

## Factors Contributing to Construction Disputes in Nigerian Public Universities

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### ABSTRACT

*There is increase in the volume of intervention for construction projects in Nigerian public Universities to provide adequate infrastructures to support the development of the education sector. The implementation of these projects is being affected by the disputes arising among the participants of the construction process. The objective of this study is to identify the factors that contribute to the occurrence of disputes affecting successful delivery of construction projects within the public Universities in Nigeria. This study used quantitative research method. Questionnaire was designed to obtain relevant data from professionals that are directly working to implement construction projects within the public Universities in the region. 110 respondents from 14 public Universities in North Central Region of Nigeria participated in the study. Data obtained were analyzed using SPSS 20 version to determine the mean and standard deviation. Poor cost management and communication, changes in the economic situation, delay issue and unrealistic tender pricing are the four main factors from the four project categories that contributed to construction disputes in the public Universities in Nigeria. The factors identified should serve as a guide to the participants involve in the implementation of construction projects in public Universities.*

**Keywords:** Construction disputes, North Central Nigeria, Project Management, Public Universities.

### 1. INTRODUCTION

Public Universities play important role in the development of human capital to support the growth and development of countries especially the developing nations. The construction activities in the educational institutions play significant role in providing infrastructures and facilities to support their objectives. This construction sector is responsible for the execution of several projects and these projects involve the mobilization of different kinds of workforce no matter the size and volume of such projects (Ewa et al., 2018). The construction sector is a complex and multifaceted industry that usually gives rise to “disputes due to conflicting interests, technical complexities, and contractual intricacies” (ALP, 2024). Universities require large and complex facilities to support research and learning activities. However, a study concluded that the construction industry is one of the most conflict and dispute affected sectors that has made them the claims-orientated sectors (Ewa et al., 2018; Qu & Cheung, 2010). The success of a construction project depends on the coordinated efforts of the project team members (Saeb et al., 2018). The project team members who are the professionals play key roles in the implementation of construction projects in line with the contract documents.

Construction projects have four distinct but inter-related phases - briefing, design, construction and post-construction while the completion of these phases requires the professional services of several disciplines within the built environment (Ejohwomu et al., 2016). The multiplicity of disciplines involved in construction projects has been linked to conflicts, which evolve due to differences in interest, concerns, training and perception (Ejohwomu et al., 2016).

Construction disputes have resulted in lawsuits globally with the value in billions of US dollars (Goh et al., 2023). Therefore, this study aims to identify the major factors contributing to construction disputes in public Universities in Nigeria.

An earlier study investigated the causes of conflict in Nigerian construction industry and concluded that the ‘differences among team professionals’ is the major cause of conflict in construction projects (Molwus et al., 2016). For conflict to be avoided in the construction projects, cooperation of the professionals is key factor. This conflict need more study since more infrastructure are needed for the public Universities in Nigeria. However, the Federal Government of Nigeria injected 2.5 trillion Naira for infrastructure and staff development in public universities, polytechnics and colleges of education through the Tertiary Education Trust Fund (TETFund) in the last 10 years (TETFund, 2021). This value is huge and proper implementation is required for infrastructural development in these institutions. Therefore, the study is timely and necessary to ensure value for the government’s investments.

## 2. LITERATURE REVIEW

Conflict means collision or clash and it is derived from the Latin word ‘*conflictus*’ (Ewa et al., 2018). Conflict is an act that can be regarded as opposite behaviour between two opposing parties. Disputes arise due to disagreements between any of the contracting parties and they have devastating effect on construction projects which could result in cost overruns, delays, and loss of productivity (El-Sayegh et al., 2020). Frequent occurrence of disputes between the contracting parties in the construction industry is negatively affecting the effective construction projects delivery in Nigeria (Ojo & Babalola, 2018). The identification of actual occurrence of conflict is necessary for the initiation of conflict prevention or management measures, and hence important to address the concept of conflict before seeking how to prevent and manage such occurrences (Ewa et al., 2018). Disputes were identified as the inevitable occurrence in highly competitive construction contracting business while amicable dispute resolution is necessary for the construction industry (Li & Cheung, 2016).

Disputes are driven primarily by political, commercial, project delivery, claims-related and legal risks in the Nigerian construction industry (Fagbohunlu & Okonmah, 2021). Whereas, commercial, project and legal risks could be the result of lack of regulatory expertise; ambiguity in contractual requirements; poorly defined project scope; improper risk allocation matrix; combative contracting culture; lack of sophistication of the project team; border controls and currency control risk; poor risk planning and performance management of resources; and costs and disruption in the supply chain (Fagbohunlu & Okonmah, 2021).

Disputes in the construction industry is inevitable due to the complex and multidisciplinary relationships that happens between different stakeholders including the lengthy processes involved from design to construction phases of project (Nwakor et al., 2017). However, efforts of different researchers in the country had helped in resolving issues around these disputes as it affects the construction industry. Ejohwomu et al. (2016) identified the critical causes of conflict in construction projects in Nigeria as poor financial projects on the client’s side, lack of funds and poor public relationship between the project people and the public as the major causes of conflicts in Nigerian construction industry. Ojo and Babalola (2018) carried out similar study in Lagos State using mixed method research. They found out that changes and variation requirements, late payments to contractor, clients fail to pay variation claims, and poor briefing during design stage are caused by the client. However, the design inadequacies, variation due to design errors, and design and specification oversights and errors or omissions are caused by the consultant. Also, poor standard of work, poor planning and programming, and delayed payment to subcontractors are caused by the contractor.

Another study by Aiyewalehinmi and Nkumah (2019) identified the contractor that purposely work below the specified standard, client delays progress payment after workdone, and some items are missing from the contract bills as the main causes of construction contract disputes between the clients and contractors in Nigeria. However, in 2021, a study identified design changes, delays in payment to contractors, and information delays as the causes of delays and disruptions in the Nigerian construction industry (Dunama et al., 2021).

Recently, Olamoju and Olagoke-Salami (2020) identified the failure to plan and execute the change of work, poor workmanship, and poor programming as the major causes of construction dispute by contractors in Nigeria. Also, late information, design inadequacies and reluctance to check for constructability, clarity and completeness are the causes by client. Similar study by Anumudu and Uchendu (2023) identified undefined channel of communication; different interests, concerns, training and perception of individuals involved in the construction project; and diversity of project participants as major causes of disputes in Nigerian construction industry.

Also, El-Sayegh et al. (2020) identified the variations initiated by the owner, obtaining permit/approval from the municipality and other governmental authorities, material change and approval during the construction phase, the slowness of the owner in decision-making, and the short time available during the design phase. However, the causes leading to the claims to form a dispute, and the effective ADR methods are largely dependent on the perspective of the stakeholders (Illankoon et al., 2019). Another study revealed that the top causes of claims and disputes comprise the following: variations because clients initiated change requests; contractors selection on low bid only rather than including quality and performance considerations; and unfair risk allocation where majority of risks are transferred to contractors (Elhag et al., 2020).

Koc and Gurgun (2022) identified five ambiguity factors affecting construction conflicts as: ambiguity due to excessive changes in the bill of quantity (BOQ), incomplete clauses that do not describe the scope of the intended work purely, ambiguity due to excessive amendments in the scope of works, ambiguous enforceability including excessive demands and ambiguous goal and performance requirements. Weather/climate conditions, poor communication, lack of coordination and conflicts between stakeholders, ineffective or improper planning, material shortages, financial problems, payment delays, equipment/plant shortage, lack of experience/qualification/competence among project stakeholders, labour shortages and poor site management were identified by Durdyev and Hosseini (2020).

### 3. MATERIALS AND METHODS

This is the study of factors that contributed to disputes on the construction projects delivered in Nigerian public Universities. In order to achieve the aim, a quantitative approach was adopted to empirically test the opinions of construction professionals implementing construction in public Universities in the region. A questionnaire survey was adopted because it is a method that could sample wider opinion among the professionals. It is designed based on a five point Likert scale in which 1 = no contribution and 5 = very high contribution. The study covered the public Universities in North Central Region of Nigeria. The region has 14 public Universities: Federal Universities (8) and State Universities (6).

The population of the study is estimated as 350 based on the preliminary study. Due to the few professionals, the total population is considered as the sample for the study. Table 1 shows the profile of the respondents that participated in the survey. The survey was carried out using both physical and online questionnaire. Data obtained were analyzed using SPSS 20 version to determine the mean and standard deviation. The factors included in the questionnaire were adapted from study carried out by Gog et al. (2023). The respondents are professionals working

in the Physical facilities Unit or Works Department of the targeted institutions. The respondents are Architects (16), Quantity Surveyors (40), Builders (20), Engineers (14) and Estate Surveyors (20). Quantity Surveyors participated more than other professionals in the survey while others have almost same average participation. Their academic qualifications are Diploma (3), Higher Diploma (11), Degree (46) and Masters (50). All the respondents have post-secondary education while majority of them possessed University degrees.

Table 1: Profile of Respondents

Category	Classification	Frequency	Percentage
Field of Specialization	Architect	16	14.5
	Quantity Surveyor	40	36.4
	Builder	20	18.2
	Engineer	14	12.7
	Estate Surveyor	20	18.2
	Total	110	100.0
Academic Qualification	Diploma	3	2.7
	Higher Diploma	11	10.0
	Degree	46	41.8
	Masters	50	45.5
	Total	110	100.0
Experience in Construction Industry	0 – 5 years	30	27.3
	11 – 15 years	10	9.1
	16 – 20 years	40	36.4
	Over 20 years	30	27.3
	Total	110	100.0
Experience in the University	0 – 5 years	30	27.3
	11 – 15 years	5	4.5
	16 – 20 years	51	46.4
	Over 20 years	20	18.2
	Total	110	100.0

More than half of the respondents (63.7%) had experiences in the construction industry of more than 15 years. Also, 64.6% of these respondents had been involved in construction projects in the public Universities for more than 15 years. This indicated that the respondents had considerable experiences in both construction industry and within the University system. Since, they had participated in the delivery of construction projects in the Universities, their contributions to the research are critical to the outcome of the study.

#### 4. RESULTS AND DISCUSSION

The analysis of the data obtained from the questionnaire survey carried out on the professionals involved in construction projects implemented in public Universities in North Central Region of Nigeria are presented in this section. Tables 2 - 5 showed factors that contributed to construction disputes in Nigerian public Universities. These factors are categorized into four: management related, financial related, construction related and contract related. These factors were included in the questionnaire and presented to the professionals being engaged in the implementation of construction projects in those public Universities. The results of this study are presented below.

Management related category comprises of five factors that contributed to the disputes on construction projects in public Universities (Table 2). They are: poor cost management (mean: 4.2727), poor communication (mean: 4.2727), poor quality management (mean: 4.1818), poor time management (mean: 4.0909) and poor site management (mean: 3.8182). Poor cost

management and poor communication were both ranked first among the factors that contributed to disputes in the management related category. This result showed that both of them have high contributions to construction disputes. Poor quality management and poor time management also have high contributions and ranked third and fourth. Whereas, poor site management is last with little contribution.

**Table 2: Management Related Factors**

Factors	Mean	Std. Deviation	Rank
Poor Cost Management	4.2727	0.86639	1 <sup>st</sup>
Poor Communication	4.2727	0.86639	1 <sup>st</sup>
Poor Quality Management	4.1818	0.94025	3 <sup>rd</sup>
Poor Time Management	4.0909	0.67110	4 <sup>th</sup>
Poor Site Management	3.8182	1.11850	5 <sup>th</sup>

Financial related category has three factors that enhance occurrence of disputes for construction projects in public Universities (Table 3). These factors and their mean scores are: changes in the economic situation (mean: 4.7273), finance issue (mean: 4.6364) and payment issue (mean: 4.2727). Changes in the economic situation and finance issue have very high contributions to construction disputes while payment issue has high contribution for the occurrence of disputes in the project being implemented in the public Universities. 'Changes in the economic situation' is the number one factor among all the factors across the four categories that contributed to construction disputes in the public Universities. Finance and payment issues were ranked second and third in this category.

**Table 3: Financial Related Factors**

Factors	Mean	Std. Deviation	Rank
Changes in the Economic Situation	4.7273	0.61940	1 <sup>st</sup>
Finance Issue	4.6364	0.48325	2 <sup>nd</sup>
Payment Issue	4.2727	0.61940	3 <sup>rd</sup>

Construction related category has ten factors that bring up disputes on construction projects in public Universities (Table 4). These factors and their mean scores are: delay issue (mean: 4.5455), lack of experience (mean: 4.3636), adversarial relationship between contractors (mean: 4.2727), unforeseen site condition (mean: 4.2727), unrealistic expectations (mean: 4.0909), work change orders (mean: 4.0000), unable to perform task (mean: 3.9091), incomplete information (mean: 3.9091), failure in sublet of contract (mean: 3.8182) and inclement weather (3.7273). Delay issue is ranked first among the construction related factors that contributed to construction disputes in the public Universities. Delay issue has very high contribution. However, lack of experience, unforeseen site condition, adversarial relationship between contractors, unrealistic expectations and work change orders are factors with high contributions to construction disputes. Whereas, unable to perform task, incomplete information, failure in sublet of contract and inclement weather are factors with little contributions to construction disputes.

**Table 4: Construction Related Factors**

Factors	Mean	Std. Deviation	Rank
Delay Issue	4.5455	0.65856	1 <sup>st</sup>
Lack of Experience	4.3636	0.64577	2 <sup>nd</sup>
Adversarial Relationship btw Contractors	4.2727	0.75309	3 <sup>rd</sup>
Unforeseen Site Condition	4.2727	0.75309	3 <sup>rd</sup>
Unrealistic Expectations	4.0909	0.90407	5 <sup>th</sup>
Work Change Orders	4.0000	0.60578	6 <sup>th</sup>
Unable to Perform Task	3.9091	0.67110	7 <sup>th</sup>
Incomplete Information	3.9091	1.08826	7 <sup>th</sup>
Failure in Sublet of Contract	3.8182	0.83701	9 <sup>th</sup>
Inclement Weather	3.7273	1.05717	10 <sup>th</sup>



Contract related category comprises of seven factors contributing to construction disputes in the public Universities' projects implementation (Table 5). These factors and their mean scores are: unrealistic tender pricing (mean: 4.6364), different interpretations of the contract provisions (mean: 4.2727), breaches of contracts (mean: 4.2727), unfair risk allocation (mean: 4.1818), disagreement on claims (mean: 4.1818), poorly written contracts (mean: 3.8182) and ambiguous contract languages (mean: 3.5455). Unrealistic tender pricing is ranked first among contract related factors that contributed to construction disputes. This factor has very high contribution to construction disputes. Different interpretations of the contract provisions, breaches of contracts, unfair risk allocation and disagreement on claims are factors with high contributions to construction disputes. Whereas, poorly written contracts and ambiguous contract languages are factors with little contributions to construction disputes in public Universities.

**Table 5: Contract Related Factors**

Factors	Mean	Std. Deviation	Rank
Unrealistic Tender Pricing	4.6364	0.64577	1 <sup>st</sup>
Different Interpretations of Contract Provisions	4.2727	0.61940	2 <sup>nd</sup>
Breaches of Contracts	4.2727	0.61940	2 <sup>nd</sup>
Unfair Risk Allocation	4.1818	0.94025	4 <sup>th</sup>
Disagreement on Claims	4.1818	0.57759	4 <sup>th</sup>
Poorly Written Contracts	3.8182	0.83701	6 <sup>th</sup>
Ambiguous Contract Languages	3.5455	1.08057	7 <sup>th</sup>

In the management related category, poor cost management and communication was identified as the major contributing factor for construction disputes in the public Universities in Nigeria. This is in agreement with Anumudu and Uchendu (2023) that identified undefined channel of communication as major cause of disputes in Nigerian construction industry. The financial related category also identified changes in the economic situation as major contributing factor for construction disputes in the public Universities in Nigeria. The result of the study by Ejohwonu et al. (2016) showed similarity in their outcomes where they identified poor financial projects on the client's side, lack of funds and poor public relationship between the project people and the public as the major causes of conflicts in Nigerian construction industry.

The result of the construction related factors showed that the delay issue, lack of experience, adversarial relationship between the contractors, unforeseen site conditions, unrealistic expectations, work change orders, unable to perform tasks, incomplete information, failure to sublet contract and inclement weather. Durdyev and Hosseini (2020) also identified similar result as weather/climate conditions, poor communication, lack of coordination and conflicts between stakeholders, ineffective or improper planning, material shortages, financial problems, payment delays, equipment / plant shortage, lack of experience / qualification / competence among project stakeholders, labour shortages and poor site management.

Delay Issue and unrealistic tender pricing were the two major factors identified in the construction related and contract related categories as the major contributing factors for construction disputes in the public Universities in Nigeria respectively. However, these factors are unique and were not part of those identified in the previous studies on construction disputes in Nigerian construction industry. Poor Cost Management and Communication, Changes in the Economic Situation, Delay Issue and Unrealistic Tender Pricing are the four main factors from the four project categories that contributed to construction disputes in the public Universities in Nigeria. The outcome shows that if the cost of the project is not properly management and the mode of communication among the construction teams is not well defined the disputes may arise in the process. The inflation in Nigeria caused by the increase in fuel prices negatively affected the construction industry and the economic situation in the country. Then the price of construction materials and labour is main factor that leads to disputes among

the parties to the contract. However, the client is expected to honour the contractors' payments early to avoid the disputes of non-honouring payment certificates. Also, if inexperienced contractors were invited for the contract bid, possibility of submitting unrealistic tender in high and it may results in an unrealistic tender pricing.

## 5. CONCLUSION

Resolving the disputes that arise from construction projects for the public Universities are important to the delivery of much needed facilities for learning and research activities. This study was able to identify the four most important factors that contributed to construction disputes during the project implementation processes in public Universities. The participants are expected to be well informed of these contributing factors during project procurement and implementation. Also, the impact of these disputes on the success of project delivery in the Universities shall be examined in order to assist the stakeholders in decision making. This study is limited to the public Universities and the result is only relevant to the Universities procurement management processes. It is recommended that the participants of the project implementation in the Projects Unit of the Universities must ensure that the four major contributing factors are avoided to reduce construction disputes. The client's team must ensure that payments are honoured timely and competent contractors are always invited for contract bidding.

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