



Development of Integrated Conflict Resolution and Management Model for Construction Project Execution

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ABSTRACT

Development of conflict management model for resolving conflicts in construction project Execution cannot has become very important since existing conflict management methods have been studied with results showing flaws that that need to be fixed in other to resolve the causes of conflict during building projects. Using structured questionnaires, 50 copies of which were distributed and all of which were retrieved, data were gathered from selected construction companies and ongoing projects located in Owerri West LGA in Imo State Nigeria. Data were analysed using the Relative Importance Index (RII) and factor analysis. Research has identified that contractor's incorrect price or costing, poor or perceived poor quality of work, contract documents, and documentation errors are all examples of contract formulation ambiguities in the construction industry with MIS values of 4.79, 4.71, 4.61, and 4.59, respectively. It was demonstrated that eleven (11) other factors were also crucial. These are listed in decreasing order, with MIS values between 3.69 and 4.40, and range from discrepancies in contract documents and supporting documentation to the architect's slow response when a time extension request is made. Unrealistic information expectations came last on the list with an MIS of 3.47, and it was shown to be fairly important. Integrated approach of conflict resolution was modelled to help resolve any conflict that may arise during construction project. The model was validated and recommended as the best approach to resolve conflict during construction project execution in Nigeria.

Key words: Construction, Conflict Management, Conflict Resolution, Management, projects.

1.INTRODUCTION

Conflicts are part of the main barrier to accomplish development projects in Nigeria. Conflicts can cause significant delays during Project Implementation, distortion, and most times they can stop building construction projects [1]. Project's completion date can be delayed by conflict causing time and cost overrun. Conflict is a serious dispute as well method to reach

consensus on a crucial issue [2]. It is a clear and distinctive fight between two autonomous parties with perceived irreconcilable aim, scarce resources, and interference from others in accomplishing those goals [4]. However, [5] explained that conflict results from disagreement or a difference between views and beliefs systems. Conflict management is the act of locating and resolving conflicts that could affect a project's goals if not resolved [5].

According to [6], Oxford Dictionary defines a conflict as "questioning the veracity or validity of (a statement or fact), an argument, or a disagreement between management and employees that may leads to industrial action. [2] stated that Conflicts are also defined as any contract concerns or controversy that could be managed outside task site management. While [7] defined Conflict as a disagreement over resources. [8] stated contrary to the assertions of other authors, that conflicts might be interpersonal (affective) or task- or goal-oriented (substantive). He also stated that dyadic conflict can cause very serious friction and can be more difficult to resolve than task/goal conflicts. Dyadic conflict could be resistant to organizational dedication, commitment, group loyalty, and intentions to stick around [9][10], while cross-cultural training is very much effective in mediating as well as preventing and decreasing destructive conflict.

This definition only covers the construction industry. [11] as situations where party's claim or statement is rejected by the other without retaliation. Conflict can also be intrapersonal, dyadic, intergroup, or organizational. Conflicts that are internal to the individual are referred to as intrapersonal conflicts and they include positive goal conflicts that cannot coexist with one another and negative goal conflicts. They also stated that conflict between two or more individuals in an organization is referred to as dyadic while Conflict within a single organization is referred to as intergroup conflict but Inter-organizational conflicts are conflicts between organizations [12]. They also stated that disputes among stakeholders are caused by the failure to complete projects within the allotted time, budgeted amount of money, and stipulated quality. The fact

remains that, fundamental issue of conflicts in construction projects result in increased costs, delays, and abandonment of project [13].

Theoretically, conflict can be seen as having four consecutive stages [14]: latent, perceived, felt, and manifest, as well as a stage in which it is resolved. Latent stage of conflict includes resources, role conflict, autonomy drives, and divergence of personal goals, but they are suppressed for reasons that members or the opposition to each topic are ignorant of. While Perceived stage of conflict talks about the magnitude of the in-fighting issue that are most likely to be exaggerated as the parties advocate their views. Furthermore, Manifest stage of conflict comes during which sabotage and other overt conflict behaviours are displayed while Resolution and Aftermath stages of conflicts are effectively settled since they may improve relationships and foster effective cooperation among members of organization. However, they may lead to new conflict that is more serious than the previous conflict.

There are some major factors that are responsible for conflicts in construction projects. Many elements have been identified as causes of disagreement. These causes of conflicts are seen as contractual, financial/economic, managerial, and construction-related [15]. The causes of conflicts that are directly related to the construction industry show that unreasonable information expectations, imprecise risk allocation, and unfair risk distribution are the main factors that frequently occur and bring about the appearance of conflicts in projects [7]. The most frequently stated serious reasons for conflicts in construction projects are financial and economic reasons [16]. Both these factors contribute to high severity and frequency of conflict occurrence. Most construction industry experts cite inadequate financial strength of project participants as a serious and regular source of conflict in their descriptions of construction projects [16]. The next that arises frequently include Conflicts over management issues [16]. Most factors that bring about conflict can be prevented by following a standard project management system as well as applying construction management tools and techniques that can help to reduce the likelihood that a conflict will take place in the first place but if it eventually occurs, will not escalate into a big conflict or violation of contract [16]. Conflicts may develop if the contractor fails to plan and execute adjustments to the job in the course of managing, monitoring, and coordinating the project [5]. Contractors that Avoid clarification might cause major conflicts within the building construction project team, since the intended outcome will not be achieved [16]. Several other issues may trigger conflict include lack of equipment, supplies, labour, and time [8]. Significant source of disputes construction sector comes from contractor's or client's delay in completing the projects [4]. The next is perceived as persistent claims from contractors and clients who are reluctant to pay what is owed leading to future crises [18]. Negative effects of conflicts in

the construction sector which include breakdown of professional relationships and communication, decrease in production, tension, and dampening of team spirit also cause setback in construction project delivery [19]. Consequences of construction conflict might bring a business to a halt and cause bankruptcy [14]. These unplanned outcomes would give rise to increase in management and administrative costs, possibility of litigation, delays and cost overruns, longer or more difficult award procedure, drop in parties' mutual respect, collapse in their relationship, and a breakdown in cooperation [20]. While costs of manpower for rework, relocation, equipment and material costs, as well as conflicts in the construction industry can result in schedule and expense overruns. [13]. Loss of reputation in business, loss of profit, prospective viable business, and loss of professional reputation are also inclusive. Delays in Project execution, lawsuits, and disagreements are the major problems related to not completing project within objectives and goals because of the strained relationships among project participants [9]. Thus, these Construction disputes hurt the interests of most stakeholders during significant investments because they lower profitability and are very expensive and non-profitable [1]. Avoidance of disagreements in building projects, was Identified, understanding the deal before entering into an agreement, creating equitably distributed clauses in contracts to all parties (allocation of fair project risks to all stakeholders) making effective plans for payments and scheduling, creating highly positive working environment for clients, professionals, and employees; making full payment when it is due, hiring skilled craftsmen/workers from organization as well as making use of the experts within the construction company [19].

A model for managing conflict, known as the Creative Contingency model is referred to in this research to encourage the development of good conflict-management culture throughout an organization [12]. This was created as a working system that allows constructive conflict, where everyone is meant to be fearless in expressing their views as well as promote communication and hire diverse workforce: The more opinions and viewpoints are voiced within a group, the more likely there will be conflict. A Framework that Incorporates Some delay in Creative Profession was created since it is strategy to gauge a person's enthusiasm for an idea [10]. They created similar framework to manage group conflicts where they separated the distributive and integrative components of Kozan's confrontation model for their system.

This research also considered distributive model where conflict is viewed as distribution of a finite number of resources or positive outcomes that allows one side to ultimately win and the other will loose, even if they are able to secure certain concessions. Furthermore, the style of dispute resolution was examined in Nigerian libraries. Their findings indicate that interpersonal conflicts are prevalent in Nigerian libraries and that

accommodation is the most effective conflict avoidance tactic. Though there may be other better ways of resolving conflicts. The findings of this study were in contrast with that of [18] in examination of the factors contributing to internal conflict among library personnel at the University of Ilorin Library Nigeria. It was found that the main causes of conflict within the organization were bureaucratic structure, lack of communication, weak organizational policies and communication, and lack of sufficient material resources. Staff conflict was also found to be a result of close interdependency among library units. This study supported the idea that treating conflict proactively and through enhanced communication can be an effective way to manage conflict but also recommends a more robust means of resolving organizational conflict.

[6] examined the effectiveness of cross-cultural conflict management focused on managing conflict in workplace. They used a multinational bank with a diverse workforce as case study these researchers first of all, established an important premise that conflict is a reality of life. From this foundation, they identified many expectations, experiences, frames of reference, and objectives as root causes of conflict.

2. METHODOLOGY

Study Area

This research geographical scope is limited to Owerri-West LGA of Imo State. This area is located within latitudes 5o16“30” N and 5o31“30” N, longitude 6o51“00” E and 7o5“00” E. It has an area of 295 km2 and a population of 199,265 people. The target population about 99,265 people according to [20]. Two hundred project managers were selected from the aforementioned population for this study.

Sample Size

According to [6], the data gathered from a sample size should be sufficient and simple to evaluate. The sample size is calculated using Slovin's Formula. The formula considers population size, and making use of it in this study is necessary.[21] The study included 200 project managers, despite their small number. Proportionate stratification ensured that the sample size in each stratum was comparable to the size of the population in that stratum. The formula is as follows: $n = N / (1+Ne^2)$. Where n is = Number of samples, N= Total Population, E=Margin of error (0.05).

Sampling Procedure

A total of 200 respondents from the target population were selected for this study using stratified random sampling. An exact representative sample is constructed from the homogeneous population using the sample's properties to estimate the population [6]. Control of variation via stratification reduces the standard error. The study also employed purposive sampling to select project managers from building projects in the Owerri West LGA of the Imo State.

This research was conducted with semi-structured interviews and focus group discussions with some professionals in project management and the building sector as part of the qualitative methodology. This assisted in offering some comprehensive facts that might be applied to reach conclusions about this research. The purpose of the questionnaires was to give a comprehensive image of the management support structure for resolving conflicts during construction projects in Nigeria. An initial pilot study that was carried out during the investigation's preliminary phase served as the basis for the development of this concept. Furthermore, the researcher did not manipulate the study's environment, and existing theories served as a firm foundation for it. Excel 2016 was used in plotting the ICRA model validation graph.

3. RESULTS AND DISCUSSION

Table 1: Factors that lead to conflicts during construction Projects

S/N	Factors that lead to conflicts during construction Projects	MIS Rank	Remark
1	Ambiguity in the contract's drafting	4.79 1st	Very Significant
2	Ineffective contract management.	4.71 2nd	Very Significant
3	An inaccuracy in costing or price	4.61 3rd	Very Significant
4	Inappropriate project scheduling by the contractor.	4.59 4th	Very Significant
5	Discrepancies in contract documents and documentation	4.40 5th	Significant
6	Inadequate time, labour, material, or equipment resources	4.33 6th	Significant
7	Architect or engineer late instructions	4.20 7th	Significant
8	Poor financial standing of project participants	4.18 8th	Significant
9	Delayed interim payments from the client	4.16 9th	Significant
10	Disagreements concerning the type, amount, and scope of the task	4.08 10th	Significant
11	Inadequate quantification of variances	4.00 11th	Significant
12	Project execution delays caused by the	4.00 11th	Significant

S/N	Factors that lead to conflicts during construction Projects	MIS Rank	Remark
13	client or the contractor Unclear allocation risk	3.96 13th	Significant
14	The poor or perceived poor quality of the work	3.96 13th	Significant
15	Delay in the Architect's answer during the request for a time extension	3.69 15th	Significant
16	Unrealistic information expectations	3.47 16th	Fairly Significant

Table 1 listed sixteen (16) factors that were found through research of the literature to be the cause of conflicts in construction projects. It was determined that the primary causes of disagreement in the construction are ambiguity in the contract's drafting, ineffective contract management, inaccuracy in pricing or costing, and inappropriate project scheduling by the contractor with MIS of 4.79, 4.71, 4.61 and 4.59 respectively. Eleven (11) other factors were also shown to be important. These range from discrepancies in contract documents and documentation to Delay in the Architect's answer during the request for a time extension, in descending order with MIS ranging from 3.69 - 4.40. The least ranked item was unrealistic information expectations with MIS of 3.47 and it was shown to be fairly significant. On the average, the identified factors responsible for dispute in construction projects in Abuja are important (average MIS = 4.20). The results of this study are consistent with those of [19], [7] and [16] where it was also confirmed that all of the factors identified as contributing to conflicts in construction projects are significant.

Table 2 above shows the ranking of different conflicts that take place during construction project execution. Interpersonal conflict was the highest in ranking since it has the highest figure of 4.79, followed by Dyadic conflict at 4.69, as well as Intra-group conflict at the same level with Dyadic conflict (4.69). The rest are Relationship conflict (4.39), Task conflict (4.33), Hierarchical conflict (4.20), Cultural group

It was shown in Table 1 that the extremely important identification of conflicts in construction projects is: Intrapersonal conflict; Interpersonal conflict; and Intra-group conflict with MIS of 4.79, 4.69 and 4.69 respectively. The other types of conflict identified are also shown to be important. These include a breakdown in cooperation and a relationship that is getting worse; Relationship conflicts, Task conflicts, Hierarchical Conflict, Cultural group Conflict, Functional Conflict, and conflict among Line-Staff and Formal-Informal Conflict with MIS of 4.39, 4.33, 4.20, 4.10, 3.98, 3.92 and 3.71 respectively. On the average, all the identified conflicts are significant (average MIS = 4.28).

Table 2: Identification of conflicts on the construction projects

S/N	Identification of conflicts on the construction projects	MIS Rank	Remark
1	Interpersonal Conflict	4.79 1st	Extremely important
2	Dyadic conflict	4.69 2nd	Extremely important
3	Intra-group conflict	4.69 2rd	Extremely important
4	Relationship conflict	4.39 3th	Important
5	Task Conflict	4.33 4th	Important
6	Hierarchical Conflict	4.20 5th	Important
7	Cultural group conflict	4.10 6th	Important
8	Functional Conflict	3.98 7th	Important
9	Conflict among line-staff	3.92 8th	Important
10	Formal-Informal Conflict	3.71 9th	Important

conflict (4.10), Functional conflict (3.98), Conflict among line staff (3.92), and Formal- Informal Conflict (3.71), which is the 9th on the Rank. Thus, figure 1 below displays construction project conflict resolution Model which suggests the use of integrated approach in resolving conflicts that arises during construction project execution.

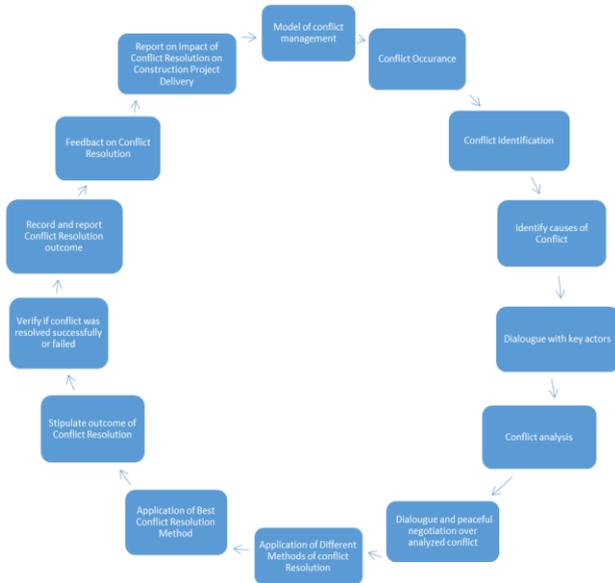


Figure 1: Integrated Conflict Resolution Approach for Construction Project Execution (ICRA)

This conflict resolution model is basically designed to follow different steps that would help in resolution of different types of conflict in the construction industry. The main focus is to initiate a strategic process to resolve construction project conflicts relating to design, budget and cost, time, scope, quality and personnel. Thus, the model was designed using the general conflict management approach with reference to construction project execution.

Step one in the model considered that conflict must occur in the course of execution of any construction project. Step two considered that such conflict must be identified in line with the nature and type of the conflict. Step three recognizes the fact that all causes of conflict must be identified and streamlined so that mechanisms for resolution could be put in place. Step four stipulates that key actors in the conflict must be identified to evaluate why they are having such conflict. Step five will analyze the conflict situation so as to know the approach for its resolution. Step six involves the application of dialogue and peaceful negotiation in the conflict resolution process. Step seven considers the use of any of the different methods of conflict resolution like: Compromise, Accommodation, Competing, Avoiding, Collaboration. Step eight will involve identification of best method of conflict resolution. Step nine involves stipulating the outcome of application of best method of conflict resolution in construction project. Step ten considers if the conflict was resolved successfully, resolved fairly or failed in resolution. Step eleven involves recording and reporting on method used in the resolution as well as outcome of conflict resolution. Step twelve involves giving feedback on impact of conflict resolution on construction project while step

thirteen will display a comprehensive report on how conflict resolution has helped in efficient delivery of construction projects without cost overrun and time overrun, as well as achieving standard quality projects that properly managed design and scope changes throughout the project execution lifecycle.

Table 3: Validation of models for conflict resolution in construction Project Execution in Nigeria (ICRA)

S/N	Ranking models of conflict resolution in construction project Execution in Nigeria	RII	Rank	Remark
1	Integrated Conflict Resolution Approach (ICRA)	0.99	1st	Highly Effective
2	Understanding	0.98	2st	Highly Effective
3	Communication	0.94	3nd	Highly Effective
4	Compromising	0.94	3nd	Highly Effective
5	Dominating	0.94	3nd	Highly Effective
6	Accommodating	0.86	5th	Highly Effective
7	Integrating	0.84	6th	Highly Effective
8	Avoiding	0.84	6th	Highly Effective
9	Diverse workforce	0.84	6th	Highly Effective
9	Obliging	0.84	6th	Highly Effective

Table 3 revealed nine (9) effective models for resolving conflicts during construction projects identified. Literature review was gathered under questionnaire and taken to experts in the field to compare the application of the 9 models with the ICRA Model and to identify the best model for resolution of construction conflicts. It was discovered, as ranked above, that the ICRA Model is the best model for resolving construction project conflict in Nigeria since it ranked first (RII = 0.99).

Though all the other identified models for resolving conflicts in construction project execution have been shown to be effective. These range from understanding contractual documents before proceeding into agreement (RII = 0.98) to engaging the organisation professionals obliging (RII = 0.84), with an average RII of 0.89.

According to research by [4], [5] [16], these approaches can remove or decrease construction conflicts to the absolute minimum in order to have a minimal conflict situation necessary for successful construction project execution. Therefore, this research recommends the use of this Integrated Conflict Resolution Approach as a model for resolving conflicts that arise during construction project execution in Nigeria.

Figure 2 below shows the graphical representation of ranking done through relative importance index to validate developed model of conflict resolution using integrated approach.

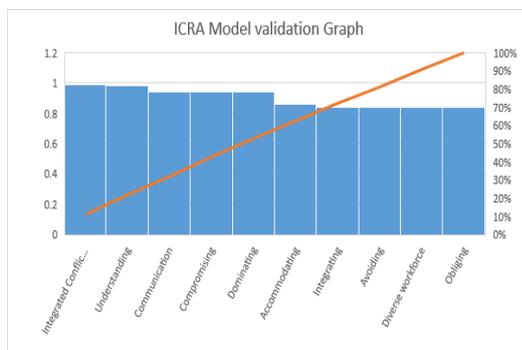


Figure 2: Validation Graph for Integrated Conflict Resolution Approach (ICRA Model)

Figure 2 graphically displays the percentage level of acceptance of each model which shows a wide range of acceptance of ICRA from construction project managers responses gathered and displayed on table three above. This supports our recommendation of ICRA as the best conflict Resolution Model for resolving construction conflict both in Nigeria and beyond.

4. CONCLUSION

This Model of Conflict Management for Construction Project Execution was developed as an Integrated Conflict Resolution Approach (ICRA) that gave due consideration to the gaps in the existing conflict management methods. These methods were studied with results showing different flaws that that needed to be fixed in other

to resolve the causes of conflict during building construction projects in Nigeria. This model was designed to follow the thirteen different steps that include; The different steps involved in the model development include the considered that conflict must occur in the course of execution of any construction project and such conflict must be identified in line with the nature and type of the conflict as well as recognize the fact that all causes of conflict must be identified and streamlined so that mechanisms for resolution could be put in place. The step also considered that key actors in the conflict must be identified to evaluate why they are having such conflict and there is also a consideration to analyze the conflict situation to know the best approach for its resolution. It also considered that the application of dialogue and peaceful negotiation in the conflict resolution process as well as the use of any of the different Methods of conflict resolution like; Compromise, accommodation, competing and avoiding Collaboration. Identification of best Method of conflict resolution and finding the outcome of application of best method of conflict resolution in construction project was considered too. Consideration was also given to know if the conflict was resolved successfully, resolved fairly or failed in resolution while recording and report on method used in the resolution as well as outcome of conflict resolution were also considered. Feedback on Impact of conflict resolution on construction Project as well as compressive report on how conflict resolution has helped in efficient delivery of construction project without cost overrun and time overrun but with achieving standard quality project that properly managed design and scope changes throughout the project execution lifecycle. Validation Model was carried out with results showing wide range acceptance of the model as the best approach for resolving conflicts during construction projects in Nigeria.

5. LIMITATIONS AND RECOMMENDATION

This research is limited to case study scenario and at such it is recommended wider range of research consideration should be given in further research. Thus, integrated conflict resolution approach is recommended as the best conflict Resolution Model for resolving construction conflict both in Nigeria.

REFERENCES

1. Abiodun, O. E. (2017). Factors Affecting Contractors' Performance in Construction Project Delivery in Akure, Ondo State, Nigeria.

2. Alaloul, W. (2019). A comprehensive review of disputes prevention and resolution in construction projects.
3. Ashley E.I., Matthew A., & Israel U. M., (2007). Qualitative research designs: A conceptual framework. *International Journal of Social Science and Interdisciplinary Research*, 2(1), 118-124.
4. Chilongo, M., & Mbetwa. L. (2017). *The Practice of Social Research*. Belmont CA: Wadsworth, London
5. Hasan, (2020). Critical success factors for large building construction projects: perception of consultants and contractors.
6. Karthikeyan, R. & Manikandan, T. (2017). A Study on Causes and Effects of Conflicts in Indian Construction Projects. *International Research Journal of Engineering and Technology (IRJET)*, 04(03), www.irjet.net.
7. Owenaze, J. E. (2016). Investigating Causes of Dispute in Building Construction Project in Nigeria. *International Journal of Science, Environment and Technology*, 5(5), 3516-3527.
8. Mashwama, N. X., Aigbovboa, C. & Thwala, D. (2014). Evaluating the Impact of Construction Dispute and the Use of ADR in the Swaziland Construction Industry. University of Johannesburg, South Africa.
9. Ramonu, J. A. L., Ilevbaoje, J. O., Olaonipekun, O. A. & Omotosho, A.O. (2018). Prevention of Conflict in Construction Industry Considering; Organization, Consultancy Firm, Contractual Firm and the Professionals Personnel in Nigeria. *International Journal of Civil Engineering and Technology (IJCET)*. 9(12), 472-484
10. Prasad, K.V., Vasugi, V., Venkatesan, R. & Nikhil, B. (2019). Analysis of Causes of Delay in Indian Construction Projects and Mitigation Measures. *Journal of Financial Management Property and Construction*, 24(1), 58-78.
11. Khekale, C. & Futane, N. (2015). Management of Claims and Disputes in the Construction Industry. Available at www.iisr.net
12. Love, P., Davis, P., Jefferies, M., Ward, P., Chesworth, B., London, K. & McGeorge, D. (2017). Dispute Avoidance and Resolution a Literature Review Report No.1. *Cooperative Research Center for Construction Innovation*. 3-62
13. Olaku, A. P., Ibrahim, S., Abdulmumin, A., Adeniran, O. W. & John, T. A. (2015). Evaluation of Perception of Stakeholders on Key Performance Indicators for U.B.E Building Projects. *Journal of Multidisciplinary Engineering Science and Technology (JMEST)*, 2(3), 277-285.
14. Rauzana, A. (2016). Causes of Conflicts and Disputes in Construction Projects. *IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE)*, 13(5, VI), 44-48, www.iosrjournals.org.
15. Resha, F., & Robin. H. (2020). Time and cost overruns in the UAE construction industry, role stress, job burnout and job performance in construction project managers.
16. Jordi, R. & Mario, T. (2018). Global Construction Dispute Report 2018, www.arcadis.com.
17. Rashid, Y. (2020). Analysis of delay factors and their effects on construction projects.
18. Shan, B., & Azam, A. (2022). The impact of work place Inter personal conflict on job performance, job depression and turnover intention. *IJSRT*, 21(5).
19. Nwakor A. A., Garba A. H., Faringida, M. A., Dammo, M. N. & Aghidi, J. (2017). Human. *International Journal of Science and Research Methodology*, 7(4). 139-148.
20. Shittu, A.A. (2020). Effects of disputes on the delivery of construction projects in Abuja. *IJJMSE*, 12(1)
21. Walker, I. (2010). *Research Methods and statistics*. Palgrave Macmillan.