

Factors that Affect in Selecting the Most Appropriate Alternative Dispute Resolution Strategy for Construction Disputes

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Abstract

Disputes are inevitable in construction projects, and cost and time impacts are higher on a project's performance and successful completion. Therefore, it is essential to prevent disputes from arising or resolve them efficiently once arise. Other than litigation, Alternative Dispute Resolution (ADR) strategies receive more attention from organizations due to efficiency in dispute settlement. However, when using ADR strategies for dispute resolution, it is vital to select the most suitable technique based on the dispute type and other goals of disputant parties. Therefore, the objective of this study was to identify the factors that impact selecting the most appropriate alternative dispute resolution strategy for construction disputes. By analyzing existing research published from 2019 to 2023, this study revealed three main factor categories that influence ADR selection decisions. Those factor categories are financial factors, organizational factors, and legal factors. This study further identified research gaps that need attention in future research.

Keywords: ADR, Alternative Dispute Resolution, Causes of Construction Disputes, Construction Disputes, Construction Dispute Resolution.

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INTRODUCTION

Disputes are inevitable in construction projects. Once disputes arise, it needs time, resources, and effort of the project team to find a resolution. Disputes are expensive and negatively impact the successful completion of a project. Therefore project leaders need to understand the causes of construction disputes and strategies to manage and mitigate disputes. In this way, project leaders can find strategies to mitigate possible disputes when they understand the disputant causes.

There are several studies done on topics related to construction disputes and finding better resolutions. According to the studies done by Lee *et al.*, (2021), contractual issues play a major role in creating disputes among the parties. They identified contract matters as one of the major causes of construction disputes. Further, El-Sayegh *et al.* (2020) highlight the disagreements between the parties to the contract. According to their studies, such disagreements between the contract parties create grounds for disputes. After all, construction disputes impact the project performance resulting in delay in completion.

Therefore, most studies suggest avoiding construction disputes with effective contract management.

However, since disputes are inevitable in construction projects due to their complex nature, project leaders should also know the strategies to resolve disputes if it arises. A better understanding of dispute resolution helps project leaders to resolve disputant issues and minimize their negative impact on project performance. Over the last years, there is an increase in the number of litigation cases due to construction disputes (Lee *et al.*, 2021).

If parties choose litigation as their dispute resolution process, it requires more money, time, and effort. However, parties can use Alternative Dispute Resolution (ADR) methods as their dispute resolution strategy. ADR strategies are resource-consuming too. But, in most cases, the cost and time for ADR settlements are mostly lower than the litigation cases. Due to this reason, most companies choose ADR strategies to find a resolution for their construction project disputes. Choosing the right dispute resolution technique is vital for companies to find a resolution

without spending more time and resources while maintaining the business relationship.

Therefore, this paper discusses Alternative Dispute Resolution strategies and the factors that impact choosing the right ADR strategy for construction disputes.

Purpose

The purpose of this study is to highlight the importance of choosing the right Alternative Dispute Resolution strategy for resolving construction disputes. This research will first discuss the available ADR methods for construction disputes and identify the use of each method as an ADR technique. The objective of this research is to find the factors that affect in choosing the appropriate ADR technique for resolving construction disputes.

PROBLEM AND HYPOTHESIS

Disputes are unavoidable in construction projects. Therefore, the project team needs to know how to mitigate construction disputes by addressing their causes. If disputes arise, then the team should choose the right resolution technique to find a solution. This study considers Alternative Dispute Resolution techniques as the most appropriate technique for finding a resolution effectively. Therefore, the study's focus is to identify the factors that affect choosing the right ADR technique for construction disputes. Further, the author doesn't focus on a specific region or a country for data collection. The author assumes that construction disputes can arise in any project regardless of the country or region. Based on this criterion, the author referred to available resources to find out the

strategies for choosing the proper ADR method for dispute resolution.

THEORETICAL BACKGROUND

Project Triple Constraints and Successful Delivery

Once a construction project initiates, the project management team works hard to deliver a successful project. Typically, a successful project meets the stakeholder requirements that will be established during the initial phases of a project. Therefore, the successful delivery of a construction project depends on the established goals and their achievement at the time of project completion. While there can be different project goals, project completion mainly depends on three factors. Those are project initiation and completion time, its actual cost, and the quality of the completed project (Hassan *et al.*, 2019).

However, there are conflicting project demands that appear as constraints within the project implementation environment. The most common project constraints are scope, time, and cost constraint changes, which impact the other two constraints. Therefore, project leaders need to know how to maintain the balance between all three constraints for successful project completion.

Project risks and resource availability also impact the project's triple constraints affecting its successful completion. This is where disputes impact negatively on project's success as one of the possible risks. Therefore, understanding of triple constraints and impact of other constraints such as risks and resources on maintaining triple constraints is important for successful implementation and completion of a project. Figure 1 illustrates the triple constraints of project management.

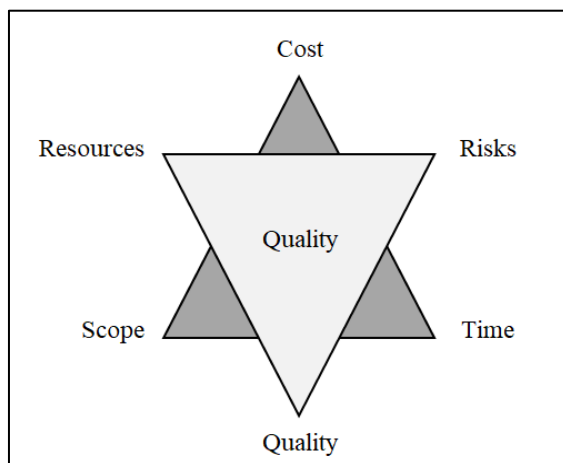


Figure 1: Triple constraints of project management

Strategic Management of Construction Projects for Successful Completion

Strategic management and planning are crucial for the construction industry too same as for any other industry. However, traditional construction

management philosophy places higher importance on the planning and implementation of projects by paying less attention to strategic management. But a company's future depends on the continuous process of strategic planning. On the other hand, strategic project

management is necessary to achieve the project's initial goals by maintaining its triple constraints. Project disputes are one of the risks that impact negatively on project performance. Therefore, the project team needs to manage disputes strategically to achieve its goals and successful completion. There are several strategic management theories that can apply to construction projects as well.

Strategic Management Theories to Use in Construction Businesses

The knowledge of strategic management theories and tools will enable the successful identification of strategies that can improve the dispute-resolution process. Among the several strategic management theories and tools, project team can identify the most suitable strategy for managing possible risks due to disputes. At the same time, the project team should know how to choose the most

appropriate dispute management strategy based on the cause of the disputes.

Thomas Kilmann Conflict Management Model

Thomas Kilman's Conflict Management Model is useful for identifying conflict management styles (Thomas & Kilmann, 1974). Once parties know the different styles of conflict management, it is easy to identify the other party to the dispute and create a strategy based on the conflicting issue and the people who participate. According to the Thomas Kilmann Conflict Management Model, there are five conflict management styles. Those styles are competing, collaborating, compromising, avoiding, and accommodating. Further, the five parts are based on assertiveness and cooperation (Riasi & Asadzadeh, 2015). Figure 2 shows the five conflict management styles according to the Thomas Kilman Conflict Management Model.

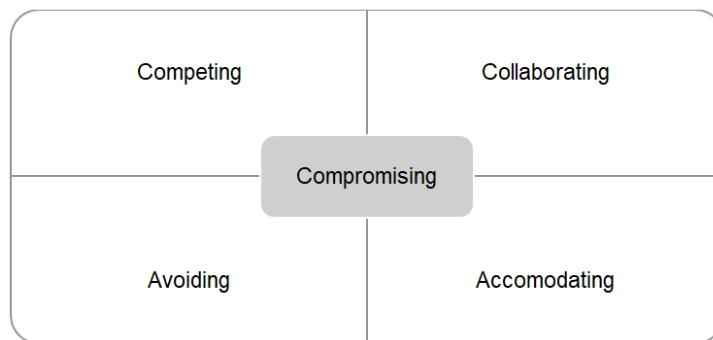


Figure 2: Thomas Kilman Conflict Management Model

SWOT Analysis

SWOT analysis is another tool used in the strategic management decision-making process. This tool is suitable for identifying strengths, weaknesses, opportunities, and threats of any dispute resolution

strategy before implementing it. By using SWOT analysis, construction project teams can effectively identify internal and external factors that cause disputes (Hasina & Fazil, 2021). Figure 3 shows the SWOT analysis framework.

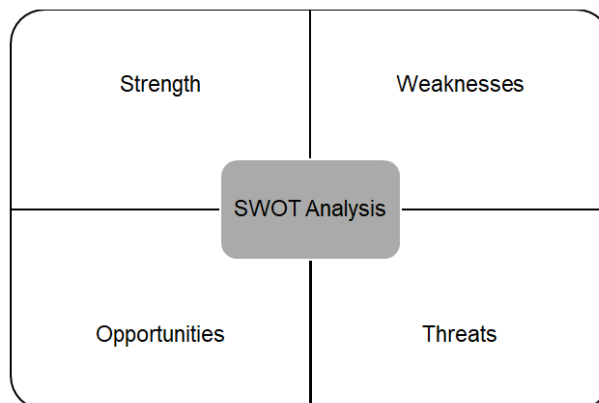


Figure 3: SWOT Analysis Framework

Strategic Group Map

A strategic group map is used as a tool that visualizes data from industry competitors. This tool helps to identify the organization's position among the competitors. There are five steps involved in creating a

strategic group map. These five steps are to define the industry, identify strategic characteristics that distinguish between groups, divide firms into groups, select the two main dimensions of the map, then draw a map and interpret the map (Meilich, 2019). By

effectively using this tool to identify the factors such as company size, product, and services, the project team can identify the best alternative dispute resolution technique for their project disputes.

Resource-Based Theory

According to this theory, a firm has an important competitive advantage when it owns 'strategic resources' over other organizations including its competitors. However, it is important to note that resources such as money and trucks are not strategic resources as any competitor can easily acquire those. Therefore resources in this tool should be valuable, rare, and difficult to imitate the competitors (Kennedy, 2020).

Ishikawa (Fishbone) Diagram

The Ishikawa diagram or Fishbone diagram is another strategic management tool that is used in identifying the cause and effect of a situation (Oktaviani *et al.*, 2021). Therefore, this model can be used to analyze each ADR method before choosing a strategy. As this is a suitable tool to identify construction project risks by identifying their cause and effect, the same tool is a resource for identifying risks of different ADR strategies (Oktaviani *et al.*, 2021). Figure 4 illustrates the Ishikawa diagram and how it can be used to identify the causes and effects of a situation

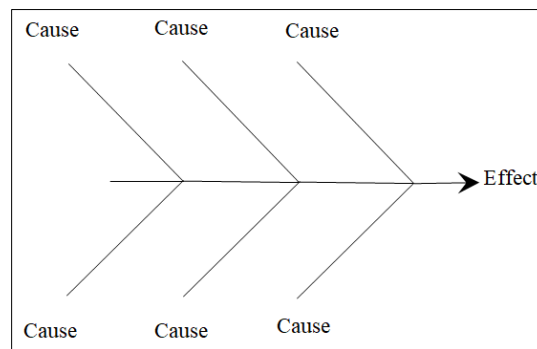


Figure 4: Ishikawa (Fishbone) Diagram

PESTLE Analysis

PESTLE analysis is another tool that is used for strategic planning. Using this tool, a business organization can analyze its external environment. PESTLE stands for political, economic, social, technological, environmental, and legal factors that can impact a business (Rastogi & Trivedi, 2016). While PESTLE is a strategic management tool for every business, this tool can use to analyze how the external environment can impact project activities in the construction industry.

When there are disputes and then the project team needs a strategy to resolve those disputes, they can utilize the PESTLE analysis tool to identify the external factors that can impact their dispute resolution strategy. In this way, it is easy to identify the risks that can impact their strategic resolution plan making it easier to identify the mitigating factors. Figure 5 illustrates the PESTLE analysis and the external factors that can impact a strategic decision.

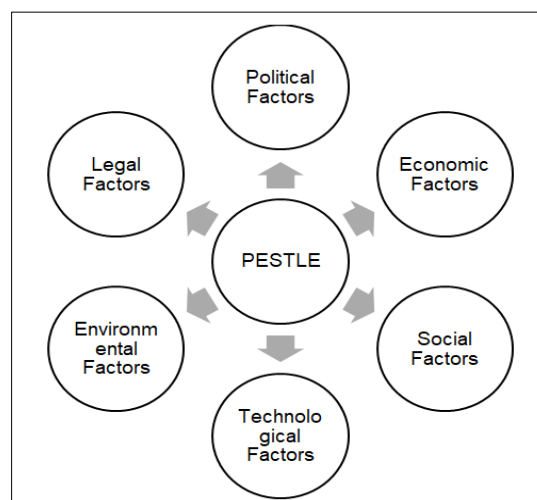


Figure 5: PESTLE Analysis Framework

Among the different strategic management tools, Thomas Kilman Conflict Management Model, SWOT Analysis, Strategic Group Map, Resource-Based Theory, Ishikawa (Fishbone) Diagram, and PESTLE Analysis are helpful tools for construction project leaders to recognize both internal and external project environments. Further, Ishikawa (Fishbone) Diagram helps identify the cause and effect of any situation including causes of disputes. Therefore, with a better understanding of these strategic management tools, project leaders can identify the best strategic solution based on the project environment, cause, and available resources.

Construction Disputes

Construction projects can end up with different disputes. Although there are ways to avoid and mitigate construction disputes during the different stages of a project, it is not easy to completely mitigate or avoid disputes. During the project lifecycle, there are many causes that can impact disputes to arise. However, disputes are a risk to a project's successful performance. The project team's arguments and disagreements related to contract issues can lead to major disputes that need more time, cost, and resources to find a resolution. Therefore, the necessity of treating disputes on time arises.

According to Surahyo (2018), construction disputes are of four categories. Those categories are technical-related, financial, duration, and quality-related. However, the effect of these disputes will delay the project performance which leads to unsuccessful project delivery. Further, disputes are one of the major causes of unsuccessful delivery of a construction project (Duchaussoy, 2019). Therefore, the project teams need to understand the importance of dispute resolution and the time, money, and effort required for finding a resolution (Durand, 2019).

Not only during the project implementation phase but also the project team needs to identify the ways to prevent disputes during each stage until the project closure. At the same time, the team should identify the most strategic dispute resolution techniques for improving the effectiveness of the resolution process. Understanding the grounds for disputes improves the effectiveness of dispute resolution including preventing and mitigating. Therefore, below are some of the common causes of construction disputes.

Causes of Construction Disputes

Before finding a dispute resolution strategy, it is worth understanding the root causes of construction disputes. The complex nature of construction projects creates grounds for many disputes. Therefore if the project team doesn't identify the causes of disputes or if they do not handle the disputes effectively soon after arising, it can lead to serious issues that can impact

negatively on the project performance (Nguyen & Nguyen, 2020).

According to Sabri & Torp (2022), lack of confidence between the contractor and the employer, and uneven responsibilities and obligations are some of the major causes of disputes in construction projects. However, according to the studies done by Yussof & Zaini (2022), the most common causes of construction disputes include contract issues and people issues. Further, unforeseen issues that can happen between the project stakeholders regarding the conditions of the contract can create disputes (Yussof & Zaini, 2022).

Among the contract issues, causes such as claims that are poorly drafted, failure in substantiating claims, poor contract administration, errors in contract documents, design errors, and omissions from the original contract can create disputes among the parties (Yussof & Zaini, 2022). Many other studies have revealed that contract issues as one of the major causes of construction disputes. According to Naji *et al.*, (2021), contract type, poor communication, unrealistic estimations, unclear risk allocation and lack of knowledge and understanding of the client are some other causes of construction disputes.

The contractor's knowledge and professional capacity, quality of communication, and resource limitations are other causes of construction disputes (Nguyen & Nguyen, 2020). According to the studies done by Hansen (2019), the contract document itself is a source for disputes. Unrealistic expectations, untimely payments, and the quality of contract content are sources of disputes. Further, project delays and claims related to extension of time cause disputes among parties. According to Adham (2023), concurrent delays are a source of disputes in construction projects due to parties trying to claim damages due to delay. Therefore, it is important to address concurrent delays timely to prevent possible disputes (Adham, 2023).

On the other hand, previous studies by the author revealed that poor contract management is the main source of disputes. Therefore, effective contract management is necessary for managing possible disputes and disputant sources. Disputes are a risk for the successful completion of a construction project (Gamage, 2023).

Considering the different causes of construction disputes, studies have revealed the main three ingredients of disputes. Those are Contract Provisions, Triggering Events, and Conflict (Cheung & Yiu 2006). Figure 6 shows the dispute triangle for construction projects.

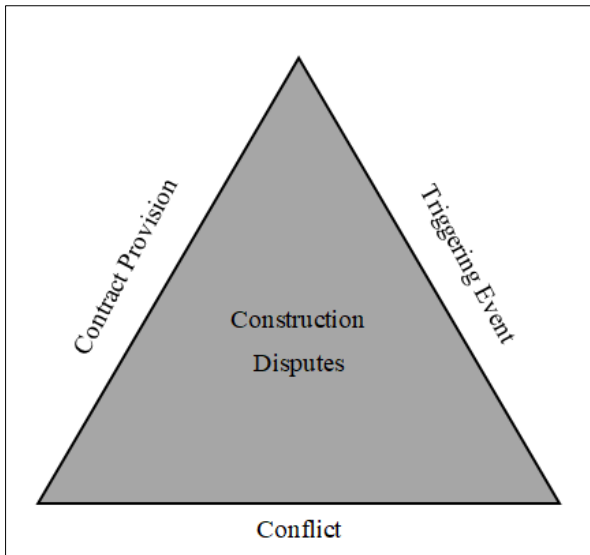


Figure 6: The Dispute Triangle for Construction Projects

The previous studies done by several authors reveal that the contract itself is a source of disputes. Therefore disputes can occur if there is no effective contract management during each stage of a contract.

Managing Construction Disputes

Construction disputes are inevitable. However, there are two ways to manage disputes. The first option is to prevent disputes. The second option is to find a resolution once disputes occur. Properly drafted contract documents and effective contract management are essential to prevent possible disputes.

Most construction disputes are related to time and money although there are provisions in general conditions of contract (Uher, 2008). On the other hand; delays are common in construction projects where it involves substantial costs. The cost damages can be for the Employer or even for the contractor. For example, the loss and expense claim clause and liquidated damage clause provide a remedy to compensate such damages for both parties under several conditions. In this way, the clauses in the contract document help in mitigating possible disputes by providing solutions for different scenarios during the project performance. However, still there is a potential for disputes to arise.

While contract conditions allow for claims, most claims do not create disputes. However, a dispute arises when one party submits a claim and when the other party refuses it either by conduct or by expressly (Uher, 2008). However, when there is a dispute, there are various ways to resolve it finding a solution that parties to the contract can agree on.

Construction Dispute Resolution Strategies

There are different ways for dispute resolution of construction projects. These methods can be mainly categorized into two categories. Those are resolution by agreement and resolution by a binding decision of a third party (Uher, 2008). Negotiation and mediation are two methods of dispute resolution by agreement. Methods for resolution by a binding decision of a third party include litigation, expert determination, and arbitration (Uher, 2008). Figure 7 illustrates these different methods of dispute resolution.

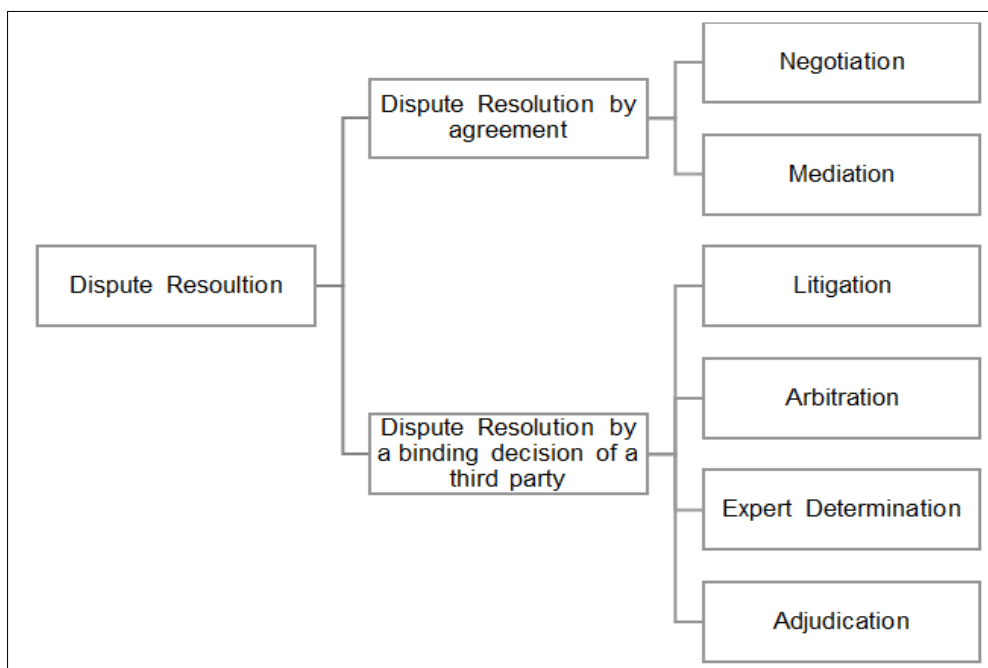


Figure 7: Dispute Resolution Methods

Litigation

Litigation allows parties to reach a binding solution decided by a third party. However, litigation is regarded as the final method for settling any dispute between the parties (Singh & Song, 2018). This is because it requires more time and money. Parties should allocate more of their resources to win a case if the dispute ends up as a litigation case.

Alternative Dispute Resolution (ADR) Methods

Other than litigation, the other remaining solutions are called Alternative Dispute Resolution techniques. The ADR techniques in construction projects include negotiation, mediation, arbitration, expert determination, and adjudication. This paper discusses more on ADR techniques. Below is a short description of each of these ADR methods.

Negotiation

Negotiation is the least expensive and mostly used dispute resolution strategy in the construction industry. According to studies, companies use negotiation for resolving more than 70% of disputes (Singh & Song, 2018). However, negotiation is voluntary and parties should agree to settle their disputes through effective negotiation. The risk associated with this method is that any party can walk away at any time without even achieving a resolution. On the other hand, an agreement made by negotiation is not binding. Therefore, parties can still choose other ADR techniques or litigation to find a binding resolution.

Mediation

A third-party neutral mediator facilitates Mediation sessions and helps disputant parties to come to a resolution. Mediators usually require parties to the dispute to sign a third-party agreement that includes terms of mediation, fees, and a clause that exempts the mediator from liability (Uher, 2008).

However, mediation is voluntary and both parties need to agree on mediation as their dispute resolution strategy. Further, mediation solutions are nonbinding and therefore, the parties should come up with an agreement once they reach a resolution. Even if there is an agreement as a result of mediation; parties are free to look for a resolution through other ADR techniques.

Arbitration

Arbitration is another ADR technique for dispute resolution where parties need to agree to refer their dispute to a third party. Parties are free to appoint an arbitrator or arbitrators for their dispute, or they can also seek the help of arbitration governing institutions to appoint an arbitrator on their behalf (Uher, 2008). Compared to litigation, arbitration is a fast, cost-effective, and less formal alternative for dispute

resolution. One of the advantages of this method is that hearings are private (Alaloul *et al.*, 2019).

Expert Determination

In expert determination, parties to a contract agree to refer their disputant issue to a third party seeking their opinion on the disputant matter. Once there is an opinion by the expert, parties can agree to be bound by that opinion. Compared to litigation, the expert determination process is flexible and parties can choose a third party to refer their dispute (Uher, 2008).

Adjudication

Adjudication is another form of alternative dispute resolution (ADR) technique that is used in the construction industry to settle disputes related to payment. However, the Adjudication process should align with any country's prevailing payment act for construction projects. For example, it is the Building and Construction Industry Security of Payment Act in Singapore and the Construction Industry Payment and Adjudication Act in Malaysia. Similarly, there are other legislations for other countries where the adjudication process is governed by prevailing legislation.

The adjudicator's powers are set by legislation where he can establish the procedures and set deadlines. Most often, the adjudicator makes his decision based on documentary evidence. Therefore, adjudication is considered not a suitable ADR method for highly complex cases. Adjudication decisions can also be set aside when there are doubts about the adjudicator's independency (Hassan *et al.*, 2019).

Choosing a Dispute Resolution Strategy

While there are different alternative dispute resolution methods, it is important to choose the right technique to settle the issues that arise with a dispute. In this case, the goal should be choosing the most efficient and effective ADR technique that brings resolution to the dispute. Therefore, parties need to decide wisely paying attention to their goals and the pros and cons of each ADR approach.

There are researches done on the topic of ADR strategies and causes of construction disputes. However, there are not many recent studies on choosing the most appropriate ADR strategy for construction disputes. According to Cheung *et al.*, (2002), the ten most influencing factors impact the choice of ADR strategy are voluntariness, neutrality/ fairness, confidentiality, knowledge of construction, creative remedies, consensus agreement, enforceability, cost, speed, and preservation of relationships. According to the studies done by She (2011) based on the Melbourne construction industry, cost is the highest-ranking factor for choosing a dispute resolution strategy. Factors such as speed, openness, fairness, outcome, and relationships are the other critical factors (She, 2011).

On the other hand, in some standard conditions of contracts, there is a clause that mentions dispute resolution where parties are bound by that clause. Some contract documents include a clause for mandatory arbitration whereas some contracts include a clause for mandatory expert determination when there is a dispute. In that way, parties to a construction dispute, first need to seek dispute resolution according to the steps mentioned in their contract document. If the contract stated method fails, then parties are free to decide on the next approach to resolving their disputant matter.

Stair-Step Model of Dispute Resolution

The choice of ADR strategy is influenced by many factors. However, the ADR approach should eliminate litigation costs and possible project cost overruns (Kirimi & Wanjohi, 2019). The Stair-Step Model of Dispute Resolution introduced by O'reilly and Mawdesley (1994) highlights the different ADR approaches and their relationship with hostility and costs.

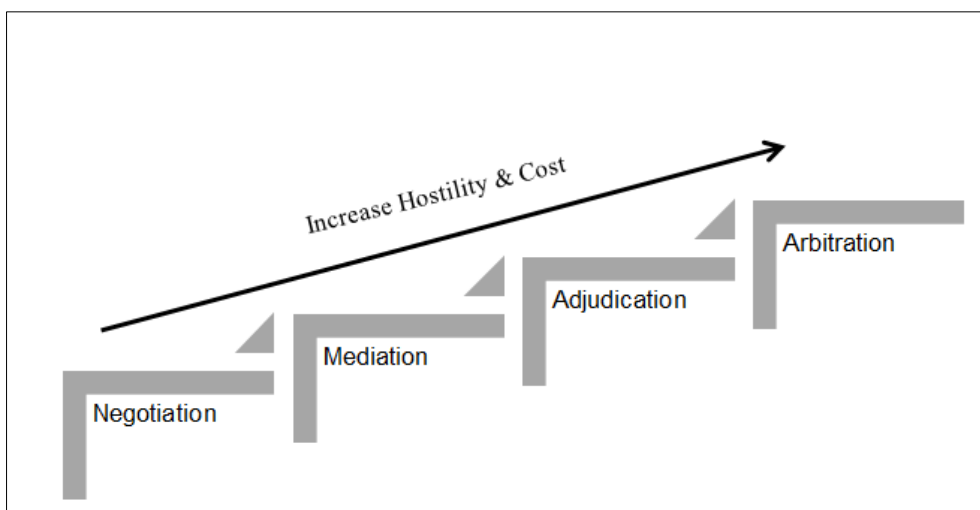


Figure 8: Stair-Step Model of Dispute Resolution

According to the Stair-Step Model of Dispute Resolution, when parties choose negotiation as their strategic ADR approach to resolving a dispute, the cost is low and hostility is low as well. However, when it comes to adjudication or arbitration as the ADR strategy, the cost is higher and hostility is increasing as well. Figure 8 illustrates Stair-Step Model of Dispute Resolution.

Based on all these facts, parties should identify the most effective ADR technique to resolve their dispute. Existing literature shows the importance of effective management of disputes. Disputes are a risk for a construction project, and they can impact project triple constraints negatively. There are various causes for disputes that can happen at any stage of construction projects. The leaders first should identify the ways to prevent disputes by identifying the causes. After prevention, the next step is to identify how to resolve disputes once appear. These decisions should be strategic based on the project and business environment.

The available strategic management tools including Thomas Kilman Conflict Management Model and SWOT Analysis help identify the most effective strategies for dispute resolution. Other than the costly litigation approach, there are ADR techniques such as negotiation, mediation, Expert Determination, Adjudication, and arbitration that help construction

organizations settle their disputes in a shorter period without spending much money and resources compared to litigation. Further, Stair-Step Model of Dispute Resolution shows how hostility and cost are varied in different ADR approaches.

Therefore, the project leaders should also carefully choose the ADR strategy to resolve their project disputes. With these findings through the existing literature, this study aims at finding the factors that impact ADR selection decisions. This study used data from existing literature as described below.

METHODOLOGY

Secondary data was used for this research to find out the factors that affect selecting the most appropriate alternative dispute resolution strategy for construction disputes. Therefore, the author analyzed existing research papers and literature on relevant topics to find the data from previous studies. Literature reviews help identify research gaps and gain a deeper understanding of a topic including related theories (Brendel *et al.*, 2020). Graulich *et al.*, (2021) identify a literature review process as a way of gaining a better understanding of existing knowledge on a research topic.

Further, existing literature provides minimize the requirement of collecting primary data for a

particular topic by providing a solid starting point for researchers (Paré & Kitsiou, 2017). Considering these facts, this paper is based on the existing literature on the topic of dispute resolution of construction projects. Figure 9 shows the steps followed for collecting information from existing literature.

Google Scholar search engine and ProQuest database were the main sources of data for this review. Author used these resources to find out existing

literature on dispute resolution. However, the author experienced difficulties in finding and studying recent studies on alternative dispute resolution due to restricted access and a shortage of studies done on construction disputes. The search keywords such as 'Construction dispute resolution', 'ADR in construction', and 'Alternative Dispute Resolution in construction industry' were used to collect and retrieve the relevant data.

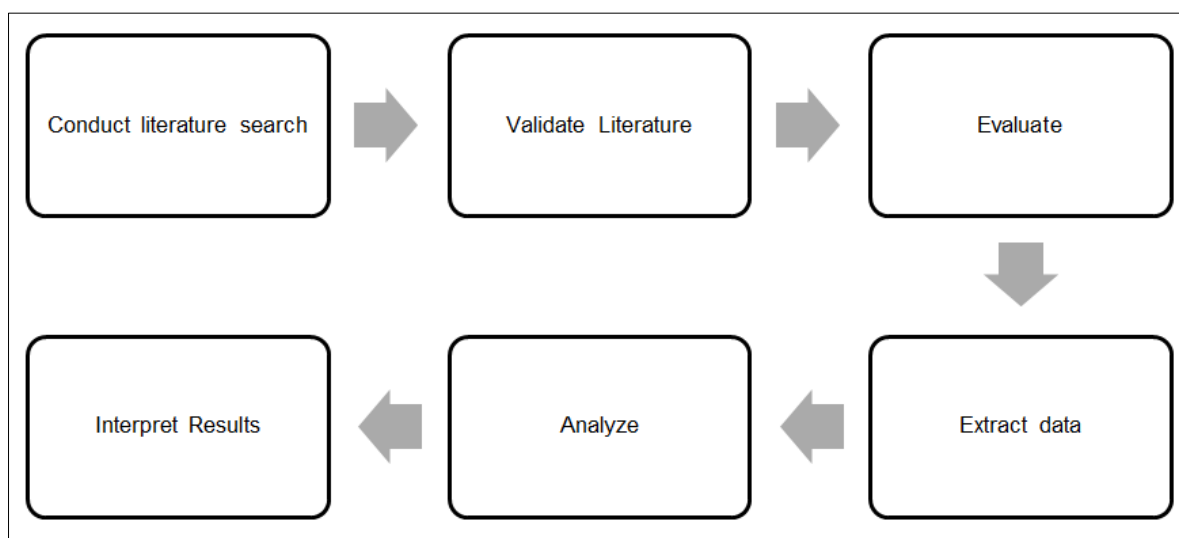


Figure 9: Main Steps of Literature Review Process

Criteria Used for Selecting Existing Literature

The initial search in Google Scholar search engine and ProQuest database retrieved a large number of studies. However, not all papers were included in this study. Below are the criteria used for shortlisting relevant research papers for this study.

- Recent literature published from 2019 to 2023 was used for this study making sure that the secondary data used were the latest.
- Research papers should be in English.
- The paper should relate to construction disputes and dispute resolution.
- The research paper should be published in a peer reviews scientific journal.
- Only open-access papers are included in this study.

Therefore, the author removed most of the existing literature from this study following the above criteria. While the first search round for existing literature showed 333,505 research papers whereas some databases showed research papers from decades, only 65 papers were short-listed based on the above criteria. However, further reading of these research papers indicated that those are not relevant in finding the factors that influence the decision of ADR strategy. Therefore, below results and findings are from the further shortlisted 8 papers analyzed by the author.

RESULTS AND FINDINGS

Existing literature helps find factors about choosing the most suitable ADR method for construction dispute resolution. Using these secondary data, it is easy to find the most effective factors that impact ADR selection decisions including the research gaps.

Gaum & Laubscher (2019) highlights confidentiality as one of the advantages of negotiation as an ADR technique where many parties prefer this strategy for dispute resolution. Kirimi & Wanjohi (2019) studied the factors that influence the choice of ADR in construction projects in Imenti North Sub County, Meru County. Their study revealed some factors that are specific to Imenti North Sub County, Meru County. However, the author of this paper with her dispute resolution experience believes those factors are still valid for any construction dispute resolution regardless of the geographic region. Those factors are lack of awareness, preservation of business relationships, communication and documentation issues, and cost minimization (Kirimi & Wanjohi, 2019).

Aritonang & Simanjuntak (2020) identified seven important factors that impact choosing an alternative dispute resolution method for construction disputes. These seven factors are cost incurred, time

spent, preservation of the relationship between all parties, certainty of law, confidentiality, neutrality, and enforceability.

Alaloul *et al.*, (2021) in their comprehensive review of dispute prevention and resolution, highlight the importance of preserving the relationship between the parties when choosing a dispute resolution method. They also highlighted the features of different ADR strategies based on the law, facts, time, and cost. According to these studies, although it is difficult to identify any ADR methodology as the best option, it depends on the party's needs on the prevailing dispute, and the relationship between the parties (Alaloul *et al.*, 2021).

Saeb *et al.*, (2021) identified time and cost as factors to consider when choosing an ADR method for dispute resolution. According to Thompson *et al.*, (2021), the parties should maintain control over the dispute settlement process and also should look for ways on preserving the relationship. This study also highlights the importance of cost-effective and expeditious administration of dispute settlement proceedings.

Goski (2021) highlights a few important facts to consider relevant to construction disputes. One of the facts highlighted in this paper is 'Time is Money'. This paper discusses the time required for litigation and time required for mediation which is one of the ADR strategies.

According to Asad *et al.*, (2022), there are different factors that affect selecting an appropriate ADR strategy. Cost, Duration, fairness, Consensus, expertise, effectiveness, Confidentiality and

Enforceability, Procedural Flexibility, Preservation of relationships, Possibility to Appeal, Degree of control by parties, Reputation of parties, Degree of control by the neutral, quality of outcomes, Degree of formality, Power imbalances, Choice of neutral and Liability for opponent's costs are those influential factors. Among these factors, the cost is the most influential factor in selecting an ADR strategy in Pakistan construction sector (Asad *et al.*, 2022).

Although the research done by Cheung *et al.*, (2002) is beyond the duration considered for this study, the author considered those factors for this study due to two reasons. The lack of availability of previous studies done on this topic is one of the major reasons. On the other hand, with the author's experience in construction disputes, the author suggests the factors identified by Cheung *et al.*, (2002) are still valid for today's ADR strategy selection process. According to Cheung *et al.*, (2002), voluntariness, neutrality/ fairness, confidentiality, knowledge of construction, creative remedies, consensus agreement, enforceability, cost, speed, and preservation of relationships are the ten most influencing factors that impact the choice of ADR strategy.

According to the available literature and data from previous studies, it is obvious that parties to a dispute should select the most appropriate ADR strategy to find a resolution for their dispute. This study shows that different factors impact this decision. The author further classified these identified factors in the selection of ADR strategy into three major categories that are financial factors, organizational factors, and legal factors. These three categories are shown in Table 1.

Table 1: Factors That Affect In Selecting the Most Appropriate Alternative Dispute Resolution Strategy for Construction Disputes

Factor Category	Factors
Financial factors	Cost incurred for ADR process, Cost minimization techniques for each strategy, Duration for dispute resolution and impact of time on cost.
Organizational factors	Awareness of each ADR strategy, Communication and documentation issues, Preservation of relationship all parties, Party's needs on the prevailing dispute, Administration of dispute settlement proceedings, Reputation of parties, Power imbalances, Quality of outcomes
Legal Factors	Certainty of Law, Confidentiality, Neutrality and Enforceability, Procedural Flexibility, Possibility to Appeal, The party's ability to maintain control over the dispute settlement process, Degree of control by the neutral, Fairness, Consensus, Liability for opponent's costs

The identified factors influence greatly on ADR strategy selection decisions. Further, most studies revealed cost and other financial factors as the major influential factor among others. By identifying these influential factors, organizations can choose the most

suitable strategy for their dispute resolution process. However, it is equally important that parties have proper knowledge of each available alternative dispute resolution strategy.

CONCLUSION

The objective of this study was to identify the factors that affect choosing the appropriate ADR strategy for resolving construction disputes. Other than finding the factors that influence ADR strategy selection, this study also aimed at highlighting the importance of ADR strategies over litigation for dispute resolution of construction projects. This study revealed different causes for construction disputes and most of the disputant causes are linked with contract administration. Therefore, by identifying these dispute triggers, project leaders can deliver a successful project minimizing possible disputes that require more resources to resolve.

Once there is a dispute arises, it needs a resolution. There are different ADR strategies available for finding a settlement. However, this study revealed that parties should choose the most suitable ADR strategy that brings resolution. By studying previously published research papers for secondary data, the author identified different factors that impact the choice of ADR strategy. According to available secondary data, there are 21 factors that influence selection of an ADR strategy. The author further categorized these factors into three main categories. Those main factor categories are financial factors, organizational factors, and legal factors.

Other than these identified factors, the author also suggests organizations use strategic management tools such as SWOT analysis and PESTLE analysis to identify the business environment and hence strengths and weaknesses of the organization compared to the competitors and the other party to the dispute. This knowledge of the environment in which they do business can give a better idea of the importance of finding a resolution quickly for their project disputes. This knowledge will also help in identifying further financial, organizational, and legal factors that require consideration when choosing an ADR strategy. With the most suitable ADR technique, it is easy to find a better and more binding resolution saving resources including time and money.

Further, when selecting an ADR strategy it is wise to understand the conflict management style of the other party. By using Thomas Kilmann Conflict Management Model, a party can identify the style of the other party in resolving disputes and choose the most appropriate ADR strategy that can bring settlement instead of spending resources on different ADR techniques that cannot bring final settlement.

However, there are also gaps in this research that need to be addressed in future studies on this topic. The first obstacle for the research was the lack of previous studies on identifying the factors that impact ADR decisions. Although there were research done on ADR and disputes in construction projects, most of the

studies are focused on finding the causes of disputes and available ADR techniques to resolve those disputes. Therefore, the lack of recent data as a secondary source for this study creates a gap that requires further research on the same topic. Future research based on primary data will help in identifying more factors that impact ADR selection methodology.

On the other hand, most of the research was not focused on any specific location. Therefore, studies based on geographical location will help in identifying a country or region-specific influential factors that impact ADR selection.

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