# LEGAL FRAMEWORK FOR EFFECTIVE IMPLEMENTATION OF ADR METHODS UNDER THE CONSTRUCTION INDUSTRY DEVELOPMENT ACT

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#### **ABSTRACT**

The recently enacted Construction Industry Development Act No. 33 of 2014 is for the development of the construction industry in Sri Lanka. The Act facilitates the resolution of disputes within the construction industry. There is ineffectiveness on implementation of ADR methods for the settlement of disputes. Thus, this study focuses on developing a legal framework for effective implementation of ADR methods for the settlement of disputes in accordance with the said Act.

The research was initiated with a literature survey. A survey approach was implemented whereby two rounds of questionnaires were distributed and semi-structured interviews were conducted among construction professionals with more than 10 years of experience. A pilot study was conducted as a preliminary measure to design the questionnaire round one. Questionnaire survey was conducted by Delphi technique with two rounds by targeting 36 and 30 professionals in round one and two respectively. Data was analysed by taking as a percentage of the total number of respondents for questionnaire round one. For questionnaire round two, first t-test was used to identify the significant problems and potential solutions and then MWR was used to rank them. The structured interviews were analysed using content analysis. The sampling technique was a judgemental sampling.

The survey results on questionnaires revealed the problematic areas related ADR methods used by the construction industry and at the said Act. The survey findings also presented potential solutions to overcome those problematic areas. In addition to the questionnaire survey, interviews were generated recommendations to the part IX - Settlement of disputes of the said Act. Through these results of the study legal framework for effective implementation of ADR methods under the Construction Industry Development Act No. 33 of 2014 was developed. This framework can be adopted to settle the dispute effectively in the Sri Lankan Construction Industry. By practicing this framework the projects can be continued without deadlock, whenever dispute is arisen.

**Keywords:** Alternative Dispute Resolution; Construction Industry Development Act No.33 of 2014; Settlement of Disputes.

# 1. Introduction

The construction industry is one of the crucial industries that be able to place any country on the fast track of development. Thus, construction industry is placing a vital role in the growth of economy (Central Bank of Sri Lanka, 2014). Construction projects are highly uncertain, complex in nature and it is difficult to decide every detail at the earlier stages (The College of Estate Management, 2014).

ICJ (2011, p.2) stated that the dispute is a "disagreement on a point of law or fact, a conflict of legal views or of interests between two persons". Whenever dispute comes, projects stops at a half and everybody loses money (Patterson, 2015). Therefore, the settlement of dispute is necessarily considerable to complete the projects successfully as to eliminate the delays of the completion of construction projects (Cheung *et al.*, 2010).

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The cost, time consumption and risk of litigation in construction disputes tends to look for fresh and further efficient techniques to resolve the disputes outside the court premises (Elziny *et al.*, 2014). Thus, alternative dispute resolution (ADR) methods have been introduced and practised in construction industry (Patterson, 2015). At SBD/02, ICTAD (2007) mentioned that, normally when any dispute arises, the conditions of contract in contract document is referred to check whether is there any methods to follow for the settlement of the disputes. Every arrangement to the potential for disagreement over issues arising from a contract should be considered (Bihancov, 2014). The developed countries already have construction Acts which facilitate the dispute resolution process by using the ADR methods. For an example, UK construction Act which is known as the Housing Grants, Construction and Regeneration Act (The National Archives, 2015). But, in Sri Lanka, there is no such an Act earlier. These kinds of issues are resolved by introduction of the Construction Industry Development Act No.33 of 2014, which is provided for the development of construction industry in Sri Lanka. In case of any disputes relating to construction works, if any provision is not included in the contract to settle the dispute, then the dispute is to be settled in accordance to the Act.

A couple of provisions is there in this Act which introduce a way of solving disputes associated with construction activities (Jayalath, 2014). The Act facilitates the resolution of disputes within the construction industry. Even though, this Act has three ADR methods to be followed in case of disputes, when the clauses are silent at the condition of contract in the contract document, there are some drawbacks in the selection of ADR methods at the newly enacted Act (Jayalath, 2014). In the Act, there is a way from conciliation, mediation and adjudication without a stopover at any arbitral tribunal that has being in practice over five decades (Jayalath, 2014). Arbitration is the single most preferred method of dispute resolution recognised internationally as providing a flexible and effective alternative to costly and time consuming litigation (Mwenda, 2003). Such an ADR method is not mentioned in this Act.

Accuracy, short response time, cost savings, increased awareness of the issues, accountability and dependency could be a reflection of success, as a dispute mechanism (Jayalath, 2014). Thus, the construction industry needs a cost effective and fast dispute resolution process (Jayalath, 2014). Hence, the research tends to develop a legal framework for effective implementation of ADR methods for the settlement of disputes according to the Construction Industry Development Act No.33 of 2014.

This paper initially provides a comprehensive literature review in order to mine the background of the ADR methods used by the construction industry and at the said Act. Then the findings of the questionnaire surveys and interviews have been presented. Finally, conclusions have been drawn from the findings.

# 2. RESEARCH METHOD

The research commenced with literature review which reviews the existing literature on ADR methods and said Act. Firstly, it was decided that a survey approach would be suitable for this research to address the research problem and to collect the data from the construction practitioners with more than ten years of experience. Sampling strategy for data collection was judgmental sampling. Pilot survey was conducted to six practitioners to collect input and to improve the questionnaire. Questionnaire survey was conducted by Delphi technique with two rounds. In questionnaire round 1, data was collected from 36 respondents and analysed by taking a percentage of the total number of respondents and the problematic areas and potential solutions which were obtained above 50% out of total respondents had been qualified to questionnaire round 2. For questionnaire round two, data was collected from 30 respondents and at first t-test on SPSS software to identify the significant problems and potential solution. Then, MWR was calculated to rank the significant problems and potential solution. The structured interviews were conducted to 28 professionals and analysed using content analysis. Finally, arrived at conclusions and recommendations.

# 3. LITERATURE REVIEW

#### 3.1. Construction Industry Development Act No.33 of 2014

Construction Industry Development Act (2014) stated that the Construction Industry Development Act No.33 of 2014 is,

An Act to provide for the development of the construction industry in Sri Lanka; to regulate, register, formalize and standardize the activities of the construction industry; to provide for the establishment of the national advisory council on construction; the establishment of the construction industry development authority; and the establishment of the construction industry development fund and the fund of the construction industry development authority; to provide measures for the improvement and wellbeing of the industry related professionals, manufacturers, suppliers, contractors and craftsmen; and for the settlement of disputes related to construction activities; to ensure public safety in the construction industry of Sri Lanka; and for matters connected therewith or incidental thereto. (p.1)

#### 3.2. SETTLEMENT OF DISPUTES AS PER SAID LEGISLATION

A couple of provisions are there in this Act which introduces a way of solving disputes associated with construction activities (Jayalath, 2014). Construction Industry Development Act (2014) states in the Act that there are three ADR methods which could be followed in case of a dispute. They are conciliation, mediation and adjudication. However, Act introduced special Appeal Board to hear the appeal on decision or award of ADR methods.

If the parties in the contract faced any dispute between them in relation to contract, initially the dispute could be settled by conciliation or mediation. For the disputes which are unable to be resolved with conciliation or mediation, the adjudication could be the next choice. The parties who are not satisfied with the decision of the adjudicator, may appeal to the Appeals Board which has been introduced in this Act (Construction Industry Development Act, 2014). Likewise there is a certain process to be carried out to settle the dispute as per this Act.

# 3.3. International Practices of Settlement of Disputes

The most of the countries already have construction Acts which facilitate the dispute resolution process by using the ADR methods. For example, UK construction Act which is known as the Housing Grants, Construction and Regeneration Act (The National Archives, 2015). Moreover the Building and Construction Industry Security of Payment Act of Singapore is one like (Building and Construction Authority, 2005). As per the official position, Singapore is still a developing country. In Singapore, mediation, adjudication and arbitration are in use to settle the disputes. The United Kingdom is a developed country and has the world's fifth largest economy. At UK, mediation, adjudication and arbitration are used to settle the disputes.

# 3.4. Comparison between Sri Lanka, Singapore and United Kingdom Practices on ADR Methods

In Sri Lanka, Debt Conciliation Board Act 1941 is available for conciliation. But, it is not suitable for the construction industry. UNCITRAL is recognizing the value of conciliation as a method of amicably settling disputes arising in the context of international commercial relations (United Nations Commission on International Trade Law, 1994).

In Sri Lanka, Mediation Board Act (No. 72 of 1988) and Mediation Boards (amendment) Act, No. 4 of 2011 provide legal recognition to the mediation. SMC empowers parties to take charge and gain positive outcomes in complex business environments through facilitating the mediation of disputes in a range of commercial areas (Singapore Mediation Centre, 2013). The Chartered Institute of Arbitrators (CIArb) is

an institute of arbitrators and a professional membership body for potential and practicing mediators at UK. The guidelines are provided to conduct the mediation by the CTArb (CIArb, 2007).

In Sri Lanka, Adjudication is practiced as per the SBDs according to the form of contract of the projects. In Singapore and UK, adjudication is conducted as per Building and Construction Industry Security of Payment Act 2004 and Housing Grants, Construction and Regeneration Act 1996, respectively. Adjudication has the legal assent at UK through the Housing Grants, Construction and Regeneration Act.

In Sri Lanka, arbitration is practiced as per Arbitration Act No. 11 of 1995. Moreover, in Singapore and UK, arbitration is conducted as per International Arbitration Act (Original Enactment: Act 23 of 1994) revised on 2002 and Arbitration Act 1996 accordingly. There are no any huge deviations among the arbitration practices in these countries.

# 3.5. PROBLEMATIC AREAS OF ADR METHODS

Conciliation is rarely practiced and not popular when compared to the other ADR methods (Kassem, 2014). As well as, decision given by the conciliator is not bound between the parties (Kassem, 2014). Conciliators have no powers of enforcement (Billings and Watts, 2007). As well as the awareness of ADR methods and awareness in related legislation or standard conditions of contract is less (Abeynayake, 2014).

Mediation is not binding the parties with the decision, not provide any decision to settle, the dispute rarely practiced and not that much popular and the awareness of ADR methods and awareness in related legislation or standard conditions of contract is low (Jayalath, 2014). Mediator diversity and training, greatly affect whether disputants can get fair and unbiased outcomes (Valters, 2013). There is an informality for the mediator to perform his function and generally no legal obligations arise for the mediator from the solution (Office of Legal Affairs Codification Division, 1992). Depending on skills of Mediator outcome vary.

In adjudication, low level of satisfaction on proceedings and outcomes are there. Additionally, less formal than arbitration, strict rules of evidence are not applied (Bentley, 1992). Procedural rules may be imposed by nominating body. Adjudication may destroy the relationship between parties. The consequences of failure to comply with time constraints may be severe (Jayalath, 2014).

In arbitration, there is dissatisfaction with current arbitration practice within the construction industry because of its complexity and slowness (Albright and Stoddard, 2012). Therefore, low level of satisfaction is there on arbitration as an ADR method such as proceedings and outcomes. Time limits are not mentioned at the Arbitration Act (Jayalath, 2014). Involvement of Lawyers for the arbitration hearings is higher. The fee charged by the arbitrator in order to settle the dispute is higher these days (Albright and Stoddard, 2012).

# 3.6. POTENTIAL SOLUTIONS OF ADR METHODS

As solutions, increasing the practice of technically qualified construction professionals as arbitrators, adjudicators, etc. for settlement of construction disputes, speeding up the proceedings of ADR methods, giving more attention in drafting the correct dispute resolution clause, changing the attitude of construction professionals to encourage an ADR culture and moving away from traditional court practices, conducting awareness programs such as teaching and training in ADR methods and their procedure at the professional and academic institutes, establishing an institute for practicing, developing and regulating all ADR methods, introducing rules and guidelines for ADR methods used in the construction industry in Sri Lanka for mediation and conciliation, introducing time framework to the ADR methods for settlement of disputes, appointing of a lawyer and experts on the construction industry to the ADR tribunal and introducing rules for non-involvement of legal professionals in ADR practice (Abeynayake, 2014). A complete re-orientation of the traditional approach and attitude towards dispute resolution is needed for the stakeholders of the Sri Lankan construction industry (Lim, 1994). During operations and implementation of ADR methods, establish of effective procedures for selection, training, and oversight of conciliators, mediators, adjudicators and arbitrators is essential (Brown *et al.*, 1996).

# 4. DATA ANALYSIS AND RESEARCH FINDINGS

Data was collected through pilot survey, two rounds of questionnaire survey and semi-structured interviews were conducted among construction professionals with more than ten years of experience.

# 4.1. PILOT SURVEY

The pilot questionnaire was prepared and distributed to 6 experts in construction industry and obtained suggestions, mainly for the problematic areas and potential solutions. In addition to literature review, respondents were suggested additional problematic areas and potential solutions. Moreover, some problematic areas were removed according to the comments. Problematic areas such as mediator is not provide any decision to settle the dispute, creative remedies are not possible and arbitration is an adversarial process were removed. "No time framework for settlement of disputes" was changed as "Time framework for settlement of disputes at the contract is not followed" for the reason that, the actual meaning of the problem was not represented on the previous phrase.

In conciliation, not enforceable by courts unless parties make separate agreement to enforce and o trained personnel to do Conciliation were added. Community should be advanced to consider others' views were included in mediation. Under adjudication, time framework for settlement of disputes at the contract is not followed, temporary Binding, awareness of importance and outcome of Adjudication is low, lack of competent adjudicators at Sri Lanka and costly method added. Arbitration was included costly method, only few construction professionals are there and slow in enforcement of arbitral award. These are the newly added problematic areas through pilot survey.

A potential solution "Introduce time framework for ADR methods for settlement of disputes" has been removed from the questionnaire round one for the reason that, if the time framework is at the contract, it would not be suit to all type of disputes. The suggested potential solutions were honour the outcome of the ADR when it is not enforceable, guidelines to draft ADR clauses in contracts and appoint full time adjudicator for the complex projects. Finally, questionnaire round one was developed based on the results.

# 4.2. DELPHI ROUND ONE

A total of 38 questionnaires were distributed to where 36 respondents responded. Among these respondents (36), the problematic areas for each ADR methods were replied by different number of professionals. The number of practitioners replied for each ADR methods among respondents at Delphi Round one are 29 practitioners for conciliation, 34 practitioners for mediation and adjudication and 35 for arbitration.

The conclusive evidence that the 97% of the respondents in the sample have admitted the awareness of the Act. The usage of adjudication and arbitration are high in the Sri Lankan construction industry is identified through the survey. Thus, adjudication and arbitration are being practiced more in the construction industry. However, mediation is also being practiced in the industry up to some extent. But, the usage of conciliation is comparatively low. Through the survey, it is clear that the awareness of method and its procedure is high for arbitration. Second highest for adjudication. However, mediation knowledge also there for nearly 64% of construction practitioners who are having more than 10 years of experience. But, the awareness of conciliation is comparatively low among the construction professionals.

#### 4.2.1. PROBLEMATIC AREAS OF ADR METHODS

#### Problematic Areas related to Conciliation

The problematic areas related to conciliation in Sri Lankan construction industry is identified in the percentage of respondents of conciliation. 'Conciliation is rarely practiced and low popularity' and 'Conciliation is not binding the parties with the decision and conciliators have no powers of enforcement' were accepted by 86.21% and 82.76% of respondents. Moreover, 'no time framework for settlement of disputes', 'not enforceable by court unless parties make separate agreement to enforce' and 'no trained personal to conciliation' were answered as problem by 75.86% of respondents. Due to mixed questionnaire, problems which were recognized as addition to the above are parties have discretion to withdraw from the process at any stage, process is practiced only in case of minor disputes, no encouragement from the authorities, no proper awareness, not included within standard forms of contracts and parties attitude about conciliation (Confidence about process).

Among these problems, 'parties have discretion to withdraw from the process at any stage' was rejected, because this is a feature and not a problem. Furthermore, 'parties attitude about conciliation (Confidence about process)' was removed for the reason that, the respondent mentioned that the parties who involve in the conciliation are not following the procedures with full involvement because they have the mentality that if it fails then they can refer it to adjudication or arbitration. Therefore, this can be categorised under no proper awareness of the method.

#### Problematic Areas related to Mediation

The problematic areas related to mediation in the Sri Lankan construction industry is identified in the percentage of respondents for mediation. 'Mediation is not binding the parties with the decision and Mediators have no powers of enforcement' and 'Depending on skills of Mediator, outcomes vary' are by far the most popular problems related to mediation with 85.29%. 'No time framework for settlement of disputes' and 'Mediation is rarely practiced and awareness of mediation is low' were accepted by 76.47% and 67.65% respectively. However, 'community should be advanced to consider others views' is much less significant problem with 44.12%. Due to mixed questionnaire, problems which were recognized as addition to the above are skill of mediators, parties have discretion to withdraw from the process at any stage, process is practised only in case of minor disputes, no trained personnel to do mediation, not included within standard forms of contracts and parties attitude about conciliation (Confidence about process).

Among these problems, 'community should be advanced to consider others views' was eliminated due to the acceptance by lesser than 50% of respondents. 'Parties have discretion to withdraw from the process at any stage' was eliminated, because it is a feature. In this process, parties' believe in achievement of decision is important. Thus, if the parties feel that they cannot obtain a decision in any stage of the process. Then, the parties have discretion to withdraw. 'Parties attitude about mediation (Confidence about process)' was rejected due to the same reason as mentioned under problematic areas related to conciliation.

# Problematic Areas related to Adjudication

The problematic areas related to adjudication in Sri Lankan construction industry are identified in the percentage of respondents for adjudication. 'Time framework for settlement of disputes in the contract is not always followed' and 'Normally Adjudicator is not appointed at the initial stage' are by far the most popular problems related to adjudication with 79.41%. 'Temporary binding' and 'Lack of competent adjudicators at Sri Lanka' were accepted by 76.47% and 61.76% respectively. However, 'Awareness of importance and outcome of adjudication' and 'Costly method' were much less significant problem with 44.12% and 38.24% accordingly. Due to mixed questionnaire, problems which were recognized addition to the above are adjudicators rarely follow the events at site progressively until the dispute is notified and they are not keen in prevention of disputes, loosing party can resort to Arbitration and so rarely accepts the decision, preference to Arbitration over adjudication, standing DAB may be costly method, lack of procedural rules and decision of Adjudication is not honoured even temporarily.

Among these problems, 'awareness of importance and outcome of adjudication' and 'costly method' were eliminated due to less than 50%. 'Adjudicators rarely follow the events at site progressively until the dispute is notified. They are not keen in prevention of disputes.' was rejected because cannot mention as 'they are not keen in prevention of disputes' because if there is a standing adjudication they try to prevent the problem too. Thus, that phrase is removed. 'Lack of procedural rules' was eliminated, due to the reason that ICTAD Publication which is known as Guidelines for ICTAD enlisted construction adjudicators is contained procedure for enlistment, procedure for adjudication and principles of ethics.

#### Problematic Areas related to Arbitration

The problematic areas related to arbitration in Sri Lankan construction industry are identified in the percentage of respondents for arbitration. 'Slowness of the method' and 'higher involvement of Lawyers for arbitration hearings whenever not necessary' are by far the most popular problems related to adjudication with 88.57%. Moreover, 'Slowness of enforcement of Arbitral Award' and 'costly method' were accepted by 82.86%. However, 'only few construction professional are there', 'No time framework for settlement of disputes' and 'Dissatisfaction with current arbitration practice within the construction industry because of complexity of the method' were accepted as a problem by around 80%, 71.43% and 71.43% of respondents accordingly. Due to mixed questionnaire, problems which were recognized additionally are relevant technical professionals are rarely appointed as arbitrators as well as dominated by legal persons and lengthy proceedings follow similar to litigation in courts.

Among these problems, 'Dissatisfaction with current arbitration practice within the construction industry because of complexity of the method' was rejected because this is a feature of arbitration not a problem. Furthermore, 'lengthy proceedings follow similar to litigation in courts' was removed due to the same reason.

#### 4.2.2. POTENTIAL SOLUTIONS

The potential solutions suggested to improve ADR were presented to respondents. They were asked to mark whether they identify the following as potential improvements in ADR methods to settle construction disputes efficiently. Table 1 summarises the responses received. The percentages identified with reference to solutions are shown in the table below.

**Table 1: Potential Solutions** 

	Potential solutions	%
1	Increase the practice of technically qualified construction professionals as conciliators, mediators, adjudicators and arbitrators for settlement of construction disputes	100.00
2	Make the proceedings of ADR methods speeder	88.89
3	Change the attitude of construction professionals to encourage an ADR culture and to move away from traditional court practices	83.33
4	Conducting awareness programs	83.33
5	Appoint full time adjudicator for the huge and complex projects	80.56
6	More attention should be given in drafting of the correct dispute resolution clause	77.78
7	Introduce rules and guidelines for ADR methods used in the construction industry in Sri Lanka for mediation and conciliation	77.78
8	During operations and implementation of ADR methods, establish effective procedures for selection, training, and oversight of conciliators, mediators, adjudicators and arbitrators.	77.78
9	Guideline to draft ADR clauses in contracts	69.44
10	Establishment of an institute for practicing, developing and regulating all ADR methods	61.11
11	Honoring the outcome of the ADR, when it is not enforceable	58.33

Due to mixed questionnaire, potential solutions which were identified as addition to the above solutions identified through literature review and pilot survey are the proceedings shall continue uninterruptedly for required number of days until completion, enforce the agreed time frame by parties and arbitration panel strictly follow without any extension for submissions and postponements of hearing, introduce rules and guidelines for adjudication and guidelines shall be drafted in nominating adjudicators etc from the panel lists of appointing authority, shortcomings are exposed in the present system.

Among above potential solutions, following potential solutions were rejected or amended for the purpose of questionnaire round two. Those potential solutions were supported with the reason of rejection or amendment as below.

- Conducting awareness programs It was changed as "Conducting awareness programs and Continuing Professional Development (CPD) programs regarding ADR methods" as to make it more detailed.
- Establishment of an institute for practicing, developing and regulating all ADR methods There are institutes such as CIDA, ICPL Arbitration Centre and Sri Lanka National Arbitration Centre. CIDA is facilitating and regulating the ADR methods. As well as, CIDA is going to establish an institute for adjudication too. ICPL Arbitration Centre and Sri Lanka National Arbitration Centre are practicing, developing and regulating arbitration.
- Introduce rules and guidelines for Adjudication ICTAD Publication No. ICTAD/ADV/01 Guidelines for ICTAD enlisted construction adjudicators is a contained procedure for enlistment, procedure for adjudication and principles of ethics. Thus, this is rejected from potential solution.

Finally detailed questionnaire round two was developed based on the results of questionnaire survey round one.

# 4.3. DELPHI ROUND TWO

A total of 36 questionnaires were distributed to which 30 respondents responded. Among these respondents (30), the problematic areas for each ADR methods were replied by different number of professionals. The number of practitioners replied for each ADR methods among respondents at Delphi Round one are 25 for conciliation, 28 for mediation and adjudication and 29 for arbitration.

#### 4.3.1. PROBLEMATIC AREAS OF ADR METHODS

The section one of questionnaire survey round two was designed to identify the level of each problematic areas in implementation of ADR methods such as conciliation, mediation, adjudication and arbitration in Sri Lankan construction industry and finally ranked using scale of 5 levels (Likert). For analysis, first t-test was used to identify the significant problematic areas. t-test was done through one sample t-test on SPSS software. Then, MWR was calculated to rank the significant problematic areas.

Benchmarking p value for this t test was 0.05. If the significance level which is the p value for a particular problematic area is less than 0.05, then that problem is significant. Null hypothesis is non-significant problematic area and alternative hypothesis is significant problematic area. In the problematic areas, if the t observed value is greater than the t-critical value, and they were considered as significant problematic areas, then the null hypothesis was rejected and the alternate hypothesis was accepted. A test value is 3 and confidence level is 95% (p <0.05, = 0.05)

#### Problematic Areas related to Conciliation

The critical t-value is 1.711 from the t-table when degrees of freedom is 24 (25-1). Thus, the t-values of the problematic areas should be greater than the critical t-value. If so, null hypothesis to be rejected. Further, t (24) = observed t-value. Significant problematic areas arrived through one sample t-test was ranked using MWR is shown in Table 2.

Table 2: Ranking of Significant Problematic Areas Related to Conciliation

Problematic areas related to Conciliation		Rank
Not included within standard forms of contracts	4.32	1
Conciliation is not binding the parties with the decision and conciliators have no powers of enforcement	4.24	2
Not enforceable by court unless parties make separate agreement to enforce	3.96	3
No proper awareness	3.88	4
No time framework for settlement of disputes	3.68	5
No encouragement from the authorities	3.64	6
Conciliation is rarely practiced and low popularity	3.64	6

#### Problematic Areas related to Mediation

The critical t-value is 1.703 from the t-table when degrees of freedom is 27 (28-1). Thus, the t-values of the problematic areas should be greater than the critical t-value. If so, null hypothesis to be rejected. Further, t (28) = observed t-value. Significant problematic areas arrived through one sample t-test was ranked using MWR is shown at Table 3.

Table 3: Ranking of Significant Problematic Areas Related to Mediation

Problematic areas related to Mediation	MWR	RANK
Mediation is not binding the parties with the decision & no powers of enforcement for	4.43	1
mediators		
Depending on skills of Mediator outcome vary	4.21	2
Skill of mediators	4.18	3
Not included within standard forms of contracts	4.14	4
No time framework for settlement of disputes	3.68	5
Mediation is rarely practiced and awareness of mediation is low	3.61	6
No trained personnel to do mediation	3.57	7

# Problematic Areas related to Adjudication

The critical t-value is 1.703 from the t-table when degrees of freedom is 27 (28-1). Thus, the t-values of the problematic areas should be greater than the critical t-value. If so, null hypothesis to be rejected. Further, t (28) = observed t-value. Significant problematic areas arrived through one sample t-test was ranked using MWR is shown at Table 4.

Table 4: Ranking of Significant Problematic Areas Related to Adjudication

Problematic areas related to Adjudication		RANK
Adjudicators rarely follow the events at site progressively until the dispute is notified.	4.11	1
Loosing Party can resort to Arbitration and so rarely accepts the decision	4.07	2
Normally Adjudicator is not appointed at the initial stage	3.96	3
Preference to Arbitration over adjudication	3.89	4
Standing DAB may be costly method	3.86	5
Time framework for settlement of disputes at the contract is not followed	3.71	6

#### Problematic Areas related to Arbitration

The critical t-value is 1.701 from the t-table when degrees of freedom is 28 (29-1). Thus, the t-values of the problematic areas should be greater than the critical t-value. If so, null hypothesis to be rejected. Further, t (28) = observed t-value. Significant problematic areas arrived through one sample t-test was ranked using MWR is shown at Table 5.

Table 5: Ranking of Significant Problematic Areas Related to Arbitration

Problematic areas related to Arbitration		RANK
Relevant technical professionals are rarely appointed as Arbitrators but dominated by	4.21	1
lawyers and retired judges		
Costly method	4.03	2

Slowness of the method	3.97	3
Higher involvement of Lawyers for arbitration hearings whenever not necessary	3.86	4
Only few construction professionals are there	3.72	5
Slowness of enforcement of Arbitral Award	3.48	6

#### 4.3.2. POTENTIAL SOLUTIONS

The potential solutions to improve ADR methods were presented to respondents. They were asked to mark on the level they are agreed on each potential improvements. Ranking was done with scale of 5 levels (Likert). For analysis, first t-test was used to identify the significant solutions. t-test was done through one sample t-test on SPSS software. Then, MWR was calculated to rank the significant potential solutions. The ranking was to prioritise the solutions that have to be taken in order to make ADR methods more effective and efficient.

Benchmarking p value for this t-test is 0.05. If the significance level for a particular potential solution is less than 0.05 that potential solution is significant. Null hypothesis is non-significant potential solution and alternative hypothesis is significant potential solution. In the potential solutions, if the t observed value is greater than the t-critical value, then they are to be considered as significant potential solutions, then the null hypothesis is to be rejected and the alternate hypothesis is to be accepted and vice versa. The critical t-value is 1.699 from the t-table when degrees of freedom is 29 (30-1). Further, a test value is 3, t (29) = observed t-value, and confidence level is 95% (p <0.05, = 0.05). Significant potential solutions arrived through one sample t-test was ranked using MWR is shown at Table 6.

Table 6: Ranking of Significant Potential Solutions

Potential Solutions		RANK
Appointment of standing adjudicator for complex projects	4.47	1
Increase the practice of technically qualified construction professionals as conciliators,	4.40	2
mediators and etc. for settlement of construction disputes		
Guidelines shall be drafted in nominating adjudicators from the panel lists of appointing authority	4.33	3
Organise the publications of ADR methods in Sinhala and Tamil medium	4.30	4
Conducting awareness programs and CPD programs regarding ADR methods	3.97	5
The proceedings shall continue uninterruptedly for required number of days until completion	3.90	6
Introduce rules and guidelines for mediation and conciliation to use in the Sri Lankan construction industry	3.90	6
Provide attention in drafting of correct dispute resolution clause	3.83	8
During and before operations and implementation of ADR methods, establish effective procedures for selection, training, and oversight of conciliators, mediators and etc.	3.77	9
Make the proceedings of ADR methods speeder	3.73	10
Change the attitude of construction professionals to encourage an ADR culture	3.70	11
Enforce the agreed time frame by Parties and Arbitral tribunal strictly without any extension	3.70	11
Guideline to draft ADR clauses in contracts	3.60	13
When the decisions are not legally enforceable, Then made contractually binding	3.55	14

# 4.4. SEMI STRUCTURED INTERVIEW

Aim was to make recommendations to the part IX - settlement of dispute at the said Act. Views and knowledge of construction expertise with more than ten years of experience in the construction industry was referred and focused in conducting semi structured interviews. The semi structured interview guideline was prepared and conducted to 28 construction practitioners. 75% of professionals are unsatisfied on the selection of the ADR methods in the said Act. 79 % of professionals are unsatisfied on the part IX.

# Recommendations to the Part IX - Settlement of Disputes at the Act

According to the results of the interviews, 9 professionals have told that the detailed procedures of the ADR methods have to be included in the said Act or otherwise the document to refer has to be mentioned. Moreover, 4 professionals have suggested to provide the legal assent to the adjudication. Similarly, 3 professionals have stated to include arbitration as an ADR method, before referring the dispute to the court. Due to time constraint in the construction projects, facilitate process in speedy manner by rules and guidelines was recommended by two professionals. Additionally, the other recommendations which were stated are to establish a committee in CIDA to decide on appointment of adjudicators or arbitrators, to introduce appeal system for decisions of mediators, conciliators etc. to the authority, to encourage to attend ADR awareness programme as pre requisite for registration, to penalise any party if they are absence from proceedings, to provide flexible rules and the guidelines, to introduce negotiation as first method to solve disputes, to conduct CPDs or related conferences to enhance knowledge of mediators, conciliators, arbitrators and adjudicators and to use New Zealand or Malaysia model as a guide to settlement of disputes.

# 5. CONCLUSION

Overall, the study has captured the level of effectiveness on settlement of disputes in the construction industry by means of problematic areas of ADR methods which are used by the construction industry and at the said Act. As well as, legal framework was proposed for settlement of disputes, using ADR methods through the Act with the help of potential solutions and the recommendations to the part IX of the said Act. The legal framework for settlement of disputes is through ADR methods according to the Construction Industry Development Act No.33 of 2014 is shown at Figure 1. The use of proposed framework for settlement of disputes could contribute to the development of construction industry.

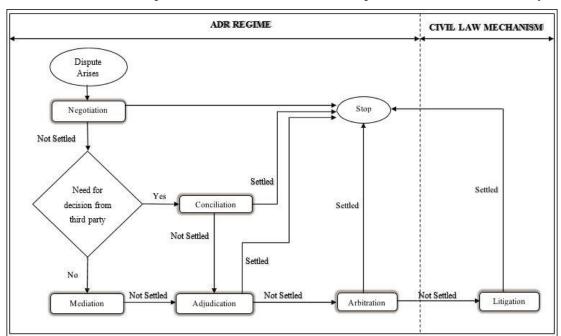


Figure 1: Legal Framework for Settlement of Disputes through ADR Methods according to the Construction Industry Development Act No.33 of 2014

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