

# **The Approaches for Resolving Conflicts At The Different Lifecycle Of The Project: A South African Perspective**

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## **Abstract**

This research objective was to identify conflict resolution methods in South Africa's lifecycle of construction projects. The information was gathered through a questionnaire distributed to South African-based construction professionals. Ninety-one (91) questionnaires were obtained from one hundred and twenty (120) questionnaires sent out, with a response rate of 76 percent. Research findings were analyzed in the form of the Kruskal-Wallis test using a descriptive and non-parametric test. The findings showed little relevance. This study's results draw a conclusion to cooperation and compromise as prevalent approaches to conflict management in construction projects. The research recommends adopting collaboration and compromising as a conflict resolving approaches

## **Keywords**

Conflict, Dispute, Construction Industry, Project and Professionals

## **1. Introduction**

The construction industry is a complicated and competitive environment in which members with distinct opinions and expertise levels of the building process come together to work together, each has its own objectives during the building members from distinct professions, and each professional wants to make the most of their advantages. The more respondents with distinct cultural backgrounds engaged in the building value chain, the more vulnerable are arguments, whether contractual or social, which lead to conflicts in the construction phase (Kumaraswamy & Yogeswaran, 1998). The distinctions between conflict and dispute between construction professionals are confusing. The two terms have been used interchangeably, particularly in the construction sector (Acharya et al., 2006). Conflict and dispute are two separate notes, according to Fenn et al. (1997). Conflict occurs as a consequence of concern being irreconcilable. Thus, which implies conflict can be managed, potentially to the extent that the dispute that results from the conflict is not allowed to occur. Whereby conflicts are the outcome of the dispute that contributes to the project being completed unsuccessfully. Disputes are linked to problems such as mediation, arbitration of negotiations and others Soeharto (2001), noted that, with limited resources, the project could be a momentary activity that takes place within a specified period. Conflicts in construction influence many stakeholders' interests in connection with significant investments; they decrease profits and are therefore very costly and unprofitable (Awakul & Ogunlana 2002). However, investors are increasingly dissatisfied with the legal methods of constructive dispute resolution (Stipanowich & Matthews, 1997). As a result, the current confrontational culture often determines a reduction in labour efficiency and an increase in production expenditures (Ng et al. 2002). Lastly, Yiu and Cheung (2006) stated that conflicts in the construction industry sometimes seem inevitable due to powerful differences of concern among construction project participants. The views of Yiu and Cheung (2006) in the construction industry sometimes seem inevitable as a result of differences of concern between construction project participants. Due to the inherent nature of conflicts in building projects, it is hard to build a cooperative atmosphere during the construction stage (Fenn et al. 1997). Likewise, Gudiene et al (2013) argues that there is no standard for evaluating success as a result of the uniqueness of the individual projects. On the other hand, each and every project management team can understand the project's course and the current circumstances.

Several authors like Fenn et al (1997), Ambrose and Tucker (1999), Harmon (2003), Ankrah and Langford (2005) have one thing in common: conflict is an inevitable by-product of organizational operations in a project setting. This

is supported by Langford et al. (1992) because each project participant has particular goals that may conflict with the project's goals. Ambrose and Tucker (1999) claim that they are susceptible to conflict due to the temporary nature of construction projects and their multi-agency structure. These arguments amount to the statement that there is a need to recognize and plan disputes and any subsequent modifications that arise and regulate them in a project setting. However, project-based conflict planning and control requires extensive knowledge of conflicts and their causes. If the project is to be effective, it is vital to establish policies and mechanisms for its leadership and avoidance in a timely and cost-effective way. Gardiner and Simmons (1995) not only saw conflict as "a significant element in the building industry's project leadership approach," but also demonstrated the need to "change the distribution of conflict incidences from one that peaks during building to one that peaks in previous design phases when conflict production is more likely to be creative and complementary.

## 2. Literature Review

### 2.1. Conflict Management

According to Stickley (2002), conflict management seeks to involve parties in a consensus process and empower them to address their incompatibility or differentiation, understanding each other's respective rights and interests. It also addresses the disagreements between sides, attempts to address them through a forced-choice strategy should be based on discovering the parties' interests and thus accommodating their legitimate requirements without trying to deceive their legal or contractual rights. As stated in Nardin's (1971) dispute leadership, each group must recognize that the continued presence of the other is both crucial and useful from a self-interest perspective. Coordination will take place and be strengthened where there is extensive self-interest, and conflict management will develop. Facilitating a coordinated strategy is therefore essential for conflict management. It should be recognized, however, that the principle of conflict management is that it is not necessarily possible to deal with all conflicts.

Physiologically, by "getting away from it" or preparing to "carry on the manner of anyone" (Stickley, 2002), individuals react to conflict. Nevertheless, according to Stickley, none of the two answers are good, what is essential to lean, irrespective of the original physiological reaction to conflict, is that one should deliberately choose a productive response to the conflict to tackle the issue. There are passive and active reactions to conflicts, according to Zikmann in Fenn and Gameson (1992). There are three types of passive reactions. First, to deny the presence of conflicts and disputes. Second, avoiding conflict. Third, capitulation to other project members' threats and demands. Capitulation provides an incorrect perception of a conflict being resolved only unwillingly when it was actually suppressed. Generally speaking, as the three styles indicate, the passive reaction does not address the issue at hand and often outcomes in frustration, gradual withdrawal of collaboration, hidden hostility and cultivation of the false sense of safety, development of "no - go" regions and encouragement of shallow engagement to project objectives.

According to Zikmann in Fenn and Gameson (1992), the active reactions to the dispute are usually either aggressive or creative in nature. Especially tries to dominate those perceived as weaker sides include the aggressive response. This can happen when unreasonable demands are produced or when unilateral alternatives are provided to other individuals. The undesirable effects of this strategy can often be to stifle the future initiative, decrease creativity, and generate an atmosphere in which bad choices can go unchallenged. By implementing this reaction, on the other hand, an atmosphere can be created in which original requirements are frequently "overinflated."

### 2.2. South African Construction Industry

The construction industry is an essential aspect in the economy of any nation, irrespective of the level of improvement of such country. South Africa is not excluded; the country's construction industry has been one of the foremost significant in the country's economy, contributing to roughly 6% of the nation's Gross Domestic Product (GDP) and creating several job opportunities (Aigbabvoa et al; 2016). The construction industry is a critical segment of the economy that yields building and civil engineering structures and regulates the extent to which investment struggles in a resource-rich nation are transformed into investment outcomes (Windapo and Catell, 2013).

### 2.3. Approaches Of Resolving Conflict Among in The Construction Industry

According to Stickley (2002), conflict management seeks at involving parties in a consensual process and empowering them to tackle their incompatibility or distinction, understanding the corresponding rights and interests of each other, and addressing their own incompatibility or differences, and not resolving them through a forced choice. It should be an approach based on finding the interests of the sides and hence accommodating their lawful demands without fooling their legal or contractual rights. As mentioned in conflict management by Nardin (1971), each group must recognise that the continuing existence of the other is both essential and essential from the point of view of its own self-interest. Where there is prevalent self-interest, coordination will take place and be reinforced, and conflict management will grow. Consequently, facilitating a coordinated approach is key to conflict management. However, it should be recognised that conflict management is the principle that not all disputes can be resolved necessarily, but learning how to deal with disputes can decrease the likelihood of conflict escalation that is not productive. Conflict management also involves the acquisition of conflict resolution skills, awareness of conflict techniques, communication skills in conflict, and the creation of a structure for conflict management .

## **2.4. Collaborating (Or Confronting, Integrating, Problem-Solving)**

The competing sides meet face to face under this strategy and attempt to work through their differences. This strategy is more focused and less combative in solving the issue. According to Cheung and Chuah (1999), if this strategy is taken, the attitudes of the sides to the dispute should be to produce the "best" alternative, even though the initial opinions of either or both sides may need to be altered or rejected. A win-win situation should be sought by both sides. This mode can be used as proposed by Kerzner (2003): when conflicting sides can both get at least what they want and even more. This happens when a common energy base is formed where conflict resolution costs are decreased, abilities are complementary and conflict basically includes attacking a common enemy. This gives confidence between conflicting parties when there is. This strategy is an example of creative active conflict reaction.

### **2.4.1. Compromising (Or Negotiating)**

Basically try to offer solutions with a grant and take an attitude so that both parties leave with some degree of satisfaction. The confrontation, as suggested by Kerzner (2003), often results from compromise. The theory suggests that this mode should be used when: no outright winner or loser can emerge, it is important to maintain the relationship between the parties to the conflict, the stakes involved in the conflict are moderate, the parties to the conflict are equally strong, there is sufficient time to negotiate and the parties to the conflict are not sure whether they are correct or not. This approach exemplifies a creative active conflict response, such as collaborating.

### **2.4.2. Avoiding**

This is the crucial goal of the avoidance it to the setback. Professionals in the construction industry would quite conceal and ignore conflict than to resolve the conflict. This kind of method in resolving conflict can lead to disobliging and unassertive. Construction professionals (CP) tend to quit personal goals and exhibit inactive behaviour creating lose-lose issues. Construction professionals believe it is effortless to withdraw in a conflict whether than to decide it. This kind of method of resolving conflict is helpful to maintain a connection that would be upset by conflict resolution. The inconvenience in the construction industry may be conflict remain unresolved. The most suitable moment to make use of the strategy when the venture is not lofty or circumstances are insignificant, when disagreement may harm a functioning affiliation (Thakore, 2013).

### **2.4.3. Smoothing**

This is the strategy which the pacification that takes place whenever individual construction professional (CP) is eager to give way to the other professional in the construction industry. Salami (2009) describes smoothing strategy rates low on boldness and high on cooperativeness, de-emphasis diversities and highlights tips common to both professionals.

### **2.4.4. Confronting**

This Confronting strategy of conflict refers to tough obliging and confident manners. The Confronting is regarded as a win-win method in interpersonal conflict management. Construction professionals making use of confronting wish to make the most of joint outcome. Any Construction professional that makes use of the method be liable to perceive conflict as normal, obliging, and important to a more resourceful answer if managed well. Reveal confidence in other Construction professionals with conflict is determining to the contentment of all. Confronting style is most useful to discover an integrative answer when mutually place of anxiety are too significant to be cooperative in the construction industry when ambition is to learn, to increase obligation through integrating anxiety interested in an agreement (Thakore, 2013)

## **2.4.5. Research Methodology**

### **2.5. Methods**

The random sampling technique was preferred and adopted in this study because it gave all the respondents an equal opportunity to be selected and all respondents were selected with the same criterion that was that the participants in this exercise had to be professionals involved in the construction industry and practising in selected South African cities. For this study, the research population means building professionals directly or indirectly engaged in the project's lifecycle in the South African building industry. These professionals include Architect, Project Manager, Quantity Surveyor, Structural Engineer, Civil Engineer, Mechanical Engineer, Electrical Engineer, Construction project manager.

After establishing the content validity and preliminary data analysis, empirical and theoretical reliabilities tests were run. Scale reliability is the correlation between two scores ranging from 0 to 1.00 where the Cronbach's alpha is the most common form of internal consistency reliability coefficient. The generally agreed-upon lower limit for alpha is 0.70. However, values above 0.8 are preferable (Pallant, 2010). The adopted cut-off alpha for this study was 0.70 and measures below 0.70 were eliminated. This procedure is adopted because Devellis (2003) stated that the Cronbach alpha coefficient of a scale should be 0.7 and above. But in this study it was discovered that some of the scales were less than 0.7, hence the mean inter-item correlation was reported and the recommended range for the inter-item correlation is 0.2 – 0.4 (Briggs & Cheek, 1988). Table one shows the reliability of the variables.

**Table 1: Approaches used in resolving conflicts in construction projects in South Africa**

	Cronbach alpha
Design Errors	0.905
Contractual Claims	0.739
Multiple Meaning of specifications	0.830
Delay in payments	0.732
Poor Communication	0.707
excessive contract variations	0.865
Differences in evaluation	0.858
Differing site conditions and limitations	0.827
Errors in project documentation	0.801
Public interruption	0.819
Cultural difference	0.824

Non-parametric tests do not assume the underlying distribution of the population. They are optimal when using tiny samples and do not satisfy the parametric techniques' stringent hypothesis (Pallant, 2010). The Kruskal-Wallis Test (sometimes referred to as the Kruskal-Wallis H Test) is the non-parametric alternative to a one-way analysis of variance between groups that allows for the comparison of scores on a certain continuous variable for three or more groups. The Kruskal-Wallis test was performed to determine whether the mean importance of each factor resulting in dispute as well as the advantages of conflict resolution in the South African Construction Industry's project

lifecycle were equivalent across construction professionals. This test statistics has a special type of distribution known as the chi-square distribution, and there is one value for the degree of freedom for this distribution, which is less than the number of groups and the level of significance (presented as Asymp. Sig.). If this level of significance is a value less than 0.05 (e.g.,.04,.01,.001), then it can be concluded that the continuous variable differs statistically significantly across the three groups.

## 2.6. Sample

The research population for this study includes construction professionals in the South African construction industry directly or indirectly involved in the lifecycle of the project. These professionals include Architect, Project Manager, Quantity Surveyor, Structural Engineer, Civil Engineer, Mechanical Engineer, Electrical Engineer, Construction project manager. The total sample population of this study is shown in Table two below

Table 2: Sample Population

<b>Respondents</b>	<b>Total Size</b>
Architects	3
Project Manager	21
Quantity Surveyor	9
Structural Engineer	14
Civil Engineer	26
Mechanical Engineer	5
Electrical Engineer	2
Construction Project Manager	11
<b>Total</b>	<b>91</b>

## 2.7. Kruskal-Wallis test

Table 3: Common approached used to resolve conflicts related to contractual claims

	Kruskal- Wallis H	Df	Assymp. Sig.
Collaboration	3,154	7	0,870
Compromising	7,997	7	0,333
Smoothing	15,111	7	<b>0,035</b>
Avoiding	17,557	7	<b>0,014</b>
Forcing	6,506	7	0,482

Table three revealed that there was a significant difference in the way the respondents viewed the approaches used to resolve conflicts as revealed in the avoiding and smoothing approach

Table 4: Common approached used to resolve conflicts related to Multiple meanings of specifications

	Kruskal-Wallis H	Df	Assymp. Sig.
Collaboration	3,586	7	0,826
Compromising	9,103	7	0,245
Smoothing	11,992	7	0,101
Avoiding	15,481	7	<b>0.030</b>
Forcing	9,752	7	0,203

Table four revealed that there was a significant difference in the way the respondents viewed the approaches used to resolve conflicts as revealed in the avoiding approach

Table 5: Common approached used to resolve conflicts related to delay in payments

	Kruskal-Wallis H	Df	Assymp. Sig.
Collaboration	5,743	7	0,570
Compromising	9,971	7	0,190
Smoothing	10,137	7	0,181
Avoiding	4,793	7	0,685
Forcing	13,573	7	0,059

Table five revealed that there was no significant difference in the way the respondents viewed the approaches used to resolve conflicts related to delay in payments

Table 6: Common approached used to resolve conflicts related to poor communications

	Kruskal-Wallis H	Df	Assymp. Sig.
Collaboration	5,642	7	0,582
Compromising	9,519	7	0,218
Smoothing	12,852	7	0,076
Avoiding	15,443	7	<b>0,031</b>
Forcing	6,821	7	0,448

Table six revealed that there was a significant difference in the way the respondents viewed the approaches used to resolve conflicts related to poor communications as revealed in the avoiding approach.

Table 7: Common approached used to resolve conflicts related to Excessive contract variations

	Kruskal-Wallis H	Df	Assymp. Sig.
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Collaboration	5,030	7	0,656
Compromising	7,714	7	0,359
Smoothing	15,221	7	<b>0,033</b>
Avoiding	9,241	7	0,236
Forcing	11,451	7	0,120

Table seven revealed that there was a significant difference in the way the respondents viewed the approaches used to resolve conflicts related to excessive contact variations as revealed in the smoothing approach.

Table 8: Common approached used to resolve conflicts related to differences in evaluation

	Kruskal-Wallis H	Df	Assymp. Sig.
Collaboration	3,745	7	0,809
Compromising	5,031	7	0,656
Smoothing	7,624	7	0,367
Avoiding	1,800	7	0,970
Forcing	4,063	7	0,773

Table eight revealed that there was no significant difference in the way the respondents viewed the approaches used to resolve conflicts related to differences in evaluation.

Table 9: Common approached used to resolve conflicts related to differing site condition and sites

	Kruskal-Wallis H	Df	Assymp. Sig.
Collaboration	4,654	7	0,702
Compromising	10,802	7	0,148
Smoothing	12,124	7	0,097
Avoiding	10,324	7	0,171
Forcing	12,298	7	0,091

Table nine revealed that there was no significant difference in the way the respondents viewed the approaches used to resolve conflicts related to differing site condition and limitations

Table 10: Common approached used to resolve conflicts related to error in project documentations

	Kruskal-Wallis H	Df	Assymp. Sig.
Collaboration	1,846	7	0,968
Compromising	4,226	7	0,753

Smoothing	9,949	7	0,191
Avoiding	4,226	7	0,753
Forcing	2,240	7	0,945

Table ten revealed that there was no significant difference in the way the respondents viewed the approaches used to resolve conflicts related to error in project documentations

Table 11: Common approached used to resolve conflicts related to the error in public interruptions

	Kruskal- Wallis H	Df	Assymp. Sig.
Collaboration	8,054	7	0,328
Compromising	12,781	7	0,078
Smoothing	3,488	7	0,836
Avoiding	12,405	7	0,088
Forcing	9,112	7	0,245

Table eleven revealed that there was no significant difference in the way the respondents viewed the approaches used to resolve conflicts related to error in public interruptions

Table 12: Common approached used to resolve conflicts related to cultural differences

	Kruskal-Wallis H	Df	Assymp. Sig.
Collaboration	7,194	7	0,409
Compromising	9,470	7	0,221
Smoothing	8,973	7	0,255
Avoiding	7,063	7	0,422
Forcing	9,112	7	0,245

Table twelve revealed that there was no significant difference in the way the respondents viewed the approaches used to resolve conflicts related to cultural differences.

### **3. Discussion of Results**

The findings of this study are consistent with the finding of conflict management styles of Turkish managers by Enver Özkalp (2009) whereby integrating which is known as collaboration and compromising were the common approaches used to manage conflicts in construction projects.

#### **4. Conclusion & Recommendations**

This objective revealed that the most common approaches used to resolve conflicts is collaboration and compromise. Ranked last were avoiding and forcing. The conclusion is that common approaches used in the resolving of conflicts is collaboration and compromise. It is of importance as the respondents revealed that collaboration is key to avoid or resolve conflict. as collaboration leads to better cooperation, openness which the South African construction industry lacks. Therefore, it can be inferred that this research objective for the study was met. The following are recommendations:

All project stakeholders should work together to guarantee that all disputes are mitigated during the construction period in order to prevent extending the scheduled litigation time.

All stakeholders should guarantee that adequate planning is carried out to accommodate unforeseen occurrences that may extend the building period, boost costs and cause property harm and injury to project attendees. Such hazards should be passed on to relevant stakeholders such as insurance companies to assist decrease the cost impact in the case of delay.

#### **5. Limitations and Future Studies**

The primary aim of the research was to conduct an evaluation of conflict in the life cycle of building projects in South Africa by determining which methods are used to resolve disputes in building projects in South Africa, what are the advantages of conflict resolution to the life cycle of the project. Through the information gathered and the methodology used for the research, this was accomplished.

The study also proposes the following as suggested fields for further studies

By attaining a bigger sample size, further improvements can be made. This will provide a broader knowledge of how building experts view disputes.

Use of other techniques of analysis such as multiple regression analysis as a means of understanding the relationship between variables from the data received from the questionnaire survey is suggested.

#### Some Examples

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## **Biographies**

### **Matthieu Bodika**

Matthieu Bodika is currently full time working in public sector as professional civil engineer supporting local municipalities and a Masters student at the University of Johannesburg. He is a Civil Engineer Technologist with more than 20 years' experience. He was also the responsible project manager of the City of Johannesburg assignment where he was involved in undertaking financial planning, budgeting, monitoring and reporting on projects. Matthieu was the senior technical specialist to the development planning department and urban management of the City of Johannesburg where he provided technical support. He gained valuable experience in civil engineering field through the diverse range of projects he worked on as a resident engineer, design engineer, project engineer and project manager for planning and preparation of tender documentation for various projects both in and outside South Africa . His project exposure relates to municipal services, bulk civil services, roads and storm water in urban and rural environments, schools, pavements, railway sidings projects, sport facilities and complexes. He was also involved in feasibility studies, investigations and project management. He worked as project manager and resident engineer/mechanical engineering works for the extension of Sunderland Waste Water Treatment Plant. He acted as the resident engineer on the KOV dewatering project in the DRC; his duties included administrative functions and disputes resolution. He worked in Lesotho (MCA - Lesotho Project, Ministry of Health). Responsible for the supervision and audit of the Design Build Contractors.

### **Ifije Donald Ohiomah**

Ifije Ohiomah is currently a PhD candidate for the University of Johannesburg, in the Department of Operations Management.

### **Clinton Ohis Aigbavboa**

Professor Clinton O. Aigbavboa is a Full Professor of Sustainable Human Development in the Department of Construction Management and Quantity Surveying, University of Johannesburg, South Africa; with a multidisciplinary research focus on the built environment. Before entering academia, he was involved as quantity surveyor on several infrastructural projects, both in Nigeria and South Africa. He holds a PhD in Engineering Management and has published over 500 research papers in his areas of interest. He has extensive knowledge in practice, research, training and teaching. He is currently the Vice Dean Research and Innovation in the Faculty of Engineering.