Alternative Dispute Resolution Methods: An Action Plan for Construction-Related Disputes within the City of San Fernando, Pampanga

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Abstract*—The construction industry is an essential sector that drives economic growth and development, but it is prone to conflicts, disputes, and claims. Controlling these factors is essential for the efficient running of a construction project in order to achieve better profit, a higher rate of return, and on-time project completion. Alternative Dispute Resolution (ADR) techniques have grown in popularity in the construction sector, and many disputes have occurred in projects with complex designs and conventional procurement methods. This study examines the relationship between project features and disagreement reasons. A mixed method design was utilized, which is a method for collecting, analyzing, and "mixing" or combining quantitative and qualitative data at some point during the investigation. This research assessed how construction-related conflicts affected the local construction industry. The findings showed that higher-ups on the project, notably the owner and/or contractor, are incompetent and are to blame for problems involving construction. Additionally, one of the most serious causes of disputes was thought to be the time spent on project preparation. Three ADR techniques for resolving construction-related conflicts were discovered in this study. Public firms employed mediation and arbitration, but private companies used negotiation. This project aims to encourage a more welcoming approach to employing ADR techniques to address construction-related issues, which may benefit construction firms by enhancing the efficiency and effectiveness of their projects.

***Indexed Terms*—Disputes, Construction Projects, Dispute Resolution, ADR**

I. THE PROBLEM AND ITS REVIEW OF RELATED LITERATURE AND STUDIES

1.1 Introduction

The construction industry is an essential sector that drives economic growth and development. However, construction projects are prone to conflicts, disputes, and claims that often arise due to misunderstandings, poor communication, and contractual issues. These disputes can lead to delays, increased costs, and damage to relationships between parties involved in the construction project. Dispute occurrences are important issues that many projects are currently experiencing. These issues are now common in the construction industry, and if not resolved right away, they could get worse and cause schedule delays, which would lead to claims that would require litigation to resolve, costing money and time. There are several aspects, such as owner-related, manager-related, and third-party-related difficulties that affect the efficiency and efficacy of work and disrupt the project's continuous completion (Rauzana A., 2016). To ensure better profit, a higher rate of return, and on-time project completion, controlling these factors was essential to the successful completion of a construction project.

With the concerns mention, Alternative Dispute Resolution (ADR) methods have gained popularity in the construction sector as an alternative to litigation for settling conflicts swiftly, cheaply, and with less stress. ADR methods such as negotiation, mediation,

and arbitration have shown to be successful in addressing construction disputes without the need for costly and time-consuming court proceedings.

A dispute is inevitable because of this intricacy and the wide range of unforeseen circumstances that could occur during a building project. In various project scenarios, the construction sector has seen disputes over the years. For instance, disagreements were more common in projects that were conventionally procured and in projects whose designs were complex. Additionally, there had been disagreements about the budget and payment for certain significant government projects. Disputes have a negative impact on the project's budget, schedule, and quality, which affects the performance of the project as a whole. To finalize the project within the expected timeframe, budget, and level of quality, it is critical to understand the roots of disagreements. As a result, this study looks at project characteristics in relation to dispute causes.
The city of San Fernando, Pampanga was the chosen locale for the study as it was the most convenient and accessible for the researchers. Disputes among construction projects also happen commonly in the area as per the local government unit. The LGU also stated that there were people who sought a proper resolution for disagreements that they encountered. This made the city of San Fernando an ideal location for gathering data that was needed for the study.

1.2 Review of Related Literature and Studies
The authors, Dr. Rajiv Bhatt, Prof. J.J. Bhavsar, and Abhishek Shah, primarily focus on ranking the factors "Causes of Disputes," "Impact on Project Scenario," and "Use of Dispute Resolution Methods." replies from the construction industry professionals were gathered for a survey throughout Gujarat's Ahmedabad city. After analyzing the feedback, it was determined that the main causes of dispute occurrence were "financial and payment issues," "poor work quality," and "extra items," that "damaging company reputation" was a significant factor in impact matters, and that the "negotiation method" was the most effective dispute resolution technique.

According to Jaffar, N. et. al. (2011) A contractor's poor choice could result in a serious issue, for example, undervaluing the tender. Most contractors ask themselves, "How much value can we make off of these extras? They discounted the task without fully understanding the layout or specifications, and after the project finished, they may not have been able to meet the standards, resulting in later arguments and disputes. Lack of knowledge and modifications to contract terms and conditions one party intruding on another and making late payments. In order to get more money, the contractor makes false assertions about probable results and searches for anomalies in the contract.

It consists of two key factors: controllable and uncontrollable. Controllable factors that can be managed include those that are human-related, such as a participant's lack of team spirit, communication problems, participant misconceptions, etc. Therefore, they add to conflicts and disagreements in any endeavor. Uncontrollable elements refer to outside influences and include factors like unpredictability, people protesting, divine intervention, and so on. These are the components that can be avoided, but they are impossible to completely control. They are fundamentally separate factors. As a result, disagreements, and clashes over it are unavoidable. (Soni S. et. al., 2017)

- *Alternative Dispute Resolution (ADR)*

The book by Blake S. et al. (2021) defines ADR as a term generally accepted as other forms of dispute resolution covering alternatives to litigation. It concurs with the Legal Information Institute (2021) which defined ADR as any method of resolving disputes without litigation.

Furthermore, according to Blake S. et. al., ADR is used to resolve disputes between both parties outside the judicial process. It consists of a variety of methods that enable the disputants to resolve disagreements or other causes of opposition. The methods which are commonly used in a single dispute resolution are; negotiating online system and its style and outcome; mediation outcome and tactics; adjudication implementation and reviews and the principle and strategies of arbitration. These are recent study which was different from the earlier methods. The conducted research has mainly focused on providing relevant approaches to various dispute resolutions. To allow mediators and other participants to have a wide range of understanding in resolving the problems. Although

the methods are categorized based on the best option in a given situation it is still hard to figure out which was the best approach and most effective. Numerous professionals collect data and information overseas to widely determine all the available approaches to resolve disputes in both minimal and best effort they could provide. After incorporating their research, they come to realize that all disputes are in grievance or ground where there is an existing opposition to a statement or other of such. However, they claimed that a grievance might be abandoned when there is found irrelevancy of a subject.

In Hong Kong, the adoption of Alternative Dispute Resolution (ADR) methods in the construction industry has gotten off to a very strong start in recent years. The Hong Kong Government has taken the initiative to include alternative dispute resolution (ADR) techniques as a fundamental component of the dispute settlement process in the common contract types used for government projects. ADR hasn't yet been widely used in the private sector, most likely because of a lack of expertise and experience. (Aryal, et. al., 2018).

The efficiency of negotiations in settling disputes in the Ugandan construction business was evaluated by Bahemuka (2021) in a study. It was discovered that negotiating is regarded as an efficient method of settling conflicts. It supports Taylor and Carn's claim that the best course of action is to negotiate differences.

On the other hand, Alshahrani (2017) says in Saudi Arabia, private building projects more frequently use mediation than public issues involving the state or its agents. The majority of respondents agree that it is the Saudi Construction Project's best way for resolving disagreements. According to this, mediation is considered a simple, flexible, low-cost approach strategy. However, it appears that the ineffectiveness of mediation in projects involving public contracts is what is keeping it from being used to its full potential. Due to concerns that there is a "lack of arbitrators and experts' awareness about this procedure and its merits," it is not as frequently employed as it ought to be.

According to Yaskova et al. (2017), the utilization of specific dispute resolution methods requires more than just legally mandated implementation and practical suggestions. It also involves establishing groups of experts in conflict resolution and undertaking construction projects that incorporate potential members of dispute review boards. Additionally, it is crucial to implement certain processes in the operations of construction firms that manage significant projects. That is, the issues with the ineffectiveness of court-based conflict resolution can only be resolved by methodically developing ADR techniques at the legislative and law enforcement levels and the possibility of acting in bad faith by partners.

- *Republic Act 9285*

The Alternative Dispute Resolution Act of 2004, also known as Republic Act No. 9285, was passed by the Philippine Congress. Its main objective is to support and encourage party autonomy in resolving disputes, allowing individuals involved in a dispute to freely determine their preferred method of resolution. The State recognizes the importance of using alternative dispute resolution (ADR) to expedite and ensure fair justice while alleviating the burden on court dockets. Therefore, the Act establishes mechanisms and procedures to facilitate the effective utilization of ADR as an alternative means of resolving suitable cases.

Section 13 of the ADR Act of 2004 clarifies that mediators are not obligated to possess specific qualifications based on their background or profession unless such qualifications are explicitly stated in the mediation agreement or requested by the parties involved in the mediation process. (ADR Act, 2004).

- *Office for Alternative Dispute Resolution*

The Office for Alternative Dispute Resolution (OADR) is a departmental agency established under the Department of Justice in accordance with Republic Act (R.A.) No. 9285, which is also known as the Alternative Dispute Resolution (ADR) Act of 2004. (Department of Justice, 2022)

Its primary mandate is to actively encourage, advance, and broaden the adoption of ADR in both the private and public sectors. Additionally, it is responsible for

supporting the government in monitoring, examining, and assessing the utilization of ADR by various sectors. Furthermore, the Office is tasked with proposing necessary legislative amendments to enhance, fortify, and enhance ADR methodologies in alignment with global benchmarks. (ADR Act, 2004)

- *Dispute Resolution Mechanisms in the Philippines*

In the context of the Philippines, the utilization of the court system as a method of resolving disputes have been characterized by lengthy and expensive proceedings, strict technical regulations, and an adversarial process. Moreover, there is a lack of public trust and confidence due to perceived corruption among judges and court personnel. Recognizing the need for improvement, ongoing judicial reforms have identified alternative dispute resolution (ADR) as a crucial solution for alleviating the backlog of cases in court and addressing the issue of delayed resolution of disputes. This renewed focus on ADR not only highlights its advantage of providing a more efficient approach to handling specialized issues but also offers a less confrontational method that aligns better with Filipino values and culture. As part of this reform, court-mediated and court-referred mediation is being established to promote and endorse out-of-court dispute resolution systems for specific types of legal conflicts. (Domingo et. al., 2002).

1.3 Background of the Study

In the construction industry, disputes are prone to occur due to the involvement of different parties, deadlines, coordination, finance concerns, profit motives, and poor communication. Construction has gained a reputation for being adversarial and having a high rate of problems. Construction projects are more likely than not to be subjected to claims and disputes. In project-based organizations, conflicts are common; however, if they are not handled properly, they could escalate into disputes (Lu et al., 2015).

It is imperative that construction projects be managed based on three key factors: time, cost, and quality. (Nguyen et al., 2022). Success is determined by the ability to achieve a balance between these variables that reduces project length, and total project cost, and maximizes overall project quality.

In order to promote and intervene effectively in the use of Alternative Dispute Resolution (ADR) in the construction industry, the factors that influence its selection and use must be fully researched and understood. (Chong and Zin, 2012) An investigation of the factors that influence ADR selection and use will assist in decision-making and provide practical guides for project practitioners.

In a recent article published by the local court in South New Wales, ADR enables disputing parties to resolve disputed issues with the assistance of a neutral third party. In general, it is faster, saves a lot of time and money, and puts the parties in control by allowing them to present their side of the story and participate in the final decision. As a result, the researchers developed an alternative dispute resolution plan that provides alternative methods of resolving existing disputes related to construction projects.

Tapsi M. et. Al. (2019) states that disputes are a fact of life in every construction project. In the absence of appropriate resolutions, minor issues can fester and grow, resulting in crippling consequences for project participants. Construction disputes have become increasingly costly, difficult, and risky as a result of their increasing costs, delays, and risks, which has prompted the construction industry to look for alternative methods to resolve these disputes. Through the development and employing of a variety of alternative dispute resolution (ADR) mechanisms that can be used at any stage in the construction process, the industry has taken steps to avoid litigation and control disputes over the past decade. Simple negotiation as well as binding arbitration are among the mechanisms available to the industry.

- *Study Area*

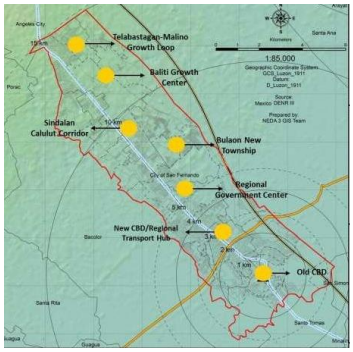

Figure 1. Vicinity of San Fernando, Pampanga

The Construction Industry Arbitration Commission (CIAC) has reported a number of cases of construction project disputes in Region 3, particularly in San Fernando, Pampanga. Based on the 2020 census, this city is the regional center of Central Luzon as well as the provincial capital, with a population of 354,666 according to the census. As a gateway to the north, it is strategically situated 67 kilometers north of Metro Manila, 16 kilometers south of Clark Freeport Zone and Clark International Airport, and 50 kilometers east of the Subic Freeport Zone.

Its land area is 67.74 square kilometers or 26.15 square miles, constituting 3.38 percent of the total area of Pampanga. On the northwest side, Angeles City is located, while Mexico, Bacolor, and Sto. Tomas is located on the northeastern, southwestern, and southeastern sides. Several government agencies are located in this region, as it is both the provincial capital and administrative center of Central Luzon.

A number of construction projects were completed in San Fernando, Pampanga, in the first quarter of 2021, based on consolidated quarterly reports on government projects within the city. In the MacArthur Highway corridor, which stretches from Downtown to Telabastagan, these projects, undertaken by both local and private companies, are located.

1.4 OBJECTIVES OF THE STUDY

- *General Objective*

This study aims to evaluate the impacts of construction-related disputes in the construction industries within the city of San Fernando, Pampanga, and create an action plan based on existing alternative dispute resolution methods.

- *Specific Objectives*

This study aims to identify the existing construction-related disputes of the construction firms within the city of San Fernando; to classify disputes according to their type, severity, relative frequency; and to create an action plan using the alternative dispute resolution methods.

1.5 Statement of the Problem

This research paper seeks to answer the following statements:

- What are the different types of disputes and how frequent do they occur in construction project within the City of San Fernando, Pampanga?
- How may the severity of disputes in construction projects within the City of San Fernando Pampanga be evaluated in terms of:
- budget loss,
- project time delay,
- project quality, and
- overall severity?

1.6 Significance of the Study

The findings of this study are intended to benefit the following:

Construction Firms. This study may help as an effective mechanism for resolving construction-related disputes in the construction industry. Also, it will help them to be knowledgeable enough in engaging contracts that involve disputes and in reaching prompt decisions easily. Consequently, with this proposed action plan, efficiency in the workplace can significantly improve as the time taken up in managing these disputes will lessen. Furthermore, construction firms can gain the benefit of utilizing alternative dispute methods as it is acknowledged that disputes in a workplace cannot be taken away in an environment where several elements or factors come into play. These methods can serve as a guide on how they can handle their future problems in relation to this study. In other words, construction firms can handle disputes in a systematic approach wherein they can tackle the problems or issues in predefined and repeatable steps.

Construction Projects. The focus of this research will be the disputes that occur in construction projects. The individuals who have firsthand experience with these types of disputes on a construction project will provide the facts and information. The findings of the study, which can be used for future purposes, will directly benefit construction projects after it is completed. The action plan will work as a roadmap for settling specific conflicts without the need for time-consuming and costly litigation.

Construction Professionals and Clients. The study will be beneficial to construction professionals for it will serve as a guide when encountering disputes

within their field of work. Furthermore, they may also come up with a plan on how to handle disputes and possibly prevent them or mitigate their occurrence. Clients may use the study to be aware of the possible ADR methods without the use of court trials to save time and money.

Local Government Unit in the City of San Fernando, Pampanga. The study will be beneficial to the local government unit as a reference to provide a valuable insight and recommendation on how to effectively implement alternative dispute resolution techniques in resolving disputes. This can result in improving relationships with citizens, cost and time saving, and also improved reputation, and compliance with state and federal laws.

Future Researchers. As a result of this study, future researchers can be better analysts and will serve as a reference for future studies in construction management. It is intended to provide future researchers with a better understanding of the construction management process. The ideas presented may be utilized as reference data in conducting a study of resolution plans and testing the effectiveness of other related conclusions. As well as providing them with background or an overview of the Alternative Dispute Resolution Plan for construction-related disputes, this study will also serve as a cross-reference.

1.7 Scope and Limitations

This study is limited to identifying frequently occurring disputes, evaluating the resolution methods, and creating an action plan based on alternative dispute resolution (ADR). The researchers have determined that the locale boasts the highest number of disputes within the province, it is necessary to determine its overall relation within the entirety of the system which is the Philippines. However, due to the time constraints, the researchers were not able to gather the data regarding the percentage of disputes of the locale in terms of overall number of disputes within the Philippines. This study only focused on the most commonly used ADRM dictated within the Republic Act No. 9285 of the Philippine Constitution, specifically, negotiation, mediation and arbitration. The study focused solely on construction project-related disputes which did not require litigation. Disputes happening around managerial offices and clients' personal interests are excluded. Disputes that are currently happening at the time of data collection will not be included. A formulated survey and interviews were handed out to the respondents and the results were used to generate a statistical approach for the evaluation.

The time frame within this study started from the first semestral up to the second semestral, hence, the existing methodology is due to the capability of the researchers and the attainability of the data and information to withstand the given situation.

The City of San Fernando, Pampanga has been selected as the focus of this study due to its vibrant construction industry, characterized by a multitude of ongoing projects led by both local and private companies. These construction activities have provided an opportunity to explore the various construction-related disputes that may arise within the region. Given the constraints of limited financial resources and a time framework

1.8 Conceptual Framework

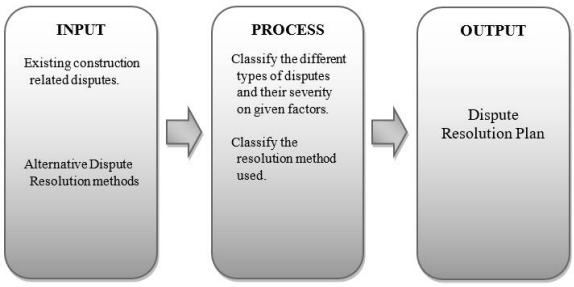

Figure 2. Conceptual Framework

The paradigm consists of the conceptual framework that shows the input-process-output model of the study. The input frame contains the main variables and data needed for the output of the study. The process frame shows the three crucial processes which will be applied to the data-gathering procedure. The output frame contains the expected outcome of the study which is an action plan for existing construction disputes in the study area.

The input process includes the existing construction-related disputes that are the primary data needed for the study. Existing ADR methods are also needed to

create the resolution plan. These are the primary components of the study.

The process will be the steps that will be needed for formulating the action plan. It includes classifying disputes and ranking them to each severity factor and identifying if a dispute was resolved by litigation or any other resolution method.

The output will be the results of disputes existing in the city of San Fernando, ranking each dispute based on the severity of time, budget, quality, and overall severity, and proposing the proper ADR methods to avoid litigation in resolving each dispute.

1.8 Definition of Terms

To gain a practical understanding of the research study, it is essential to comprehend the conceptual and theoretical significance of the following terms:

Action plan - A document or checklist that used to define the sequential actions or tasks required to accomplish the goals an individual has established.

Alternative Dispute Resolution (ADR) - Refers to various methods used to resolve disputes outside of the traditional courtroom litigation.

Arbitration - Describes a method of resolving conflicts known as alternative dispute resolution, wherein the involved parties agree to present their case to a competent arbitrator outside of a courtroom setting.

Arbitrator - An individual selected to resolve conflicts and make decisions based on facts, especially someone with formal authority in settling disputes. The arbitrator's role is to review and assess evidence, hear the arguments of the parties involved, and then make a decision, known as an arbitral award, which is often legally binding and enforceable.

Arbitration Clause - An arbitration clause is a contractual provision that mandates parties to settle their disputes using arbitration rather than pursuing litigation in a court of law.

Consensus - Consensus is a process of decision-making in which a group of people work together to reach an agreement that is acceptable to everyone or most members of the group.

Construction firms - This is a business enterprise concerned with the construction of buildings, bridges, etc.

Construction Industry Arbitration Commission - The Construction Industry Arbitration Commission (CIAC) is a specialized arbitration body in the Philippines that settles disputes in the construction industry. It was created in 1985 and is managed by the Department of Trade and Industry. The CIAC promotes arbitration to resolve construction disputes and has its own rules and procedures. It hears and decides disputes related to construction contracts and its decisions are final and enforceable in court.

Contractor - An individual or organization that coordinates the provision of materials or labor for construction or transportation purposes.

Disputants - Disputants are individuals or groups who are involved in a disagreement, conflict, or dispute with each other. They may have different perspectives, opinions, interests, or goals, and they may seek to resolve their differences through negotiation, mediation, arbitration, or other forms of dispute resolution.

Dispute - A dispute or conflict, particularly an official one, that can occur between various parties such as employees and employers or neighboring countries. These disputes often lead to legal actions such as arbitration, mediation, or lawsuits.

Hearing - A court proceeding, commonly known as a hearing, refers to a formal session where specific legal matters are addressed before a full trial or during specialized proceedings like administrative hearings. During a hearing, evidence and arguments are presented to establish facts or both facts and laws. In criminal law, a preliminary hearing, conducted by a judge without a jury, determines if the prosecutor has provided enough evidence to proceed with the case.

Litigation - Litigation is the act of bringing a dispute to a court of law. When parties cannot reach a mutually acceptable resolution, they present their arguments to

the court for a judgment. It is a comprehensive term that encompasses a lengthy and occasionally intricate process.

Mediation - Mediation refers to the act or procedure of facilitating discussions and negotiations between parties, often with their consent or invitation, in order to achieve a peaceful resolution of conflicts or differences, whether among individuals or nations. It involves a friendly and diplomatic intervention aimed at finding common ground and fostering mutual understanding.

Mediator – They assist disputants in working together to craft a resolution that each side values. The mediator does not make decisions on behalf of the parties or impose a solution but instead helps them explore their issues, identify possible solutions, and ultimately reach their own agreement.

Negotiation - It is a collaborative and interactive process in which two or more negotiators or parties engage with each other to discover shared objectives and reach a mutually agreeable resolution. The aim is to establish an agreement that all parties involved are willing to honor.

Binding and Non-Binding agreement - A non-binding contract is a mutual agreement in which the parties involved do not have a legal obligation to fulfill the specified terms. These contracts serve to express the parties' intentions during the negotiation phase. If both parties agree to the terms outlined in a non-binding contract, they can proceed to sign a legally binding contract thereafter. Additionally, there are other circumstances where a contract may be considered non-binding.

Severity - Severity refers to the level of hardness or intensity associated with a particular entity. It is commonly used in a negative context to indicate the seriousness or harshness of the impact caused by an event. The severity rate serves as a widely adopted measure for companies to assess safety standards within their organization

II. METHODOLOGY

This chapter includes the research design, research locale, and sampling technique, the instruments used in data gathering, the data collection procedure, and the statistical and qualitative analysis of the data collected.

2.1 Phase 1 – Methodological Framework

- *Research Design*

A Mixed Method Design was used as both Quantitative and Qualitative approaches were deemed best needed for this study. In order to enhance comprehension of the research issue, the mixed method involves a systematic approach of collecting, analyzing, and combining quantitative and qualitative data within a single study at various stages of the research process. (Tashakkori and Teddlie 2003; Creswell 2005).

The researchers prioritized the results from the quantitative design as the main objective was to provide an action plan based on statistical facts, supported by qualitative design to help explain or elaborate on the quantitative results obtained. In accord with Creswell (2003), through a more comprehensive review of participants' views, the qualitative data and their interpretation improved and clarified those statistical findings.

Using the quantitative design, the researchers collected numerical and quantifiable data from structured survey questionnaires as the inquiry was conducted in an unbiased, objective manner. As for the qualitative research questions, the collected data from structured interviews were used to shape the quantitative results that needed further exploration.

As for the philosophical approach of this research, both positivism and constructivism were adopted. In this respect, Subedi, D. (2016) said that while constructivists advocated a qualitative approach to constructing the meaning of the phenomenon under study, positivists took a quantitative approach to state reality in the world

- *Respondent Sampling*

The researcher conducted an online and face-to-face survey and interview with professionals with

experience in construction projects in the City of San Fernando, Pampanga. Participants included any engineering department officers involved in disputes within their past construction projects. Sample size calculator was used to determine the required sample size with a confidence level of 95%. The Raosoft sample size calculator was used, resulting in a required sample size of 377 to represent the population with a specific margin of error.

Convenience sampling was used to draw statistical conclusions about the population. This non-probability sampling technique involves selecting units for the sample based on how easily accessible they are to the researcher. The selection of units may be based on their proximity to the research site, their availability during a specific timeframe, or their willingness to participate in the study. This sampling technique is not considered random, and it is also referred to as unintentional sampling

- *Research Locale*

This research was carried out in the city of San Fernando, Pampanga. According to the Philippine Statistics Authority or PSA, by the year 2020, among the 81 provinces in the Philippines, Pampanga was among the top 5 highly urbanized provinces with an urbanization rate of 75%. The capital of the province, the city of San Fernando, majorly contributes to the high urbanization rate. In recent years, the city has experienced noteworthy economic expansion, characterized by the establishment of innovative business and commercial areas, reputable educational institutions, and efficient transportation hubs. It has gained recognition as one of the most promising emerging cities in the Philippines, as acknowledged by Lamudi, a leading real estate portal. There are a number of construction projects in the city, which are managed by local and private companies, which as to why the researchers selected this city as its subject area for the study. Upon the collection of data from the local government unit of City of San Fernando, the researchers determined that there are different types of disputes that arise within the location. Based on the current report, there is no specific plan to deal with these types of disputes in the construction projects nor an organization that can manage this type of dilemma. It is also where the interviews with the respondents took place.

- *Research Instruments*

The researchers used survey questions followed by structured interviews to compile the information required for this study's result analysis. To guarantee the quality and remove prejudice and enmity in the techniques, these instruments will go through validations and research consultant approval.

Survey Questionnaires. For the quantitative component of this study, data and documents were acquired through the completion of survey questions. The researchers used survey questionnaires to gather data. The questionnaires included disputes that were discovered by relevant studies. The respondents chose the disputes that come up regularly. Based on their responses, the respondents rated the severity of the selected disputes. The questionnaires also included permission or a request for an interview. The respondents who accepted the consent terms participated in the data collection.

Structured Interviews. Structured interviews were used for the qualitative component of the study. The researchers focused on the effects of the dispute on budget, time, and project quality by collecting relevant questions. The structured interview included questions about the respondents' dispute-resolution strategies. Finally, the researchers analyzed their findings and developed an action plan based on the results.

2.2 Phase 2 – Data Collection

This research was conducted through a face-to-face and online survey and interview setting to collect data efficiently.

The researchers formulated self-made questionnaires for surveys and interviews, which were reviewed and validated by a psychometrician and a project manager. The researchers contacted the local government unit (LGU) in San Fernando, Pampanga, to obtain a list of all construction firms operating in the city. The respondents for the study were professionals who had prior experience with disputes related to construction projects. The researchers scheduled face-to-face/online surveys and interviews with the respondents at an agreed time and date. After collecting both qualitative and quantitative data, the information gathered was tabulated and analyzed.

To maintain the validity and accuracy of the study, the researchers also used recent and previous research and studies that were similar to the researchers' study.

- *Research Ethics*

The researcher created a non-disclosure agreement (NDA) since the topic was sensitive to discuss. An NDA was provided, including the confidentiality of the company names and restricted responses gathered in the interviews and survey questionnaires. The researchers did not conduct surveys and interviews without the respondents' data privacy agreement and consent.

The authors of the relevant related literature and studies were properly credited using the American Psychological Association (APA).

2.3 Phase 3 – Data Analysis and Evaluation

The data gathered were divided into three phases, the quantitative data, the qualitative data, and the formulation of the action plan.

- *Quantitative Data*

DISPUTES	
A: Designer-related	**A1**: Time limitation in the design phase
	A2: Poor design
	A3: Inadequate or incomplete technical plans/specification
	A4: Poor preparation and approval of drawings
	A5: Material change and approval during the construction phase
B: Owner-related	**B1**: Slowness of the owner's decision-making process
	B2: Inadequate early planning of the project
	B3: Failure to make interim awards on extensions of time and compensating by the owner
	B4: Variations initiated by the owner (additive/deductive)
	B5: Poor Financing by the owner
C: Contractor-related	**C1**: Low financing by the contractor during construction
	C2: Shortage and unproductive workers
	C3: Inadequate site investigation
	C4: Poorly defined scope of work
	C5: Poor supervision and site management
	C6: Unsuitable leadership style of construction/project manager
	C7: Underestimation and incompetence of contractors
D: Contractual	**D1**: Poorly written contracts.
	D2: Differing Site Conditions
	D3: Contract Amendments
	D4: Contradictory and inaccurate information in the contract documents
E: Others	**E1**: Obtaining Permit/Approval from the municipality/different government authority
	E2: Modifying legislation and regulations
	E3: Inappropriate weather conditions
	E4: Impact on locality in terms of noise, traffic, and pollution/contamination
	E5: Lack of communication and coordination between parties during construction
	E6: Impact of local cultures and social values in the settlement of conflicts

Table 1. List of disputes with categories

The table above shows the list of disputes used in the data collection. A study by El-Sayegh et al. (2020) compiled the most occurring disputes taken from different related literature. Severity levels was measured in terms of time, budget, quality, and overall severity.

The data gathered from the survey were classified, organized, and tabulated through the use of a Spreadsheet program. According to Juluru, K. (2015) Spreadsheets are a typical tool for data sharing between statisticians and researchers. They are also commonly used for data sharing between statisticians and researchers. The frequency of the disputes was calculated using Relative Frequency. For the severity factors, respondents were required to rank each factor on a 4-point scale.

RATING	INTERPRETATION
1	Little Severity
2	Moderate Severity
3	Great Severity
4	Extreme Severity

Table 2. Severity Interpretation

The disputes were assessed and ranked on each respective factor using the Relative Importance Index (RII) technique. The RII is a method employed to determine the relative significance of the quality factors under consideration (Azman N., 2019). The RII formula, as stated by Rajgor, is utilized for this purpose:

$$RII = \frac{\Sigma W}{(A \times N)}$$

The weighting assigned to each factor by the respondents (ranging from 1 to 4) is denoted as W. The highest weight, represented by A (which is 4 in this case), is used as a reference. N represents the total number of respondents. The significance of a dispute on a specific factor is determined by the value of RII, where a higher RII value indicates greater importance.

- *Qualitative Data*

The interviews collected were transcribed using narrative analysis. The researchers understood how construction firms resolved their disputes. Narrative analysis pertains to a group of analytical techniques utilized for interpreting texts or visual data that

possess a narrative structure (Wright, 2015). The researchers focused on the stories and narratives provided by the interviewees, examining the ways in which the interviewees framed their experiences and constructed their narratives, paying attention to the resolution method used, events, and plot points to comprehend their experiences. The resulting data from the interviews were the basis of the alternative dispute resolution method that will be applied.

- *Action Plan*

The action plan consists of a step-by-step procedure when dealing with disputes. This includes the considerations and initial actions in the event of a dispute arising. The researchers used the three (3) most common ADR methods namely: Negotiation, Mediation, and Arbitration. A table with the summary of the ranked disputes is also provided which will serve as a guide for the disputants when considering dispute severity.

III. RESULTS AND DISCUSSIONS

In this chapter, the study findings were presented and discussed, taking into account the objective of the study.

3.1 Quantitative Result Analysis

The following tables show the compiled disputes taken from the study of El-Sayegh et al. (2020). These disputes were rated by the research respondents with respect to the severity factors of time, budget, quality and their overall severity. The relative frequency of the respondents is shown in percentage. The ratings were ranked based on the dispute's Relative Importance Index of each category and their corresponding factor.

- *Time Delay*

Dispute	Rel Frq	RII	Rank
Time limitation in the design phase	100.00%	0.686	1
Underestimation and incompetence of contractors	95.76%	0.681	2
Material change and approval during the construction phase	99.50%	0.674	3
Variations initiated by the owner (additive/deductive)	98.50%	0.660	4
Slowness of the owner's decision-making process	99.00%	0.657	5
Inadequate or incomplete technical plans/specification	99.25%	0.657	6
Shortage and unproductive workers	97.51%	0.650	7
Low financing by the contractor during construction	97.51%	0.648	8
Poor preparation and approval of drawings	99.75%	0.633	9
Obtaining Permit/Approval from the municipality/different government authority	99.00%	0.632	10
Poor design	98.75%	0.632	11
Poorly defined scope of work	95.51%	0.632	12
Contradictory and inaccurate information in the contract documents	96.76%	0.627	13
Poor supervision and site management	95.76%	0.626	14
Inappropriate weather conditions	99.00%	0.623	15
Inadequate site investigation	97.01%	0.620	16
Inadequate early planning of the project	97.76%	0.615	17
Unsuitable leadership style of construction/project manager	96.01%	0.614	18
Lack of communication and coordination between parties during construction	99.25%	0.613	19
Impact on locality in terms of noise, traffic, and pollution/contamination	97.76%	0.607	20
Poor Financing by the owner	99.00%	0.606	21
Poorly written contracts.	97.51%	0.605	22
Failure to make interim awards on extensions of time and compensating by the owner	97.76%	0.597	23
Differing Site Conditions	97.51%	0.572	24
Impact of local cultures and social values in the settlement of conflicts	97.76%	0.570	25
Modifying legislation and regulations	98.00%	0.563	26
Contract Amendments	97.26%	0.537	27

Table 3. Disputes ranked by their severity in the time delay factor.

Table 3 shows that the most severe dispute in the construction industry on a time delay factor, is the time limitation in the design phase. This is also derived from a study conducted by El-Sayegh and his team in 2020, where they examined the causes and methods of resolving construction disputes in the UAE.

Underestimation and incompetence of contractors is the second most severe dispute as shown in the table. This primarily occurred due to the underestimation of project costs, time, or complexity, which resulted in disputes arising between the contractor and the client, particularly if the project is delayed. Incompetence of the contractor, such as a lack of experience, knowledge, or skill, can also lead to disputes if the quality of work is subpar or if the contractor is unable to complete the project as per the specifications. This statement is supported by the Article "Resolving Problems and Disputes on Construction Projects: Tackling Contract Performance Delays" by Lorman Education in the year 2018.

The table also showed that the third most severe dispute is material change and approval during the construction. According to a study by the Construction

Industry Institute (CII), material-related delays in construction projects are included in the top five disputes that cause delays. The study, titled "Causes and Effects of Construction Project Delays in Nigerian Construction Industry," found that material-related delays accounted for 20% of all delays in the projects analyzed.

- *Budget Loss*

Dispute	Rel Frq	RII	Rank
Low financing by the contractor during construction	96.51%	0.693	1
Material change and approval during the construction phase	98.50%	0.679	2
Variations initiated by the owner (additive/deductive)	98.00%	0.666	3
Poor Financing by the owner	98.00%	0.665	4
Shortage and unproductive workers	97.26%	0.646	5
Inadequate site investigation	96.51%	0.623	6
Time limitation in the design phase	99.00%	0.622	7
Underestimation and incompetence of contractors	95.51%	0.619	8
Slowness of the owner's decision-making process	98.25%	0.614	9
Poor supervision and site management	95.51%	0.612	10
Impact on locality in terms of noise, traffic, and pollution/contamination	97.51%	0.604	11
Inadequate or incomplete technical plans/specification	98.50%	0.601	12
Poorly defined scope of work	95.26%	0.600	13
Poor design	98.50%	0.600	14
Poor preparation and approval of drawings	98.50%	0.598	15
Inappropriate weather conditions	98.75%	0.591	16
Lack of communication and coordination between parties during construction	99.25%	0.590	17
Failure to make interim awards on extensions of time and compensating by the owner	97.26%	0.588	18
Unsuitable leadership style of construction/project manager	96.01%	0.586	19
Inadequate early planning of the project	98.25%	0.581	20
Contradictory and inaccurate information in the contract documents	96.26%	0.576	21
Obtaining Permit/Approval from the municipality/different government authority	98.50%	0.574	22
Impact of local cultures and social values in the settlement of conflicts	97.01%	0.559	23
Poorly written contracts.	97.01%	0.551	24
Differing Site Conditions	96.76%	0.528	25
Contract Amendments	95.76%	0.510	26
Modifying legislation and regulations	97.76%	0.483	27

Table 4. Disputes are ranked by their severity in their budget loss factor.

The table 4 above indicates the list of disputes and the percentage of respondents who rated them according to their severity in terms of the budget loss factor. The table indicates that the dispute that was ranked as the most severe was "Low financing by the contractor during construction.", which was rated by 96.51% of the respondents. In similar studies, it shows that the said dispute is dependent on the project cash's flow for repayment and plays a significant role that directly affects ensuring that the company objectives are compatible with its resources.

Followed by "Material change and approval during the construction phase "which was rated by 98.50% of the respondents. According to a relevant study and interviews with respondents, it was found that the absence of a proper mechanism for processing and assessing change orders impacted the payment of direct costs, indirect costs, and productivity losses linked to such changes.

Third from the list is the "Variations initiated by the owner (additive/deductive)" which was rated by 98% of the respondents. In reference to prior studies conducted by Hassanein and El Nemr (2007), due to the cost estimates included in the variations, it has a significant impact, and all participants would be worked upon to change them if they have materialized it. Also, the contractor provided coverage when additional payment was not included in the contract price to account for overhead costs, despite exceeding the maximum limit of variations outlined in the contract

- *Project Quality*

Dispute	Rel Frq	RII	Rank
Low financing by the contractor during construction	97.01%	0.684	1
Material change and approval during the construction phase	99.00%	0.660	2
Variations initiated by the owner (additive/deductive)	98.75%	0.656	3
Time limitation in the design phase	98.75%	0.654	4
Poor design	98.50%	0.648	5
Poor supervision and site management	96.01%	0.645	6
Inadequate or incomplete technical plans/specification	98.75%	0.642	7
Inadequate site investigation	96.26%	0.641	8
Unsuitable leadership style of construction/project manager	96.01%	0.636	9
Poorly defined scope of work	95.51%	0.632	10
Shortage and unproductive workers	96.76%	0.631	11
Poor Financing by the owner	98.25%	0.627	12
Poor preparation and approval of drawings	98.50%	0.625	13
Slowness of the owner's decision-making process	98.50%	0.616	14
Impact on locality in terms of noise, traffic, and pollution/contamination	97.76%	0.605	15
Underestimation and incompetence of contractors	95.51%	0.604	16
Failure to make interim awards on extensions of time and compensating by the owner	97.76%	0.597	17
Lack of communication and coordination between parties during construction	98.75%	0.588	18
Inadequate early planning of the project	98.75%	0.585	19
Inappropriate weather conditions	98.50%	0.573	20
Impact of local cultures and social values in the settlement of conflicts	97.51%	0.558	21
Contradictory and inaccurate information in the contract documents	96.01%	0.553	22
Obtaining Permit/Approval from the municipality/different government authority	98.00%	0.525	23
Poorly written contracts.	96.26%	0.523	24
Differing Site Conditions	96.51%	0.515	25
Contract Amendments	96.01%	0.499	26
Modifying legislation and regulations	97.76%	0.498	27

Table 5. Disputes ranked by their severity in the project quality factor.

Table 5 presents the severity of disputes affecting project quality that was evaluated by the respondents, and it was found that "Low financing by the contractor during construction" was the most severe dispute, with a rating of 97.01%. Previous study shows that one of the most occurring disputes in construction industry

was low financing by the contractor and according to their study, the term "contractor" is often associated with failure since the contractors' decisions and practices can impact project quality, such as the selection of a low bidder, which may lead to poor performance in projects.

The next most severe dispute presented in the table is "Material change and approval during the construction phase," rated by 99.00% by the respondents. According to one of the respondents, sudden changes in materials and approving the new materials without prior notice can create uncertainty about the materials' quality. This, in turn, can negatively impact project quality.

The third item on the list is "Variations initiated by the owner (additive/deductive)," which received a rating of 98.75% from respondents. During the examination of a change order, it was crucial to evaluate its impact on the scope, schedule, and quality of the project.

Quality refers to how closely the project adheres to the required standards and specifications. Therefore, ensuring that any change orders do not adversely affect the project's quality is crucial. To evaluate the impact of a change order, you should consider how it affects the project's tasks, deliverables, and requirements and any potential effects on its performance, functionality, and aesthetics. Furthermore, you should assess whether the change order lengthens, shortens, or alters any deadlines, durations, or dependencies to maintain the project's quality.

- *Overall Severity*

Dispute	Rel Frq	RII	Rank
Low financing by the contractor during construction	96.51%	0.708	1
Time limitation in the design phase	98.50%	0.676	2
Variations initiated by the owner (additive/deductive)	98.75%	0.673	3
Poor supervision and site management	96.51%	0.671	4
Material change and approval during the construction phase	98.50%	0.671	5
Poor design	99.00%	0.665	6
Inadequate or incomplete technical plans/specification	98.50%	0.656	7
Inadequate site investigation	96.26%	0.655	8
Slowness of the owner's decision-making process	98.75%	0.653	9
Unsuitable leadership style of construction/project manager	96.26%	0.650	10
Poor Financing by the owner	98.75%	0.648	11
Poorly defined scope of work	96.51%	0.643	12
Poor preparation and approval of drawings	99.25%	0.641	13
Shortage and unproductive workers	97.51%	0.636	14
Failure to make interim awards on extensions of time and compensating by the owner	99.00%	0.611	15
Underestimation and incompetence of contractors	96.01%	0.604	16
Inadequate early planning of the project	99.00%	0.603	17
Lack of communication and coordination between parties during construction	99.00%	0.603	17
Impact on locality in terms of noise, traffic, and pollution/contamination	97.76%	0.598	19
Impact of local cultures and social values in the settlement of conflicts	82.54%	0.597	20
Inappropriate weather conditions	98.75%	0.581	21
Contract Amendments	96.26%	0.523	22
Contradictory and inaccurate information in the contract documents	96.01%	0.521	23
Poorly written contracts.	97.01%	0.521	24
Obtaining Permit/Approval from the municipality/different government authority	98.75%	0.517	25
Modifying legislation and regulations	97.76%	0.511	26
Differing Site Conditions	97.01%	0.507	27

Table 6. Disputes ranked by their severity in the overall severity factor.

Table 6 shows the list of disputes and the percentage of respondents who assessed them in terms of their overall severity. According to the table, the most severe dispute was "Low financing by the contractor during construction" which was rated by 96.51% of the respondents. Adequate financing was essential for the progress of a project, and the expenses associated with securing sufficient funds could be substantial. Therefore, paying attention to project finance was a crucial factor in construction projects. Other entities involved in the project, including the general contractor and material suppliers, also had concerns regarding finance. Due to the low financing of the contractor, conflict will arise between the owner and project contractor in view of the lack of financial support during construction, as stated in the article by Hendrickson C. (2013).

Second from the list is "Time limitation in the design phase" which was rated by 98.50% of the respondents. Gunduz (2022) stated that conflict arose when the project designer provided a subpar or incomplete design. Such a deficient design plan was anticipated to result in inaccurate project deliverables during the construction phase. Any efforts to rectify the design

errors would restrict the construction process, leading to delays and cost overruns. In the most severe instances, it could even jeopardize the overall structural integrity of the project, incurring significant expenses and consuming more time.

Third from the list is the "Variations initiated by the owner (additive/deductive)" which was rated by 98.75% of the respondents. The owner's variations frequently served as grounds for disputes among contractors, arising from discrepancies in bills of quantities, drawings, or specifications. Dealing with these variations resulted in significant time and financial expenses throughout the construction process. As mentioned by Chichani S. et al. (2021), variations could necessitate modifications to the project's completion date and lead to delays in cost.

3.2 Qualitative Result Analysis

The process of dispute resolution is a crucial aspect of maintaining healthy relationships, whether in personal or professional settings. According to the Dispute Mechanism in the Philippines, currently, there are three types of alternative dispute resolution methods being used within the country which were negotiation or conciliation, mediation, and arbitration. The analysis of interview transcripts conducted on project professionals further illuminated how they had previously resolved their past disputes, with each of these methods offering a viable solution to the various disputes encountered and their respective nuances.

- *Negotiation*

The main reason of the respondents for choosing negotiation is because it does not consume much of the project's resources. Some respondents said that conserves the projects budget and it is the most ideal way of resolving disputes. Resolving disputes in a project does not require any other party to be involved as communication is sufficient to reach an agreeable outcome.

According to the respondents, negotiation can be a practical and cost-effective method in resolving simple disputes with smaller financial implications, particularly in cases where both parties are willing to communicate and find a mutually agreeable solution. Therefore, internal agreements or negotiation between the parties should be considered as the first course of action when a dispute arises, as direct communication can prevent the matter from escalating into a larger and costlier problem. However, in the event that disputes were not resolve through negotiation should only by then a third party either mediation or arbitration is needed.

- Third-Party Mediation/Arbitration

Disputes can also occur in different governmental projects which can affect mostly the time and budget of the project.

According to the respondents, there are established mechanisms for resolving disputes in government organizations, including third-party mediation or arbitration, and that negotiation is preferred when senior officials are involved. Upon data collection in the private construction firms within the City of San Fernando, the researchers identified that the mediators are the witnesses of the disputes that exist within certain timeframes.

The complexity of the dispute can also contribute to the consideration of the right and effective method to use. These disputes will depend whether how and what factors in the construction project will be affected.

A respondent stated that there are simple disputes where negotiation is the best way to resolve. However, there are also complicated disputes wherein it requires the need for arbitration, which is more structured than mediation and involves a neutral third party acting as a judge whose decision is binding on both parties. Going to court should be the last resort as it is time-consuming, expensive, and makes everything a matter of public record. It is better to opt for mediation or arbitration, which ensures that all sensitive commercial information is kept confidential. In the terms of the locale, the researchers have determined that the public construction firms rely on arbitration to resolve their respective disputes.

3.3 Action Plan

Based on the findings of the quantitative and qualitative phase, this research presents an action plan diagram that outlines the procedures to be followed in different Alternative Dispute Resolution (ADR) methods. The diagram highlights the steps involved in

each alternative dispute resolution method, ensuring an organized and efficient dispute resolution process for parties involved in construction project conflicts. Furthermore, a tabular inventory of the classifications of disputes (refer to 3.3.1) is also incorporated.

- *Classification of Disputes*

After gathering various disputes within the locale, a tabulation methodology is employed to categorize each datum based on its effect on diverse factors, including time delay, budgetary loss, quality, and overall severity.

LIST OF DISPUTES	RANKING OF DISPUTES (1-27) 1 = MOST SEVERE, 27 = LEAST SEVERE			
	FACTORS			
	TIME DELAY	BUDGET LOSS	PROJECT QUALITY	OVERALL SEVERITY
A1: Time limitation in the design phase.	1	7	4	2
A2: Poor design.	11	14	5	6
A3: Inadequate or incomplete technical plans/specification.	6	12	7	7
A4: Poor preparation and approval of drawings.	9	15	13	13
A5: Material change and approval during the construction phase.	3	2	2	5
B1: Slowness of the owner's decision-making process.	5	9	14	9
B2: Inadequate early planning of the project.	17	20	19	17
B3: Failure to make interim awards on extensions of time and compensating by the owner.	23	18	17	15
B4: Variations initiated by the owner (additive/deductive).	4	3	3	3
B5: Poor financing by the owner.	21	4	12	11
C1: Low financing by the contractor during construction.	8	1	1	1
C2: Shortage and unproductive workers.	7	5	11	14
C3: Inadequate site investigation.	16	6	8	8
C4: Poorly defined scope of work.	12	13	10	12
C5: Poor supervision and site management.	14	10	6	4
C6: Unsuitable leadership style of construction/project manager.	18	19	9	10
C7: Underestimation and incompetence of contractors.	2	8	16	16
D1: Poorly written contracts.	22	24	24	24
D2: Differing site conditions.	24	25	25	27
D3: Contract amendments.	27	26	26	22
D4: Contradictory and inaccurate information in the contract documents.	13	21	22	23
E1: Obtaining permit/approval from the municipality/different government authority.	10	22	23	25
E2: Modifying legislation and regulations.	26	27	27	26
E3: Inappropriate weather conditions.	15	16	20	21
E4: Impact on locality in terms of noise, traffic, and pollution/contamination.	20	11	15	19
E5: Lack of communication and coordination between parties during construction.	19	17	18	17
E6: Impact of local cultures and social values in the settlement of conflicts.	25	23	21	20

Table 7. Classification of Disputes

Table 7 shows the different disputes that are classified under different factors, such as items A1-A5 are classified as designer-related, items B1-B5 are owner-related, items C1-C7 being contractor-related, and items D1-D4 being contractual disputes. For other factors not specifically stated are items E1-E6. These

disputes are then ranked from the most severe to least severe depending on several aspects, namely, time delay, budget loss, project quality, and overall severity. The most severe is given a ranking of one (1) while the least severe is given a ranking of twenty-seven (27).

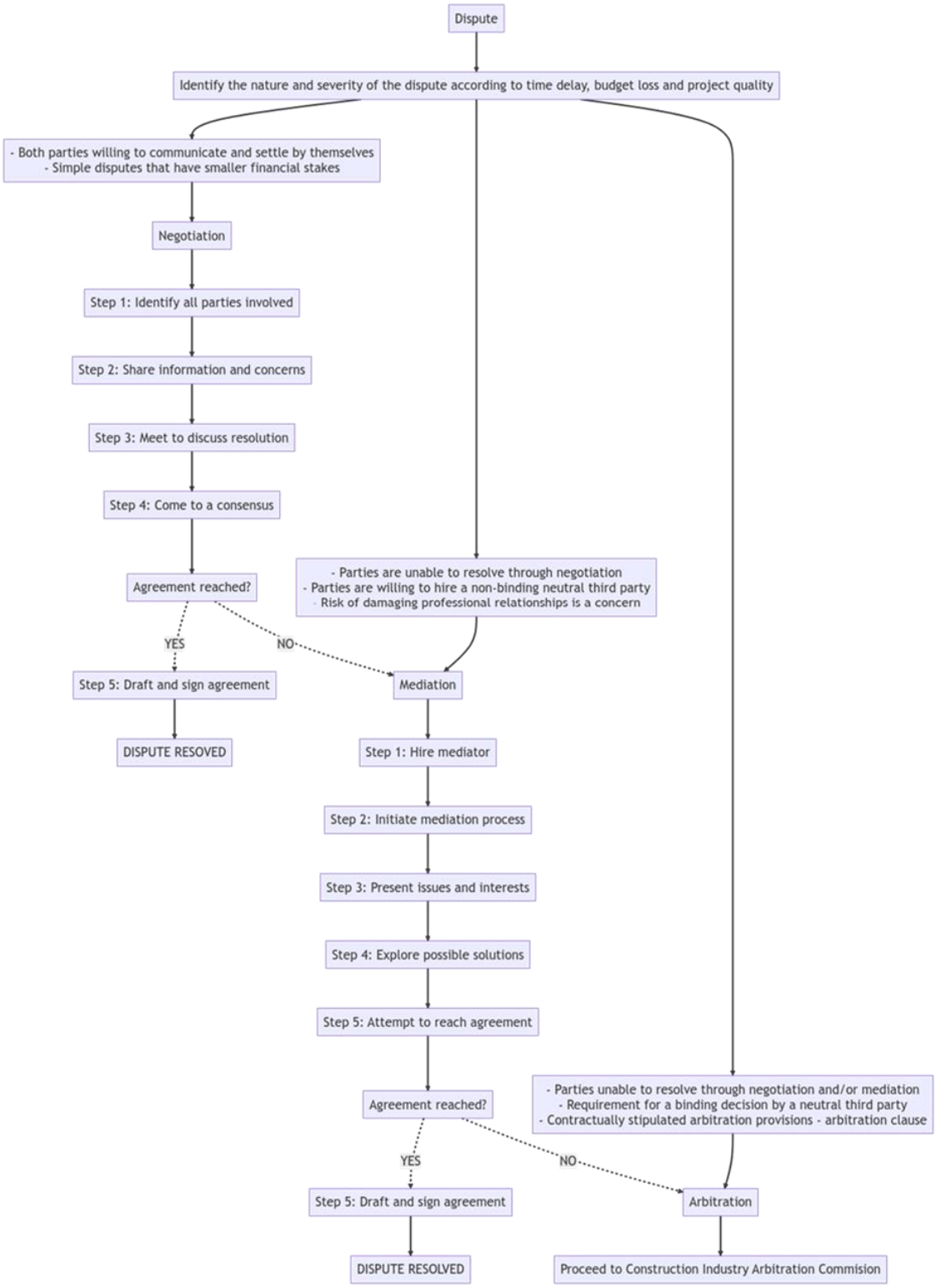

Figure 3. Formulated Action Plan of ADRM in the Construction Industry

The action plan begins by identifying the nature and severity of the dispute which can then be guided by the provided in Table 7, classification of disputes. As the ADR methods have different approaches and conditions on which they can be applied, these methods can be utilized as it meets the proper condition into which their corresponding dispute is classified. The following conditions were based from the results of the qualitative analysis of the responses gathered in the structured interviews and supporting related literatures.

The corresponding ADR methods show no dependency on each of the methods as they can be utilized without the need to resort to the previous method.

Negotiation is the viable ADRM in scenarios where disputants are willing to communicate with each other and settle with one another for resolution. Furthermore, disputes where there is only a small financial stake for both parties, this method is also considered. The process begins with the identification of all responsible parties involved in the dispute. Subsequently, both parties must disclose all relevant information, concerns, and ideas related to their respective dispute. This creates a transparent platform and enhances cooperation between the parties. The information gathered is analyzed, and both parties agree on a specific date and time to discuss and resolve the dispute by reaching a consensus. Upon successful resolution of the matter, a draft agreement is created and signed by the concerned parties to signify their compliance with its details. In case both parties fail to resolve the dispute, the next ADR method is considered.

Mediation is the preferred method when faced with a scenario where both parties are willing to cooperate and find a mutual resolution, and/or there is a risk of damaging professional relationships. The mediation process commences by selecting a mediator who is qualified to intervene in disputes between the responsible parties. Several procedures are then followed in the mediation process, including introduction, opening statements, joint discussions, private caucuses, negotiation, and agreement. In the mediation process, each party presents their grievances and interests to create a shared understanding of the dispute. The mediator facilitates discussions to explore possible solutions and compromises to the dispute, and the parties then agree on a resolution. Upon reaching an agreement, the parties involved in the dispute are expected to sign the agreement and abide by its terms. In case both parties, with the mediator's help, cannot reach a mutual understanding or agreement, the next ADR method is considered for resolution.

In terms of arbitration, the necessary conditions are where disputants failed to resolve their dispute though negotiation and mediation or requires a non-binding decision of a neutral third party. As for contracts, the inclusion of a stipulated arbitration provisions enables the use of the said ADRM. The initial step in pursuing arbitration is to submit a proposal to the Construction Industry Arbitration Commission for analysis and resolution of the dispute through the arbitration process.

IV. CONCLUSION AND RECOMMENDATIONS

4.1 Conclusion

This study evaluated the varying impact of construction-related disputes to several elements within the construction companies of the locale. As such, the researchers isolated the detrimental aspects that these disputes contribute to which are budget loss, time delay, quality of the project, and overall severity. Based on the results of this study, there are prominent factors in which disputes are derived from. Most of the results have shown that construction-related disputes are caused due to the incompetence of the higher management within the project, specifically, the owner and/or contractor. Consequently, the time of preparation for projects was also considered as one of the most severe causes of disputes. This indicates that the failure to act of owner and/or contractor in various areas and the time in which it takes to prepare a project affects the overall performance of the project.

In conjunction with the construction-related disputes, this study specified specific alternative dispute resolution (ADR) methods to supplement the indicated disputes. As the researchers have isolated three prominent ADR methods, various inferences have been derived. In terms of private companies,

negotiation was considered a viable way to address the dispute, and as for public companies, mediation and arbitration were implemented. However, there are instances where both ADR methods were used in which at the moment that both parties have failed to negotiate their terms, they proceed to mediation and arbitration. This suggests that ADR methods are flexible enough to provide efficient, and cost-effective solutions.

With the construction-related disputes in mind, the researchers generated an action plan in which it encompasses the processes that will act as a guide in instances of disputes that can be resolved by the indicated ADR methods. This action plan is derived from the varying disputes gathered for this study, with several factors being considered such as the severity of disputes and others. The action plan allows parties to address and manage their disputes effectively, fostering collaboration and conflict resolution in a range of situations. With detailed steps for negotiation, mediation, and arbitration, the action plan diagram offers essential guidance for choosing the appropriate ADR method based on the nature and severity of the dispute, ultimately working towards a fair and effective resolution. However, it is important to note that the outlined action plan that suggests one or more ADR methods is not compulsory. The plan serves as a guide and simply suggests the most appropriate ADR method or combination of methods, considering the nature of the dispute and other key factors.

In its entirety, this study will promote a more conducive approach in using ADR methods to resolve construction-related disputes, particularly, within the city of San Fernando, Pampanga. This action plan, derived from various factors such as professional positions and dispute severity, offers a practical and structured approach to dealing with disputes in the construction industry. By adopting a tailored and efficient conflict resolution strategy, construction companies can ultimately enhance their overall project performance and outcomes.

4.1 Recommendations

The researchers recommend the following actions to enhance the conflict resolution capabilities of construction industry professionals:

- Investigate other locale as research subject for identifying the nature of disputes that are not discussed within the study
- Conduct further research on the root causes of construction-related disputes, including examining the impact of different project management practices, procurement strategies, and communication channels on the likelihood of disputes occurring.
- Explore other alternative dispute resolution methods not included within this study for their application within the Philippine setting. This will help into diversifying the concept and integration of ADRM, considering the cultural, legal, and institutional factors of local areas.
- In order to prevent and resolve disputes effectively, a comprehensive training program should be developed for construction industry professionals.
- Encourage the inclusion of alternative dispute resolution clauses within construction contracts so as to encourage the use of such methods to resolve disputes.
- Develop a system for monitoring and evaluating the effectiveness of the action plan to ensure that it remains effective.
- As the formulated action plan only serves a guide, develop a more accurate action plan that tackles specific disputes as a more comprehensive way of utilizing ADRM.
- In relation to the previous recommendation, after the classification of disputes, including a specified or tailored resolution method appropriate to each dictated dispute.
- Submit the formulated action plan to the relevant authority – the Local Government Unit (LGU) for implementation. In this case, the formulated action plan will be submitted to the LGU of the City of San Fernando, Pampanga to utilize within their system. The LGU are suggested to modify or revise the action plan to make it more appropriate for use within their system.

The limitations of our study to the City of San Fernando, Pampanga, it would be valuable for future research to explore methods for enhancing the categorization and classification of disputes. This inquiry could lead to a more comprehensive understanding of disputes and their resolution

mechanisms, enabling the development of more effective conflict management strategies in the City of San Fernando and other places. Therefore, it is recommended that future researchers consider examining these aspects as potential areas of inquiry for a thesis project. This could significantly contribute to dispute management, both theoretically and practically.

Overall, this study provides insightful information about the impact of construction-related disputes and the potential benefits of resolving these disputes through alternative dispute resolution. Construction industry professionals can improve the performance and outcomes of their construction projects by implementing the above recommendations.

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