

FRAMEWORK FOR MITIGATING CONTRACTUAL DISPUTES IN THE SRI LANKAN CONSTRUCTION INDUSTRY

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ABSTRACT

Dispute is defined as “any contract question or controversy that must be settled beyond the jobsite management”. Most of the construction disputes related to the contractual matters. The aim of the research was to develop a framework as a strategy that could mitigate to the occurrences of contractual disputes in Sri Lankan construction industry. Literature synthesis aimed at adapt the nature of contractual disputes by establishing critical attributes of contractual disputes, causes of contractual disputes, strategies used to avoid contractual disputes, Alternative Dispute Resolution methods and attributes in ADR methods. The five Semi-structured interviews and thirty five detailed questionnaire surveys were aimed at detailed studying of practical situation in Sri Lankan contractual disputes, identifying the areas, causes, effects, avoidance strategies of contractual disputes and attribute in Alternative Dispute Resolution methods and behaviour of the attributes in ADR methods. The research findings revealed major areas of contractual disputes named as general causes, contractor and owner related causes. Major causes of contractual disputes are ambiguities in contract documents, delays in work progress, design errors and major effects identified as cost overruns, project delays and damage business relationships. Contract documentation, proper coordination between contract documents and proper contract administration are the major contractual dispute avoidance strategies. Furthermore, major attributes in ADR methods are identified as duration of the proceeding, obtaining fairness decision and binding of the decision. Further research findings are revealed that arbitration require highest duration of the proceeding, mediation provide the more fair decision and arbitration decision is more binding and enforceable.

Keywords: Sri Lankan Construction Industry; Contractual Dispute Avoidance; Contractual Dispute Resolution.

1. INTRODUCTION

Construction project is defined as the process which having a certain time period from start to finish of inter-related activities and involves no of parties, who must work in unison within temporally time period (Jayalath, 2010). Within last two decades nature of the construction projects become more complex. The complex, lengthy and relational construction a process virtually ensured disputes (Jaffar *et al.*, 2011).

As explained by Jaffar *et al.* (2011), “a dispute is defined as an argument about an issue concerning project operations, usually resulting from a debate over differences in two or more parties’ understanding of situation”. Causes of disputes in a different section like standard of workmanship, applications for extensions of time not being granted, contractor delay and subsequent deduction of liquidated and ascertained damages and sometimes the meaning of contractual terms (Adriaanse, 2007). Most of the construction disputes arise related to the contractual matters including variation, improper management and administration, lack of available information, quality of technical specification and unrealistic client expectations and tenacity in the construction industry (Jaffar *et al.*, 2011).

2. NATURE OF THE DISPUTES IN THE CONSTRUCTION PROJECTS

Construction industry has higher uncertainty and involves more unknowns and due to that high possibility to rise contractual disputes (Kumaraswamy, 1997). According to Armes (2011), manufactured products

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are fully designed and build models before begin the production and performance are tested and established the durability and buildability. Construction project have less possibility to fully design before commencement the contract. Disputes are always costly to the projects (Armes, 2011). As average 50% of the legal costs borne by the construction industry are related to the contractual disputes. Disputes waste time and money, deflect energy away from construction projects. The resources that could have been spent on the dispute resolutions can be invested in the same project to better performance of clients and users. Importantly contracts may be viewed as the compulsory evil for the project to minimize the contractual dispute (Grunwald, 2001).

2.1. CONSTRUCTION CONTRACTS

Construction contracts can be defined as legally binding written agreement signed by the contracting parties. Contract defines the obligations, responsibilities of each and every party and relationship among contracting parties in a particular project (Broome and Hayes, 1997). Standard forms of contracts are always used by the construction stakeholders to communicate the procedures to be adopted in executing the project including regulate their contractual obligations and expectations during the execution of the projects. There are number of independent professional organizations developed internationally recognized standard forms of contract such as FIDIC, SBD, ACE, NEC and JCT and these are used in different contractual arrangements such as design and build, traditional procurement method and turnkey (Rameezdeen and Rajapakse, 2007).

2.2. CAUSES OF CONTRACTUAL DISPUTES

Contextual point of view that disputes may arise due to misunderstanding, disagreement, poor relationships or escalated conflicts between parties. Most of the disputes arise due to errors and omissions in the contract documents (Gukert and King, 2002). The contract documents prepare using the standard documents that is produced is considered to be poor and in many instances erroneous due to inadequate adjustments and those lead to a delay work progress, and claim for loss and expense by the contractor, scope changes and a claim for loss of productivity (Davis *et al.*, 2008). The other major cause to arise disputes is interpretation errors in conditions of contracts and misunderstanding of construction contracts (Chong and Zin, 2012). When contract parties enter in to contract, both parties undertaken the risk and they are well aware of the risk. Additions, alterations, omissions or changes in the nature of the work lead to the excessive contract variations. Most change orders are happen at the request of the client and are generally in the form of design changes (Zeitoun and Oberlander, 1991). Poor contract administration and progress delays by the main contractor have been identified as important causes to arise disputes (Ayudhya, 2011). In addition to that Waldron (2006) explained extension of time (EOT) claims, late issuing of incomplete substantial information, variations to scope, contract interpretations are also cause to the arise disputes. Thus Mitkus and Mitkus (2014) revealed poor management, inadequate design, unrealistic tendering, unrealistic client expectations and inadequate contract drafting also are the causes of disputes.

2.3. EFFECTS OF CONTRACTUAL DISPUTES

When a dispute arises during the execution of the project, it can affect to fulfill objectives and the business relationships between the contract parties to the project (Fernandezsolis, 2008). If the constructions disputes are not properly manage, those are cause to the project delays, increase project costs, undermine team spirit and damage business relationships (Cheung and Suen, 2002). According to the Cheung *et al.*, (2000) disputes need resolve through dispute resolution methods. Lengthy duration of the dispute resolution process, suspension of works due to contractor or client faults affect to project delays (Cheung, 1999). He further stated huge cost required as professional fees for dispute resolution, locations for dispute resolution process, administration charges, prepare submissions and other legal costs. Further Armes (2011), he revealed through findings of the research, prevention cost is lower than remedies to the disputes. Therefore final solution is use avoidance strategies at early stage of the projects to avoid disputes.

2.4. CONTRACTUAL DISPUTE AVOIDANCE STRATEGIES

Clearly hindsight only the solution to mitigate contractual disputes is used dispute avoidance strategies betterment for the anticipated problems during the construction (Armes, 2011). The dispute avoidance techniques create the team work and harmony, by that prevents arising disputes (Cheung, 1999). However contract administrators and project participants need to identify the contractual dispute avoidance strategies to success the project (Kumaraswamy, 1997). Some forms of contract includes provision to formalize risk register which can be help to decision making in the event a problem arises (Armes, 2011). Risk register identify the risks associated with the project, then set out how those risks might be managed and identify the time and cost associated to managing those risks (Blismas *et al.*, 2008). According to the CRCCI (2009), the dispute avoidance check list can be used to elimination or minimisation of causes of disputes and avoid the risk of disputes and wasted effort at the beginning of the projects.

American Arbitration Association [AAA] (2009) explained most of the disputes arise due to ambiguities in contract documents and then proper contract documentation use as important dispute avoidance strategy. Armes (2011) explained contract administrators can use good programme which is regularly updated can help to administrate the construction process and always avoid the disputes. Different forms of procurement methods allocate risk in different ways. The selection of appropriate procurement method which is most satisfactory for the work to be undertaken and by considering the aspirations of the Employer and the likely aspirations of the Contractor, some disputes can be avoided. Dispute Adjudication Board (DAB) or Dispute Resolution Board (DRB) is a full time standing board normally has a duty to monitor the project in ways that enable the warning signs of possible disputes to be recognized (Armes, 2011). The On-Site Neutral is selected at the commencement of the project by the contract parties to facilitate timely resolutions and to minimize the arisen of disputes during the execution period of the project (AAA, 2007). On-Site Neutrals assists in identifying on-site problems which deal with the day to day activities of the projects by contract parties and advice risk assignment and risk management strategies.

2.5. ALTERNATIVE DISPUTE RESOLUTION (ADR) METHODS

Alternative Dispute Resolution (ADR) is general term circumscribe various techniques for resolving disputes outside of court system (Teo and Aibinu, 2007). This statement was supported by Hedemann (1991) stating that the ADR includes dispute resolution processes and techniques that act as alternatives for disputant parties to come to settlement apart from litigation.

Negotiation is the first and informal method to resolve disputes and does not involve third party in the process of resolution (Marzouk and Moamen, 2009). In negotiation disputant parties attempt to communicate the grievance and negotiate for a settlement. The most disputes are resolve by this process due to the disputant's preference (Cheung *et al.*, 2000). The mediation procedure starts normally negotiation process becomes unsuccessful or otherwise with the mutual agreement of disputant parties before conduct negotiation (Cheung and Yiu, 2007). Mediation is a process in which a neutral person facilitates communication between the disputant parties and, without deciding the final decision or imposing on the parties enables them to understand and to reach a mutually agreeable resolution to their dispute (Marzouk and Moamen, 2009). Turker (2005) have recommended referring to the adjudicator for decision which cannot be resolved first by the disputant parties by themselves. The neutral third party called as adjudicator refer the dispute and resolve by the adjudicator. Adjudicator decision is binding on the parties (Newman, 1999). Arbitration process involves a neutral and independent third party or parties appointed by disputant parties to hear the disputes with evidences and arguments present by the parties involved in dispute. The decision given by the arbitrators called as arbitral award and decision is binding (White, 2008).

2.6. CRITICAL ATTRIBUTES IN ADR METHODS

Alternative Dispute Resolution is a contractual dispute resolution mechanisms and selection of appropriate method depends on the agreement level between the contract parties (Bekele, 2005). The key is to understand the proper application and relevant benefits of each ADR method understand the

attributes of the dispute resolution. The ADR methods characteristics are duration of the process, involvement of neutral, confidentiality of the process, binding or non-binding of the decision, confidentiality of the process, enforceability of the decision, cost of the process, preservation of business relationship and higher degree of control by parties differ from method to method (Goldberg *et al.*, 1999). Similar to above findings Cheung and Suen (2002) identified critical attributes are cost, time duration, degree of control by the parties, flexibility, confidentiality, voluntariness, enforceability, binding decision and privacy. Cheung (1999) supports those attributes by presenting summarized five main attributes identified from thirteen attributes named settlement agreement, benefits, nature of the proceedings, outcome of the process and process of proceedings.

3. RESEARCH METHODOLOGY

The research initiated with a literature synthesis to mitigate contractual disputes in the construction industry. It was discussed in detail the survey approach which was selected as research approach of this research. The reason was nature of the particular topic of the research set as “what is the framework to mitigate contractual disputes in Sri Lankan construction industry”. Semi-structured interviews were conducted as the preliminary study and questionnaire survey were conducted as detailed survey. Semi-structured interviews conducted to gather details of practical situations of the contractual disputes in the industry and content analysis were used to analyses data. Questionnaire survey was used to rank the details gathered from interviews and literature survey. Questionnaire was MCQ type and data recorded using likert scale. One tailed t-test, RII and mean rating were used to analyses data collected through the questionnaire survey.

4. RESEARCH FINDINGS

Data was collected through questionnaire survey conducted among contract administrators practicing in Sri Lanka and semi-structured interviews were conducted among practitioners having expertise with Dispute resolution. Presented data was analyzed from various perspectives to understand the inter relationships between variables and underlying truths to demonstrate a clear understanding on the research findings.

4.1. CHARACTERISTIC OF THE SURVEY SAMPLE

The profile of the respondents of the questionnaire survey are classified according to the type of organization they are attached to, their working experience, working sector respectively in Figures 1, 2, and 3 for further analysis to be interpreted.

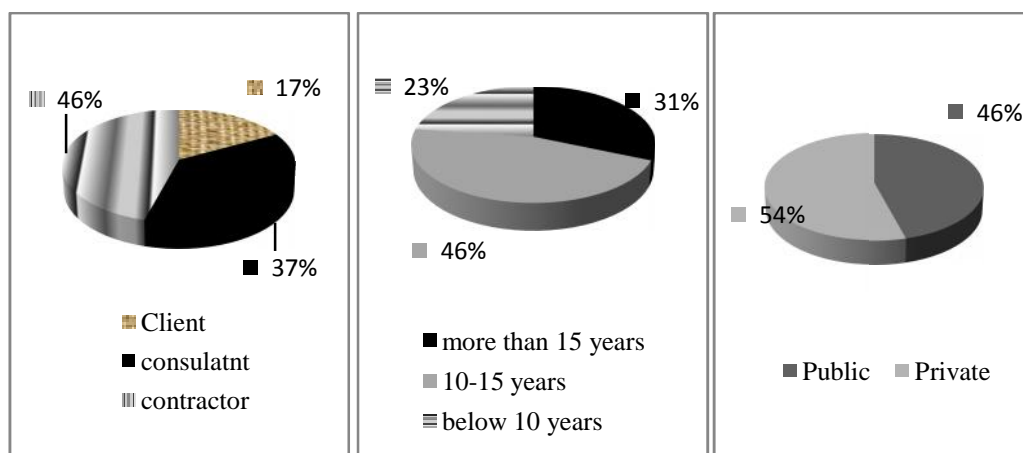


Figure 1: Respondent Profile Based on Type of Organization, Based on Experience and Based on Working Sector

4.2. RESULTS OF ONE TAIL T-TEST

Areas, causes and effects of contractual disputes, dispute avoidance strategies and attributes in alternative dispute resolution methods were analyzed using statistical tool t-test. In order to identify the significance a one tailed t-test was carried out with the following hypothesis. Hypothesis involves the phrase “greater than”, and with a specific direction of values distribution, one tailed t-test was used. To the t-test, Null hypothesis; $H_0 : u = u_0$ against the Alternative hypothesis; $H_1 : u > u_0$, where u_0 , is the neutral point in likert scale. In the analysis of all the data sets u_0 was fixed at 3 because, by definition, Likert scale distribute from 1 to 5 and given in the rating scale 3 is neutral.

Since this is one-tailed t-test, factors which have obtained more than critical t-value 1.6955 (from the table of critical t-values) and less than 0.05 significance level and degree of freedom (df) of 34 from t-value table. Thus in the analysis factors, if the observed t value is greater than the critical t-value are considered as very significant, then the null hypothesis is rejected and alternative hypothesis is accepted. This can also be proven by maintaining a lower significance (p -value) than 0.05. Results of the test on questionnaire survey are tabulated as follows. Data collected from interview are incorporated into the research findings.

Table 1: Areas of Contractual Disputes

| Areas of contractual disputes | Mean Rating | Std. Dev. | t-Value | Significance | Rank |
|-------------------------------|-------------|-----------|---------|--------------|------|
| General Causes | 3.914 | 1.422 | 3.80 | 0.000 | 1 |
| Contractor Related Causes | 3.657 | 1.305 | 2.98 | 0.003 | 2 |
| Owner Related Causes | 3.629 | 1.308 | 2.84 | 0.004 | 3 |
| Consultant Related Causes | 3.514 | 1.358 | 2.24 | 0.016 | 4 |
| Third party Related Causes | 3.457 | 1.559 | 1.73 | 0.046 | 5 |

Table 2: Causes of Contractual Disputes

| Causes of contractual disputes | Mean Rating | Std. Dev. | t-Value | Significance | Rank |
|---|-------------|-----------|---------|--------------|------|
| Ambiguities in Contract Document | 4.343 | 1.083 | 7.33 | 0.000 | 1 |
| Delays in Work Progress | 4.000 | 1.111 | 5.32 | 0.000 | 2 |
| Design Errors and Omissions | 4.057 | 1.187 | 5.27 | 0.000 | 3 |
| Change of Scope | 3.914 | 1.147 | 4.72 | 0.000 | 4 |
| Inadequate Contract Drafting | 3.857 | 1.141 | 4.44 | 0.000 | 5 |
| Improper Administration | 3.771 | 1.114 | 4.10 | 0.000 | 6 |
| Subcontractor problems | 3.800 | 1.208 | 3.92 | 0.000 | 7 |
| Any Rejected Claim | 3.686 | 1.051 | 3.86 | 0.000 | 8 |
| Excessive contract variations | 3.829 | 1.294 | 3.79 | 0.000 | 9 |
| Different Interpretations in conditions of contract | 3.771 | 1.262 | 3.62 | 0.000 | 10 |
| Claim validity Absence of Notice requirements | 3.457 | 0.817 | 3.31 | 0.001 | 11 |
| Payment Delays | 3.629 | 1.165 | 3.19 | 0.002 | 12 |
| Late Giving of Possession | 3.600 | 1.143 | 3.11 | 0.002 | 13 |
| Inadequate or Incomplete Specification | 3.543 | 1.197 | 2.68 | 0.006 | 14 |
| Availability of Information | 3.514 | 1.147 | 2.65 | 0.006 | 15 |
| Entitlement and Quantification of EOT | 3.371 | 1.003 | 2.19 | 0.018 | 16 |
| Adverse Weather | 3.400 | 1.090 | 2.17 | 0.019 | 17 |

| Causes of contractual disputes | Mean Rating | Std. Dev. | t-Value | Significance | Rank |
|--|-------------|-----------|---------|--------------|------|
| Entitlement for Price Escalation | 3.343 | 0.968 | 2.09 | 0.022 | 18 |
| Quantification of Liquidated Damages | 3.314 | 0.932 | 1.99 | 0.027 | 19 |
| Market Inflation | 3.343 | 1.027 | 1.97 | 0.028 | 20 |
| Risk Allocation | 3.314 | 0.993 | 1.87 | 0.035 | 21 |
| Time for issuing Taking Over Certificate | 3.371 | 1.239 | 1.76 | 0.042 | 22 |
| Changing Government Codes | 3.286 | 0.987 | 1.71 | 0.048 | 23 |
| Determine Defect Liability Period | 2.943 | 1.027 | -0.33 | 0.628 | 24 |
| Technical inadequacy of the Contractor | 2.771 | 1.262 | -1.07 | 0.854 | 25 |
| Contractor's Financial failure | 2.600 | 0.736 | -3.22 | 0.999 | 26 |

Table 3: Effectsof Contractual Disputes

| Effects of contractual disputes | Mean Rating | Std. Dev. | T Value | Significance | Rank |
|---------------------------------------|-------------|-----------|---------|--------------|------|
| Cost Overruns | 3.914 | 1.269 | 4.26 | 0.000 | 1 |
| Project Delays | 3.829 | 1.294 | 3.79 | 0.000 | 2 |
| Costly Dispute Resolution Methods | 3.514 | 0.818 | 3.72 | 0.000 | 3 |
| Damage Business Relationship | 3.371 | 1.165 | 1.89 | 0.034 | 4 |
| Cancellation of contracts | 3.343 | 1.162 | 1.75 | 0.045 | 5 |
| Reduce the Performance of the project | 2.457 | 1.12 | -2.87 | 0.996 | 6 |

Table 4: Contractual Dispute Avoidance Strategies

| Contractual dispute avoidance strategies | Mean Rating | Std. Dev. | T Value | Significance | Rank |
|--|-------------|-----------|---------|--------------|------|
| Proper Contract Documentation | 4.257 | 0.95 | 7.83 | 0.000 | 1 |
| Proper Coordination Between contract documents | 4.143 | 1.004 | 6.73 | 0.000 | 2 |
| Proper Contract Administration | 4.057 | 1.187 | 5.27 | 0.000 | 3 |
| Select most appropriate procurement method | 3.857 | 0.974 | 5.20 | 0.000 | 4 |
| Early Notification and Resolution of dispute | 3.771 | 1.060 | 4.31 | 0.000 | 5 |
| Negotiation in an event of Differentiate in matter | 3.629 | 1.262 | 2.95 | 0.003 | 6 |
| Equitable Sharing of Risks | 3.400 | 1.193 | 1.98 | 0.028 | 7 |

Table 5: Attributes in Alternative Dispute Resolution Methods

| Variable | Mean Rating | Std. Dev. | T Value | Significance | Rank |
|--|-------------|-----------|---------|--------------|------|
| Duration of the proceeding | 4.143 | 0.912 | 7.41 | 0.000 | 1 |
| Obtaining fairness decision | 3.857 | 0.974 | 5.20 | 0.000 | 2 |
| Binding and enforceability of the decision | 3.743 | 0.919 | 4.78 | 0.000 | 3 |
| Confidentiality of the process | 3.686 | 0.900 | 4.51 | 0.000 | 4 |
| Cost for the process | 3.571 | 1.008 | 3.35 | 0.001 | 5 |

4.3. RESULTS OF RELATIVE IMPORTANT INDEX AND MEAN RATING

Questionnaire survey was indicated the five attributes in the Alternative Dispute Resolution methods and respondents were asked to rank those attributes in separately considering the significance to the negotiation, mediation, adjudication and arbitration process, considering the five attributes in Alternative Dispute Resolution methods.

Table 6: Behaviour of Attributes in Alternative Dispute Resolution Methods

| Duration of the Proceeding | Obtaining Fairness Decision | Binding and Enforceability of the Decision | Confidentiality of the Process | Cost for the Process | Rank |
|----------------------------|-----------------------------|--|--------------------------------|----------------------|------|
| Arbitration | Mediation | Arbitration | Negotiation | Arbitration | 1 |
| Negotiation | Negotiation | Adjudication | Mediation | Adjudication | 2 |
| Mediation | Adjudication | Mediation | Adjudication | Mediation | 3 |
| Adjudication | Arbitration | Negotiation | Arbitration | Negotiation | 4 |

4.4. FRAMEWORK TO MITIGATE CONTRACTUAL DISPUTES IN SRI LANKAN CONSTRUCTION INDUSTRY

In accordance with the literature findings, it was identified six stages to mitigate the contractual disputes in construction industry. Those are establish context, identify potential contractual disputes, analyse potential contractual disputes, evaluate potential contractual disputes, threat the causes of contractual disputes, contractual dispute resolution using informal resolution methods or dispute resolution using formal resolution methods. According to the research findings most critical causes of disputes, effects, dispute avoidance strategies and resolution methods were identified.

4.4.1. ESTABLISH THE CONTEXT

This is the first and basic step of the dispute mitigation process. In this step external project environment (Areas of third party related causes), internal project environment (Areas of general causes, Areas of owner related causes, Areas of consultant related causes, Areas of contractor related causes) and the dispute mitigation strategies (proper contract documentation, proper contract administration, proper coordination between the contract document, negotiation in an event of differentiate in matter, early notification and resolution of issues, select most appropriate procurement method and equitable sharing risks) needs to be clearly identified at very beginning of the project. This is the foundation step for other six steps and this step implement to achieve following key drivers of the project.

- Clearly and equally share the risks of the project
- Enhance the problem solving before escalate to dispute
- Implement the keep business relationships
- Complete the project on time with estimated budget

Establishing the context weaknesses and strength of the project can be identified. Then set up the mitigation strategies at early stage of the project.

4.4.2. IDENTIFY POTENTIAL CONTRACTUAL DISPUTES

This is the second step of the dispute mitigation framework. This categorize into three sub steps.

I. Method of identify potential disputes

As identified in the literature findings (CRCCI, 2009) it can be used dispute avoidance checklists, risk registers and expert opinions such as contract administrators and project managers to identify the potential disputes exist within the project.

- II. Identify the areas of potential contractual disputes
- III. Identify the causes of potential contractual disputes

4.4.3. ANALYSE POTENTIAL CONTRACTUAL DISPUTES

This is the third step of the dispute mitigation framework. Under this step analyze the effect of potential contractual disputes accordance with the identified findings.

4.4.4. EVALUATE POTENTIAL CONTRACTUAL DISPUTES

This is the fourth step of the dispute mitigation framework. This categorize into two sub steps.

I. Compare potential contractual disputes identified and evaluate with criteria

In accordance with the research questionnaire survey findings areas of potential contractual disputes, causes of potential contractual disputes, effects of potential contractual disputes should be compare and evaluated using the criteria which are based on the rankings of the particular contractual disputes.

II. Set priorities

In accordance with the research questionnaire survey findings areas of potential contractual disputes, causes of potential contractual disputes, effects of potential contractual disputes should be prioritized based on the rankings of the particular contractual disputes.

4.4.5. TREAT THE CAUSES OF CONTRACTUAL DISPUTES

This is the fifth step of the dispute mitigation framework. In this step need to prepare plans how to treat the root and proximate cause of contractual disputes and existence dispute avoidance strategies need to take place accordance with their significance identified in the research findings.

4.4.6. CONTRACTUAL DISPUTE RESOLUTION

This is the sixth and last step of the dispute mitigation framework. If the potential contractual disputes are could not mitigate then needs to resolve the disputes using dispute resolution methods. This categorize into two sub steps.

I. Identify the factors affect to the selection of Alternative Dispute Resolution methods

II. Selection of Alternative Dispute Resolution methods according to the attributes of the ADR methods.

While conducting the above steps project participants need to be communicate, consult, monitor and review the progress of the process to success the contractual dispute mitigation process.

5. CONCLUSIONS

Disputes have become an inherent feature of the construction industry. Most of the disputes arise due to contractual matters in the construction industry. However in Sri Lanka, there have not been conducted dispute avoidance and settlement procedure together and this study anticipates to fills that research gap. As a recommendation before project commencement contractual dispute mitigation needs to be implemented and throughout the project duration hole the process continuously needs to be process.

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