CONFLICTS IN NIGERIAN CONSTRUCTION INDUSTRY: CAUSES, EFFECTS AND MANAGEMENT STRATEGIES

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Abstract
Construction project is a unique set of activities performed to achieve an organizational goal within defined objectives. It is usually carried out by professionals and other workers pooled from different organizations. The gathering of these people with different sets of values, work ethics and management structure makes conflict of interests inevitable in the industry. This study analyzed the causes of conflicts in the construction industry and its effect on project delivery with measures to managing the conflicts among the stakeholders. This study adopted descriptive survey design and stratified random sampling technique was used to select 155 respondents. A structured questionnaire was designed and administered on construction professionals (Architects, Quantity Surveyors, Builders and Engineers). Relative importance index tool was used to analyse the severity of the factors identified. Findings revealed inadequate estimation of project cost and time (0.86), errors and omissions in project documents (0.79), improper planning and construction methods (0.75) as top ranked causes of conflicts in construction industry. The results also revealed delay in project duration (0.84) ranked highest of the effects of conflicts on the construction project, followed by overall cost overrun (0.78) and work efficiency reduction (0.66). Planning ahead to handle conflict (0.78) was identified as a major strategy for managing conflict, followed by formulating conflict management strategies (0.77) and un-earth the real issues (0.71) as top ranked strategies. The study recommends that adequate time and skill should be employed in the estimation of project costs and duration, professionals should exercise due diligence in the preparation of contract documents to reduce the incidence of errors and omissions, the contractors should adopt acceptable planning and construction methods to reduce friction among stakeholders as ways to reducing conflicts in the construction industry.

Keywords
Conflicts, Conflict Causes, Conflict Effects, Conflict Management, Project Delivery.

INTRODUCTION

The construction industry is characterized by the interplay of different stakeholders; it is a multi disciplinary, and varieties of organization with different loyalties and priorities come together to deliver a one off unique product which in most cases the stakeholders are disengaged at the end of the particular project (Verma, 1998; Susila, 2012). The interactions of these diverse players in the industry towards discharging their task and responsibilities often give rise to conflicts through the various stages of the project development and delivering (Kumaraswamny,1997; Leung, et. al. (2005).

According to Leung, et. al. (2005) some conflicts come in the form of need to be met or discuss to be satisfied, disagreement to be settled, or ideals/information to be shared that will eventually lead to change in attitude, feelings and perceptions. Conflicts in construction projects arise due to natural differences in human personalities, briefs or work ethics of the stakeholder (Sagar, et. al. 2017). There is need for early identification of conflicts before it metamorphoses into dispute that will require more pragmatic techniques to resolve.

Gorse (2000) posited that conflicts adversely affect the construction project in that useful time is lost in a bid to resolve the conflict and this also gave rise to cost overrun especially on the indirect cost components. There is also loss of trust and breakdown in cooperation between the various stakeholders with its attendant effect on the overall productivity of their industry (Mba, 2013; Sambasivan & Soon, 2007). Disagreement can lead to an event or series of circumstance that result in one or more parties having grievances against the other (Rauzana, 2006). It is therefore important to try and solve any grievances among stakeholders involved in a conflict before it escalates into a dispute.

REVIEW OF RELATED LITERATURE

Conflicts are expressed as a struggle between at least two independent parties who perceive that incomplete goals, scarce resources and interference from others are preventing them from achieving their objectives (Mba, 2013). Thamhaim and Wilemon (2007) see conflict as an occasion where an individual or group feels negatively affected by another individual. It involve opposition and different perception toward others opinion.

Types of Conflicts

Conflicts in the construction industry can be broadly classified as either internal or external (Awakul & Ogunlana, 2002).Internal conflict involves parties a participant inside the project. There are various parties or organisations that participate in construction project, usually called stakeholders. A project stakeholder is an individual or group who is involved actively in the project which their preferences are affected positively or negatively and result to project completion success. The interaction and interrelationship between these parties are greatly affected by the whole construction project performance and have significant responsibility to ensure the success of the project (Gorse, 2000).

These stakeholders can be grouped into two (2) internal stakeholders and external stakeholders. Internal stakeholders are people/organisations who are largely related to the client or directly involved in the execution of the project like, the consultants, contractors, subcontractors, suppliers, financers, end users, etc., whereas the external stakeholders constituted by private and public actors, government authorities, general public, social and professional organisations, environmentalists, interest groups, host communities etc.

These stakeholders are depicted in fig. 1.1

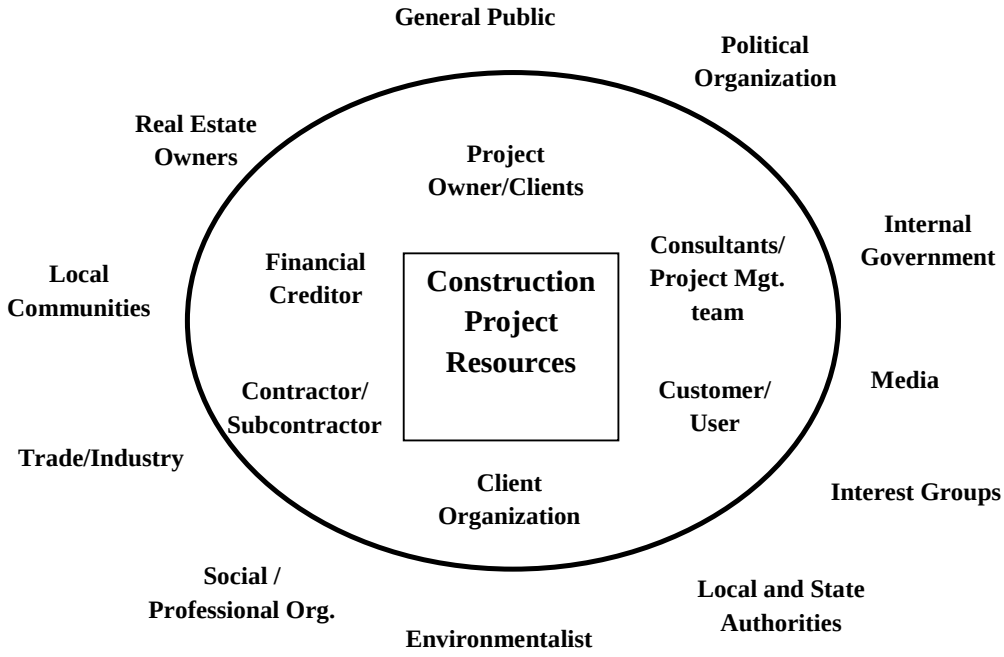

Fig. 1: Construction Project Stakeholders

Source: The Practice of Construction Management, pp 273

Classification of Conflict Causes

The construction project is governed by the set of contract document which are signed by the parties involved. This document is to spell out the rights and obligations of the participants in the construction project execution especially the internal stakeholders. Large amount of conflicts stem from ambiguity in the contract documents (i.e. the existence of more than one meaning or understanding to contract terms, conditions and clauses). Ambiguity in contract document may lead to not specifying clearly the activities responsibility and risks. Unclear payment procedures and terms can be a subject of conflict, dispute and claims. The causes of conflicts according to Fenn, (1997) can be broadly classified into:

(i) Conflict due to design/scope related problem

(ii) Conflict due to management problem

(iii)Conflict due to behavioral problem

A. Conflict Related to Design and Scope of the Project:

- *Scope Changes:* Project scope is developed in the early stages of the project and forms the basis of contract award. Scope changes are caused by addition, deletion, omission or changes in the work that needed to performed. Scope changes induced by either the owners or designer or the contractor may cause cost, time and quality related effects. Balancing of these impacts often give rise to conflicts among the concerned parties (Gorse, 2000; Engy and Oloufa, 2010; Borovon, 2011).
- *Errors and Omission in Project Design:* The errors can be in the form of incorrect reading and measurement and missing of a particular detail. The errors are usually caused by insufficient knowledge, carelessness and negligence. Errors and omission in designs are

identified during the project execution stage and errors may also occur in the construction process by the contractor all these do have financial implications (Jehn&Bendersky, 2003; Thamhaim&Wilemon, 2005; Shuib 2011). When the errors or omissions are not acceptable by other stakeholders, divergence of opinion will arise, hence conflict occurs.

- *Differing Site Conditions:* Dada (2013) opines that conflict arose due to emergence of large amount of unanticipated works or problems discovered on site like rock in foundations. Unanticipated surface condition during construction often leads to conflict as they usually involve extra work and cost may become subject of dissatisfaction to the developer or contractor. The imputation of fault to each other occurs because they did not recognize or accept their responsibility (Fenn, Lowe &Speek, 1997; Rauzana, 2016; Sagar et. el, 2017; Shash&Habash, 2021). Thus it had led to conflict among developer and contractor.
- *Frequent Design/Scope Changes:* The frequency at which the designs/scope of the project changes is a source for concern to the contractor as some of the indirect costs (re-planning of works, disruption of work flow, cancellation of orders, change in methodology, etc.) resulting from the changes may not be adequately compensated (Acharaya et. al. 2006; Engy and Oloufa, 2010; Susila, 2012).

B. Conflict Related to Management Problems

- *Poor Contract Management:* The construction contract document does not only state the works to be carried out, the quality and standard of workmanship, it also embodies rights and obligations, roles allocation of the various stakeholders. The poor management of the component of the contract like less concern on contract plan, cost control and resources management often give rise to conflicts among the stakeholders (Kumaraswamny, 1997; Jehn&Bendersky, 2003; Dada, 2013; Sagar et. al, 2017).
- *Lack Quality Assurance/Control:* Quality assurance (QA) is defined as what we had plan and organized action necessary in assuring that a product or services will achieve the requirement of quality. Quality control (QC) refers to the related activities that are needed to be implementation in quality assurance programme. Effective quality control can avoid conflicts and dispute of the quality of work, rejection of works and rework with its attendant cost implication (Arditi&Gunagdin, 1997; Thamhaim&Wilemon, 2005; Gorse, 2000; Borovon, 2011).
- *Deficient Management Supervisor and Coordinator:* lack of related management skills which includes self awareness about conflicts modes, conflict communication and establishing a structure for management of conflict in the environment often result in adequate preparation, planning and design activity, for avoidance or minimizing the conflict early enough (Kumaraswamny, 1997; Fazer, 2000; Awakul&Ogunlaria, 2002; Borovon, 2011; Dada, 2013; Shash&Habash, 2021)
- *Improper Planning and Construction Methods:* Though the contractor has the discretion of the methods of works execution as he will be responsible for the works, poor planning and use of unconventional methods often brings about conflicts with the consultants (Gorse, 2000; Jehn&Bendersky, 2003; Thamhaim&Wilemon, 2005; Susila, 2012; Sagar et. al, 2017)
- *Low Caliber of Workforce:* The technical and experience of the workforce is very crucial to the delivery of quality projects. The use of qualified or inexperienced staff will result in

substandard project and always be a source of conflicts (Kumaraswamny, 1997; Gorse, 2000; Leung et. al, 2005; Dada, 2013; Ravzana, 2016)

- *Inadequate Estimation of Project Cost and Time:* In a bid to secure contracts or erroneously some contractors underestimate the cost and time for the project, then engages in unwholesome activities during the construction period to cover up (Verma, 1998; Gorse, 2000; Thamhaim&Wilemon, 2005; Borovon, 2011; Sagar et. al, 2017; Shash&Habash, 2021)

C. Conflicts Due to Behavioural Problem.

- *Poor Communication:* The project environment consists of different stakeholders and communication is the chain that binds the various stakeholders together. A breakdown in communication through poor communication skills, non release of timely information, defective listening, perception difference, etc. contributes to conflicts. Proper effective communication and channels of communication among member must be established during the planning stage. Poor communication among member can lead to sever misunderstanding and consequently delay the work execution, thus escalating to conflict which impede the project and result to problem in the project coordination and schedule (Kumaraswamny, 1997; Sambasivan&Soon, 2007).
- *Excessive Claims by the Contractor:* The inter play of the condition of the contract and the events at the site usually result in form of claims for time extension and reimbursement of additional costs. The excess of these claims leads to arguments and counter arguments, misconceptions and conflict (Kumaraswamny, 1997; Acharaya et. al. 2006).
- *Absence of Team Spirit among Stakeholder:* A team is formed out of people with diverse background and interest working together in a project to achieve a common goal. When a member holds a contrary view it breeds misgivings, creates atmosphere confusion/conflict and contradicts the delivery activities (Fen et. al., 1997; Frazer, 2000; Susila, 2012; Mba, 2013; Sagar et. el, 2017)
- *Negligence:* Negligence is the failure to execute the degree of care required for the protection of the people or the interest of others that may be injuriously affected by the want of such care. The overall output of the construction team can be negatively affected by the negligence of a team player. The inability of a member to deliver in the manner expected and as at when due this will definitely result in conflicts (Gorse, 2000; Borovon, 2011; Dada, 2013)
- *Slow Process of Decision Making and Approvals:* Construction contracts are time bound. Delays in the form of decisions and approval of requests impacts negatively on the completion date of the project. Furthermore, late honouring of payment certificate creates long faces between the contractor and the client (Frazer, 2000; Thamhaim&Wilemon, 2005; Dada, 2013)

Effects of Conflicts on Construction Industry

Conflict are unavoidable as it is a natural phenomenon in any organization and it response determines the effect or impact on the construction project (Verma, 1998). Conflict remains a challenge in the construction industry with the potential of leading to project failure, litigation and abandonment. Conflict among project team could result in frustration that can manifest in tripartite effect of communication break, unnecessary annoyance and aggression behaviour. When conflicts are not well managed, it can give rise to reluctance of individual to continue to participate in the project. Conflicts also affect accomplishment of organizational goal, due to their attending stress hostility and

other undesirable factors when poorly managed. The effect of conflict in the construction industry is grouped into three (3) categories;

- Time related effects
- Cost related effects
- Productivity and quality related effects

Time Related Effects

i. Interruption of Work Progress: Time spent on addressing the issues in conflict are lost and sometime it affect the regular progress of the work leading to the loss of man and machine hours (Verma 1998; Thamhaim&Wilemon, 2005; Dada, 2013)
ii. Extra Time for Rework and Demolition: Delays in communicating change orders/instructions will lead to reworks/demolition to accommodate the changes. This results in loss of time (Assaf&Sadiq, 2006; Thamhaim&Wilemon, 2005).
iii. Delay in Project Duration: The construction project is expected to be completed within certain time frame. When conflict occurs, time loss and additional time spent, the expected income/gain of project is not actualized as planned (Kumaraswamny, 1997; Jehn&Bendersky, 2003; Thamhaim&Wilemon, 2005; Sambaisuan& Soon, 2007; Borovon, 2011; Susila, 2012; Dada, 2013; Sagar et. al, 2017; Shash&Habash, 2021).

Cost Related Effects

i. Additional Expenses in Managerial and Administrative Cost: Lots of indirect costs are incurred in attempts to resolve the conflicts as they arise in the project. This increases the organizational cost for running the project (Fenn, et. al. 1997; Borovon, 2011; Mba, 2013).
ii. Rework/demolition Cost for Resources: Any demolition and reconstruction work attract additional cost to the project. In construction industry, rework is one of the management factors that affect the successes. It increases the cost and timing of the construction project. It commonly appears due to insufficient supervisor, poor workmanship, wrong or defection materials, deviation from drawing, errors and omission in the contract documents (Engy&Oloufa, 2010; Borovon, 2011; Susila, 2012; Sagar et. al, 2017; Shash&Habash, 2021)
iii. Total Cost Overrun of the Project: Conflicts affects the free flow of work progress as planned thereby impacting the cost of the project through direct cost and indirect cost (Gorse, 2000; Sambaisuan&Soon, 2007; Engy&Oloufa, 2010; Jehn&Bendersky, 2003; Thamhaim&Wilemon, 2005; Borovon, 2011; Susila, 2012; Dada, 2013; Sagar et. al., 2017; Shash&Habash, 2021)

Productivity and Quality Effects

i. Quality Degradation: When conflicts are properly managed by applying the best course of action, the organization would increases the performance in terms of utilizing the scarce resources and achieving the objective of a project. Conflicts hamper the working together of the team member in ensuring that quality is achieved (Arditi&Gunagdin, 1997).
ii. Work Efficiency Reduction: To successfully complete a project the system have to be integrated and developed so as to enable the stakeholders to perform their work efficiently, effectively and safely. Conflicts leads to distrust, bad feeling toward one another, self withdrawal, blame sharing, amongst others thereby reducing the collective efficiency of project team (Arditi & Gunagdin, 1997; Awakul & Ogunlaria, 2002).

Strategies for Managing Conflicts

Conflicts have an adverse effect on construction project thereby inhibiting growth of the industry and effective delivery of project. The review of extant literatures reveal the following as strategies for managing conflicts in the construction industry: expecting the conflict, planning ahead to handle conflict, formulate conflict management strategies, cut your losses when necessary, look for a win–win alterative, un-earth the real issues, resolve the conflict, face the conflict (Fenn et. al., 1997; Kumaraswamny, 1997; Verma, 1998; Gorse, 2000, Jehn&Bendersky, 2003; Thamhaim&Wilemon, 2007; Borovon, 2011; Susila, 2012; Dada, 2013; Mba, 2013; Sagar et. al., 2017; Shash&Habash, 2021)

METHODOLOGY

The study uses description survey method with a well structured questionnaire as the instrument for data collection. A likert scale 1-5 questionnaire was designed and administered to construction professional (Architects, Quantity Surveyors, Builders and Engineers), 155 copies of the questionnaire well distributed randomly among the four stratified professions. Out of the 155 copies of questionnaire administered 78 were returned correctly filled and fit for analysis. According to Moser and Kalton (1971), the result of a survey could be considered as biased and of little value if the response was lower than 30-40%. The response rate for the research is 50.32% which indicates an unbiased and higher value of survey. The results were analyzed using relative importance under (RII) expressed mathematically as equation 1 to establish the level of importance of sample factors and rank them according to their importance index. The factor with the highest value of importance under rating becomes the most severe.

$$RII = \frac{\sum W}{A \times N} \qquad \ldots\ldots (1)$$

Where: W =weight assigned to each factor; A =highest weight; N =total no. of respondent

RESULTS AND DISCUSSIONS

Table 1: Causes of Conflicts in Construction Projects

	Causes of Conflicts	VHI	HI	MI	LI	VLI	Index	Ranking
		5	*4*	*3*	*2*	*1*		
	Design/Scope Related							
1	Scope changes	14	16	29	11	6	0.64	7
2	Errors and omissions in project documents	25	29	20	4	0	0.79	2
3	Differing site conditions	10	15	25	15	13	0.58	11
4	Frequency of design/scope changes	20	19	16	15	8	0.67	6
	Management Problem Related							
5	Poor contract management	16	17	22	11	12	0.64	7
6	Lack of quality assurance and control	6	12	14	24	22	0.49	12
7	Deficient management supervisors and coordinators	15	11	31	14	7	0.63	8
8	Improper planning and construction methods	16	35	19	6	2	0.75	3
9	Low calibre of workforce	3	11	12	30	22	0.45	13
10	Inadequate estimation of project cost and time	38	27	11	2	0	0.86	1

	Behavioural Problem Related							
11	Poor communication	19	15	29	10	5	0.68	5
12	Excessive claims	12	15	25	13	13	0.60	10
13	Absence of team spirit among stakeholders	18	20	27	9	4	0.70	4
14	Negligence	19	22	15	11	11	0.67	6
15	Slow process of decision making and approval	11	17	28	10	12	0.61	9

VHI – Very High Importance, HI - High Importance, MI – Moderate Importance, LI – Low Importance, VLI – Very Low Importance

Table 2: Effects of Conflicts on Construction Projects

	Effects of Conflicts	VHI	HI	MI	LI	VLI	**Index**	**Ranking**
		5	*4*	*3*	*2*	*1*		
	Time Related Effects							
1	Interruption of work progress	13	19	15	16	15	0.60	5
2	Extra time for rework and demolition	3	9	18	24	24	0.45	7
3	Delay in project duration	37	24	13	4	0	0.84	1
	Cost Related Effects							
4	Additional expenses in managerial and administrative cost	13	24	16	12	13	0.63	4
5	Rework and demolition cost of resources	9	11	21	17	20	0.53	6
6	Overall cost overrun	31	22	14	9	2	0.78	2
	Productivity and Quality Related effects							
7	Quality degradation	0	4	19	26	29	0.39	8
8	Work efficiency reduction	15	24	17	13	9	0.66	3

Table 3: Strategies for Managing Conflicts in Construction Projects

	Strategies for Managing Conflicts	VHI	HI	MI	LI	VLI	**Index**	**Ranking**
		5	*4*	*3*	*2*	*1*		
1	Expecting the conflict	4	13	24	21	16	0.52	7
2	Planning ahead to handle conflict	29	23	17	9	0	0.78	1
3	Formulate conflict management strategies	25	24	22	7	0	0.77	2
4	Cut your losses when necessary	0	0	15	27	36	0.35	8
5	Look for a win–win alterative	19	17	18	15	9	0.66	5
6	Un-earth the real issues	18	23	22	12	3	0.71	3
7	Quickly resolve the conflict	16	19	28	10	5	0.68	4
8	Face the conflict	6	14	21	20	17	0.53	6

The study observed from table 1 that inadequate estimation of project cost and time (0.86), errors and omissions in project documents (0.79), improper planning and construction methods (0.75), absence of team spirit among stakeholders (0.70) and poor communication (0.68) as top ranked causes of conflicts in construction industry. The above findings agrees with the submissions

of Fenn et.al (1997), Rauzana (2006), Acharaya et.al (2006), Sambaisuan & Moon (2007) and Dada (2013) on most significant causes of conflicts.

Table 2 revealed the highest ranked of the effects of conflicts on the construction project as delay in project duration (0.84), followed by overall cost overrun (0.78) and work efficiency reduction (0.66). Ranked fourth and fifth were additional expenses in managerial and administrative cost (0.63) and interruption of work progress (0.60).Quality degradation at 0.39 was seen as being an insignificant effect of conflicts in the industry. The effects ranked 1, 2, 4 and 5 were among the top 5 effects of conflict by Kumaraswammy (1997) Sambaisuan (2007) and Sagar et.al (2017).

Planning ahead to handle conflict with the index score (0.78) was identified as a major strategy for managing conflict in table 3, followed by formulating conflict management strategies (0.77), un-earth the real issues (0.71), quick resolution of the conflict(0.68) and look for a win–win alterative(0.65) as top ranked strategies. The research findings of Gorse (2000) showed strategy ranked 2 and 1 among the top methods of handling conflicts whereas Mba (2013) indicated the quick resolution of the conflict looking for a win-win alternative as effective ways to reduce the impact of conflicts in the construction industry.

CONCLUSION AND RECOMMENDATIONS

This study has identified the causes and effects of conflicts on the construction industry project execution and delivery. The study also identified and assessed the strategies adopted towards the management of conflicts to reduce its effects in the industry bearing in mind that conflicts are inevitable with people from diverse organizations and set of values.

The study recommends the following as ways to reduce conflicts in the construction industry:

- Adequate time and skill should be employed in the estimation of project costs and duration to avoid unwholesome practices at the execution stage.
- The consultants should exercise due diligence in the preparation of contract documents to reduce the incidence of errors and omissions.
- The contractor must adopt acceptable planning and construction methods to reduce friction among stakeholders
- Stakeholders should prioritize the project delivery over their personal or organizational interests.
- Communication must be unambiguous and timely.

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