Samarawickrama, Sumanthri, et al (eds), 2018, "Sustainability for people - envisaging multi disciplinary solution": Proceedings of the 11th International Conference of Faculty of Architecture Research Unit (FARU), University of Moratuwa, Sri Lanka, December 08, 2018 Galle pp. 457–464 ©

PERCEPTION OF CONTRACTORS ON USAGE OF ALTERNATIVE DISPUTE RESOLUTION METHODS IN CONSTRUCTION INDUSTRY OF SRI LANKA

DISSANAYAKE D.M.A.B¹, ABEYNAYAKE M.D.T.E² & PANDITHAWATTA T.P.W.S.I³

^{1,2,3}University of Moratuwa, Katubedda, Sri Lanka dissanayake.anuruddha@gmail.com

Abstract

Construction industry is a complex and high-risk industry where large variety of parties with different skills are involved. Due to this multi-party involvement and their diversified interests, construction projects experience disputes. With the constant upsurge of complexities in construction industry, the industry would have to experience disputes among the parties for a foreseeable future. As disputes are unavoidable it is necessary to mitigate the negative impacts of it by using a proper method of resolution. Therefore, selecting the best method for resolving the dispute, influence in obtaining best solution. As the study aims to identify perceptions of contractors towards Alternative Dispute Resolution (ADR) methods and to identify significance of factors considering in selecting ADR method by contractors', literature review was carried out to identify the factors influence in selecting ADR methods. Those collected data from the literature review was validated by a preliminary survey which had been carried out among experts in the area of dispute resolution. Then detailed questionnaire survey was conducted by using results of the preliminary analysis to evaluate the perception of contractors on ADR methods and to evaluate significance of factors which affect the selection of most suitable ADR methods. Research results revealed that negotiation is the frequently used method in dispute resolution in Sri Lankan construction industry and the most popular ADR methods from the contractor's perception are negotiation and adjudication. Further, findings proved that considerable number of contractors have a high awareness on the legislation provisions relating to negotiation and its settlement and participant's satisfaction rates are significantly high rather than other available ADR methods.

Keywords: Alternative Dispute Resolution; Contractors; Construction industry, Dispute; Perception.

1. Introduction

Construction industry is considered as an industry which significantly contributes in terms of scale and share in the development process for both developed and developing countries (Wibowo, 2009). As stated by Emuze & Isa (1999) disputes are mostly occurs from the complexity of the work, involvement of various contracting parties, incomplete contract documents, money related issues, and correspondence issues. Further, Semple (1994) stated that great deal of conflicts arises due to complexity, multiparty involvement and associated risk. any of factor which causes a dispute have the ability to disrupt a project and pave the way to complicated litigation or arbitration, cost increasing and a conflict among parties (Harmon, 2003). Therefore, disputes need to be mitigated in order to minimize above mentioned impacts.

Disputes in construction can occur between various stakeholders such as clients and contractors, consultants and contractors, contractors and suppliers, contractors and employees, and so on (Emuze & Isa, 1999). Oshodi & Ejohwomu (2014) identified that conflicts in construction projects arise due to differences in interest, concerns, training, and perception of individuals. To avoid such results the construction industry has been making efforts in evolving and establishing effective techniques in preventing and resolving disputes (Kubal, 1994). Abeynayake & Weddikkara (2013) stated that necessity of fast and cost-effective dispute resolution method placed due to demand for the construction in Sri Lanka. Authors further stated that in last few decades the industry moved to 'Alternative Dispute

Resolution' (ADR) methods in order to solve disputes from litigation due to its high costs, delays, and adversarial relationship.

According to the Blain, Goodman, & Loewenberg (1987) ADR maximizes the opportunities available for parties to resolve disputes prior to or during the use of formal administrative procedures and litigation, this research intend to recognize the perception of contractors on ADR methods and to evaluate factors affecting to the selection of ADR methods in Sri Lankan Construction Industry.

2. Literature Review

The Construction Industry is made up of role players like the employer, the contractor and consultants who endeavour to create long – term, unique and complex building projects and infrastructures (Levy, 2007). Some diverse arrays of stakeholders i.e. the client who may be either individual or local authority, the consultant, the main contractor, sub-contractors, suppliers, financial institutions, legal representatives and others all contribute to a building project from planning through design, construction and occupancy (Andoh, 2010). These role players sometimes bring varying and sometimes conflicting expectations to a project. They operate in an environment in which their influences over a project swing as the project progresses. They demand to deliver projects in less time and at lower cost (Andoh, 2010). The construction industry is a project- based industry with each project being unique (Yusof, Ismail, & Chin, 2011) hence noted for high levels of disputes and conflicts.

A failure of one party involved in the project can affect to other participants within the project which could be end in a dispute. The complex dispute found in construction projects arose from the fact that construction projects are increasingly complex (Harmon, 2003). The industry has often been described as one of the most adversarial and a problem prone industry, where claims and disputes on construction projects are frequently considered as the rule rather than the exception (Steen, 2002). Dispute is an argument or a disagreement between two persons or groups (Oxford dictionary). Arthur & Marriott, (1999) stated that it is essential to find out dispute causes related to construction industry to smooth process of the construction. However, proper management tool is not identified still in the industry and because of that dispute are very common in the industry.

Poor project management skills, lack of attention to the details relating to project structure, poor communication skills, poorly prepared contract document, inadequate planning and financial issues were identified by Harmon, (2003) as causes to arise disputes (Figure 1).

2.1. DISPUTE RESOLUTION

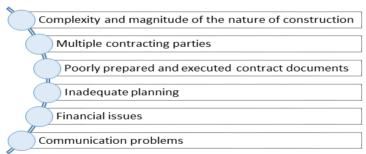


Figure 60, Causes of Disputes

Mose & Kleiner, (1999), has elaborated how disputes resolution has now emerged as a strategic plan in business. Nevertheless, Lathem, (1995) proposes, dispute avoidance as the best solution rather than seeking solutions for raised disputes.

In the early days of construction, most disputes were settled on the jobsite at an informal meeting between the resident engineer and the contractor on the basis of a handshake. According to Blain, Goodman & Loewenberg (1987) Arbitration was probably the earliest method of alternative dispute resolution, Arbitration arose when two parties to a contract were unable to agree and wanted to submit the question to an impartial party to decide the issue.

Winning a dispute is important to both parties (Loosemore,1999). Litigation is a dispute resolution method which proceed at courts and legally enforceable (Asworth 2002). According to the Gill, Gray,

Skitmore, & Callaghan, (2015) litigation means an enforcing a right by a contest authorized by law. In addition professional judges, lawyers and technical advisors are participated in the proceedings. Pagone, (2008) shows that cost involved in the litigation process as a difficult factor to control. Proving that Gill et al., (2015) states, litigation is one of the most expensive ways to resolve a dispute. He further states that litigation is not suitable option to resolve disputes other than for the projects that involve large amount of money. Dissatisfaction with litigation and arbitration has resulted in attempts to find other means for the quick resolution of contract disputes, commonly referred to as alternative dispute resolution, or ADR.

2.2. ALTERNATIVE DISPUTE RESOLUTION METHODS

At present, different ADR methods have been identified and adopted by stakeholders in the construction and commercial sectors in Sri Lanka. Negotiation, Mediation, Adjudication and Arbitration can be identified as recognised ADR methods in the construction industry. Most of those methods are statutory controlled except negotiation which can be identified as a private and confidential method with minimal outside intervention.

Abeynayake (2014) has elaborated ADR as alternative means to traditional litigation systems. Further, ADR methods include dispute resolution techniques which are independent from the governmental judicial system. This can be proved by the Arbitration Act of 1995. According to this act, arbitrators have given the judicial power to take decisions while regarding those decisions as final and binding. The main advantage of ADR is that disputes that are connected with technical matters, can be decided by someone who has a sufficient technical knowledge and exposure to construction industry. Another advantage of ADR method is the encouragement given to resolve the disputes outside the court. Moreover, it is also generally believed that ADR offers a faster and less expensive alternative to litigation.

2.3. TYPES OF ADR METHODS

According to (Gould, 2004) disputes may be resolved at an early stage through negotiation or it may be preceded through several stages through mediation, conciliation and arbitration. The flow diagram of ADR methods shown in the Figure 2. The practicing of ADR methods can be indicated as a stair step way (O'reilly & Mawdesley, 1994) That means ADR methods reposes an escalator. The following chart illustrates the escalating levels in hostility and cost associated with the various forms of dispute resolution.

2.3.1 Negotiation

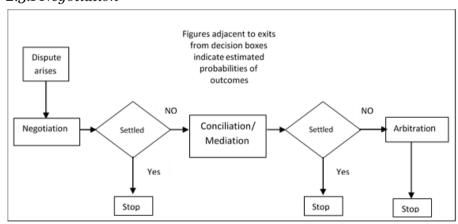


Figure 2, Flow diagram of ADR application (Source: O'reilly & Mawdesley, 1994)

Negotiation is a common dispute resolution method used by the disputants without the involvement of any neutral party (Spittler & Jentzen, 1992). According to McMurtry (2012) negotiation is an unstructured and voluntary process. Commonly used whenever the parties tend to negotiate to resolve the dispute. Outcome will create a win – win situation and both parties will be satisfied (Loosemore, 1999). Spittler and Jentzen, (1992) stated that there should be fairness to the parties involved in the negotiation process. He further stated that it also depends on their perception, ego, emotion and communication.

Negotiation is more economical than court procedure, Privacy of the proceeding, short duration and informal procedure are identified as advantages of using Negotiation. McMurtry (2012) identified

major barriers to solve disputes by using negotiation. Those barriers are the attitudes of parties, lack of negotiation skills among industry professionals, cultural differences among parties, lack of participation of competent professionals, use of negotiation as a time passing tactic and professional judgement.

2.3.2 Mediation

Mediation is a process where disputants meets with an outsider who is unbiased and get help to avoid deadlocks in coming to their own solution (Levy, 2007). Mediation is different from negotiation because it gets the help of a neutral third party. It has been identified by Jahren & Dammeier (1990) that mediation is a voluntary and private dispute resolution process which structured with the rules previously agreed by the parties. Bruni (2012) has shown in his studies that mediation is one of the most appropriate method to deal with construction dispute by considering certain important features such as speed and flexibility. Further author has identified confidential, quick, cheap, non-binding, flexible and informal process as the advantage of mediation.

2.3.3 Adjudication

Adjudication is an alternative dispute resolution method famously used in construction dispute resolution. During adjudication the disputes will be referred to a third party to gain a decision (Abeynayake, 2014). Further, the decision will be bound on parties until the dispute is resolved by arbitration or litigation. This method was initiated in England by Housing Grants, Construction and regeneration Act in 1996 (Van der Merwe, 2009). Milburn (2006) explains that scope of the project is not a limitation to the adjudication. He further stated that adjudication was introduced to refer simple and complex matters, and it is called as "one size fits all". Moreover, if a sole arbitrator is not sufficient a board of three persons can be appointed. There can be one representative from each party and the other one can be an independent chair person.

Ranasinghe (2011) viewed adjudication as a five-way process (Figure 3). Adjudication can be mentioned as an economical and speedy process and the hearing is not conducted in a very formal manner. Decisions of adjudication are enforceable and the adjudicator may use his own initiatives rather than using natural justice. Abeynayake (2014) has identified some more drawbacks relating to adjudication dissatisfaction in large scale and complex disputes, imposed time table, risk of amplifying the cost, wide powers of the adjudicators and the need for qualified adjudicators.



Figure 3, Adjudication process (Source: Ranasinghe, 2011)

2.3.4 Arbitration

The construction industry is highly adapted to arbitration rather than traditional litigation process. Most of the disputes have a technical nature and the affected parties prefer to get the support of a person having adequate skills, knowledge and understanding on that technical background to resolve the dispute.

The arbitration process in construction can be identified as a private method that binds parties to enforce a settlement. Further, it is considered as a part of a growing league of alternative dispute resolution procedures which compete with conciliation and mediation.

2.3.5 Conciliation

A neutral third party which is appointed by the parties to the disputes is involved in identifying the dispute, developing the options, considering the alternatives and persuading to reach an agreement during the process of conciliation. This can be identified as a process of dispute resolution with the agreement of both the parties in the light of consultation of conciliator.

The adversaries are brought together by a third party successfully in conciliation. The conciliator acts as a "host" to the negotiations and does not actively engage in the meetings. Simply, the conciliator's

role is to bring the parties together and to reduce the rhetoric and counterproductive pre-negotiated attitudes of the parties (Mose & Kleiner, 1999).

When compared to the arbitration process, the conciliation has no legal standing and there is no authority to call witnesses or seek evidences by the conciliator. Moreover, this process does not write a decision and makes no award. Conciliation differs from mediation because the main goal is to conciliate, by seeking concessions. In mediation, the mediator guides the discussion to optimize party's needs considering their feelings into account while reframing the representations

2.3.6 Med-Arb

There is a pre agreement between the parties regarding how they first mediate a dispute. If they fail to reach a resolution through mediation, it is bound that dispute shall be submitted to arbitration. This method motivates to settle the dispute through mediation without carrying it to arbitration. Hence, after an ineffective mediation only, the process of arbitration shall come to the stage (Mose & Kleiner, 1999).

2.4. CRITICAL FACTORS OF SELECTING ADR METHOD

Cheung (1999) stated that, it is essential to consider some factors while selecting a suitable ADR method. These factors are demonstrated in the Figure 4. Miles (1992) identified a list of attributes in selecting ADR, including voluntariness, involvement of a third party, degree of formality, nature of the proceeding, outcome and privacy.

3. Research Methodology

Critical factors affecting to use of ADR

-
Ability to appeal if not satisfy with the result
Bindingness of the decision
Confidentiality of the process
Parties ability to control over the proceeding
Obtaining creative solution
Cost involved
Enforceability of the decision
Gaining Fairness
Flexibility of the proceeding
Preservation of relationship
Privacy of the proceeding
Third party helps to negotiate and narrow down the issues
Scope of remedy
Speed of the process
Providing a qualified, neutral expert to hear complex matter

Figure 4, Critical factors affecting to use of ADR

Expert interviews and detailed questionnaire survey were used as the main data collection methods throughout the study. Preliminary interview survey was carried out among the experts who have more than 20 years of experience and knowledge on construction claims, dispute resolution and contract administration in the Sri Lankan construction industry. Main objective of expert interviews is to validate and modify the information gathered in literature review from the Sri Lankan construction industry perspective. Conducting semi structured interviews were beneficial to the research as problems, confusions and distinctions arose in the process of interview were clarified during the interview.

With the results of the expert interviews a questionnaire was prepared focusing on construction industry professionals with more than 5 years of experience. Intention of the questionnaire survey was to identify the usage of the ADR methods in the Sri Lankan context and to identify the perception of contractors on ADR methods. Data gathered through questionnaire survey was also used in identifying

the significance of the factors consider in the selection of ADR methods. Having completed the data collection, content analysis method was used to analyse qualitative data and to analyse the quantitative data gathered from the questionnaire surveys Relative Important Index (RII) and Mean weighted rating were used.

4. Data Analysis

One objective of this study was to identify the degree of use of alternative dispute resolution methods in Sri Lanka. Based on the frequency of usage, it can be stated that Negotiation is the frequently used method in dispute resolution as 83% of respondents use it every time when dispute arise. Also, when it comes to the mediation 52% of the respondents never tend to use it as a dispute resolution method. According to the findings 100% of the respondents stated that arbitration is used occasionally for dispute resolution. According to the mean weighted rating, Negotiation got the highest ranking and Arbitration got the lowest. Table 1 significantly shows the frequency of usage of ADR Sri Lankan construction industry.

Mean Weighted Never Occasionally **Every time** Rank Rating Negotiation 2.83 1 0% 17% 83% Mediation 1.48 4 52% 48% 0% Adjudication 2.65 2 0% 35% 65% Arbitration 2.00 3 0% 100% 0%

Table 34, Frequency of using ADR method

Identifying the perception of contractors on ADR methods practicing in Sri Lanka was another objective of the study. In order to identifying the perception on ADR, seven categories as awareness of the concept, awareness about procedure, awareness in related legislation and standard condition contract, level of satisfaction, settlement rate, duration of the procedure, cost involved in the procedure were evaluated.

ADR Method	Awareness of concept	Awareness of procedure	Awareness of related legislation	Level of satisfaction	Level of settlement
Negotiation	3.00	3.00	2.83	2.87	2.83
Mediation	2.61	2.52	2.65	2.57	2.35
Adjudication	2.83	2.61	2.7	2.22	2.22
Arbitration	2.43	2.43	2.4	1.87	1.70

Table 35, Mean Weighted ratings of perception factors of ADR methods

Almost all the respondents are aware of the concept of negotiation. Significant number of respondents are aware on mediation and adjudication concepts but relatively low percentage of respondents are aware on the concept of arbitration. The awareness level of procedure shows the same kind of result. It is important to identify the level of satisfaction of using each ADR method from the contractors' perspective. Study reveals that most of the respondents are having high satisfaction level when using negotiation and low level of satisfaction when using arbitration as the ADR method. Similarly, Negotiation has highest settlement rate and arbitration has the lowest, showing the contractors reluctant to use arbitration as an ADR method to resolve disputes in construction projects.

Third objective of this study is to find significance of the critical factors in selecting ADR methods. Factors identified through literature review were validated through the preliminary survey and then the significance was evaluated by using the results of the questionnaire survey. Five-point Likert scale was used to identify the importance of the factors. MWR and RII were used to evaluate and rank the factors. Results of each factor are illustrated in the following Table 3 and rankings based on RII values are shown.

Table 36, Factor Ranking

Factor Code	Critical Factor	Mean Weighted Rating	Standard Deviation	RII	Rank
A1	Ability to appeal if not satisfy with the result	3.130	0.968	62.61	11
A2	Bindingness of the decision	3.261	0.541	65.22	9
A3	Confidentiality of the process	3.739	0.449	74.78	5
A4	Parties ability to control over the proceeding	3.217	0.736	64.35	10
A5	Obtaining creative solution	3.087	0.668	61.74	13
A6	Cost involved	4.435	0.507	88.70	2
A 7	Enforceability of the decision	3.739	0.449	74.78	5
A8	Gaining Fairness	3.652	0.487	73.04	7
A9	Flexibility of the proceeding	3.783	0.422	75.65	4
A10	Preservation of relationship	4.217	0.600	84.35	3
A11	Privacy of the proceeding	3.348	0.487	66.96	8
A12	Third party helps to negotiate and narrow down the issues	3.043	0.209	60.87	14
A13	Scope of remedy	3.130	0.757	62.61	11
A14	Speed of the process	4.609	0.583	92.17	1
A15	Providing a qualified, neutral expert to hear complex matter	2.957	0.367	59.13	15

Speed of the process get higher ranking in the list. According to the results of the mostly used ADR method, negotiation became the number one because of its quicker process. Therefore, it is reasonable to have a higher ranking for the speed of the process.

Providing a qualified, neutral expert to hear complex matter ranked as the lowest important factor in selecting ADR method. As mentioned by the contractors, industry is lack of experts and most of the time the other party disagree with the qualification of the expert. So, contractors are not much considering about the third party. Second ranked factor is cost of the process. ADR was initiated as quicker and economical process when it compared with the court proceedings. According to the contractor's perception third important factor is preservation of relationship. Preservation of relationship is important because contractors need well established relationships with stakeholders in the industry to survive and to preserve future opportunities. Flexibility of the proceeding became the fourth important factor. Flexibility of the proceeding is very important to contractors when fixing the proceeding dates and submission dates.

Confidentiality and Enforceability of the process achieved fifth rank in the list. Gaining fairness from the decision is the next ranked factor. Privacy of the proceeding, Bindings of the decision and Parties ability to control over the proceeding are in order getting 8th, 9th and 10th places. It is significant that binding of the decision is ranked in 9th place. But it is mentioned by some contractors as a problem of using ADR in Sri Lankan construction industry. Scope of the remedy and the Ability to appeal both ranked in 11th in the list. Obtaining creative solution and involvement of third party are not much considered by the contractors.

4. Conclusion

Negotiation, Mediation, Adjudication and Arbitration were identified as the ADR methods that are popularly used in Sri Lanka and among those methods Negotiation is the mostly used method by the contractors. Further, it was found out majority of the respondents' have a high awareness level in concept, procedure and legislation of negotiation and adjudication, and less awareness level on Arbitration. Though mediation is not frequently used in the Sri Lankan construction industry, from the contractors' perception, mediation have substantial satisfaction level than Adjudication and Arbitration. Similarly, negotiation has highest settlement rate and arbitration has the lowest settlement

rate than mediation and adjudication. From the contractors' point of view speed of the process is the most critical factor when selecting a suitable ADR method. Cost involved, preservation of relationship and flexibility of the proceeding are also highly considered during the selection of the best ADR method.

5. References

- Abeynayake, M. D. T. E. (2014). Critical analysis of Alternative Dispute Resolution Methods used in the Construction industry in Sri Lanka. University of Moratuwa.
- Abeynayake, M., & Weddikkara, Č. (2013). Special Features and Experiences of The Full-Term Dispute Adjudication Board As An Alternative Dispute Resolution Method In The Construction Industry Of Sri Lanka. *International Conference on Building Resilience Heritance Ahungalla, Sri Lanka, 17th -- 19th September 2013,* 1–14.
- Andoh, K. B. (2010). Disputes in construction project preventing, managing, resolution.
- Arthur, B., & Marriott, L. (1999). ADR principles and practice 2nd ed. London: Sweet & Maxwell.
- Blain, N., Goodman, J., & Loewenberg, J. (1987). Mediation, Conciliation and Arbitration An International Comparison of Australia, Great Britain and the United States. *International Labour Review*, 126. Retrieved from <a href="http://heinonline.org/HOL/Page?handle=hein.journals/intlr126&id=193&div=&collection="http://heinonline.org/HOL/Page?handle=hein.journals/intlr126&id=193&div=&collection="http://heinonline.org/HOL/Page?handle=hein.journals/intlr126&id=193&div=&collection="http://heinonline.org/HOL/Page?handle=hein.journals/intlr126&id=193&div=&collection="https://heinonline.org/HOL/Page?handle=hein.journals/intlr126&id=193&div=&collection="https://heinonline.org/HOL/Page?handle=hein.journals/intlr126&id=193&div=&collection="https://heinonline.org/HOL/Page?handle=hein.journals/intlr126&id=193&div=&collection="https://heinonline.org/HOL/Page?handle=hein.journals/intlr126&id=193&div=&collection="https://heinonline.org/HOL/Page?handle=hein.journals/intlr126&id=193&div=&collection="https://heinonline.org/HOL/Page?handle=hein.journals/intlr126&id=193&div=&collection="https://heinonline.org/HOL/Page?handle=hein.journals/intlr126&id=193&div=&collection="https://heinonline.org/HOL/Page?handle=hein.journals/intlr126&id=193&div=&collection="https://heinonline.org/HOL/Page?handle=hein.journals/intlr126&id=193&div=&collection="https://heinonline.org/HOL/Page?handle=hein.journals/intlr126&id=193&div=&collection="https://heinonline.org/HOL/Page?handle=hein.journals/intlr126&id=193&div=&collection="https://heinonline.org/HOL/Page?handle=hein.journals/intlr126&id=193&div=&collection="https://heinonline.org/HOL/Page?handle=hein.journals/intlr126&id=193&div=&collection="https://heinonline.org/HOL/Page?handle=hein.journals/intlr126&id=193&div=&collection="https://heinonline.org/HOL/Page?handle=hein.journals/intlr126&id=193&div=&collection="https://heinonline.org/HOL/Page?handle=hein.journals/intlr126&id=193&div=&collection="https://heinonline.org/HOL/Page?handle=hein.journals/intlr126&id=193&div=&collection="https://heinon
- Bruni, A. (2012). Mediation as an Alternative Dispute Resolution Method. In *European Mediation Training for Practitioners of Justice* (pp. 15–25).
- Cheung, S.-O. (1999). Critical factors affecting the use of alternative dispute resolution processes in construction. *International Journal of Project Management*, 17(3), 189–194. https://doi.org/10.1016/S0263-7863(98)00027-1
- Cheung, S. O., Yiu, T. W., & Yeung, S. F. (2006). A Study of Styles and Outcomes in Construction Dispute Negotiation. Journal of Construction Engineering and Management, 132(8), 805–814. https://doi.org/10.1061/(ASCE)0733-9364(2006)132:8(805)
- Emuze, F., & Isa, R. (1999). Stakeholders' Perceptions of Construction Dispute Resolution Mechanism in Nigerian Construction, 0–12.
- Gill, A., Gray, J., Skitmore, M., & Callaghan, S. (2015). Comparison of the effects of litigation and ADR in South-East Queensland. *International Journal of Construction Management*, 15(3), 254–263. https://doi.org/10.1080/15623599.2015.1066568
- Gould, N. (2004). Dispute Resolution In The Construction Industry. *Construction Law Seminar: Introduction to the Basics* 2004, (September), 34. https://doi.org/10.1016/j.jclepro.2010.04.022
- Harmon, K. (2003). Resolution of Construction Disputes: A Review of Current Methodologies. *Leadership Management Engineering*, 3(4), 187–201.
- Kubal, T. (1994). Engineered quality in construction. Partnering and TQM. Retrieved from https://trid.trb.org/view.aspx?id=405313
- Lathem, M. . (1995). Constructing the Term. United Kingdom.
- Levy, S. M. (2007). Claims, Disputes, Arbitration, and Mediation. Project management in Construction, 5th Edition by McGraw-Hill Companies. https://doi.org/10.1080/01446198300000015
- Loosemore, M. (1999). Responsibility, power and construction conflict. *Construction Management and Economics*, 17(6), 699–709.
- McMurtry, B. (2012). Advantages and Disadvantages of Dispute Resolution Processes. *Blaney.Com*, 3. Retrieved from https://www.blaney.com/sites/default/files/other/adr advantages.pdf
- Mose, D., & Kleiner, B. (1999). The emergence of alternative dispute resolution in business today. *Equal Opportunities International*, 18(5), 54–61. https://doi.org/10.110802610150810844965
- O'reilly, M. P., & Mawdesley, M. J. (1994). *The evaluation of construction disputes: a risk approach*. Blackwell publishing. Oshodi, S. O., & Ejohwomu, O. A. (2014). Causes of conflicts in construction projects in Nigeria: Consultant's and Contractor's perspectives. *Proceedings of the CIB W107 2014 International Conference*, 35(2), 325–333.
- Pagone, G. (2008). Litigation and ADR. In Construction Law Conference. Melbourne.
- Ranasinghe, A., & Korale, J. (2011). Adjudication in Construction Contracts. Engineer, XXXXIV(2), 73-82.
- Skitmore M, W. J. (1994). Estimating Processes of Smaller Builders. Construction Management and Economics, 12(2), 139–154.
- Spittler, J. R., & Jentzen, G. H. (1992). Dispute resolution: managing construction conflict with step negotiations. *AACE International Transactions*, 9.1-9.10.
- Steen, R. H. (2002). Alternative Dispute Resolution in the Construction Industry. *New Jersey State Bar Association's Dispute Resolution*.
- Van der Merwe, C. J. (2009). Is adjudication a better procedure for construction dispute resolution than mediation? Yusof, A. M., Ismail, S., & Chin, L. S. (2011). Procurement Method as Conflict and Dispute Reduction Mechanism for Construction Industry in Malaysia. International Proceedings of Economics Development & Research, 15, 215.