

# Performance of Critical Attributes in Alternative Dispute Resolution (ADR): A Study in Sri Lankan Construction Industry



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## Abstract

Disputes are a common feature of the construction industry. As resolution methods for such disputes the usages of Alternative Dispute Resolution (ADR) methods such as arbitration, adjudication, mediation and negotiation in construction industry have gained great momentum during the recent years in Sri Lanka. This research is the result of a survey that was conducted to understand the performance of critical attributes in current ADR practices in Sri Lankan construction industry.

The findings of this research provide both practitioners and academics within the construction industry an insight into the perception of ADR methods currently available in Sri Lanka. Further it provides information, which ensures a better understanding of the impact of dispute resolution process upon the construction industry and this helps the participants connected with the construction industry to identify potential problem areas in dispute resolution.

Key words: Alternative Dispute Resolution (ADR), Construction Industry, Negotiation, Mediation, Adjudication, Arbitration.

## Introduction

Disputes are a common feature of the construction industry (Ashworth, 2002). Construction work is a complex process that can confound the most intricate management systems requiring the coordinated effort of a temporarily assembled task force. Inevitably this complexity creates disputes (Cheung et al, 2000). Not like the other manufacturing industries the output of the construction industry - building and civil construction works that have been constructed on different sites, create their own special difficulties. Therefore, disputes can arise not only because of the human nature, but also due to the aforesaid special circumstances (Turner and Turner, 1999). Cheung (1999) states that in present day's complex construction projects, resolving disputes have become an inevitable part of project management.

Earlier most disputes were settled on the job site at an informal meeting between the relevant parties. It is to the contractors' advantage to resolve the disputes directly with the employer in an amicable nature. Other methods of dispute resolution tend to have unpleasant side effects

for both parties (De Zylva, 2006). However, an amicable solution by informal discussion is not practical when the complexity of dispute increases. As a result, parties who are involved in a dispute have to select the best suitable dispute resolution method.

Litigation is the standard and conventional dispute resolution mechanism used all over the world. However, it is a too expensive and a time consuming method. Also, there are several disadvantages in litigation like stress, inflexibility and formality of court processes, restricted scope of claims and remedies as well (Astor and Chinkin, 1992; Ranjithkumar, 2005).

The business community as well as the construction industry faced the aforesaid difficulties and began to find alternative dispute resolution (ADR) methods. In State of Kerala vs. Joseph Auchilose (1990) case, the court held that 'the interminable, time consuming, complex and expensive court procedures impelled to jurists to search for an alternative forum less formal, more effective and speedy for resolution of disputes avoiding procedural claptrap'.

Wimalachandra (2007) defined ADR as any form or procedure, whether formal or informal, whereby parties can resolve their disputes instead of litigation before courts of law. Justice Wimalachandra further mentioned numerous advantages of ADR like flexibility, confidentiality, cost savings, informality, low antagonism between the parties and time saving.

ADR methods were not new to the Sri Lankan community since the days of ancient kings, though it was not applied exactly in the present context. The ancient methods of disputes resolution change their mechanisms according to the modern business requirement as well as international usages (Abeyaratne, 2006). Currently there are several ADR methods used and adopted by stakeholders in the construction industry in Sri Lanka. Negotiation, Mediation, Adjudication and Arbitration can be identified as widely used and recognized ADR methods (De Zylva, 2006).

The practicing of ADR methods can be indicated as a stair step way (O'reilly and Mawdesley, 1994; Cheung, 1999). According to Chung (1999) this rising steps in the chart intimate the escalating levels in hostility and cost associated with the various forms of dispute resolution. Many authors (Omar, 2007; Uff, 2005) support this stair step model, (figure 1), in construction related dispute resolution.

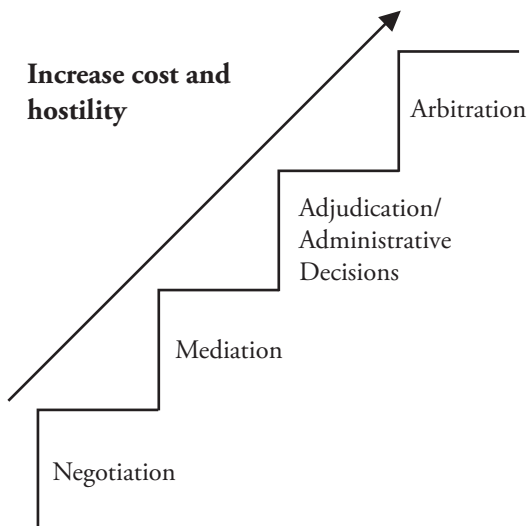


Figure 1: Stair step model for Dispute Resolution Process in Construction  
 Source: Ranjithkumar (2005 cited Cheung, 1999)

Most of ADR methods are statutory controlled which can be identified as a private and confidential method with minimal outside intervention. The Parliament of Sri Lanka enacted several statutes to implement and control the ADR practices (Ekanayake, 1992), such as the arbitration proceeding controlled by Arbitration Act No.11 of 1995, Mediation Board Act No. 72 of 1988 for mediation practices, Commercial Mediation Center of Sri Lanka Act No. 44 of 2000 as well as Mediation Boards (special kind of disputes) Act No. 21 of 2003. The Institute for Construction Training and Development (ICTAD) introduced the Adjudication process to the Sri Lankan construction industry as an immediate step towards construction dispute resolution in their first revised edition of standard bidding document in year 2006.

### Critical Attributes Affecting ADR

ADR has been recognized as one of the key areas that requires improvement in the construction industry. Previous studies have identified several attributes which critically affect the ADR practices (Cheung, 1999; Cheung and Suen, 2002). Among those attributes Cheung (1999) identifies twelve critical attributes which are affecting ADR. This paper seeks to evaluate the performance of those critical attributes along with each ADR method. Those critical attributes can be identified as follows:

- The duration of the proceedings
- The cost involved
- Preservation of relationship
- Flexibility of the proceeding
- Confidentiality of the process
- Enforceability of the decision/ settlement
- Privacy of the proceeding
- Obtaining fairness
- Bindingness of the decision/ settlement
- The parties' ability to control over the proceeding
- The width of remedy
- Obtaining creative remedies

By evaluating the performance of those attributes within the Sri Lankan context, this paper try to synthesize the ADR practices of the Sri Lankan construction industry.

Since this paper has been compiled based upon a research which aimed to quantify the performance of critical

attributes in ADR, the outcome of the research technique should be easy to analyze, quantify, compare and contrast. Therefore, questionnaire survey was selected as appropriate technique to carryout the research study. In this research, the questionnaire was framed in to three basic sections. The objective of each section can be identified as follows;

**Section 01: Intended to elicit the background information of the respondent;**

In this section, it was asked to fill the respondents' names (optional), name and the type of the organization, their profession and their working experience in the construction industry as well as in dispute resolution.

**Section 02: Intended to evaluate the importance of the critical attributes affecting the ADR;**

In this section the respondent were to rate each critical factor which was mentioned in the research problem on a 7-point scale (Not importance to very high importance).

**Section 03: Intended to scale the agreement level with the positive aspects of the critical attributes of ADR methods;**

In this section the level of agreement was compared and contrasted with the positive aspects of the above mentioned critical attributes of each ADR method by using a 5-point scale (Very low degree of agreement to very high degree of agreement).

The Purposeful selective sampling was the method of sampling for this research as the information asked from the survey requires in depth knowledge and sound experiences about ADR methods. The questionnaire was distributed to the respondents at their work places. The completed questionnaires were collected by the researcher later.

**Methodology Used to Analyze the Survey Results**

Following formulas were used to analyze the data obtained from the questionnaire survey.

- Mean Weighted Rating

A mean weighted rating for each factor is computed to deliver an indication of the importance of the factor,

$$W_i = (\sum V_{ij} * F_i) / n$$

Where,

- $W_i$  - Mean Weighted Rating on  $i$  th attribute
- $V_{ij}$  - Rating for  $i$  th attribute from the  $j$  th respondent (According to Seven scale rating)
- $F_i$  - Frequency of Responses in  $i$  th attribute
- $n$  - Total number of respondents

- Severity Index

The severity index computation is used to compare and contrast the agreement level of the positive factors of critical attributes affecting each ADR method.

$$S.I. i = (\sum W_i * L_{ij}) / n$$

Where,

- $S.I. i$  - Severity index value on  $i$  th attribute.
- $W_i$  - Mean Weighted Rating on  $i$  th attribute
- $L_{ij}$  - Level of Agreement for the positive aspect of  $i$  th attribute from the  $j$  th respondent in each ADR method (According to Five scale rating)-
- $n$  - Total number of responses

**Sample Distribution**

The questionnaires were distributed equally among clients, consultants and contracting organizations after communicating to them the aim and the objectives of the study by the researcher. An acceptable number of responses (47) were given by the respondents (Shown in Table 1).

Table 1: Responses in questionnaire survey

Type of Organization	Questionnaire		Percentage %
	Distributed	Responded	
Consultant	30	17	56.7
Client	30	16	53.3
Contractor	30	14	46.7
<b>Total</b>	90	47	

Table 2: Composition of respondents

Organisation type	Number	Percentage %
Consultant	17	36.2
Client	16	34.0
Contractor	14	29.8
<b>Total</b>	47	100.0

It is evident that each organization type approximately represents one third (1/3) of respective types of respondents in the survey (Refer table 2). Therefore, the survey results are not biased towards one organization type and are representative of the industry as a whole.

### Demographic factors of the respondents

Table 3: Composition of respondents according to their profession

Profession	Number of Respondents	Percentage %
Engineer	22	46.8
QS	18	38.3
Architect	4	8.5
Lawyer	3	6.4
<b>Total</b>	47	100.0

Table 3 shows the composition of respondents according to their profession. According to the tables the majority (85.1%) of the sample represents QSs (Quantity Surveyors) and Engineers. The other professions (Architects and Lawyers) represent 8.5% and 6.4% respectively. This information highlighted that QSs and Engineers are the major professionals who are involved in ADR in the construction industry. However, the reason for the lower participation of the lawyers might be the unavailability of the in-house lawyers in day-today operations of construction organizations

Table 4: Respondents' working experience in the industry

Working Experience	Number	Percentage %	Cumulative percentage %
Not Provided	1	2.2	2.1
0 – 5 Years	3	6.5	8.5
6 – 10 Years	5	10.9	19.1
11 – 15 Years	7	15.2	34.0
16 – 20 Years	9	19.6	53.2
Over 20 Years	22	47.8	100.0
<b>Total</b>	47	100.0	

This survey asked the respondents about the 'perception' and 'overall experiences' rather than 'individual experiences'. It can be assumed that respondents based their perception on only one or several isolated incidents which result in a strong belief that the ADR process is always ineffective or, more likely effective. This would seem predictable, if there was only limited experience of a method leading to a generalization of perception. Therefore, purposefully selected experienced personnel in the construction industry and in ADR were used as respondents. The table 4 explores the experiences of the sample.

### Findings and Discussions

#### Importance of Critical Factors in ADR

In section 2 of the questionnaire, scale ratings were employed to obtain the importance of the twelve critical attributes to the ADR process. In this section, the respondents rated each attribute on a 7 point scale (no importance to very high importance). The mean weighted ratings were calculated and were used as the basis of priority ranking. Table 5 gives the results of the importance ranking based on the mean weighted scores.

Table 5: Importance of critical attributes- The ranking order

Attribute	Mean Weighted Rating	Rank
The duration of the proceeding	6.34	1
Obtaining fairness	6.32	2
Bindingness of the decision/ Settlement	6.11	3
Enforceability of the decision/ Settlement	6.04	4
Confidentiality of the process	6.00	5
Privacy of the proceeding	5.96	6
The cost involved	5.51	7
Flexibility of the proceeding	5.47	8
Preservation of relationship	5.38	9
Obtaining creative remedies	5.26	10
The parties' ability to control the proceeding	5.23	11
The width of the remedy	5.02	12

By looking at the above ranking order, the following features can be specifically understood.

- In ADR, time duration and fairness of the decision obtain highest ranks. However 'the cost involved' obtains 7th rank. That indicates an interesting finding. The industry does not expect less cost solutions. They are willing to spend on quick, fair and binding solutions rather than low cost solutions.
- Parties do not highly require controlling of the proceedings and their expectation in creative remedy is also of low importance.
- The importance of preservation of relationship obtains 9th rank. The industry does not consider the preservation of relationship as a high important factor in dispute resolution.
- Binding and enforceability obtained high importance rankings. When evaluating the outcome of the ADR methods, the industry considers those attributes as important.

### Severity Analysis of Critical Attributes

Before deciding to use ADR methods, the practitioners should weigh the benefit of each alternative to consider which method is most appropriate. Section 3 of the questionnaire was further designed to compare the weightings of such benefits.

For the comparison of each ADR method it was required to measure the agreement level of the attributes along with the ADR methods. Therefore, in this section respondents were asked to state their agreement level with a positive factor of each attribute. The weightings are calculated by severity index formula. The following argument was used to formulate the severity index formula.

$$\text{Mean importance Weighting} \times \text{Level of Agreement} = \text{Severity of the attributes}$$

Figure 2: Argument behind Severity Index Calculations

From section 2 of the questionnaire a mean scale rating of the importance of each critical attribute was obtained. (Table 5 indicates the mean importance weightings for each attribute and their ranks.) Weightings for levels of agreement are given in table 6. For the calculation of severity index, the mean weighting importance of each factor was used other than using respondents' individual

scales. This was done to validate and generalize the result and to avoid the personal interpretation of the factors. By using those figures the severity index value of the attributes was calculated and it is shown in table 7.

Table 6: Weighting given to each level of agreement.

Level of Agreement	Weighting
Very low degree of agreement	1
Low degree of agreement	2
Average degree in agreement	3
High degree of agreement	4
Very high degree of agreement	5

Table 7: Severity index Table: Agreement with positive factors of the critical attributes

Importance (Mean Weighted Ratings)	Positive factor of the Critical Attributes	In Negotiation	In Mediation	In Adjudication	In Arbitration
6.34	Required time duration is low	23.01	21.87	20.29	13.95
5.51	Low cost involvement	22.92	19.40	15.21	11.35
5.38	Relationship between parties are preserved	23.78	20.39	17.32	14.15
5.47	Apply flexible procedure	24.45	21.11	17.01	13.46
6	Confidential process	24.42	22.14	22.56	22.32
6.04	Enforceable decision/ settlement	13.77	14.50	17.46	27.90
5.96	Secure the privacy of the proceedings	22.17	21.87	21.63	21.16
6.32	Fairness decision/ settlement can obtain	23.64	23.38	23.64	23.26
6.11	Parties are bound by the decision	14.36	15.34	20.47	28.23
5.23	Parties can control the procedure	22.96	19.19	15.95	15.11
5.02	High width of remedy	18.88	17.82	15.51	13.86
5.26	Can obtain creative remedies	21.51	18.88	15.10	11.99
Average		21.32	19.66	18.51	18.06

The computed figures of the severity index have shown the severity of the attributes in dispute resolution along with the positive aspect of critical attributes. The above results further highlighted its following features.

1. Highest severity index value was obtained by Arbitration in the attribute of Binding of the decision. (The industry strongly believes the outcome of Arbitration as binding.)
2. Lowest severity index was obtained by Low cost involvement in Arbitration. (The industry does not believe the statement of low cost involvement in Arbitration.)
3. Other than the sixth and ninth attributes (Enforceability of the decision and Binding of the decision) other attributes follow the stair step model described above.

## Conclusions

Due to the fragmented and complex nature of construction projects, there is no one best way of dealing with disputes as they are often different in scale, complexity and nature. In deciding which dispute resolution method to apply, there is a need to take into consideration various external factors, such as technical, political, financial, social, economic and legal. However, lack of experiences in these methods has hindered the acceptance of potential users. Therefore, this kind of research is useful for the industry as often practitioners are forced to resolve disputes by the quickest, fairest, cheapest means without being fully aware of the dispute resolution options available.

This research discovers the ranking order of the important factors in dispute resolution. According to the rank obtained from mean weighted scale ratings, the duration of the proceedings, obtaining fairness and the binding of the decision get highest ranks. Obtaining creative remedies, parties' ability to control the proceedings and the width of the remedy obtain lowest mean scale ratings. It was understood that there is a perception in the industry that the cost of the process may not be the highest important factor in ADR. Speed and fairness achieve the highest ranks than the cost of the process. By using those results, the ADR system designers and practitioners can develop and continue to enhance the proper dispute resolution mechanism to provide better solutions for construction disputes.

Further this research presents evidence supporting the view of the stair-step model of ADR methods which was discussed in the literature review. This study confirms the practitioners' acceptance of the stair-step model of dispute resolution and it is understood that negotiation is the best method and arbitration is the least suitable ADR method. However, even though negotiation achieves the highest index values in the severity index, the survey results identified the unavailability of enforceability and binding of the outcome in negotiation as well as in mediation. As ADR is not part of the mainstream legal system, proposed negotiated settlement arrangement can be ignored if no formal agreement is concluded to accord the binding effect. Therefore, it cannot apply to every dispute in the industry and the industry should take necessary steps to develop the methods according to the practitioners' desire.

The wisdom gained from the research is, that the industry believes stair step model to be a suitable model in construction dispute resolution. This model starts with the dispute prevention techniques such as negotiation. According to the stair step model, the disputes not resolved amicably, reach the higher steps with a third party involvement. The results shown by the severity index, comply with the stair step model. By analyzing the above results further modifications to the stair step model were introduced as follows.

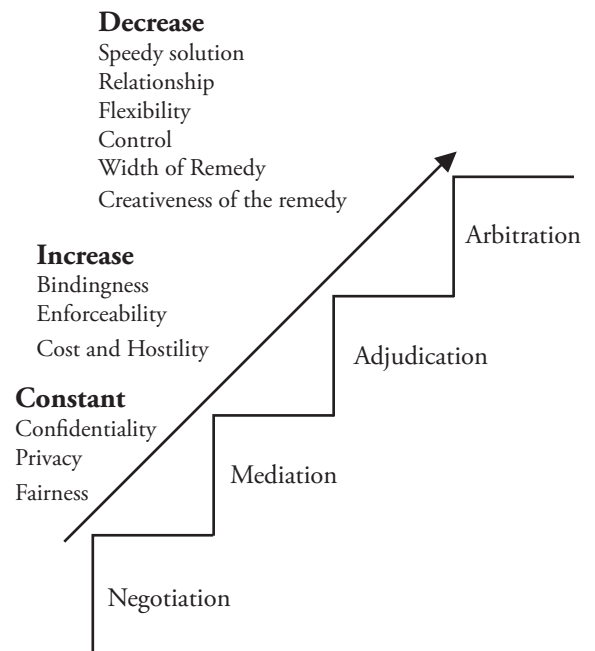


Figure 3: Modified Stair-step model

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## Legal Authorities and cases

1. State of Kerala vs. Joseph Auchilose (1990) 101 AIR ker 106

### *Gillies Ramsay Diamond v PJW Enterprices Ltd (2003)*

*A claim for professional negligence against Diamond, who had provided general consultancy services in relation to a building project, was referred to adjudication.*

*It was found that these services included arranging construction operations for others and/or contract administration and therefore the matter could referred to adjudication, despite the absence of an adjudication clause in the contract.*