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# Principles of Disputes Resolution Including Emotional Intelligence

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***Abstract – Construction projects are increasingly complex, resulting in complex contract documents. Complex construction can likewise often result in complex disputes, which predominantly arise from the intricacy and magnitude of the work, multiple prime contracting parties, poorly prepared and/or executed contract documents, inadequate planning, financial issues, and communication problems. Any one of these factors can derail a project and lead to complicated litigation or arbitration, increased costs, and a breakdown in the parties' communication and relationship. The current methodologies for preventing and/or resolving construction conflicts; it is not meant to be an exhaustive review of each and every process, but rather to give the reader an overview of the advantages and disadvantages of each process when determining which one is right for a particular situation. India has an ambitious plan to revamp and create railways, inland waterways, ports, highways and smart cities. This paper examines the existing mechanisms of claim settlement and dispute resolution in construction contracts in India and its adequacy including proposed legislative reforms and suggestions. The thesis is divided into two parts, theoretical and practical parts. The theoretical part covers basic alternative methods of dispute resolution at the early and late stages of construction processes and attempts to understand, which method is better to use in each situation.***

***Keywords – Design and Build, Risk Allocation, Dispute Resolution, Dispute Prevention***

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## 1. INTRODUCTION:

The construction industry has become very complex, high risk and competitive environment in which participants with different views talents and level of knowledge of construction process work together, hence, there is a great deal of dispute exist within the construction industry. Therefore, the difference in perception among this various stakeholders is very high; hence disagreement about something is inevitable. Disputes are the main factors that contribute to delays; disruption of construction schedule, increased projects cost and badly influences relationships between projects participants. Moreover, disputes are the main factors which prevent the successfully completion of the construction project.

Construction dispute materialize if construction claims are not settled in an effective, economical and timely manner. Hence dispute does not exist until a claim has been submitted and rejected. For example, when one party feels that they deserve monetary or extension of time or compensation, they then submit a claim. Therefore, a claim is the assentation of a right to money, property or remedy. There are very few projects that do not give rise to some form of dispute during the construction stage. Dispute can be very disruptive and expensive, particularly if allowed to escalate and proceed to formal determination by court of law. Hence resolving disputes can be expensive and time consuming, it is therefore, crucial to manage disputes proactively to ensure that early settlement is achieved. Any stakeholders in the construction projects can generate dispute and the effects are ugly [7]. Effects of dispute could cripple a company badly and some of them are loss of productivity, cost overrun, loss of profitability, time delays, and break down in co-operation between parties. Therefore, since some disputes are not avoidable, proper management of conflict will ease the effect it has on the construction process, however resolution should follow quickly.

## 2. LITERATURE REVIEW:

AA.A. Elziny a, M.A. Mohamadien b, H.M. Ibrahim c , M.K. Abdel Fattah, “An expert system to manage dispute resolutions in construction projects in Egypt” 2016,This study attempts to shed a great deal of light on the problem of construction disputes in the Egyptian projects. This paper presents a comprehensive review of the available literature on analysis of disputes. The objective of this paper was to provide an expert system can evaluate the overall dispute settlement procedures at company’s projects. A questionnaire has been used to study

dispute sources and resolution methods. Four case study applications have been provided to check the validity of the proposed system.

Emre Cakmak a, Pinar Irlayici Cakmak b, "An analysis of causes of disputes in the construction industry using analytical network process" 2nd World Conference On Business, Economics And Management - WCBEM 2013 This paper aims to analyze the main causes of disputes which occur in the construction industry. In order to reach this aim, a literature review was undertaken to identify the common construction disputes. The disputes derived from a cross-section of the literature, were classified into main categories and the main causes of construction disputes were determined. Finally, an analysis was carried out using the analytical network process (ANP) approach to determine their relative importance.

Mashwama, X.N, Aigbavboa, C and Thwala, D "Investigation of construction stakeholders' perception on the effects & cost of construction dispute in Swaziland" Construction Projects are often delivered under a complex and uncertain environment, with claims and conflict being an inevitable part. It is vital to manage claims and conflict as soon as possible before they turn into disputes. The intent of this paper is to investigate the effects and cost of construction dispute in construction projects in Swaziland. The data used in this study were derived from both primary and secondary sources. The secondary data for the study was derived from the review of literature.

Sina Safinia, "A Review on Dispute Resolution Methods in UK Construction Industry" Disputes and Confusion is common in all aspects of construction industry. Diversity of specialists involved, in consistencies between design and construction and high risk environment that surrounds this industry often lead to disagreements on the legal obligations and rights of parties involved. Improving communication has been identified as the most effective method of preventing disputes. However in case of disputes happening, methods such as negotiation, arbitration, litigation, etc. are practiced in order to resolve the disagreements. It must be noted that negotiating and making attempt to prevent disputes at an early stage can always alter the path to a less adversarial settlement. Disputes and Confusion is common in all aspects of construction industry. Diversity of specialists involved, inconsistencies between design and construction and high risk environment that surrounds this industry often lead to disagreements on the legal obligations and rights of parties involved. Improving communication has been identified as the most effective method of preventing disputes. However in case of disputes happening, methods such as negotiation, arbitration, litigation, etc. are practiced in order to resolve the disagreements. It must be noted that negotiating and making attempt to prevent disputes at an early stage can always alter the path to a less adversarial settlement.

G. C. Kabi, "Claim and Dispute Resolution in Construction Contracts" India has an ambitious plan to revamp and create railways, inland waterways, ports, highways and smart cities. This paper examines the existing mechanisms of claim settlement and dispute resolution in construction contracts in India and its adequacy including proposed legislative reforms and suggestions.

M.J. Harmon "Resolution of Construction Disputes: A Review of Current Methodologies by Kathleen" Construction projects are increasingly complex, resulting in complex contract documents. Complex construction can likewise often result in complex disputes, which predominantly arise from the intricacy and magnitude of the work, multiple prime contracting parties, poorly prepared and/or executed contract documents, inadequate planning, financial issues, and communication problems. Any one of these factors can derail a project and lead to complicated litigation or arbitration, increased costs, and a breakdown in the parties' communication and relationship. This paper reviews the current methodologies for preventing and/or resolving construction conflicts. It is not meant to be an exhaustive review of each and every process, but rather to give the reader an overview of the advantages and disadvantages of each process when determining which one is right for a particular situation.

Colin J Wall "Dispute Prevention and Resolution for Design and Build Contracts in Hong Kong" The paper suggests practical ways in which the Standard Form of Design and Build Contract may be modified to overcome the highlighted deficiencies, and improve the potential for dispute prevention and early resolution of those conflicts which arise. Particular emphasis is given to the dispute resolution procedures and the preventative aspects of those provisions. The successful implementation of these procedures in actual design and build contracts, especially in the prevention and resolution of disputes, is discussed in the conclusion of the paper.

## 3. PROBLEM STATEMENT

Now a day, in construction industry has been dealing with resolution of disputes and claims arising in projects. So, disputes directly impact on company as well as construction industry. Because of dispute many project are delays, Erosion of confidence and trust in working relationships, Emotional impact on people involved and the loss of people to the industry because of wasted effort, disillusionment and frustration, damaged of company's reputation , that's why dispute in contracts is important in projects.

**Figure1. Dispute on construction site**

## 4. OBJECTIVES

- To provide an overview of commonly used Alternative Dispute Resolution methods, highlight its objectives, benefits, and its limitations.
- To make an analysis of using the ADR techniques in the world.
- To compare the article about claims and disputes in three different contracts to see what methods are primarily used

## 5. UNDERLYING PRINCIPLES OF EFFECTIVE DISPUTE RESOLUTION:

Regardless of the issue resolution process adopted for a specific project, the underlying principles of effective issue resolution can be reduced to key points:

1. Developing realistic plans and schedules, maintaining their accuracy and dealing with delays and other 'claims' contemporaneously 5;
2. Ensuring that the contract embodies a process to resolve issues at the lowest appropriate level5;
3. Ensuring process and procedural fairness6 at all times;
4. If necessary, escalate the issue to a more senior level and if need be, to the most senior level;
5. Employing every endeavor to resolve issues by negotiation7 without involvement of lawyers;
6. Using skilled facilitators to assist in resolving issues8; and
7. If formal dispute resolution is inevitable, selecting the most appropriate method to achieve an early, cheap and non-project disruptive solution.

All of these matters must be considered at the time of entry into the contract, not when a dispute arises. Ideally the contract will include a requirement for the parties to a dispute to negotiate in good faith before resorting to Arbitration of the courts.

### 5.1 Dispute Resolution Options

The fact an issue, disagreement or problem exists should not automatically trigger a dispute. Effective dispute management systems should offer a staged process to determine a mutually acceptable outcome if possible. The range of options includes:

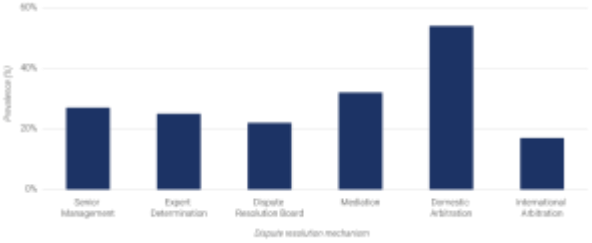


**Figure 2Dispute resolution mechanisms explicitly defined in contracts**

#### 5.1.1 Problem solving and discussions

Relatively informal discussions where the parties work together to resolve the issue; 'Round table' discussions seek to avoid sides and focus on the problem; 'problems solving' may involve the introduction of independent experts to facilitate the agreement on a practical solution. The process is completely management by the parties and requires a degree of trust and goodwill within the relationship.

#### 5.1.2 Negotiation

Increases the formality and introduces 'sides' and a degree of formality into the process. The best negotiations focus on achieving a win-win outcome. The negotiation process remains totally ithin the control of the parties.

#### 5.1.3 Mediation

Control of the process is handed to a neutral third party, the mediator. The role of the mediator is to facilitate the parties reaching a solution, not to impose a solution. The mediator may simply facilitate an open negotiation or may choose to discuss issues privately with the parties (known as caucusing) but will not disclose private discussions to the other side. In the early stages of an intensely emotional mediation, the mediator may act as a messenger between the parties to build common ground. Whilst the mediator will facilitate the recording of any

settlement, the settlement is agreed between the parties to the mediation.

### 5.1.4 Conciliation

A Conciliator acts in a very similar capacity to a mediator with the additional capacity to suggest and recommend solutions to the parties. Any settlement is still agreed between the parties to the conciliation.

### 5.1.5 Arbitration, Adjudication and Expert Determination

The shift to Arbitration, Adjudication or Expert Determination shifts the control of the dispute from the parties to the appointed Tribunal. The degree of formality in the process can vary from a low key discussion through to a formal process similar to court proceedings. The Expert, Adjudicator or Arbitrator is appointed by the parties to the dispute through a formal contractual process. An Expert Determination typically involves the appointed expert looking at a situation or supplied item and then using his/her expertise to determine a solution that is enforceable under the contract. This process is very effective for solving disputes over the quality of goods or services supplied. Arbitration is used to solve issues involving more complex evidence. Typically there is evidence provided by both parties, they respond to the other side's submissions and then the Arbitrator issues a determination. Arbitration determinations are enforceable through the courts. Unlike sovereign law which can usually only be enforced in the country where the court is constituted, international arbitrations can have determinations enforced in most countries. Arbitrators are bound by the concept of 'natural justice' and are subject to a limited oversight by the court systems to ensure due process, but once an Arbitrator is appointed by the parties, the Arbitrator will determine the solution and the outcome of the dispute. Adjudication is a fast track interim process similar to arbitration and enforceable through the courts. The difference is the determination is not final, the parties can go to arbitration or law at the conclusion of the contract and the process is very quick – 3 or 4 weeks rather than the 3 or 4 months or years needed for an arbitration. Adjudication has been enacted by law in a range of jurisdictions for a range of contract types (typically construction contracts) with an express intention of speeding up payments to contractors and sub-contractors.

### 5.1.6 The Law Courts

These are formal processes with the full power of the state available to enforce conformance with the trial process and the determination of the court. The resort to law should be seen as the final option when all else has failed. Unlike all of the preceding options, court proceedings are public and open to scrutiny.

## 6. RESULTS AND ANALYSIS

### A. Project Name: Ganesh Plaza

Construction Type: RCC Frame Structure.

No. of Floor: G+8 Floor

Total Area of Building: 32,268 Sq.ft.

Plinth level: 0.6 m

Walls: 230 mm thick brick masonry walls only at periphery.

Steel: HYSD reinforcement of grade Fe 415.

| Respected Faculty | Causes of Disputes | Solution |
|---|---|---|
| Mr. Venkatesh Baride Sr. Civil Engineer | Contractor's RA bills sanction | Up to date forward the bills to respective higher authority. |
| Mr. Venkatesh Baride Sr. Civil Engineer | Contractor's misuse of company's property | Keep the all record day to day of issued materials. |
| Mr. Sachin Patil Jr. Civil Engineer | Unsatisfied checking for daily concrete work | Supervisor on behalf of contractor should crosscheck the particular concrete work to be done. |
| Mr. Sachin Patil Jr. Civil Engineer | Negligible tolerance in shuttering work | Carpenter should keep it as per drawing provided or refer check list |
| Mr. Sachin Patil Jr. Civil Engineer | Permit to work in night | They should put a target for particular time period. |
| Mr. Sachin Patil Jr. Site Engineer | Water and electric supply to labour camp | Management should fixe a particular time period for this. Such as Water for 1:30 hr. day after day and electricity for night only. |

### B. Project Name: Golden Palm

Construction Type: RCC Frame Structure.

No. of Floor: G+6 Floor

Total Area of Building: 28958 Sq.ft.

Plinth level: 0.6 m

Walls: 230 mm thick brick masonry walls only at periphery.

Steel: HYSD reinforcement of grade Fe 415.

| Respected Faculty | Causes of Disputes | Solution |
|---|---|---|
| Mr. Sunil Chaudhary Project Manager | construction projects frequently go over budget | 1. Improve poor upfront conceptualization by the owner<br>2. Complete plans & spec's<br>3. Initial pursuit of lowest first quote costs and aggressive timeline<br>4. Full of contingency funding<br>5. Increase source of responsibility (individual) to manage the project, including the owner and the owner's expectations for the project. |
| Mr. Amol Satpute Quality Engineer | Inappropriate curing of sample | Engineer should take observation personally |
| Mr. Amol Satpute Quality Engineer | Excess use of water in concrete for easy handling | Charge a due if not gaining strength as per mix design. |
| Mr. Swapnil Godbole Sr. Civil Engineer | Fixing date for slab casting | Both engineer and contractor Should discuss whether the shuttering work is complete or not. |
| Mr. Gaurav Bhargav Safety Engineer | Not to follow safety instruction on working hours | Dismiss the particular worker for a day on site |
| Mr. Anand Bhosale Jr. Site Engineer | low wages of labor affect efficiency | That could lead to disputes between contactor and labour which prevent by providing as per current market rate. |

**C. Project Name: Royal Park**

Construction Type: RCC Frame Structure.

No. of Floor: G+8Floor

Total Area of Building: 45288 Sq.ft.

Plinth level: 0.75 m

Walls: 230 mm thick brick masonry walls only at periphery.

Steel: HYSD reinforcement of grade Fe 415.

| Respected Faculty | Causes of Disputes | Solution |
|---|---|---|
| Mr. Kamalesh Jaiswal Project Management | lodge a complaint on a builder from the MahaRERA regarding a property cancellation for giving the wrong information | The delay in builder projects in many projects have sparked a debate on getting refund with interest on the money already invested in the builder projects. |
| Mr. Kamalesh Jaiswal Project Management | Can you get refund with interest on the money invested in the builder project? | The delay in builder projects in many projects have sparked a debate on getting refund with interest on the money already invested in the builder projects. |
| Mr. Kamalesh Jaiswal Project Management | RERA affect the builders | Most of the builders think that the RERA will adversely affect them, but it is not correct. The RERA aim at regulating the real estate sector and anyone either it is a real estate developer, buyer or agent, who will not adhere to the rules of the RERA, may face consequences. |
| Mr. Vinayak Sable Jr. Site Engineer | Dishuttering of casted column or any other member on time | Fix the time for such kind of work on daily basis |
| Mr. Vinayak Sable Jr. Site Engineer | Curing for Slab and column | Put a date of casting on it so that give reminder to both of them |
| Mr. Vinayak Sable Jr. Site Engineer | Disputes on less no of labour on site | That should be consider for daily work on site for the given time period to complete on time without expanding. |

**D. Project Name: Sunrise City**

Construction Type: RCC Frame Structure.

No. of Floor: G+12Floor

Total Area of Building: 35420 Sq.ft.

Plinth level: 0.5 m

Walls: 230 mm thick brick masonry walls only at periphery.

Steel: HYSD reinforcement of grade Fe 415.

| Respected Faculty | Causes of Disputes | Solution |
|---|---|---|
| Mr. Shekhar Yadav Project Manager | Put a contractor on notice regarding? | A good contractor will have reasonable provisions to deal with these unexpected issues that don't leave them bearing the burden of the costs. The best thing is to avoid these problems by vetting the contractor properly in the first place and making sure that they have what I refer to as financial capacity |
| Mr. Satish Rathod Sr. Civil Engineer | Material which are used in slab shuttering | Slab casting is the most major part of building, if the props are not in possession in which they supposed to be it then the casting permission will not be granted. |
| Mr. Satish Rathod Sr. Civil Engineer | Work in rainy season as well as summer causes illness to the labour community | Provide adequate staff on site issued by contractors which might be the great prevention to disputes and health of workers. |
| Mr. Satish Rathod Sr. Civil Engineer | Electric supply on site during concrete work | This cause could be make huge dispute between contactors and engineer. Avoiding the dispute we should reserve the power in the form of generators. |
| Mr. Pawan Nimse Jr. Site Engineer | Adequate land for labour camp | The responsibility of labour camp is toward the management which gives them the rights to provide the adequate land for build the labour camp besides the working site. |
| Mr. Pawan Nimse Jr. Site Engineer | Allotment the proper scrap yard for all the scrap of contractor's material and company's steel scrap | These both things are provide at the site only. This not goes too far from working site. Which make things easy to contractors and client also. |

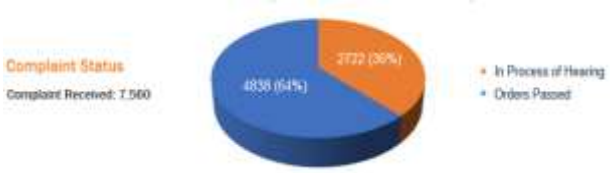


**Figure 3 Complaint statuses under Maharera authority**

**QUESTIONNAIRE DESIGN**

All the useful and necessary data was collected through the medium of survey in which questionnaire form was distributed to different firms, organizations, clients, contractors, subcontractors by hand and by the means of technology using mail service. The whole questionnaire is divided into three segments namely section-A, section-B, section-C, and section-D containing total 8 questions. Section-A contains general information such as name of organization, years of experience, type of job whereas section-B contains view or opinion of respondent regarding main causes or reasons of disputes. Section-C holds the information regarding the impact of the disputes on their work. Section-D holds information regarding resolution techniques or methods. Likert scale approach has been adopted for the following questions to receive responses from the respondents.

1. Why do construction disputes occur?
2. In India, is giving a contract to a builder for independent house construction a wise decision, if it is then what are the disputes occurs?
3. What are the problems of civil engineer in construction site?
4. What should you do when site engineers tell you there are mistakes in drawings avoiding disputes?
5. If a builder fails to start the construction work due to disputes in the said land, and the case is pending in the court, and the agreement was not executed due to disputes, can the buyer claim the full booking amount with interest?
6. In the construction industry, are there many disputes over invoices?
7. How does mediation affect resolution of disputes in the construction industry?
8. What is the impact on contractor regarding late interim payment?

9. Is digitalization the key to solving age-long construction dispute?

10. How is conciliation done at a construction site to avoid disputes?

11. What is alternative dispute resolution on construction site?

12. What if Problems found with the contract?

► It was categorized into profile of the respondent and various factors affecting construction industry.

► Questions in the respondent profile were created to collect information such as job position, experience of the work, locations of the current and/or previous works and contact information.

► The set of questions was prepared and targeting the factors/sources affecting on Planet.

► This simple and straight method was selected to establish a means of developing a list of factors affecting cost

These numerical impact values are assigned to the respondents' rating:

1: Yes

2: No

3: Other

**SPSS SOFTWARE**

√ Analysis of the questionnaires survey was done using IBM SPSS Software. SPSS Statistics is a software package used for statistical analysis

√ The software name originally stood for Statistical Package for the Social Sciences (SPSS), reflecting the original market.

√ The variables or the questions are entered in the data view, then, the responses are entered into the software from the various data entered into the software, frequency can be found which is used to determine the relative importance factor

**SPSS data View:** The Questioner Survey responses were reported in excel file. After opening data, SPSS displays them in a spread sheet-like fashion.

**RELATIVE INDEX METHOD:**

√ Data was analysed by calculating frequencies and Relative Importance Index (RII).

√ In this project, Relative Importance Index technique approach is used for data analysis.

√ The data analysis was carried out using SPSS software.

√ SPSS was used to generate the frequency (fi) of the response category index for the cause and effect factors.

√ The relative importance index (RII) for each factor was calculated using the frequency data for each response categories generated from SPSS.

$$RII = \Sigma W / A * N$$

Where, W = weight given to each factor by respondents

$$\sum W = 3 \times W_3 + 2 \times W_2 + 1 \times W_1$$

A = highest weight

N = total number of respondents

## 7. CONCLUSIONS

- Total 7560 complaint received and around 64% of disputes were solved under Maha RERA authority.
- Main causes of dispute causes in the construction industry were analyzed. First of all, the main causes of construction disputes were determined with a comprehensive literature review.
- ADR facilitate the process of dispute settlement and to avoid traditional expensive and time consuming litigation process.
- Each technique is different, but generally has a lot of common advantages, such as time saving, costs saving, a possibility to choose the third neutral party (parties),

flexibility, less procedures formalization, and confidentiality.

- Dispute resolution helps in gaining the confidence of companies, recovering the damaged causes by disputes.

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