
THE IMPACT OF PROJECT COST MANAGEMENT ON CONTRACTUAL DISPUTES IN SOUTH AFRICA

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ABSTRACT

Cost management is essential in the construction industry, and could cause contractual disputes if not done correctly. This article investigated how project cost management contributed to contractual disputes in the construction project environment. A qualitative approach was used to interview eleven construction professionals. The data received was then analysed using content and narrative analysis methods. It was found that cost management contributed insignificantly to contractual disputes; however, measures such as the engagement of a contract manager; good change control system, approval of project scope, compliance with the terms and conditions of the contract, good project management, competent consultants and contractor, effective communication before and during project execution could be put in place to minimise the incidence of disputes. It was also revealed that construction stakeholders prefer the Alternative Dispute Resolution (ADR) method, such as mediation, to resolve cost-related contractual disputes when they occurred. Only eleven construction professionals were interviewed; hence the findings could not be generalisable as the opinion of the construction professionals in South Africa. The construction stakeholders should not put all their efforts into the management of project cost, in an attempt to prevent the incidents of contractual disputes; instead, they should institute other stringent measures that prevent poor scoping, poor cost estimating, and ineffective project management practices, to minimise the incidence of contractual disputes in their projects. The article gave an insight into measures that the construction stakeholders must take to prevent cost-related contractual disputes aside from effective cost management.

Keywords: Alternative Dispute Resolution, Cost Control, Cost Management, Disputes

INTRODUCTION

In the construction industry, disputes are bound to happen if the project cost is not managed well. One of the essential aspects of a construction project is cost management

(Bridges, 2018). Managing project cost sets the foundation for staying within the client's budgetary lines, executing the project, and completing it within the budget (Bridges, 2018). Project cost management is a process of planning and controlling the budget that has been given by the client (Bouvré, 2017). According to Bouvré (2017), several activities are included in managing cost (cost planning and controlling costs): planning, estimating, budgeting, financing, funding, controlling, and managing a project. From a quantity surveyor's perspective, it is crucial to master project cost management; this includes activities and tools to help the quantity surveyors complete the project within the proposed budget (Averous, 2014). There are three main processes that the quantity surveyor must do to ensure proper cost management, namely project cost estimating, project cost budgeting, and project cost control (Averous, 2014).

The project cost needs to be managed by a quantity surveyor, to ensure that possible disputes that may arise from improper cost management are kept at a minimum. Disputes can occur at any time, within the time of project, if one of the parties is unwilling to cooperate with what was contractually agreed on. Disputes can be solved by using alternative dispute resolutions, which will help both parties solve any disputes that will possibly arise between the parties (Staff, 2019). The different alternative dispute resolutions, that can solve disputes between parties are mediation, adjudication, and arbitration. It would make more sense to use mediation and conciliation to resolve disputes (Eskridge, 2018). According to Eskridge (2018), one of the most economical ways of resolving a dispute between parties is mediation. Disputes can arise when costs are not managed correctly or if the project's cost exceeds the budget that was proposed initially.

The construction industry is one of the biggest industries in South Africa; although the South African construction industry is in recession, the growth rate of the construction industry is still 24 per cent (Njobeni, 2019). The South African construction industry is massive. Many funds are needed to ensure that all the construction projects, underway, have the necessary funds to complete the project. Thus, project cost management is critical in the construction industry in ensuring that the project is completed within the client's budget. Project cost can cause disputes between parties, if it is not managed correctly. Disputes can have a costly delay on a construction project, and these disputes that may arise can be minimised by proper cost management (Staff, 2019). Through planning, estimating, budgeting, and controlling costs, the project will be completed within the budget given by the client, which means that minimal disputes will arise from a cost perspective (PMBOK, 2017). Disputes are created if the parties do not fulfil their part of the contract, and can be minimised through proper management. The objectives of this study therefore were;

1. To appraise the extent of contractual disputes are caused by cost management in projects.
2. To find out how cost-related contractual disputes can be handled when they occur in a project.
3. To determine measures that can be taken to minimise cost-related contractual disputes.

LITERATURE REVIEW

Project Cost Management

In the construction industry, cost management in a project is crucial. The feasibility of a project depends on the cost and the financial viability of the project. Thus, a project will not be completed if the final payments are not yet done, and the financial books of the project have not yet been audited (Steyn *et al.*, 2017). The managing of costs in a project starts at the beginning of the project (initiation face), where the financial viability studies are done to determine what costs are required in the project, and the process that is needed to be followed to ensure the correct procedure of cost controlling is applied (Steyn *et al.*, 2017). Project cost management can be defined as estimating, planning, budgeting, financing, controlling, and managing costs in a project to ensure that the project can reach completion within the client's proposed budget (Bouvier, 2017). Throughout the project's life cycle, project cost management ensures that the forecasted costing follows the project budget and completion.

According to the PMBOK guide (2017), three main processes ensure that project cost management is done correctly by looking at each process's inputs and outputs, and their techniques and tools used in that process. The three main strategies used in project cost management are cost estimating, cost budgeting, and cost control, as indicated in **Figure 1**.

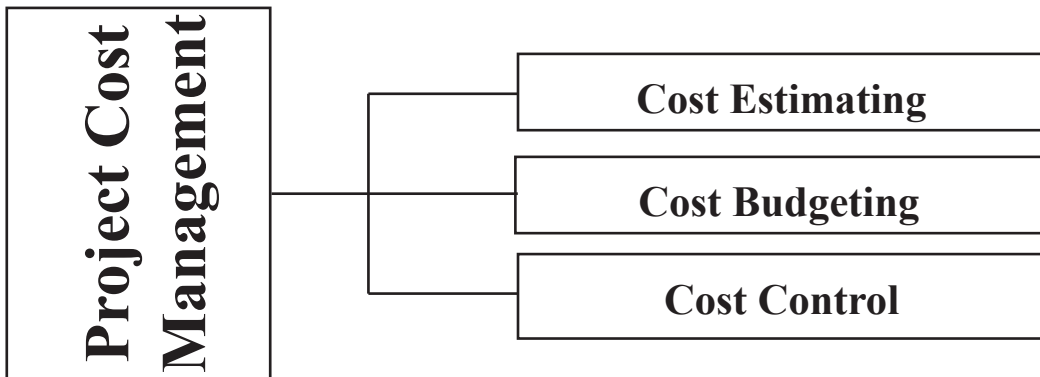


Figure 1: Overview of Project Cost Management *Source: PMBOK guide 2017*

In combining these processes, project costs can be managed well and maintain the project within its needs. Project cost management is concerned about what the project will cost to construct, and considers the costs of decisions based on the project's costs and operational expenditures like maintenance, taxes, and water and electricity (PMBOK, 2017). Cost management planning starts early in the project, setting the framework for the cost management processes to be efficiently coordinated (PMBOK, 2017).

Cost Estimating

As defined above, project cost estimating is where the quantity surveyor predicts what the project will cost, the quantities, and the pricing of resources required by the project's scope (Cost Engineering, 2018). We need to do cost estimating on projects to know if they will make the right decision on their investments, do budgeting, compare different investment options against each other, and do proper cost control. The process of cost estimating should consider all the variations in a project and the possible expenses (Steyn *et al.*, 2017). Several costing alternatives need to be identified in the process of cost estimating (PMBOK, 2017). Like any other process, the cost estimating process requires inputs that transform into outputs using tools and techniques; this will help the project get a more accurate estimation of the cost, which will benefit the project in the future. The tools and techniques that are usually used in the industry are the methods of "top-down" and "bottom-up" (Steyn *et al.*, 2017). The analogous estimating method (top-down method) uses historical cost data of a project similar to the current project, as a basis for the new project. This method is valuable if the information regarding the projects is unclear or limited. The estimator should consider that a historical cost is being used; thus, an escalation of prices should bring the final cost up to date with current market conditions. An experienced estimator is required for this estimation method to ensure that a trusted result is obtained (Steyn *et al.*, 2017).

The bottom-up method of estimating, is the most accurate and the most time-consuming cost estimating approach. It includes the whole project team participating in the estimating process (Billows, 2017). This method is used in the Work Breakdown Structure (WBS) to estimate the cost of all the activities separately within the WBS. The parametric modelling (bottom-up) estimating method uses standard cost parameters known for specific activities. Steyn *et al.* (2017), state that the bottom-up method is a compelling method to use in the first or initial estimate and the last estimation to determine how accurate this method is (Steyn *et al.*, 2017). The parametric modelling can only be reliable, if the information of the parameters is up to date. The information gathered must be applicable, and the effort level for the parameters should be low to measure and quantify. Cost estimating software can also be used for costing; using this tool can benefit the estimator in accurate and reliable cost estimating with appropriate spreadsheets. The estimator can also use the computer software to store historical cost estimations, which can be used in future projects, which only need additional escalation rates (PMBOK, 2017).

Cost Budgeting

As defined by PMBOK (2017), cost budgeting forms the cost baseline for the project, in which the performance is measured. The cost budgeting process uses the WBS to show each activity's cost; this can be grouped to get the project's total cost (Steyn *et al.*, 2017). Before a cost budget can commence, the cost estimation needs to be completed for cost budgeting.

Cost Control

This term can be defined as managing the financing aspects of a project and controlling the cost changes to ensure that the project can reach the completion date within the required budget given by the client (Steyn *et al.*, 2017). According to PMBOK (2017), cost controlling will include: the factors that are responsible for the creation of changes within the cost baseline, that all the parties are in agreement with all the changes that are requested, the occurrence of changes that need to be managed, to inform the required stakeholders of the changes that are approved, and understanding the variances from the baseline of cost by monitoring the cost performance. Cost control forms part of integrated change control by understanding that if there is a negative cost variance, it can influence the quality of the project.

The techniques and tools used in controlling the project's cost are using a control system that documents the cost changes in the project. This system defines the procedures to change the cost baseline (PMBOK, 2017). One of the most common techniques or tools for cost control used in the industry, is analysing performance measurements. This tool helps assess the project manager with the magnitude of all the variances in a project. According to PMBOK (2017), the earned value techniques are compared to the cumulative value of the work performed at the initial budget, the cost of work, and the actual cost of the work performed on-site. There are different types of measuring the performance of cost. These are:

- (a) Estimate to completion and the estimate at completion;
- (b) Cost and schedule variances;
- (c) Cost performance index; and
- (d) Schedule performance index.

Suppose an estimator and project manager have the required experience and knowledge. They can use forecasting, which will include predictions of estimating and the conditions that may occur in the project's future (PMBOK, 2017).

Disputes in Construction Projects

Disagreements among parties in a construction project are not uncommon due to the various stakeholders' irreconcilable needs and expectations (Barough *et al.*, 2012; Trangkanont, 2017). Disagreements make disputes inevitable. The dispute significantly affects organisations and construction projects, bringing about disaffections and unfriendly relationships and organisation (Jannadia *et al.*, 2000). The project level disputes are believed to cause poor project outcomes, delay project completion times, increase project costs, and inconvenience the beneficiary communities and the public (Anderson and Polkinghorn, 2002; Chaphalkar and Sandbhor, 2015). According to Maru (2019), the origin of construction disputes is complex and often originates from

improper allocation of project risks, and ends up causing disputes among the parties (see Figure 2). Maru(2019) believes that if the project risk is not assigned clearly among the parties, it will generate conflicts. If the conflict is not adequately addressed by the parties, one or both parties may claim compensation. If the claim is not resolved adequately, it will bring about disputes among the parties.



Figure 2: Origin of construction disputes *Source: Maru, 2019*

Chaphalkar and Sandbhor (2015), opine that many factors influence the occurrence of disputes. Several researchers have attributed the causes of disputes in construction projects as summarised in Figure 3.

Cheng <i>et al</i> (2009)	Trangkanont (2017)	Chaphalkar and Patil (2012)	Maru (2019)
<ul style="list-style-type: none"> • Owners causes (eg. unclear tender documents, inspection delays, etc) • General contractor causes (eg. collusive tender, delayed contract time) • Caused by both parties (eg. default contract, payment disputes) • Act of God causes (eg. severe weather, unknown site conditions, etc) 	<ul style="list-style-type: none"> • Contract related causes (eg. Risk allocation, Ambiguities in contract documents) • Owner related causes (eg. scope changes, variations) • Contractor related (eg. Delays in work progress, time extensions) • Design related (eg. Design error, Quality of design) • Human behaviour related causes (eg. Lack of communication) • Project related causes (eg. site conditions) • External factors (eg. weather, legal) 	<ul style="list-style-type: none"> • Change in design, drawings, and specifications • Change in quantity of items during execution • Change in scope of work • Unforeseen circumstances (eg. reworks, poor workmanship, etc) 	<ul style="list-style-type: none"> • Employer related causes (Owner interference, slow decision making) • Contractor related causes (Site management, Financial difficulties, Construction methods, etc) • Consultants related causes (eg. poor contract management, variations due to design errors, etc)

Figure 3: Causes of construction disputes *Sources: Maru, 2019; Trangkanont, 2017*

From figure 3, it is clear that the root causes of construction disputes are multi-faceted, from owner-related causes to act of God cases. Cheng *et al.* (2009), suggest that contractual disputes among parties can be caused by owners actions (such as unclear tender documents, inspection delays); general contractor’s actions (such as collusive tender, delayed contract time); actions of both parties (such as default contract, payment disputes); and the act of God (such as severe weather and unknown site conditions). Maru (2019), however, categorises the causes of disputes among parties into three main areas namely: employer-related causes (owner interference, slow decision making); contractor-related causes (Site management, financial difficulties, construction methods, etc.); and consultants-related causes (poor contract

management, variations due to design errors, etc.). Irrespective of the cause of the disputes, du Preez (2014), suggests that disputes can be settled among the parties through different means provided the required information is available.

Dispute Resolution Methods

Researchers have proposed various methods that can be used to prevent and resolve construction disputes among parties (Zaneldin, 2006). In most cases, they aim at a dispute resolution method of speed, confidentiality, continuity, effectiveness, equitability, practicability, and control (Ng *et al.*, 2007; Cheng *et al.*, 2009; du Preez, 2014). Ng *et al.* (2007), propose dispute resolution processes comprising negotiation, standing neutral non-binding resolution, and binding resolution and litigation. However, Manu (2019) that states the most used dispute resolution procedures are: prevention; Alternative Dispute Resolution (ADR) (negotiation; adjudication; arbitration; mediation; and expert determination), and litigation. Thus, Kassab *et al.* (2006), suggest that an ADR is the famous dispute resolution method for resolving construction disputes due to the cost and time involved in the litigation process.

According to Kora (2017), parties use ADR to avoid going to court if a dispute occurs between these parties. The definition of the process of ADR is to give the parties a chance to control the outcome of the dispute and take responsibility for the outcome (Bevan, 1992). The idea of ADR is to resolve a dispute privately and to prevent unnecessary costs when going to court. ADR methods make use of the significant features that are being used in the construction industry. These features are known as the four C's: Consensus, Confidentiality, Continuity, and Control. ADR is the best option because it is more cost-effective than going to court and preventing an unpleasant atmosphere (Kora, 2017). A third party is provided by the ADR methods, to assist the parties in dispute to reach a mutual agreement by suggesting a possible solution or positive outcome for both parties (Du Preez, 2012). The construction industry in South Africa makes use of the following common ADR methods: Mediation, Conciliation, Adjudication, Arbitration, and Negotiation.

METHODOLOGY

The term methodology can be defined as the action that takes place when a research problem is investigated, and the investigation on how rationale the application is for the specific techniques/ procedures, process and analysed information is applied to understand the problem that is identified within the study (Kallet, 2019). The approach adopted for this research is the deductive approach because assumptions are made stating that the contractual disputes between the parties (client and the contractor) will be less if proper cost management is done. According to Bryman and Bell (2015), this type of approach is relevant to the hypotheses, meaning an inductive approach which is the study contributes to a new emergence of theories. In contrast,

the deductive approach tests if the assumptions made are valid. Thus the deductive approach is a more realistic approach to be used to gather information for this study. A face-to-face interview was done with the selected respondents with the aid of an interview guide. The respondents were allowed to express their opinions on the subject under consideration freely. The respondents were construction stakeholders such as contractors, quantity surveyors, project managers, and lawyers. Selective and random sampling methods were used to select the respondents; thus, respondents were contacted for the interview based on their knowledge of project cost management and dispute and their availability. The selective sampling method is used when a specific group is interviewed, based on some of the characteristics that they have in common (Bryman and Bell, 2015). According to Stat-trek (2019), one of the key benefits of these sampling methods is that they can guarantee that the sample will represent the population. Twenty (20) individuals were earmarked for an interview, of which 11 of them responded, giving a response rate of 55%. Data gathered was analysed using the content and narrative analysis method. The narrative analysis method focuses on the experience shared by the persons interviewed, whilst the content analysis method was used to analyse the information in texts or physical items (Socialcops, 2018). Thus, the analysis method adopted for this study is appropriate as the gathered data are narrated and texts.

FINDINGS AND DISCUSSIONS

Characteristics of the Interviewees

From Table 1, it is evident that most of the interviewees are quantity surveyors (46%), and the majority (55%) have between five to ten years of experience in construction. The majority (73%) of the respondents were from construction firms.

Table 1: Characteristics of the Interviewees

Features	No of interviewees	Percentages	Interviewees code
Profession			
Quantity Surveyor	5	46%	QS1-5
Project Manager	2	18%	PM1 & 2
Contractor	3	27%	Cont1 - 3
Lawyer	1	9%	Law1
Experience			
1 – 5 years	1	9%	
5 – 10 years	2	18%	
10 – 15 years	6	55%	
over 15 years	2	18%	
Organisation			
Construction firm	8	73%	
Quantity surveying firm	2	18%	
Law firm	1	9%	

The Effect of Project Cost Management on Contractual Disputes

The interviewees were asked to express their opinion on the extent to which cost management contributed to a contractual dispute. The opinions of the respondents were summarised in Table 2. Most of the interviewees believed that cost management plays little role in contractual disputes.

Table 2: Effect of Cost Management on Contractual Disputes

Interviewees	Interviewees Responses
Q1–3, PM 2, Cont2	<i>No effect</i>
Q4, PM 2, Cont1&3	<i>Little effect</i>
Q5, Law1	<i>Significant effect</i>

QS2 and PM2 explained that the project budget was set, and as such, the project team

controlled the project cost to ensure the cost did not exceed the approved budget. Even if the cost exceeded the budget, there was documentation and an approval process for the additional fund, which would not generate any dispute between the client, contractor, and the consultants.

As QS2 stated:

We have VOs (variation orders) forms we always have to fill and submit to the client. In cases where additional funds are required, the client has to approve before the contractor is instructed to execute the works for which the additional fund is required, so I do not see how this will cause disputes among the project team and the sponsor.

Also, Cont1 and Cont3 opined that in most cases, they required approval from the Project manager before they executed any work that was not budgeted for in the Bill of Quantity document. Therefore, dispute could only arise where the contractor executed unbudgeted works without seeking approval from the authority concerned. Even in these situations, disputes did not escalate to a higher level as there was evidence of work done. However, according to QS5, the cost estimating process was the most crucial process. The management team used the estimations to calculate all costs correctly, avoiding disputes due to under or overpayments for certain trades. He believed that if the cost estimation was not done correctly from the onset, it could generate disputes between the client and the Quantity Surveyor (QS) because the client could blame the QS for not being professional. The client may then argue for the person responsible for paying any additional cost due to the QS mistakes.

QS5 stated:

In most cases, the cost management process will have significant effects on contractual disputes due to the negligence of the QS by failing to do a correct estimate for the project scope before approval and tender because no client is prepared to pay for omitted works as a result of the consultant's mistakes.

Law1 also believes the way project costs were managed could contribute significantly to contractual disputes. He will not advise his client to accept expenses attributable to the mistake of consultants who were also being paid for their professional services. This assertion supports Maru's (2019), view that consultants cause disputes among the client and the contractor because of poor contract management and variations due to design errors. Again project consultants' design errors and design quality, changes in design, drawings, and specifications have been identified as major sources of dispute in

the project environment (Chaphalkar and Patil, 2012; Trangkanont, 2017). Therefore, Steyn *et al.* (2017), suggest that project cost management should begin at the initiation phase and be monitored and controlled throughout the project execution, to ensure the project is completed within the client's allocated budget. All the respondents, except Law1, indicated that contractual disputes were not often caused by cost management because the companies had a specific cost management process to prevent disputes. QS2, QS3 and QS5, PM1 and PM2 indicated that most of the cost-related disputes in the project were between the contractor and subcontractor, mainly arising out of claims. A sub-contractor could submit a claim for work done of which the main contractor could dispute, or the main contractor could dispute the quantum of works claimed by the contractors. These situations did not generally happen between the clients and the main contractors as the QS agreed with the main contractor the claimed amount before the claim was forwarded to the client. This situation was also observed by Maru (2019), where the contractor's lack of communication and delayed payments to other parties was a source of project disputes.

In other instances, as suggested by PM1, Cont1, Cont3, QS2, and QS5, the responsible party for most of the cost-related disputes that could occur, were the clients. Because clients normally requested changes within the project scope, when the construction phase had already begun, these scope changes increased the project cost. Clients were sometimes reluctant to make payment for these changes because of a lack of knowledge regarding the cost of scope changes. It was also identified that client activity, such as unclear tender documents, scope changes, and variations contributed to disputes (Cheng *et al.*, 2009; Trangkanont, 2017), thus agreeing with the findings of this study. Law1 stated that the management should ensure regular cost reports to avert contractual disputes between the parties.

Resolving Contractual Disputes

The interviewees were again asked to express their opinions on the best way to resolve disputes, when they occurred between the parties. All the interviewees stated alternative dispute resolution methods as the best approach to resolving the parties' disputes. Law1 stated that he would always advise his clients to use ADR as it was cheaper than the normal court system and quicker.

He stated:

“The normal court system is very expensive, and as such, I will always advise my clients to make use of the ADR system to resolve disputes if available because it is far cheaper and in terms of timeframe for resolving disputes, it is quicker as compared to the court system. My friend (referring to the interviewer), in the court system, simple disputes can take years to resolve, and you must pay for the services of a lawyer any time the matter is called”.

PM1, PM2, Cont3, and Cont5 also stated that they preferred the ADR method, and in most cases, they resolved the disputes arising out of the contract by themselves without even going to the ADR system to the fullest. They could never use the standard court system to resolve disputes with the client unless it was inevitable.

As Cont3 puts it:

“We resolve disputes arising out of the contracts ourselves without even making use of the ADR system. You just have to be flexible and accept “give and take” situations to make things easy because it also costs using the ADR method”.

The use of ADR was the best way of resolving a cost-related dispute between parties. The method of ADR that they chose to use in the negotiation process was mediation. This method could resolve a dispute faster and ensured that all parties agreed with the outcome of the dispute. This finding also supports the findings of Du Press (2012), who opines that the best method of resolving contractual disputes among parties is the ADR because it is cheaper and faster. Again Manu (2019) and Kassab *et al.* (2006) suggest the most used construction dispute resolution method among parties as ADR.

Measures to Minimise Cost-related Disputes

Respondents’ responses to measures to minimise cost-related disputes are presented in Table 3. In answer to the measures that can be taken to reduce cost-related disputes, respondents stated using a contracts manager as a fundamental instrument to help minimise disputes between the parties and follow the required steps set out in the contracts signed between the parties.

Table 3: Measures to Minimise Cost-related Disputes

Interviewees	Interviewees responses
PM2, Cont2, QS4	<i>Engagement of contract manager</i>
PM1, Cont1, QS3	<i>A good change control system</i>
PM1, Cont2, and QS3	<i>Approval of project scope</i>
Law1, Q1, Q2, and Cont3	<i>Compliance with the terms and conditions of the contract</i>
PM2, Cont4	<i>Good project management</i>
PM1, Cont3, Cont5	<i>Competent consultants and contractor</i>
Cont5	<i>Effective communication</i>

QS4 stated that if the contractor or the client had a contract manager, it made things easier. The contract manager ensured both parties were not in breach of the contract terms and could advise them when there were imminent violations. PM2, Cont2, and QS3 opined that the approval of project scope was also a critical element in reducing cost-related disputes. The architect and the quantity surveyor would appropriately design and cost the approved scope to prevent omissions that usually underpinned disputes due to additional costs for variation works.

As PM1 puts it:

“If the project scope is comprehensive and approved by the various stakeholders before design and costing are done, it will go a long way to prevent cost-related disputes at the construction phase because everything that has been agreed on will be incorporated into the design and priced for before the commencement of the project, thus eliminating the incidence of scope omissions and variation orders which tends to generate dispute between the parties.”

On the other hand, Law1, Q1, Q2, and Cont3 stated that compliance with the terms and conditions of the agreed contracts was the best way to prevent cost-related disputes. If all the parties followed the agreement to the latter, no dispute related to cost could arise as there would be no breaches.

As Cont3 opined:

“If everyone obeys what is agreed upon in the contract from the beginning, how will dispute arise?”

Other respondents mentioned the stringent change control system as the best way of preventing cost-generated disputes among parties. They believed that if the changes were made to go through the required process, reasons were assigned to the changes, and the cost was done effectively before submitting it to the client for approval. There would be no disputes because the client would be aware of those changes before the professional team instructed the contractor to execute the work. In this case, the client would not be reluctant to make payment when the contractor claims those works.

As PM1 stated:

“On my project, I ensure all the change request either from the client or project team are properly submitted. I have come up with a change request form that everyone who requests for change must use. The form has a section for reasons for the change and

the timeframe for executing the changes. I then ask the Quantity Surveyor to do the cost analysis before submitting the changes to the client. So the client becomes aware of the reasons as well as the cost implication of the changes requested. I only ask the contractor to do those changes only when I have received approval from the client. I do this for all the negative or positive changes in terms of cost or time. This procedure always saves me from encountering disputes with the client and the contractor.”

Other stated measures included; good project management and the engagement of competent consultants and contractors to prevent cost-related disputes among the parties. All professionals should get information about the project timeously. It has been observed by Staff (2019) that cost-related project disputes could be reduced through proper cost management. Again, if effective cost planning, estimating, budgeting, and controlling are carried out in project execution, cost-related disputes in the project will be minimal (PMBOK, 2017). Quantity surveyors are advised to master project cost management, to complete the project within the proposed budget if cost-related disputes are minimised (Averous, 2014).

CONCLUSIONS AND RECOMMENDATIONS

It is evident from the study that the cost management aspect of the project has little or no effect on the contractual disputes. However, measures must be put in place to ensure project costs are well-developed to eliminate ambiguities. The implication is that project stakeholders must not spend all their time in the management of the project at the execution phase in their bid to prevent cost-related contractual disputes but must also concentrate on other measures, such as the engagement of contract manager, good change control system, approval of project scope, compliance with the terms and conditions of the contract, good project management, competent consultants and contractor, effective communication before and during project execution to minimise the incidence of cost-related disputes.

However, disputes arise during the project, project stakeholders prefer to use the ADR methods such as negotiation and mediation to resolve these disputes as the project stakeholder, prefers it. Therefore, it is recommended that construction stakeholders should not put all their efforts into managing project costs to prevent contractual disputes. Instead, they should institute other stringent measures that prevent poor scoping, poor cost estimating, and ineffective project management practices to minimise the incidence of contractual disputes in their projects. It is also recommended that more participants should be included in future research related to this topic.

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