

Identification of Strategies for Minimizing Contractors Claims in the Construction Industry ¹

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Abstract

Nowadays, the substantially increasing volume of claims is the result of the rising complexity of the projects, the price structure of the construction industry and the legal approach taken by a lot of owners and contractors. The study identified strategies for minimizing contract claims in the construction industry and ranked the strategies according to level of importance. The target population comprised all construction professionals in the selected construction contracting and consulting firms. The study applied a descriptive research design and a purposive sampling technique to select a sample size of 200 respondents of which 178 finally formed the study respondents used for analysis. The gathered data was analyzed using the Statistical Package for Social Science (SPSS) version 21; Inferential statistics using multiple regression analysis was applied to determine the relationship between the research variables. From the data analysis, the result clearly revealed that all the seven (7) factors/strategies identified are relevant strategies for minimizing contractors claims in the construction industry in Nigeria. Furthermore, the study showed that the contractors claims that often lead to dispute during execution of construction projects are grouped into change order claim, variation order claim, cost and expense claims and dayworks claim, but specifically are construction defect claims, breach of contract claims, construction delay claims, scope-of-work claims, failure to disclose claims, change in site conditions claims and sub-contractors claims. The study recommends that building clients should evaluate the quality performance, technical and financial performance of contractors using the factors highlighted in this study as a benchmark.

Keywords: Contractors Claims, Construction Industry, Strategies, Minimizing, Building Projects

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1.0 Introduction

Background to the Study

Construction projects are intrinsically complicated, hazardous and at the mercy of the unpredictable weather and also the most complicated of human enterprises. Hence, it is perhaps not surprising that something often goes wrong (Shebob, Dawood & Xu, 2011). For this reason, no construction project is free from problems such as delay, unexpected additional or extra work, defective work, cost overruns, structural failure and accidents. Inevitably so, too, do disputes. Generally, they do occur due to the failure of one or more project participants to fulfill their contractual obligations which impact negatively on construction projects, thereby resulting to construction claims.

Construction claims are found in almost every construction project. It is the seeking of consideration or change by one of the parties involved in the construction process. Nowadays, the substantially increasing volume of claims are the result of the rising complexity of the projects, the price structure of the construction industry and the legal approach taken by a lot of owners and contractors (Levin, 2008). There are several researches that show the order of magnitude of the effects from construction claims on cost and time of the projects. Semple et al. (2014) presented the results of their survey of the claims in 24 construction projects in Western Canada. It was found that the large majority of claims involved some delays and in a number of cases delays exceeded the original contract duration by over 100%. As to the project cost, more than half of the claims were the additional costs of at least 30% of the original contract values. Callahan (1998) reported that transit agencies in the United States and Canada experienced an average cost growth of 7% of contract value from settlement of disputes and claims for heavy civil contracts. In Thailand, Khanchitvorakul (2010) surveyed the claim behavior of 21 the construction companies and discovered that the average cost growth from contract value causing by claims was approximately 7%, proximate to Callahan's finding.

Although construction claims have significant effects on the projects, they are not always given adequate considerations. This research is aimed at presenting the key concepts of construction claims, and construction claim management, focusing on the contractors' side. In addition, a questionnaires survey was performed to assess the efficiency of the contractors in managing their claims.

Statement of the Problem

Construction projects are complex and for this reason disputes are always present. For a lot of reasons, construction disputes have become increasingly common in the construction industry in Nigeria (Mbachu, 2008). Resolution of these disputes, which vary in their nature, size and complexity in recent years, have become very expensive in terms of finances, personnel, time and projects delays (Kululanga, Kuotcha, McCaffer & Edum-Fotwe, 2001). When construction disputes affect deadlines, productivity and costs, they must be dealt with promptly to keep the project on schedule and the budget on target (Brennan, 2006). As a result of this, there is a need to develop strategies to prevent the risk of disputes from occurring in the first place and also to help avoid the unnecessary escalation of disagreements into contested disputes which might otherwise need to be resolved through a formal or informal dispute resolution in Nigeria. Disputes are not something which arise of their own accord and thus simply appear one day and are, of course, nobody's fault (Shoylekov, 2003). They do occur due to so many reasons and also the fact that the industry is an organization which deals with the organization of human resources, materials and procedures, with each project having numerous participants with different interests and approaches to the project. Locally among others, construction disputes have arisen due to the fact that standard documents are used without properly assessing them very thoroughly.

Construction claims have such high impacts on the projects' cost and time that the contractors should establish the effective claim management in their organizations. Nowadays, the substantially increasing volume of claims are the result of the rising complexity of the projects, the price structure of the construction industry and the legal approach taken by a lot of owners and contractors. Although construction claims have significant effects on the projects, they are not always given adequate considerations. Given the expense and disruption caused to a contract or an on-going project and the damage to relationships between participants involved in a project, the researcher finds it suitable to really identify the important and the frequently occurring factors which are actually causing disputes on construction projects in Nigeria from the perspective of the three main stakeholders. This would prepare the ground for identifying and further developing appropriate strategies to prevent disputes from occurring, allowing projects to continue with minimum delay and disruption.

Aim and Objectives of the Study

The aim of the study is the identification of the strategies for minimizing contractors claims in the construction industry. However, the specific objectives are

1. To identify various types of contractors claim in the Nigerian Construction Industry

2. To identify the most prevalent types of contractors claim in the Nigerian Construction Industry by ranking
3. To identify the strategies for minimizing contractors claims in the construction industry in Nigeria
4. To rank the strategies

Research Questions

1. What are the various types of contractors claim in the Nigerian Construction Industry?
2. What are the most prevalent types of contractors claim in the Nigerian Construction Industry by ranking
3. What are the strategies for minimizing contractors claims in the construction industry in Nigeria
4. How can the strategies be ranked?

Significance of the Study

It is pertinent to reiterate that the purpose of the present study is first, to identify the strategies for minimizing contractors claims in the construction industry of Nigeria. Critical success strategies need to be measured to find its relationship and impact on construction contract disputes amelioration. These strategies can reduce organizational ambiguity. The findings of the present study are also important for all the construction project stakeholders (clients, project managers, contractors and consultants) to highlight the strategies to minimize contractors claims in construction industry. Moreover, the findings may be generalized to the other relevant sectors carrying out projects because of the similarities that can be traceable.

Furthermore, the findings of this research work will benefit construction firms, because it will help these firms to focus their efforts on building their capabilities to integrate the strategies, or even allow firms to decide if they have the capability to build the requirements necessary to avert contract disputes, thereby assisting in taking proactive measures for successful project management of construction projects. The identification of these strategies and its implementation will also be useful for effective management for all type of construction projects, thus helping to raise overall level of productivity and delivery in construction industry.

Finally, professional bodies and regulation agencies charged with the regulation of construction sector practices in Nigeria like NSE, COREN, NIQS, NIA, ARCON etc will find the recommendations and findings of the study as a comprehensive working tool to initiate best

practices among members and firms. Also can promote a learning discussion such as seminars, workshops and academic curriculum upgrade.

Scope of the Study

The study has a comprehensive coverage of the research topic, but thus was delimited to selected study area, firms and projects. The study was delimited to South-Eastern part of Nigeria, and precisely Imo State. The study targeted all construction professionals in selected firms and projects. Furthermore, the boundary of this research is not beyond the knowledge research walls of construction projects and more importantly contractors' claims. All these constituted the scope of the study.

2.0 Literature Review

The Construction Industry

Construction is a high stakes endeavour that produces long-term, unique, and complex building projects and infrastructure (Levy, 2007). Taking a building project from planning through design, construction, and occupancy involves a diverse array of stakeholders such as the project clients, which may be individuals, corporations, or government entities; architects; engineers; general contractors; subcontractors; suppliers; financing institutions; legal representatives; and others. These stakeholders bring varying and sometimes conflicting expectations to a project. They operate in an environment in which their control over a project shifts as the project progresses, and in which there are continual demands to deliver projects in less time and at lower cost. Chin (2013) indicated that, the construction industry is a project - based industry with each project being unique hence notorious for its high levels of conflict and disputes. Failure by one party involved in this industry can affect all those engaged in a project and as work often takes substantial periods during which national economic circumstances can alter, it is therefore inevitable that dispute will arise.

According to Steen (2012), this industry has also become known as one of the most adversarial and a problem-prone industry, with claims and disputes on construction projects frequently the rule rather than the exception. Cost overruns and schedule delays can be the subject of expensive and protracted claims and litigation, and pose serious risks for all parties to a construction project. The construction industry in Nigeria covers a complex and comprehensive field of activities involving many operative skills and conditions, which vary considerably from one project to another and as such dispute might arise at any point during the construction process. Generally, there is a low standard of contract formation and of contract administration in the construction

industry, which lead frequently to unnecessary problems and disputes. The parties usually enter into a dispute as a result of differing expectations or misinterpretations of the contract documents.

This industry is considered by some to have been less adversarial in the 1960's than now (McGuinn, 2009). During this time the design and construction environment was such that amiable relationships generally existed between all of the project participants. In general, construction projects and processes were not complicated. The construction players were few and developed long-term relationships. Clients accepted the fact that undertaking construction projects contained inherent risks and, therefore, accepted a certain amount of errors. Claims were not prevalent and, amazingly, design and construction firms worked together to maximize project performance (McGuinn 2009).

The focus of the construction industry was on teamwork and the overall success of the project. According to Sakal (2014) the construction industry today is different. In that, strong relationships and trust between clients, contractors, and subcontractors has been replaced with growing distrust and conflict. He also noted that, the construction industry has continually fragmented into narrow specialty areas that have resulted in an ever-growing number of potential participants. This environment is difficult enough for the contractors and subcontractors, but when combined with the fact that clients now also expect perfection in the contractor's performance, it is not surprising that contract disputes and claims have become commonplace (Sakal, 2014).

Nigerian construction industry

The role the construction industry plays in an economy cannot be overemphasized. The Nigerian construction industry has served the Nigerian economy significantly with the creation of direct and indirect employment nationally. From the 80's till present day, the industry has grown to about 125 times its former size but this growth when put in perspective leaves a lot to be desired. The construction sector Oluwakiyesi (2011) accounted for 1.4% of the Nigerian gross domestic product (GDP), in comparison to 1981 where the industry accounted for 5.8%. This decline is mainly due to the country's GDP growing 495 times in the same period.

Despite the construction industry having had an impressive growth rate of above 10% over the past few years, Nigeria still has only 30% of its 193,200 km road network paved as at 2011 (Muhammed et al, 2015). The general infrastructure and amenities in the country has been described as abysmal when compared to the investment that has gone in to the sector (Oluwakiyesi, 2011). Government funding for new and existing projects has increased steadily. Projects like the national rail revival, renovation of all airports, power station construction and many others have

ensured the construction industry remains vibrant. However, unless the effectiveness of the industry is improved the industry will continue to stagnate.

Concept of Construction Claims

Construction claim is a demand or assertion by one of the parties seeking, as a matter of right, adjustment or interpretation of contract terms, payment of money, extension of time or other relief with respect to the terms of the contract (Levin, 2008). Kumaraswamy (2007) described the relations among “conflict”, “claim” and “dispute”. In summary, disputes are taken to imply prolonged disagreement on unsettled claims and protracted unresolved/ destructive conflicts. This concept can be illustrated by Fig.1.

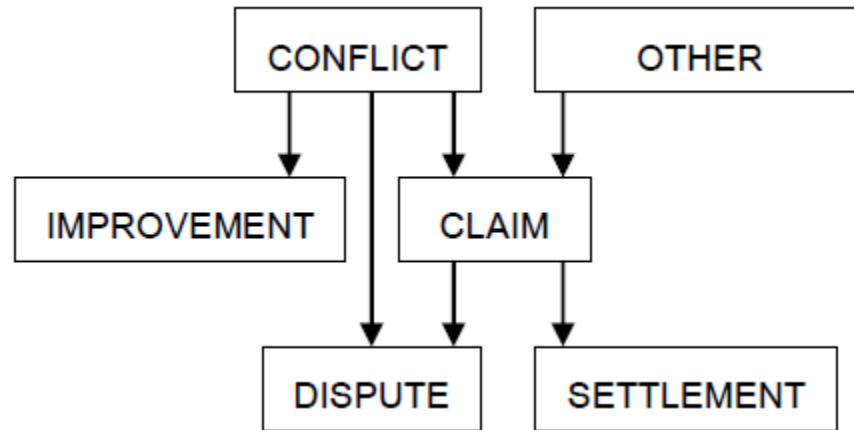


Fig.1 Relationships between conflicts, claims and disputes

Source: Kumaraswamy, 1997

According to Bu-Bshait and Manzanera (1990), typical construction claims against owners are caused by a lot of reasons such as poor project planning, scope changes, constructive variation orders, errors and omissions, contract accelerations and expediting. There are various ways to classify construction claims into categories. However, they can be grouped into 3 groups.

The first group classifies claims into two basic types by the objectives of claims. They consist of (1) claim for extra time to complete the contract, and (2) claim for extra money arising out of the contract.

The second group categorizes claims by considering their legal bases, Chappell (2004), Alkass and Harris (1991) and Hughes and Barber (1992) classified claims into three major types:

- 1) **Contractual claims:** Contractual claims are the claims that fall within the specific clauses of the contract, typically ground conditions, valuation, variations, late issue of information, and delay in inspecting finished work.
- 2) **Extra-contractual claims:** This type of claim has no specific grounds within contract but is a result of breach of contract, which may be express or implied. An example of extra-contractual claim is the extra work incurred as a result of defective material supplied by the employer.
- 3) **Ex-gratia claims:** Ex-gratia claims are the claims that there is no ground existing in the contract or the law, but the contractor believes that he has moral grounds, e.g. additional costs incurred as result of rapidly increased prices.

The last group, as proposed by Adrian (2008), classified claims into four major types: (1) Delay claim, (2) Scope-of-work claim, (3) Acceleration claim, and (4) Changing-site-condition claim, in order to facilitate the calculation of damages of claims.

Construction Claim Management

The word “Management” means the process of dealing with or controlling people or things. When combined with the meaning of the word “Claim” defined by Arditi and Patel (2009), the word “Construction claim management” can be construed as the process of dealing with or controlling the seeking of consideration or change by one of the parties involved in the construction process. Cox (2007) considered variation and claim management as the management of risks and should begin even before the start of constructions by both employers and contractors.

There are many sub-processes related to construction claim management. Levin (2008) indicated seven basic procedures for claims and change order administration. They are:

1. recognition and identification of change,
2. notification of change,
3. systematic and accurate documentation of change,
4. analysis of time and cost impacts of change,
5. pricing of change,
6. negotiation of claim, and

7. dispute resolution and settlement.

Recognition and Identification of Change

Construction claim recognition and identification involves “timely” and “accurate” detection of a construction claim. It is the first and critically important ingredient of the claim process. Callahan(2008) viewed the ability to recognize an emerging problem that could lead to a dispute, and allowing for this problem to be dealt with early in its life as the most important part of dispute avoidance. He also presented the techniques used to anticipate or identify disputes at an early stage by all transit agencies in the United States and Canada, including the commuter rail agencies, which have undertaken construction in the last 5 years. They are (1) preconstruction meeting, (2) project meetings, (3) construction scheduling, (4) bid evaluation/ comparison, (5) project cost/ payment forecasting, (6) regular review of project documentation, and (7) proactive problem management at meeting.

In order to form a foundation for proper claim management and to keep the contractors out of troubles and free to concentrate on constructions of the jobs, Levin (2008) listed of the general circumstances that typically cause claims and variation order.

Notification of Change

Construction claim notification involves alerting the other party of a potential problem in a manner that is non-adversarial. Time limit requirements are very crucial and critical. An initial letter of a claim notice to the other should be concise, clear, simple, conciliatory, and cooperative. It should indicate the problem and alert the other party of the potential increase in time or cost.

Time limit requirement are normally specified in the contracts. For example, the Construction Contract (First Edition), prepared by Federation Internationale des Ingenieurs-Conseils (FIDIC) requires the contractor to notify the employer within 28 days after he became aware or should have become aware of the event or circumstance .

Systematic and Accurate Documentation of Change

Records and documentation play a very important role in the settlement of contract claims. Bu-Bshait and Manzanera (1990) listed nine records usually needed to substantiate a claim. With more focus on the delay claim, Elnagar and Yates (1997) investigated the types of documentation used to determine the causes of project delays. The ten documents ranked as the top indicators of project delays are presented.

Jergeas and Hartman (1994) suggested that construction contractors should always file some necessary records. Fifteen records were listed in the paper. Furthermore, Adrian (2008) explained how some techniques such as camera, and recording devices can be alternatives in recording the important information.

However, there are many evidences showing that the importance of record management is not realized as much as it should be. Scott and Assadi (1999) concluded that records available on sites seldom allow the as-built schedules to be constructed easily. Pogorilich (1992) reported that the daily reports are often given the least amount of attention although they may be the most important document on the projects. Too often daily reports are prepared with minimal details and are subsequently ignored by management.

Analysis of Time and Cost Impacts of Change

There are several literatures concerning the calculation procedures of the time and cost impacts caused by the events entitling rights to claim. These can be grouped into two major categories: time impact analysis (or schedule analysis) and cost impact analysis.

There are several schedule analysis techniques such as: (1) Global Impact Analysis, (2) Net Impact Analysis, (3) Impacted As-Planned Analysis, (4) What-If Technique, (5) But-For Technique, (6) Contemporaneous Period Analysis Technique, (7) The Affected Baseline Schedule Technique, (8) Collapsed As-Built Analysis, and (9) Fragnet Analysis. The main differences of these techniques are their input schedules. Some techniques require as-planned schedule, while others require as-built schedule. Updated schedule is also the input for some schedule analysis techniques.

Pricing of Change

The purpose of this sub-process is to give the other party in the contract a substantive description and details of the extra costs incurred or to be incurred due to a contract change. This detailed cost description is necessary for understanding, negotiating, and justifying extra contract costs. Pricing of claims can be divided into two types:

1) **Forward Pricing** - Under this scheme, the price is negotiated before the work is done. This type of pricing method is typically preferred since it encourages prompt revision of the progress schedule, thus maintaining accurate record of the sequencing of the remaining work, the final contract price, and the final completion date.

2) **Post pricing** - In post pricing, the risks have been incurred and the added costs have been known. The difficulty is identifying and isolating all the changes and their attendant costs. The claimants are supposed to have good cost records, with adequate descriptions of works performed. Thus, after a determination of the work which was affected by a change, the claimant will be able to identify and price all the costs associated with the changed work.

Adrian (2008) described the relationships between four types of claims (e.g. delay claim, scope-of-work claim, acceleration claim, and changing-site-condition claim) and each cost components (i.e. addition direct labor hours, equipment rental cost, interest cost or finance cost).

Negotiation

Kululanga (1989) explained the reason for having negotiation and its advantages. A structured and proper negotiation preparation includes (1) ascertaining that all information is current and complete, (2) minimizing the scope of negotiation beforehand so that insignificant points should not precipitate a violent argument and disrupt progress, (3) knowing one's weakness and trying to utilize weak points by conceding them in return from the other party, (4) foreseeing problems, and (5) anticipating the opposition's next move.

If an agreement cannot be reached and any party believes his position is correct, he should propose an alternative dispute resolution method. If this fails, the choice remaining is to implement the contractor's "disputes" mechanism or take the matter to court.

Dispute Resolution and Settlement

There are many options the employers and the contractors can select for settling any dispute occurring in their project. Murdoch and Hughes (1996) listed the various disputes resolution methods: litigation, arbitration, conciliation, quasi-conciliation, mediation, private inquiry, adjudication, and mini-trial. He also explained that these terms are often used interchangeably and also listed the details of each approach. Each dispute resolution method has particular advantages and disadvantages. Sometimes more than one method of dispute resolutions are implement, as specified in the FIDIC's "The Construction Contract".

3.0 Research Methodology

The study is a survey, with the population of study comprising of all the persons and organizations that have the capacity, experience and responsibilities to carry out estimation and tendering in construction projects. For the purpose of the unique nature of the research, the population has been delimited to the workforce of construction contracting firms, namely Arab Contractors Imo State, Marcon Engineering Ltd Imo State and Gosh Projects Imo State; and construction consulting firms- Raphica Project Associates Imo State and Keliyke Associates Imo State all in South Eastern part of Nigeria. A sample size of 200 was randomly selected, which was divided among the selected firms of study, and which cut across construction professionals such as Architects, Quantity Surveyors, Building Technologists, Civil/Structural Engineers, Electrical Engineers, Mechanical Engineers, Project Managers etc..

The research being a survey involved the use of structured questionnaires delivered to the various respondents. There was instrument mortality of twenty two (22) of the questionnaires, bringing the total of both the respondents and copies to 178. The sampling technique adopted in this work was that of the probabilistic simple sampling technique which gives every respondent equal opportunity to express opinion and ensures reliability of information obtained. The questionnaire used for the study was designed to get information from all cadre of the workforce.

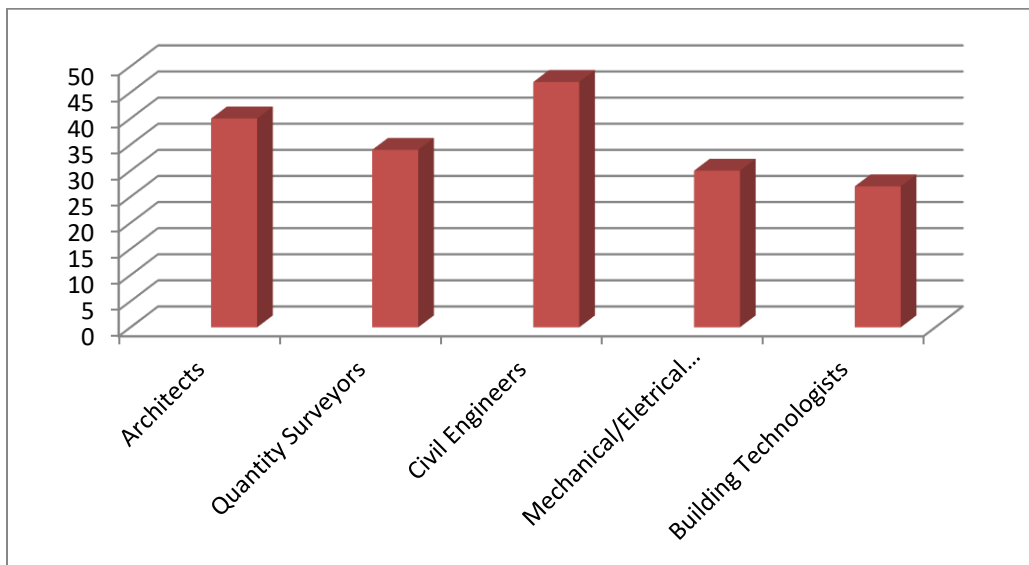
Analytical tool used for the analysis was simple percentage for the category of demography of respondents, descriptive statistics for the evaluation of effects and linear regression analysis comprising F-test and ANOVA for the predicting of strategies. Relative Importance Index (RII) for ranking of types of contract claims. The relative importance index (RII) is a regression-based index which summarizes the magnitude of socio-economic status (SES) as a source of inequalities. RII is useful because it takes into account the size of the population and the relative disadvantage experienced by different groups. The outcome is regressed on the proportion of the population that has a higher position in the hierarchy. The RII is particularly valuable when comparing factors (independent variables) that are on very different scales. In order to ensure error free computation, a statistical software package SPSS was employed. In the regression analysis, the model describing the relationship between dependent variables y and a set of independent variables X_1, X_2, \dots, X_k can be expressed as: $Y = b_0 + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5 + b_6 X_6 + b_7 X_7 + e, \dots$

4.0 Data Analysis and Result Discussion

Socio-Demographic Characteristic of the Respondents

Table 1 Profession of Respondents

PROFESSION	FREQUENCY	PERCENTAGE (%)
Architects	40	22.5
Quantity Surveyors	34	19.1
Civil Engineers	47	26.4
Mechanical/Electrical Engineers	30	16.8
Building Technologists	27	15.2
TOTAL	178	100

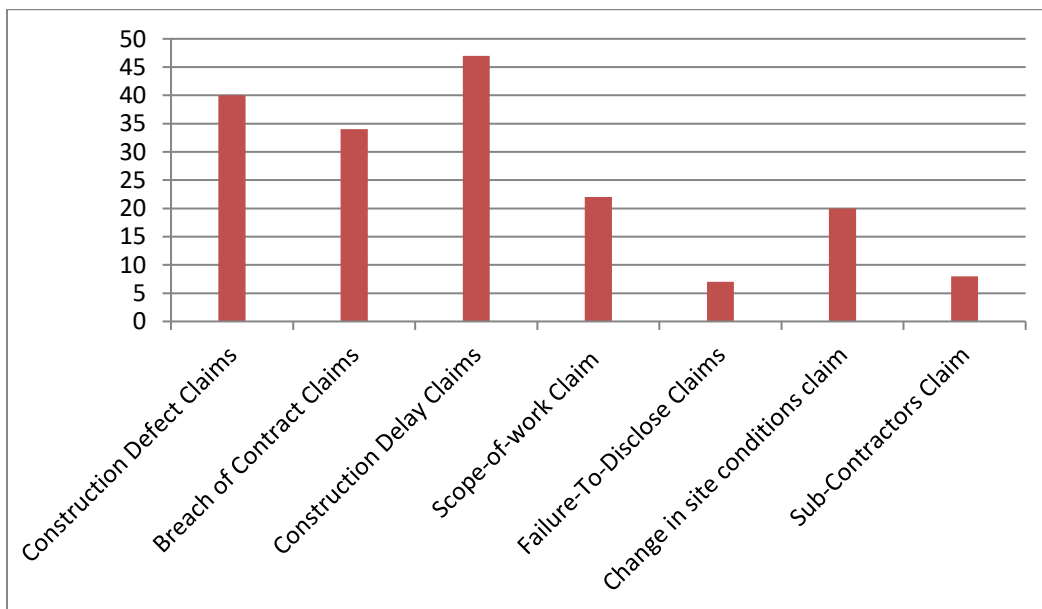


Research Question One

What are the various types of contractors claim in the Nigerian Construction Industry?

Table 5: Types of Contractors Claims

Types of Contractors Claims	FREQUENCY	PERCENTAGE (%)
Construction Defect Claims	40	22.5
Breach of Contract Claims	34	19.1
Construction Delay Claims	47	26.4
Scope-of-work Claims	22	12.4
Failure-To-Disclose Claims	7	3.9
Change in site conditions claim	20	11.2
Sub-Contractors Claim	8	4.5
TOTAL	178	100



Research Question Two

What are the most prevalent types of contractors claim in the Nigerian Construction Industry by ranking?

Table 6: Most prevalent types of contractors claim in the Nigerian Construction Industry based on Relative Importance Index (RII)

S/N	Types of Contractors Claims	No.	Sum	Mean	RII	Rank	Decision
	Construction Defect Claims	178	745	4.185	0.84	2	Significant
	Breach of Contract Claims	178	696	3.91	0.78	3	Significant
	Construction Delay Claims	178	788	4.426	0.89	1	Significant
	Scope-of-work Claim	178	562	3.157	0.63	4	Significant
	Failure-To-Disclose Claims	178	362	2.033	0.41	6	Insignificant
	Change in site conditions claim	178	548	3.08	0.61	5	Significant
	Sub-Contractors Claim	178	288	1.617	0.32	7	Insignificant

Research Question Three

What are the strategies for minimizing contractors claims in the construction industry in Nigeria?

Table 7 Descriptive Statistics for strategies for minimizing contractors claims in the construction industry in Nigeria

	N	Minimum	Maximum	Mean	Std. Deviation
Project Scope Definition	178	2.00	5.00	4.1629	1.15047
Implementation of clear controls and detailed frequent reporting in a logical understandable format	178	3.00	5.00	3.9831	.32720
Utilization of appropriate legal expertise to tailor key contract clauses	178	1.00	5.00	3.5281	1.28520
Accurate bidding, cost, and time estimates	178	1.00	5.00	3.7640	1.41838
Clear outline and definition of roles and responsibilities of the parties	178	2.00	5.00	4.0787	.97105
Proper Subcontractor Selection	178	1.00	5.00	3.3820	1.15964
Effective Procurement Method	178	1.00	5.00	3.8820	1.11619
Valid N (list wise)	178				

Table 8 clearly shows that all the variables are relevant strategies for minimizing contractors claims in the construction industry in Nigeria. However, the results shows that project scope definition minimizes the most contractors claims in the construction industry in Nigeria (with a mean value of 4.1629), followed by Clear outline and definition of roles and responsibilities of the parties (mean value of 4.0787), Implementation of clear controls and detailed frequent reporting in a logical understandable format (3.9831), Effective Procurement Method (3.8820), Accurate bidding, cost, and time estimates (3.7640), Utilization of appropriate legal expertise to tailor key contract clauses (3.5281) and Proper Subcontractor Selection (3.3820).

Research Question Four

How can the strategies be ranked?

To rank the strategies for minimizing contractors claims in the construction industry in Nigeria?

Regression

Table 9 shows that the R² is 0.888. This means that 88.8% of the identified strategies account for minimization of contractors claim in construction industry in Nigeria. The relationship model is a very reliable one. The unaccounted factors not covered are 11.2%. Further research into identifying such factors can improve the value of R². This however, does not affect the integrity of the findings.

Table 8 Model Summary

Model	R	R square	Adjusted R Square	Std. Error of the Estimate
1	.942 ^a	.888	.878	1.52621

Source: Researchers' Computation (SPSS version 21)

Table 9 ANOVA^b

Model	Sum of Squares	Df	Mean square	F	Sig.
1 Regression	827.661	5	206.915	88.831	.000 ^a
Residual	104.819	45	2.329		
Total	932.480	49			

Source: Researchers' Computation (SPSS version 21)

Table 9 presents the ANOVA report on the general significance of the relationship model. As F - significant of 0.000 is less than 0.05 level of significant, the model is significant. Thus, the combination of the independent variables X1, X2, X3 X4 and X5 significantly predicts the dependent variable Y.

Table 10 Ranking of the Factors/Strategies

Model	Unstandardized Coefficients	Standardized Coefficients	T		
	B	Std. Error	Beta	T	Sig.
1 (Constant)	17.102	2.854		8.937	.000
X ₁ Project Scope Definition	.292342	.110	.321	4.376	.000
X ₇ Effective Procurement Method X ₄	.321	.091	.251	3.295	.003
Accurate bidding, cost, and time estimates	.364	.094	.330	2.815	.007
X ₅ Clear outline and definition of roles and responsibilities of the parties	.319	.121	.328	4.013	.001
X ₂ Implementation of clear controls and detailed frequent reporting in a logical understandable format	.301	.128	.238	3.589	.002
			.238	2.720	.009
			.221	2.452	.011

X ₃ Utilization of appropriate legal expertise to tailor key contract clauses					
X ₆ Proper Subcontractor Selection					

Source: Researchers' Computation (SPSS version 21)

The ranking of the factors is based on the standardized beta coefficients, which shows the actual level of impact or contribution of independent variables to any change in the dependent variable. The ranking is as follows:

1st = X₁ Project Scope Definition

2nd = X₅ Clear outline and definition of roles and responsibilities of the parties

3rd = X₂ Implementation of clear controls and detailed frequent reporting in a logical understandable format

4th = X₇ Effective Procurement Method

5th = X₄ Accurate bidding, cost, and time estimates

6th = X₃ Utilization of appropriate legal expertise to tailor key contract clauses

7th = X₆ Proper Subcontractor Selection

Furthermore a careful study from the analysis showed that all the identified strategies have individual significant impact on minimizing contractors claim in construction industry in Nigerai. This reflected thus in the individual sig figures, in which X₁, X₂, X₃, X₄,X₅,X₆ and X₇ are all below 0.05 level of significance.

5.0 Conclusion and Recommendations

Conclusion

In line with the findings, the study concludes:

1. That the contractors claims that often lead to dispute during execution of construction projects are grouped into change order claim, variation order claim, cost and expense claims and dayworks claim, but specifically are construction defect claims, breach of contract claims, construction delay claims, scope-of-work claims, failure to disclose claims, change in site conditions claim and sub-contractors claims.
2. That among the identified types of contractors claims, failure to disclose claims and sub-contractors claim are not significant claims or significant type of contractors claims in construction industry in Nigeria.
3. The study revealed that evaluation of these claims must be given careful assessment during the construction phase of a construction project to forestall its attendant consequence on project performance.
4. That all the identified strategies are relevant strategies for minimizing contractors claims in the construction industry in Nigeria, however project scope definition minimizes the most contractors claims in the construction industry in Nigeria followed by clear outline and definition of roles and responsibilities of the parties, implementation of clear controls and detailed frequent reporting in a logical understandable format, effective procurement Method, accurate bidding, cost, and time estimates, utilization of appropriate legal expertise to tailor key contract clauses and proper subcontractor Selection.

Recommendations

Based on the research findings, the following recommendations are proposed;

1. Building clients should evaluate the quality performance, technical and financial performance of contractors using the factors highlighted in this study as a benchmark. This will result in a better understanding of the contractor's capabilities
2. The construction industry professionals should provide holistic management guidelines that will provide much needed construction knowledge to the client. The management guidelines must be made available on all construction sites and should be enforced by consultant on projects.

References

Adrian, J.J (2018). *Construction Claims: A Quantitative Approach*, Prentice-Hall, New Jersey.

Aibinu, A. A., & Jagboro, G. O. (2012). The effects of construction delays on project delivery in Nigerian construction industry. *International Journal of Project Management*, 20, 593-599.

Alkass, S and Harris, F (2014). Expert Systems: Construction Contractor's Claims Analysis: An Integrated System Approach, *Building Research and Information*, 19 (1):56-64.

Anosike, P. (2019). Nigerian groans under high cost of construction material. *The Daily Sun*, pp. 38-39.

Ayodele, E. O., & Alabi, O. M. (2011). Abandonment of construction projects in Nigeria: Causes and effects. *Journal of Emerging Trends in Economics and Management Sciences*, 2, 142-145

Bu-Bshait, K and Manzanera, I (2000). *Claim Management*, *Project Management*, 8(4):222-228.

Callahan, J.T (2008). *Managing Transit Construction Contract Claims*, *Synthesis of Transit Practice* 28, National Academic Press, Washington.

Dlakwa, M., & Culpin, F. M. (2009). Reasons for overrun in public sector construction projects in Nigeria. *International Journal of Project Management*, 8, 237-241.

Elnagar, H and Yates, J.K (2017). Construction Documentation used as Indicators of Delays, *Cost Engineering*, 39(8):31-37.

Hughes, G.A and Barber, J.N (2012). *Building and Civil Engineering Claims in Perspective*, Longman Scientific & Technical, London.

Idoro, G. I., & Jolaiya, O. (2010). Evaluating material storage strategies and their relationship with construction project performance. *Proceedings of CIB International conference on Construction Education and Research*, University of Cape Town (pp. 103-113). Retrieved from <http://www.rics.org/cobra>

Jergeas, G.F and Hartman, F.T (2004). Contractor's Construction - Claims Avoidance, *ASCE Journal of Construction Engineering and Management*, 120(3):553-60

Khanchitvorakul, S. (2010). *Development of Construction Claim Supporting System*, Master Thesis Department of Civil Engineering King Mongkut University of Technology Thonburi [KMUTT], Bangkok.

Kumaraswamy, M.M (2007). *Conflicts, Claims and Disputes in Construction*. *Engineering, Construction and Architectural Management*, 4 (2): 95-111.

Kululanga, G., Kuotcha, W., McCaffer, R., and Edum-Fotwe, F. (2011). Construction Contractors' Claim Process Framework. *Journal of Construction Engineering and Management*, 127(4): 309-314.

Levin, P (2018). *Construction Contract Claims, Changes and Dispute Resolution*, Second Edition, ASCE Press, Boston.

Mansfield, N. R., Ugwu, O. O., & Doran, T. (2004). Causes of delay and cost overruns in Nigerian construction projects. *International Journal of Project Management*, 12, 254-260.

Mbachu, J. (2018). Conceptual framework for the assessment of subcontractors' eligibility and performance in the construction industry. *Construction Management and Economics*, 26 (5): 471-484

Mohammed, H. Y. (2018, December 25). Nigeria: Builders groan on rising cost of construction materials. *Daily Trust*, p.29.

Muhammadu, C.E (2015). The success of performance of construction projects in Nigeria. *Journal of Construction Technology*, 12 (2).

Oluwakiyesi, T. (2011). *Construction industry report – A haven of Opportunities*. Vetiva Research for Vetiva.

Okpala, D. C., & Aniekwu, A. N. (2018). Causes of high costs of construction in Nigeria, *Journal of Construction Engineering and Management*, 114, 233-244.

Pogorilich, F (2012). The Daily Report as a Job Management Tool, *Cost Engineering*, 34(2):23-25.

Scott, S and Assadi, S (2019). A survey of the site records kept by construction supervisors, *Construction Management and Economics*, 17:375-382.

Semple, C., et al. (2014) *Construction Claims and Disputes: Clause and Cost/ Time Overruns*, *ASCE Journal of Construction Engineering and Management*, 120(4):85-795.

Shebob, A., Dawood, N., and Xu, Q. (2011). Analysing construction delay factors: A case study of building construction project in Libya. *Association of Researchers in Construction Management (ARCOM)*: pp. 1005-1012

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