# SUCCESS OF ADJUDICATION AS A PRIMARY ADR METHOD IN SRI LANKAN CONSTRUCTION INDUSTRY

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Degree of Master of Science in Construction Law & Dispute Resolution

Department of Building Economics

University of Moratuwa

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I, Suranga Jayasena – senior lecture of the Department of Building Economics of University of Moratuwa, affirm that the above author Mr. M.J. Shyamal has carried out the research under my supervision in the fulfilment of his Masters in Construction Law and Dispute Resolution.

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## DEDICATION

Dedicated to my Parents with much love,

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## ACKNOWLEDGEMENTS

I express my heartiest greetings to all, who encouraged me in many ways to make this research a success.

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## ABSTRACT

Due to the rapid growth of the construction industry and its complexity and multiparty involvement, disputes are unavoidable. Construction industry requires an effective dispute resolution system which has key characteristics like fast and cost effectiveness to avoid unnecessary delays and cost overruns. Litigation as the conventional dispute resolution system has proven that it is not appropriate for construction disputes due to its inherent characteristics.

Alternative Dispute Resolution (ADR) mechanisms have been developed to accommodate this requirement to resolve the construction disputes. Adjudication is one of the most significant and well spread ADR method in construction industry. Adjudication has introduced to the Sri Lankan construction industry through Federation Internationale Des Ingenieurs Conseils (FIDIC) standard form of contract and Institute for Construction Training and Development (ICTAD) standard forms of contracts, and recently through Construction Industry Development Act No. 33 of 2014.

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Purpose of this research was to study prevailing practice of adjudication in Sri Lankan construction industry in terms of applicability, procedure and skill level of professionals involved in the process. Based on that to assess the success of adjudication as an ADR method in the Sri Lankan construction industry and to finally find an answer whether the industry is getting full potential of adjudication to resolve the construction disputes.

The findings of the study reveal that though adjudication is widely used, the industry does not receive its full benefits.

**Key Words** – Sri Lankan construction industry, disputes, ADR methods, adjudication, success

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# LIST OF ABBREVIATIONS

| | |
|---|---|
| ADR | Alternative Dispute Resolution |
| CIDA | Construction Industry Development Authority (formerly ICTAD) |
| CIDB | Construction Industry Development Board |
| DAB | Dispute Adjudication Board |
| DRB | Dispute Resolution Board |
| FIDIC | Federation Internationale Des Ingenieurs Conseils |
| HC | High Court |
| HGCRA | Housing Grants Construction and Regeneration Act |
| HK | Hong Kong |
| HKIAC | Hong Kong International Arbitration Centre |
| ICTAD | Institute for Construction Training and Development (presently CIDA) |
| ISM | Institute for Surveyors Malaysia |
| NSW | New South Wales |
| NZ | New Zealand |
| RICS | Royal Institution of Chartered Surveyors |
| SG | Singapore |
| UK | United Kingdom |
| USA | United States of America |
| VAT | Value Added Tax |

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# LIST OF CASES

*Dawnays Ltd Vs. Minter Ltd* [1971] 1 W.L.R. 1205

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*Mercurry Vs. Director General of Telecommunications (1994 138 S.J.L.B 183)*

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*Balfour Beatty Construction Ltd Vs. Lambeth London Borough Council* (2002) EWHC 597

*Discain Project Services Ltd Vs. Opecprime Ltd* (2000) BLR 402

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*Gilbert Ash (Northern) Ltd Vs. Modern Engineering (Bristol) Ltd (1974)*

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# 1. INTRODUCTION TO THE RESEARCH

## 1.1 BACKGROUND

Various parties are engaged in the construction projects and it depends on the nature of the project. Because of those various types of parties, conflict among the contracting parties cannot avoid. Conflict means clash of interests between any of the contracting parties. If the worried parties feel unable to come to a compromise regarding the conflict, it turns to a dispute (Chong, 2011).

Harper (2010) found that there had been two combined systems in resolving problems over 100 years ago. He published them as non-binding decision and informal ad hoc arbitration. When there emerges a conflict, immediately project architect or the project engineer looked into the matter and they gave the non-binding decision and on the other way informal ad hoc arbitration was organized at the site level to seek a quick decision on disputes arising from the architect or engineer's decision.

Alternative Dispute Resolution (ADR) techniques were developed by the time. It varied from self-deterministic to third party impose methods such as negotiation, mediation, conciliation, neutral evaluation, expert determination, adjudication and arbitration.

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Mackie, Miles, & Marsh (1995) identified three main techniques to resolve disputes as negotiation, third party intervention (does not involve binding decision by third party) and adjudicative process (imposed binding decision) by a third party.

From mid 1980s there was a boom for ADR in legal and quasi-legal fields. But as per Gould (2003) origins of ADR system for resolution of disputes may be ancient and Eastern. But evidence of DAB (Dispute Adjudication Board) can be found in the construction industry from 1970s. Ling (2006) observed that the adjudication has the historical evidence since 1970s when adjudication was tried to check in the construction field newly in main contractor versus sub-contractors for specially limited aspects. It can be identified that at the earlier stage construction adjudication widely used to resolve the monitory disputes.

There was range of definitions given for the adjudication. As per Maritz (2009) adjudication is a third party intermediary appointment to resolve a dispute between the disputants. And he also given another type of definition is saying that, adjudication as a mutual exclusive event from litigation and arbitration and the cost of adjudication shall be borne by the related parties to the adjudication.

As defined by the Maikesto & Maritz (2012),

> The term adjudication can be misleading, in its general meaning it refers to a process where a judge decides the case. And or more precisely adjudication may be defined as a process where a neutral third party gives a decision which is binding on the parties in dispute unless or until revised in arbitration or litigation. The term "adjudicate" is found in general usage to mean "to give a ruling" or "to judge". In more recent times, a specialised use of the term "adjudication" appears as a form of ADR available to the construction industry.

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Adjudication was developed in the construction industry basically to protect the smaller entities from large entities (sub-contractors from main contractors and clients). Frequently sub-contractors face the problem of not receiving their due moneys from the main contractor or from the employers causing them severe cash problems. Lord Denning in his famous judgment in the Court of Appeal in *Dawnays Ltd Vs Minter Ltd* [1971] 1 W.L.R. 1205 said about construction disputes: *"There must be cash flow in the building trades. It is the very lifeblood of the enterprise". One of the greatest threats to cash flow is the incidences of disputes, resolving them by litigation is frequently lengthy and expensive. Arbitration in the construction industry is often as bad or worst".* The court also had a view that the construction industry requires an economical and speed mechanism to resolve disputes.

Arbitration was the most popular ADR mechanism before the adjudication. But its popularity declined due to its adversarial nature which closes to the litigation (Kennedy, 2008). Involvement of an expert third party has encouraged the

development of adjudication. Adjudication is more concentrated to time, binding effect, procedure and characteristics of the adjudicator and always economical than the arbitration in all aspects.

Dancaster (2008) argued that, the construction industry's usual practise did not encourage the arbitration and reluctant to proceed with it. This is due to the rapid growth of construction industry, the huge volume of the work itself, the complexity of the projects and the mass scale investment caused ground for the changes. Further Kennedy (2008) found that the systematic steps of adjudication are more transparent and accommodative than arbitration and litigation and adjudication was expected to be investigative than adversarial system.

Arbitration was losing its popularity in late 1970s and early 1980s in the construction industry of United Kingdom (UK). Most probable reasons could be its adversarial type and applicability. According to Hinze (1993) the nature of arbitration is that to start the process, project has to be completed and it takes much more time.

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Parties are bound by the decision of the adjudication and the limit of that binding is the start point of arbitration (Brand & Davenport, 2010). But to resolve dispute by adjudication there should be legal contract between disputant. And lot of legal doctrines have involved in the adjudication regarding jurisdiction of adjudication, challenges to the decisions and its enforcement especially where statutory adjudication exists.

Usual worldwide trend in any business was to try to adhere the newly identified or introduced techniques and this is applied in the construction industry as well. Trend resulted to shift traditional dispute resolution forms to ADR methods. United Kingdom, New Zealand (NZ), Singapore (SG) and New South Wales (NSW) of Australia are some countries that adopted the new trend very rapidly.

Informal ADR have unique feature, whereby legal agreement should be existed to make it applicable or willing to use it and it depends on the characteristics and the nature of the parties who suffer the disputes (Yates, 2007). Statutory adjudication is use of legislative power to resolve dispute by adjudication before arbitration. Maritz

(2009) urged that it is compulsory to go for adjudication prior to arbitration unless the parties concerns are reluctant to do it because they need to fight with the time factor.

Wong (2011) found that UK construction industry has enacted the compulsory adjudication by introducing statutory adjudication and it shall be included in all related construction contract types to accomadate the practice. Further act provides default actions wehre parties failed to provide mechanism for payment and act nullifies all unfaire payment terms introduced to the conatruction contracts.

Housing Grants Construction and Regeneration Act (HGCRA) 1996 amended by the enactment of the Local Democracy, Economic Development and Construction Act 2009, Part 8 by UK parliament on 12 November 2009.

As per Gmmell & Entwistle (2010) main argument and the aim of that enacted act is to reduce unfair payment terms by provide necessary provisions to force the parties to go for adjudication as ADR method and to resolve any disputed in payment terms making the adjudication easier for its users.

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Stephen (2005) mentioned that the HGCRA Act 1996 (otherwise known as "The Construction Act") accommodated the statutory compulsory stance to adhere to adjudication in UK construction industry. It was very simple and made less disputes in selecting the method of ADR, when there emerged any dispute.

Construction adjudication is one of the common and popular ADR method use in Sri Lankan construction industry. It can be a sole adjudication or a Dispute Adjudication Board (DAB) consist of three adjudicators. DAB provisions are inbuilt in Conditions of Contracts such as FIDIC - 1999 (Federation Internationale des Ingenieurs-Conseils) and ICTAD (Institute for Construction Training and Development) SBDs (Standard bidding Documents).

In general practice two types of construction adjudication methods practises in the international construction industry. Statutory adjudication; statutorily provided as a precedent method for dispute resolution before arbitration. And other method is having a legal agreement between disputant parties to settle dispute by adjudication.

In conclusions, adjudication acts have the provisions to these. Parties are bound to use the provisions in the act and all the provisions are set clearly in the act avoiding any misunderstandings and misrepresentations any (Wong, 2011).

Most of construction disputes in Sri Lanka at early days was settled among parties at site level having relaxed meetings. But now those disputes are lengthier and complicated. Comparatively present day construction projects are bigger in size and more complex. As a result, probability of cost and time overruns are increased. To overcome this circumstances industry, tend to use ADR methods to resolve their disputes quickly (Anonymous, 2013).

Arbitration plays a key role in Sri Lanka as an ADR method in the construction industry because it was the traditional ADR method and it empowered by the legislature (Arbitration Act No. 11 of 1995). Till the introduction and related development of ADR and the more usage of the practitioners, arbitration was there in the place of traditional form allowing dispute resolution provisions to the users. Gradually adjudication and mediation absorbed the place of arbitration in the real practical world of disputes.

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Sri Lankan construction industry does not have statutory provision for adjudication and it governs by the agreements between disputants. The adjudicator's decision has no statutory recognition like arbitration which has legislative power by enactment of Arbitration Act in 1996. Practice of adjudication is based on FIDIC and ICTAD forms of contract provisions which include adjudication as an ADR method before the arbitration or litigation.

## 1.2 RESEARCH PROBLEM AND RATIONALE

Adjudication is being used in Sri Lankan Construction industry as a primary dispute resolution method in absence of adjudication act, established procedural rules, proper training programs and established institution. There for it gives rice to the question that "is the construction adjudication successful in Sri Lankan construction industry as a primary ADR method?"

## 1.3 AIM AND OBJECTIVES

Main objective of this research was to observe the practice of adjudication adopted in the Sri Lankan construction industry and assess its successfulness.

1. To study prevailing practice of Sri Lankan construction adjudication in terms of its applicability, procedure and types of professionals involved with their education and experience on construction adjudication.

2. To assess the success of construction adjudication in Sri Lankan construction industry based on parameters established in the literature review.

3. Find and suggest appropriate facts which help to development of Sri Lankan construction adjudication if any.

## 1.4 METHODOLOGY

The study consists of a literature survey and a field survey.

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**Literature Survey:** Literature survey focused on available literature in order to find out about research problem and based on various research papers, articles, books, electronic data and many other related inputs which were recognized as acceptable resources for the research dissertation.

**Field survey:** in the field survey, comprehensive questionnaire survey conducted among selected professionals to obtain their views on the research topic. Forty-six numbers of professionals who are working in Sri Lankan construction industry responded for the questionnaire survey.

## 1.5 SCOPE AND LIMITATIONS

This research limited to the adjudication for construction contracts in Sri Lanka which used FIDIC 1999 and SBD2 as Conditions of Contracts.

## 1.6 CHAPTER BREAKDOWN

Chapters in this thesis are arranged as follows.

**Chapter One: Introduction to the research**

Gives an overview of the research dissertation and clarifies the aim, objectives, scope of the research and the methodology of the research.

**Chapter Two: Literature Review**

Study and present published knowledge in relation to research problem in an analytical way. Further this chapter describe, summarize, evaluate and clarify the research problem to gain a good knowledge about the background about it.

**Chapter Three: Research Methodology**

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Discussed the ways and means used to fulfilment this research and this chapter includes the significance, research settings, design and the method and process of the data analyses.

**Chapter Four: Research Findings and Analysis of data**

Presentation of research findings from questionnaire survey.

**Chapter Five: Conclusions and Recommendations**

Conclusion of the research with the findings, recommendations and further research approaches.

# 2. LITERATURE REVIEW

## 2.1 INTRODUCTION

A detailed introduction to the research consisted in Chapter One. Further, this chapter provides a discussion of the existing knowledge regarding construction adjudication and its application in international and Sri Lankan construction industry in detail.

## 2.2 CONSTRUCTION INDUSTRY AND DISPUTE RESOLUTION

According to Chong (2011) existence of many parties in any construction project as the construction industry's nature and the involvement of many parties who has different goals, interests and different characteristics, it is inevitable to create or emerge disputes or conflicts in between.

Complex nature of the construction industry and its environment described in the case *Emson Eastern Vs. EME Development Co* (1991) 55 BLR 114. In this case, the court held that '*…building construction industry is more different than any other industry due to its nature itself – more parties, topography of the project, people gathered to finish the job, variety of materials use, types of simple and sophisticated plants and equipment…etc. make it different and impossible to treat the same degree of any other manufacturer can…*'. Longer duration, involvement of high monitory involvement as well as large number of stakeholders from different industries increases the possibility of occurring disputes. Not only within the contractual relationship in between client and contractor, some disputes can occur with the neighbours of such construction.

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Three types of main dispute resolution techniques identified by the Mackie, Miles, & Marsh (1995) which used to resolve the construction disputes are namely, (1) negotiation, (2) third party intervention (but does not involve binding decision by third party), and (3) adjudicative process (imposed binding decision by third party). If the ADR procedures did not work and the dispute exists further among parties, they have to refer the conflict or matter to a neutral third party to get a binding decision to the dispute. This is a major deviation and all the characteristics and the nature of the dispute shall be addressed carefully. This deviation consumes more cost and time to

the parties, and most of the time this needs the assistance of external lawyers, consultants and most of the time expert witness. This will be a case for arbitration, a proceeding before a separate judge, failing with more public, expensive and time consuming method of litigation (Cheung, 1999).

Large and complex construction projects have more potential to having disputes rather than smaller projects. By introducing tiered system of conflict resolution methods or process it expects that disputes deal in an initial stage, sooner they arise and most of disputes will process out, or decrease the magnitude of the dispute at an early stage in the process as practicable. This protects and reinforces the valuable commercial relationship which can be destroyed or come to an end due to litigation procedure (Gould, King, & Britton, 2010).

## 2.3 HOW CONSTRUCTION DISPUTES ARE RESOLVED

As explained by Harper (2010) history of more than 100 years proved that the construction industry was used to accommodate two types of dispute resolution methods namely;

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(1). A non-binding decision taken at bottom site level by site representatives, may be the project engineer or the relevant architect to the project; and

(2). If non-binding decision taken was further disputed, then use an ad-hoc arbitration process as the dispute was not resolved in the negotiation process.

As explained by Howard (2006) in later 1980s, only two methods of dispute resolution were practiced in Construction Industry. Freshly negotiate and subsequently go to arbitration process if the parties concerned were not able to come to an amicable settlement in the first instant.

ADR processes consists more advantages over the litigation. ADR processes lead to a meeting between parties where an excuse is offered. Parties can also facilitate an aggrieved party to participate in the creation of new procedures or arrangements to prevent a recurrence of the incident in dispute which happens in litigation. This highlights a key feature of ADR that this process had the potential to enhance the

empowerment of those involved in its processes. Even a memorial to victims of a perceived wrong can also appear from a mediated agreement. The flexibility offered by ADR processes is an important aspect of a civil justice system in its widest sense (The Law Reform Commission, 2010).

### 2.3.1 DEVELOPMENT OF ADR

ADR, also called as "Appropriate Dispute Resolution" frequently defined as any type of process used to resolve a conflict by means of adjudication conducted by a judge in a statutory court (The world bank group, 2011).

Various techniques of dispute resolution developed and practiced by formal bodies and institutions in United States mainly accredited to evolution of modern dispute resolution techniques. Francis Kellor started the American Arbitration Society. It was in 1922 and it was the first legal entity to implement dispute resolution methods (Denny, 2007).

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As explained by Gould (2004) dispute resolution method of ADR has gained more popularity in legal and quasi-legal fields from early 1980s. After that during 1990s ADR has been developed much with more understanding with most of the professionals in the industry. More recent investigation described the applicability of a neutral third party mediator who assists the parties to arrive at a voluntary, consensual, negotiated settlement for their dispuets though the mediation concept was borne and mostly practiced in Eastern.

As highlighted by Brown, Christine, & David (2010) in early 1980s the popularity and the usage of ADR were increased and got renowned due to its reasonable cost and the limited time taken. Further, more business entities (companies and individuals) entered into the construction industry as ADR facility providers.

Early methods of friendly settlements in conciliation process have already been well established in western territories. By the time the aggressive parties understood the importance of ADR methods as easy and reliable dispute resolution techniques (The world bank group, 2011).

The process of ADR performs in different settings, using various ADR types, and in many situations of legal or procedural rules as per the necessity. Term ADR covers wide arena of processes, ranging formal proceedings to judge and judicial proceedings conducting in the presence of public court affirming the privacy and it conducts by a neutral third fellow in a different place which is accepted and binding to all concerned (The world bank group, 2011).

In recent years the development of ADR methods and its repercussions on developments towards construction Industry has been more outstanding. Proof of this development and revolution is well addressed via the introduction and modifications of dispute resolution clauses in standard forms of contracts. More professional entities with almost all construction bodies engaged in drafting standard forms of contracts with the target of allocating a wold wide acceptable, flexible and equitable contract forms that can apply to most types of construction projects, what applied the industry in these time is a multitude of ADR types and hybrid ADR methods (Waldron, 2006).

One major cause to the increased use of ADR was that litigation process before a judge or jurisdiction carries inherent risk that parties may not exist in the vicinity of conflict in terms of their contract. It is understood that a judge or jury must apply the ongoing law to the facts of conflict and they view the facts in a different way. More often, jurors seek facts from available data or information such as testimony or previous records, which may or may not be correct. When it is a bench trial (held in front of a team of judge without a jury), the legal person may use his discretion provided by legislations in a way that ends up with one party losing and other gaining. And this is the risk in the courts, due to this risky situation usually parties like to refer ADR (Susan & Judson, 2009).

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Present day courts encourage parties to refer ADR before going to courts. There were more sophisticated judicial judgements that caused order against successful litigants. As a result of they referred courts before ADR. The starting point was the case *Susan Dunnett Vs. Railtrack Plc* in the Court of Appeal. Susan lost three horses as the gate to her paddock had been kept open, which had been replaced by Railtrack Plc. allowing the horses to enter there. Gate opened as not locked; and found no any other ways to

door to be automatically closed. Susan had warned Railtrack Plc that people make the gate open. Upon the appeals and later followed cross appeal from the first instance decision and in granting permission to appeal the Lord Justice stated that, mediation or a similar process would be highly necessary in this particular case because of its inherent flexibility (Gould, 2004).

In other court case, the court of appeal was in effect following the view of Lord Woolf in *Frank Cowl Vs. Plymouth City Council*. The Lord Woolf emphasised the need for parties in dispute with public bodies to consider ADR before the court. Lord Woolf said that *"today sufficient should be known about ADR to make the failure to adopt it, in particular where public money is involved, indefensible."* *Susan Dunnett Vs. Railtrack Plc* Lord Justice Brooke stated that: *"When asked by the court why his clients were not willing to contemplate alternative dispute resolution, said that this would necessarily involve the payment of money, which his clients were not willing to contemplate, over and above what they had already offered. This appeared to be a misunderstanding of the purpose of alternative dispute resolution. Skilled mediators are now able to achieve results satisfactory to both parties in many cases which are quite beyond the powers of lawyers and the courts alike."*

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However White (2010) stated that, in resolving appropriate disputes both internally within the public sector and when the state is a party to a civil dispute, the Lord Woolf noted that, *It is important to note that ADR is not a panacea for all public sector disputes, it has its limitations and it is not always appropriate".*

Rapid development of ADR in the construction industry started during the era of 1980s. There were several court interventions to state that the importunacy of having ADR proceedings before a public court. Even some Judges were emphasized the importance of ADR for dispute resolution, especially regarding disputes involved in public money. Next section discusses about how this development occurred to have wide spectrum of ADR methods in construction industry.

## 2.4 ADR METHODS IN CONSTRUCTION INDUSTRY

ADR covered a wide range of approaches to resolve disputes; from party-to-party engagement in negotiations was the more direct and primitive means to reach an amicable settlement. Arbitration and adjudication have an involvement of external party to reach a settlement. ADR processes between these two aspects lies "mediation," a process which helps a third party to help the disputants to come to a mutually agreed result (Yona, 2003). There were two means that a third party can interfere to solve an argument. Third party can help to come to an outcome or they can help the parties to make an acceptable agreement between them. (Chris et al, 2014). As per the world bank group (2011) ADR processes can be categorized into two groups considering the role of the neutral person in the procedure.

### 2.4.1 RECOMMENDATION BASED

Here the neutral party proposes to the disputant parties on how the conflict shall be addressed without posing them to a solution as the parties are free to accept or throw away these neutral third party recommendations. Neutral third party's stance and persuasion can be highly persuasive. These processes can be identified as negotiation, mediation, conciliation and early neutral evaluation. In providing suggestions, the third party is more limited in recommendation based type and it is only a facilitative based processes. There are fewer requirements for a legal framework, which based on the prevailing legal system of the subjected country.

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### 2.4.2 ADJUDICATION BASED

In this method, processes such as arbitration, adjudication or expert evaluation - the role of the neutral third party is to provide a decision to the conflicted parties after some form of hearing or decision making process. The decision provided by the neutral third party is binding to the related parties either by consent or via the enacted legal procedures. Also in this type adjudication based models can be used and they may be in the forms of arbitration and adjudication require supporting legislation. Finally, alternative judicatory forum is required to enforce the reached settlements and this may be more like as an arbitral award.

## 2.5 FORMS OF ADR METHODS

Below figure 2-1 illustrates range of ADR options available and degree of the usage of a third party to solve disputes. Also illustrates settlement of dispute based on the agreement of parties and a settlement via a third party decision. Hybrid approach is immerged having characteristics of two systems.

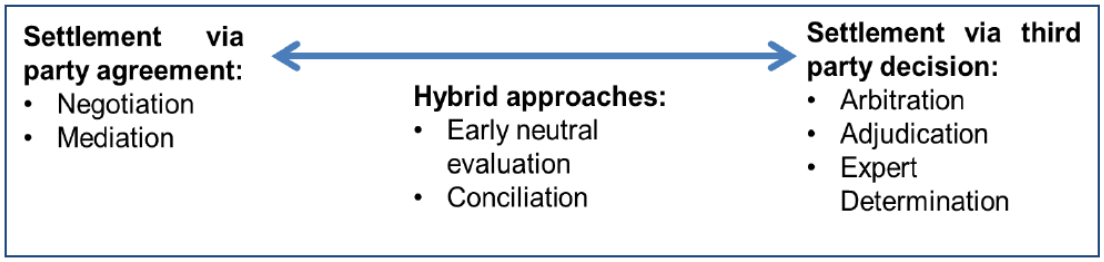


**Figure 2-1: ADR options available in construction industry**

**Source:** (Chris, Williams, Carol, & Carolyn, 2014)

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**Table 2-1: ADR options available in construction industry in detail**

| Form of dispute resolution | Characteristics |
|---|---|
| Negotiation | Negotiation is the most common and primary form of dispute resolution, which has a comparatively friendly process where parties talk about the matters amongst themselves with an aim to come to an amicable settlement. There exist no set ways for this method and negotiations changes from simple to structured settlement meetings and perhaps with the assistance of a competent negotiator. |
| Mediation | Mediation involves a neutral representation who acts as a facilitator in finding solutions to a dispute between parties. Descriptions of the procedure to be followed frequently set out in an agreement to mediate which is to be agreed by the parties at the initial stage. Mediations can be face to face or on the |

| | |
|---|---|
| | telephone and tend to involve both separate meetings between the mediator and parties. |
| Conciliation | This is usually accepted to get the assistance of a neutral third party who plays an active role more the mediation process in putting forward suggestions for settlement or an opinion on the dispute and its possible settlements. The conciliator might facilitate a negotiation between parties where possible on their own terms or suggest a potential solution if the parties cannot agree. This proposal can be process in writing. |
| Early Neutral Evaluation | The neutral evaluator provides an opinion in the early stage of the dispute and the likely outcome of the case if it were to be litigated. Evaluator tries to guide the parties together and help them in come to an agreement in the common consent. This gives more understanding into the strengths and weaknesses of the matter and let the parties to recognise areas of agreed and disagreed terms and to focus in to the dispute that stands to get the settlement. Also there may be a 'reality check' for the disputed parties and can lead to more targeted and cheap dispute settlement methods. |
| Expert determination | This involves the help of an independent expert to assist to solve a matter. Many types of expert determination are practiced. Here an independent expert is engaged to provide expert advice to the adjudicator who acts as the in charger in reaching a decision on the dispute: an independent expert is appointed to reach a binding decision; or the parties may each commission independent expert reports to provide to the adjudicator. |
| Adjudication | Adjudication processes involves an independent neutral third party with specialist knowledge (the adjudicator or board of adjudicators) reaching an independent decision to the dispute. Although similar to arbitration procedure, adjudication processes can be simpler, and usually produce decisions that are binding |

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| | |
|---|---|
| | on parities agreement. It can be more flexible and adjustable to meet specific commercial or other disputes. |
| Dispute Review Boards (DRB) | The concept of the Dispute Review Board (DRB) appears to have developed in the USA. It is essentially a process where an independent board containing three experts evaluates disputes as they arise during the project and make recommendations for settlement to the parties. |
| Arbitration | Arbitration involves an independent neutral third party (the arbitrator or panel of arbitrators) reaching an independent decision on a dispute. The process of arbitration can vary depending on circumstances such as procedural rules, acts etc., but must be agreed in advance with an arbitration agreement. Some arbitration may involve hearings similar to those used in litigation, while others will involve only written submissions. In most cases the arbitrator's decision is legally binding on both sides. For example, practice of arbitration in England and Wales is formally regulated by the Arbitration Act 1996 of UK. |

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**Source:** (Chris, Williams, Carol, & Carolyn, 2014)

Among all ADR mechanisms available, this research will focus on the construction Adjudication as a primary ADR method to resolve disputes in Sri Lankan Construction Industry. Construction contract commonly use in Sri Lankan construction industry having provision of adjudication as a dispute resolution mechanism before arbitration and litigation. Especially in FIDIC conditions of contract (1999) and Standard Bidding Documents (SBDs) published by the ICTAD.

## 2.6 CONSTRUCTION ADJUDICATION

The term adjudication can be misleading in its meaning itself. In its general sense it refers to the process by which a court judge decides the case. *"Adjudication may be defined as a process where a neutral third party gives a decision, which is binding on the parties in dispute unless or until revised in arbitration or litigation"* (McGaw,

1992). As stated by Maikesto & Maritz (2012) *"adjudication is often defined by reference to what it is not Adjudication is not arbitration or litigation, nor is adjudication a decision by the Engineer / Project Manager. The adjudication is completely independent and is paid by both parties"*. There were range of definitions given for the adjudication. As per Maritz (2009) *"adjudication is an external party intermediary appointment to solve a conflict between the parties concerned.*

According to Gould (2004), adjudication had an impact over the arbitration and litigation. Practice of construction adjudication had become more familiar and easy for the users in the industry, and there has been an increasing use of adjudication. As per more resent researches suggested that few claims progress beyond adjudication, perhaps supporting a decrease in the use of arbitration and litigation (Gould, 2004).

### 2.6.1 HISTORICAL BACKGROUND OF CONSTRUCTION ADJUDICATION

Ling (2006) Observed that, origins of construction adjudication has the history where it was used for selected aspects in 1970s to resolve disputes in the construction industry among parties to the contract. During this stage construction adjudication mostly involved in monitory disputes between parties. There were many complaints against the main contractors from sub-contractors for defaulting their payments on the account of claims of delay. After *Modern Engineering (Bristol) Vs. Gilbert-Ash (Northern) (1974) AC 689* the construction industry of United Kingdom (UK) decided in order to withhold payments to a sub-contractor, main contractor shall notify the sub-contractor of the idea with the ground of defence, or counter-claim. When dispute arises between parties, it referred to an adjudicator, who decided what to do for the disputed money.

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The term construction adjudication is not new to the world of construction contracts. Bowes (2007) emphasized that, in early 1970's adjudication was introduced by the JCT standard form of contract (Contractor's design). But this provision was not widely used in the industry. Adjudication made its first appearance in the standard form of nominated subcontract for use in the Joint Contracts Tribunal (JCT) system (the green

form) in 1976. And later amended in the House of Lords decision in *Gilbert Ash (Northern) Ltd Vs. Modern Engineering (Bristol) Ltd (1974)* (Redmond, 2001).

As per above paragraph it was clear that the construction adjudication was introduced into the construction industry primarily to prevent abuses by large employers or main contractors. These withheld payments by the main contractors to smaller sub-contractors, causing the serious cash flow problems and direct sub-contractors under intense commercial pressure to settle for less than they were owed. Graham (2005) highlighted, Lord Denning in his famous judgment in the Court of Appeal in *Dawnays Ltd Vs. Minter Ltd* [1971] 1 W.L.R. 1205 said that: *"There must be cash flow in the building trades. It is the very lifeblood of the enterprise". And "One of the greatest threats to cash flow is the incidences of disputes, resolving them by litigation is frequently lengthy and expensive. Arbitration in the construction industry is often as bad or worst".* It was evident that the court also in a view that, the construction industry requires an economical and fast mechanism of ADR method to resolve the disputes amount parties at the initial stage of they occur.

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Dancaster (2008) further explained that, changes of payment nature in the industry was one of another essential factor contributed to the success of the construction adjudication. The construction industry has been known with the payment default, either non-payment or late payment. This type of incidents mostly appeared in the sub-contracting sector of the industry, which found that the payment times lengthening and more difficult in obtaining payment for the full work executed by sub-contractors. Therefore, adjudication emerged as a popular ADR method in the construction industry which helps to avoid or delay cash flow disputes in projects otherwise consequently results in large project failures.

### 2.6.2 LEGAL ASPECTS OF CONSTRUCTION ADJUDICATION

Adjudication practice in the construction industry worldwide can be categorized into two main groups, statutory adjudication and contractual adjudication. There is no provision for adjudication, when there has not been any signed contract. Adjudication is only available because there is a term in the contract to refer the disputes to the

adjudication process before arbitration or litigation (Redmond, 2001). But this argument is challengeable in terms of statutory adjudication. Statutory adjudication is the use of adjudication as an ADR method statutorily provided for and as a precedent method before arbitration or litigation. The decision made by the adjudicator is temporary binding on the both contractual parties, unless it is challenged in stipulated time period mentioned in their contract. Contractually adjudicator does the job in same basis, but the adjudicator's power to give the decision is enforced by the agreement between the two parties (Maritz, 2009). This legislative adjudication ensures the security of payment for aggrieve party. As per Brand & Uher (2004) the term assurance of payment described as the entitlement of the construction industry users, such as subcontractors, consultants, contractors and suppliers, to receive their due moneys in a construction contract provisions from the other party ranked in a higher place in the contractual chain.

As per the arguments of Gould (2003) the legal characteristics of the adjudication can be summarised in to five groups.

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1. Adjudicator is a neutral third party who does not involve in the day-to-day events of the contract. The adjudicator is neither an arbitrator nor a judicial judge.

2. Adjudicator enjoys the powers vested by the agreement between the parties. Further, the parties have agreed in the contract that the adjudicator have the power to settle their dispute within the described parameters of the contract or otherwise.

3. The decision given by the adjudicator is binding to the parties, because of that mediation does not require the proper help of both parties to settle the dispute.

4. The adjudicators' decision is binding until the end of the contract or for a given time period, as either party may seek to review the given decision.

5. Adjudication is not arbitration and it is not governed by the arbitration Act.

As per above facts it can be seen that the adjudicator having his power to resolve the dispute by quality of the contract between conflicted parties. In presence of adjudication act the adjudicator having power to resolve the dispute even if there is no contract between parties. The jurisdiction of the adjudicator discussed in next section.

### 2.6.3 JURISDICTION OF THE ADJUDICATOR

It is a precondition for both adjudication and arbitration, there must be a dispute or conflict existing. If there was no dispute, then an appointed adjudicator or arbitrator would have no matter to be resolved and nothing to refer and no matter to solve (Angus & Robet, 2007).

In the case *Palmers Ltd Vs. ABB Power Construction Ltd [1999] Adj.L.R. 08/06* Mr. Justice Dyson and his honour judge Thornton QC considered that an adjudicator could not decide whether he has jurisdiction or not. In the case of *Mercurry Vs. Director General of Telecommunications (1994 138 S.J.L.B 183)* after that Lord Justice Hoffmann suggested that the adjudicator should decide other issues, jurisdiction could then be decided in court. In the case in *British Shipbuilders Vs. VE (*[1997] 1 Lloyds *Rep 106)* Justice Lightman had suggested the same opinion.

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Humphrey Lloyd QC J in his judgment in the English case of *Balfour Beatty Construction Ltd Vs. Lambeth London Borough Council* (2002) EWHC 597, concurred that, "*principles of natural justice applied to adjudication may not require a party to be aware of the case that it has to meet in the fullest sense since adjudication may be inquisitorial or investigative rather than adversarial".* Adjudication to be executed under rules of natural justice, even though the courts would be less likely to interfere where a decision based on the declaration of existing rights than when an adjudicator effectively creates rights by his decision (Tony, Delia, & Simon, 1999). Angus & Robet (2007) explains that natural justice which provides that every party to a dispute must be given a fair and reasonable opportunity to present their case and to answer the case of its opponent.

Judge Bowsher QC in his judgment in the case of *Discain Project Services Ltd Vs. Opecprime Ltd* (2000) BLR 402 observed the following: *"... [One] has to recognize that the adjudicator is working under pressure of time and circumstance which makes it extremely difficult to comply with the rules of natural justice in the manner of a Court or an arbitrator".* This court case provided a clear answer to the reason why adjudicator has legal immunity. Ling (2006) has been argued that, principles of natural justice applicable to arbitration and litigation proceedings have been well established but it may be unrealistic to expect from adjudicators to act under such context of the legislations to comply with these principles to the same extent like in litigation under difficult time constraints.

Construction adjudication and its legal aspects including jurisdiction of the adjudicator discussed above with legal immunity of the adjudicator. It is evident that well-structured and empowered adjudication process gives better outcome.

### 2.6.4 LIMITATIONS OF ADJUDICATION

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As Cheung (1999) highlighted, ADR techniques such as mediation, mini-trials and adjudication having typical characteristics of non-binding nature. Theses process require detailed historical factors relating to the dispute with great preparation. Beyond this stage is to refer the dispute to third party to have a binding decision. Identification of opposing positions, assistance of lawyers, witnesses, in the arbitration a process before litigation.

Lord Ackner described adjudications as a quick process, provide interim decisions lasted until practical completion of the project, if not accepted by parties to be referred to the arbitration or litigation.

The original purpose of construction adjudication was to provide fastest, quickest, and more reliable mechanism to resolve disputes. Range of adjudication evolved from payment disputes to all other types of disputes (Oats, 2015).

Parties in the dispute have agreed by contract to accept the adjudicator's decision and if either party expect a revision for it to be resolved by the arbitration or litigation (Gould, 2004).

Based on the literature highlighted above it can be noted that prime intention of construction adjudication was to settle the dispute at earlier stage to minimise the disturbances to the project within the contractual framework. Before the adjudication most of contract forms having opportunity to get the Engineer's decision or determination concerning the dispute. When parties not agreed with the engineer, dispute referred to adjudication. It seems that adjudication prevails just above the Engineer's decision or determination not to incorporate much legal interpretations in to the process like in arbitration.

But with the available literature it can be seen that subject of law was interacted with the adjudication more than it had to be, and in practice of adjudication in the industry, practitioners tend or prefer to incorporate more legal aspects in to adjudication to have a legal impact on the decision. More legal aspects or characteristics to adjudication resulting new version more similar to the arbitration and automatically it forms a gap or vacuum in place of adjudication. This situation arises a question about the intended purpose of adjudication.

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Next section is a discussion about practice of adjudication in other countries.

## 2.7 CONSTRUCTION ADJUDICATION ALL OVER THE WORLD

Construction Adjudication has been introduced into practice in many countries either by standard forms of contracts or by statutorily. World Bank published 'Procurement of Works' in 1990 which contained a modified FIDIC contract with provisions for DRB to publish non-binding recommendations. In 1995 FIDIC introduced a new version of design and build contract which incorporated the DAB as a contract option. Adjudication acts provide the provisions to the contracts as if the parties failed to agree

on a system for handling money. Further acts are nullifying unfair conditional payment terms in most of construction contracts (Wong, 2011).

The legislations are varied, from the Notice of Referral, the adjudicator - United Kingdom – 28 days, New South Wales (NSW) – 10 calendar days, Australia - 20 days and New Zealand (NZ) 15 days and 14 days in Singapore (SG), to render a decision. When decision has been rendered, the favoured party can enforce it summarily in the court if the losing party refuses to comply with the final award. These matters can identify via the adjudication applications clearly described in many countries.

### 2.7.1 UNITED KINGDOM

At the earlier stage litigation was the only option for dispute resolution in the construction industry of UK before introduction of arbitration act (Fenn & O'shea, 2014).

UK is the first country introduced and enforced statutory adjudication into the construction industry, the Housing Grants Regeneration and Construction Act (HGCRA) 1996. It is a mandatory requirement in UK to provide adjudication provision in the construction contracts. The adjudication act having default provisions to the contract where the parties failed to agree on a mechanism for payment. The acts nullify any unfair payment terms and provisions under the construction contract (Wong, 2011).

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Stephen (2005) mentioned that the HGCRA 1996 ("the construction act") provided drastically changes to the resolution of conflicts in UK construction industry and one of the most important change was introduced in Part II of the act was to introduction of the statutory right to adjudication for affected bodies in any construction contract.

Necessity of the introduction of adjudication in the HGCRA 1996 ("the 1996 Act") was well summarised by Dyson J, as he then was, in the first major case on adjudication under the 1996 Act. At page 97 of *Macob Civil Engineering Ltd Vs. Morrison Construction Ltd* [1999] BLR 93, Dyson J said: "*The intention of parliament in the act was plain. It was to introduce a speedy mechanism for settling disputes in*

*construction contracts on a provisional basis, and requiring the decision of adjudicators to be enforced pending the final determination of disputes by arbitration, litigation or agreement…. The timetable for adjudication is very tight*".

Howard (2006) mentioned that as per the Act enacted by UK parliament, it is compulsory to incorporate an adjudication clause to all construction contracts in which it provides the facility to issue a decision within 4 to 6 weeks.

Ling (2006) observed that since the implementation HGCRA 1996 on May 1998, more than 7500 disputes have been referred to adjudication and only 195 cases have been challenged in the Technology and Construction Court of UK. It is a very good record to have only about 2.6 percent of the adjudicator's decisions being challenged in the Court.

### 2.7.2 UNITED STATES OF AMERICA

United Sates of America (USA) practices and provides adjudication as DRBs. Peck & Dalland (2007) observed that the development history of DRBs in USA started with the boundary dam project in Washington in the 1960's. After that usage of DRBs in the 1970's and 1980's on major infrastructure projects it was made compulsory in all scale projects.

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Denny (2007) stated that DRB usage in USA in recent three decades since their start gained more publicity as a standing neutral alternative dispute resolution technique and in the process of using it successfully on a number of high profile construction projects.

Board foundation emphasized that DRB has been processed in almost 1434 projects in the USA and internationally amounting approximately $97.65 billion. Out of these total projects, 1355 projects were in house amounting $60.42 billion and the remaining 79 projects having a total construction amount of $37.24 billion, which had been done in other countries (Menass and Pena Mora, 2007).

### 2.7.3 SOUTH AFRICA

South African (SA) construction industry was more familiar with earlier forms of dispute resolution methods like mediation, arbitration and litigation. The method adjudication was relatively a new concept to their industry and its applications were not well understood. It appears to be found much acceptance and knowing in the industry, but they had not yet able to realize the full potential of it, and the main reason was the poor knowledge. However, the main challenges as identified were the lack of knowledge, lack of contractual, institutional and legislative framework, and the matters of skills and training of the persons in practice (Maikesto & Maritz, 2012).

The Construction Industry Development Board of South Africa (CIDB) took the lead role to official introduction of construction adjudication in South Africa and published a Procurement Practice Guide in 2003. This document described the implementation of adjudication and advocated that "*adjudication should be applied to all categories of construction contracts, namely engineering and construction works, services and supplies, at both prime and subcontract level, and should be a mandatory requirement for the settlement of disputes prior to the completion of the contract.*" The difference between the applicability of the process applied in the UK and in South Africa was that in the UK, adjudication is a creature of legislation. In SA it is govern by the agreement between parties and nature may be different depending on the agreement (Maritz, 2009).

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### 2.7.4 NEW ZEALAND

The Construction Contracts Act 2002 introduced on April 2003 and resulted intensely changed the aspects of dispute resolution in the New Zealand (NZ) construction industry. The aim of introducing this act was to restrict the poor payment practice and secure the right to payment of contract parties. All the construction contracts (written and oral) entered after 1 April 2003 to be subject to the act whether come under the New Zealand law or not. The prime idea of introducing the act was to facilitate punctual payments among the parties in the construction industry and limit the

conditional payment terms and provide default provisions for ongoing payments in lieu of express term in the contract (New Zealand Government, 2002).

Construction Contracts act was modelled on the New South Wales (NSW) security payment regimes of the Australis and scope of construction contracts act was broader and covers all types of claims (Uher & Davenport, 2005).

Any party can refer a dispute to adjudication for any differences arisen under the contract. The act has provision to tolerate with the errors in computation or any clerical or typographical errors in adjudication decision. Allow the adjudicator to make correction on the determination within two working days. The determination made by adjudicator subject to review under the act. The disgruntled party can have a review it in the district court within twenty working days after the date of decision or any further time allowed by the district court (New Zealand Government, 2002).

### 2.7.5 AUSTRALIA

Australia practices the English Law and Law of Wales. As most other commonwealth countries, litigation was the primary method of dispute resolution in their construction industry. Evolution of the modern dispute resolution has resulted two major approaches in dealing with disputes, namely alternative dispute resolution and dispute avoidance (Love et al, 2007).

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Australian construction industry enjoyed a recession in early 1980s. During this era, the number of construction disputes and claims got increased. This hike of construction disputes made an adverse impact on the litigation on its efficiency and comfort of the construction industry (Stehbens, Wilson, & Skitmore, 1998).

New South Wales was the first Australian jurisdiction who introduced a security payment Act based the UK HGCRA Act 1996. The Building and Construction Industry Security of Payment act 1999 (NSW) was introduced on 5$^{th}$ October 1999 and enforced on 26$^{th}$ March 2000 (Brand & Davenport, 2010). After that Victoria, Queensland, South Australia and Western Australia have introduced acts relating to the adjudication.

### 2.7.6 MALAYSIA

The Construction Industry Payment and Adjudication Act 2012 (CIPAA) of Malaysia received Royal assent on 18th June 2012. It came into force on the 22nd June 2012. Gould (2012) described that the all contracts which made in black and white after 22nd June 2012 were subjected to the act including contracts entered by the government of Malaysia. It applies to all construction work including consultancy agreements, but excluding buildings having less than four storeys which intended for the occupation by general civilians.

CIPAA made a significant change in the Malaysian construction industry. Its usage expanded through the oil & gas, petrochemical industries, and infrastructure projects. This act resulted to make timely payment to the stakeholders without unnecessary delays (Cannon & Gibsob, 2014).

Ling (2006) described that Malaysian Construction Industry Development Board (CIDB) and Institute of Surveyors Malaysia (ISM) was actively regulating the adjudication act in Malaysia. The enactment of the adjudication act introduced new trends in Malaysian law. Frequently used "pay when pay" payment provisions in construction contracts was unenforceable due to this act.

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### 2.7.7 SINGAPORE

The Building and Construction Industry Security of Payment Act 2004 was introduced on 1st April 2005. The adjudication act in Singapore and New South Wales (Building and Construction Industry Security of Payment Act 1999) have most similar statutory provisions. The adjudication regime in Singapore is slightly different from UK adjudication regime. It was concerned on the settlement of disputes regarding payments and later concentrated on finishing of all the construction disputes. Main target of enacting such act was to ensure timely payments to any parties to the construction (Teo, 2008).

### 2.7.8 HONG KONG

The construction industry played major role in the Hong Kong (HK) economy in 1990s. HK adjudication system worked in voluntarily and not enacted by any statutory enactment. The adjudication of Hong Kong was derived authority through the written contracts of the parties (RICS Hong Kong Dispute Resolution Prefossional Group, 2010).

Parties are bound by the decision of the adjudicator. But the parties can refer the dispute to arbitration if they think so. Award of adjudication is not temporarily binding to the parties as any party can refuse to comply with the determination and proceed to arbitration. The HK government checked the applicability of adjudication on a trial basis for a small number of its contracts. Hence there were not statutory underpinning. As per the contracts, the determination of the engineers was final and binding to the parties. However, the engineer's decision can be overturned when it referred to adjudication, mediation or arbitration (Hill & Wall, 2008).

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Hong Kong International Arbitration Centre (HKIAC) has developed adjudication Rules on 2007. The Rules consist with the referral process, procedures of adjudication and determination of adjudication and its associated costs (RICS Hong Kong Dispute Resolution Professional Group, 2010).

## 2.8 SRI LANKA

Early days construction issues in Sri Lanka were tried to settle at initial site level with the meetings among construction parties. But today those disputes are more complex and complicated in nature. When projects increase in size and complexity they need a dispute resolution method like ADR to resolve the dispute in terms of cost, quality and time (Anonymous, 2013).

### 2.8.1 AVAILABLE PROVISIONS FOR ADJUDICATION

In the Sri Lankan construction industry adjudication practically proceeds as Dispute Adjudication Board (DAB) according to the FIDIC (1999) form of contract conditions

and ICTAD conditions of contract. At the beginning of the contract both parties agreed to have DAB which consist of 3 adjudicators or a sole adjudicator (Abeynayake, 2013).

In 1999 FIDIC form of contract introduced a dispute adjudication procedure, which removed some part of the functions of the engineer to DAB. DAB given a power to deal with dispute arising during the course of the work. Due to this introduction, the engineer recognized to be acting solely for the employer unlike previous FIDIC conditions (Gould, 2004).

As per the Clause 20 of the FIDIC 1999 conditions of contract DAB should be appointed within 28 days of the commencement date of the contract which comprises normally 3 persons. Each party can nominate one member for the approval of other and, nominated members to agree a third member to act as the chairman. FIDIC 1999 appendix contains a tripartite agreement to be entered by the employer, contractor and members of appointed DAB. Both parties can refer a dispute to DAB, and the DAB has 84 days to give a decision. The decision given by DAB is binding if either party not given a notice of dissatisfaction within 28 days of the decision. Issuing of this notice mean the decision is not binding and to be referred to the arbitration (FIDIC, 1999).

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### 2.8.2 RELATED REGULATORY BODIES

Jayalath, (2015) illustrates that, according to the ICTAD conditions of contract, ICTAD (or CIDA) is the nominating agency to nominate adjudicators as stated in the series of standard bidding documents published by ICTAD. It should be noted that ICTAD became Construction Industry Development Authority (CIDA) with the introduction of Construction Industry Development Act No 33 of 2014, and therefore both ICTAD and CIDA refer to the same institute as applicable.

Construction adjudication was one of the common and popular ADR methods of resolving disputes in Sri Lankan construction industry. DAB were widely used in the dispute resolution at site level. Construction adjudication was recognised by the newly enacted Construction Industry Development (CIDA) Act of Sri Lanka No. 33 of 2014. In Sri Lankan construction industry, adjudication practically proceeds mostly

according to FIDIC and ICTAD conditions of contract (Abeynayake, 2013). As per Construction Industry Development Act No. 33 of 2014, [Certified on 16th October 2014], Part IX, procedure of dispute settlement can be shown as follows.

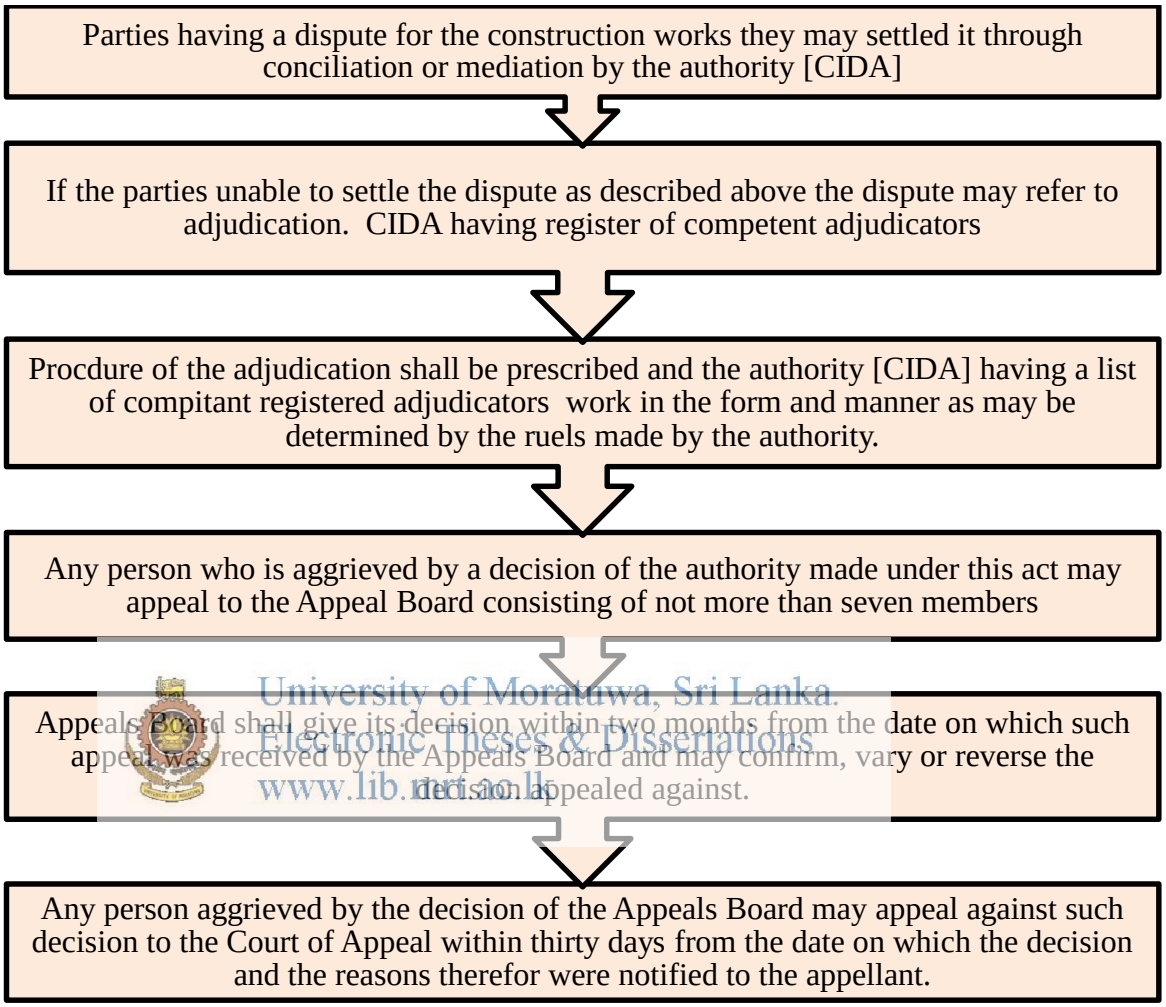


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**Figure 2-2: CIDA Act procedure for adjudication**

**Source: Construction Industry Development Act No. 33 of 2014**

## 2.9 FACTORS AFFECTING SUCCESS OF ADJUDICATION

Several researchers attempted to identify the selection criteria for success of dispute resolution strategies based on many identical factors. Out of them cost and time are significant factors while others being degree of control by the parties, enforceability, flexibility, confidentiality, privacy and security (Cheung, Susen, & Lam, 2002). On

the other hand, these can be identified as the factors which show the success of any ADR method.

As per Abeynayaka & Dharmawardhana (2015) factors affecting the success of ADR methods including adjudication can be summarized as follows.

**Table 2-2: Factors affecting to success of ADR**

| Success Factor | | Explanation of the Factor |
|---|---|---|
| **1** | **Confidentiality of the information and the process** | Parties to the dispute, in a control of the process by avoiding expose any information or material to general public |
| **2** | **Consensus agreement** | Ability of working within a common ground as agreed throughout the dispute resolution process |
| **3** | **Control by parties** | Degree to control the process by parties, format and the content of the resolution by parties. (Party autonomy) |
| **4** | **Cost** | Total amount of direct indirect and hidden cost to the process. |
| **5** | **Creative solution** | Degree of satisfactory for both parties |
| **6** | **Enforceability of the decision** | Binding nature of the decision |
| **7** | **Fairness** | Reasonable opportunity to both parties to disclose the relevant facts |
| **8** | **Flexibility in the proceedings** | Degree of controlling strict rules and procedures in the process |
| **9** | **Overall duration/ Speed** | Amount of time required to resolve the dispute |
| **10** | **Preservation of relationship** | Ability to preserve good relationship between the parties after the final decision. |
| **11** | **Professional culture and ethics of parties** | Culture and degree of ethics of the professionals involve in the dispute resolution |
| **12** | **Time required of parties** | Time available for submissions, to prepare submissions and to defend according to the proceedings is strict or not |

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As per White, (2010) factors affecting to efficiency of ADR can be listed as follows.

**Table 2-3: Factors affecting to efficiency of ADR**

| Efficiency Factor | | Explanation of the Factor |
|---|---|---|
| **1** | **Speedy Resolution** | Amount of time taken to resolve the dispute |
| **2** | **Financial Cost** | Total Amount of money spending |
| **3** | **Value to the parties** | Maintaining relationships through the process and after |
| **4** | **Party autonomy** | Controlling power to the parties |
| **5** | **Confidentially** | Preserving privacy |

The Law Reform Commission (2010) identified four major factors affect to success of adjudication. They are,

**Table 2-4: Factors affecting to success of adjudication**

| Efficiency Factor | | Explanation of the Factor |
|---|---|---|
| **1** | **Financial aspects of the process** | Total cost of the adjudication process |
| **2** | **Time scale involves** | Total time period required to complete the adjudication process |
| **3** | **Quality of adjudication professionals** | Experience, qualifications, proper training, frequency of engage in cases. |
| **4** | **Role of legal practitioners** | Has the process hijacked by lawyers? |

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Common set of factors which have affected to the success of adjudication process can be extracted from above mentioned classifications given by different authors. This selection and rankings of factors made mainly considering provisions and practice of the Sri Lankan construction industry and its adjudication practice.

## 2.10 SUGGESTED FACTORS TO TEST THE SUCCESS OF ADJUDICATION IN SRI LANKAN CONSTRUCTION INDUSTRY

Suggested success factors of the adjudication are listed below as per available literature.

**Table 2-5: Suggested factors to test the success of adjudication**

| Success Factor | | Explanation of the Factor |
|---|---|---|
| **1** | **Financial aspects of the process** | Total cost of the adjudication process (including direct indirect costs) |
| **2** | **Time scale involves** | Total time period required to complete the adjudication process |
| **3** | **Confidentiality of the information and the process** | Parties to the dispute, in a control of the process by avoiding expose any information or material to general public |
| **4** | **Quality of adjudication professionals** | Experience, qualifications, proper training, frequency of engage in cases. |
| **5** | **Flexibility in the proceedings** | Degree of controlling strict rules and procedures in the process |
| **6** | **Party autonomy** | Controlling power to the parties |
| **7** | **Fairness** | Reasonable opportunity to both parties to disclose the relevant facts |
| **8** | **Preservation of relationship** | Ability to preserve good relationship between the parties after the final decision. |
| **9** | **Statutory status** | Availability of statutory provisions |

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## 2.11 RESEARCH PROBLEM

Construction project means a collective effort of many parties towards a one single goal. If the interests of each party collides with one another, it may result conflict which may lead to a construction dispute later. Resolution of disputes plays vital role in the industry. Due to disadvantages of litigation, ADR methods became a primary tool in resolving construction disputes and among broad spectrum of ADR methods; adjudication is widely adapted all over the world as a fast and economical dispute

resolution mechanism. Adjudication is one of the common and popular methods of ADR method used in Sri Lankan construction industry with implication of FIDIC and ICTAD conditions of contracts and it is now recognized by the newly enacted Construction Industry Development Act of Sri Lanka No. 33 of 2014.

However, notwithstanding its long standing practice, Sri Lankan construction literature has given very little consideration regarding the success of adjudication as an ADR method. Thus, this research anticipates filling this research gap by exploring prevailing adjudication practice in Sri Lankan construction industry, its' success and identify means for further improvements.

Hence, the research question that emerging from the above literature findings is that "is the construction adjudication successful in Sri Lankan Construction industry as a primary ADR method?" In order to address this problem, four numbers of hypothesizes formulated as follows.

**H1:** Adjudication is not well understood by Sri Lankan construction industry, but still in practice due to provisions in FIDIC and ICTAD forms of conditions of contract. Also, it is attractive because it is quick and cheap.

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**H2:** Adjudication provisions established by FIDIC conditions of contract, ICTAD conditions of contract and by CIDA Act No. 33 of 2014. But professionals are not familiar with the process yet. And those provisions do not comprehensively address many important areas related to adjudication, thus needs improvements.

**H3:** There are no enough qualified and trained adjudicators in Sri Lanka. There are no established set of skills and procedure rules for adjudicators as well as no organisation for the practice of adjudication.

**H4:** Based on above findings it would suggest that, Sri Lankan construction industry not getting full potential of adjudication to resolve the construction disputes.

## 2.12 SUMMARY

This chapter looked in to the history and development of ADR methods in construction industry. It was discussed the importance of adjudication as an ADR method in construction industry and its degree of success with procedure rules, required skill levels for adjudicators with institutional and legislative support. From the literature review it was identified the factors affecting to success of adjudication. Based on the identified factors, hypothesis has been developed to address the research problem. The next chapter describes research methodology of this study.


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# 3. RESEARCH METHODOLOGY

## 3.1 INTRODUCTION

The previous chapter discussed the development of construction adjudication in Sri Lankan construction industry and factors affecting to success of it as a primary ADR method to resolve disputes through a review and synthesis of the existing literature. This chapter focuses on discussing the methodological framework which will be adopted in the study.

## 3.2 RESEARCH DESIGN

Research design is a general plan to get answers for the research problem(s) and is a guideline to select research strategy, data collection techniques and analysis procedure (Saunders, Lewis, & Thornhill, 2009).

As per Saunders, Lewis, and Thornhill (2009) the method of answering the research problem can be formulated in different ways, descriptive, explanatory or exploratory. The objective of descriptive approach is to find out profile of persons, events or situations. The explanatory deals with the establishment of relationships between different variables. And the exploratory study is to ask questions and find out what is happening. There are three main ways to conduct these methods, literature research, interview experts in the subject and conducting interviews.

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A definition given for survey research by Isaac & Michal (1997) as;

> To answer questions that have been raised, to solve problems that have been posed or observed, to assess needs and set goals, to determine whether or not specific objectives have been met, to establish baselines against which future comparisons can be made, to analyse trends across time, and generally, to describe what exists, in what amount, and in what context.

Pinsonneault & Kraemer (1993) defined that a survey research is gathering information regarding actions, characteristics or opinions of a large group of people. This method can be used to assess needs, examine impact and evaluate demand

Therefore, this research will test the developed hypothesis by analysing collected data through a survey study.

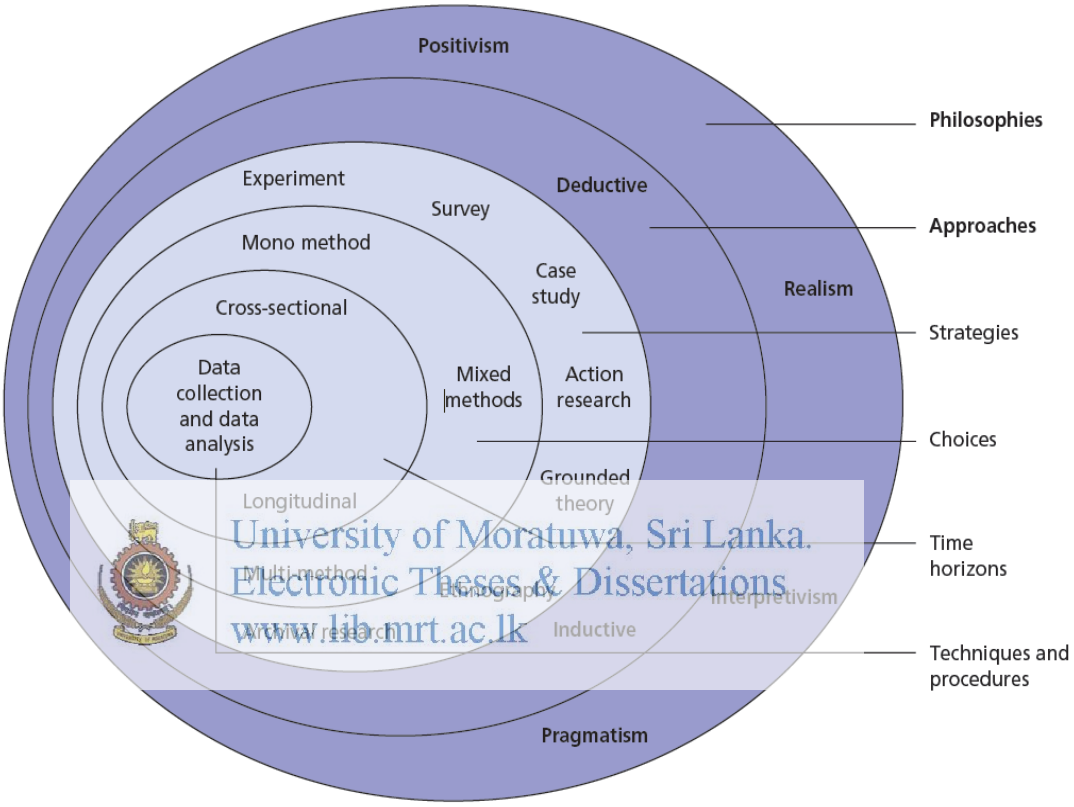


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**Figure 3-1: The Research onion**

**Source: Saunders, Lewis, & Thornhill, (2009)**

## 3.3 RESEARCH APPROACH

The aim of this research is to assess the success of adjudication as a primary ADR method in Sri Lankan construction industry. It required collection of primary findings, details and evidence to answer the research problem.

As described by Saunders, Lewis, & Thornhill, (2009) Deductive approach develops a theory to test the established hypothesis and in inductive approach collects the data

and develops a theory as per data analysis. It is advisable to select deductive approach to test the developed hypothesis (hypothesis 01, 02, 03 and 04 in Section 2.9) this research will adopt the deductive approach to test the success of adjudication as a primary ADR method to resolve disputes in Sri Lankan construction industry.

## 3.4 RESEARCH STRATEGY

Yin (2003) described that, types of research strategies which can be used to answer the research problem(s). They are; experiment, survey, case study, action research, grounded theory, ethnography and archival research. Saunders, Lewis, & Thornhill, (2009) stated that, survey strategy method facilitates to collect quantitative data which can analyse using descriptive and inferential statistics. Survey strategy allows more control over the research proses and possible to generate results that are representative to the whole population at a lower cost rather than collecting data from the whole population. As per Shaw (1999) quantitative research can provide richer answers to the research problem and it might provide valuable perceptions.

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Purpose of a survey is to catch main characteristics of the selected population. Unlike in a case study where it considers a specific case in depth. Surveys are more suitable for the descriptive correlation studies (Tang, 2002). Survey strategy was chosen as the most suitable strategy as the existing research based knowledge on this area is comparatively low. Through literature review it was identified that, existing knowledge on research topic is very low.

## 3.5 RESEARCH TECHNIQUES

Two main process, data collection and data analysis adopted in this research and research techniques used are as follows.

### 3.5.1 SAMPLING

The sample survey is to do a survey on a representative portion from the whole population. As per (Saunders, Lewis, & Thornhill, 2009) two types of sampling can be identified, probability (representative) sampling and non-probability (judgmental) sampling. And also identified five main techniques for sampling, named simple

random, systematic, stratified random, cluster and multi stage. Stratified random sampling is to divide the population in to more relevant and significant strata based on the nature of the population and requirement. Then conduct a random sample for each layer. This method of sampling allows to approach series of relevant layers proportionately to the population. This method is success only when it is possible to identify the significant layers in the selected population. This research adopted stratified random sampling to get enhanced results from each layers of the Sri Lankan construction industry including adjudicators, clients, consultants, contractors, sub-contractors and regulatory bodies.

### 3.5.2 DATA COLLECTION

Shaw (1999) argued that, for successful quantitative data collection, research must allow the researcher to emerge in to the social world in which they are interested of understanding of participant's experience and knowledge under research. Survey is a type of a resort design method used to collect data from an interview or a postal questionnaire. There are three main types of data collection methods; face to face interviews, telephone interview and questionnaires (Mathers, Fox, & Hunn, 2007). Questionnaire survey method adopted in this research to collect data from different layers of the Sri Lankan construction industry.

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Altogether 46 numbers questionnaires collected from different layers of construction industry as mention in the section 3.5.1

### 3.5.3 DATA ANALYSIS

The data obtained from questionnaire survey were quantitative data in respect of success of adjudication as a primary ADR method. Quantitative data need to be processed to make them valuable and turning them into presentable information such as graphs, charts and statistics helps to explore, describe, present and examine them (Saunders, Lewis, & Thornhill, 2009).

## 3.6 SUMMARY

This chapter discussed about the methodology in detail manner which the research carried out. Questionnaire survey was selected as per the described research design and collected quantitative data for the analysis process. Next chapter will be focussed on research findings and analysis of collected data.


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# 4. ANALYSIS OF DATA AND FINDINGS

Chapter three discussed about the methodological framework used in the research area. Purpose of this chapter is to analyse the collected data in a detail manner.

## 4.1 POPULATION SIZE AND SAMPLING

As described in chapter number 3 stratified random sampling was carried out identifying different layers of the industry. The professional skill base of the adjudication fluctuates over the time. 75 questionnaires were distributed to the selected layers of professionals involved in the construction adjudication and 46 of them responded making a 61.33 % percent response rate.

The research design adopted in this research was quantitative and proposed questionnaire was developed and administrated to test the four numbers of hypothesis developed in chapter 2-11. Section one of the questionnaire targeted to obtain general information about the selected population and other four sections (section 02 to 05) targeted to test the four hypothesis developed.

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### 4.1.1 RESPONDED PROFESSIONS

Due to limited numbers of professionals involved in the construction adjudication, stratified random sampling conducted under target sampling method. Table 4-1 illustrates the numbers and percentages of responded professionals to the questionnaire as per their expertise.

**Table 4-1: Professional skill base responded**

| Professional Skill Base | Responded Nos | Responded % |
|---|---|---|
| Quantity Surveying | 19 | 41.3 % |
| Engineering | 16 | 34.8 % |
| Architecture | 7 | 15.2 % |
| Law / Having law background | 4 | 8.7 % |
| | | |
| **Total** | **46** | **100.0%** |

### 4.1.2 AWARENESS TO ADJUDICATION

Among the 46 numbers of respondents 12 of them were having practice as adjudicators and other 34 numbers are not practicing as adjudicators. But all most all of them have involved in adjudication process representing from different types of organizations and in different frequencies as illustrated in Figure 4-1 below.

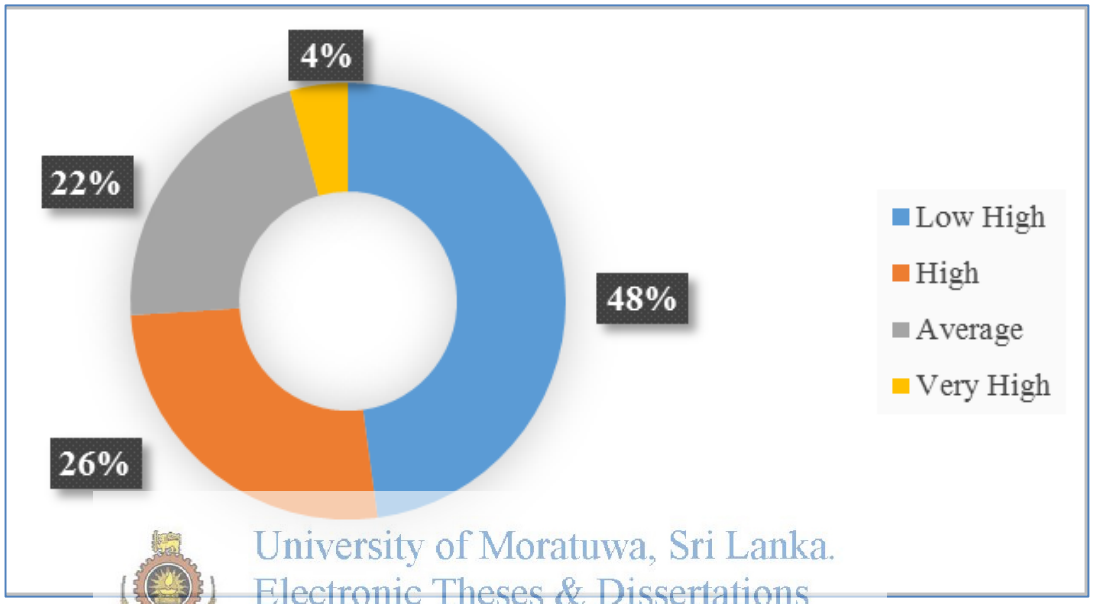


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**Figure 4-1: Involvement in Adjudication**

Above details prove that, more than 50% of the respondents are good awareness about adjudication process in the construction industry.

### 4.1.3 EXPERIENCE RANGE OF RESPONDENTS

Experience of responded professionals was ranged up to years 30+. However, majority of responded professionals having experience in between 15 to 20 years.

As per details illustrates in figure 4-2 it can be proven that, majority of respondents having experience more than 15 years which contributed experienced professional feedback to the research. Nine respondents having experience less than 10 years providing important feedback which can be compared with the rest of experienced

professionals. About 23% of them having experience more than 25 years in the construction industry.

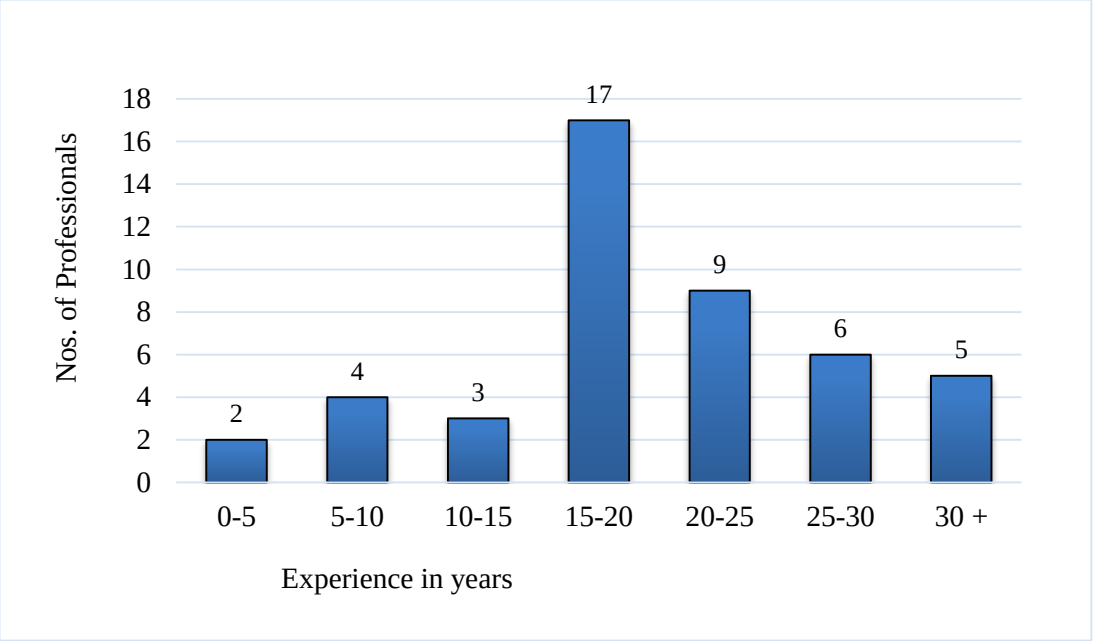


**Figure 4-2: Experience range of responded professionals**

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### 4.1.4 WORKING ENVIRONMENT OF RESPONDENTS

Among the responded professionals 20 numbers of them were working on building construction projects and other 26 were working on infrastructure projects. Type of organizations they worked and type of services offered by those organizations were as follows.

**Table 4-2: Type of organizations**

| Type of Organization | Nos | % |
|---|---|---|
| Private | 29 | 63.0 % |
| Government | 8 | 17.4 % |
| Freelance | 8 | 17.4 % |
| Semi-Government | 1 | 2.2 % |
| **Total** | **46** | **100.0%** |

**Table 4-3: Services offered by organizations**

| Type of Services | Nos | % |
|---|---|---|
| Consultant | 19 | 41.3 % |
| Head Contractor | 11 | 23.9 % |
| QS Consultant | 6 | 13.0 % |
| Project Management | 3 | 6.6 % |
| Client | 5 | 10.9 % |
| Other | 2 | 4.3 % |
| **Total** | **46** | **100.0%** |

Observing the table 4-2 and 4-3 it can be shown that target sampling approached to collect data from professionals dealing with different kind of organizations and service providers.

## 4.2 UNDERSTANDING OF ADJUDICATION AND ITS PRACTICE IN THE INDUSTRY

This section aimed to test the hypothesis number 1 (H1) developed under chapter 2-11 of this research. *"Adjudication provisions established by FIDIC conditions of contract, ICTAD conditions of contract and by CIDA Act No. 33 of 2014. But professionals are not familiar with the process yet. And those provisions do not comprehensively address many important areas related to adjudication, thus needs improvements"*. Test carried out under four major attributes included in the questionnaire and collected answers for knowledge of adjudication, awareness of provisions available for adjudication, level of attraction of adjudications in the industry and the reasons for the attraction.

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### 4.2.1 KNOWLEDGE LEVEL OF ADJUDICATION

As shown in figure 4-3 it was found that 28.3% and 37.0% were having high and average knowledge level respectively about adjudication which is together 65.3%. This range is a considerable good knowledge level with having 4.3% of very high level.

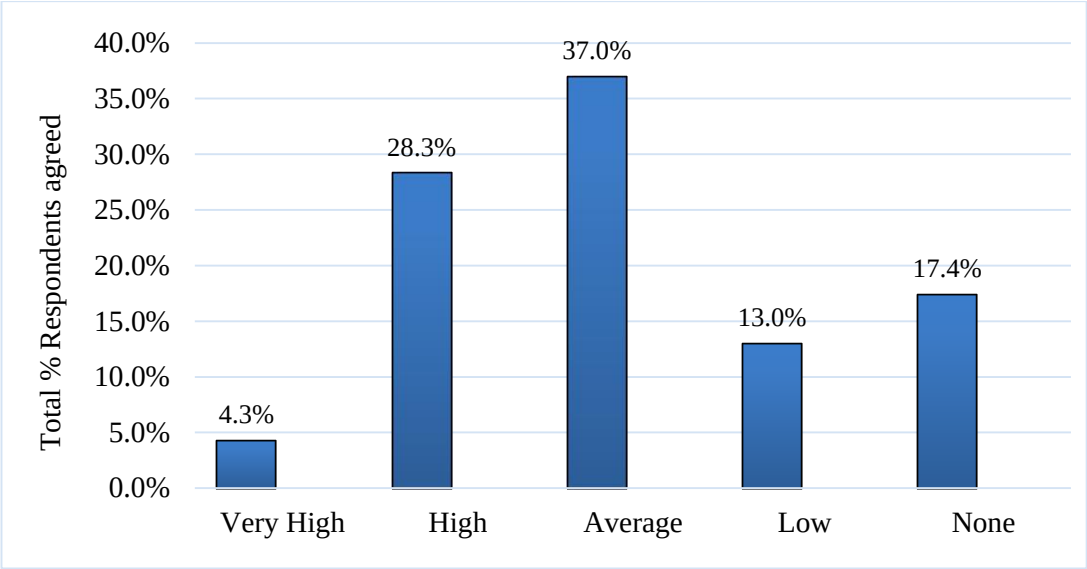


**Figure 4-3: Knowledge level of adjudication**

17.4% respondents expressed their knowledge level as none who seems to be having less experience in the industry. It is a responsibility of relevant educational and professional institutions to provide basic knowledge of adjudication for this level of professionals. Especially application of adjudication in FIDIC and ICTAD conditions of contracts and regarding newly introduced CIDA Act.

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### 4.2.2 AWARENESS OF ADJUDICATION PROVISIONS

Adjudication provisions considered in this section were provisions stipulated in the FIDIC conditions of contract, provisions stipulated in ICTAD conditions of contract and awareness of Construction Industry Development Act No. 33 of 2014.

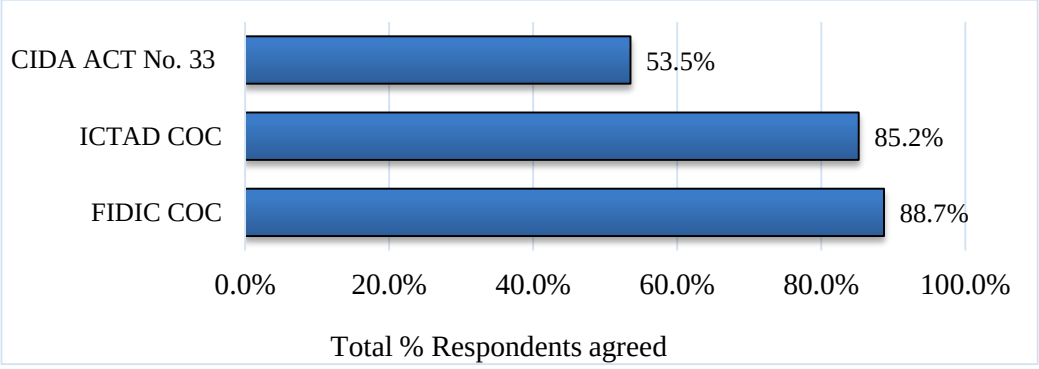


**Figure 4-4: Awareness of adjudication provisions**

As shown in Figure 4-4 majority of the respondents were aware of the adjudication provisions in FIDIC conditions of contract and ICTAD conditions of contract. CIDA Act having less awareness comparing to the other provisions.

More than 85% of the respondents expressed their awareness in FIDIC and ICTAD adjudication provisions. But awareness of CIDA Act No. 33 was 53.5%. Main reason could be, this act introduced into the construction industry on 2014 and required time to get aware of it. There should be a mechanism to get aware the construction professionals regarding CIDA Act since it is the only available legislative provision in the Sri Lankan construction industry.

### 4.2.3 ATTRACTION LEVEL OF ADJUDICATION

Responded level of attraction on adjudication in the construction industry replied as follows. Where 56.5% responded expressed adjudication has an average level of attraction as an ADR method in the construction industry and 30.4% respondents expressed it has high level attraction in the industry.

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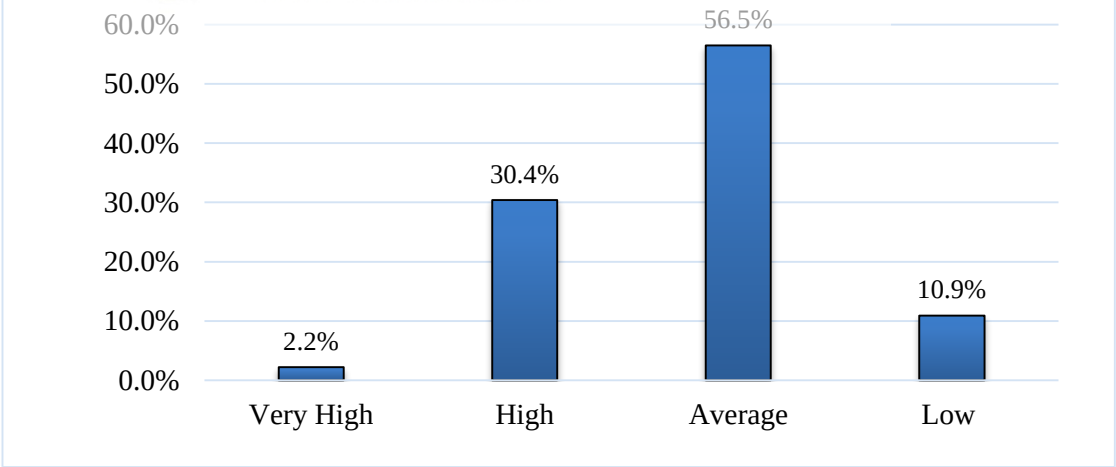


**Figure 4-5: Level of attraction of adjudication**

Considering the above facts shown in figure 4-5 it is evident that attraction level of adjudication in the Sri Lankan construction industry is in a satisfactory level. Only 10.9% respondents expressed their opinion as low attraction.

### 4.2.4 REASONS FOR ATTRACTION OF ADJUDICATION

Respondents ranked given eight numbers of attributes which affects to the attraction of adjudication in the construction industry. As shown in figure 4-6 it was observed that majority of the respondents ranked for attributes of speed, cost effective and for the flexibility of the adjudication as reasons for the attraction.

Further to that figure 4-6 demonstrates that construction industry requires a dispute resolution process which having characteristics of cost effective, speed, flexibility and preservation of relation of parties. Also to protect the privacy of the parties. Based on this information it can be argued that, these are the common requirements industry looking from a dispute resolution system. Since adjudication having more similar characteristics of these comparing to the other ADR methods it can be argued that adjudication having more attraction as an ADR method comparing to the other ADR methods.

Even though other ADR mechanisms like negotiation, mediation and conciliation having same characteristics, adjudication has better contractual and legislative provisions to resolve disputes.

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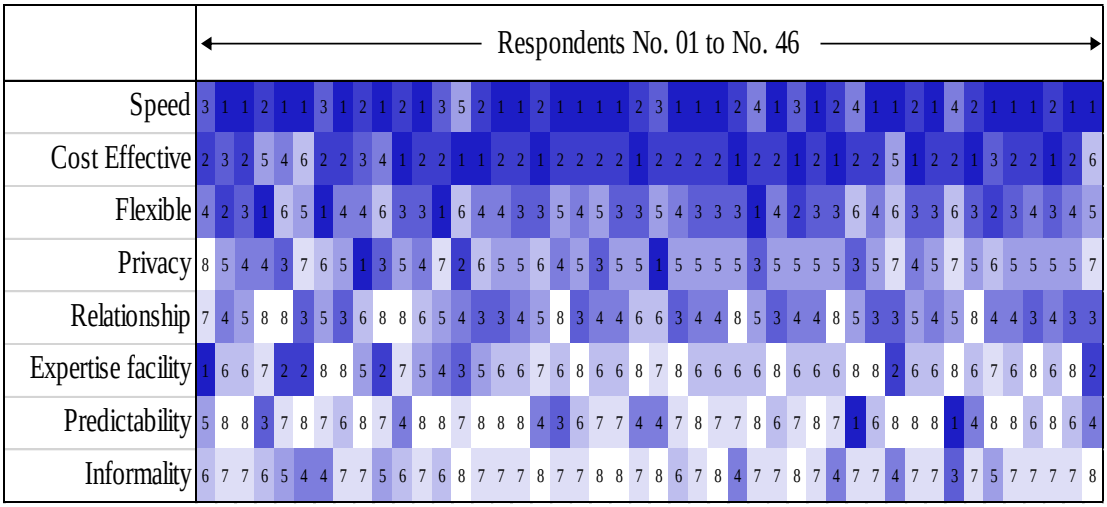


**Figure 4-6: Reasons for attraction of adjudication**

## 4.3 CONTRACTUAL AND LEGAL ASPECTS

This section was targeted to test the hypothesis number two developed under chapter number 2-11 "*Adjudication provisions established by FIDIC conditions of contract, ICTAD conditions of contract and by CIDA act No. 33 of 2014. But professionals are not familiar with the process yet. And its provisions do not comprehensively address many important areas related to adjudication, thus needs improvements* ". Respondents were expressed their views as follows.

### 4.3.1 FAMILIARITY OF ADJUDICATION PROVISIONS IN THE INDUSTRY

Adjudication provisions introduced to the construction industry by various standards documents and a parliament Act. Respondents expressed their familiarity of these provisions as illustrated in Figure 4-7

Most of respondents were familiar with the FIDIC and ICTAD contractual provisions. Since these provisions introduced in to the industry about 10 years back and these provisions are widely used in the industry. But familiarity of CIDA Act of respondents was 44.2%. This act introduced to the industry within last two years can be the major reason for this less familiarity. As per responses to the questionnaire, respondents having more experience and who frequently involved in the adjudication have more familiarity on the act.

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Less percentage (35.8%) of familiarity resulted for procedural rules. This result shows that, respondents having more frequency in participation of adjudication were having more familiarity about the procedure rules.

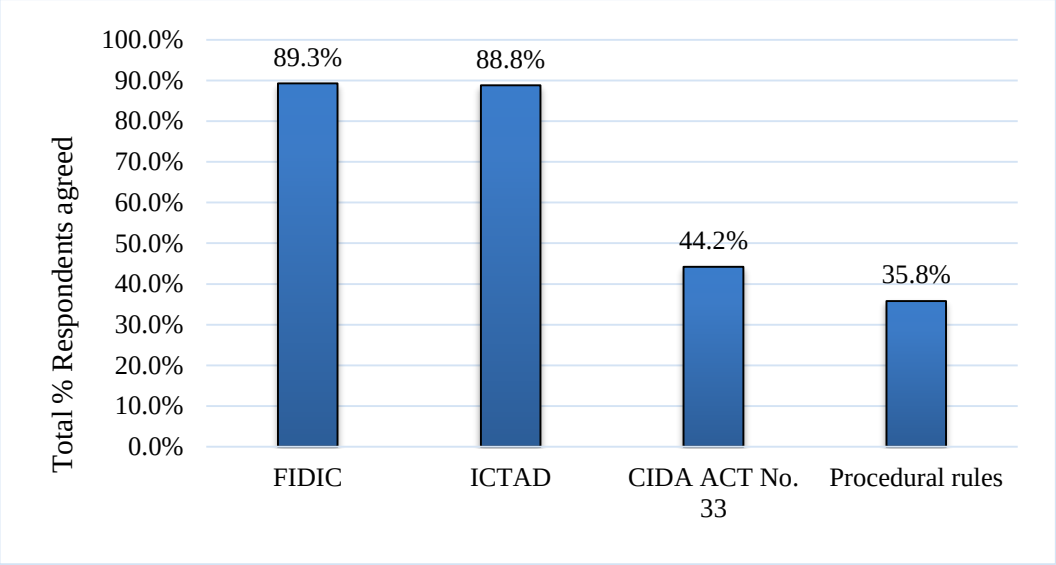


**Figure 4-7: Familiarity of adjudication provisions**

### 4.3.2 REQUIREMENT OF A PAYMENT AND ADJUDICATION ACT

Respondents expressed their views relating to payment and adjudication acts used in other countries. None of them had very high knowledge on payment and adjudication act using in other counties. 47.8% of them had high level of knowledge while 28.3% had average level of knowledge. 21.7% expressed their low knowledge and 2.2% replied as not relevant.

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Most of the respondents expressed requirement of a payment and adjudication act to the construction industry. 45.7% expressed very high requirement of an act and 30.4% expressed it as a high requirement. 6.5% respondents identified it as average level of requirement and 17.4% considered it as a low level requirement. As described in chapter 2.6.4 professionals engaged in dispute resolution prefer to get more legal implication on adjudication. Details shown in chapter 5.3.2 provide a good facts of evidence to prove this trend. But inclusion of more legal aspects results a question on intended purpose of the construction adjudication.

### 4.3.3 SUGGESTIONS FOR ANTICIPATED PAYMENT AND ADJUDICATION ACT

Respondents expressed their views on anticipated payment and adjudication act with relevant to UK HGCRA 1996. None of respondents expressed very high importance to have similar kind of act. But 87.0% expressed their high importance of having a similar type of act using in the UK. 4.3% expressed their average importance and 8.7% expressed their low importance to have a similar type of act. Respondents expressed their views on scope of anticipated act as follows.

**Table 4-4: Scope of anticipated act**

| Scope | Nos | % |
|---|---|---|
| For all type of disputes | 40 | 87.0 % |
| Only for payment disputes | 6 | 13.0 % |
| Other types of disputes | 0 | 0.0 % |
| **Total** | **46** | **100.0%** |

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**International Component:** 78.3% of the respondents were in a view that the anticipated act should have international component.

**Enforceable power:** 63.0% of the respondents were in a view that the adjudicator does require enforceable power for the decision while other 37.0% expressed their disagreement to have enforceable power to the adjudicator's decision.

Most of the acts and ordinances govern in Sri Lanka are carbon copies of UK acts. This could be the mostly likely reason to have high percentage form respondents to follow UK act.

## 4.4 SUFFICIENCY OF TRAINING, KNOWLEDGE LEVEL AND OTHER FACTORS

This section was targeted to test the hypothesis number three developed under chapter number 2-11 *there are no enough qualified and trained adjudicators in Sri Lanka.*

*There are no established set of skills and procedure rules for adjudicators as well as no organisation for the practice of adjudication.*

Figure 4-8 shows the accepted level of various attributes by the respondents. All the attributes responded in between 40.0% to 60.0% which gives average performance and some of them are to the lower end.

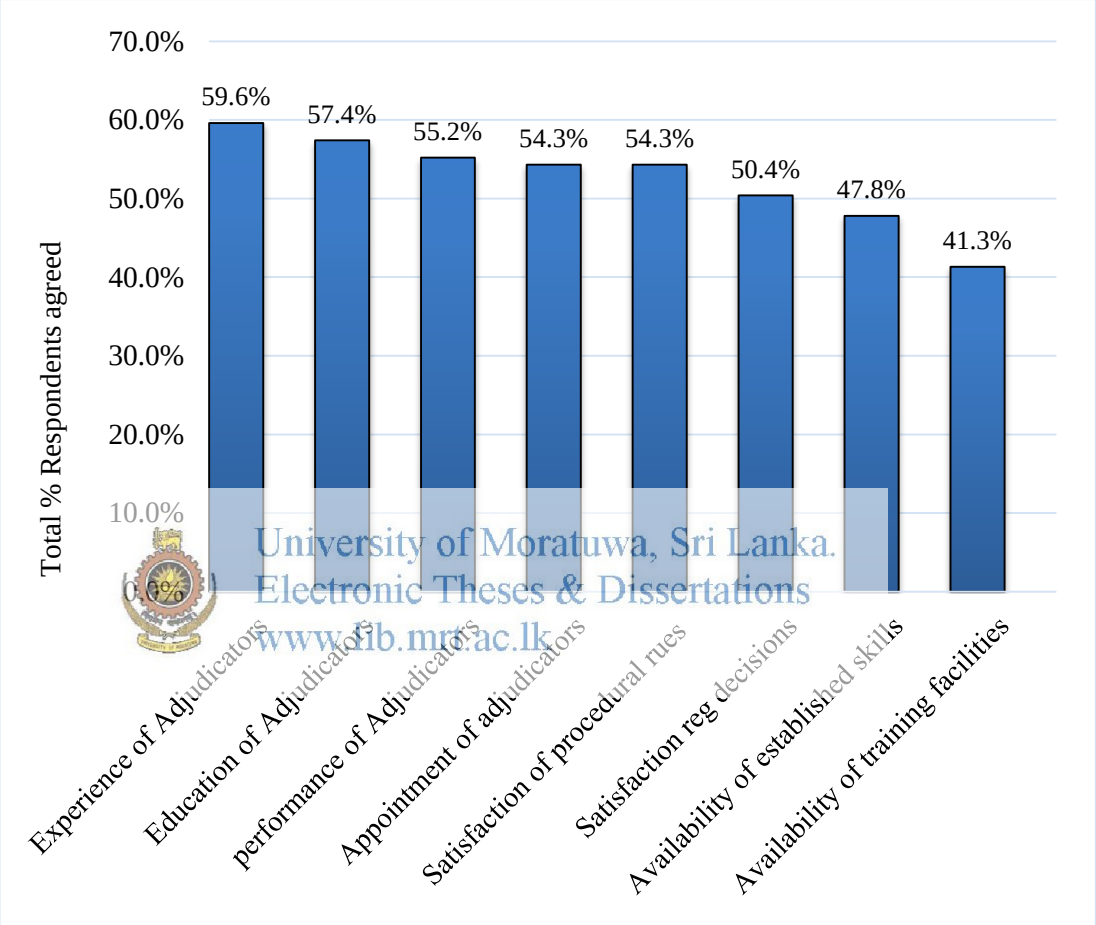


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**Figure 4-8: Sufficiency of training, knowledge level and other factors.**

It is observed that respondents have not expressed high ranking for experience and qualifications of the adjudicators in the construction industry. Average range of confidence on performance and decisions of adjudication. One of the main reasons for this kind of feedback from the respondents could be the absence of proper training facilities and dedicated institution facility for the adjudication. This situation to be

improved more to obtain full potential of adjudication and to improve stakeholders confident on adjudication.

## 4.5 SUCCESS OF ADJUDICATION IN SRI LANKAN CONSTRUCTION INDUSTRY

This section was targeted to test the hypothesis number four developed under chapter number 2-11 *based on above findings it would suggest that, Sri Lankan construction industry not getting full potential of adjudication to resolve the construction disputes.*

Respondents expressed their preference on each attribute which affects to success of adjudication. Highly ranked attribute is total cost involvement of the process having 75.2 %. Time scale required to resolve the dispute, flexibility of the proses and confidentiality of the process ranked 70. % to 68.3 %. Higher ranking gained for above mentioned four main attributes are the key features of adjudication.

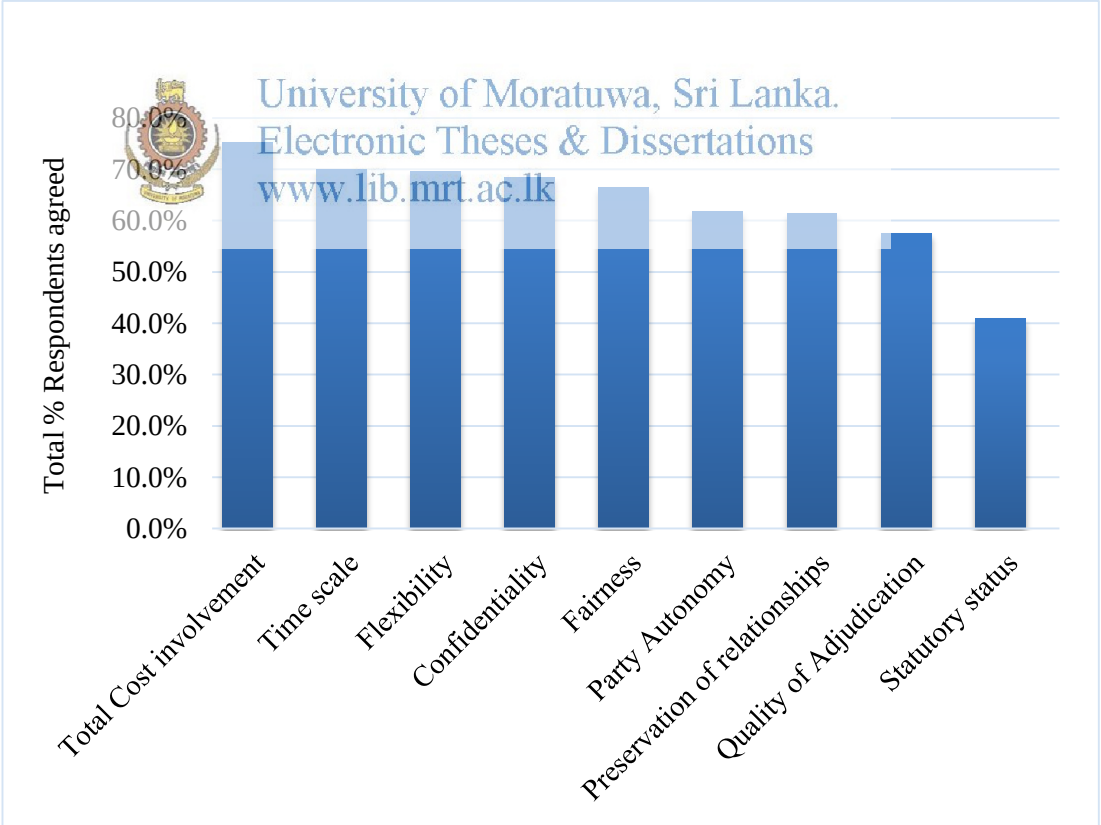

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**Figure 4-9: Factors affecting to success of adjudication**

Average 60% ranked for fairness, party autonomy, preservation of relationships and quality of adjudication process. 40.9% ranked for statutory status again demonstrates the expectation of more legal aspects in to the adjudication process.


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# 5. CONCLUSIONS AND RECOMMENDATIONS

## 5.1 SUMMARY OF STUDY

Adjudication is an Alternative Dispute Resolution (ADR) mechanism which can be effectively used in construction disputes. Adjudication is not new to Sri Lankan construction industry. However, the effectiveness of its adoption was questionable. Purpose of this research was to assess the success of adjudication as an ADR method in the Sri Lankan construction industry and to find the answer whether the industry is getting full potential of adjudication to resolve construction disputes.

A questionnaire survey carried out to test the hypothesis formulated in the literature review. Responses obtained from 46 numbers of professionals working in the construction industry and collected data analysed in the chapter number four.

Based on responses it was observed that industry having good knowledge level on adjudication. Awareness of the contractual provisions of adjudication in FIDIC and ICTAD conditions of contracts were in a very high level. But awareness of CIDA Act was less comparing to the available contractual provisions. Level of attraction on adjudication was satisfactory and respondents ranked main reasons for satisfactory as speed, cost effectiveness, flexibility of the process and preserving privacy of the parties. Considering above facts, it can be decided that hypothesis one is not correct and Sri Lankan construction industry is well understood the adjudication.

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Nearly 90% of the respondents were familiar with the contractual provisions provided in the FIDIC and ICTAD conditions of contracts. But expressed less familiarity in CIDA Act No. 33 and procedural rules. First part of the second hypothesis seems not correct because professionals were well aware of the contractual provisions of adjudication in the FIDIC and ICTAD forms of contracts. But as mentioned in the second part of the hypothesis most of respondents agreed that prevailing provisions for adjudication not enough and expressed their concern for improvements.

respondents were not happy with prevailing experience level of adjudicators, educational level of adjudicators and specially performance of them. Based on this information it was established that hypothesis number three is correct and required more attention to improve this prevailing status.

Based on above mentioned facts and details described under chapter 4.5 it can be concluded that Sri Lankan construction industry having good practice in construction adjudication but not getting full potential from it.

## 5.2 CONCLUSIONS

Sri Lankan construction industry has gained lot of experience and knowledge in adjudication by adopting FIDIC and ICTAD standard forms of contracts; but short of full awareness on legislative provisions provided by the legal system of the country. Institutional support for professionals involved in adjudication is not adequate to improve their knowledge on adjudication and its procedures to meet the international standards. Majority of the participants of study expressed their views to have more legal implications into the adjudication. More legal aspects or characteristics to adjudication could arise a question about the intended purpose of adjudication.

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## 5.3 RECOMMENDATIONS

Academic institutions should incorporate prevailing contractual and legislative provisions into their curriculum to enhance awareness and knowledge on construction adjudication.

Suggest to implement an act for adjudication to include adjudication process into the construction contracts as a mandatory provision.

## 5.4 LIMITATIONS OF THE STUDY

Sri Lankan construction industry well aware on adjudication provisions in FIDIC and ICTAD forms of contracts. But respondent knowledge / awareness on CIDA act No. 33 was limited since it is a newly introduced act. Professional involved in the industry will get more aware on CIDA act in the future.

## 5.5 FURTHER STUDIES

Awareness and sufficiency of CIDA Act No. 33 provisions in to Sri Lankan construction industry

Comparative study on adjudication practice in Sri Lanka and other countries to find out differences and areas to be improved.

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# APPENDIX

## Data Collection Chapter 4.1

| Reference | | Table 4-1 | Figure 4-1 | Figure 4-2 | Table 4-2 | Table 4-3 |
|---|---|---|---|---|---|---|
| No | Person | Profession | Involve in adjudication | Experience | Type of Organization | service offered by Organization |
| 1 | Respondent 1 | QS | Average | 5-10 | Private | QS |
| 2 | Respondent 2 | Archi | Low High | 10-15 | Private | Head Contractor |
| 3 | Respondent 3 | QS | High | 25-30 | Private | QS |
| 4 | Respondent 4 | QS | Low High | 5-10 | Public | QS |
| 5 | Respondent 5 | QS | Average | 15-20 | Private | Consultant |
| 6 | Respondent 6 | QS | Low High | 15-20 | Private | Consultant |
| 7 | Respondent 7 | QS | High | 15-20 | Freelance | Consultant |
| 8 | Respondent 8 | QS | Low High | 15-20 | Private | Client |
| 9 | Respondent 9 | QS | Low High | 5-10 | Semi Gov | Consultant |
| 10 | Respondent 10 | QS | Low High | 5-10 | Private | Head Contractor |
| 11 | Respondent 11 | QS | Very High | 20-25 | Private | Other |
| 12 | Respondent 12 | QS | Low High | 0-5 | Private | QS |
| 13 | Respondent 13 | QS | Low High | 0-5 | Private | Head Contractor |
| 14 | Respondent 14 | QS | Low High | 20-25 | Private | Head Contractor |
| 15 | Respondent 15 | QS | Average | 15-20 | Private | QS |
| 16 | Respondent 16 | Eng. | High | 25-30 | Freelance | Consultant |
| 17 | Respondent 17 | Archi | Average | 20-25 | Private | Consultant |
| 18 | Respondent 18 | Eng. | Low High | 20-25 | Private | Consultant |
| 19 | Respondent 19 | QS | Very High | 15-20 | Public | Consultant |
| 20 | Respondent 20 | Eng. | Low High | 30 + | Private | PM |
| 21 | Respondent 21 | Eng. | High | 30 + | Public | Consultant |
| 22 | Respondent 22 | Archi | Average | 15-20 | Private | Head Contractor |
| 23 | Respondent 23 | Eng. | Low High | 20-25 | Private | Consultant |
| 24 | Respondent 24 | QS | High | 15-20 | Freelance | PM |
| 25 | Respondent 25 | Eng. | Low High | 15-20 | Private | Client |
| 26 | Respondent 26 | Eng. | High | 25-30 | Freelance | PM |
| 27 | Respondent 27 | Archi | Average | 20-25 | Private | Head Contractor |
| 28 | Respondent 28 | Eng. | Low High | 20-25 | Private | Consultant |
| 29 | Respondent 29 | QS | High | 15-20 | Public | PM |
| 30 | Respondent 30 | Eng. | Low High | 15-20 | Private | QS |
| 31 | Respondent 31 | Eng. | High | 25-30 | Public | Consultant |
| 32 | Respondent 32 | Archi | Average | 15-20 | Private | Consultant |
| 33 | Respondent 33 | Eng. | Low High | 10-15 | Private | Consultant |
| 34 | Respondent 34 | QS | High | 15-20 | Freelance | Head Contractor |
| 35 | Respondent 35 | Eng. | Low High | 30 + | Private | Client |
| 36 | Respondent 36 | Law | Low High | 15-20 | Private | Consultant |
| 37 | Respondent 37 | Eng. | High | 30 + | Public | Head Contractor |
| 38 | Respondent 38 | Archi | Average | 20-25 | Private | Consultant |
| 39 | Respondent 39 | QS | High | 15-20 | Public | PM |
| 40 | Respondent 40 | Eng. | Low High | 20-25 | Private | Other |
| 41 | Respondent 41 | Eng. | High | 25-30 | Public | Consultant |
| 42 | Respondent 42 | Archi | Average | 10-15 | Private | Head Contractor |
| 43 | Respondent 43 | Eng. | Low High | 25-30 | Private | Head Contractor |
| 44 | Respondent 44 | Law | Average | 15-20 | Freelance | Consultant |
| 45 | Respondent 45 | Law | Low High | 15-20 | Freelance | Head Contractor |
| 46 | Respondent 46 | Law | Low High | 30 + | Freelance | Consultant |
| | | | | | | |

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## Data Collection Chapter 4.2

| | | Figure 4-3 | | | | Figure 4-4 | | | Figure 4-5 | | | | Figure 4-6 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Knowledge | | | | awareness | | | Level of ADJ | | | | | | | | | | | |
| No | Person | Very High | High | Average | Low | FIDIC COC | ICTAD COC | CIDA ACT No. | Very High | High | Average | Low | Speed | Cost Effective | Flexible | Privacy | Relationship | Expertise facility | Predictability | Infirmity |
| 1 | Respondent 1 | | | 1 | | 4 | 4 | 1 | | | 1 | | 3 | 2 | 4 | 8 | 7 | 1 | 5 | 6 |
| 2 | Respondent 2 | | | | 1 | 3 | 3 | 1 | | | 1 | | 1 | 3 | 2 | 5 | 4 | 6 | 8 | 7 |
| 3 | Respondent 3 | | | | | 3 | 3 | 1 | | | | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 8 | 7 |
| 4 | Respondent 4 | | | | 1 | 4 | 4 | 3 | | | 1 | | 2 | 5 | 1 | 4 | 8 | 7 | 3 | 6 |
| 5 | Respondent 5 | | | 1 | | 4 | 4 | 0 | | | 1 | | 1 | 4 | 6 | 3 | 8 | 2 | 7 | 5 |
| 6 | Respondent 6 | | | | 1 | 3 | 3 | 1 | | | | 1 | 1 | 6 | 5 | 7 | 3 | 2 | 8 | 4 |
| 7 | Respondent 7 | | | 1 | | 5 | 5 | 2 | | | 1 | | 3 | 2 | 1 | 6 | 5 | 8 | 7 | 4 |
| 8 | Respondent 8 | | | 1 | | 4 | 4 | 2 | | | 1 | | 1 | 2 | 4 | 5 | 3 | 8 | 6 | 7 |
| 9 | Respondent 9 | | | | 1 | 3 | 3 | 2 | | | 1 | | 2 | 3 | 4 | 1 | 6 | 5 | 8 | 7 |
| 10 | Respondent 10 | | | 1 | | 5 | 5 | 5 | | | 1 | | 1 | 4 | 6 | 3 | 8 | 2 | 7 | 5 |
| 11 | Respondent 11 | | 1 | | | 5 | 5 | 5 | | | 1 | | 2 | 1 | 3 | 5 | 8 | 7 | 4 | 6 |
| 12 | Respondent 12 | | | 1 | | 4 | 4 | 2 | | 1 | | | 1 | 2 | 3 | 4 | 6 | 5 | 8 | 7 |
| 13 | Respondent 13 | | | | | 3 | 3 | 1 | | | 1 | | 3 | 2 | 1 | 7 | 5 | 4 | 8 | 6 |
| 14 | Respondent 14 | | | | 1 | 4 | 4 | | | | | 1 | 5 | 1 | 6 | 2 | 4 | 3 | 7 | 8 |
| 15 | Respondent 15 | | 1 | | | 5 | 4 | 3 | | 1 | | | 2 | 1 | 4 | 6 | 3 | 5 | 8 | 7 |
| 16 | Respondent 16 | | | | | 5 | 5 | 4 | | 1 | | | 1 | 2 | 4 | 5 | 3 | 6 | 8 | 7 |
| 17 | Respondent 17 | | 1 | | | 5 | 4 | 3 | 1 | | | | 1 | 2 | 3 | 5 | 4 | 6 | 8 | 7 |
| 18 | Respondent 18 | | | | | 5 | 5 | 5 | | | 1 | | 2 | 1 | 3 | 6 | 5 | 7 | 4 | 8 |
| 19 | Respondent 19 | 1 | | | | 5 | 5 | 2 | | | 1 | | 1 | 2 | 5 | 4 | 8 | 6 | 3 | 7 |
| 20 | Respondent 20 | | 1 | | | 4 | 4 | 2 | | | 1 | | 1 | 2 | 4 | 5 | 3 | 8 | 6 | 7 |
| 21 | Respondent 21 | | | | 1 | 5 | 5 | 4 | | 1 | | | 1 | 2 | 5 | 3 | 4 | 6 | 7 | 8 |
| 22 | Respondent 22 | | 1 | | | 5 | 4 | 3 | | 1 | | | 1 | 2 | 3 | 5 | 4 | 6 | 7 | 8 |
| 23 | Respondent 23 | | 1 | | | 5 | 5 | 5 | | | 1 | | 2 | 1 | 3 | 5 | 6 | 8 | 4 | 7 |
| 24 | Respondent 24 | | | 1 | | 5 | 5 | 2 | | | 1 | | 3 | 2 | 5 | 1 | 6 | 7 | 4 | 8 |
| 25 | Respondent 25 | | | 1 | | 4 | 4 | 2 | | | 1 | | 1 | 2 | 4 | 5 | 3 | 8 | 7 | 6 |
| 26 | Respondent 26 | | 1 | | | 5 | 5 | 4 | | 1 | | | 1 | 2 | 3 | 5 | 4 | 6 | 8 | 7 |
| 27 | Respondent 27 | | 1 | | | 5 | 4 | 3 | | 1 | | | 1 | 2 | 3 | 5 | 4 | 6 | 7 | 8 |
| 28 | Respondent 28 | | | | | 5 | 5 | 5 | | | 1 | | 2 | 1 | 3 | 5 | 8 | 6 | 7 | 4 |
| 29 | Respondent 29 | | | 1 | | 5 | 5 | 2 | | | 1 | | 4 | 2 | 1 | 3 | 5 | 6 | 8 | 7 |
| 30 | Respondent 30 | | | 1 | | 4 | 4 | 2 | | | 1 | | 1 | 2 | 4 | 5 | 3 | 8 | 6 | 7 |
| 31 | Respondent 31 | | 1 | | | 5 | 5 | 4 | | 1 | | | 3 | 1 | 2 | 5 | 4 | 6 | 7 | 8 |
| 32 | Respondent 32 | | | 1 | | 5 | 4 | 3 | | 1 | | | 1 | 2 | 3 | 5 | 4 | 6 | 8 | 7 |
| 33 | Respondent 33 | | 1 | | | 5 | 5 | 5 | | | 1 | | 2 | 1 | 3 | 5 | 8 | 6 | 7 | 4 |
| 34 | Respondent 34 | | | 1 | | 5 | 5 | 2 | | | 1 | | 4 | 2 | 6 | 3 | 5 | 8 | 1 | 7 |
| 35 | Respondent 35 | | | 1 | | 4 | 4 | 2 | | | 1 | | 1 | 2 | 4 | 5 | 3 | 8 | 6 | 7 |
| 36 | Respondent 36 | | | | | 3 | 3 | 1 | | | | 1 | 1 | 5 | 6 | 7 | 3 | 2 | 8 | 4 |
| 37 | Respondent 37 | | 1 | | | 5 | 5 | 4 | | 1 | | | 2 | 1 | 3 | 4 | 5 | 6 | 8 | 7 |
| 38 | Respondent 38 | | | | | 5 | 4 | 3 | | 1 | | | 1 | 2 | 3 | 5 | 4 | 6 | 8 | 7 |
| 39 | Respondent 39 | | | 1 | | 5 | 5 | 2 | | | 1 | | 4 | 2 | 6 | 7 | 5 | 8 | 1 | 3 |
| 40 | Respondent 40 | | 1 | | | 5 | 5 | 5 | | | 1 | | 2 | 1 | 3 | 5 | 8 | 6 | 4 | 7 |
| 41 | Respondent 41 | | | | | 5 | 5 | 4 | | 1 | | | 1 | 3 | 2 | 6 | 4 | 7 | 8 | 5 |
| 42 | Respondent 42 | | 1 | | | 5 | 4 | 3 | | 1 | | | 1 | 2 | 3 | 5 | 4 | 6 | 8 | 7 |
| 43 | Respondent 43 | | | 1 | | 4 | 4 | 2 | | | 1 | | 1 | 2 | 4 | 5 | 3 | 8 | 6 | 7 |
| 44 | Respondent 44 | | 1 | | | 5 | 4 | 3 | | 1 | | | 2 | 1 | 3 | 5 | 4 | 6 | 8 | 7 |
| 45 | Respondent 45 | 1 | | | | 4 | 4 | 2 | | | 1 | | 1 | 2 | 4 | 5 | 3 | 8 | 6 | 7 |
| 46 | Respondent 46 | | | 1 | | 3 | 3 | 1 | | | | 1 | 1 | 6 | 5 | 7 | 3 | 2 | 4 | 8 |
| | | | | | | | | | | | | | | | | | | | | |

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## Data Collection Chapter 4.3

| | | Figure 4-7 | | | | Chapter 4.3.2 | | | | | Table 4-4 | | | Chap 4.3.2 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Familiarity | | | | ACT Other countries | | | | | Coverage | | | Requirement Act | | | |
| No | Person | FIDIC | ICTAD | CIDA ACT No. 33 | Procedural rules | Very High | High | Average | Low | Not relevant | only payment | Other disputes | All disputes | Very High | High | Average | Low |
| 1 | Respondent 1 | 4 | 4 | 1 | 2 | | | 1 | | | | | 1 | | | 1 | |
| 2 | Respondent 2 | 4 | 4 | 2 | 1 | | | | 1 | | | | 1 | | | 1 | |
| 3 | Respondent 3 | 4 | 3 | 2 | 3 | | | | | 1 | | | 1 | | | 1 | |
| 4 | Respondent 4 | 3 | 3 | 2 | 2 | | | | 1 | | | | 1 | | 1 | | |
| 5 | Respondent 5 | 3 | 3 | 3 | 2 | | | 1 | | | | | 1 | | | | 1 |
| 6 | Respondent 6 | 1 | 1 | 1 | 1 | | | 1 | | | | | 1 | | 1 | | |
| 7 | Respondent 7 | 5 | 5 | 2 | 4 | | | 1 | | | | | 1 | | 1 | | |
| 8 | Respondent 8 | 4 | 4 | 0 | 0 | | | | 1 | | | | 1 | | | | 1 |
| 9 | Respondent 9 | 3 | 3 | 4 | 2 | | | | 1 | | | | 1 | | 1 | | |
| 10 | Respondent 10 | 4 | 4 | 3 | 1 | | 1 | | | | | | 1 | | 1 | | |
| 11 | Respondent 11 | 4 | 4 | 3 | 2 | | 1 | | | | | 1 | | 1 | | | |
| 12 | Respondent 12 | 4 | 4 | 3 | 1 | | 1 | | | | | | 1 | | 1 | | |
| 13 | Respondent 13 | 4 | 4 | 0 | 5 | | | 1 | | | | | 1 | 1 | | | |
| 14 | Respondent 14 | 4 | 4 | 2 | 3 | | | 1 | | | | | 1 | | 1 | | |
| 15 | Respondent 15 | 5 | 5 | 3 | 2 | | 1 | | | | | | 1 | 1 | | | |
| 16 | Respondent 16 | 5 | 5 | 3 | 1 | | 1 | | | | | | 1 | 1 | | | |
| 17 | Respondent 17 | 5 | 5 | 3 | 2 | | 1 | | | | | | 1 | 1 | | | |
| 18 | Respondent 18 | 4 | 4 | 3 | 1 | | 1 | | | | | 1 | | 1 | | | |
| 19 | Respondent 19 | 5 | 5 | 2 | 4 | | | 1 | | | | | 1 | | 1 | | |
| 20 | Respondent 20 | 4 | 4 | 0 | 0 | | | | 1 | | | | 1 | | | | 1 |
| 21 | Respondent 21 | 5 | 5 | 1 | 2 | | 1 | | | | | | 1 | 1 | | | |
| 22 | Respondent 22 | 5 | 5 | 3 | 1 | | 1 | | | | | | 1 | 1 | | | |
| 23 | Respondent 23 | 4 | 4 | 3 | 2 | | 1 | | | | | 1 | | 1 | | | |
| 24 | Respondent 24 | 5 | 5 | 2 | 4 | | | 1 | | | | | 1 | | 1 | | |
| 25 | Respondent 25 | 4 | 4 | 0 | 0 | | | | 1 | | | | 1 | | | | 1 |
| 26 | Respondent 26 | 5 | 5 | 3 | 2 | | 1 | | | | | | 1 | 1 | | | |
| 27 | Respondent 27 | 5 | 5 | 3 | 1 | | 1 | | | | | | 1 | 1 | | | |
| 28 | Respondent 28 | 4 | 4 | 3 | 2 | | 1 | | | | | 1 | | 1 | | | |
| 29 | Respondent 29 | 5 | 5 | 2 | 3 | | | 1 | | | | | 1 | | 1 | | |
| 30 | Respondent 30 | 4 | 4 | 0 | 0 | | | | 1 | | | | 1 | | | | 1 |
| 31 | Respondent 31 | 5 | 5 | 3 | 2 | | 1 | | | | | | 1 | 1 | | | |
| 32 | Respondent 32 | 5 | 5 | 3 | 1 | | 1 | | | | | | 1 | 1 | | | |
| 33 | Respondent 33 | 4 | 4 | 3 | 2 | | 1 | | | | | 1 | | 1 | | | |
| 34 | Respondent 34 | 5 | 5 | 2 | 2 | | | 1 | | | | | 1 | | 1 | | |
| 35 | Respondent 35 | 4 | 4 | 0 | 0 | | | | 1 | | | | 1 | | | | 1 |
| 36 | Respondent 36 | 1 | 1 | 1 | 1 | | | 1 | | | | | 1 | | 1 | | |
| 37 | Respondent 37 | 5 | 5 | 3 | 2 | | 1 | | | | | | 1 | 1 | | | |
| 38 | Respondent 38 | 5 | 5 | 3 | 1 | | 1 | | | | | | 1 | 1 | | | |
| 39 | Respondent 39 | 5 | 5 | 2 | 2 | | | 1 | | | | | 1 | | 1 | | |
| 40 | Respondent 40 | 4 | 4 | 3 | 2 | | 1 | | | | | 1 | | 1 | | | |
| 41 | Respondent 41 | 5 | 5 | 3 | 2 | | 1 | | | | | | 1 | 1 | | | |
| 42 | Respondent 42 | 5 | 5 | 3 | 2 | | 1 | | | | | | 1 | 1 | | | |
| 43 | Respondent 43 | 4 | 4 | 0 | 0 | | | | 1 | | | | 1 | | | | 1 |
| 44 | Respondent 44 | 5 | 5 | 3 | 1 | | 1 | | | | | | 1 | 1 | | | |
| 45 | Respondent 45 | 4 | 4 | 0 | 0 | | | | 1 | | | | 1 | | | | 1 |
| 46 | Respondent 46 | 1 | 1 | 1 | 1 | | | 1 | | | | | 1 | | 1 | | |
| | | | | | | | | | | | | | | | | | |

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| | | Chap 4.3.3 | | | | Chap 4.3.3 | | Chap 4.3.3 | |
|---|---|---|---|---|---|---|---|---|---|
| | | SLK act = UK Act | | | | Inl comp. | | en power | |
| No | Person | Very High | High | Average | Low | Yes | No | Require | Not Require |
| 1 | Respondent 1 | | | | 1 | | 1 | 1 | |
| 2 | Respondent 2 | | | | 1 | 1 | | 1 | |
| 3 | Respondent 3 | | | | 1 | 1 | | | 1 |
| 4 | Respondent 4 | | | 1 | | 1 | | 1 | |
| 5 | Respondent 5 | | | | 1 | 1 | | 1 | |
| 6 | Respondent 6 | | 1 | | | 1 | | | 1 |
| 7 | Respondent 7 | | 1 | | | 1 | | 1 | |
| 8 | Respondent 8 | | 1 | | | | 1 | | 1 |
| 9 | Respondent 9 | | 1 | | | 1 | | 1 | |
| 10 | Respondent 10 | | 1 | | | | 1 | | 1 |
| 11 | Respondent 11 | | 1 | | | 1 | | 1 | |
| 12 | Respondent 12 | | 1 | | | 1 | | | 1 |
| 13 | Respondent 13 | | 1 | | | 1 | | | 1 |
| 14 | Respondent 14 | | | 1 | | | 1 | 1 | |
| 15 | Respondent 15 | | 1 | | | 1 | | | 1 |
| 16 | Respondent 16 | | 1 | | | 1 | | 1 | |
| 17 | Respondent 17 | | 1 | | | 1 | | | 1 |
| 18 | Respondent 18 | | 1 | | | 1 | | 1 | |
| 19 | Respondent 19 | | 1 | | | 1 | | 1 | |
| 20 | Respondent 20 | | 1 | | | | 1 | | 1 |
| 21 | Respondent 21 | | 1 | | | 1 | | 1 | |
| 22 | Respondent 22 | | 1 | | | 1 | | | 1 |
| 23 | Respondent 23 | | 1 | | | 1 | | 1 | |
| 24 | Respondent 24 | | 1 | | | 1 | | 1 | |
| 25 | Respondent 25 | | 1 | | | | 1 | | 1 |
| 26 | Respondent 26 | | 1 | | | 1 | | 1 | |
| 27 | Respondent 27 | | 1 | | | 1 | | | 1 |
| 28 | Respondent 28 | | 1 | | | 1 | | 1 | |
| 29 | Respondent 29 | | 1 | | | 1 | | 1 | |
| 30 | Respondent 30 | | 1 | | | | 1 | | 1 |
| 31 | Respondent 31 | | 1 | | | 1 | | 1 | |
| 32 | Respondent 32 | | 1 | | | 1 | | | 1 |
| 33 | Respondent 33 | | 1 | | | 1 | | 1 | |
| 34 | Respondent 34 | | 1 | | | 1 | | 1 | |
| 35 | Respondent 35 | | 1 | | | | 1 | | 1 |
| 36 | Respondent 36 | | 1 | | | 1 | | 1 | |
| 37 | Respondent 37 | | 1 | | | 1 | | 1 | |
| 38 | Respondent 38 | | 1 | | | 1 | | 1 | |
| 39 | Respondent 39 | | 1 | | | 1 | | 1 | |
| 40 | Respondent 40 | | 1 | | | 1 | | 1 | |
| 41 | Respondent 41 | | 1 | | | 1 | | 1 | |
| 42 | Respondent 42 | | 1 | | | 1 | | 1 | |
| 43 | Respondent 43 | | 1 | | | | 1 | | 1 |
| 44 | Respondent 44 | | 1 | | | 1 | | 1 | |
| 45 | Respondent 45 | | 1 | | | | 1 | | 1 |
| 46 | Respondent 46 | | 1 | | | 1 | | 1 | |
| | | | | | | | | | |

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## Data Collection Chapter 4.4

| | | Figure 4-8 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Factors SLK Practice | | | | | | | |
| No | Person | Experience of Adjudicators | Education of Adjudicators | Satisfaction reg decisions | Appointment of adjudicators | performance of Adjudicators | Availability of established skills | Availability of training facilities | Satisfaction of procedural rues |
| 1 | Respondent 1 | 5 | 5 | 4 | 4 | 3 | 3 | 1 | 4 |
| 2 | Respondent 2 | 3 | 4 | 3 | 4 | 3 | 3 | 2 | 4 |
| 3 | Respondent 3 | 4 | 5 | 3 | 3 | 2 | 2 | 3 | 3 |
| 4 | Respondent 4 | 4 | 3 | 3 | 2 | 2 | 2 | 3 | 2 |
| 5 | Respondent 5 | 5 | 5 | 4 | 4 | 4 | 3 | 3 | 3 |
| 6 | Respondent 6 | 2 | 3 | 1 | 3 | 2 | 2 | 2 | 1 |
| 7 | Respondent 7 | 2 | 2 | 1 | 4 | 2 | 1 | 1 | 4 |
| 8 | Respondent 8 | 4 | 4 | 3 | 4 | 4 | 4 | 3 | 3 |
| 9 | Respondent 9 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 10 | Respondent 10 | 3 | 3 | 4 | 4 | 4 | 3 | 3 | 4 |
| 11 | Respondent 11 | 2 | 3 | 2 | 1 | 2 | 3 | 2 | 1 |
| 12 | Respondent 12 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 |
| 13 | Respondent 13 | 4 | 4 | 3 | 3 | 3 | 2 | 2 | 3 |
| 14 | Respondent 14 | 3 | 3 | 3 | 1 | 1 | 2 | 1 | 1 |
| 15 | Respondent 15 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 3 |
| 16 | Respondent 16 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 3 |
| 17 | Respondent 17 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 3 |
| 18 | Respondent 18 | 2 | 3 | 2 | 1 | 2 | 3 | 2 | 1 |
| 19 | Respondent 19 | 2 | 2 | 1 | 4 | 2 | 1 | 1 | 4 |
| 20 | Respondent 20 | 4 | 4 | 3 | 4 | 4 | 4 | 3 | 3 |
| 21 | Respondent 21 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 3 |
| 22 | Respondent 22 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 3 |
| 23 | Respondent 23 | 2 | 3 | 2 | 1 | 2 | 3 | 2 | 1 |
| 24 | Respondent 24 | 2 | 2 | 1 | 4 | 2 | 1 | 1 | 4 |
| 25 | Respondent 25 | 4 | 4 | 3 | 4 | 4 | 4 | 3 | 3 |
| 26 | Respondent 26 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 3 |
| 27 | Respondent 27 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 3 |
| 28 | Respondent 28 | 2 | 3 | 2 | 1 | 2 | 3 | 2 | 1 |
| 29 | Respondent 29 | 2 | 2 | 1 | 4 | 2 | 1 | 1 | 4 |
| 30 | Respondent 30 | 4 | 4 | 3 | 4 | 4 | 4 | 3 | 3 |
| 31 | Respondent 31 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 3 |
| 32 | Respondent 32 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 3 |
| 33 | Respondent 33 | 2 | 3 | 2 | 1 | 2 | 3 | 2 | 1 |
| 34 | Respondent 34 | 2 | 2 | 1 | 4 | 2 | 1 | 1 | 4 |
| 35 | Respondent 35 | 4 | 4 | 3 | 4 | 4 | 4 | 3 | 3 |
| 36 | Respondent 36 | 2 | 3 | 1 | 3 | 2 | 2 | 2 | 1 |
| 37 | Respondent 37 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 3 |
| 38 | Respondent 38 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 3 |
| 39 | Respondent 39 | 2 | 2 | 1 | 4 | 2 | 1 | 1 | 4 |
| 40 | Respondent 40 | 2 | 3 | 2 | 1 | 2 | 3 | 2 | 1 |
| 41 | Respondent 41 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 3 |
| 42 | Respondent 42 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 3 |
| 43 | Respondent 43 | 4 | 4 | 3 | 4 | 4 | 4 | 3 | 3 |
| 44 | Respondent 44 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 3 |
| 45 | Respondent 45 | 4 | 4 | 3 | 4 | 4 | 4 | 3 | 3 |
| 46 | Respondent 46 | 2 | 3 | 1 | 3 | 2 | 2 | 2 | 1 |
| | | | | | | | | | |

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## Data Collection Chapter 4.5

| | | Figure 4-9 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Success Factors | | | | | | | | | |
| No | Person | Total Cost involvement | Time scale | Confidentiality | Quality of Adjudication | Flexibility | Party Autonomy | Fairness | Preservation of relationships | Role of legal | Statutory status |
| 1 | Respondent 1 | 4 | 3 | 4 | 4 | 4 | 2 | 4 | 3 | 4 | 2 |
| 2 | Respondent 2 | 3 | 3 | 4 | 4 | 3 | 2 | 4 | 3 | 3 | 1 |
| 3 | Respondent 3 | 1 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 3 |
| 4 | Respondent 4 | 3 | 4 | 2 | 4 | 4 | 3 | 3 | 3 | 2 | 2 |
| 5 | Respondent 5 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 4 | 3 | 2 |
| 6 | Respondent 6 | 4 | 4 | 3 | 3 | 4 | 4 | 3 | 2 | 3 | 2 |
| 7 | Respondent 7 | 4 | 4 | 4 | 2 | 3 | 2 | 2 | 3 | 4 | 3 |
| 8 | Respondent 8 | 4 | 4 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 3 |
| 9 | Respondent 9 | 5 | 5 | 4 | 5 | 3 | 4 | 5 | 4 | 2 | 5 |
| 10 | Respondent 10 | 4 | 4 | 4 | 4 | 4 | 5 | 4 | 3 | 2 | 2 |
| 11 | Respondent 11 | 4 | 1 | 3 | 1 | 2 | 2 | 3 | 4 | 4 | 1 |
| 12 | Respondent 12 | 4 | 3 | 4 | 3 | 4 | 4 | 4 | 3 | 3 | 3 |
| 13 | Respondent 13 | 4 | 5 | 5 | 4 | 4 | 4 | 3 | 4 | 2 | 2 |
| 14 | Respondent 14 | 3 | 3 | 4 | 2 | 3 | 2 | 4 | 3 | 4 | 1 |
| 15 | Respondent 15 | 4 | 4 | 4 | 3 | 4 | 3 | 3 | 2 | 2 | 2 |
| 16 | Respondent 16 | 4 | 4 | 3 | 3 | 4 | 3 | 4 | 4 | 2 | 2 |
| 17 | Respondent 17 | 4 | 4 | 3 | 3 | 4 | 3 | 3 | 4 | 2 | 1 |
| 18 | Respondent 18 | 4 | 1 | 4 | 1 | 2 | 2 | 4 | 2 | 4 | 1 |
| 19 | Respondent 19 | 4 | 4 | 3 | 2 | 3 | 4 | 3 | 3 | 4 | 3 |
| 20 | Respondent 20 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 4 | 3 |
| 21 | Respondent 21 | 4 | 4 | 3 | 3 | 4 | 3 | 4 | 2 | 2 | 2 |
| 22 | Respondent 22 | 4 | 4 | 4 | 3 | 4 | 3 | 3 | 4 | 2 | 1 |
| 23 | Respondent 23 | 4 | 1 | 3 | 1 | 2 | 4 | 3 | 4 | 4 | 1 |
| 24 | Respondent 24 | 4 | 4 | 3 | 2 | 3 | 2 | 2 | 3 | 4 | 3 |
| 25 | Respondent 25 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 4 | 3 |
| 26 | Respondent 26 | 4 | 4 | 3 | 3 | 4 | 3 | 2 | 4 | 2 | 2 |
| 27 | Respondent 27 | 4 | 4 | 4 | 3 | 4 | 3 | 3 | 2 | 2 | 2 |
| 28 | Respondent 28 | 4 | 1 | 3 | 1 | 2 | 2 | 4 | 4 | 4 | 1 |
| 29 | Respondent 29 | 4 | 4 | 4 | 2 | 3 | 4 | 2 | 3 | 4 | 3 |
| 30 | Respondent 30 | 4 | 4 | 3 | 4 | 4 | 4 | 4 | 2 | 4 | 3 |
| 31 | Respondent 31 | 4 | 4 | 4 | 3 | 4 | 3 | 2 | 4 | 2 | 2 |
| 32 | Respondent 32 | 4 | 4 | 3 | 3 | 4 | 3 | 4 | 4 | 2 | 1 |
| 33 | Respondent 33 | 4 | 1 | 2 | 1 | 2 | 4 | 2 | 2 | 4 | 1 |
| 34 | Respondent 34 | 4 | 4 | 4 | 2 | 3 | 2 | 4 | 3 | 4 | 3 |
| 35 | Respondent 35 | 4 | 4 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 3 |
| 36 | Respondent 36 | 4 | 4 | 3 | 3 | 4 | 4 | 3 | 2 | 3 | 1 |
| 37 | Respondent 37 | 4 | 4 | 4 | 3 | 4 | 3 | 4 | 4 | 2 | 2 |
| 38 | Respondent 38 | 4 | 4 | 3 | 3 | 4 | 3 | 3 | 2 | 2 | 1 |
| 34 | Respondent 39 | 4 | 4 | 4 | 2 | 3 | 2 | 4 | 3 | 4 | 3 |
| 40 | Respondent 40 | 4 | 1 | 2 | 1 | 2 | 4 | 4 | 2 | 4 | 1 |
| 41 | Respondent 41 | 4 | 4 | 3 | 3 | 4 | 3 | 4 | 4 | 2 | 1 |
| 42 | Respondent 42 | 4 | 4 | 4 | 3 | 4 | 3 | 3 | 2 | 2 | 2 |
| 43 | Respondent 43 | 4 | 4 | 3 | 4 | 4 | 2 | 4 | 4 | 4 | 3 |
| 44 | Respondent 44 | 2 | 4 | 3 | 3 | 4 | 4 | 3 | 2 | 3 | 1 |
| 45 | Respondent 45 | 3 | 3 | 4 | 2 | 3 | 2 | 4 | 3 | 4 | 1 |
| 46 | Respondent 46 | 1 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 3 |

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