

**INVESTIGATION ON THE IMPACT OF ENGINEER'S
DETERMINATIONS: A CASE OF SRI LANKA BASED
ON FIDIC 1999 RED BOOK**

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(179178L)

Degree of Master of Science in Construction Law and Dispute
Resolution

Department of Building Economics

University of Moratuwa

Sri Lanka

September 2022

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Dissertation Submitted in Fulfillment of the Requirements for the Degree
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DECLARATION

I declare that this is my own work and this dissertation does not incorporate without acknowledgement any material previously submitted for a Degree or Diploma in any other University or institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

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I hereby acknowledge that Rasika Samanmali has followed the dissertation process set by the Department of Building Economics.

.....

Ch.QS (Mr.) Vijitha Disaratna

Dissertation Supervisor

.....

Date

Investigation on the Impact of Engineer's Determinations: A Case of Sri Lanka Based on FIDIC 1999 Red Book

Construction industry is emerging day by day with their products having innovative and complex features. Due to the complexity of the projects, occurrence of disputes is inevitable. Accordingly, various types of disputes are arising in the construction industry. Sometimes, disputes occur due to the Engineer's unfair Determinations and/or unilateral rejections of the Contractor's Claims. Since these disputes are finally settled through the ADR process, both Parties have to suffer incurring additional time and costs. Hence, it becomes a serious issue which shall be addressed and to suggest the strategies/solutions to overcome the Engineer's unfair Determinations.

This research problem was approached through the case study of four number of completed Projects in Sri Lanka which were based on FIDIC Conditions of Contract. Semi structured interviews were conducted with five number of experts who are possessing experience as the Engineer for the Contract and involved in ADR process. The collected data were analyzed in terms of cross case analysis and manual content analysis. Documentation review was carried out to identify the effects and/or consequences of the Engineer's unfair Determinations and unilateral rejections of the Contractor's claims. Furthermore, identified reasons and strategies to overcome the Engineer's unfair Determinations which were obtained through expert interviews are presented in the conceptual framework presented in the Chapter four.

Findings of the research revealed that, most of the disputes occurred due to the Engineer's unfair Determinations and/or unilateral rejections of the Contractor's claims which have been overruled by the Decisions /Awards of the ADR methods in the selected cases. The research found that, aforesaid Engineer's unfair Determinations resulted the Parties to suffer incurring additional time and costs which could be prevented if the Engineer has correctly and fairly issued their Determinations. Thus, the research recommends to the industry practitioners to follow the identified strategies and solutions to prevent these unnecessary time and costs spend in terms of resolution of the disputes by way of ADR methods.

Key words: *ADR, Disputes, the Engineer, Parties*

DEDICATION

*“This dissertation is dedicated to my
beloved
family for their unconditional love that
motivate
me to meet higher targets...”*

ACKNOWLEDGEMENT

This research study would not be possible without the assistance and dedication of numerous individuals and organizations. Therefore, I take this opportunity to convey my gratefulness to every one of them.

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I would like to express my sincere thanks to the Head of the Department, Professors, senior lecturers and all other staff members of the Department of Building Economics for their immense assistance and advice during the progression of this study.

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September 2022

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LIST OF ABBREVIATIONS

Abbreviation	Description
ADR	: Alternative Dispute Resolution
CIDA	: Construction Industry Development Authority
COC	: Conditions of Contract
DAB	: Dispute Adjudication Board
DB	: Dispute Board
DRB	: Dispute Review Board
EOT	: Extension of Time for Completion
FIDIC	: International Federation of Consulting Engineers' (FIDIC) Conditions of Contract
ICTAD	: Institute of Construction Training and Development
SBD	: Standard Bidding Document
SOC	: Statement of Claim
SOR	: Statement of Response

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1.0 INTRODUCTION TO RESEARCH

1.1 BACKGROUND

The construction industry is multi-faceted (Marshall, 2012) and the construction procedure is also composite and disputes frequently arise (Uff, 2005). According to Seeley (1997), “No two construction projects are identical and site characteristics also vary extensively”. Therefore, the contribution of three most important stakeholders of the project namely, “the Employer”, “the Engineer” and “the Contractor” drives to the “success” of any construction project (Jayasena, Seram, & Johnson, 2013). Amongst them, the “Engineer” performs an extensive role to assure the time, quality and Cost targets that are encountered (Potts, 2008, Wang & Huang, 2005). Owing to the complication and dynamic attributes of the Construction projects also impacts them to rarely run effortlessly, together with the frequently challenging attitude of its stakeholders. Inevitably this complexity of the industry creates disputes (Cheung & Suen, 2002). Therefore, according to Ashworth (2002), disputes are considered as a common feature of the construction industry.

The purpose of a contract intends to assign risk among parties (Samuels 1996). Hence the Conditions of Contracts (COC) can be considered as the governing law of a contract and also the use of a standard form of Contract will be helpful to apply these standard forms irrespective of the location of the Site (Murtaga, 2007). For the purpose of procurement of international projects, FIDIC has developed standard forms of contract for procurement of projects internationally (Ndekugri, Smith, & Hughes, 2007) that have conventionally been grounded with the principle of balanced risk allocation (Osinski, 2002).

International Federation of Consulting Engineers’ (FIDIC) Conditions of Contract [FIDIC 1999 Red Book] for Construction defines;

*“**Engineer**” means the person appointed by the Employer to act as the Engineer for the purposes of the Contract and named in the Appendix to Tender, or other person*

appointed from time to time by the Employer and notified to the Contractor under Sub-Clause 3.4 [Replacement of the Engineer].

Furthermore, it is stipulated in the FIDIC Conditions of Contract under Sub-Clause 3.5 [Determinations];

“Whenever these Conditions provide that the Engineer shall proceed in accordance with this Sub-Clause 3.5 to agree or determine any matter, the Engineer shall consult with each Party in an endeavour to reach agreement. If agreement is not achieved, the Engineer shall make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances. [Emphasis Added]

If an agreement has not been made by the parties, the Engineer is obliged to make a fair Determination pursuant to the provisions of the contract, taking due regard of all relevant circumstances (FIDIC, 1999).

Past researchers have brought their perceptions with regard to the Engineer’s duties and responsibilities as follows;

According to Ndekugri et al. (2007), the Engineer is performing as an Employer’s agent in terms of some duties and authorities, hence the Contractor may consider any of the Engineer’s default in terms of performance of the duties as an Employer’s default. Someone than the Engineer would be preferred by the Contractors as the first instance in settlement of disputes in contracts (Hughes and Shinoda 1999).

In the FIDIC forms of contract, the Engineer plays his role in two distinct disciplines by means as the agent in keeping the Employer’s interests and an independent valuer, hence, the disputes are often referred to the Engineer (Jayalath, 2009). According to Bunni (1997), the Engineer is sometimes being indicted by the Employer assuming that he/she is being biased towards the Contractor administering the Contract by means of awarding extension of Time for Completion, determining Claim amounts as well as giving instructions favouring the Contractor.

Samarathunga (2009), states that the prominence of the Engineer is to act fairly where the appointment and the Employer’s payments is frequently emphasized in practice.

Owing to these complementary characters in the same contract, the Contractors may suspect the impartiality having in mind that the Employer is paying the Engineer pertaining to a separate agreement made with the Employer where the contractor has no association as a party. Even though, it is required the Engineer's Determination to be fair, there are sufficient proof that the Engineer's impartiality is sometimes challenged (El-Adaway & Ezeldin, 2007). Thus, FIDIC would have apparently decided that the Engineer's independent role should be reconsidered (Jayalath, 2009).

Accordingly, FIDIC 1999 provides the grounds to refer the disputes to the "Dispute Adjudication Board (DAB)" with respect to the Clause 20 of the Conditions of Contract wherever either party is unhappy with the DAB decision, Arbitration can be commenced upon lapse of 56 days when the parties have failed to settle the dispute within that time by an amicable settlement (Ndekugri et al., 2007). Nevertheless, pertaining to the interpretation of the Sub-Clause 3.5 in FIDIC, witnessed that the Engineer's role in dispute resolution has been reduced significantly (Einbinder, 1994). Nevertheless, in later editions of FIDIC 1999, has introduced "Dispute Board (DB)" instead of DAB but for the same perseverance. With respect to some DB provisions, Arbitration is only allowed in the occasion of a non-unanimous DB decision and the Engineer can be presented as a witness to give evidence before the arbitration tribunal. Wimalachandra (2007) stated "Alternative Dispute Resolution (ADR)" as any form or procedure, either formal or informal, whereas parties can achieve resolution of their disputes instead of litigation and Negotiation, Mediation, Adjudication and Arbitration can be recognized as widely implemented ADR methods (De Zylva, 2006).

1.2 PROBLEM STATEMENT

FIDIC 1999 stipulates under Sub-Clause 3.5 of the Conditions of Contract;

*"Whenever these Conditions provide that the Engineer shall proceed in accordance with this Sub-Clause 3.5 to agree or determine any matter, the Engineer shall consult with each Party in an endeavour to reach agreement. **If agreement is not achieved, the Engineer shall make a fair determination** in accordance with the Contract, taking due regard of all relevant circumstances."*

Hence, it becomes apparent that the Engineer is obliged to make a fair Determination with respect to the Contractor's claim submissions as provided by the Contract. Nevertheless, it was observed that the Determination of the Engineer is often challenged and suspicious as the Engineer is appointed and remunerated by the Employer. As provided in the standard forms of Contract, the parties are free to refer disputes to the DAB.

In Sri Lankan construction industry, there are situations where the Engineer has completely rejected or determined lesser amounts pertaining to the Contractor's Claims which are involving higher amounts whilst giving the Engineer's Determination. Further, the current situation of the country such as corruptions, political influences leads to allegations to the Engineer of approving such claims. Hence, these events have created disputes which have been finally resolved by way of a third party decision which is provided by the Disputes Adjudication, Arbitration or sometimes referring to the Supreme Court whilst overruling the Engineer's Determinations. Hence, it seems that the Engineer's hands are tight up to some extent to make his determination independently and also sometimes voluntarily taken up the said position. Hence, in order to receive a Decision/Award, Parties have to wait sometimes spending years and additional costs which may be onerous to both Parties. Therefore, this matter will consequent to create unnecessary time and costs to both parties.

The purpose of Sub-Clause 3.5 [Determinations] is to ensure the smooth progression of the contract Works with the Engineer's fair determination if a party or parties to the Contract are unable to reach an agreement on an issues. However, if the Engineer's determination is unfair or a party or parties to a contract believe that the determination is unfair, then the determination may lead to disputes.

Nevertheless, proper research content was not found regarding the reasons for the aforesaid Engineer's unfair Determinations/ unilateral rejections of the Contractor's claims, hence distinguished as a sensible topic in order to give suggestions to prevent said unnecessary time and costs.

1.3 AIM AND OBJECTIVES

The aim of the research is to investigate the impact of the Engineer's Determinations in Sri Lankan construction projects.

Following objectives to be achieved to touch the above research aim;

1. To review the role of the Engineer under FIDIC 1999 Red Book.
2. To investigate the types of disputes, occur in construction projects.
3. To investigate the instances of occurring disputes in construction projects due to the Engineer's unfair Determinations.
4. To investigate the reasons for the Engineer's unfair Determinations and to propose solutions to prevent the Engineer's unfair Determinations.
5. To develop a Framework to minimize/prevent the occurrence of disputes due to the Engineer's unfair Determinations.

1.4 SCOPE AND LIMITATIONS

The scope of this research is to provide solutions to prevent the Engineer's unfair Determinations occurred by way of the Engineer's rejections or approving lesser amounts of the Contractor's claims whereas finally resolved and/or overruled through ADR methods or Supreme Court in Sri Lanka. Further, it was hardly found the cases or instances where the Engineer has unfairly accepted the Contractor's claims at the Employer's expense whilst favouring the Contractor. Due to the time constraints, contracts governed by the standard forms of contract except FIDIC 1999 Red Book and its subsequent versions related to the funding agencies were excluded in order to focus the research scope to successfully finish within the assigned time frame.

1.5 RESEARCH METHODOLOGY

The following methodology was used to carry out the study in a proper manner to achieve the research objectives:

- ★ A comprehensive literature review was carried out to gain an in depth knowledge to address the Engineer's role in the contracts which are governed by the

Conditions of Contracts pertaining to FIDIC 1999 Red Book by referring books, journals, magazines, government publications, articles and other publications.

★ Case study research approach was adopted.

⇒ **Documents Review** was carried out to collect data regarding the effects and/or consequences of the Engineer's unfair determinations in selected four cases.

⇒ **Expert interviews** were carried out to validate the results obtained from the case study and to identify the reasons for such unfair and/or unilateral rejections of the Contractor's Claims and to propose solutions to overcome the Engineer's unfair determinations. Five experts were selected who are possessing experience as the Engineer for the Contract and involved in the process of ADR methods.

★ Cross Case analysis was used for the purpose of analyzing data collected from the Documents review process. Data collected from Expert Interviews were analyzed using manual content analysis.

1.6 LAYOUT OF THE RESEARCH

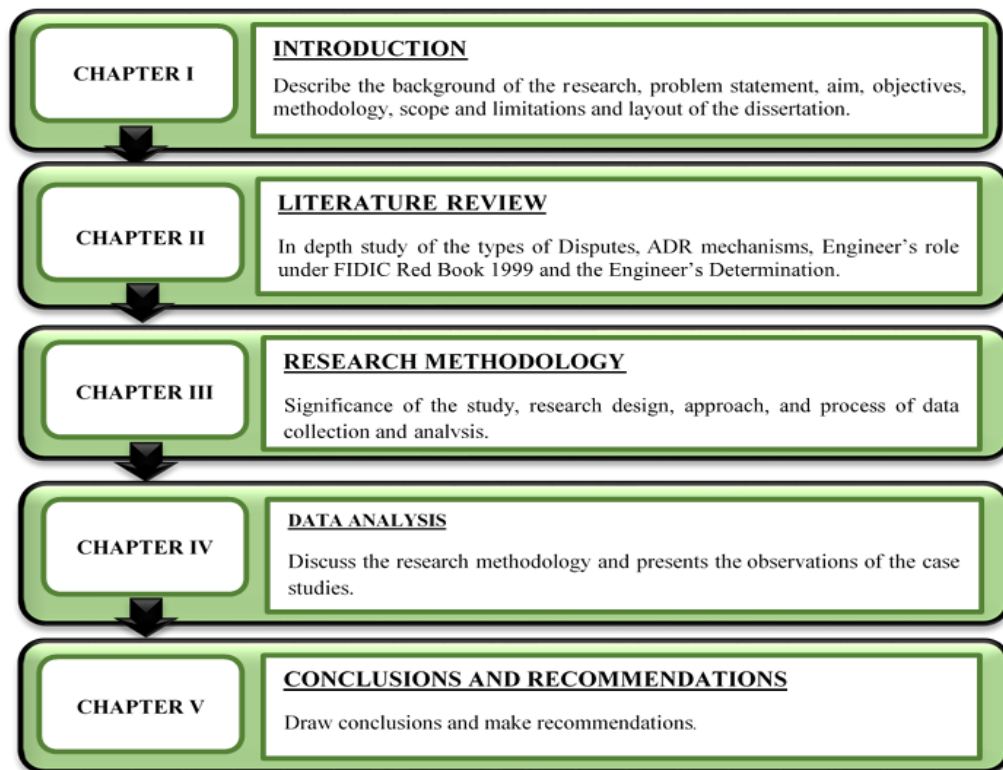


Figure 1-1: Layout of the Research Study

2.0 LITERATURE REVIEW

2.1 INTRODUCTION

The construction process involves a widespread of means (Uff, 2005) and the industry spans through an extensive series of fields, comprising housing and commercial property development, consultancy, engineering, sustainable development, energy, and gas and oil investigative works (Marshall, 2012). Recently published reports of construction industry have often extended the emphasis of the construction industry to accelerate efficiency while improving quality to focus on improving the construction processes (Amaratunga, 2009). It can be seen very specific characteristics in any construction project that number of stakeholders are involved in the project and specially form a temporary multi organizations in order to achieve the project success.

Construction industry is systematized by different parties with different capacities in the process of carrying a particular construction project. Therefore, proper communication is indispensable for the accomplishment of the said project (Rameezdeen & Rajapakse, 2006). As cited by Ng and Chow (2004), it has been duly observed the necessity of the appointment of capable expert consultants to ensure the achievement of the Client's expectations owing to the sophisticated, dynamic and uncertain characteristics of the construction projects. Further, the construction process is treated as a composite procedure and that can misperceive the most complicated systems in management requiring collaborative strength of a temporary multi organization (Gunasena , 2010). Inevitably this complexity creates disputes (Cheung and Suen, 2002).

2.2 CONSTRUCTION CONTRACTS AND THE ENGINEER UNDER FIDIC 1999 RED BOOK

Under the civil law suit, a contract is defined as a legally binding agreement between two or more Parties which stipulates the rights and obligations of each Party where can be existed as either way of verbal or written agreement. In the process of delivering the construction projects, many stakeholders possessing different capacities of

excellence and multi-disciplinary, it becomes apparent that the better communication is an essential (Jahren and Dammeier, 1990, Emmitt and Gorse, 2003).

Therefore, contract documentation becomes a significant consideration of written construction contracts. O'Reilly (1966) identifies that the standard forms of Contract performs a great role in terms of this communication process which the procedures to be espoused in implementing the projects comprising the fortitude of the rights and obligations of the contracting parties.

Accordingly, for the smooth functioning of the construction projects, a satisfactory extent of harmony in construction contracts interpretation by various contracting parties is a precondition (Kennedy, Morrison and Milne, 1997). Along with balanced representation of all related industry participants together with a fair distribution of the risk among the contracting Parties (Kwakye, 2000), the use of a standard form for drafting a construction contract helps to mitigate the risks under the constraints of time, quality and the Cost of the Project (Perry, 1995). Further, it warrants the communal base for the assessment and appraisal of the tenders (Rhys Jones, 1994).

As established by various doctrines of the civil law suit, in most of the standard forms of Contract requires the Engineer to be impartial where a fair determination is expected (Jayasena et al., 2013). According to Bunni (1997), the Engineer is distinct by means of reference to specific terms of professions such as a supervisor, designer, an adjudicator, a certifier or quasi arbitrator. Nevertheless, in standard forms of Contracts produce a distinct definition for the Engineer. According to FIDIC 1999 (Red Book), the Sub-Clause 1.1.2.4 says;

Engineer” means the person appointed by the Employer to act as the Engineer for the purposes of the Contract and named in the Appendix to Tender, or other person appointed from time to time by the Employer and notified to the Contractor under Sub-Clause 3.4 [Replacement of the Engineer]. [Emphasis added] (FIDIC 1999, pg.2)

It also specifies under the Sub-Clause 3.5 of the Conditions of Contract as follows;

Whenever these Conditions provide that the Engineer shall proceed in accordance with this Sub-Clause 3.5 to agree or determine any matter, the Engineer shall consult with each Party in an endeavour to reach agreement. If agreement is not achieved, the Engineer shall make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances. [Emphasis added] (FIDIC 1999, pg.11).

2.3 APPOINTMENT AND REPLACEMENT OF THE ENGINEER

As said earlier, the Engineer plays a vital role in any construction project. Ndekugri et al. (2007) states that the old Red Book published in year 1987 does not expressly stipulate a provision for replacement of the Engineer where the FIDIC has warranted this rule grounded on an apparent necessity to defend prospects of the Contractor as regards of the extent of the reliability and competency in the administration of the construction contract.

Nevertheless, the Sub-Clause 3.4 of the Conditions of Contract expressly stated that;

“If the Employer intends to replace the Engineer, the Employer shall, not less than 42 days before the intended date of replacement, give notice to the Contractor of the name, address and relevant experience of the intended replacement Engineer. The Employer shall not replace the Engineer with a person against whom the Contractor raises reasonable objection by notice to the Employer, with supporting particulars.” [Emphasis added] (FIDIC 1999, pg.11).

According to the said provision, the Employer has given the right to change the Engineer for any purpose of any kind, subject to only two procedural requirements as follows;

- i. At first, the Employer must notify to the Contractor not later than 42 days before the replacement, the Engineer’s name, address and relevant experience.
- ii. Secondly, the replacement should not be an individual against whom the Contractor has brought up sensible oppositions.

Further, Ndekugri et al. (2007) state that the court has decided recently where the Engineer formerly indicated in the Contract as an organization which is not dependent

of the Employer, there would not be right to substitute the Engineer with the Employer's organization as decided in the Scheldebouw BV v St Fames Homes (Grosvenor Dock) Ltd [2006] EWHC 89.

2.4 CLAIMS IN A CONSTRUCTION CONTRACT

In simple sense a Claim under the Construction Contract can be defined as a request for something due. According to Ashworth (1991), if the structure is completed at the correct time, at the correct price and quality standards, and offers the client with an expected degree of satisfaction, then a project can be construed as successful project. Nevertheless, this is very difficult to be complied with, due to various facts such as the changes to the original scope of Works, unexpected delay events, government interventions and policy changes, neutral events etc.

Where the Original aspects of the project becomes no more valid and the Cost is exceeded and the original Time for Completion should be extended, the Contractor tend to extend their Claims as an attempt to drop back to the original position. Seeley (1997) defines a claim as a Contractor's request to compensate for a loss or expense that he has incurred or for the purpose of avoiding the requirement to pay the liquidated and ascertained damages.

▪ Different types of Claims

- i. Contractual Claims
- ii. Extra Contractual Claims in Common law
- iii. Quantum Meruit Claims
- iv. Ex-gratia Claims
- v. Quasi Contractual Claims
- vi. Counter Claims

The current industry performance displays that the foremost challenges in claims management isn't from the whole management measures, but from the inadequacy of management actions at each phase. The important features contain exactly how to defend an anticipated claim, the way of quantification and presenting with the detailed particulars, together with the process of negotiating effectively with the Employer and the Engineer (Levin, 1998).

As mentioned above under the caption of different types of Claims, can be further explained as follows;

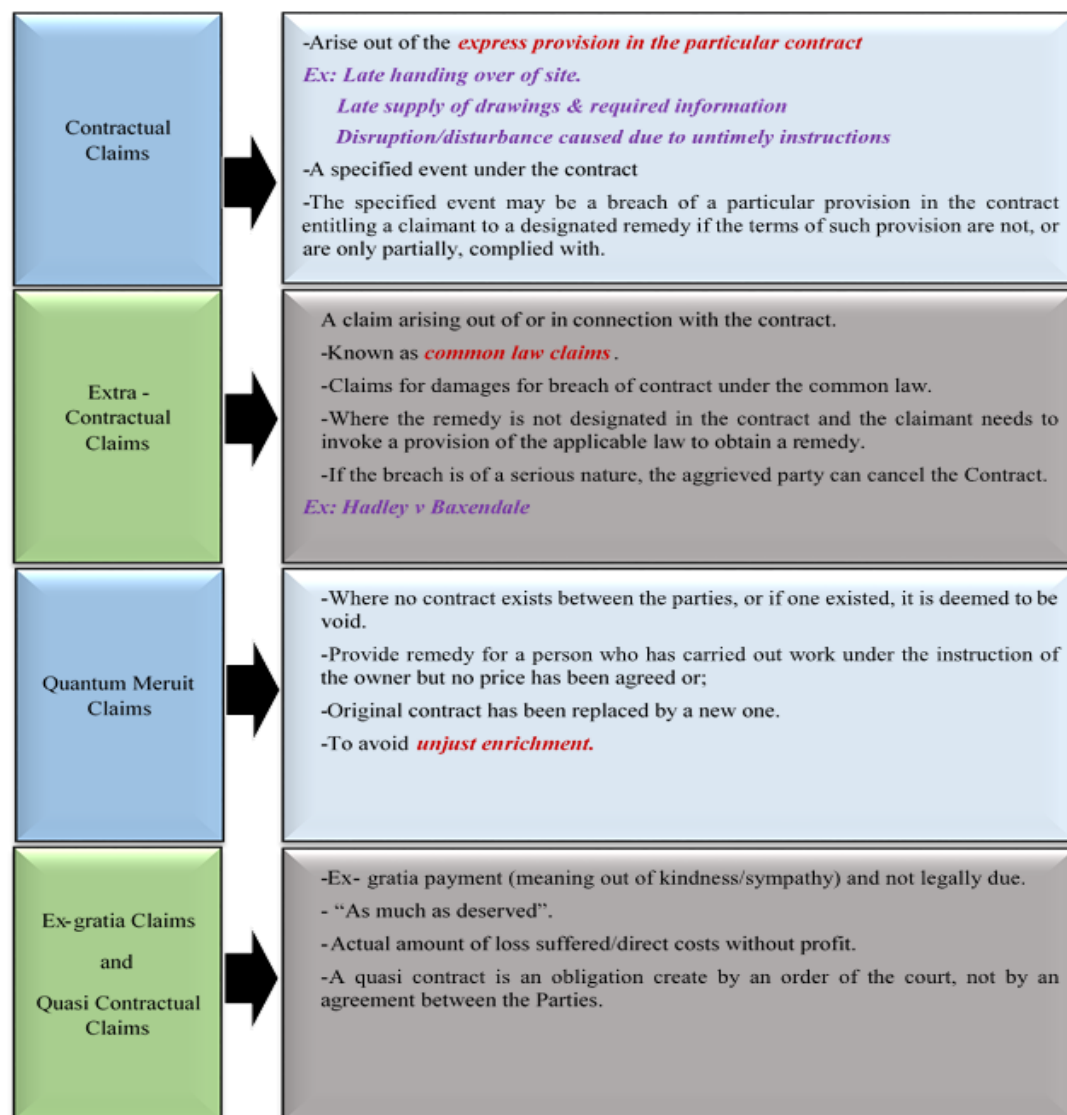


Figure 2- 1: Different types of claims (Levin,1998)

Under the Sub-Clause 20.1 of the Conditions of Contract narrates with the Contractor's Claims establishment of both a process for the purpose of notification and substantiation of the Contractor's claims and the methods of the process of decision making to be undertaken by the Engineer.

Vidogah and Ndekugri (1998) described the reaction of the Engineer on claim heads that are possible to be disputed this particular ranking order: cost of disruption, head

office overheads, interest and finance charges, cost of preparing claims, loss of profit, inflation of costs, and on-site overheads. Hence, it becomes apparent that the Claims management phenomenon shall be adopted in the Construction projects itself for better administration of the same.

The Contractor's Claims process flow chart in a construction Contract based on FIDIC 1999 Red book can be revealed as follows;

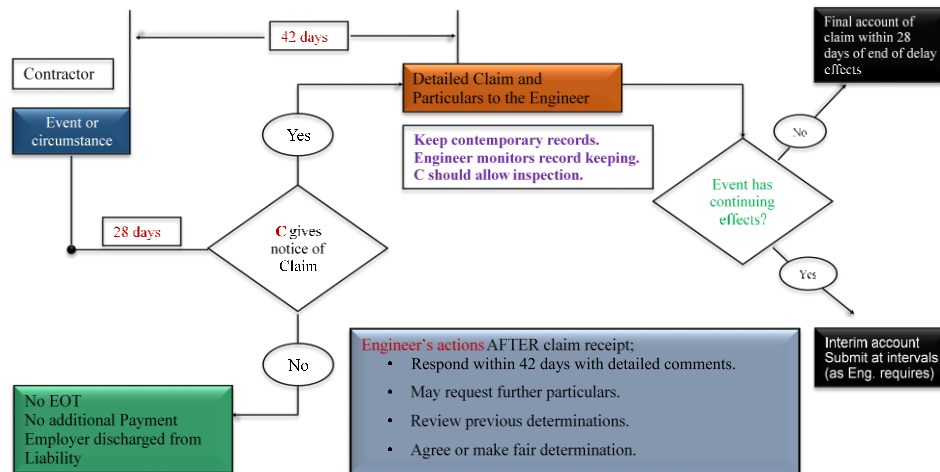


Figure 2- 2: Contractor's Claims Process flowchart (FIDIC 1999)

Above mentioned Figure 2-2 has presented the provisions as stipulated under the Sub-Clause 20.1 of the Conditions of Contract pertaining to the FIDIC 1999 Red Book. The Letter "C" refers to the "Contractor", a party to the contracts governed with the FIDIC 1999 Conditions of Contract. Accordingly, this figure represents the time bars and the responsibilities of the Parties and the Engineer for the Contract in the event of an occurrence of a claimable event [Time/Cost or both] entitled to the Contractor.

Insufficiency of the solutions provided by the preconstruction research has been substantiated by the continuous growth in claims and disputes (Ren, Anumba, Ugwu, 2001). Management of a genuine Claim raised by a Contractor is very important since legitimate Claims are progressed because of the associated costs suffered by the Contractor during execution of the Project (Oyegoke, 2006).

The Figure 2-3 presented below encapsulates the 'Claims Management Process' which is to be followed in terms of respective contracts.

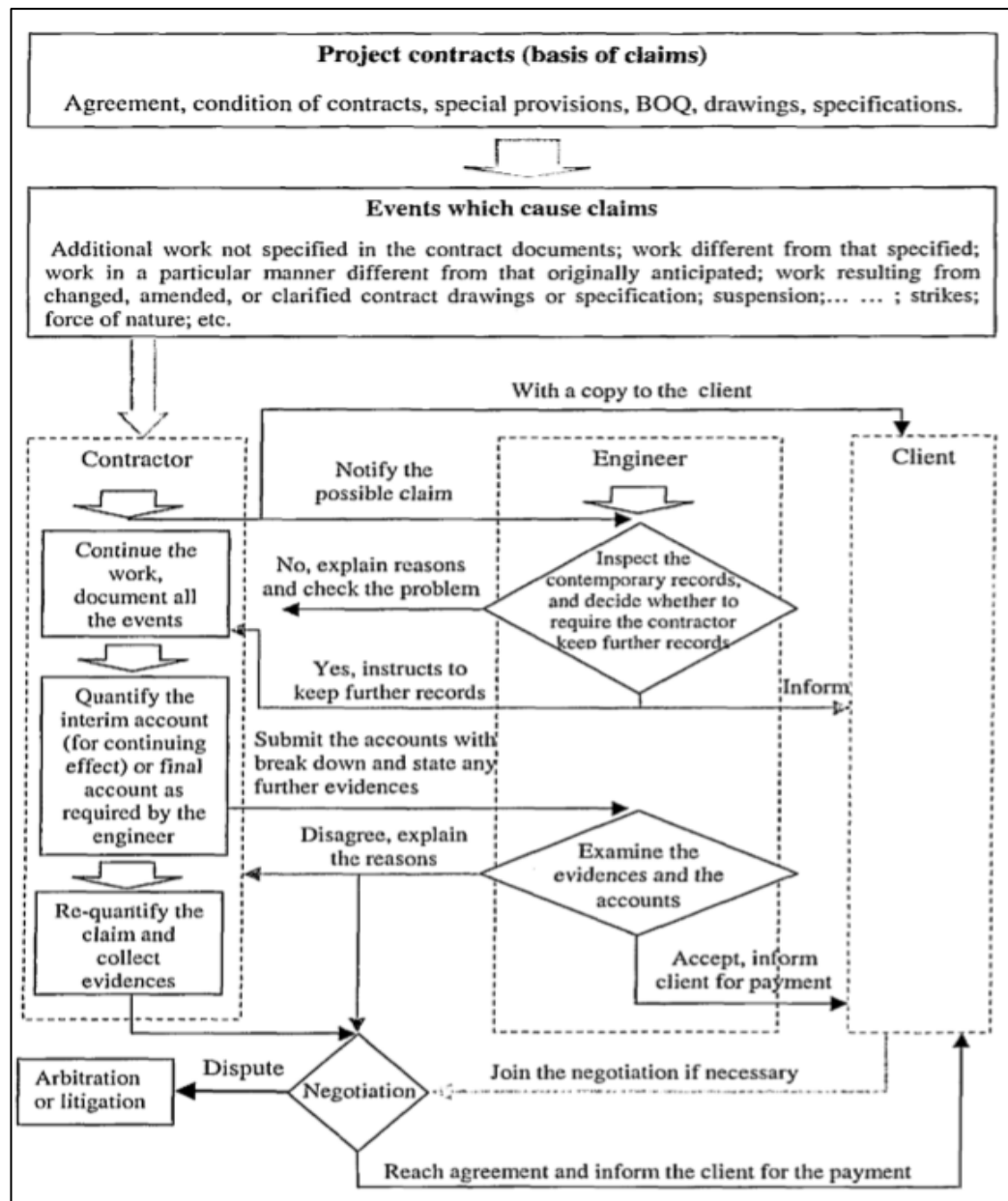


Figure 2- 3: Claims Management Process

[Source: Adopted from Ren, Anumba, Ugwu, (2001)]

Levin (1998) regulates the process of management as:

- (a) recognition and identification of changes or the causes of claims;
- (b) notification to the Engineer and the Employer/Client;
- (c) systematic and accurate documentation;

- (d) analysis of time and cost impacts;
- (e) pricing;
- (f) negotiation;
- (g) dispute resolution and settlement

2.5 ENGINEER'S DETERMINATION UNDER FIDIC 1999 RED BOOK AND DIFFERENT TYPES OF DISPUTES OCCUR IN CONSTRUCTION PROJECTS

As mentioned earlier, over the years, FIDIC has developed standard forms of contract for international project procurement. The Engineer is an Employer's agent regarding some responsibilities and authorities. Therefore, the Contractor may consider any of the Engineer's default in the performance of such obligations as the Employer's default (Ndekugri et al., 2007).

It has been understood that some effort at drive away from the Engineer's independent role is obvious in the FIDIC Red Book (Ndekugri et al, 2007). As said earlier, where the Engineer is appointed with a duty to administer the construction contract and paid by the Employer for his services, the Engineer to act fairly is an important topic to be considered (Samarathunga, 2009).

According to Bunni (1997), the Engineer is sometimes being accused by the Employer asserting that the Engineer has biased towards the Contractor. An Engineer's Determination is not anticipated to be challenged by the Parties in a perfect condition because the alternative dispute resolution mechanisms in the Contract itself wouldn't provide a substitute result. Nevertheless, in a defective condition, while supposing a different result by means of the alternative dispute resolution mechanism, the Engineer's Determination would be challenged (Jayasena et al., 2013).

In relation to the FIDIC Red Book 1999, the Engineer is placed in a position to act for the Employer and is necessarily the agent of the Employer. If the Engineer's role is required to be solely impartial intermediary, then it shall be specified in the Particular

Conditions, and in the FIDIC Red Book 1999 has not stipulated general obligation for the Engineer to perform independently or impartially.

As cited by Tyson, n.d., the key things to note about the Engineer can be mentioned as follows;

- (a) The Engineer is appointed by the Employer.
- (b) The Engineer is paid by the Employer.
- (c) The Engineer is considered to perform for the Employer.
- (d) The Engineer may be one of the Employer's salaried employees.
- (e) The Employer may substitute the Engineer (without providing reasons).
- (f) The Engineer should perform the obligations allocated to him in the Contract.
- (g) If the Engineer decline to accomplish his duties, will be considered as a breach of the Employer's obligation as per the Contract to have selected a suitable individual.
- (h) The Employer may carry out a prerequisite that the Engineer attains precise consent prior to exercise a particular influence.
- (i) When the Engineer performs a specific authority for which the Employer's approval is compulsory, then the Employer shall be deemed to have given approval.

Furthermore, as both the Engineer and the Contractor may have generated relationships by way of working in previous projects in the developed world. Some Employers in developing countries conveyed worries regarding the capability of the Engineer to perform impartially (Bowcock, 1997). If any disagreement occurs among the Employer and the Contractor, the Engineer is obliged to advise the Parties to make an agreement (Jayasena, et al., 2013), therefore the Engineer's performance for acting a great performance to confirm the time, cost and quality objectives are met is having a high degree of reflect (Potts, 2008; Wang & Huang, 2005).

As cited by Jayasena et al., (2013), pursuant to the General Conditions of Contract, the Engineer's Determination is expressly required for the areas/matters given in the following Table 2-1.

Table 2-1: Types of Disputes (Jayasena, Seram & Johnson, 2013)

Category of challenges	Subcategories (Type of Disputes)
<i>Variations and Adjustments</i>	• Engineer's instruction on variation • Fixing of rates in variation • Value engineering • Adjustment for changes in Legislation • Adjustment for the cost of labour, Goods and other inputs to the Works (Escalation)
<i>Commencement and Delays</i>	• Delay works due to Authorities. • Delay caused by Employer, Employer's personnel or Employer's other Contractors. • Delay due to exceptionally adverse climatic conditions • Delay caused by variations • Delay due to unforeseeable shortages in the availability of personnel or Goods. • Prolongations costs • Delay due to third party actions • Delay damages
<i>Incompetence of work</i>	• Delayed drawings or instructions from Engineer • Delayed instructions from Engineer on Fossils • Changes in scope of work • Inadequate soil investigation report
<i>Defects in contract document</i>	• Misinterpretations of contract documents • Errors in contract document • Omissions in contract document.
<i>Quality and performance</i>	• Contractor fails to maintain rate of progress • Rejection of Plant, Material or workmanship • Remedial Work • Testing (If Contractor suffers delay and/or incurs cost from additional testing). • Testing (If failure in the test, Employer issue Taking over Certificate and cover cost for recovery). • Interference with Test on Completion • Failure to serve notices • Failure to adhere to the design

Category of challenges	Sub categories (Type of Disputes)
<i>Site availability</i>	• Delay in giving of possession of Site by the Employer • Lack of assistance to obtain work permits, licenses or approvals by the Employer
<i>Measurement and Evaluation</i>	• Evaluating each item of work to agree or determine the Contract Price • Omissions of any works forms part of the variation
<i>Cease of work</i>	• Suspension of Works by the Contractor • Termination of Work by the Contractor • Termination of Works by the Employer • Suspension of Works by the Engineer
<i>Payment</i>	• Valuation of works in Interim Payment Certificate • Schedule of payments
<i>Employer's Taking Over</i>	• Additional cost/time for Taking Over and/or using a Parts of the Work • Acceleration cost
<i>Defects liability</i>	• Extension of Defect notification period • Failure to Remedy Defects • Contractor to search for the cause of any defect
<i>Miscellaneous</i>	
<i>Employer's Risks</i>	• Consequences of Employer's Risks; war, terrorism etc.
<i>Insurance</i>	• Insurance
<i>Force Majeure</i>	• Consequences of Force Majeure
<i>Unforeseeable physical conditions</i>	• Due to unforeseeable physical conditions on site
<i>Setting Out</i>	• Due to errors in reference points and levels for setting out
<i>Use of Employer's properties</i>	• Use of Employer's Electricity, Water and Gas • Use of Employer's Equipment and Free-Issue Material
<i>Corruptions</i>	• Corruptions
Nominated sub-contractor	• Nominated sub-contractor related

The Sub-Clause 20.1 of the General Conditions of Contract expressly states that the Engineer shall make a response to the Contractor's Claims with approval or disapproval within 42 days after receiving the Claim, hence it also states that if the

Engineer does not respond the Contractor should treat that the Claim is rejected, hence can step in to the next Alternative Dispute Resolution mechanism.

Further to the Contractor's Claims process flow chart, the FIDIC itself stipulates provisions for the Employer's Claims which can be demonstrated as follows;

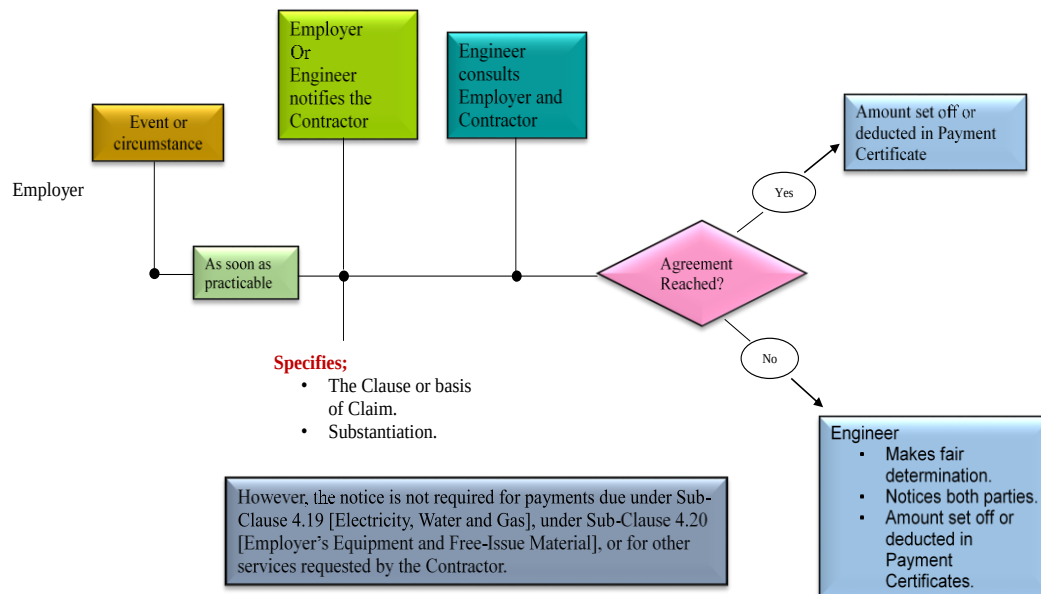


Figure 2- 4: Employer's Claims Process Flow Chart (FIDIC 1999)

2.6 MAKING FAIR DETERMINATIONS/ EXERCISING DISCRETIONS IMPARTIALLY AND THE EMPLOYER'S CONTROL OVER THE ENGINEER

The word 'independent' can be defined easily, nevertheless the word 'impartiality' cannot be defined easily. The Oxford dictionary defines the word 'impartial' in such a way that is 'not favouring one party or one side more than another; unprejudiced; unbiased; fair; just; equitable'.

Nevertheless, Ndekugri et al., (2007) have questioned that whether the alteration to an obligation to create fair determinations as per the new Red Book explains the provisions of the old Red Book, the requirements for the Engineer's performance of impartially on referred matters.

Pursuant to the Sub-Clause 3.1 of the General Conditions of Contract, duties and authorities of the Engineer is given as;

*“The Employer shall appoint the Engineer **who shall carry out the duties assigned to him in the Contract**. The Engineer’s staff shall include suitably qualified engineers and other professionals who are competent to carry out these duties.*

The Engineer shall have no authority to amend the Contract.

The Engineer may exercise the authority attributable to the Engineer as specified in or necessarily to be implied from the Contract. If the Engineer is required to obtain the approval of the Employer before exercising a specified authority, the requirements shall be as stated in the Particular Conditions.” [Emphasis added] (FIDIC 1999, Pg.10).

According to Ndekugri et al., (2007) the Employer is provided permitted restraint as to the degree of control regarding the performance of the Engineer’s role, hence such limitations also have a possibility for the occurrence of delays where establishes the Contractor’s entitlements for the associated time and costs.

2.7 THE LIAISON BETWEEN THE ENGINEER’S DETERMINATION AND OCCURRENCE OF DISPUTES

Due to dissimilarities in opinions amongst the construction project participants, generation of conflicts are unavoidable. If the management of conflicts are not managed well, they rapidly develop into disputes (Cakmak & Cakmak, 2014). There is misperception amongst construction professionals regarding dissimilarities concerning conflict and dispute, and these provisions were used particularly in the construction industry (Acharya, Lee, & Im, 2006). Nevertheless, as said by Fenn, Lowe, & Speck, (1997) conflict and dispute are two different symbolizations.

Due to the high cost involvement and time consumption, industry professional bodies and government have made considerable efforts to deliver the projects, nevertheless disputes are considered as a prevalent feature in the construction industry (Cheung, 2010). Kumaraswamy (1997) pursued to corroborate the causes for the occurrence of the disputes.

Occurrence of disputes are a common aspect in the construction industry (Ashworth, 2002) that can confound the greatest complicated management systems necessitating the synchronized effort of a provisionally gathered task force (Cheung, Tam, Ndekugri, and Harris, 2000). Hence, apart from the human nature, disputes can be occurred due to special circumstances (Cheung, 1999).

In the FIDIC forms of contract, the Engineer plays his role in two distinct disciplines by means as the agent in keeping the Employer's interests and an independent valuer, hence, the disputes are often referred to the Engineer (Jayalath, 2009). Previously, majority of disputes were resolved or finished at the work site itself at an intimate meeting amongst the contracting Parties (Gunaseena , 2010). Nevertheless, Parties seek for alternative dispute resolution mechanisms rather than amicable settlement and the Parties are free to select the suitable dispute resolution method (De Zylva, 2006).

Legal process is the conservative and standard dispute resolution method implemented throughout the world. Nevertheless, it is more exclusive and an onerous method (Gunaseena , 2010). According to Ranjithkumar (2005) there are numerous drawbacks in court procedure like pressure, stubbornness and conventionalism of litigation, constrained extension of claims and compensation as well.

According to Jayasena et al., (2013), frequency of the challenged Engineer's Determinations has been graphically presented as revealed in the Figure 2-5;

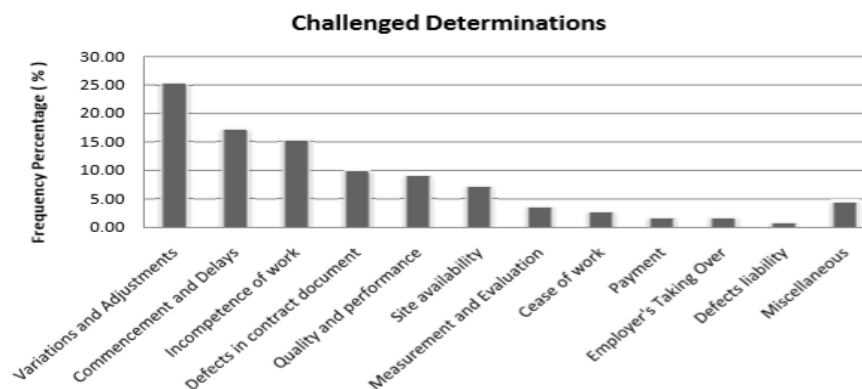


Figure 2- 5:Challenged Determinations

[Source Adopted from Jayasena, Seram, & Johnson, (2013)]

As said earlier, most of the Contractors in the construction industry bear in their mind suspicious that even though the Standard forms specifically requires the Engineer to be impartial since the Employer is paying the Engineer whilst performing under an agreement with the Employer where the Contractor has no relationship (Jayalath, 2009).

Therefore, FIDIC has revisited the said matter and introduced ADR mechanisms into the standard form of Contract.

2.8 DISPUTE RESOLUTION AND THE ENGINEER

Pursuant to the Sub-Clause 20.1 of the Conditions of Contract, when the decision of the Engineer has not been recognized by any Contracting Party, the successive measures have been usually addressed under ‘settlement’ clause (Jayalath, 2009), hence FIDIC provides a broader group of proficiency and expertise for efficient dispute resolution, a DAB including any one or three properly competent persons (Ndekugri et al., 2007). Wherever, the Engineer is presented at the Dispute Adjudication Board, it was anticipated that usually Dispute Adjudication Board (DAB) or Dispute Review Board (DRB) which can be distinguished as an independent board of construction experts will make pre-arbitral decisions (Jayalath, 2009). Nevertheless, in the recent edition of FIDIC 2017 Red Book, pool of alternative dispute resolution methods has been given for the contracting Parties to decide by their own which method to be adopted.

According to the FIDIC 1999 Red Book, the dispute Resolution process is presented as follows;

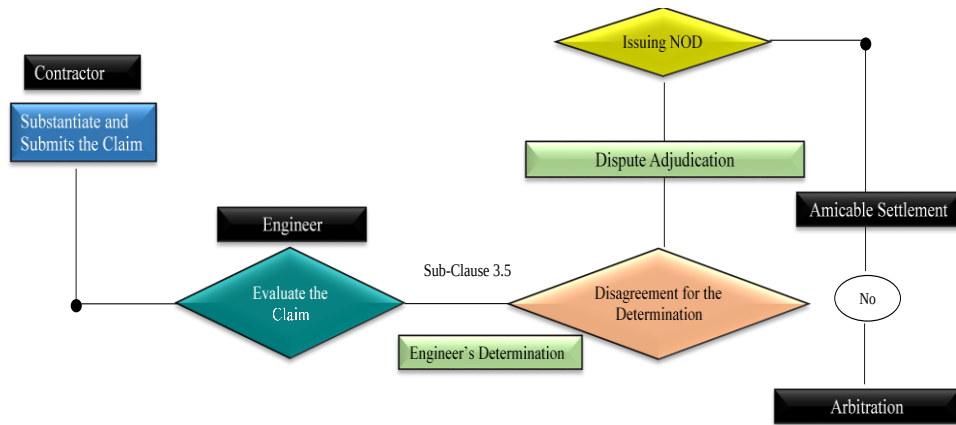


Figure 2- 6: Dispute Resolution Process in FIDIC 1999

2.9 THE ENGINEER AS THE FIRST INSTANCE TRIBUNAL FOR DISPUTES

The dispute is crystalized while the Parties cannot agree for the Engineer's Determination. According to Ndekugri et al. (2007), it is said that the Engineer making a fair determination over the Claims extended by the Parties, performs as a board of initial instance. Nevertheless, pendant the Engineer's determination, no term is existing that halts instant allusion of the matter to the DAB though the objective is possibly that parties have to stay till the Engineer's determination.

There is no uncertainty that the Engineer's role in dispute resolution has been condensed significantly in any explanation of the procedure under the Sub-Clause 3.5. Nevertheless, the Engineer is still engaged in a capability except as an Employer's agent possibly to the dissatisfaction of the opponents of the traditional Engineer's character. As most of the large Contractors from civil law jurisdictions tangled in global construction, this argument may be merely theoretical, since majority of them are now extensible enough to function securely with or without a traditional Engineer (Einbinder, 1994).

2.10 ALTERNATIVE DISPUTE RESOLUTION IN THE CONSTRUCTION INDUSTRY

Cheung (1999) expresses that in the prevalent multifaceted construction industry, resolution of the disputes has become a predominant feature in Project Management. According to Ojiako, Chipulu, Marshall, & Williams, (2017), ensuing concentrated

exertions by a numerous national courts to change from being regulators of litigation and adjudication to promoters of resolution in latest years, Alternative Dispute Resolution (ADR) has risen as a widespread measure to resolution of disputes in both public and private aspects (Storskrubb, 2016).

Moreover, ADR practices are supernumerary non litigation centered measures and procedures to both resolution and avert disputes (Nelson, 2013). Similarly, Spiess and Felding (2008) consider it as a collective conflict stoppage and resolution instrument. ADR procedures and actions may be private or state endorsed.

Through the previous century, ADR has developed as one of the best significant expansion in the law, mentioning as proof that numerous nations have arranged legislative provision and thereby established ADR on a legislative footing (Nelson, 2013).

The truth is that ADR still faces accidental institutional contests whilst numerous countries have equipped legislation to uphold ADR (Ojiako et al., 2017).

Previously, majority of the disputes were resolved at the construction sites by way of an informal meeting among the parties. Resolution of the disputes openly with the Employer in an amicable manner can be distinguished as an advantage for the Contractor (Gunasena, 2010). There is unfriendly aftermath for both parties when using further ways of dispute resolution (De Zylva, 2006). Nevertheless, when the complication of dispute rises, an amicable resolution by informal conversation is not possible. Therefore, parties who are engaged in a dispute should choose the greatest appropriate dispute resolution technique.

Since the ancient days, ADR techniques were not innovative to the Sri Lankan public, though it was not enforced precisely in the current situation. Conferring to the modern business prerequisite as well as global practices, early approaches of disputes resolution adjust their methods (Abeyaratne, 2006).

There are some ADR techniques used and implemented by stakeholders in the present Sri Lankan construction industry. Negotiation, Mediation, Adjudication and

Arbitration can be recognized as broadly undertaken and recognized ADR techniques (De Zylva, 2006).

Majority of ADR techniques are constitutional composed which can be recognized as a private and intimate technique with slight external interference (Gunasena, 2010). Sri Lankan ADR methods are being executed and controlled by several statutes enacted by the Parliament of Sri Lanka (Ekanayake, 1992), such as the arbitration continuing governed by Arbitration Act No.11 of 1995, Mediation Board Act No. 72 of 1988 for mediation practices, Commercial Mediation Center of Sri Lanka Act No. 44 of 2000 as well as Mediation Boards (special kind of disputes) Act No. 21 of 2003.

"Alternative dispute resolution" (ADR) is applied to refer to informal dispute resolution procedures in which the parties obtain the involvement of a professional **third party** who assist them for resolution of their dispute by means of that isn't much formal and frequently more consented than the court procedure. According to Cheung (1999), binding spectrum of the Alternative Dispute Resolution Methods can be given as follows;

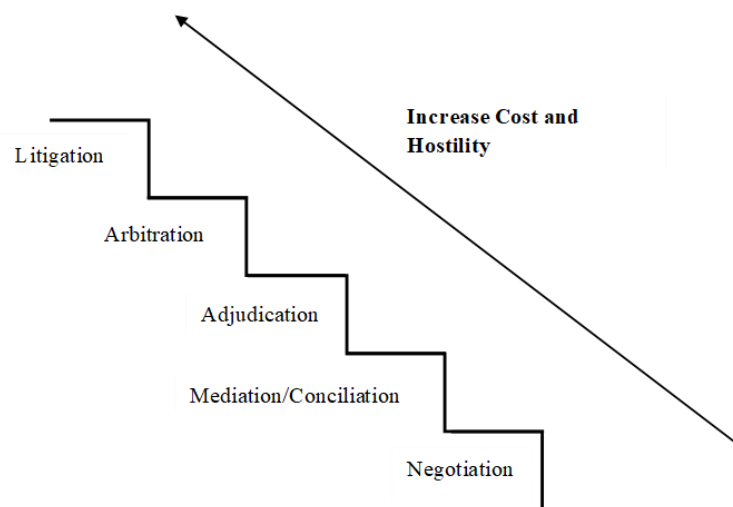


Figure 2- 7: Binding Spectrum of the ADR Methods

Wimalachandra (2007) defined ADR as any form or procedure by which parties able to resolve their disputes rather court procedure, by way of a formal or informal approach. According to Cheung (1999), critical attributes of the ADR methods can be identified as follows;

- i. The duration of the proceedings
- ii. The cost involved
- iii. Preservation of relationship
- iv. Flexibility of the proceeding
- v. Confidentiality of the process
- vi. Enforceability of the decision/ settlement
- vii. Privacy of the proceeding
- viii. Obtaining fairness
- ix. Bindingness of the decision/ settlement
- x. The parties' ability to control over the proceeding
- xi. The width of remedy
- xii. Obtaining creative remedies

nevertheless, the FIDIC 1999 Red Book facilitates the Parties to refer the disputes to Dispute Adjudication Board and Arbitration to resolve the same through ADR methods. Therefore, these methods can be explained as follows;

2.10.1 Dispute Adjudication

Adjudication generally denotes to procedures of governing that contain an impartial third party with the expert to regulate an obligatory resolution over several forms of judgment. It is domineering to deliver maximum value and to minimize all disruptions, damages and disturbances that are being consequent by the unpleasant disputes (Besaiso, Fenn, & Emsley, 2015).

FIDIC has express provisions for a standing DAB/DB which can be established at the original phase of the construction project. Therefore, Dispute Boards (DBs) are possible to covenant with disputes rapidly as they ascend with prior knowledge gained by regular site visits. Generally, DB's act within time constraints. Nevertheless, in utmost circumstances this is counterpoise by the benefit of a decision being delivered promptly (Jayalath, 2009).

According to the FIDIC 1999 Red Book, the Dispute Adjudication Board shall deliver the decision within 84 days upon the receipt of the Referral/ Statement of Claim. The Parties must have a duty to honour and adhere to the adjudicator's decision pendant

ultimate resolution of the same dispute by way of agreement/ amicable settlement or arbitration (Ndekugri & Russel, 2006). Further, each Party preserves the authority to attribute the alleged dispute to the court.

According to the Latham Report (1994), the Dispute adjudication procedure has been recognized as a mechanism which smoothen the cash flows in construction projects, hence consequently expand the general behaviour of the construction industry. The policy adopted in the adjudication procedure is ‘pay now argue later’ (Ndekugri & Russel, 2006).

Rather than ad-hoc or standing Adjudication, some of the countries are executing ‘statutory adjudication’ which is imposed by the statutes which is not prevailing in Sri Lanka. The importance of the bindingness of adjudication decisions was protected by the decision of Fenice Investments Inc v. Jerram Falkus Construction Ltd. Adjudication guidelines which deliver for concealment usually offer that the entire hearing is intimate with a slight exclusion for the resolutions of enforcement measures (Jinadu, 2006). Adjudication decisions are “conclusive” in the logic that the same dispute cannot be carried in a second adjudication referral (Ndekugri & Russel, 2006).

Once a dispute does arise, it is provided primary consideration and addressed immediately where the standing DB/DAB is appointed at the early phase of the Project. Hence, due to the familiarity with the project, facts are better understood by everyone. Nevertheless, DBs are not faultless in all salutations when equated with arbitration (Jayalath, 2009).

It should be observed that decision of the adjudicators couldn’t be re-examined in later arbitration or court proceedings, nevertheless in the decision of the Jim Ennis Construction Ltd V. Premier Asphalt Ltd, the court established that a decision of adjudicators can be reviewed/ opened up by way of arbitration or litigation in future proceedings in order to compensate with the sum remunerated pursuant to decision of the adjudicators (Marshall, 2012).

Further benefits can be understood as the occupied relations are not as much of damaged and site-level accompanying can endure. Even if the DB decision is contractually ‘non-binding’ it does not seem to spoil the effectiveness of the decision.

The dispute adjudication procedure in a construction dispute can be briefly expressed as follows;

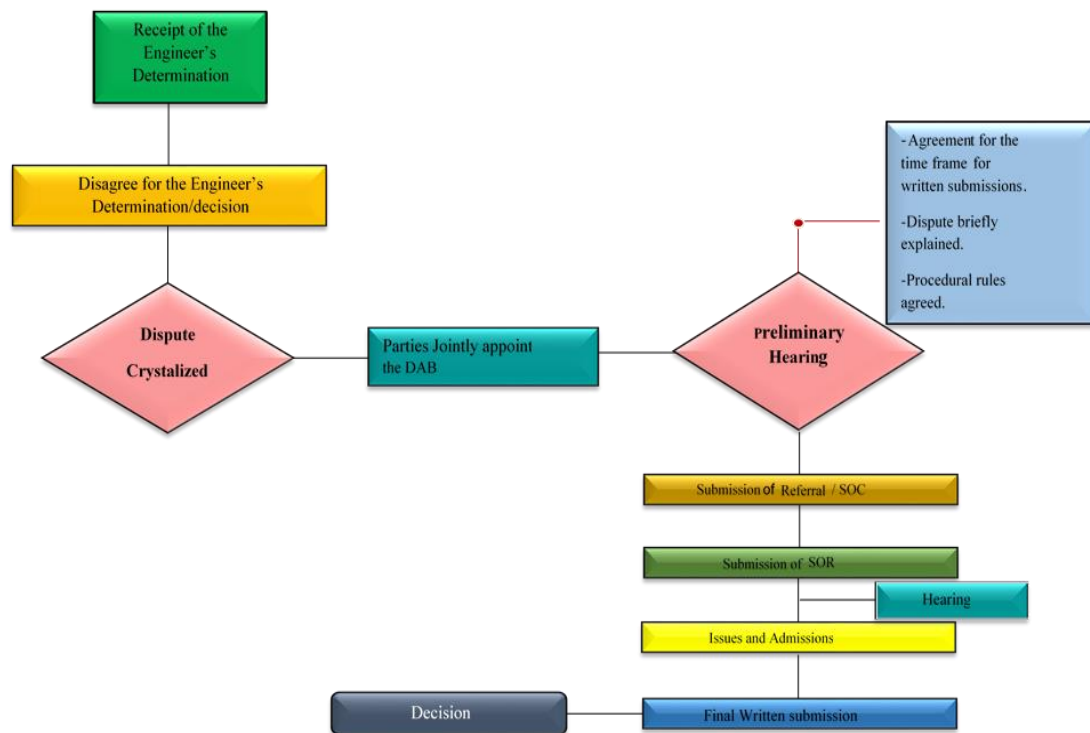


Figure 2- 8: Dispute Adjudication Procedure in a construction dispute

▪ ***Circumstances where a decision may not be enforceable***

As said earlier, the Dispute Adjudication decisions are final and binding, nevertheless those decisions still be confronted under several situations such as at the implementation hearing (Marshall, 2012).

According to Coulson (2007), the major surroundings for setting aside the adjudication decision include the following;

- a) The adjudicator did not have the jurisdiction to make the decision.
- b) The adjudicator acted in breach of the requirements of natural justice/impartiality/fairness.
- c) The adjudicator acted in breach of the applicable procedural rules, thereby going outside his jurisdiction.
- d) The adjudicator either acted in bad faith or was incompetent to deal with the dispute, as he lacked the necessary technical understanding.

- e) Where the adjudicator had made a “clerical” error or “slip” in his award.
- f) The adjudicator decided the wrong question and had thus exceeded his jurisdiction.
- g) There was no construction contract within the requirements of the Construction Act or Scheme and thus the adjudicator did not have the requisite jurisdiction.
- h) There was no “dispute” at the commencement of the adjudication referral and as such no dispute had “crystallized” for the purpose of the referral.
- i) The referring party/claimant/payee is insolvent and would probably be unable to repay the sum of the adjudication decision, payable by the responding party/defendant/payer.

Where the traditional court proceedings and arbitration are adopted an ‘adversarial’ approach, in Dispute adjudication has adopted an ‘inquisitorial’ approach, hence it becomes apparent that the Parties have given/offered a flexible environment to reach up to an agreement.

2.10.2 Arbitration

FIDIC does not inspire parties to move into the litigation. Courts occasionally return disputants back home when it does not discover the method of settlement (Jayalath, 2009). Where the Parties failing to resolve the disputes by Adjudication/ DAB, arbitration provides final resolution. Arbitration is a consensual procedure implemented in an official way whereby a dispute amongst two or more personnel is finally determined by the decision of arbitration which is obligatory upon the parties and enforceable in law.

Benefits of the construction arbitration can be given as follows;

- Flexibility
- Economical
- Expeditious
- Confidential
- Freedom of choice of Arbitrator/s
- Finality

- Standalone contract

Procedure for the Arbitration under FIDIC 1999 Red Book can be presented as follows;

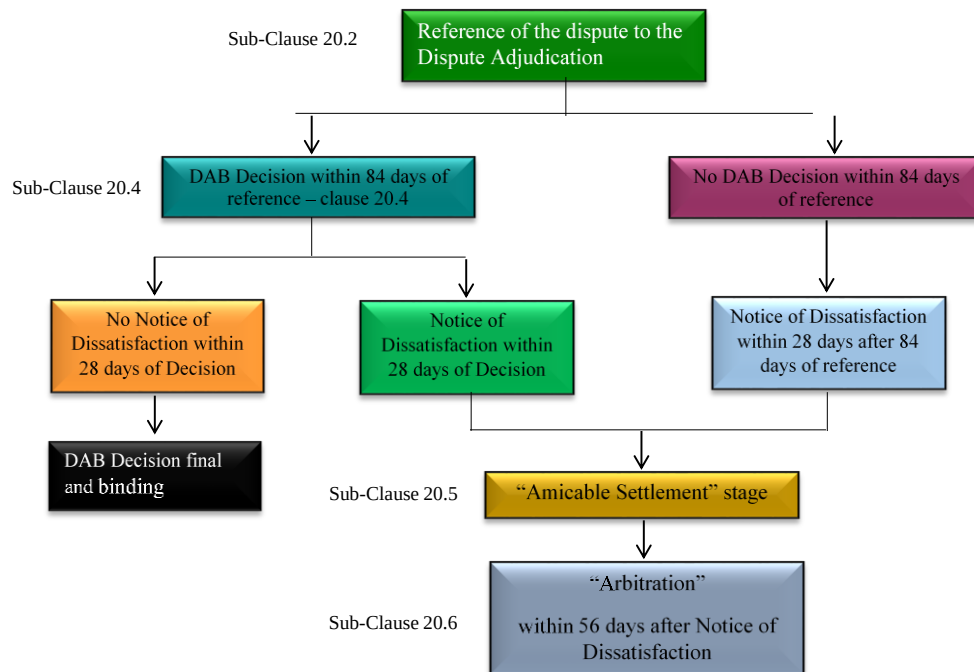


Figure 2- 9: Procedure for the Arbitration under FIDIC 1999 Red Book

Arbitration and adjudication are related in terms of their esteem. They equally pursue to substantiate the contractual rights, duties and obligations of the parties. Both the arbitrator and the adjudicator have to in standard performance in a way that obeys with the thought of justice (Perera , 2009).

Arbitration is a private procedure in dispute resolution which can be chosen by the parties as an efficient manner of resolution of the disputes without pursuing the same by way of a court procedure. Arbitration has become an established method of determining commercial disputes, particularly in the context of international commercial transactions. If the parties have the court procedure as the only method of resolving disputes, the imperfect capability of the Court will impact the whole process coming to a cessation (Perera , 2009).

The Process of Arbitration can be presented as follows;

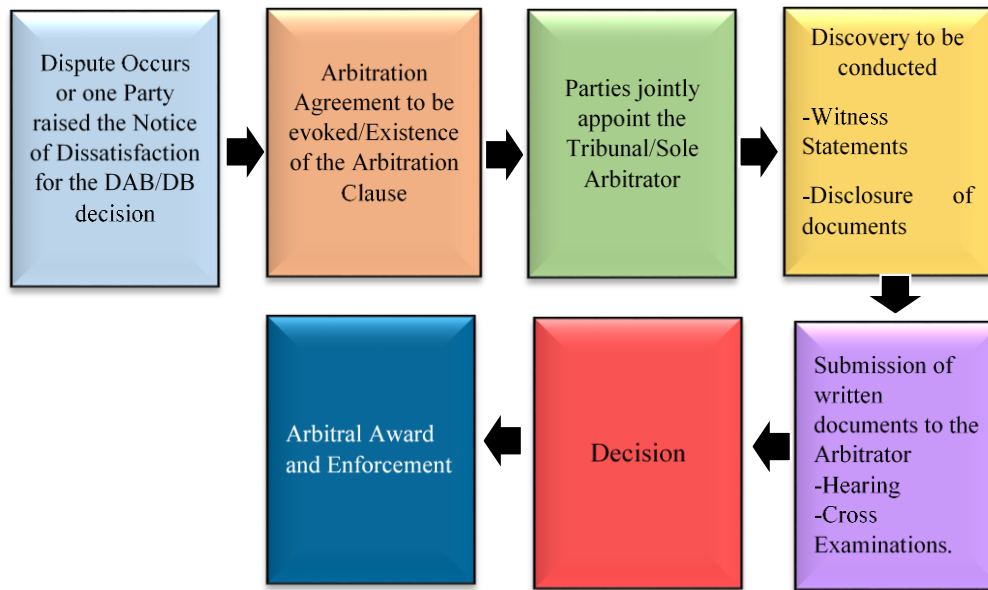


Figure 2- 10:Process of Arbitration

2.11 THEORETICAL FRAMEWORK

As cited by Kumar (2011), the purpose of the theoretical framework is to give a graphical representation to the research problem in a research study. The basis of the theoretical framework is the literature review and it provides a direction to the research and data analysis. Accordingly, in this research the theoretical framework is adopted to demonstrate the links connecting the literature review findings to proceed this research study. The Theoretical Framework is enclosed in the figure captioned as “Figure 2-12- Theoretical Framework”.

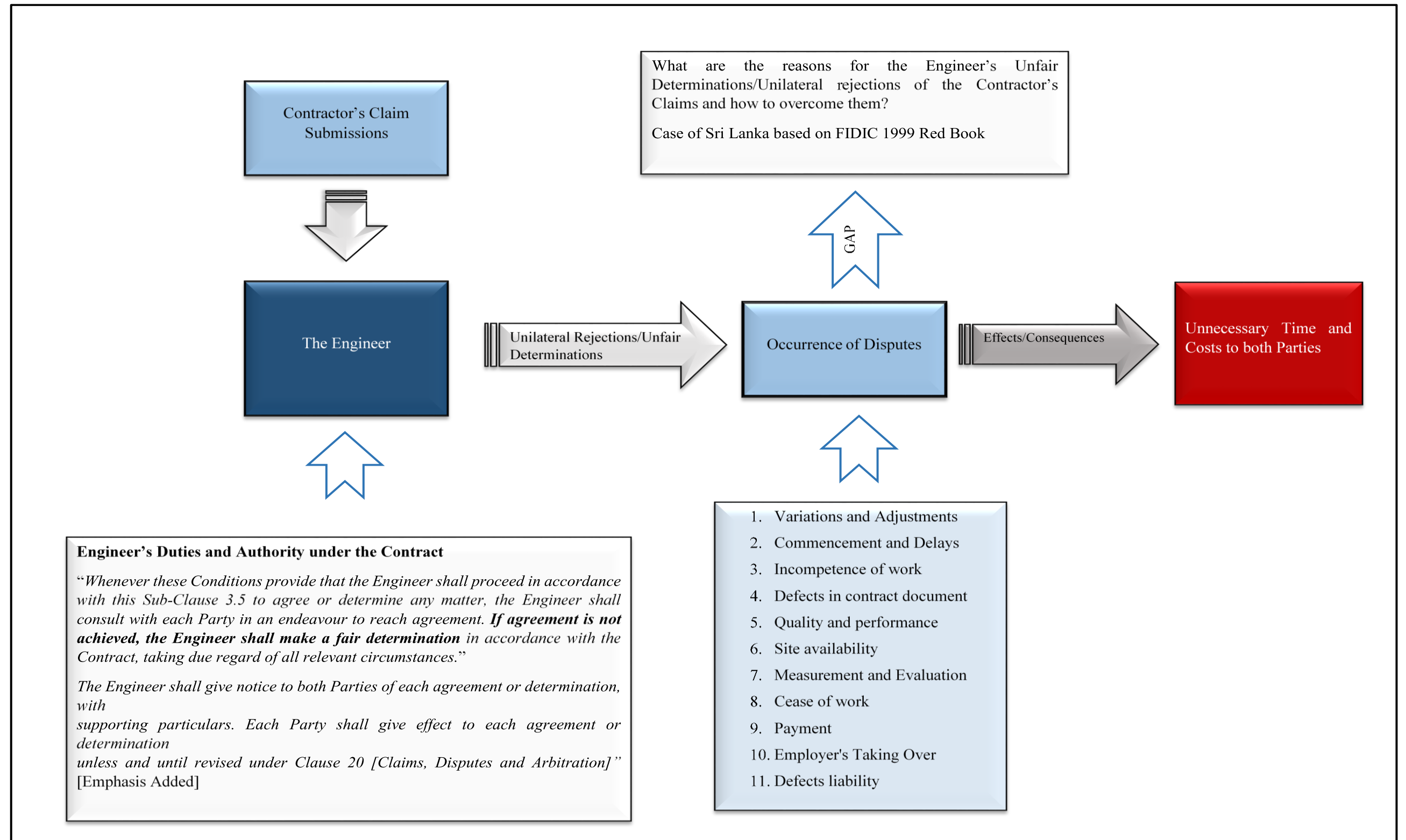


Figure 2- 11:Theoretical Framework

2.12 SUMMARY

Throughout the Chapter two of the research, aimed to discuss about the Engineer's role in the contracts which are governed by the Conditions of Contracts pertaining to FIDIC 1999 Red Book, different types of claims, different types of disputes and ADR methods. Accordingly, based on the literature findings, a theoretical Framework has presented which demonstrates the research gap which has rarely been addressed the reasons for the aforesaid Engineer's unfair determinations and/unilateral rejections of the Contractor's Claims and possible solutions to overcome these Engineer's unfair Determinations.

3.0 RESEARCH METHODOLOGY

3.1 INTRODUCTION

Throughout the Chapter two of this research study, aimed to discuss about the overview of the disputes frequently generate in the construction industry, causes of the disputes, the background aspects of the Engineer's Determination for the disputes raised by the contracting parties and the alternative dispute resolution mechanisms prevailing in the construction industry and the involvement of these dispute resolution mechanisms for the settlement of the said disputes. Accordingly, the purpose of this particular chapter is to distinguish the pathway of accomplishing the aim and objectives of this research under a methodological approach. Hence, the research approach, research methods and data analysis techniques associated to this study will be discussed with the progress of this chapter.

3.2 RESEARCH DESIGN

The term 'Research Design' has been construed as a blend of research philosophy, research approach, research strategies, choices, time horizons and techniques (Saunders, Lewis and Thornhill, 2009). Further, it has defined that a plan for touching from the research problem to deduction could be simply distinct as research design. According to above authors, all these paradigms must be complementary with each other in order to achievement of a successful final output from the research.

3.3 RESEARCH PHILOSOPHY

In a laymen's perspective, a research philosophy can be construed as the growth of awareness in a specific arena which comprised significant assumptions that will support the research strategy and methods of the strategy. According to Dyer (2003), there are three ways of thinking about the research philosophy namely epistemology, ontology and axiology. Epistemology is construed as the branch of philosophy which emphasizes on the nature of knowledge, the scope of the knowledge and the criteria for justification of knowledge. Additionally, ontology is apprehensive with the nature of authenticity whereas; axiology is the philosophical study of value.

The aim of this research study is to develop a framework to minimize the Engineer's unfair determinations whilst analyzing the reasons behind the Engineer's unfair determinations and/or unilateral rejections of the Contractor's claim submissions and suggesting solutions for prevention of the unnecessary time and costs incurred for the final settlement of the disputes due to the said matter in terms of ADR methods. Since the research was conducted among people, epistemology of this research is interpretivism which attempts an in-depth examination through qualitative perspective. Further, ontology of the research is subjectivism where the outcomes of the research will be upraised on the sensitivities and resulting attitudes of human actions. As a final point, the research has to be occupied with a systematic and scientific analysis of composed data which efforts the researcher to be sovereign with the topic of the research. Thus, the research is value-laden in the viewpoint of axiology.

3.4 RESEARCH APPROACH

After the establishment of the Research philosophy, the next step is to select the best Research approach particular to this research study. According to Kothari (2004), there are two fundamental Research approaches available namely; qualitative approach and quantitative approach. Nevertheless, Creswell (2007) highlights that there are three types of research approaches namely; quantitative, qualitative and mixed approach. According to Smith, Lowe, & Thorpe (2002), Research approach is construed as the method that research undertakings are prearranged to achieve the research aim. Hence, the research approach should be selected established on the form of collected data and the applicability of their features to achieve the ultimate intention to be attained from the findings of the research.

As regards of the aim of this research study, the researcher's intention has set to collect the opinions of the industry participants and the facts, hence the study would be based on subjective data. Accordingly, the researcher has implemented a qualitative approach. In order to achieve the third objective of the research, a case study was carried out since it would be appropriate for the researcher to achieve the objectives. Because, it is a well-known fact that the case studies facilitate for the researchers to identify essential factors, processes and relationships. Thus, the selected techniques

have been determined as appropriate for the better achievement of the objectives of the research.

3.5 RESEARCH STRATEGIES

Research strategies are depending on the research approach, collected data and their expected outcomes. There are six number of fundamental research strategies which can be utilized to a research established on the selected approach namely; experiment, survey, case study, action research, preliminary interviews, expert interviews, observations and grounded theory (Saunders et al., 2009). Among these methods, the researcher has selected to implement ‘case study’ and ‘Survey strategy’. According to the scope of the research area, the researcher has intended to carry out case study with respect to four cases and Expert Interviews with five experts who are possessing experience as the Engineer for the Contract and involved in the ADR process. According to Feagin et al. (as cited in Tellis, 1997), case study is the most perfect strategy for an exploratory, in depth investigation. Accordingly, it has been decided to conduct analysis based on four case studies.

3.6 RESEARCH TECHNIQUES

3.6.1 Data Collection Techniques

There are number of data collection methods available under the caption of qualitative research approach, hence the most appropriate technique should be selected with due regards to the objectives of the research study. Accordingly, a document Review process was conducted to collect data though four cases in order to achieve the objectives pertaining to the case study. Selection of the cases were done based on the accessibility of the documents and which meets the requirements as stipulated above which fulfils the contracts based on FIDIC Red Book and comprising of the settlement of disputes by way of ADR methods where these disputes have been occurred due to the Engineer’s unfair determinations and/or unilateral rejections of the Contractor’s claims. Furthermore, Expert Interviews were selected for the collection of the opinions in face to face manner enabling the researcher to grab the implied verbal expressional and clarifying the doubts while conducting interviews in order to find out possible reasons for the Engineer’s unfair determinations and/or unilateral rejections of the

Contractor's claim submissions. Thus, the Experts were selected based on the 'purposive sampling' method since these experts are mandatory to possess the experience as the Engineer for the Contract and involved in ADR methods.

Nevertheless, according to Creswell (2007), interviews are the most popular and viable data collection technique under qualitative approach. The interview guideline was developed based on the theories obtained from the literature findings and based on a suppositious scenario. The researcher has understood that the facts to be collected are based on the experience of the experts, nevertheless there may be a reluctance to reveal the reality of the situation. The Researcher has conducted a prior discussion to verify the research gap which is related to the matter of the Engineer's unfair determinations and/or unilateral rejections of the Contractor's claim submissions which have been repealed at the ADR methods.

★ Documentation Review

A Document Review Process was used in order to grab the data with respect to the selected four cases. Since these cases were belonged to completed projects, the most suitable data collection method was the document review process.

★ Expert Interviews

In order to validate the results obtained though the case study and to find out the reasons behind the aforesaid Engineer's unfair determinations and/or unilateral rejections of the Contractor's claims, these Expert Interviews were conducted. Accordingly, five experts were designated based on the 'purposive sampling' method since the experts had to imperatively possess experience as the Engineer for the Contract and involved the dispute resolution by way of ADR methods. Accordingly, the expert interviews were done as semi structured interviews in order to have a better outcome.

3.6.2 Data Analysis Techniques

As said earlier, Case Study was done by a Document Review Process and Expert interviews were also conducted to grab the data. A cross case analysis was done for the above mentioned four cases. Since a qualitative research approach was

implemented, the analysis of the collected data has been done with a vital attention. Hsieh and Shannon (2005) and Westbrook (1994) shown that content analysis is the extensively accompanied technique in qualitative data analysis which will produce logical and reliable conclusions from the available data. The main focus of this research study was to analyze the Engineer's unfair determinations and/or unilateral rejections of the Contractor's claims which have been repealed by the decisions/awards of the ADR methods and to suggest solutions for prevention of the unnecessary time and costs incurred by the ADR methods. Owing to that, manual content analysis was used for the research to analyse the collected data.

3.7 RESEARCH PROCESS

The Researcher has enclosed herewith the Research Process in a graphical manner as presented in the Following Figure 3-1. Accordingly, the Researcher intends to present the Researcher's intention/ strategies which shall be implemented in terms of achieving the objectives of the research.

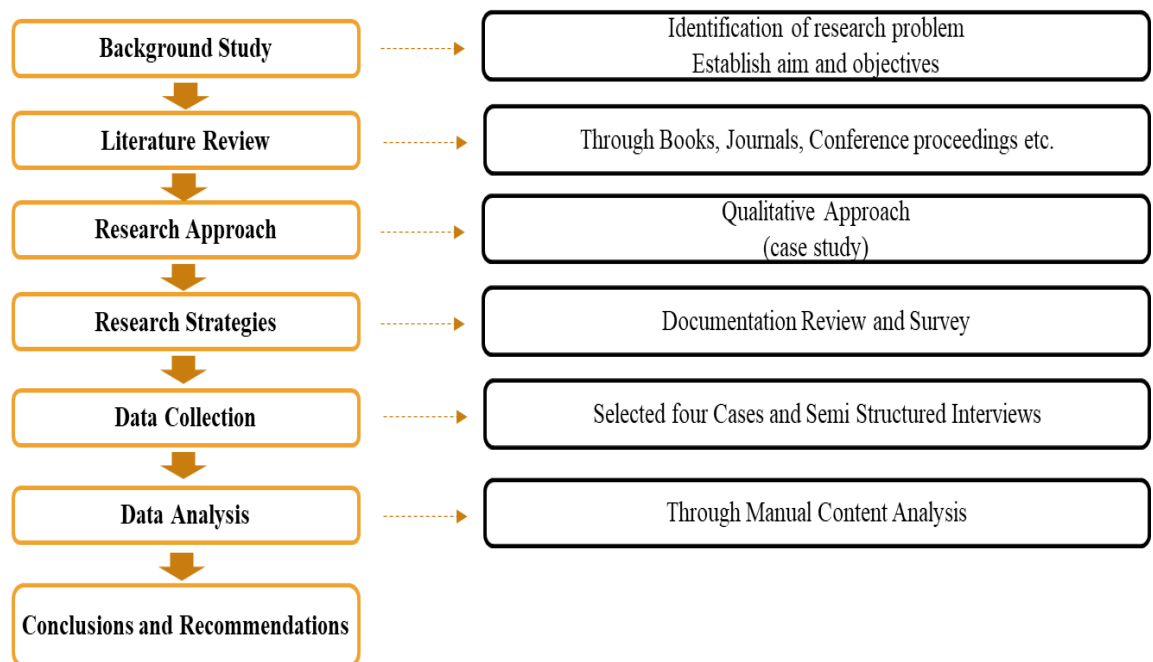


Figure 3- 1: Research Process

3.8 SUMMARY

This chapter described and justified the qualitative research approach which was adopted to support this research. A case study approach was selected as an ideal method for the collection of data to identify the instances of occurring disputes due to the Engineer's unfair determinations. Furthermore, expert interviews were conducted in order to achieve the objectives 'to identify the reasons for the Engineer's unfair determinations' and 'to suggest the solutions to overcome the Engineer's unfair determinations and to develop a Framework'. Due to the constraints of the accessibility for the documents and the availability of time, four cases were selected for the collection of data and five experts were selected for the expert interviews. Data analysis was conducted based on manual content analysis which was identified as the most suitable technique for this research.

4.0 RESEARCH FINDINGS AND ANALYSIS

4.1 INTRODUCTION

Throughout the Chapter three of the Research, it was discussed the methodology which had been used in terms of this Research for the purpose of achieving the objectives of the Research. Based on the aforesaid Research methodology, data collection, analysis and the discussion has been completed. Accordingly, this chapter presents the findings and analysis of data which were composed over the Documentation Review and Expert Interviews. Hence, a Documentation Review has been undertaken in order to find out the particulars of each case and the reasons for the reference to the cases to the Alternative Dispute Resolution methods and their effects and/or consequences in terms of additional cost and time escalations. Therefore, these data were analyzed through the ‘Manual Content Analysis’ which has been explained in the previous chapters.

4.2 CASE STUDY PROCESS

According to the Sri Lankan perspective, majority of the claims are submitted by the contractors. Therefore, it is observed that the Employer’s claims are rarely submitted to the Engineer. Hence, it could be hardly found such cases referred to the Alternative Dispute Resolution methods as provided in the contracts. Even though, some of the disputes referred to the Alternative Dispute Resolution Methods which are not based on the claim submissions, the selected cases were based on the contractor’s claims which have been initially submitted to the Engineer and later referred to the Alternative Dispute Resolution Methods whereas the final decision of the ADR methods have justified and/or accepted the contractor’s entitlements pertaining to the particular matters. Accordingly, these four cases were selected both under the building construction and civil engineering constructions.

4.3 INTRODUCTION TO THE CASES

The study focused on four number of cases where the contractor of each project has submitted their claims pertaining to the particular matters to the Engineer and have been rejected by the Engineer, thus later have been referred to the Alternative Dispute

Resolution Methods. Accordingly, it is pertinent to be noted that the cases which considered for the data collection and analysis were belonged to the completed Projects. It is important to be noted that these cases were government Projects. Because, it was understood that in Private Projects, mostly the disputes were not escalated up to the ADR procedure and preferred the negotiations. Hence, for the research purpose it was hardly found the Private Projects which are possessing the dispute that have been finally settled through the ADR methods.

These cases and/or the Projects have been named as Case A, Case B, Case C and Case D for the purpose of facilitating for the data collection, analysis and discussion of the outcomes. Therefore, the following paragraphs explain the outcomes of each case.

Accordingly, the following Table 4-1 illustrates a brief introduction of each case;

Table 4- 1: Brief Introduction of the Cases

Description	Case A	Case B	Case C	Case D
Project type	Road Construction Project	Building Project	Irrigation Project	Road Construction Project
Accepted Contract Price	Rs. 2,781,198,696.56	Rs. 2,016,000,000.00	Rs. 844,907,205.60	Rs. 2,201,476,829.52
Location	Badulla	Colombo	Galle	Monaragala
Duration	30 Months	27 Months	900 days	730 days
Form of Contract	FIDIC 1999 Red Book	FIDIC 1999 Red Book	FIDIC 2010 Harmonized Book	FIDIC 2010 Harmonized Book
Payment Method	Measure & Pay	Lump Sum	Measure & Pay	Measure & Pay

For the purpose of data collection of each case, Document Review Method has been undertaken. With the purpose of uphold the confidentiality of the Parties of each case, it was decided not to enclose the project specific details such as Project Name, Parties of the Contract etc. Thus, the following paragraphs illustrate an overview of each case and their particulars pertaining to the matters. Two of them were based on FIDIC 1999 Red Book and other two cases were based on its subsequent versions which have been

drafted by the funding agencies. Therefore, two cases were based on FIDIC 2010 Harmonized Book which has been derived from FIDIC 1999 Red Book. The most important fact of selecting these cases were the instances where the Engineer has issued an unfair Determination and/or rejected the Contractor's claims.

4.4 OVERVIEW OF THE CASES

Case A

The Project selected which is captioned as "Case A" was a Road Construction Project in Badulla District which was initiated for rehabilitation and improvement of 20 km road. The Employer of the Project was a government entity and the Engineer was appointed by the Employer of the Project. Upon notification by the Engineer, the Contractor has commenced the project at the end of the year 2016. The Contract has stipulated the provisions for Standing Dispute Adjudication Board. Hence, the Parties have jointly appointed the aforesaid Standing Dispute Adjudication Board at the initial stage of the Project. Thus, the said DAB comprised three members who are possessing different capacities of excellence in various construction projects.

As per the details enclosed in the written submissions of the DAB Process which have been referred in terms of a Document Review of the instant case, the following details could be obtained;

The Contractor has made the following claim submissions to the Engineer which have been made in a chronological order;

Table 4- 2: Contractor's Submissions pertaining to the Case A

Claim Reference	Particulars of the Events	Extension of the Time for Completion	Additional costs
Detail Particulars of Extension of Time for Completion Claim-Claim 01 [Interim 01]	Changes to the Original BOQ quantities	540 Working days	Submitted separately after receiving the DAB decision

Claim Reference	Particulars of the Events	Extension of the Time for Completion	Additional costs
Detail Particulars of Extension of Time for Completion Claim-Claim 01 [Interim 02]	Changes to the Original BOQ quantities	711 Working days	Submitted separately after receiving the DAB decision
Detail Particulars of Extension of Time for Completion Claim-Claim 01 [Interim 03]	Changes to the Original BOQ quantities	455 Working days	Submitted separately after receiving the DAB decision
Detail Particulars of Extension of Time for Completion and Associated Cost Claim-Claim 02	- Delays and disruptions due to bomb blasting dated 21 April 2019. - Delays and disruptions due to bomb blasting dated 21 April 2019.	65 days	Rs. 71,211,623.10
Detail Particulars of Extension of Time for Completion and Associated Cost Claim-Claim 03 [Interim 01]	Effect of Prevailing Situation-COVID 19 Pandemic	56 days	Rs. 123,389,478.28
Detail Particulars of Cost Claim-Claim 04	Associated Costs pertaining to the Extension of the Time for Completion due to the changes to the quantities	468 Working days	Rs.920,422,341.20

Claim Reference	Particulars of the Events	Extension of the Time for Completion	Additional costs
Detail Particulars of Cost Claim- Claim 05	Associated Costs pertaining to the Extension of the Time for Completion due to the changes to the quantities	455 Working days	Rs. 726,417,295.29

The Contractor has submitted above mentioned claims to the Engineer.

Dispute No.01: It was observed that the “Claim 01 [Interim 01]” and “Claim 01 [Interim 02]” were completely rejected by the Engineer upon submission of the Engineer’s justifications whilst rejecting the Contractor’s entitlements through their several correspondences. Nevertheless, the Engineer has granted an extension of the Time for Completion of 49 days upon various consecutive correspondences submitted by the Contractor. Therefore, the Contractor has referred the matter in a consolidated submission to the Honourable Dispute Resolution Board seeking a decision.

Accordingly, the documents witnessed the Contractor’s position that;

- ★ The Contractor’s Request from the DAB to decide that;
 - The Contractor is entitled for 711 days of Extension of Time for Completion
 - The Contractor is entitled for associated costs
 - Any other relief

Accordingly, the documents witnessed the Employer’s position that;

- ★ The Employer’s Request from the DAB to decide that;
 - The Contractor is not entitled for any additional Time or additional cost other than 49 days of extension of the Time for Completion already granted.

Considering the facts, details and particulars of the dispute, the DAB has decided that;

- ★ The Contractor is entitled for an EOT of **468 days** which is an interim grant whereas the actual BOQ quantities were likely to be exceeded further.
- ★ The Contractor is entitled for the associated costs.

Dispute No.02: It was observed that the detail particulars of Claim 02 were submitted by the Contractor within 42 days complying with the provisions stipulated in the Contract. Accordingly, the Engineer has not responded and/or provided their Determination within the time frame of 42 days period which shall be counted upon the date of the Contractor's submission. Accordingly, the Contractor has extended through their written submissions that the Contractor has perceived that the Contractor's claim is rejected and has decided to refer the same for the Honourable Dispute Adjudication Board seeking a decision.

Accordingly, the documents witnessed the Contractor's position that;

- ★ The Contractor's Request from the DAB to decide that;
 - The Contractor is entitled for 65 days Extension of Time for Completion.
 - The Contractor is entitled for associated cost of Rs. 71,211,623.10.
 - The Contractor is entitled for Interest Charges for the aforesaid delayed payments.
 - Any other Relief.

Accordingly, the documents witnessed the Employer's position that;

- ★ The Employer's Request from the DAB to decide that;
 - The Employer has contended that the Contractor has made their claim submissions with total assumptions and inaccurate details without adequate/acceptable documents.
 - The Employer's request is to decide that the Claims have no merit to consider for any relief and hence, to reject the Claims in totality.

Considering the facts, details and particulars of the dispute, the DAB has decided that;

- ★ The Contractor is entitled for 4 days of total Extension of Time for the delays occurred due to shortage of Labour caused by the Easter Bombing attack.

- ★ The Contractor is entitled for the associated costs pertaining to the extended Head Office Overheads.
- ★ No any other relief granted.

Dispute No.03: The Contractor has submitted the detail particulars of “Claim 01 [Interim 03]” to the Engineer. Nevertheless, the Engineer has not responded and/or provided their Determination within the time frame of 42 days period which shall be counted upon the date of the Contractor’s submission. Accordingly, the Contractor has extended through their written submissions that the Contractor has perceived that the Contractor’s claim is rejected and has decided to refer the same for the Honourable Dispute Adjudication Board seeking a decision.

The Contractor has extended through their written submission/the DAB Referral that the Contractor has calculated the Contractor’s entitlement for an Extension of the Time for Completion pertaining to the changes to the BOQ quantities based on the DAB decision of the Dispute No.01 which has been explained in the previous paragraphs.

The Contractor has withdrawn the DAB Referral based on a business decision made by the Contractor’s Organization.

Case B

The Project selected which is captioned as “Case B” was a Building Construction Project located in the Commercial Capital Colombo. The Project was initiated for the purpose of constructing housing units.

Both the Employer and the Engineer were government entities and the Engineer was appointed by the Employer. Upon notification by the Engineer, the Contractor has commenced the project at the end of the year 2014. The Contract has stipulated the provisions for Standing Dispute Adjudication Board. Nevertheless, the Parties have jointly decided and appointed Dispute Adjudication Board when the disputes have been arisen. Thus, the said DAB comprised three members who are possessing different capacities of excellence in various construction projects.

As per the details enclosed in the written submissions of the DAB Process which have been referred in terms of a Document Review of the instant case, the following details could be obtained;

The Contractor has made the following claim submissions to the Engineer which have been made in a chronological order;

Table 4- 3: Contractor's Submissions pertaining to the Case B

Claim Reference	Particulars of the Events	Extension of the Time for Completion	Additional costs
Detail Particulars of Extension of Time for Completion Claim 01	1. General Election 2. Exceptionally Adverse Climatic Conditions 3. Right of Access to the Site & Construction of Culvert	260 days	Submitted separately
Detail Particulars of Extension of Time for Completion Claim 02	1. CMC Sewer MH Construction & Open Cut Pipe Laying 2. Shifting of stores due to CMC MH Pipe line 3. Excavation work by Telecom or Water Board 4. Exceptionally Adverse Climatic Conditions 5. Construction of rectangular drain 6. Construction of permanent Drain	135 days	Submitted separately
Detail Particulars of Extension of Time for Completion Claim 03	★ Delay due to laying of CEB cable	135 days	Submitted separately

Claim Reference	Particulars of the Events	Extension of the Time for Completion	Additional costs
Finance Cost of loan Obtained for the purpose of funding 65% of the Project Cost'	Additional Costs incurred by the Contractor with respect to the loan Obtained for the purpose of funding 65% of the Project Cost'	None	Rs. 119,132,287.97
Detail Particulars of Associated Cost Claim-Claim 01	Associated Costs	None	Rs. 278,200,273.54

The Contractor has submitted above mentioned claims to the Engineer.

Dispute No.01: It was observed that the Contractor's submission pertaining to the 'Finance Cost of loan Obtained for the purpose of funding 65% of the Project Cost' was completely rejected by the Engineer. Therefore, the Contractor has referred the matter in a submission to the Honourable Dispute Resolution Board seeking a decision.

Accordingly, the documents witnessed the Contractor's position that;

- ★ The Contractor's Request from the DAB to decide that;
 - The Claimant is entitled the 'Finance Cost of loan Obtained for the purpose of funding 65% of the Project Cost' amounting to **Rs. 119,132,287.97**.
 - The Contractor is entitled for the interest charges due to the delayed payments.
 - Any other relief

Accordingly, the documents witnessed the Employer's position that;

- ★ The Employer's Request from the DAB to decide that;
 - The Contractor is not entitled for Finance Cost of loan Obtained for the purpose of funding 65% of the Project Cost'.

Considering the facts, details and particulars of the dispute, the DAB has decided that;

- ★ The Claimant is entitled the 'Finance Cost of loan Obtained for the purpose of funding 65% of the Project Cost' amounting to **Rs. 119,132,287.97.**
- ★ The Contractor is entitled for the interest charges due to the delayed payments.

Dispute No.02: It was observed that the detail particulars of Cost Claim 01 were submitted by the Contractor. Thus, the Contractor has submitted their request for the additional costs pertaining to the Extension of the Time for Completion which had been granted by the Engineer with respect to the EOT Claim 01, EOT Claim 02 and EOT Claim 03. Nevertheless, it shall be pertinent to note that the Engineer has granted such extension of the Time for Completion without associated costs whereas the Engineer has stated that as a condition. Accordingly, the Engineer has not responded and/or provided their Determination within the time frame of 42 days period which shall be counted upon the date of the Contractor's submission. Accordingly, the Contractor has extended through their written submissions that the Contractor has perceived that the Contractor's claim is rejected and has decided to refer the same for the Honourable Dispute Adjudication Board seeking a decision.

Accordingly, the documents witnessed the Contractor's position that;

- ★ The Contractor's Request from the DAB to decide that;
 - The Claimant is entitled the Cost associated with the Extension of Time for Completion of 644 days amounting to **Rs. 278,200,273.54.**
 - The Contractor is entitled for Interest Charges for the aforesaid delayed payments.
 - Any other Relief.

Accordingly, the documents witnessed the Employer's position that;

- ★ The Employer's Request from the DAB to decide that;
 - The Contractor is not entitled for the additional costs pertaining to the EOT since the Engineer has granted such EOT without additional costs.

Considering the facts, details and particulars of the dispute, the DAB has decided that;

- ★ The Contractor is entitled to the cost of Preliminaries in the amount of Rs. 73,802,321.72.
- ★ The Contractor is entitled for the interest charges.
- ★ No any other relief granted.

Case C

The Project selected which is captioned as “Case C” was an Irrigation Project located in the Galle District. The Project was initiated for the purpose of rehabilitation of an existing canal Project.

The Employer was a government entity and the Engineer was appointed by the Employer. Upon notification by the Engineer, the Contractor has commenced the project in the middle of the year 2017. The Contract has stipulated the provisions for Standing Dispute Adjudication Board. Thus, the Parties have jointly appointed the aforesaid Standing Dispute Adjudication Board at the initial stage of the Project. Thus, the said DAB comprised a Sole member who is possessing different capacities of excellence in various construction projects.

As per the details enclosed in the written submissions of the DAB Process which have been referred in terms of a Document Review of the instant case, the following details could be obtained;

The Contractor has made the following claim submissions to the Engineer which have been made in a chronological order;

Table 4- 4: Contractor's Submissions pertaining to the Case C

Claim Reference	Particulars of the Events	Extension of the Time for Completion	Additional costs
Claim for extra shoring, Bracing and Subsequent removal with Heavy Duty steel sheet piles	1. Additional Cost due to extra shoring, Bracing and Subsequent removal with Heavy Duty steel sheet piles undertaken as per the Instruction of the Engineer.	None	Rs. 56,094,216.00

Claim Reference	Particulars of the Events	Extension of the Time for Completion	Additional costs
Detail Particulars of Suspension and Associated Cost Claim-Claim 01 [Interim 01]	1. Suspension of the Works upon receiving an Instruction from the Engineer	88 days	Rs. 37,710,773.35
Detail Particulars of Suspension and Associated Cost Claim-Claim 01 [Interim 02]	1. Suspension of the Works upon receiving an Instruction from the Engineer	180 days	Rs. 78,843,162.28
Detail Particulars of Extension of Time for Completion and Associated Cost Claim-Claim 02 [Interim 01]	1. EOT due to the Suspension of Work	285 days	Rs. 40,314,132.31
Detail Particulars of Extension of Time for Completion and Associated Cost Claim-Claim 02 [Interim 02]	1. EOT due to the Suspension of Work	316 days	Rs. 41,885,790.71
Detail Particulars of Statement at Termination-Claim 03	1. Employer's unlawful Termination of the Contract	None	Rs. 557,389,616.11

The Contractor has submitted above mentioned claims to the Engineer.

Dispute No.01: It was observed that the Contractor has submitted 'Claim for extra shoring, Bracing and Subsequent removal with Heavy Duty steel sheet piles' to the Engineer. Nevertheless, it has been completely rejected by the Engineer upon submission of the Engineer's justifications whilst rejecting the Contractor's

entitlements through their several correspondences. Therefore, the Contractor has referred the matter in a consolidated submission to the Honourable Dispute Resolution Board seeking a decision.

Accordingly, the documents witnessed the Contractor's position that;

- ★ The Contractor's Request from the DAB to decide that;
 - The Contractor is entitled for Cost for extra shoring, bracing and subsequent removal of heavy duty sheet piles in the amount of Rs. 56,094,216.00.
 - The Contractor is entitled for the interest charges.
 - Any other relief

Accordingly, the documents witnessed the Employer's position that;

- ★ The Employer's Request from the DAB to decide that;
 - The Contractor is not entitled for Cost for extra shoring, bracing and subsequent removal of heavy duty sheet piles.

Considering the facts, details and particulars of the dispute, the DAB has decided that;

- ★ The Contractor is not entitled for the Cost for extra shoring, bracing and subsequent removal of heavy duty sheet piles.

Dispute No.02: It was observed that the "Claim 01 [Interim 01]" and "Claim 01 [Interim 02]" were completely rejected by the Engineer upon submission of the Engineer's justifications whilst rejecting the Contractor's entitlements through their several correspondences. Therefore, the Contractor has referred the matter in a consolidated submission to the Honourable Dispute Resolution Board seeking a decision.

Accordingly, the documents witnessed the Contractor's position that;

- ★ The Contractor's Request from the DAB to decide that;
 - The Contractor is entitled for 180 days of Extension of Time for Completion.

- The Contractor is entitled for associated costs.
- Any other relief.

Accordingly, the documents witnessed the Employer's position that;

- ★ The Employer's Request from the DAB to decide that;
 - The Contractor is not entitled for any additional Time or additional cost.

Considering the facts, details and particulars of the dispute, the DAB has decided that;

- ★ The Contractor is entitled for an EOT of 180 days which is an interim grant.
- ★ The Contractor is entitled for the associated costs.
- ★ The Contractor is entitled for the Interest Charges due to the delayed payments.

Dispute No.03: It was observed that the "Claim 02 [Interim 01]" and "Claim 02 [Interim 02]" were completely rejected by the Engineer upon submission of the Engineer's justifications whilst rejecting the Contractor's entitlements through their several correspondences. Therefore, the Contractor has referred the matter in a consolidated submission to the Honourable Dispute Resolution Board seeking a decision.

Accordingly, the documents witnessed the Contractor's position that;

- ★ The Contractor's Request from the DAB to decide that;
 - The Contractor is entitled for 285 days of Extension of Time for Completion.
 - The Contractor is entitled for associated costs.
 - Any other relief.

Accordingly, the documents witnessed the Employer's position that;

- ★ The Employer's Request from the DAB to decide that;
 - The Contractor is not entitled for any additional Time or additional cost.

Considering the facts, details and particulars of the dispute, the DAB has decided that;

- ★ The Contractor is entitled for an EOT of 285 days which is an interim grant.
- ★ The Contractor is entitled for the associated costs.
- ★ The Contractor is entitled for the Interest Charges due to the delayed payments.

Dispute No.04: It was observed that the Contractor has contended through their written submissions that the Employer has unilaterally and unlawfully terminated the Contract. Due to that, the Contractor's Bonds also had been encashed whilst creating serious impacts to the Contractor. Therefore, the Contractor has referred the matter in a consolidated submission to the Honourable Dispute Resolution Board seeking a decision.

Accordingly, the documents witnessed the Contractor's position that;

- ★ The Contractor's Request from the DAB to decide that;
 - The Employer's act to Terminate the Contract under the Sub-Clause 15.2(a), 15.2(b) and 15.2(c) of the Conditions of Contract is unlawful and contrary to the Contract.
 - Direct the Employer to pay the damages to the Contractor due to the 'breach of Contract'.
 - Any other relief.

Accordingly, the documents witnessed the Employer's position that;

- ★ The Employer's Request from the DAB to decide that;
 - The Employer is entitled to terminate the Contract.
 - The Contractor is not entitled for the damages.

Considering the facts, details and particulars of the dispute, the DAB has decided that;

- ★ The Employer's act to Terminate the Contract under the Sub-Clause 15.2(a), 15.2(b) and 15.2(c) of the Conditions of Contract is unlawful and contrary to the Contract.
- ★ The Contractor is entitled for the damages.

- ❖ Nevertheless, the Employer has issued the ‘Notice of Dissatisfaction’ to the DAB’s decisions. Therefore, the Employer has issued the ‘Notice of Arbitration’. Subsequently, the Employer has referred the matter to the Arbitration whereas the Parties have agreed to refer the matters to the Arbitral tribunal *by virtue of* a consolidated written submission. Thus, the Arbitration process is not completed yet.

Case D

The Project selected which is captioned as “Case D” was a Road Construction Project located in the Monaragala District. The Project was initiated for the purpose of rehabilitation and improvement of Road.

The Employer was a government entity and the Engineer was appointed by the Employer. Upon notification by the Engineer, the Contractor has commenced the project in the middle of the year 2017. The Contract has stipulated the provisions for Standing Dispute Adjudication Board. Thus, the Parties have jointly appointed the aforesaid Standing Dispute Adjudication Board at the initial stage of the Project. Thus, the said DAB comprised a Sole member who is possessing different capacities of excellence in various construction projects.

As per the details enclosed in the written submissions of the DAB Process which have been referred in terms of a Document Review of the instant case, the following details could be obtained;

The Contractor has made the following claim submissions to the Engineer which have been made in a chronological order;

Table 4- 5:Contractor's Submissions pertaining to the Case D

Claim Reference	Particulars of the Events	Extension of the Time for Completion	Additional costs
Detail Particulars of Extension of Time for Completion Claim – Claim 01	1. Changes to the BOQ quantities	162 Working days	Submitted Separately

Claim Reference	Particulars of the Events	Extension of the Time for Completion	Additional costs
Detail Particulars of Cost Claim – Claim 02	1. Associated Cost pertaining to the EOT granted with respect to the changes to the BOQ quantities	162 Working days	Rs. 425,734,433.72
Detail Particulars of Associated Cost Claim-Claim 03	1. Associated Costs due to the revision of Input Percentages	None	Rs. 159,639,889.75

The Contractor has submitted above mentioned claims to the Engineer.

Dispute No.01: It was observed that the Contractor has requested the payments for the Work Done with respect to the ‘ABC, Prime and Sand Blotting Section’ though the successive Interim Payment Applications. Nevertheless, the Engineer has deducted the quantities from the Interim Payment Certificates with respect to the Works of ‘100mm wide ABC, Prime and Sand Blotting Section of the Cross Sections of both Sides of the roads’. The Contractor disagreed for these deductions. Therefore, the Contractor has referred the matter to the Honourable Dispute Resolution Board seeking a decision.

Accordingly, the documents witnessed the Contractor’s position that;

- ★ The Contractor’s Request from the DAB to decide that;
 - The Contractor is entitled for the ‘Payments with respect to the performed Works of 100mm wide ABC, Prime and Sand Blotting Section of the Cross Sections of both Sides of the roads’ amounting to Rs. 12,876,598.70.
 - The Contractor is entitled for the interest charges.
 - Any other relief.

Accordingly, the documents witnessed the Employer’s position that;

- ★ The Employer’s Request from the DAB to decide that;

- The Contractor is not entitled for ‘Payments with respect to the performed Works of 100mm wide ABC, Prime.

Considering the facts, details and particulars of the dispute, the DAB has decided that;

- ★ The Contractor is entitled for the ‘Payments with respect to the performed Works of 100mm wide ABC, Prime and Sand Blotting Section of the Cross Sections of both Sides of the roads’ amounting to Rs. 12,876,598.70.

Dispute No.02: It was observed that the “Claim 03” was submitted to the Engineer. Nevertheless, it was completely rejected by the Engineer as communicated through their correspondences. Therefore, the Contractor has referred the matter to the Honourable Dispute Resolution Board seeking a decision.

Accordingly, the documents witnessed the Contractor’s position that;

- ★ The Contractor’s Request from the DAB to decide that;
 - The Contractor is entitled for the Additional Cost due to Revision of Input Percentages Amounting Rs. 159,639,889.75.
 - The Contractor is entitled for interest charges for the delayed payments.
 - Any other relief.

Accordingly, the documents witnessed the Employer’s position that;

- ★ The Employer’s Request from the DAB to decide that;
 - The Contractor is not entitled for any additional cost.
 - The Contractor is not entitled for the interest charges.

Considering the facts, details and particulars of the dispute, the DAB has decided that;

- ★ The Contractor is entitled for the Additional Cost due to Revision of Input Percentages.
- ★ The Contractor is entitled for the Interest Charges due to the delayed payments.

Finding of the Documents Review of the above mentioned Case A, Case B, Case C and Case D are presented below in a tabulated form in the Table 4-6.

Table 4- 6: Analysis of the Case Studies

Case Reference	Dispute No.	The Contractor's submission to the Engineer	Engineer's Determination	Dispute Crystalized		Decision of the Dispute Adjudication Board/Arbitral Award	Status of the Payments with respect to the DAB decision/Arbitral Award	Time expended for the resolution for the Dispute through the ADR Process	Cost/Expenditure incurred by the Parties for the purpose of resolution of dispute through the ADR Process	Comments
				Yes	No					
Case A	Dispute 01	Detail Particulars of Extension of Time for Completion Claim-Claim 01 [Interim 01]	The Contractor is entitled only for 49 days of an extension of the Time for Completion	√		The DAB decided that; 1. The Contractor is entitled for an EOT of 468 days which is an interim grant whereas the actual BOQ quantities were likely to be exceeded further. 2. The Contractor is entitled for the associated costs.	★ Following the DAB decision, the Contractor has submitted their requests for the associated costs pertaining to the awarded extension of the Time for Completion. ★ Therefore, the Engineer has approved part of the associated costs and released part of such pay	171 days [Commenced from the submission of the Statement of Claim by the Contractor. Even though, the DAB decision has to deliver the decision within 84 days, due to various reasons it has been extended by 87 day]	Approximately Rs.1 Mn. [Cost of Dispute Adjudication+ Consultancy Fees]	1. The DAB was comprised of three professionals who were possessing different capacities of excellence in various construction projects. Furthermore, these professionals also have been working as the team members of the Engineer's team of different projects. 2. It was observed that the DAB has delivered their decision in favour of the Contractor disregarding the payments that was done by both the Employer and the Contractor. 3. After receiving the DAB decision, the Employer has issued the 'Notice of Dissatisfaction' to the other Party. Nevertheless, the matter had not been escalated to the Arbitration since the Employer has granted the aforesaid extension of the Time for Completion to the Contractor. 4. It was observed that, since the matter had referred to the DAB, both Parties had to spend 171 days which incurred a considerable Cost which shall be construed an additional cost which could be prevented if the Engineer has granted the aforesaid extension of the Time for Completion. 5. Furthermore, it is pertinent to note that the existence of the DAB process is based on the slogan of 'pay now argue later'. Nevertheless, as per the findings, it has been observed that this concept is not considered in this process.
		Detail Particulars of Extension of Time for Completion Claim-Claim 01 [Interim 02]								

	Dispute 02	Detail Particulars of Extension of Time for Completion and Associated Cost Claim-Claim 02	The Engineer has failed to issue the Engineer's Determination within 42 days of the Contractor's submission. Therefore, the Contractor has perceived that the Engineer has rejected the claim and referred the same to the DAB.	√		The DAB decided that; ★ The Contractor is entitled for 4 days of total Extension of Time for the delays occurred due to shortage of Labour caused by the Easter Bombing attack. ★ The Contractor is entitled for the associated costs pertaining to the extended Head Office Overheads. ★ No any other relief granted.	★ Even though the DAB decision is issued, the Employer has not made the payments yet.	257 days [Even though, the DAB decision has to deliver the decision within 84 days, due to various reasons it has been extended by 173 days]	Approximately Rs.1.5 Mn. [Cost of Dispute Adjudication+ Consultancy Fees]	1. The same DAB was appeared for the purpose of resolution of this dispute. 2. It was observed that the DAB has delivered their decision in favour of the Contractor disregarding the payments that was done by both the Employer and the Contractor. 3. After receiving the DAB decision, the Employer has issued the 'Notice of Dissatisfaction' to the other Party. Nevertheless, the matter had not been escalated to the Arbitration since the Employer has granted the aforesaid extension of the Time for Completion to the Contractor. 4. It was observed that, since the matter had referred to the DAB, both Parties had to spend 257 days which incurred a considerable Cost which shall be construed an additional cost which could be prevented if the Engineer has granted the aforesaid extension of the Time for Completion. 5. Furthermore, it is pertinent to note that the existence of the DAB process is based on the slogan of 'pay now argue later'. Nevertheless, as per the findings, it has been observed that this concept is not considered in this process.
	Dispute 03	Detail Particulars of Extension of Time for Completion Claim-Claim 01 [Interim 03]	The Engineer has failed to issue the Engineer's Determination within 42 days of the Contractor's submission. Therefore, the Contractor has perceived that the Engineer has rejected the claim and referred the same to the DAB.	√		-	-	-	-	1. The Contractor has withdrawn the DAB Referral based on a business decision of the Contractor's organization.

Case Reference	Dispute No.	The Contractor's submission to the Engineer	Engineer's Determination	Dispute Crystalized		Decision of the Dispute Adjudication Board/Arbitral Award	Status of the Payments with respect to the DAB decision/Arbitral Award	Time expended for the resolution for the Dispute through the ADR Process	Cost/Expenditure incurred by the Parties for the purpose of resolution of dispute through the ADR Process	Comments
				Yes	No					
Case B	Dispute 01	Finance Cost of loan Obtained for the purpose of funding 65% of the Project Cost'	The Engineer has completely rejected the Contractor's submission.	√		The DAB decided that; 1. The Claimant is entitled for the 'Finance Cost of loan Obtained for the purpose of funding 65% of the Project Cost' amounting to Rs. 119,132,287.97. 2. The Contractor is entitled for the interest charges due to the delayed payments.	★ The Employer has made the payments except the interest charges for the delayed payments.	152 days [Even though, the DAB decision has to deliver the decision within 84 days, due to various reasons it has been extended by 68 days]	Approximately Rs. 12 Mn [Cost of Dispute Adjudication+ Consultancy Fees]	1. The DAB was comprised of three professionals who were possessing different capacities of excellence in various construction projects. Furthermore, these professionals also have been working as the team members of the Engineer's team of different projects. 2. It was observed that the DAB has delivered their decision in favour of the Contractor disregarding the payments that was done by both the Employer and the Contractor. 3. After receiving the DAB decision, the Employer has issued the 'Notice of Dissatisfaction' to the other Party. Nevertheless, the matter had not been escalated to the Arbitration since the Employer has made a part of the payments of the recommended value [without the interest charges for the delayed payments]. 4. It was observed that, since the matter had referred to the DAB, both Parties had to spend 152 days which incurred a considerable Cost which shall be construed an additional cost which could be prevented if the Engineer has granted the aforesaid extension of the Time for Completion. 5. Furthermore, it is pertinent to note that the existence of the DAB process is based on the slogan of 'pay now argue later'. Nevertheless, as per the findings, it has been observed that this concept is not considered in this process.

	Dispute 02	Detail Particulars of Associated Cost Claim-Claim 01	The Engineer has failed to issue the Engineer's Determination within 42 days of the Contractor's submission. Therefore, the Contractor has perceived that the Engineer has rejected the claim and referred the same to the DAB.	√		The DAB decided that; 1. The Contractor is entitled to the cost of Preliminaries in the amount of Rs. 73,802,321.72. 2. The Contractor is entitled for the interest charges. 3. No any other relief granted.	★ The Employer has made the payments except the interest charges for the delayed payments.	364 days [Even though, the DAB decision has to deliver the decision within 84 days, due to various reasons it has been extended by 280 days]	Approximately Rs. 8 Mn [Cost of Dispute Adjudication+ Consultancy Fees]	1. The same DAB was appeared for the purpose of resolution of this dispute. 2. It was observed that the DAB has delivered their decision in favour of the Contractor disregarding the payments that was done by both the Employer and the Contractor. 3. After receiving the DAB decision, the Employer has issued the 'Notice of Dissatisfaction' to the other Party. Nevertheless, the matter had not been escalated to the Arbitration since the Employer has made the payments except the interest charges for the delayed payments. 4. It was observed that, since the matter had referred to the DAB, both Parties had to spend 384 days which incurred a considerable Cost which shall be construed an additional cost which could be prevented if the Engineer has granted the aforesaid extension of the Time for Completion. 5. Furthermore, it is pertinent to note that the existence of the DAB process is based on the slogan of 'pay now argue later'. Nevertheless, as per the findings, it has been observed that this concept is not considered in this process.
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Case Reference	Dispute No.	The Contractor's submission to the Engineer	Engineer's Determination	Dispute Crystallized		Decision of the Dispute Adjudication Board/Arbitral Award	Status of the Payments with respect to the DAB decision/Arbitral Award	Time expended for the resolution for the Dispute through the ADR Process	Cost/Expenditure incurred by the Parties for the purpose of resolution of dispute through the ADR Process	Comments
				Yes	No					
Case C	Dispute 01	Additional Cost due to extra shoring, Bracing and Subsequent removal with Heavy Duty steel sheet piles undertaken as per the Instruction of the Engineer.	The Engineer has completely rejected the Contractor's claim.	√		The DB decided that; 1. The Contractor is not entitled for the Cost for extra shoring, bracing and subsequent removal heavy duty sheet piles.	-	The DB process was ended up within 84 days and the Arbitration procedure has not completed at the time of conducting this case study.	Approximately Rs. 0.5 Mn [Cost of Dispute Adjudication+ Consultancy Fees]	1. The DB comprised with a Sole member who is possessing different capacities of excellence in various construction projects and also has been working as the team members of the Engineer's team of different projects. 2. It was observed that the DB has delivered their decision in favour of the Employer disregarding the payments that was done by both the Employer and the Contractor. 3. Nevertheless, the Contractor has served the 'Notice of Dissatisfaction' to the DB decision. 4. Hence, the matter has been escalated to the Arbitration procedure which is not resolved yet.
	Dispute 02	Detail Particulars of Suspension and Associated Cost Claim-Claim 01 [Interim 01]	The Engineer has completely rejected the Contractor's claim.	√		The DB decided that; 1. The Contractor is entitled for an EOT of 180 days which is an interim grant. 2. The Contractor is entitled for the associated costs. 3. The Contractor is entitled for the Interest Charges due to the delayed payments.	★ The Employer has not made the payments with respect to the DB decision. The matter has been escalated to the Arbitration Procedure.	The DB process was ended up within 84 days and the Arbitration procedure has not completed at the time of conducting this case study.	Approximately Rs. 2 Mn [Cost of Dispute Adjudication+ Consultancy Fees] (The Cost shall be exceeded since the Arbitration Process is not completed at the time of undertaking the case study)	1. The same DB was appeared in the process of resolution of this dispute. 2. It was observed that the DB has delivered their decision in favour of the Contractor disregarding the payments that was done by both the Employer and the Contractor. 3. Nevertheless, the Employer has served the 'Notice of Dissatisfaction' to the DB decision. 4. Hence, the matter has been escalated to the Arbitration procedure which is not resolved yet.
		Detail Particulars of Suspension and Associated Cost Claim-Claim 01 [Interim 02]	The Engineer has completely rejected the Contractor's claim.	√						
	Dispute 03	Detail Particulars of Extension of Time for Completion and Associated Cost Claim-	The Engineer has completely rejected the Contractor's claim.	√		The DB decided that; 1. The Contractor is entitled for an EOT of 285 days which is an interim grant.	★ The Employer has not made the payments with respect to the DB decision. The matter has been escalated to the	The DB process was ended up within 84 days and the Arbitration procedure has not completed at the time of	Approximately Rs. 2 Mn [Cost of Dispute Adjudication+ Consultancy Fees] (The Cost shall be exceeded since the Arbitration	1. The same DB was appeared in the process of resolution of this dispute. 2. It was observed that the DB has delivered their decision in favour of the Contractor disregarding the payments that was done by both the Employer and the Contractor.

		Claim 02 [Interim 01]				2. The Contractor is entitled for the associated costs.	Arbitration Procedure.	conducting this case study.	Process is not completed at the time of undertaking the case study)	3. Nevertheless, the Employer has served the 'Notice of Dissatisfaction' to the DB decision.
		Detail Particulars of Extension of Time for Completion and Associated Cost Claim- Claim 02 [Interim 02]	The Engineer has completely rejected the Contractor's claim.	√		3. The Contractor is entitled for the Interest Charges due to the delayed payments.				4. Hence, the matter has been escalated to the Arbitration procedure which is not resolved yet.
	Dispute 04	The Employer's Termination of the Contract	The Engineer has completely rejected the Contractor's claim.	√		The DB decided that; 1. The Employer's act to Terminate the Contract under the Sub-Clause 15.2(a), 15.2(b) and 15.2(c) of the Conditions of Contract is unlawful and contrary to the Contract. 2. The Contractor is entitled for the damages.	-	The DB process was ended up within 84 days and the Arbitration procedure has not completed at the time of conducting this case study.	Approximately Rs. 2 Mn [Cost of Dispute Adjudication+ Consultancy Fees] (The Cost shall be exceeded since the Arbitration Process is not completed at the time of undertaking the case study)	1. The same DB was appeared in the process of resolution of this dispute. 2. It was observed that the DB has delivered their decision in favour of the Contractor disregarding the payments that was done by both the Employer and the Contractor. 3. Nevertheless, the Employer has served the 'Notice of Dissatisfaction' to the DB decision. 4. Hence, the matter has been escalated to the Arbitration procedure which is not resolved yet. 5. The Contractor has referred all the claim submissions in a consolidated submission in the process of Arbitration.

Case Reference	Dispute No.	The Contractor's submission to the Engineer	Engineer's Determination	Dispute Crystalized		Decision of the Dispute Adjudication Board/Arbitral Award	Status of the Payments with respect to the DAB decision/Arbitral Award	Time expended for the resolution for the Dispute through the ADR Process	Cost/Expenditure incurred by the Parties for the purpose of resolution of dispute through the ADR Process	Comments
				Yes	No					
Case D	Dispute 01	Payments for the Work Done with respect to the 'ABC, Prime and Sand Blotting Section'	The Engineer has deducted such payments from the Contractor's Interim Payment Certificates.	√		The DB decided that; 1. The Contractor is entitled for the 'Payments with respect to the performed Works of 100mm wide ABC, Prime and Sand Blotting Section of the Cross Sections of both Sides of the roads' amounting to Rs. 12,876,598.70.	★ The Employer has made the payments as per the DB decision without the interest charges for the delayed payments.	The DB process was ended up within 84 days and the Arbitration procedure has not completed at the time of conducting this case study.	Approximately Rs. 1.2 Mn [Cost of Dispute Adjudication+ Consultancy Fees]	1. The DB comprised with a Sole member who is possessing different capacities of excellence in various construction projects and has been working as the team members of the Engineer's team of different projects. 2. It was observed that the DB has delivered their decision in favour of the Contractor disregarding the payments that was done by both the Employer and the Contractor. 3. Even though, the Employer has served the 'Notice of Dissatisfaction' to the DB decision, the Parties have engaged in a mutual agreement, thus the Employer has made the payments.
	Dispute 02	Detail Particulars of Associated Cost Claim-Claim 03	The Engineer has completely rejected the Contractor's claim.	√		The DB decided that; 1. The Contractor is entitled for the Additional Cost due to Revision of Input Percentages. 2. The Contractor is entitled for the Interest Charges due to the delayed payments.	★ The Employer has made the payments as per the DB decision without the interest charges for the delayed payments.	The DB process was ended up within 84 days and the Arbitration procedure has not completed at the time of conducting this case study.	Approximately Rs. 15 Mn [Cost of Dispute Adjudication+ Consultancy Fees]	1. The same DB was appeared in the process of resolution of this dispute. 2. It was observed that the DB has delivered their decision in favour of the Contractor disregarding the payments that was done by both the Employer and the Contractor. 3. Even though, the Employer has served the 'Notice of Dissatisfaction' to the DB decision, the Parties have engaged in a mutual agreement, thus the Employer has made the payments.

The aim of the cross case analysis was to identify whether the Engineer's unfair Determinations have consequent to create the disputes and the time and cost incurred due to the resolution of the disputes through the ADR process. Employer's claims can be rarely seen in the Sri Lankan Construction industry and are rarely referred to the ADR methods for the resolution. Therefore, above mentioned four cases were selected for the analysis in the Contractor's perspective where the final settlement has been made and/or intended to achieve by means of ADR methods and also where the ADR methods have overruled the Engineer's Determinations.

As per the findings of the 'Case A', the Contractor has made seven number of submissions requesting the Contractor's entitlements for Extension of the Time for Completion and Associated Costs. Accordingly, it was observed that, with respect to some of the submissions, the Engineer has granted only few days of extension of the Time for Completion and the Engineer's Determination has been overruled by the DAB decision. Furthermore, in some of the submissions, the Engineer has completely rejected them without considering the Contractor's legitimate entitlements. Furthermore, the Contractor has withdrawn one of their Referral submission from the DAB and the reasons for this withdrawal was not evidenced in the documents. Nevertheless, the Contractor's submission which has been made through this Referral submission was also based on a previous DAB decision with respect to the 'Changes to the Quantities'. Therefore, it was understood that it is absolutely positive to expect the DAB decision in favour of the Contractor. Nevertheless, it also shall be noted that, as per the DAB decisions, it was awarded less value compared to the Contractor's original submission such as 50 %. Furthermore, it was observed that the Employer has issued the 'Notice of Dissatisfaction' for all the DAB decisions. But, the Engineer has granted extension of the Time for Completion and Associated Costs for some events. It was also observed that payments with respect to the DAB decisions have been partially made without the interest charges for the delayed payments. Nevertheless, as per the calculations, it was observed that the Contractor has incurred a huge cost in two cases due to the late payments. Hence, it was interested to find the reasons behind these different responses of the Engineer which have been reasoned to

create disputes between the Parties. Furthermore, it was observed that, in the process of resolution of the disputes, the Parties had to spend unnecessary cost and time.

As per the findings of the 'Case B', the Contractor has made five number of submissions requesting the Contractor's entitlements for Extension of the Time for Completion and Associated Costs, Finance Cost for the loan obtained for the purpose of funding 65% of the Project Cost. Accordingly, it was observed that, with respect to some of the submissions, the Engineer has granted only the extension of the Time for Completion placing a condition that the Contractor is not entitled for the additional costs and the Engineer's Determination has been overruled by the DAB decision. Thus, the Engineer has placed unreasonable conditions in their correspondences. Furthermore, one of the submissions, the Engineer has completely rejected without considering the Contractor's legitimate entitlements. Furthermore, it was observed that the Employer has issued the 'Notice of Dissatisfaction' for all the DAB decisions. But, the Engineer has granted Associated Costs for some events. It was also observed that payments with respect to the DAB decisions have been partially made without the interest charges for the delayed payments. Nevertheless, as per the calculations, it was observed that the Contractor has incurred a huge cost in two cases due to the late payments. Thus, through the Documents Review of 'Case B' witnessed that all the Disputes have been occurred due to the Engineer's unfair determinations, Engineer's unilateral rejections and/or Engineer's failure to respond to the Contractor's submission. Hence, it was interested to find the reasons behind these different responses of the Engineer which have been reasoned to create disputes between the Parties. Furthermore, it was observed that, in the process of resolution of the disputes, the Parties had to spend unnecessary cost and time.

As per the findings of the 'Case C', the Contractor has made six number of submissions requesting the Contractor's entitlements for Extension of the Time for Completion and Associated Costs and the associated costs with respect to the Work item which has not been covered by the existing BOQ rates. Accordingly, in some of the submissions, the Engineer has completely rejected them without considering the Contractor's legitimate entitlements which have been overruled by the DAB decisions. Thus, through the Documents Review of 'Case C' witnessed that all the Disputes have been occurred

due to the Engineer's unfair determinations, Engineer's unilateral rejections, Employer's unlawful termination of the Contract and/or Engineer's failure to respond to the Contractor's submission. Furthermore, it was observed that the Employer has issued the 'Notice of Dissatisfaction' for some of the DAB decisions and the Contractor also has served the 'Notice of Dissatisfaction' for one DAB decision. But, the Engineer has not granted extension of the Time for Completion and Associated Costs for any event. Moreover, in this termination situation, the DAB also has decided that the Contract is terminated unilaterally and/or unlawfully. As a result of the termination, the Employer has encashed the Advance Payment Guarantee and the Performance Guarantee which has created serious financial burdens to the Contractor. Further, Parties have mutually decided to refer all these matters to the Arbitration procedure through a consolidated submission. Hence, it was interested to find the reasons behind these different responses of the Engineer which have been the proximate causes for the occurrence of the disputes between the Parties. Furthermore, it was observed that, in the process of resolution of the disputes, the Parties had to spend unnecessary cost and time.

As per the findings of the 'Case D', the Contractor has made three number of submissions requesting the Contractor's entitlements for Extension of the Time for Completion and Associated Costs related to revision of Input Percentages. Accordingly, it was observed that one of the matter was created due to the Engineer's erroneous deductions of the Work Done which has been overruled by the DAB decision. Furthermore, one of the submissions, the Engineer has completely rejected them without considering the Contractor's legitimate entitlements. Furthermore, it was observed that the Employer has issued the 'Notice of Dissatisfaction' for all the DAB decisions. But, the Engineer has granted Associated Costs for the submissions. It was also observed that payments with respect to the DAB decisions have been partially made without the interest charges for the delayed payments. Nevertheless, as per the calculations, it was observed that the Contractor has incurred a huge cost in these two cases due to the late payments. Thus, through the Documents Review of 'Case D' witnessed that all the Disputes have been occurred due to the Engineer's unfair determinations, Engineer's unilateral rejections and/or Engineer's failure to respond

to the Contractor's submission. Furthermore, it was observed that the Employer has issued the 'Notice of Dissatisfaction' for all the DAB decisions. But, the Engineer has granted extension of the Time for Completion and Associated Costs for some events. It was also observed that payments with respect to the DAB decisions have been partially made without the interest charges for the delayed payments. Nevertheless, as per the calculations, it was observed that the Contractor has incurred a huge cost in two cases due to the late payments. Hence, it was interested to find the reasons behind these different responses of the Engineer which have been reasoned to create disputes between the Parties. Furthermore, it was observed that, in the process of resolution of the disputes, the Parties had to spend unnecessary cost and time.

Thus, in above cases, majority of the claims were rejected or undervalued by the Engineer which were impacted to create disputes and there was only one defaulted claim submitted by the Contractor. Accordingly, it could be observed that majority of the Disputes have been referred to the ADR methods since the Contractor was in a sturdy view that the Engineer has not granted their legitimate entitlements pertaining to each matter and also in some cases, the Engineer has rejected most of the Contractor's submissions without issuing the Engineer's Determination. Furthermore, it is pertinent to be noted that the Engineer has undervalued the Contractor's claims when these cases involve huge amounts. Hence, due to the drastic changes compared to the DAB decision and the Engineer's Determinations, it is more reasonable to suggest as 'Unfair Determinations'. Only in few cases, the DAB decision has awarded nearly 50% of the claimed values where the Contractor has presented more than their actual entitlements. Therefore, both Parties had to expend additional costs for the purpose of resolution of the Disputes by means of;

- ★ Additional Consultancy fees
- ★ Cost of Adjudication Procedure

Furthermore, the Parties have expended a considerable time in the process of resolution of the disputes. As per these findings, it can be suggested that these additional time and costs could be prevented if the Engineer has correctly issued their Determination for each matter in a viable manner. Hence, it was questionable and

decided to find out whether the Engineer has purportedly issued a unfair determination or the rejection of the Contractor's submissions. Therefore, it was decided to execute Expert Interviews for the validation of the results and in order to find the reasons for the aforesaid Determinations, the consequential impacts of these Determinations. Furthermore, it is well presented in the following paragraphs that suggestions for the prevention of the occurrence of the disputes due to the Engineer's Unfair determinations and/or purported rejections are provided based on these Expert Interviews.

Therefore, Semi Structured Interviews of five number of Experts in the industry were conducted in order to validate the results and for the purpose of finding the reasons behind the Engineer's aforesaid unfair determinations, thus for the suggestion of the methods which can be adopted for the prevention of the generation of these unnecessary time and cost implications. Outcomes of these Semi Structured Interviews were analyzed through the manual content analysis and has presented the results in the following chapters.

4.5 PROFILE OF THE EXPERTS

In order to validate the results obtained from the Documents Review of the Case Studies, it was decided to conduct semi structured interviews with five industry Experts who are possessing different capacities of excellence in various types of Projects and also having experience in the areas of Contract Administration, Claims Management and Dispute Resolution Procedures. Thus, the Researcher has followed 'Purposive Sampling' which is a non-probability sampling method for the selection of the Experts. Therefore, it was decided to conduct the Expert Interviews with the industry professionals who are possessing excellence in the aforementioned areas and/or competencies having more than 10 years of experience and it was more concerned about their competencies in the areas of Contract Administration, Claims Management and Dispute Resolution Procedures. Accordingly, the selected Professionals were possessing experience in these areas and also it is pertinent to note that these five professionals have been involved in the dispute Resolution procedures with regard to the contracts that were governed by the FIDIC Conditions of Contract. Among them, two Professionals are also practicing as the Dispute Adjudicators in the

Sri Lankan Construction Industry. Therefore, the Profile of the Experts has been presented in the following Table 4-7.

Table 4- 7:Profile of the Experts

Respondent	Scope of Work/Designation	Work experience		Experience as the Engineer for the Contract	Types of Projects involved
		Local [Years]	Foreign [Years]		
R1	Senior Contract Specialist/Counsel/Dispute Adjudicator	15	6	Senior Project Manager, Senior Quantity Surveyor, Senior Advisor	Infrastructure Projects, Building Projects
R2	Senior Contract Specialist	17	3	Contract Administrator, Senior Quantity Surveyor, Intermediate Quantity Surveyor	Infrastructure Projects, Building Projects
R3	Contracts Manager /Dispute Adjudicator	25	-	Design Engineer, Senior Advisor	Infrastructure Projects, Building Projects
R4	Contracts Manager	10	4	Senior Quantity Surveyor	Building Projects
R5	Senior Quantity Surveyor	10	-	Senior Quantity Surveyor	Infrastructure Projects

4.6 ANALYSIS OF THE FINDINGS

As mentioned in the above Paragraphs, findings were obtained from Semi Structured Interviews and they were analyzed using Manual Content Analysis to identify the frequently challenged Determinations, reasons behind the overruled Engineer's Determinations, effects and/or consequences of these overruled Engineer's Determinations and make suggestions for the prevention of the effects/ consequences of the frequent repeals of the Engineer's Determinations.

4.6.1 Experience of the Experts in resolution of the Disputes

Selected Experts were possessing experience as the Engineer for the Contract and experienced in the process of the resolution of the disputes by way of ADR methods.

Therefore, the experience of the Experts in resolution of the disputes with respect to the identified causes of the disputes have been presented in the following Table 4-8.

Table 4- 8: Experience of the Experts in the process of resolution of disputes

Category of challenges	Subcategories (Type of Disputes)	Involvement in the Resolution of the matter by way of Engineer's Determination	Involvement in the Resolution of the matter by way of Dispute Adjudication	Involvement in the Resolution of the matter by way of Engineer's Arbitration
<i>Variations and Adjustments</i>	• Engineer's instruction on variation	R1,R2,R3,R4,R5	R1,R3,R4	R1
	• Fixing of rates in variation	R1,R2,R3,R4,R5	-	-
	• Value engineering	R1,R4,R5	-	-
	• Adjustment for changes in Legislation	R1,R3,R4,R5	R1, R4,R5	-
	• Adjustment for the cost of labour, Goods and other inputs to the Works (Escalation).	R1	R1,R2,R3,R4,R5	-
<i>Commencement and Delays</i>	• Delay works due to Authorities	R1,R2,R3	R1,R2	-
	• Delay caused by Employer, Employer's personnel or Employer's other Contractors	R1	R1,R2,R3,R4	-
	• Delay due to exceptionally adverse climatic conditions	R1,R2,R3,R4,R5	-	-
	• Delay caused by variations	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5	R1, R3,R4
	• Delay due to unforeseeable shortages in the availability of personnel or Goods	R1,R2,R3	-	-
	• Prolongations costs	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5
	• Delay due to third party actions	R1,R3	-	-
	• Delay damages	R1,R3	R1	-

Category of challenges	Subcategories (Type of Disputes)	Involvement in the Resolution of the matter by way of Engineer's Determination	Involvement in the Resolution of the matter by way of Dispute Adjudication	Involvement in the Resolution of the matter by way of Engineer's Arbitration
Incompetence of work	Delayed drawings or instructions from Engineer	R1,R2,R3,R4,R5	R1,R2,R3,R5	R1
	Delayed instructions from Engineer on Fossils	R1	-	-
	Changes in scope of work	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5
	Inadequate soil investigation report	R1, R3,R5	R1, R3	R1, R3
Defects in contract document	Misinterpretations of contract documents	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5
	Errors in contract document	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5
Quality and performance	Contractor fails to maintain rate of progress	R1,R2,R3,R4,R5	R1,R2	R1,R2
	Rejection of Plant, Material or workmanship	R1	R1	-
	Remedial Work	R1	R1	-
	Testing (If Contractor suffers delay and/or incurs cost from additional testing)	R1,R3	-	-
	Testing (If failure in the test, Employer issue Taking over Certificate and cover cost for recovery)	R1	R1	-
	Interference with Test on Completion	-	-	-
	Failure to serve notices	R1,R2,R3,R4,R5	R1	R1
	Failure to adhere to the design	R1	-	-

Category of challenges	Subcategories (Type of Disputes)	Involvement in the Resolution of the matter by way of Engineer's Determination	Involvement in the Resolution of the matter by way of Dispute Adjudication	Involvement in the Resolution of the matter by way of Engineer's Arbitration
Site availability	Delay in giving of possession of Site by the Employer	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5
	Lack of assistance to obtain work permits, licenses or approvals by the Employer	R1	-	-
Measurement and Evaluation	Evaluating each item of work to agree or determine the Contract Price	R1,R2,R3,R4,R5	R1,R5	R1
	Omissions of any works forms part of the variation	R1,R2,R3,R4,R5	R1,R3,R4	R1
Cease of work	★ Suspension of Works by the Contractor	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5
	★ Termination of Work by the Contractor	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5
	★ Termination of Works by the Employer	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5
	★ Suspension of Works by the Engineer	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5
Payment	★ Valuation of works in Interim Payment Certificate	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5
	★ Schedule of payments	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5
Employer's Taking Over	★ Additional cost/time for Taking Over and/or using a Parts of the Work	R1,R2,R3,R4,R5	R1,R3	-
	★ Acceleration cost	R1, R5	R1,R5	R1

Category of challenges	Subcategories (Type of Disputes)	Involvement in the Resolution of the matter by way of Engineer's Determination	Involvement in the Resolution of the matter by way of Dispute Adjudication	Involvement in the Resolution of the matter by way of Engineer's Arbitration
Defects liability	★ Extension of Defect notification period	R1	R1,	R1
	★ Failure to Remedy Defects	R1,R2,R3,R4,R5	R1	-
	★ Contractor to search for the cause of any defect	R1	-	-
Miscellaneous				
Employer's Risks	★ Consequences of Employer's Risks; war, terrorism etc.	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5	-
Insurance	★ Insurance	R1,R5	R1,R5	R1,R5
Force Majeure	★ Consequences of Force Majeure	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5	-
Unforeseeable physical conditions	★ Due to unforeseeable physical conditions on site	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5	R1,R5
Setting Out	★ Due to errors in reference points and levels for setting out	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5	R1
Use of Employer's properties	★ Use of Employer's Electricity, Water and Gas	-	-	-
	★ Use of Employer's Equipment and Free-Issue Material	-	-	-
Corruptions	★ Corruptions	-	-	-
Nominated sub-contractor	★ Nominated sub-contractor related	R1,R2,R3,R4,R5	R1,R2,R3,R4,R5	R1,R3,R5

As per the findings from the Expert Interviews, it is important to explain the types of disputes occurred due to the challenged Engineer's Determinations, hence the experience of these Experts have been acquired to identify them. Accordingly, these

Experts have substantiated that the following types of disputes are being occurred frequently;

- ★ Delay in giving of possession of Site by the Employer
- ★ Changes in scope of work
- ★ Delayed drawings or instructions from Engineer
- ★ Prolongation costs
- ★ Delay caused by Variations
- ★ Misinterpretations of contract documents
- ★ Errors in contract document
- ★ Engineer's instruction on Variation
- ★ Adjustment for changes in Legislation
- ★ Adjustment for the cost of labour, Goods and other inputs to the Works (Escalation).
- ★ Omissions of any works forms part of the Variation
- ★ Valuation of works in Interim Payment Certificate
- ★ Due to unforeseeable physical conditions on site
- ★ Nominated sub-contractor related issues
- ★ Termination of Works by the Employer

Furthermore, the Respondents have commented regarding the resolution of the disputes without referring the disputes to the ADR methods in the Sri Lankan Construction Industry. Accordingly, the Respondent R1 mentioned that *“Majority of the Contractor’s Claims have been rejected by the Engineer and also sometimes the Engineer has awarded lesser amount than the requested EOT and/or associated costs. Therefore, all those dispute events crystalized and they were resolved through DAB or Arbitration”*. Therefore, as per the experience of the Respondent R1, nearly 5% of the matters have been resolved without referring to the ADR methods. Respondent R2 mentioned that *“as per my experience, most of the claims have been referred to the DAB or DB since the Engineer has merely rejected the Contractor’s submission. Therefore, in my opinion nearly 30% of the disputes occurred due to the Engineer’s rejections”*. Accordingly, the Respondent R3 has commented that *“About 95% of the disputes related to Contractor’s claims happened due to the Engineer’s rejections*

without giving reasons for such rejections. So most of them finally settled by ADR methods". Furthermore, it is pertinent to note that the Respondent R4 stated that *"about 10% of the Contractor's claims resolved only with the Engineer's Determinations. But, the Parties have come up to an agreement after number of discussions or negotiations"*. Moreover, the Respondent R5 also commented that *"the Engineer has continuously rejected most of the Contractor's claims through their correspondences. So, in my opinion its about 5-10% claims resolved at the Engineer's Determination with subsequent negotiations"*. Therefore, all five Experts have substantiated that most of the Contractor's claims are rejected by the Engineer without giving proper reasons. Hence, the Contractors attempt to refer these disputes to the ADR methods for the resolution of the same.

4.6.2 Parties' awareness about the causation of the Disputes and the impacts of the occurrence of the disputes

As per the outcomes of the Expert Interviews, it was decided to discuss about the Parties' awareness about the causation of the disputes and the impacts of the occurrence of the disputes. Accordingly, these five Experts have concluded that in Sri Lankan Construction industry, there is a scarcity of knowledge of the Parties with respect to the causation of the disputes and the impacts of the occurrence of the disputes. Accordingly, the Respondent R1 stated that *"specially, in the government Projects in Sri Lanka, most of the disputes occur due to the unawareness of the causes of the disputes and their subsequent impacts. If they have sufficient knowledge, disputes will not be created and escalated up to the next levels (Dispute Adjudication and Arbitration)"*. Respondent R2 also explained that *"Basically the unawareness of the Contract Agreement is the reason for not knowing the causes and impacts of the occurrence of the disputes"*. Furthermore, the Respondent R3 also commented that *"Not Aware. Sometimes, Engineer's Instructions also become reasons for the occurrence of the disputes"*. The Respondent R4 also stated that *"Parties don't have sufficient knowledge regarding the causes of the disputes and their impacts. So, sometimes ended up with serious financial issues"*. Furthermore, the Respondent R5

has commented that *“If the Parties are aware about them, they will not escalate the disputes to the upper levels (Dispute Adjudication and Arbitration)”*.

4.6.3 Parties’ exposure and the Awareness of the Alternative Dispute Resolution methods

As per the outcomes of the Expert Interviews, it was found that, in the Sri Lankan construction industry, the Employers and the Contractors are aware about the existence of the Dispute Resolution methods. Nevertheless, all five experts have commented that the Employers and the Contractors are not well aware about the procedure of the Dispute Resolution methods. Accordingly, the Experts have commented regarding the Parties’ awareness about the critical attributes of the Alternative Dispute Resolution methods as provided in the following Table 4-9.

Table 4- 9:Response of the Experts regarding the Parties’ awareness about the critical attributes of the Alternative Dispute Resolution methods

#	Critical Attribute	Awareness			
		Not Aware	Low	Moderate	High
1.	The duration of the proceedings		R1,R2,R3	R4,R5	
2.	The cost involved	R1,R3	R3, R4,R5		
3.	Preservation of relationship			R1,R2,R4	R3,R5
4.	Flexibility of the proceeding				R1,R2,R3,R4,R5
5.	Confidentiality of the process				R1,R2,R3,R4,R5
6.	Enforceability of the decision/ settlement	R1,R2,R3,R4,R5			
7.	Privacy of the proceeding				R1,R2,R3,R4,R5
8.	Obtaining fairness				R1,R2,R3,R4,R5
9.	Bindingness of the decisions/ settlement	R1,R5	R2,R3,R4		
10.	The parties’ ability to control over the proceeding				R1,R2,R3,R4,R5
11.	The width of remedy	R1,R2,R3,R4,R5			

4.6.4 Parties' Awareness of the Cost and Time implications of the Alternative Dispute Resolution methods

As per the findings of the Case study, it was shown that the effects and/or consequences related to the disputes occurred due to the Engineer's unfair Determinations, have been ended up with unnecessary cost and time implications. In all these cases, it could be seen that, if the Engineer has issued their Determination correctly without rejecting the Contractor's submissions, those additional costs and time spent in the ADR process could be saved.

This outcome was further validated by the Experts whilst providing their responses as follows;

Respondents R1, R3, R4 and R5 have stated that most of the Employers and the Contractors '*have some idea on the cost and time implications*'. Nevertheless, they have substantiated that the Party who obtained a unfair determination from the Engineer refers the dispute to the final settlement through the ADR process considering the losses which the Party has to recover. So, it can be further suggested as a business decision in terms of the Contractor's perspective and in the Employer's perspective also they are expecting to find the substantiation of their defenses or arguments. The Respondent R2 stated that the '*Parties have knowledge about the time and cost implications*'. Nevertheless, he also has stated that '*sometimes the Contractors are forced not to submit their claims*' since the Employer is also having better idea of the cost and time implications. Thus, it was suggested that this happens due to some personal reasons.

But, as they confirmed that the ultimate result of these unfair Determinations incur Cost and Time to both Parties. So, it was substantiated that in the events of the occurrence of such disputes, it is an unnecessary cost and time implications for both Parties. Hence, these findings have substantiated that the majority of the Contractor's claims have been rejected or undervalued by the Engineer which has consequent to create disputes.

4.6.5 Effects and/or Consequences of the frequently repealed Engineer's Determinations by the ADR methods

As explained above, the main consequence of the repealed Engineer's Determinations by the ADR methods is proven that the unnecessary cost and time implications. As per the literature findings, it shall be understood that, even though the Engineer is an Employer's personnel, both Parties shall give effect to the Engineer's determinations unless and until revised such determinations in the next step.

Respondent R1 mentioned that ***'the Parties do not honour the Engineer's determinations under the Contract, while letting the disputes escalate to levels which forces to follow the Alternative Dispute Resolution methods under the Contract'***. Thus, all five Respondents have substantiated that these actions of dishonouring the Engineer's Determinations may end up by compensating the entitlements plus interest charges for such payments to the entitled Party, until such amount is paid. Therefore, Respondent R2 commented that ***'it affects to the Contractor's cash flow and progress of the Project at large'***.

Accordingly, the Respondents have commented that, pursuant to Sub-Clause 20.4 of the COC [FIDIC 1999 Red Book] states;

"The decision shall be binding on both Parties, who shall promptly give effect to it unless and until it shall be revised in an amicable settlement or an arbitral award as described below....." [Emphasis Added]

All five Experts substantiated that, in the Sri Lankan Construction industry, ***'Parties do not honour to the DAB/DB decisions'***. Therefore, the cost and time implications are increasing due to the reference of the disputes to the Arbitration procedure. Respondent R1 stated that ***'due to the misinterpretation of this provision of the Contract, the dissatisfied party do not honour to the DAB decisions while letting the other party suffer financially and forcing such Party to commence Arbitration in order to delay the obliged monetary compensations as much as possible'***.

Furthermore, Respondent R3 has further explained that ***'this observation is common for the projects where the Employer is a government institution and the***

representatives of the Employer are tending to delay the compensations to the other party to the fullest.'

Accordingly, Respondent R2 also substantiated that ***'these actions heavily effect on the progress of the Project, business entities and the growth of the construction industry at large'***.

Furthermore, as the Respondent R1 and R2 communicated, after obtaining the DAB decisions Parties attempt to amicably settle the Dispute but in the failure of such attempts the opposed Party attempts to drag the settlement discussions or meetings unnecessarily or attempts to hide in silence without honouring the DAB decisions. Furthermore, the Respondent R1 commented that *"on the other hand, any dispute/disagreement should have resolved at the first or second steps may add up with huge interests given the duration it takes the Supreme Court to exercise of jurisdiction under the Arbitration Act No.11 of 1995"*. Therefore, the ultimate results of such actions impacting to incur the interests to both Parties.

Therefore, these additional cost and time implications could be prevented, if the Parties have conveniently followed the provisions of the Contract and also the Engineer has to issue their Determinations in a truthful manner.

4.6.6 Background reasons for the Engineer's unfair determinations

Fourth Objective of the research was to identify the reasons for the above mentioned Engineer's unfair determinations and unilateral rejections of the Contractor's Claims. Accordingly, the Experts have commented whilst extending their emphasis on these causes based on their experience. Based on the findings, it could be observed that the changes of person's attitudes, nature and changes of person's behaviour can badly influence their decision-making capacity, relationships, and their ability to resolve problems and negotiate, particularly regarding the contractual claims.

★ Absence of Proper delegation

As per the literature findings, Ndekugri et al., (2007) stated that the Employer is given free restraint as to the extent of control over how the Engineer's role is performed,

hence such limitations also have a possibility for the occurrence of delays for which the Contractor may be entitled to submit Claims.

Respondents have stated that in some Contracts, certain provisions stipulate to control the Engineer's Determinations. Therefore, Respondent R1 stated that ***'Employer's approval is required prior to the issuance of the Engineer's Determinations'***. Furthermore, the Respondent R2 suggested ***that 'there is an undue influence from the Employer'***. Accordingly, Respondents R3, R4 and R5 also commented that the Employer's approval for the Engineer's Determinations can be understood as an issue of the absence of proper delegation since the Standard Conditions of Contract does not stipulate such provisions. Thus, it was observed that the Employer who is the drafter of the documents has placed these conditions in the 'Particular Conditions of Contract'. Therefore, as the Experts have substantiated, there is Employer's control on the Engineer's Determinations.

★ Ambiguities in the Contract Documents

To improve the quality of the Contract Documents, the Employers have an obligation and a responsibility to produce documentation that is able to use effectively. In the events of their failures to produce proper documentation, results for the latent ambiguities which shall create disputes between the Parties. Thus, the Respondent R1 commented that ***"we observed that so many ambiguities in the bid/contract documents, then becomes disputes during post contract stage"***. Hence, it was suggested that in some of the disputes created due to the Engineer's rejections of the Contractor's claims have been generated because of the ambiguities of the Contract documents.

★ Unfair contract terms

Apart from the findings of the Case Studies, Experts have explained that due to the existence of the unfair Contract terms in the Contract Documents, mostly these disputes have been generated. Furthermore, it was observed that the Engineer's rejections and/or unfair Determinations to the Contractor's Claim submissions have also happened due to the existence of the unfair Contract terms. The Respondent R2

explained that *‘even though we are having Unfair Contract Terms Act in Sri Lanka, most of contracts still having unfair contract terms’*.

★ Engineer’s Knowledge and Attitude

Respondents have extended that the ‘Engineer’s knowledge and attitude’ is a fundamental reason for the occurrence of the disputes due to the erroneous Engineer’s Determinations. Therefore, Respondent R1 has commented that *‘we observed that most of the consultant’s staff are over aged and they don’t have their expertise in the relevant field’*. He also stated that *‘we observed that most of the consultancy companies are not actively involving in contract administration, simply hiring persons and handover the project to them’*.

There was an adverse comment by the Respondent R2 stating that *‘dispute management will be difficult with the consultants, and they are harassing Contractors’*. He also stated that sometimes the Engineer is reluctant to issue their Determination in a favourable manner due to personal reasons.

Respondent R3 explained that in some of the cases, these disputes have been occurred since the Engineer has not identified the *‘reality of the case’* which means the actual scenario of the matter, hence attempt to reject the Contractor’s claims.

★ Employer’s knowledge and attitude

Under the caption, Respondents have provided their opinions suggesting that the erroneous Engineer’s Determinations tend to occur due to the matters engaged with the Employer’s knowledge and attitudes. As explained in the previous paragraphs, in some of the contracts, the Engineer has to obtain the Employer’s approval for the Engineer’s Determinations.

Accordingly, Respondent R1 witnessed that *‘we observe that the Employer’s awareness on his obligations under the Contracts are lacking resulting frequent disputes between the Parties’*. Furthermore, the Respondent R3 has commented that *‘it is observed that the Employer’s attitude towards the Contractor is not positive where, in general, the Employers are taking undue advantages from the Contractors by not honouring the contract provisions’*.

Moreover, the Respondent R4 has mentioned that *‘the Employer shall have a positive approach to settle the disputes arising out of or in connection with the construction contracts bearing in mind that escalation of any given dispute may affect the progress of the project’*. He also commented that *‘the Employer’s lack of knowledge on the dispute resolution in construction contracts may seem as a barrier to lead to a positive outcome’*.

★ Misinterpretation of Contract Provisions

As per the observations of the selected Experts, it could be understood that ‘misinterpretation of Contract Provisions’ is also become a root cause for the erroneous Engineer’s Determinations. As per the findings of the case study, one of the dispute has occurred due to the misinterpretation of the provisions of the Contract.

Respondent R1 stated that *‘mostly the measurement related disputes occur due to the misinterpretations of the conditions of contract’*. He also commented that sometimes certified quantities also deducted from the successive Interim Payment Certificates due to the misinterpretation of the provisions, hence due to the disagreement of the Contractor, these disputes have been escalated up to the Dispute Adjudication process.

★ Reluctance to honour to the contract provisions

The captioned reason also has affected to occurrence of the disputes due to the erroneous Engineer’s Determinations. Thus, the Respondent R1 has commented that *‘we observed that the Employer will not honour payment terms in the contract specially certification period, period of payment, interest payments, payment on disputes at each stage, payments for Variations’*. Therefore, in the contracts which provides the Employer’s approval is necessary for the Engineer’s Determination, this issue will be severely impact to generate disputes between the Parties due to the Engineer’s unfair determinations.

★ Audit Queries

All five respondents have substantiated that; the Engineers are reluctant to answer for the government audit queries since they are obliged to answer for them whenever the claim amounts are certified by the Engineer. Therefore, in some cases, the Engineer

attempts to merely reject the Contractor's claims. Accordingly, they are facilitated to provide the DAB decisions as the witnesses for the recommendation of such amounts.

Nevertheless, additionally the Respondent R1 stated that *'the Audit queries do not have a mandate. So, no need to afraid to issue the Engineer's Determinations'*.

★ Employer's Funding arrangements

Respondent R1 has explained that, sometimes the Engineer attempts to issue unfair determinations following the availability of the funds with the Employer. He further explained that this issue has been arisen specially in the government Projects in Sri Lanka. Accordingly, R1 has commented that *'prior to commencement of any project the Employer shall allow their financial arrangement, even though in the contract having the provision it has not been used'*. Whenever the Employer's control was there over the Engineer's Determination, this matter would be a significant cause for the Engineer's unfair determinations.

4.7 RECOMMENDATIONS FOR THE MITIGATION OF THE IDENTIFIED BACKGROUND ISSUES

For the effective and smooth run of the projects, dispute avoidance is playing an indispensable role in any construction project. Therefore, it is important to find out the suitable solutions and/or steps to mitigate the above mentioned background issues. Otherwise the Parties have to incur additional and unnecessary cost and time. Therefore, the Respondents have suggested recommendations for the purpose of mitigation of the identified background issues. Hence, the following recommendations can be proposed based on the derivations from the data collected through expert interviews as indicated in Table 4-10.

Table 4- 10: Recommendations proposed based on the derivations from the data collected through expert interviews

Issue	Recommendations	
Absence of Proper delegation	★ Issuing a proper guideline to regularize proper delegation.	1. Recommended to adhere to the guidelines issued for the Standard forms of Contracts. 2. The Engineer shall be kept as an Independent Position. 3. Conditions requesting the Employer's approval for the Engineer's Determination should be eliminated.
Ambiguities in the Contract Documents	★ Conducting a document review process with competent third party team prior to floating bids.	1. Recommended to finalize Employer's Requirements prior to entering into contract, since it is basic requirement of 'enforceable contract'. 2. Recommended to use a qualified staff for the drafting of the bid/contract documents. 3. It is required to use standard forms of Contract & Specifications when preparation of bids/contracts.
Unfair contract terms	★ Eliminating unfair contract terms from contracts in line with basic legal principle of 'parties having equal rights in the contract'.	1. Recommended to use a qualified staff for the drafting of the bid/contract documents.
Engineer's Knowledge and Attitude	★ Adhering to the provisions related to the dispute Management as provided in the Contracts and the Engineer's obligations provided in the Contracts. ★ Having a Dispute Management team in the Engineer's Head Office or hiring a reputed third party team to do it or get involved CIDA.	1. Selection of the Engineer should be carefully done to appoint an unbiased, independent, well-experienced, reputed, and stabilized professional. 2. The Engineer's position in the project should be a stable appointment with a respected remuneration package. 3. The Engineer should be appointed under a contractual basis upon an in-written contractual agreement so that the Engineer will have a job security even if the determination was given against the Employer. 4. Selection of the Engineer for the Project should be done with the following concerns;

Issue	Recommendations	
		★ Previous Performance ★ Professional Staff ★ Head Office involvement ★ Facilities from Contracts ★ Dispute Management
Employer's knowledge and attitude	★ Adhering to the provisions of the Contract having a positive approach to settle the disputes arising out of or in connection with construction contracts bearing in mind that escalation of any dispute may affect the progress of the Project.	1. The Employer's lack of knowledge on the dispute resolution in construction contracts may seem as a barrier to lead to a positive outcome, where it can be addressed through getting consultations from competent professionals in the construction industry to resolve the disputes.
Misinterpretation of Contract Provisions	★ Avoiding wrongful interpretations of the Contract Provisions. ★ Adhering to the guidelines issued for the Standard forms of Contract.	1. Selection of the Engineer with a qualified professional team.
Reluctance to honour to the contract provisions	★ Introducing a mechanism to regularize obligations of the Parties.	1. Implementing proper ADR mechanism.
Employer's Funds	★ Adhering to the Contract provisions related to the Employer's financial arrangements. ★ Revision of budgets.	1. The Employer and the Engineer shall regularly revise their budget taking into the consideration potential Variations and claims, and show their financial arrangements to the Contractor. 2. The Engineer shall advise the Employer for funding with respect to the scope of work and same to be communicated with the Contractor.

4.8 DEVELOPING A FRAMEWORK FOR THE PREVENTION OF THE DISPUTES DUE TO ENGINEER'S UNFAIR DETERMINATIONS

Conceptual framework assists for the enhancement of the theoretical framework which is derived from the literature findings of this research. By way of the Literature Survey, the research gap has been recognized and further methods were identified in order to fulfill the gap. Through the data collection and analysis, it was able to identify the most suitable strategies/recommendations which can be implemented in order to fulfill the gap identified through the literature study. Accordingly, the conceptual Framework presents the background issues with respect to the Engineer's unfair determinations and the Engineer's rejections of the Contractor's Claim submissions. Hence, the Researcher has proposed suitable recommendations to overcome the Engineer's unfair Determinations which have been obtained through the findings of the Case Studies and the Expert Interviews.

Accordingly, the Figure 4-1 presents the effects and/or consequences of the Engineer's unfair determinations where both the Parties have to experience. Accordingly, the Framework suggests the mechanisms to be implemented in order to mitigate and/or prevent these unfair Determinations. Moreover, it shows the fulfillment of five objectives of this study.

Thus, the Researcher suggests the industry practitioners to implement the suggested solutions in order to mitigate and/or prevent the Engineer's unfair determinations. Nevertheless, it shall be noted that the Engineer also obliged to fairly issue their Determinations without incurring any additional expense to the Employer and for the benefit of the Contractor. Hence, it will be helpful for the Parties to overcome the consequences such as unnecessary cost and time implications of resolution of the disputes by way of ADR methods. Moreover, when it comes to the government projects, these unnecessary costs will be spent by means of public money. Hence, it is suggested that the implementation of the suggested solutions will be helpful for the prevention of the wastage of public money.

CONCEPTUAL FRAMEWORK FOR MITIGATION/PREVENTION OF THE DISPUTES CAUSED DUE TO THE ENGINEER'S UNFAIR DETERMINATIONS AND UNILATERAL REJECTIONS OF THE CONTRACTOR'S CLAIMS

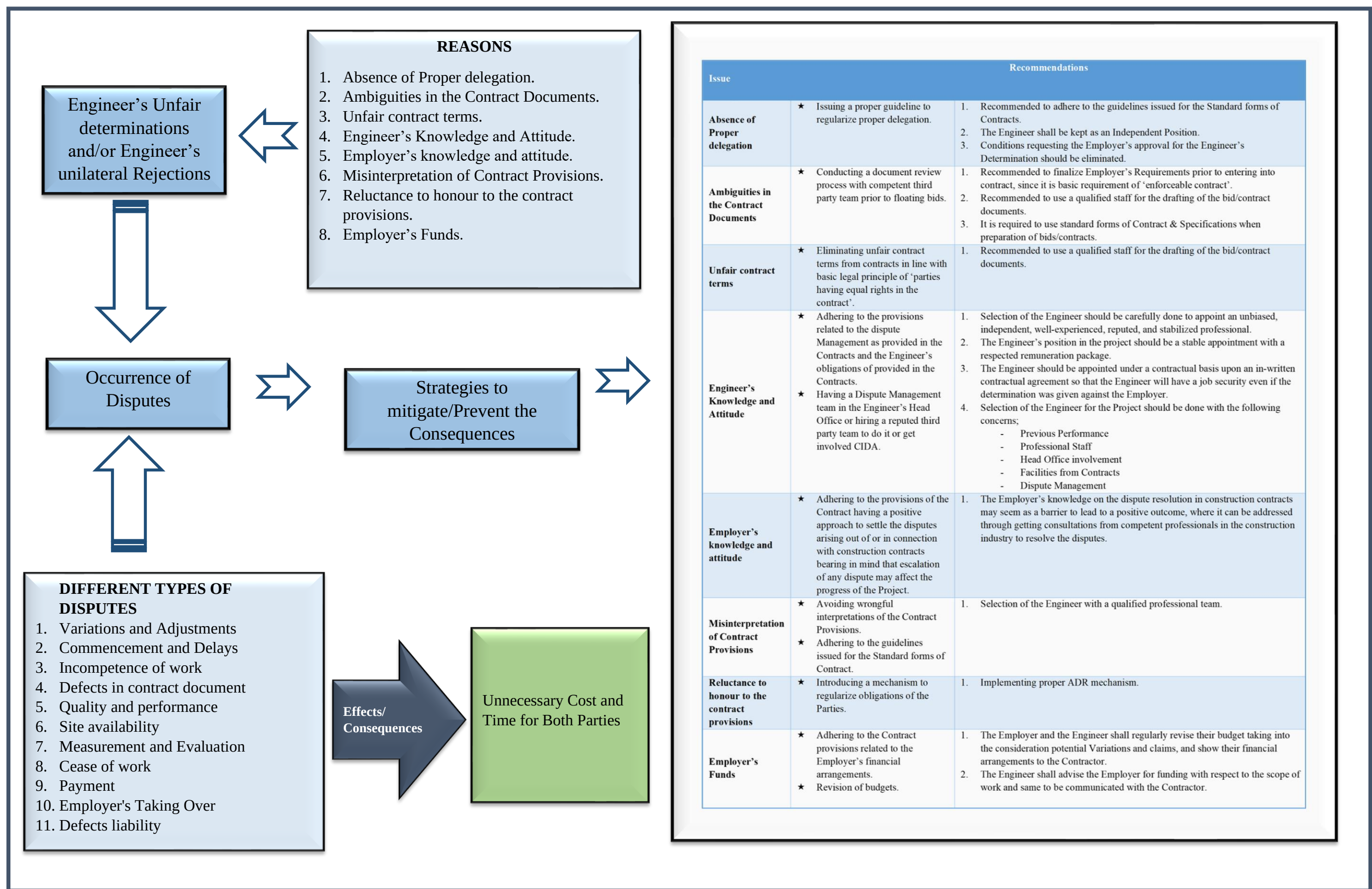


Figure 4- 1: Conceptual Framework for Mitigation/Prevention of the disputes caused due to the Engineer's unfair determinations and Unilateral Rejections of the Contractor's Claims

4.9 SUMMARY

This chapter has discussed the analysis of data of this research which were collected from five case studies and conducted expert interviews. The analysis findings are also presented along with this Chapter 4. Furthermore, this chapter explains the achievement of the Research Objectives.

A Document Review process was conducted to obtain the findings of the Case Studies. So, in order to validate the outcome of these Case Studies, to find out the reasons for the Engineer's Unfair Determinations and to propose the solutions and recommendations with respect to the prevention/mitigation of the Engineer's unfair determination, five Expert Interviews were carried out. These Experts were selected based on the 'purposive sampling method'. In the next chapter, the conclusions and recommendations for this research will be elaborated.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

Construction Projects shall be identified as an organized effort for the purpose of delivering buildings or assembling infrastructure which contributes to the national economy. These construction projects are complex in nature and due to the complexity, disputes are inevitable. Occurrence of such disputes happens due to various causes which have been identified and presented through the previous chapters. Accordingly, these various types of disputes have been referred to the Alternative Dispute Resolution methods for the final settlement. Therefore, both Parties have to spend additional Time and costs with respect to the proceedings of the Alternative Dispute Resolution methods. In the process of creation of disputes, the Engineer's behaviour has a significant impact. These disputes have been occurred due to the controversy of the Parties' intentions. In the Sri Lankan context, it was identified that the Engineer's rejection of the Contractor's Claims and the Engineer's unfair determinations issued with respect to the Contractor's submissions of the Claims consequent the Parties to refer them to ADR to have a resolution. As discussed in Chapter one, these rejections and/or unfair determinations happen when those claims contain huge amounts. Nevertheless, the Engineer is obliged to issue a fair Determination without favouring either Party. However, the effects of these unfair determinations and/or rejections of the Contractor's Claims and possible reasons for occurrence of such a matter have not been addressed in the previous researches. Therefore, the Researcher has intended to study these areas and has proposed a conceptual framework (Refer Figure 4-1) in order to overcome the Engineer's Unfair Determinations.

Throughout the Chapter one, the Researcher has discussed an overview of the research to facilitate the reader to obtain an introduction of the captioned matter. Thus, the Literature findings have been elaborated throughout the Chapter two. Accordingly, the research was designed as explained through the Chapter three of the Research. Furthermore, the data collection steps and the analysis of the data have been presented

in the Chapter four of the Research. Finally, the Researcher has presented the conclusion and recommendation of the Researcher in the Chapter five of the Research. Accordingly, the Research was conducted in accordance with the aim and the objectives of the Research.

Objective 1 – To review the role of the Engineer under FIDIC 1999 Red Book

This first objective was achieved by a Literature Survey and findings have been presented in the Chapter two which has been derived from literature review by referring books, research papers, conference paper and past publications. Therefore, it was observed that it is essential to address the Engineer's role in the contracts which are governed by the Conditions of Contracts pertaining to FIDIC 1999 Red Book. Some authors have identified the FIDIC 1999 Red Book has changed the Engineer's position which had been placed earlier as 'impartial and independent role' in the old Red Book.

Objective 2- To investigate the types of disputes, occur in construction projects

Second objective of the Research was to investigate the types of disputes occur in construction projects. This second objective also achieved by a thorough literature survey which is derived by referring books, research papers, conference papers and past publications as presented in the Chapter two (Refer Table 2-1). Accordingly, disputes were separated into different categories. The Researcher has observed that, in order to obtain a better outcome, it is necessary to identify the types of disputes.

Objective 3- To investigate the instances of occurring disputes in construction projects due to the Engineer's unfair Determinations.

Third Objective of the Research was to investigate the instances where the disputes have been occurred in construction projects due to the Engineer's unfair determinations. Therefore, this matter has hardly been addressed in the Sri Lankan construction industry. In the process of collecting data, four number of suitable cases were selected. Accordingly, a Document Review process was conducted. Through a Document Review process (Refer Table 4-6), it was identified that most of the disputes related to each case were occurred due to the Engineer's unilateral rejection of the

Contractor's Claim submissions and the Engineer's unfair determinations. And also there was only one situation where the Contractor has made a default submission. Therefore, it was observed that the Parties had to spend additional time and costs since these disputes have been resolved by way of Alternative Dispute Resolution methods. Furthermore, documents witnessed that the Dispute Adjudication decisions pertaining to the aforesaid matters have repealed the Engineer's Determinations, hence these additional costs and time shall be construed as unnecessary.

Objective 4- To investigate the reasons for the Engineer's unfair Determinations and to propose solutions to prevent the Engineer's unfair Determinations.

Fourth objective of the Research was to investigate the reasons for the Engineer's unfair determinations. Accordingly, the findings were collected through Expert Interviews. So, five experts were selected based on 'purposive sampling' method who are possessing experience in the Engineer's team in different projects and also having experience in the process of Alternative Dispute Resolution. Furthermore, the Researcher has intended to validate the results obtained through the Case Study (Refer Table 4-6) by way of conducting these Expert Interviews. Accordingly, these experts have shared their experience and opinions, thus suggested solutions to overcome the Engineer's unfair determinations and/or unilateral rejections of the Contractor's claim submissions. Hence, the Researcher could identify the reasons for the Engineer's unfair determinations.

Objective 5- To develop a Framework to minimize/prevent the occurrence of disputes due to the Engineer's unfair Determinations.

Fifth objective of the Research was to propose solutions to minimize the Engineer's unfair determinations. Accordingly, effects/consequences due to the Engineer's unfair determinations have been identified through the case study (Refer Table 4-6) and the solutions (Refer Table 4-10) in order to overcome these issues were identified through the Expert Interviews (Refer Figure 4-1). Accordingly, this study aimed to investigate the possible effects/consequences due to the Engineer's unfair determinations and the reasons for such unfair determinations and/or unilateral rejections. Thus, the

Researcher has developed a framework to overcome these unfair determinations pertaining to the Engineer whilst suggesting solutions and strategies for the implementation.

5.2 RECOMMENDATION

As established in the previous chapters, occurrence of the disputes is inevitable in any construction project. There are various types of disputes and these disputes are finally resolved by way of Alternative Dispute Resolution methods. Accordingly, these disputes have been occurred due to the controversy in the Parties' opinions. Nevertheless, it was observed that in the Sri Lankan construction industry there are instances where the disputes occurred due to the Engineer's unfair determinations and/or unilateral rejections of the Contractor's claim submissions. Since these matters are referred to the Alternative Dispute Resolution methods, both Parties have to suffer incurring additional time and costs. Hence, in particular to the Sri Lankan construction industry, the Engineer's above mentioned behaviour has been identified as an issue which has not been analyzed properly. Nevertheless, it also should be considered that some instances also there the contractors present their entitlements larger than the actual entitlements where in certain selected cases also presented that the DAB or Arbitral tribunal has awarded less value than the Contractor's claims which shall be avoided by proper submissions. Accordingly, the reasons behind such Engineer's unfair determinations and/or unilateral rejections of the Contractor's Claims have been identified, hence the recommendations proposed in the Table 4-10 shall be implemented to overcome these Engineer's Unfair Determinations. Therefore, the Researcher has observed that both Parties have incurred additional time and costs due to the disputes which have been occurred due to the Engineer's unfair determinations and/or unilateral rejections of the Contractor's claims and the same were repealed by the Decisions/Awards delivered by the ADR methods. Accordingly, it becomes apparent that the Parties who are engaged in the Projects shall implement the proposed solutions for the betterment of the construction industry.

5.3 LIMITATION OF THE STUDY

Certain limitations were encountered during the research process which is discussed below in order to facilitate the reader to understand the context of the research. Due to various constraints, this study was limited to the Sri Lankan construction industry. Due to the unavailability of the disputes related to the Employer's claims, suitable cases were selected with respect to the Contractor's claims which have been finally settled by way of ADR methods. Furthermore, the case study was focused on the contracts which are governed by the conditions of Contract of FIDIC 1999 Red Book and its' other versions related to the funding agencies. Since these four cases were completed projects, the study had to be limited to Documents Review process. And also, these four cases were belonged to government projects. Furthermore, expert interviews were done with five number of experts due to the concerns of time constraints and experience of the experts. Since, the research was focused on finding solutions to overcome the Engineer's Unfair Determinations, it was not able to investigate the results regarding how many determinations were fair and satisfied by the parties due to the time constraints. Therefore, the findings shall not be construed as a test of the fairness of Engineers determinations in general.

5.4 FURTHER RESEARCH

After carrying out this research, it seemed that few further researches may be followed on the following areas.

- ★ Since the Study was limited to the FIDIC 1999 Red Book and its' other versions related to the funding agencies, another research can be carried out for the CIDA standard forms of Contracts.
- ★ Since the Study was limited to the completed projects, another research can be implemented to extend the study for ongoing projects to analyze the situation and to implement the recommendations presented in this research.
- ★ This research also can be expanded to the private sector projects if the situations are available.

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APPENDICES

APPENDIX A: EXPERT INTERVIEW GUIDELINE

Dear Sir/ Madam,

CONDUCTING AN INTERVIEW FOR DISSERTATION

I am a Post Graduate student of the Department of Building Economics, University of Moratuwa studying for the M.Sc./PG Diploma in Construction Law and Dispute Resolution. I am conducting a research under the topic of **‘Investigation on the Impact of Engineer’s Determinations: A Case of Sri Lanka Based on FIDIC 1999 Red Book’**. An introduction to topic and the interview guideline are attached herewith in section “General Introduction”.

The interviews will be conducted with key participants of the construction project team such as Project Managers, Quantity Surveyors, Engineers, Adjudicators and Arbitrators. I have identified yourself as a potential participant who could provide me valuable information to this research. Therefore, I would like to interview you for approximately **90** minutes in this regard. The medium of collecting data will be note taking and/or audio recording (with the permission of the interviewee) in order to collect data more accurately.

I strongly believe that you would support to my research by providing your views related to my research topic. **The information collected through this interview will be kept strictly confidential and should be used only for the purpose of the dissertation.** Any of your personnel information will not be disclosed within the research.

Thank you.

EXPERT INTERVIEW GUIDELINE

SECTION 1- GENERAL INTRODUCTION TO THE RESEARCH

Research Topic

INVESTIGATION ON THE IMPACT OF ENGINEER'S DETERMINATIONS: A CASE OF SRI LANKA BASED ON FIDIC 1999 RED BOOK

Research Aim

The aim of the research is to investigate the impact of the Engineer's Determinations in Sri Lankan construction projects.

Research Objectives

Following objectives to be achieved to reach the above research aim;

1. To review the role of the Engineer under FIDIC 1999 Red Book.
2. To investigate the types of disputes, occur in construction projects.
3. To investigate the instances of occurring disputes in construction projects due to the Engineer's unfair Determinations.
4. To investigate the reasons for the Engineer's unfair Determinations and to propose solutions to prevent the Engineer's unfair Determinations.
5. To develop a Framework to minimize/prevent the occurrence of disputes due to the Engineer's unfair Determinations.

SECTION 2- BACKGROUND INFORMATION OF THE INTERVIEWEE

1. Organization (Optional): -.....
2. Profession:-.....
3. How long is your industry experience?
4. How long is your experience as the Engineer to the Contract?
5. How long is your experience as an Adjudicator/Arbitrator?

MAKING FAIR DETERMINATIONS/ EXERCISING DISCRETIONS IMPARTIALLY

The word ‘independent’ can be defined easily, nevertheless the word ‘**impartiality**’ cannot be defined easily. The Oxford dictionary defines the word ‘**impartial**’ in such a way that is ‘not favouring one party or one side more than another; unprejudiced; unbiased; fair, just; equitable’.

SECTION 3- EXPERIENCE/INVOLVEMENT IN CONSTRUCTION CLAIMS

1. Have you involved in the construction team as the ‘Engineer to the Contract’?
 - i. In Sri Lanka
.....
 - ii. In the International Context
.....
2. What was your role under the team of ‘Engineer to the Contract’?
.....
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3. What are the types of projects you have been involved in?

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4. Have you experienced in evaluating Contractor's Claims / Employer's Claims?

.....

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5. How long have you been involved in evaluating Contractor's Claims/Employer's Claims?

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6. What is your opinion/experience regarding the possibilities to lead those Claims to create disputes?

.....

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SECTION 4- EXPERIENCE/INVOLVEMENT IN CONSTRUCTION DISPUTES

7. In your opinion, are your Clients/Contractors aware about the causes of disputes in construction industry and their impacts to the projects?

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8. According to your opinion, what are the areas which have the potential to create disputes?

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9. Please state your involvement in the resolving of the disputes given in the following table?

Table -1

<i>Category of challenges</i>	<i>Subcategories (Type of Disputes)</i>	<i>Involvement</i>		<i>Last method of resolving the dispute</i>
		<i>yes</i>	<i>no</i>	
<i>Variations and Adjustments</i>	• Engineer's instruction on variation • Fixing of rates in variation • Value engineering • Adjustment for changes in Legislation • Adjustment for the cost of labour, Goods and other inputs to the Works (Escalation).			
<i>Commencement and Delays</i>	• Delay works due to Authorities • Delay caused by Employer, Employer's personnel or Employer's other Contractors • Delay due to exceptionally adverse climatic conditions • Delay caused by Variations • Delay due to unforeseeable shortages in the availability of personnel or Goods • Prolongations costs • Delay due to third party actions • Delay damages			

<i>Incompetence of work</i>	• Delayed drawings or instructions from Engineer • Delayed instructions from Engineer on Fossils • Changes in scope of work • Inadequate soil investigation report			
<i>Defects in contract document</i>	• Misinterpretations of contract documents • Errors in contract document • Omissions in contract document.			
<i>Quality and performance</i>	• Contractor fails to maintain rate of progress • Rejection of Plant, Material or workmanship • Remedial Work • Testing (If Contractor suffers delay and/or incurs cost from additional testing) • Testing (If failure in the test, Employer issue Taking over Certificate and cover cost for recovery) • Interference with Test on Completion • Failure to serve notices • Failure to adhere to the design			
<i>Site availability</i>	• Delay in giving of possession of Site by the Employer • Lack of assistance to obtain work permits, licenses or approvals by the Employer			
<i>Measurement and Evaluation</i>	• Evaluating each item of work to agree or determine the Contract Price • Omissions of any works forms part of the Variation			
<i>Cease of work</i>	★ Suspension of Works by the Contractor ★ Termination of Work by the Contractor			

	★ Termination of Works by the Employer ★ Suspension of Works by the Engineer			
<i>Payment</i>	★ Valuation of works in Interim Payment Certificate ★ Schedule of payments			
<i>Employer's Taking Over</i>	★ Additional cost/time for Taking Over and/or using a Parts of the Work ★ Acceleration cost			
<i>Defects liability</i>	★ Extension of Defect notification period ★ Failure to Remedy Defects ★ Contractor to search for the cause of any defect			
Miscellaneous				
<i>Employer's Risks</i>	★ Consequences of Employer's Risks; war, terrorism etc.			
<i>Insurance</i>	★ Insurance			
<i>Force Majeure</i>	★ Consequences of Force Majeure			
<i>Unforeseeable physical conditions</i>	★ Due to unforeseeable physical conditions on site			
<i>Setting Out</i>	★ Due to errors in reference points and levels for setting out			
<i>Use of Employer's properties</i>	★ Use of Employer's Electricity, Water and Gas ★ Use of Employer's Equipment and Free-Issue Material			
<i>Corruptions</i>	★ Corruptions			
<i>Nominated sub-contractor</i>	★ Nominated sub-contractor related			

10. In your opinion/Experience, how many claims have been resolved without referring to the ADR methods? [Please state as a percentage]

.....
.....

11. In your opinion/Experience, have you been ever experienced the Employer's control over the Engineer's duties and authorities as regard of the Engineer's Determination of the Contractor's claims?

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12. In your opinion/Experience, have you been ever experienced/ involved with the contracting Parties for an amicable settlement of the disputes without referring the same to the Alternative Dispute Resolution mechanisms?

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13. In your opinion/Experience, please state the mostly challenged determinations under the headings stated in the table 1 above?

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14. In your opinion/Experience, please state whether the Engineer has undertaken successive measures for the resolution of the disputes without referring to the Alternative Dispute Resolution methods? Please elaborate your answer.

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15. In your opinion/Experience, please state as a percentage of the occurrences where the Engineer has represented the Employer in the Dispute Adjudication procedures?

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SECTION 5- EXPOSURE AND AWARENESS OF THE ALTERNATIVE DISPUTE RESOLUTION METHODS
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16. Are your Clients aware about the Alternative Dispute Resolution methods?

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17. In Sri Lankan context, what is the most frequently used Alternative Dispute Resolution method which is used for the final settlement of the disputes?

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18. In your opinion/Experience, are your Clients aware and concern about the following critical attributes of the Alternative Dispute Resolution methods?

#	Critical Attribute	Awareness			
		Not Aware	Low	Moderate	High
12.	The duration of the proceedings				
13.	The cost involved				
14.	Preservation of relationship				
15.	Flexibility of the proceeding				
16.	Confidentiality of the process				
17.	Enforceability of the decision/ settlement				
18.	Privacy of the proceeding				
19.	Obtaining fairness				
20.	Bindingness of the decisions/ settlement				
21.	The parties' ability to control over the proceeding				
22.	The width of remedy				

SECTION 6- ADDITIONAL COST AND TIME INVOLVEMENT OF ADR METHODS

19. In your opinion, please state whether your Clients aware about the Cost and time involvement of the Alternative Dispute Resolution methods?

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20. As per your experience, please state the reasons for the Parties to refer the disputes to the Alternative Dispute Resolution methods?

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21. As per your experience, please state whether the Parties have been ended up with unnecessary cost and time due to the reason of referring their disputes to the Alternative Dispute Resolution methods? Please elaborate your answer.

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22. In your opinion/Experience, did they satisfied with the decisions/awards acquired by the Alternative Dispute Resolution methods rather than Engineer's Determination?

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23. In your opinion/Experience, how do you see the applicability of the Parties' decision to refer the disputes to the Alternative Dispute Resolution Methods in terms of the involvement of cost and time?

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24. In Sri Lankan context, do the participants of the construction industry honour to the Dispute Adjudication decisions/Arbitration Awards without referring to the conventional litigation? Please elaborate your answer.

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SECTION 7- RECOMMENDATIONS FOR THE INDUSTRY PRACTITIONERS
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25. Please state your recommendations for the industry practitioners as regards of the reference of the disputes to the Alternative Dispute Resolution methods?

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APPENDIX B: SAMPLE RESPONSE OF EXPERT INTERVIEW

Dear Sir/ Madam,

CONDUCTING AN INTERVIEW FOR DISSERTATION

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I strongly believe that you would support to my research by providing your views related to my research topic. **The information collected through this interview will be kept strictly confidential and should be used only for the purpose of the dissertation.** Any of your personnel information will not be disclosed within the research.

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EXPERT INTERVIEW GUIDELINE

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3. To investigate the instances of occurring disputes in construction projects due to the Engineer's unfair Determinations.
4. To investigate the reasons for the Engineer's unfair Determinations and to propose solutions to prevent the Engineer's unfair Determinations.
5. To develop a Framework to minimize/prevent the occurrence of disputes due to the Engineer's unfair Determinations.

SECTION 2- BACKGROUND INFORMATION OF THE INTERVIEWEE

1. Organization (Optional): - A reputed consultancy firm in Sri Lanka
2. Profession: - Senior Contract Specialist, Senior Counsel and Dispute Adjudicator
3. How long is your industry experience? 21 years
4. How long is your experience as the Engineer to the Contract? 10 years
5. How long is your experience as an Adjudicator/Arbitrator? As an Adjudicator, 5 Years

MAKING FAIR DETERMINATIONS/ EXERCISING DISCRETIONS IMPARTIALLY

The word ‘independent’ can be defined easily, nevertheless the word ‘**impartiality**’ cannot be defined easily. The Oxford dictionary defines the word ‘**impartial**’ in such a way that is ‘not favouring one party or one side more than another; unprejudiced; unbiased; fair, just; equitable’.

SECTION 3- EXPERIENCE/INVOLVEMENT IN CONSTRUCTION CLAIMS

1. Have you involved in the construction team as the ‘Engineer to the Contract’?
 - i. In Sri Lanka
7 years
 - ii. In the International Context
3 years
2. What was your role under the team of ‘Engineer to the Contract’?
 - Senior QS/Project Manager (in Sri Lanka). QS (in overseas)
 - Contract Administration
 - Claims and Variation evaluation.

3. What are the types of projects you have been involved in?
 - Buildings
 - Infrastructure (majority)
4. Have you experienced in evaluating Contractor's Claims / Employer's Claims?
 - Experienced in evaluating Contractor's Claims
5. How long have you been involved in evaluating Contractor's Claims/Employer's Claims?
 - 10 years
6. What is your opinion/experience regarding the possibilities to lead those Claims to create disputes?
 - Wrongful interpretations. Mostly the measurement related disputes occur due to the misinterpretations of the conditions of contract.
 - Employer's Influence
 - Engineer's reluctance to answer for the audit queries.
 - Engineer has a less weight
 - The Engineer gets no punishment/damages for not awarding the Contractor's Claims.
 - The Engineer is reluctant to take the responsibility
 - lack of knowledge

SECTION 4- EXPERIENCE/INVOLVEMENT IN CONSTRUCTION DISPUTES

7. In your opinion, are your Clients/Contractors aware about the causes of disputes in construction industry and their impacts to the projects?
 - Specially, in government projects, not aware about the causes of disputes. If they have sufficient knowledge, disputes will not be escalated up to the ADR method. We observe that the Employer's awareness on his obligations under the Contracts are lacking resulting frequent disputes between the Parties.
 - Unawareness of the contract agreements.

- Some Engineers also don't have sufficient knowledge.
- Contractor's professional Issues.

8. According to your opinion, what are the areas which have the potential to create disputes?

-Documentation errors (contracts are copied and paste-unnecessary provisions will be included). We observed that so many ambiguities in the bid/contract documents, then becomes disputes during post contract stage.

-Cope with uncertainties.

-Wrongful Interpretations.

-Ambiguities in the Contract documents.

-Financial Issues.

-Variations.

-Possession of the Site.

-Delayed Instructions.

-Unforeseeable Situations.

9. Please state your involvement in the resolving of the disputes given in the following table?

Table -1

<i>Category of challenges</i>	<i>Subcategories (Type of Disputes)</i>	<i>Involvement</i>		<i>Last method of resolving the dispute</i>
		<i>yes</i>	<i>no</i>	
<i>Variations and Adjustments</i>	• Engineer's instruction on variation • Fixing of rates in variation • Value engineering • Adjustment for changes in Legislation • Adjustment for the cost of labour, Goods and other inputs to the Works (Escalation).	√	√	DAB/DB
		√	√	DAB/DB

<i>Commencement and Delays</i>	• Delay works due to Authorities	√		DAB/DB
	• Delay caused by Employer, Employer's personnel or Employer's other Contractors	√		DAB/DB
	• Delay due to exceptionally adverse climatic conditions		√	} DAB/DB, Arbitration
	• Delay caused by Variations	√		
	• Delay due to unforeseeable shortages in the availability of personnel or Goods	√		
	• Prolongations costs	√		
	• Delay due to third party actions		√	} DAB/DB, Arbitration
	• Delay damages		√	
<i>Incompetence of work</i>	• Delayed drawings or instructions from Engineer	√		DAB/DB, Arbitration
	• Delayed instructions from Engineer on Fossils		√	} DAB/DB, Arbitration
	• Changes in scope of work	√		
	• Inadequate soil investigation report	√		
<i>Defects in contract document</i>	• Misinterpretations of contract documents	√		} DAB/DB, Arbitration
	• Errors in contract document	√		
	• Omissions in contract document.	√		
<i>Quality and performance</i>	• Contractor fails to maintain rate of progress		√	
	• Rejection of Plant, Material or workmanship		√	
	• Remedial Work		√	
	• Testing (If Contractor suffers delay and/or incurs cost from additional testing)		√	
	• Testing (If failure in the test, Employer issue Taking over Certificate and cover cost for recovery)		√	
	• Interference with Test on Completion		√	
	• Failure to serve notices			
	• Failure to adhere to the design	√	√	DAB/DB

<i>Site availability</i>	• Delay in giving of possession of Site by the Employer • Lack of assistance to obtain work permits, licenses or approvals by the Employer	√	√	DAB/DB
<i>Measurement and Evaluation</i>	• Evaluating each item of work to agree or determine the Contract Price • Omissions of any works forms part of the Variation	√ √		} DAB/DB
<i>Cease of work</i>	★ Suspension of Works by the Contractor ★ Termination of Work by the Contractor ★ Termination of Works by the Employer ★ Suspension of Works by the Engineer	 √ √	√ √	} DAB/DB, Arbitration
<i>Payment</i>	★ Valuation of works in Interim Payment Certificate ★ Schedule of payments	√	√	DAB/DB
<i>Employer's Taking Over</i>	★ Additional cost/time for Taking Over and/or using a Parts of the Work ★ Acceleration cost		√ √	
<i>Defects liability</i>	★ Extension of Defect notification period ★ Failure to Remedy Defects ★ Contractor to search for the cause of any defect		√ √ √	
Miscellaneous				
<i>Employer's Risks</i>	★ Consequences of Employer's Risks; war, terrorism etc.		√	
<i>Insurance</i>	★ Insurance		√	
<i>Force Majeure</i>	★ Consequences of Force Majeure	√		DAB/DB
<i>Unforeseeable physical conditions</i>	★ Due to unforeseeable physical conditions on site		√	

<i>Setting Out</i>	★ Due to errors in reference points and levels for setting out		√	
<i>Use of Employer's properties</i>	★ Use of Employer's Electricity, Water and Gas ★ Use of Employer's Equipment and Free-Issue Material		√ √	
<i>Corruptions</i>	★ Corruptions		√	
<i>Nominated sub-contractor</i>	★ Nominated sub-contractor related	√		

10. In your opinion/Experience, how many claims have been resolved without referring to the ADR methods? [Please state as a percentage]

-5 %. So, most of the claims refer to the DAB.

11. In your opinion/Experience, have you been ever experienced the Employer's control over the Engineer's duties and authorities as regard of the Engineer's Determination of the Contractor's claims?

-Yes. Employer's prior approvals required in some claims for issuing the Engineer's Determinations.

12. In your opinion/Experience, have you been ever experienced/ involved with the contracting Parties for an amicable settlement of the disputes without referring the same to the Alternative Dispute Resolution mechanisms?

- No. Majority of the disputes refer to the ADR methods.

13. In your opinion/Experience, please state the mostly challenged determinations under the headings stated in the table 1 above?

-Possession of the Site.

-Interim Payment Certificates.

-Prolongation Costs.

-Delayed Instructions.

-Escalations.

-Changes in legislation.

-Changes to the Scope of Work.

14. In your opinion/Experience, please state whether the Engineer has undertaken successive measures for the resolution of the disputes without referring to the Alternative Dispute Resolution methods? Please elaborate your answer.

-No. Due to the Employer's influence, the Engineer is reluctant to issue their Determinations.

15. In your opinion/Experience, please state as a percentage of the occurrences where the Engineer has represented the Employer in the Dispute Adjudication procedures?

-Yes. 100%. At first instance the Engineer represents the Employer.

SECTION 5- EXPOSURE AND AWARENESS OF THE ALTERNATIVE DISPUTE RESOLUTION METHODS

16. Are your Clients aware about the Alternative Dispute Resolution methods?

-Majority of the Clients are aware about the existence of the ADR methods.

-But, they are not aware about the procedure.

-Sometimes, the Parties adopted the services of a third party contract specialists.

17. In Sri Lankan context, what is the most frequently used Alternative Dispute Resolution method which is used for the final settlement of the disputes?

-DAB/DB

18. In your opinion/Experience, are your Clients aware and concern about the following critical attributes of the Alternative Dispute Resolution methods?

#	Critical Attribute	Awareness			
		Not Aware	Low	Moderate	High
1.	The duration of the proceedings	√			
2.	The cost involved	√			
3.	Preservation of relationship			√	
4.	Flexibility of the proceeding				√
5.	Confidentiality of the process				√
6.	Enforceability of the decision/ settlement	√			
7.	Privacy of the proceeding				√

8.	Obtaining fairness				√
9.	Bindingness of the decisions/ settlement	√			
10.	The parties' ability to control over the proceeding				√
11.	The width of remedy	√			

SECTION 6- ADDITIONAL COST AND TIME INVOLVEMENT OF ADR METHODS

19. In your opinion, please state whether your Clients aware about the Cost and time involvement of the Alternative Dispute Resolution methods?

-Due to the unawareness, the Contractors are forced not to submit their claims. So, they don't refer the matters to the DAB. It's an unethical behavior.

20. As per your experience, please state the reasons for the Parties to refer the disputes to the Alternative Dispute Resolution methods?

-Majority of the Contractor's Claims have been rejected by the Engineer and also sometimes the Engineer has awarded lesser amount of requested EOT and/or associated costs. Therefore, all those events dispute crystalized and they were resolved through DAB or Arbitration.

-Sometimes, the disputes occur when the Contractor demands for their legitimate entitlements and the Engineer rejects the same/ misinterpret the provisions of the Contract.

-Audit Queries do not have a mandate to prevent the legitimate entitlements. The Audit queries do not have a mandate. So, no need to afraid to issue the Engineer's Determinations.

21. As per your experience, please state whether the Parties have been ended up with unnecessary cost and time due to the reason of referring their disputes to the Alternative Dispute Resolution methods? Please elaborate your answer.

-The Parties do not honour the Engineer's determinations under the Contract, while letting the disputes escalate to levels which levels which forces to follow the Alternative Dispute Resolution methods under the Contract.

-Due to the misinterpretation of this provision of the Contract, the dissatisfied party do not honour to the DAB decisions while letting the other party suffer financially and forcing such Party to commence Arbitration in order to delay the obliged monetary compensations as much as possible.

-Engineer is not competent in some of the cases.

-Not competent persons are practicing in the Engineer's position. We observed that most of the consultant's staff are over aged and they don't have their expertise in the relevant field.

-Not Aware about the contracts.

-Undue influence from the Employer. Employer's approval is required prior to the issuance of the Engineer's Determinations.

-Personal issues.

-Prior to commencement of any project the Employer shall allow their financial arrangement, even though in the contract having the provision it has not been used.

22. In your opinion/Experience, did they satisfied with the decisions/awards acquired by the Alternative Dispute Resolution methods rather than Engineer's Determination?

-We observed that the Employer will not honour payment terms in the contract specially certification period, period of payment, interest payments, and payment on disputes at each stage, payments for Variations.

- In your opinion/Experience, how do you see the applicability of the Parties' decision to refer the disputes to the Alternative Dispute Resolution Methods in terms of the involvement of cost and time?

-Contractor makes their decisions in a business mind with great concerns of the involvement of costs.

-For the Engineer, it is considered as just a job.

23. In your opinion/Experience, how do you see the applicability of the Parties' decision to refer the disputes to the Alternative Dispute Resolution Methods in terms of the involvement of cost and time?

-Contractor looks the Cost in the process of taking their decisions.

-For the Engineer, the cost has no damage since they are performing a job.

24. In Sri Lankan context, do the participants of the construction industry honour to the Dispute Adjudication decisions/Arbitration Awards without referring to the conventional litigation? Please elaborate your answer.

- On the other hand, any dispute/disagreement should have resolved at the first or second steps may add up with huge interests given the duration it takes the Supreme Court to exercise of jurisdiction under the Arbitration Act No.11 of 1995.

SECTION 7- RECOMMENDATIONS FOR THE INDUSTRY PRACTITIONERS
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25. Please state your recommendations for the industry practitioners as regards of the reference of the disputes to the Alternative Dispute Resolution methods?

- Selection of the Engineer and appointments with competent professionals.
- Personal issues to be eliminated.
- Issue a proper guideline to regularize proper delegation. [Adhere to the guidelines issued for the Standard forms of Contracts]
- Conduct a document review process with competent third party team prior to floating bids [finalize Employer's Requirements prior to entering into contract, since it is basic requirement of 'enforceable contract'].
- Adhere to the provisions related to the dispute Management as provided in the Contracts and the Engineer's obligations of provided in the Contracts.
- Have a Dispute Management team in the Engineer's Head Office or hiring a reputed third party team to do it or get involved CIDA.
- Arrangement of the knowledge sharing sessions to improve the knowledge of the Engineer's team and the Employer.
- Employer's financial arrangements to be well organized.
- Engineer's impartiality shall be established.