sup>
<b>E</b>	<b>Risk factors related to Transparent prequalification</b>		
1	Lack of commitment to transparency	0.80	1 <sup>st</sup>
2	Misunderstanding of contract clauses	0.79	2 <sup>nd</sup>
3	Discrimination / Unequal treatment of tender	0.76	3 <sup>rd</sup>
4	Improper verification of contract documents	0.74	4 <sup>th</sup>
5	Incomplete project design and specifications	0.71	5 <sup>th</sup>
6	Inexperience when pricing tenders	0.68	6 <sup>th</sup>
7	Contractor's lack of experience and technical skills	0.59	7 <sup>th</sup>
8	Splitting of contracts	0.55	8 <sup>th</sup>
<b>F</b>	<b>Risk factors related to Bid submission</b>		
1	Terms and conditions unacceptable to bidders	0.76	1 <sup>st</sup>
2	Unfair or onerous requirements on the bidders in the contract conditions	0.65	2 <sup>nd</sup>
3	Changes in the bids made after their formal receipt	0.63	3 <sup>rd</sup>
4	Eligibility envelopes received beyond the deadline set for submission	0.63	3 <sup>rd</sup>
5	Bid collusion	0.57	5 <sup>th</sup>
6	Deadlock on details of agreement	0.53	6 <sup>th</sup>
<b>G</b>	<b>Risk factors related to Bid opening</b>		
1	Actual or perceived breach of confidentiality	0.81	1 <sup>st</sup>
2	Actual or perceived favouritism in providing information	0.80	2 <sup>nd</sup>
3	Lack of independent and trustworthy references of bidders	0.76	3 <sup>rd</sup>
4	Conspiracy amongst bidders to reduce competition	0.74	4 <sup>th</sup>
5	Inaccurate quantities	0.65	5 <sup>th</sup>
6	Insufficient number of responses	0.54	6 <sup>th</sup>

Moreover, the top risk factors related to Tender board/Federal Executive Council (FEC) approval, are political interference (0.82), conflict of interest (0.77), cash flow problems (0.62) which were ranked 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> respectively. The results corroborated the findings of Dahiru and Bashir (2015) that construction procurement system should be focused on risks related to corruption, conflict of interest, and effective technical feasibility for improving the overall project performance.

**Table 4: Risks related to bid opening, bid evaluation, tender board approval & contract execution**

<b>H</b>	<b>Risk factors related to Bid evaluation (technical &amp; financial)</b>	<b>RII</b>	<b>Rank</b>
1	Use of inappropriate evaluation criteria	0.82	1 <sup>st</sup>
2	Unconfidential tender evaluation process	0.81	2 <sup>nd</sup>
3	Inconsistencies in tendering evaluation and interferences in the contract awarding process by unauthorized parties	0.81	2 <sup>nd</sup>
4	Provision of inadequate information	0.79	4 <sup>th</sup>
5	Unclear definition of specifications	0.77	5 <sup>th</sup>
6	Non-availability of technical specifications to all tenderers	0.75	6 <sup>th</sup>
7	Failure to observe effective evaluation procedures	0.69	7 <sup>th</sup>
8	Inadequate tender management	0.67	8 <sup>th</sup>
9	Failure of evaluation to identify a clear winner leading to subjective discussions or development of new criteria	0.65	9 <sup>th</sup>
10	Selection of inappropriate consultant team	0.55	10 <sup>th</sup>
11	Lack of past performance consideration	0.53	11 <sup>th</sup>
<b>I</b>	<b>Risk factors related to Tender board/Federal Executive Council (FEC) approval</b>		
1	Political interference	0.82	1 <sup>st</sup>
2	Conflict of interest	0.77	2 <sup>nd</sup>
3	Cash flow problem	0.62	3 <sup>rd</sup>
4	Inappropriate condition of contract	0.61	4 <sup>th</sup>
5	Changes in rules and regulations	0.56	5 <sup>th</sup>
6	Inconsistency of government policies	0.55	6 <sup>th</sup>
<b>J</b>	<b>Risk factors related to Contract execution</b>		
1	Poor contract administration	0.82	1 <sup>st</sup>
2	Communication gap between project team	0.81	2 <sup>nd</sup>
3	Inadequate cash-flow	0.81	2 <sup>nd</sup>
4	Level of project team commitment	0.79	4 <sup>th</sup>
5	Change in scope	0.78	5 <sup>th</sup>
6	Absent of experience in similar projects	0.77	6 <sup>th</sup>
7	Noncompliance to conditions of the contract	0.69	7 <sup>th</sup>
8	Poor relation and disputes with partner	0.68	8 <sup>th</sup>
9	Design modification /defective design	0.67	9 <sup>th</sup>
10	Inadequate program planning	0.66	10 <sup>th</sup>
11	Noncompliance to material specification	0.66	10 <sup>th</sup>
12	Delay in site mobilization	0.65	12 <sup>th</sup>
13	Changes in material types and specifications during construction	0.64	13 <sup>th</sup>
14	Selection of inappropriate contractor	0.63	14 <sup>th</sup>
15	Inadequate contractor experience	0.63	14 <sup>th</sup>
16	Wrong construction procedure	0.54	16 <sup>th</sup>
17	Theft of materials on site	0.52	17 <sup>th</sup>
18	Wastage of materials by workers	0.51	18 <sup>th</sup>



## **CONCLUSION**

Construction procurement has many challenges which affect project delivery and these challenges are evident in risk factors associated with the procurement process. The study evaluated the inherent risk factors in procurement process in tertiary institution in Niger State with a view to ensuring effective project delivery. The study found the following as the important risk's factors in procurement process of tertiary institutions in Niger State: political interference, conflict of interest, use of inappropriate evaluation criteria, ineffective project technical feasibility, improper project planning and budgeting, lack of commitment to transparency, discrimination of tenderers, unequal treatment of tenders, expertise level of procurement personnel, and level of project team integration. Therefore, the findings can serve as a supportive mechanism for risks management in public construction procurement management in public tertiary institution. Hence, construction procurement personnel at all levels of government may find this study relevant while improving construction procurement process for effective project delivery in Nigeria.

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## **CONCEPTUAL FRAMEWORK FOR CONSTRUCTION PROCUREMENT RISKS MANAGEMENT IN NIGERIAN TERTIARY INSTITUTIONS**

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### **ABSTRACT**

The procurement system practiced by public tertiary institutions in Nigeria is bedevilled with problems of mismanagement and corruption. These institutions are part of government Ministries, Departments and Agencies (MDAs) responsible for implementing the Procurement Act under the monitoring and supervision of the Bureau for Public Procurement (BPP). One of the challenges is the failure to determine the risks limiting project delivery success. These risk factors can cause a significant increase in the procurement cost leading to increase in the overall project cost, time and poor quality. The existing procurement risks management frameworks failed to consider the 9 essential steps highlighted by the BPP and failed to provide linkages between procurement risk management and procurement process. Equally, some key aspects of the 9 essential steps used as guidelines by most tertiary institutions, like appropriate market surveys, extensive feasibility and viability studies, fund sourcing/cash flow analysis, selection of procurement routes/options, and contract management plans, are most times being compromised by tertiary institutions in Nigeria. These problems attributed to major risks in procurement management process of these institutions. Thus, this research aimed to develop a conceptual framework for construction procurement risks management in Nigerian Tertiary institutions. The research adopted a desktop methodology, by conducting a thorough literature search on the existing procurement management frameworks, which informed the development of the conceptual framework for effective procurement risks management in Nigerian tertiary institutions. The conceptual framework revealed that risks management practices must be effective throughout the procurement process (the 9 essential steps) for effective procurement risks management, which will affect project objectives of meeting with time, cost, quality, environment and safety. It is recommended that the conceptual framework should be adopted for procurement risks management in tertiary institution to improving project delivery.

**Keywords:** conceptual framework, construction procurement, public tertiary, institutions, risk factors and risks management.

### **INTRODUCTION**

Procurement systems have evolved globally with innovations and improvements on service delivery. However, the systems are given little acceptance in some developing countries of the world (Adamu *et al.*, 2017). Governments all over the world invest huge sums of money on public procurement project of various types in the different sectors of their economies. Such procurement