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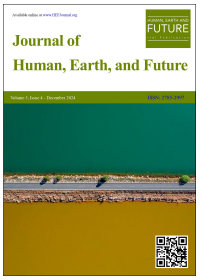

The Ramifications of Poor Communication in Construction Projects: Unraveling Complex Litigation and Arbitration

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Abstract

The construction industry is known for its complex and diverse nature, involving several stakeholders. Effective communication plays a vital role in ensuring that everyone involved understands the project goals, schedules, and expectations. However, communication breakdowns can lead to delays, exceeding costs, and disputes that often result in litigation. This study aims to investigate the cause and impact of ineffective communication in construction projects in Sabah, Malaysia, and its contribution to disputes and their frequency to escalate into arbitration or litigation. Utilizing a mixed-methods approach, including a survey questionnaire for construction professionals and supported by a literature analysis, the research reveals challenges and proposes solutions. Leveraging mean and standard deviation, this study quantifies the causes and effects of ineffective communication in construction projects, aiding stakeholder comprehension. Survey results highlight work practice differences as a significant cause (27%) of miscommunication, with 99.12% acknowledging miscommunication issues can lead to disputes. About 82.30% stress the importance of well-defined communication protocols. By identifying issues and proposing mitigation strategies, this study empowers project stakeholders to improve project outcomes and reduces the complexity. Respondents with a good understanding of contract form and acts are slightly well aware of how to handle misunderstandings. Moreover, the research emphasizes the importance of communication tools, well-defined contracts, and collaboration in addressing these communication challenges.

Keywords: Miscommunication; Conflict; Construction and Acts; Litigation.

1. Introduction

The construction industry is crucial for the economic growth and development of a country. Due to its complex nature, it relies on the collaborative efforts and achievements of various stakeholders to successfully complete construction projects, involving key parties such as clients, consultants, contractors, and others (government bodies/local authorities) [1]. Effective communication plays a vital role in overcoming the challenges associated with this industry. Unlike other industries, construction projects have unique characteristics, and they are influenced by factors like rapid urbanization and technological advancements [2]. These factors contribute to the complexity of a construction project's challenges for all involved stakeholders. It has been widely recognized through research that effective communication is a crucial factor in ensuring a project's success, and ineffective communication during the project lifecycle can lead to delays and sometimes even project failure. The construction industry also provides potential for job creation, and it acts as an economic booster for the country. When skilled labor is utilized efficiently

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within the given timeframe and according to contract, it creates opportunities for growth [3]. Over time, due to advancements in construction practices and techniques, projects have become more complex. To ensure the completion of projects on time and within the given budget, it is necessary to involve more individuals. In construction projects, a team comprises individuals from different backgrounds and ethnicities. Effective communication plays a role throughout the project's lifecycle. Typically, three key players are involved in construction projects: the client, who initiates the project; the contractor, who executes the project; and the consultant, overseeing project implementation [4]. Successful project outcomes heavily rely on establishing communication channels among all of these stakeholders. When teams exchange information in a construction project, it can encompass financial aspects [5]. If the circulation of information is not done effectively, it can result in project delays, failure, and legal problems. Construction projects involve several types of contracts among stakeholders; these include investigation contracts, design contracts, and construction contracts [6].

The three main elements of any contract are the Bill of Quantities (BOQs), technical specifications, and project drawings [7]. Each of these elements has its requirements for all parties involved. However, misunderstandings or miscommunication can sometimes lead to disputes that require arbitration. The existing body of research in the construction industry extensively addresses the causes and consequences of poor communication, focusing on aspects like project delays, decision-making procedures, and information processing [8-11]. While there is a notable gap in understanding the ramifications of poor communication in the construction industry of Malaysia, especially in the region of Sabah, arising from communication breakdowns. Despite some studies focusing on miscommunication and related issues in construction projects, there is a need for further exploration into its effectiveness in mitigating disputes rooted in poor communication. This research aims to explore the ramifications of poor communication in construction projects, which often leads to arbitration and litigation. Furthermore, it will examine how these issues impact project health and contribute to complications.

1.1. Background of Research

Effective communication is crucial in the construction industry as it involves several stakeholders. It plays an important role in ensuring project success and fostering teamwork. The primary purpose of communication within industry is to share ideas, opinions, and facts among all parties involved. Transparency and clarity are essential when conveying information to avoid confusion and misunderstandings. By establishing feedback loops, effective communication does not only enhance management but also strengthens the team's cohesion and confidence. As a result, these factors contribute to reducing construction time, staying within the budget, and promoting project safety. However, a lack of communication or misunderstandings during the project life cycle can lead to issues [11].

In the construction industry, generally there are two categories of delays in construction projects: inexcusable delays and excusable delays. Inexcusable delays usually occur due to the contractor's actions, and in some cases the contractor may be able to make a claim. There are situations where the contractors are responsible for any costs incurred and may also have to pay for damages caused by the delay. On the other hand, excusable delays can occur due to factors like weather conditions or reasons from the owner's side, which may result in an extension of time (EOT) [12]. Contractors find it easier to make claims and are exempt from liabilities in delay situations. Disputes in construction projects primarily arise from delays leading to legal proceedings and arbitrations. In 2020, Spring Energy Sdn Bhd faced a payment issue with Maju Holdings Sdn Bhd. Spring Energy Sdn Bhd acted against Maju Holdings Sdn Bhd regarding payments mentioned in payment certificates 22 and 23 during a session court hearing. The plaintiff successfully demonstrated that these payment certificates were clear and unambiguous in their content and had been duly finalized. As a result of the judgment favoring the contractor, the defendant was ordered to make payments [13]. According to the case details, if both parties failed to communicate during the project regarding the mentioned case, it would have made it more likely to have resulted in court proceedings. However, if proper communication and verification had taken place, the chances of ending up in court would have been minimal.

Due to the increase in population and urbanization, construction has become an essential aspect of human life, and Sabah, Malaysia, being a developing state, is constantly being urbanized. Over time construction projects have grown complex due to the involvement of a number of individuals and larger amounts of funds. Personnel from different teams collaborate to achieve both gains and project objectives [14]. However, conflicts often arise during construction projects, which can lead to complete failure, with miscommunication being one of the factors behind such issues [9]. Based on reviews, Malaysia witnesses a registration of approximately 700 to 800 cases related to disputes in the construction sector. These disputes mainly stem from payment problems and ineffective communication. Ineffective communication within construction management often results in litigation and arbitration processes. Therefore, this research aims to investigate these issues related to miscommunication and propose good protocols to overcome those issues. This project will focus on examining the effects and causes of communication in construction management that contribute to litigation and arbitration, specifically within Sabah, Malaysia.

This research will investigate the following objectives. Initially, examining the causes of inadequate communication in the realm of project management. This objective seeks to unearth the core factors that lead to communication breakdowns within construction projects. Secondly, the project endeavors to investigate the underlying triggers of project delays and associated issues that frequently result in arbitration proceedings. This research project is primarily aimed at evaluating the causes and ramifications of ineffective communication in construction projects, with a specific focus on its contribution to intricate litigation and arbitration cases. The scope of this study encompasses several crucial dimensions: The evaluation of issues tied to large-scale construction projects categorized as CIDB class G5 and above, denoting projects with a value of RM 5 million or more. These projects often exhibit varying levels of complexity, and the study aims to dissect the communication challenges and consequences in this context. Furthermore, it delves into the sources of delays in project approval and execution due to ineffective communication and explores how conflicts stemming from nonpayment claims can escalate to the extent of requiring arbitration for resolution. Additionally, the study probes into how discrepancies due to miscommunication in projects during the interpretation of contractual agreements can precipitate management issues and legal concerns, which may entail engagement with relevant regulatory bodies for dispute resolution.

1.2. Miscommunication in Construction Industry

Miscommunication within the construction industry refers to the breakdown or distortion of information exchanged between parties involved, resulting in misunderstandings, mistakes, or conflicts. It can happen at any phase of a construction project, starting from planning to project completion. This miscommunication can involve stakeholders like the clients, contractors, consultants, and regulatory bodies. There are multiple forms of miscommunication that can occur, such as project specifications, differences in contract interpretation, insufficient documentation, and a lack of coordination among those involved. In a study by Gamil & Abd Rahman [15], several obstacles that hinder effective communication were highlighted. One major impediment is an individual's frame of reference, denoting the interpretation shaped by personal experiences and perspectives. Additionally, stereotyping, where individuals categorize others based on their own preconceptions, poses a significant barrier. Another hindrance is cognitive dissonance, wherein the reception of information conflicting with one's beliefs creates a barrier, leading to difficulties in understanding or responding positively. Establishing clear communication paths, promoting mutual understanding, and aligning communication methods are crucial for enhancing productivity in construction projects. Additionally, addressing the lack of communication with field workers by ensuring real-time updates, understanding project goals, and implementing a comprehensive communication plan is essential for minimizing disruptions and enhancing preparedness among the construction team [16]. The consequences of miscommunication can be extensive. It can have a savior impact on project timelines, budgets, and quality standards and may even lead to disputes and the need for arbitration. The construction industry is a challenging field primarily due to the involvement of many stakeholders who each have their own objectives for project success. Given the nature of the construction industry, people from different backgrounds collaborate on projects [11].

Effective communication among all parties involved plays a vital role in any construction project. Communication is crucial, whether it is formal or informal. However, due to the players involved, communication can sometimes become ambiguous and ineffective in situations. This can result in project delays and cost issues, as highlighted in a press release by PMI stating that poor communication is a cause of problems. Effective communication in the construction industry is pivotal for project success. The preference for formal meetings and electronic mail underscores the significance of clear verbal and written communication channels, minimizing errors and enhancing coordination among consultants and contractors. The emphasis on drawings as a primary visual communication medium highlights its crucial role in facilitating project commencement and coordination, showcasing the paramount importance of diverse communication modes in ensuring seamless construction project outcomes [17]. In the construction industry, poor communication, stemming from factors such as varying education levels and cultural differences, can lead to significant challenges, including delays, increased costs, and compromised safety. The study emphasizes the prevalent issue of poor communication in the sector, highlighting the urgent need for improved practices [18]. Recommendations include comprehensive training, advanced technology adoption, and fostering a culture of open communication to address the root causes and effects. Ultimately, effective communication is deemed crucial for project success, underscoring the necessity for tailored communication plans and a cultural shift within construction organizations [1].

The study by Yang et al. [19] estimated an annual loss of $17 billion due to poor communication and an additional $14.3 billion attributed to inadequate project data management, resulting in a substantial total industry loss of $31.3 billion each year. This underscores the critical need for improved communication strategies and robust data management practices to mitigate financial losses and enhance project outcomes. In a study by Gamil & Abd Rahman [15], several obstacles that hinder effective communication were highlighted. One major impediment is an individual's frame of reference, denoting the interpretation shaped by personal experiences and perspectives. Additionally, stereotyping, where individuals categorize others based on their own preconceptions, poses a significant barrier. Another hindrance is cognitive dissonance, wherein the reception of information conflicting with one's beliefs creates a

barrier, leading to difficulties in understanding or responding positively. Yang et al. [19] also emphasized communication as one of the challenges faced by the construction industry, particularly between demand and supply parties. In construction projects, miscommunication can occur due to several reasons. Investing in communication training and clear channels, fostering a culture of open communication, and regularly updating practices are crucial for project success, particularly in the tech industry (utilities one). Table 1 provides an overview of the causes of miscommunication that may arise in any type of construction project. It highlights factors contributing to miscommunication.

Table 1. Causative factors of Miscommunication

No.	Causative Factors
1	Fear to communicate
2	Delay in notification of change
3	Poor progress measurement
4	Poor communication skills
5	Slow information flow or lack of communication among parties
6	Lack of confidence between stakeholders
7	Improper communication channel
8	Lack of communication plan
9	Language barrier
10	Lack of collaboration and representation between stakeholders
11	Inaccessibility of project information
12	Frequent change of project contract
13	Weak organizational structure for communication purpose
14	Poor planning
15	Lack of support for advanced communication technology
16	Lack of understanding among parties
17	Complexity of construction industry

Conflicts can occur at any time in construction projects. It can have various impacts on the project, including increased costs, delays in completion, decreased productivity, and reduced profitability. These conflicts often arise from differences. One of the major factors contributing to conflicts is site management. To tackle these conflicts effectively, contractors have to realize the importance of taking measures such as investigating the root causes and implementing solutions. A notable approach that has been found useful is the S Curve analysis. This involves identifying the reasons for delays by analyzing how manpower is allocated and tracking project progress using S curves. Mohamad et al. [8] highlighted the usefulness of S Curve analysis in generating reports for assessing team resilience and visually monitoring project progress over time. The study also identified 16 causes of delays within the construction industry, emphasizing the significance of employing tools to manage project conflicts and to minimize delays effectively.

Effective communication plays a vital role in ensuring the functioning of a project's teams [20]. When project participants communicate accurately, clearly, and concisely, it enables individuals with knowledge and experiences to come forward, and by sharing their expertise within an organization through communication with people of different backgrounds, it can foster innovative and creative ideas in the project. This is essential for overcoming challenges that arise as the project progresses. Consequently, effective communication strengthens team collaboration. Facilitates the creation of feedback loops [21]. Moreover, when experience is incorporated into a project, it is generally expected that the project will be completed within a timeframe and the allocated budget.

2. Research Methodology

To study the importance of effective communication in construction projects and its effects, the waterfall methodology is used for this research project. In terms of the waterfall methodology, it is a project management approach that follows a sequential and phased process for any project. It involves several phases, each of which must be completed before moving on to the next phase. The purpose of using waterfall methodology is to guide the research process. The following are the stages of the Waterfall Methodology.

- ***Plan*:** Defining research questions and objectives based on a literature review and identifying the research gap.
- ***Design*:** Developing a research plan that includes survey questions and cases for desk study.
- ***Data Collection*:** Conducted surveys and case studies to collect relevant data.

- ***Data Analysis*:** Analyzed data for patterns and trends to study the data.
- ***Reporting*:** Presented findings and recommendations.
- ***Review*:** Evaluated the research process and its implications.

Initially, a comprehensive literature review on previous research related to communication in the construction industry was done. A thorough review of relevant literature on communication in this field was conducted. This was done to explore the impact of communication in construction projects that often results in legal battles and disputes within the construction industry of Sabah, Malaysia. After a comprehensive literature review and analysis, the problem statement was identified. Followed by the defining of research objectives and the research scope of work. Research questions were then formulated to guide the study. This study only focuses on the following cities in Sabah, which are Kota Kinabalu, Tawau, Lahad Datu, and Sandakan. The research methodology encompasses an examination of laws, contracts, and previous court cases, as well as an online survey to collect relevant data. The findings and analysis derived from this collected data will lead to discussions and conclusions along with guidelines for avoiding conflicts in projects as well as recommendations. The flow chart below shows the process of methodology (Figure 1).

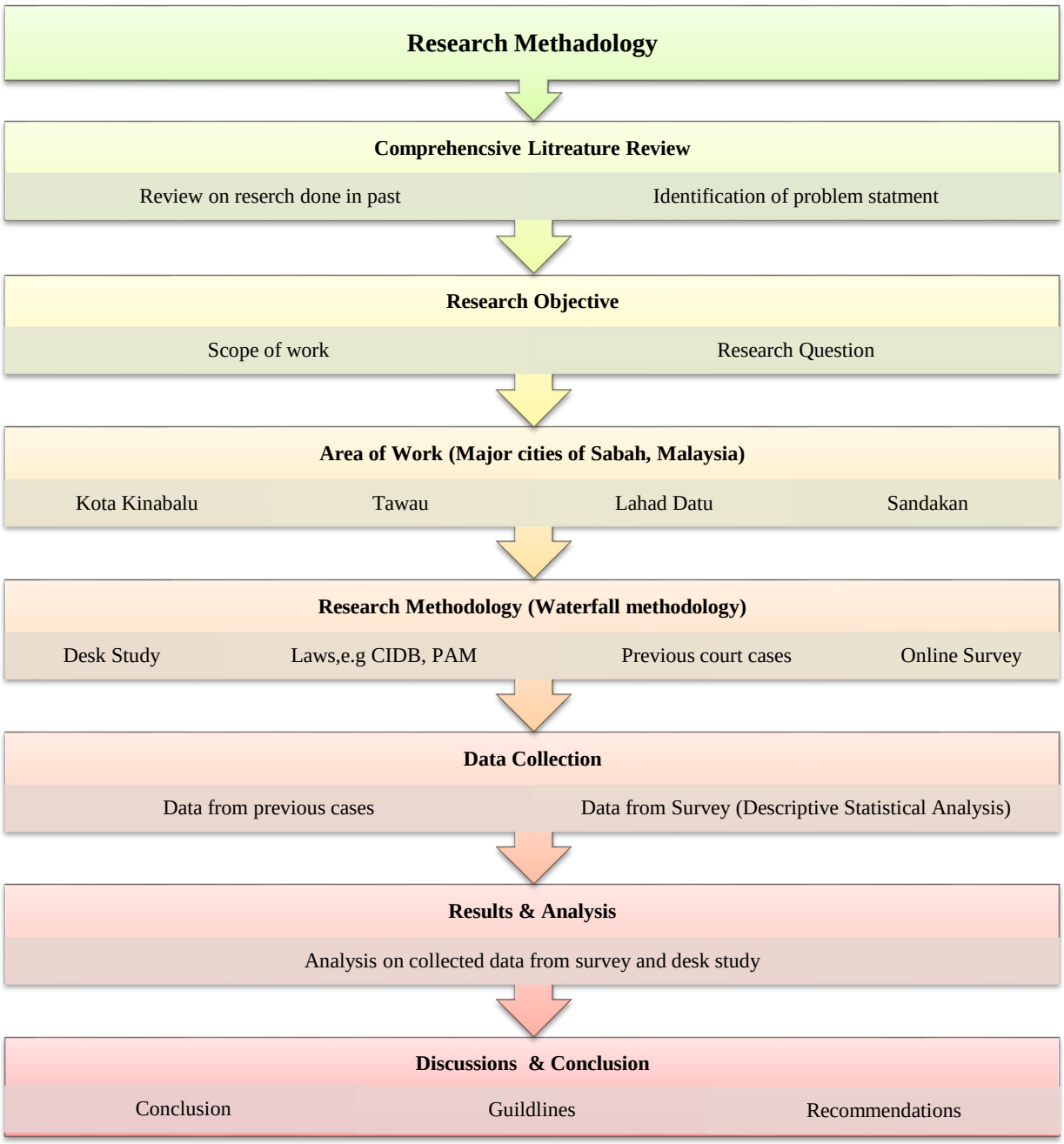

Figure 1. Flowchart for methodology

2.1. Area of Research

This study is uniquely situated in Sabah, Malaysia, highlighted in red in Figure 2, which is the 2nd largest state of Malaysia. The primary focus was on key district areas, including Kota Kinabalu, Tawau, Lahad Datu, and Sandakan. The choice of these areas stems from the scarcity of research, particularly addressing communication challenges, legal disputes, and arbitration within the construction industry. Notably, the research focuses on construction projects falling within the Construction Industry Development Board CIDB G5 category (projects worth RM 5 million and above) for better understanding of these issues [22]. The selection criteria's aim is to capture a comprehensive understanding of communication dynamics and dispute resolution mechanisms in substantial construction endeavors. Below is the map of Malaysia showing the state of Sabah in the red highlighted area.

Figure 2. Map of Malaysia, highlighting Sabah

2.2. Case Study

During the case study analysis, two cases were examined to understand the consequences of communication in construction projects, which often result in complex legal disputes and arbitration. "The first case focused on a disagreement between United Project Management (M) Sdn Bhd and Southern Builders (J) Sdn Bhd". It highlighted how miscommunication of contract documents can lead to issues and explored the process of arbitration for resolving conflicts and determining compensation. "The second case involved a dispute between Company A (Contractor) and Company B (Client)". It revolved around contract termination, which was further complicated by payment and bankruptcy problems stemming from miscommunication. These cases shed light on the role that effective communication plays in avoiding complications in construction projects. To complement these case studies, we conducted a survey to gather insights from stakeholders within the construction industry. This survey aimed to understand how miscommunication contributes to disputes, legal conflicts, and arbitration proceedings. Through our research we seek to gain an understanding of the ways in which ineffective communication impacts construction projects, including its role in complex legal entanglements and arbitration processes.

2.3. Survey

In order to gather data regarding the impact of communication inefficiency on construction projects and its relationship to legal matters, a well-structured questionnaire was created comprising both closed-ended and open-ended questions. The questionnaire was specifically designed for individuals involved in Sabah's construction industry with the aim of addressing the research objectives of this project. The survey targeted professionals that are working in the construction field in Sabah, Malaysia. This included senior engineers, chief engineers, project managers, engineers, quantity surveyors, and legal experts. It was required that participants must have at least 3 years of experience in the construction industry of Sabah, Malaysia. Table 2 shows the survey structure summary for each objective with different sections.

Table 2. Survey structure summary for each objective with different sections

Section	Title	Description
1	Demographic Information	Collection of background data for context.
2	Causes of Miscommunication	Explore factors causing ineffective communication. Rate familiarity, cultural impact, channels, and conflict frequency.
3	Impact of Miscommunication	Assess consequences on delays, costs, quality, arbitration, and project adherence.
4	Disagreements due to Miscommunication	Investigate conflicts from communication breakdowns. Rate knowledge of legal aspects.
5	Legal Concerns due to Miscommunication	Understand legal implications. Rate knowledge of contract terms and legal awareness.
6	Court Cases Examples of Miscommunication	Gather real cases. Rate agreement with miscommunication leading to disputes.
7	Importance of Effective Communication	Measure communication's significance. Rate solutions, protocols, and visual aids.
8	Additional Solutions (views on different solution)	Both closed ended and open-ended question for industry improvement suggestions.

To conduct the analysis for this research, a combination of quantitative methods and qualitative methods is being used. The quantitative aspect involves analyzing survey data, including calculating frequencies, percentages, and potentially using statistics to identify significant relationships or patterns. This statistical analysis allows us to measure the extent of miscommunication issues, their impacts, and how the participants perceive them. On the other hand, qualitative analysis focuses on case studies and survey responses. To employ analysis identification, the recurring insights from the data with the help of graphs and statistical analysis will be used. Thematic analysis helps us uncover the nuanced aspects of miscommunication in the construction industry and gain an understanding of this issue. By utilizing both qualitative methods to gain a diverse understanding of how ineffective communication affects construction projects. This analysis will provide insights into the underlying reasons behind these challenges and will offer solutions to address the issues due to miscommunication.

3. Results and Analysis

In this section the findings of this study that focuses on "The Ramifications of Poor Communication in Construction Projects: Unraveling Complex Litigation and Arbitration" will be discussed. The research conducted an examination of both a case study and the descriptive information gathered through surveys, providing valuable insights into the subject. The case study will be about the court cases, and a survey will be conducted among personnel affiliated with the construction industry. This enhances the understanding of this crucial subject matter, making a substantial contribution to the existing knowledge in this field.

The demographic overview is a crucial initial step of the survey questionnaire, contextualizing the discussion and analysis by offering beneficial insights into the diverse backgrounds of people and their roles in construction and experiences in the subject of this research on the impact of communication in the construction industry. Gathering this information through this survey is crucial for gaining an understanding of how ineffective communication impacts construction projects, especially in Sabah, Malaysia. It provides insights into the backgrounds, roles, and experiences of those involved in the construction industry. This information does not add depth to the study and also makes its findings applicable to various contexts within the construction field. By analyzing participants' demographic profiles, we can further explore how roles, levels of experience, and affiliations influence their perceptions and experiences regarding communication in construction projects [23]. The pie chart (Figure 3) below shows the participation of 4 involved parties in the construction industry from the conducted survey.

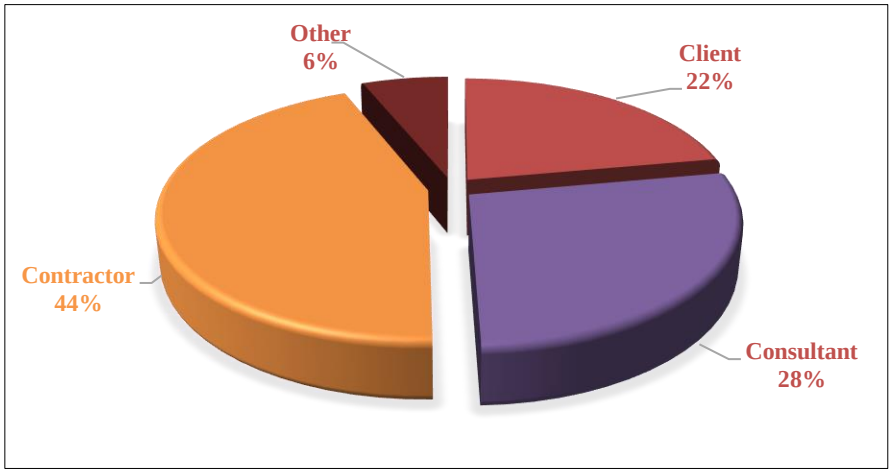

Figure 3. Participants roles in construction industry

To ensure the survey results are acceptable, we required all participants from the four parties to have at least three years of experience in the field [24]. This criterion allows us to gain insights into how communication impacts construction projects in Sabah. Additionally, we included open-ended questions at the end of the survey to gather their perspectives on addressing these issues. The bar graph below illustrates the years of experience for participants across groups and parties involved in construction projects.

According to the survey, the majority of our clients, 52%, have around 5 years plus of experience. We also have insights from clients who have been in their fields for 10 to 15 years, accounting for about 24% of the responses. As for our consultants, 48.4% have accumulated around 5 years of experience. Additionally, we value the insights provided by those with over ten years of experience, making up around 25.8% of our consultant base. When it comes to our contractors, the majority, or 60%, possess between 0 to 5 years of experience. Followed by 26% that fall into the category of having accumulated a background of 5-10 years in their respective fields. We also have some contractors with over a decade's worth of expertise. Lastly, we have a group referred to as "Others." The primary portion within this group has between 0-5 years of experience and accounts for 71.4%. We also benefit from perspectives offered by individuals with both 10-15 years and 5-10 years of experience, making up around 14.3% (Figure 4).

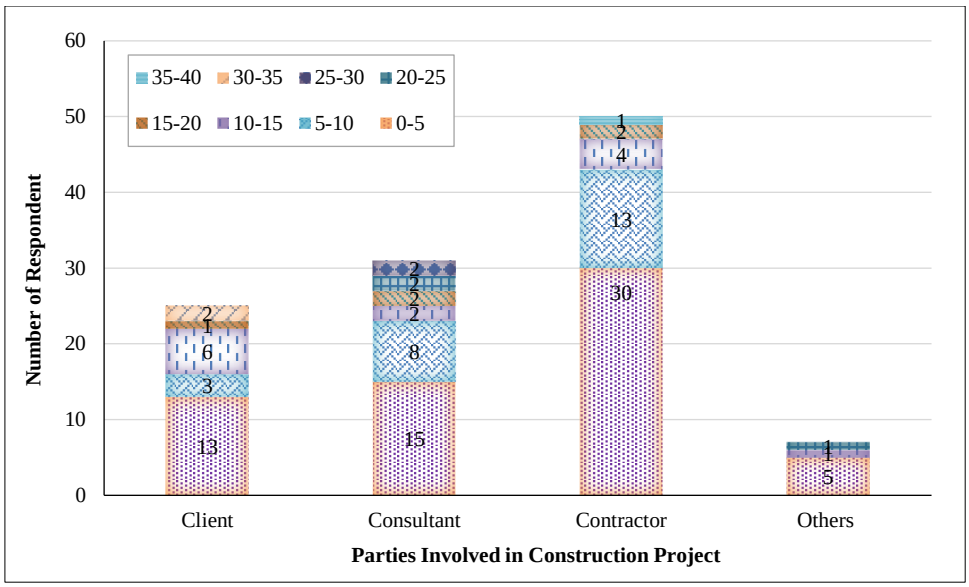

Figure 4. Participants Experience in their respective field

3.1. Causes of Inadequate Communication

Effective communication plays a vital role in construction projects, where multiple parties collaborate to achieve challenging outcomes. However, if there is miscommunication, it can result in project delays, increased costs, and compromised quality. This analysis focuses on identifying the factors that stakeholders in the construction industry perceive as contributors to communication issues. By examining these factors, insights will be gained into areas where improvements can be made to enhance communication and project efficiency.

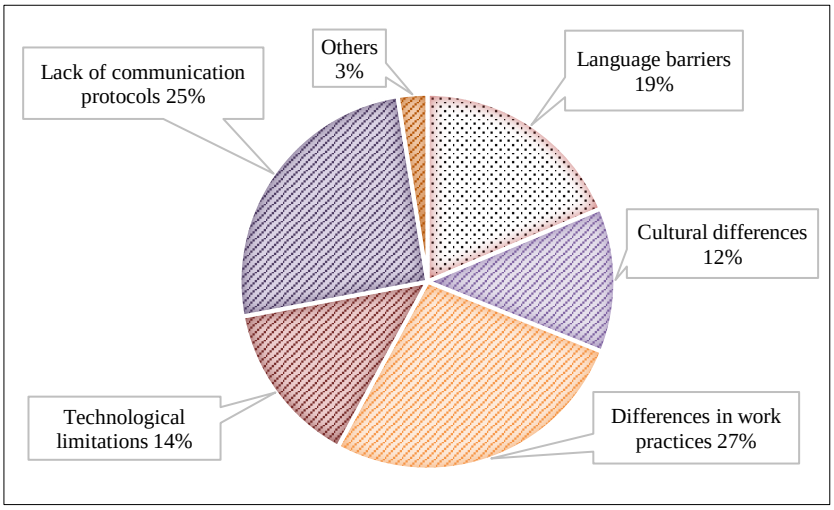

Figure 5. Factors contributing to miscommunication

The analysis of survey data regarding the factors that contribute to communication issues in construction projects reveals these findings shown in Figure 5. Notably, the significant factor identified by respondents from stakeholder groups such as consultants, clients, contractors, and others are "differences in work practices," which accounts for a substantial 27% of the responses, the highest among all. This consistent pattern highlights how variations in how works are carried out and managed within teams and backgrounds pose significant challenges to effective communication within the construction industry. The behavior graph further supports this observation visually by emphasizing the prominence of "Differences in work practices" as the contributor to communication issues. The statistical breakdown of responses also validates this finding, with 26.8% of participants endorsing this factor; it also aligns with the findings of [25]. After analysis, the top factors contributing to communication challenges in construction projects include a lack of communication protocols (25%), language barriers (19%), technological limitations (14%), cultural differences (12%), and other factors (3%). These findings align with the research conducted by Gamil & Abd Rahman [15], who also highlighted the impact of differences in work practices on communication issues in construction projects. This correlation reinforces the reliability of our study results and emphasizes the need to address disparities in work practices to improve communication within construction projects.

Table 3 gives a condensed analysis of the perceptions gathered from surveys conducted with stakeholders in the construction sector of Sabah regarding causes and effects of miscommunication. It showcases their opinions on how miscommunication affects aspects of construction projects in Sabah, Malaysia. These insights offer understanding into the communication obstacles faced within the industry, emphasizing the importance of communication practices to enhance project results and reduce conflicts.

Table 3. Analysis of survey results on different aspects of miscommunication

Question	Client	Consultant	Contractor	Others
Familiarity with Effective Communication	High	High	High	Low
Frequency of Disagreements due to Miscommunication	Low	High	Low	Low
Encounter Technical Issues due to Miscommunication	Low	Low	Low	Low
Miscommunication Leading to Delays	High	High	High	High
Miscommunication Leading to Disputes/Conflicts	High	High	High	High
Miscommunication Leading to Increased Costs	Low	Low	High	High
Impact on Quality of Final Deliverables	High	High	High	High
Miscommunication Leading to Litigation/Arbitration	High	High	High	High
Impact on Project's Schedule, Scope, Requirements	High	Low	High	High
Difficulty in Resolving Legal Disputes	Low	Low	Low	Low
Weighted Average Perception	3.932	3.922	3.994	3.886

These weighted averages reflect the perception or consensus reached for all the questions within each group (Client, Consultant, Contractor, and Others). The data shows the high awareness of clients, consultants, and contractors in the industry, showing that these parties are aware of the effects that miscommunication can have on project timelines, quality, costs, and legal conflicts. It is worth noting that stakeholders universally understand the importance of communication in achieving project outcomes. These insights emphasize the need for communication protocols within the industry to prevent disputes and enhance project efficiency. In this survey it was being evaluated how participants in the construction industry perceive miscommunication across areas. It is worth noting that regardless of whether they were clients, consultants, contractors, or others, there is a belief that miscommunication often leads to conflicts, legal issues, and disruptions in project timelines, scopes, requirements, and final outcomes. This shared understanding highlights the importance stakeholders place on recognizing the impact of miscommunication in causing problems such as delays and disputes within construction projects. However, there are variations in perception when it comes to factors like communication skills and frequency of disagreements. This underscores the complex nature of communication challenges specific to this industry. A recent study conducted by Smith et al. [26] in the construction sector of the US revealed that stakeholders, across the board, acknowledge how miscommunication significantly contributes to project delays, increased costs, and disputes (Figure 6). Stakeholders are aware of how it can affect project timelines, quality, expenses, and legal conflicts. These findings highlight the importance of improving communication practices and protocols in the industry to address problems and increase project efficiency. Once we examine these responses, it becomes clear that stakeholders generally believe that communication breakdowns frequently lead to disagreements or conflicts in construction projects.

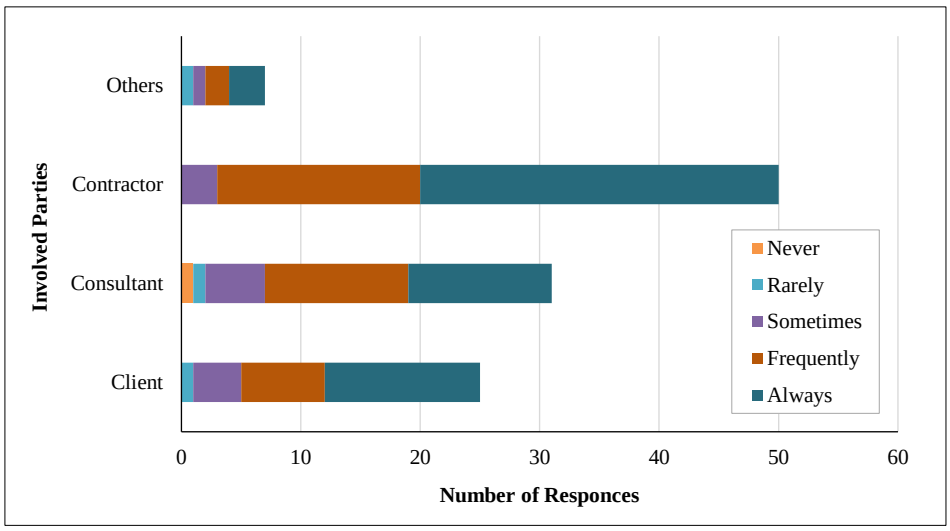

Figure 6. Miscommunication Leading to Disputes and Conflicts

A substantial number of participants from groups hold this belief that around 60% of contractors, 38% of clients and consultants, and 57% of respondents categorized as "others" expressed their view that miscommunication often or always results in disputes. This consistent perception highlights the importance of addressing communication issues within the construction industry. Underscores the need for proactive measures to improve communication practices and conflict resolution strategies. These findings align with research conducted by Habib et al. [27] and Smith et al. [28], which have also emphasized miscommunication as a factor contributing to disputes in the construction sector. The resonance with studies reinforces the validity of our findings. Supports the argument for prioritizing effective communication practices to minimize conflicts and enhance project outcomes.

3.2. Delays and Issues Leading to Arbitration and Litigations

In a survey, participants were asked to share their thoughts on communication in construction projects. This involved discussing their familiarity with communication concepts and the impact that miscommunication has on project schedules, costs, and legal processes. This analysis dives into the survey results to explore how these parties perceive the causes and consequences of communication. It aims to understand the dynamics of communication that shape construction projects. The findings from participants responses to the survey questions are presented in Table 4 for analysis. Examining each question allows us to uncover patterns, nuances, and areas of agreement or disagreement among the four stakeholder groups. Through this analysis we aim to gain an understanding of the nature of miscommunication in construction project management. These findings align with the study conducted by Othuman Mydin et al. [29] on imperative causes of delays in construction projects. Additionally, it helps identify which parties may be more vulnerable to communication challenges. These insights can inform strategies for improving communication practices and mitigating issues in construction projects.

Table 4. Causes of delays and issues which lead to arbitrations

Questions	Client	Consultant	Contractor	Other
Knowledge of Construction Contracts	High	High	High	High
Miscommunication Leading to Conflicts	High	High	High	High
Miscommunication Leading to Design Errors	High	High	High	High
Miscommunication Leading to Payment Delays	High	High	High	High
Knowledge of PAM Agreement and Conditions	Low	Low	Low	Low
Knowledge of CIPAA	Low	Low	Low	Low
Knowledge of CIDB	Low	High	Low	High
Effectiveness of PAM Section 30.7	Low	High	High	High
Awareness of PAM 2006 Clause 25.3	Low	Low	Low	Low
Awareness of Architect's Role in Extension	Low	Low	Low	Low
Familiarity with Non-Payment Implications	Low	Low	Low	Low
Familiarity with CIPAA Section 13	Low	Low	Low	Low
Grounds for Setting Aside Adjudication	Low	Low	Low	Low
Contract Termination Impact on Delays	High	High	High	High
Weighted Average Perception	3.248	3.172	3.061	2.541

The findings indicate that all groups involved in construction projects are well aware and concerned about the impacts of miscommunication. It is noteworthy that everyone acknowledges that miscommunication can lead to conflicts, design mistakes, and payment delays, showing a shared understanding of how crucial effective communications are for a project's success. However, there seems to be a lack of familiarity with frameworks like the Pertubuhan Akitek Malaysia (PAM) Agreement, the Construction Industry Payment and Adjudication Act (CIPAA), and the Construction Industry Development Board (CIDB). This knowledge gap highlights the need for education and training in these areas within the construction industry. Furthermore, stakeholders have a view of PAM Section 30.7 as a tool in resolving disputes through clear contractual provisions. These findings emphasize the importance of addressing gaps in communication and legal knowledge to improve project outcomes and minimize conflicts in the construction sector. Figure 7 shows the understanding of involved parties with local contracts and standards.

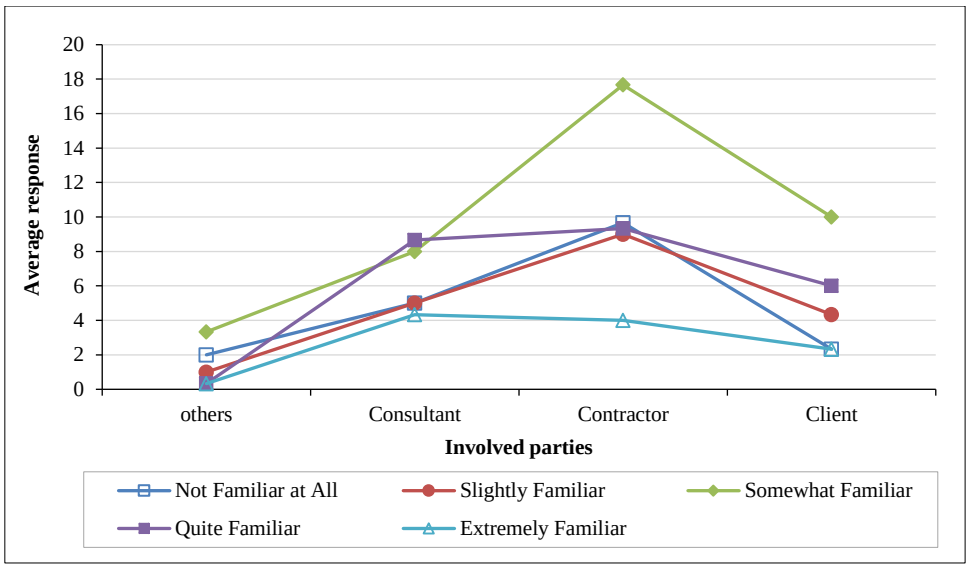

Figure 7. Understanding of legal form and standards

The level of understanding regarding the PAM (Pertubuhan Akitek Malaysia) agreement and conditions of the PAM Contract varies among stakeholders. "Others" seem to have a grasp of it compared to clients, consultants, and contractors. This indicates the importance of educating and training individuals to enhance their comprehension of these documents. These findings align with the study conducted by Raja Berema et al. [30] on the systematic review of the current standard form of contract. Clear contracts and dispute prevention heavily rely on an understanding of them. Secondly, the CIPAA (Construction Industry Payment and Adjudication Act) respondents generally possess some knowledge about its framework. They focus on the significance of increasing awareness and understanding about this framework for resolving payment disputes in the construction industry. Contractors exhibit the familiarity with it followed by consultants. Furthermore, the familiarity with CIDB (Construction Industry Development Board) standards varies among stakeholder groups, including clients and "others." Consultants tend to be more familiar with these standards, while contractors also demonstrate a level of understanding. Having lesser knowledge about contracts and terms can lead to arbitration and litigation. Promoting awareness and comprehension of these standards within the construction industry is crucial for aligning all stakeholders and preventing conflicts or disputes. Targeted training programs can play a role in enhancing stakeholders understanding in these areas, ultimately improving project implementation and dispute resolution. Further investigation could delve into challenges or benefits associated with familiarity levels regarding forms and standards in construction projects.

3.3. Legal Concern Due to Miscommunication

This section of analysis delves into stakeholders' perceptions of potential challenges in construction projects, shedding light on their understanding of the terms and conditions of the contract. According to Table 5, different groups of people have varying opinions about issues in construction projects. When it comes to not following the terms of a contract and communication problems, clients and other stakeholders have a perception indicating that these issues are likely to occur. On the other hand, consultants and contractors have a perception suggesting that they understand these matters better and there is a lower chance of such problems arising. Similarly, when it comes to disputes arising from a lack of understanding of obligations, clients and others perceive a risk while consultants and contractors expect a lower likelihood. However, all groups agree that miscommunication often leads to payment disputes. It is worth noting that consultants and contractors show a level of awareness regarding Section 5(1) of the CIPAA Act, indicating their understanding and reduced chances of legal issues. However, clients and other stakeholders struggle with grasping the impact of Section 4(1) of the CIPAA Act as they demonstrate a level of awareness in this regard. These findings highlight the importance of improving awareness and knowledge about obligations and legal frameworks to minimize disputes in construction projects.

Table 5. Legal concern due to miscommunication

Question	Client	Consultant	Contractor	Other
Non-Compliance with Contract Terms and Miscommunication	High	Low	Low	High
Disputes Due to Lack of Understanding of Contractual Obligations	High	High	Low	Low
Miscommunication Leading to Payment Disputes	High	High	High	Low
Knowledge of CIPAA Act Section 5(1)	Low	High	High	Low
Understanding CIPAA Act Section 4(1) Impact	Low	High	Low	Low
Weighted Average Perception	3.408	3.524	3.059	2.134

From the analysis it has been noted that miscommunication can lead to payment issues, often leading to complicated litigation and arbitrations. Figure 8 shows their level of understanding on miscommunication leading to payment issues.

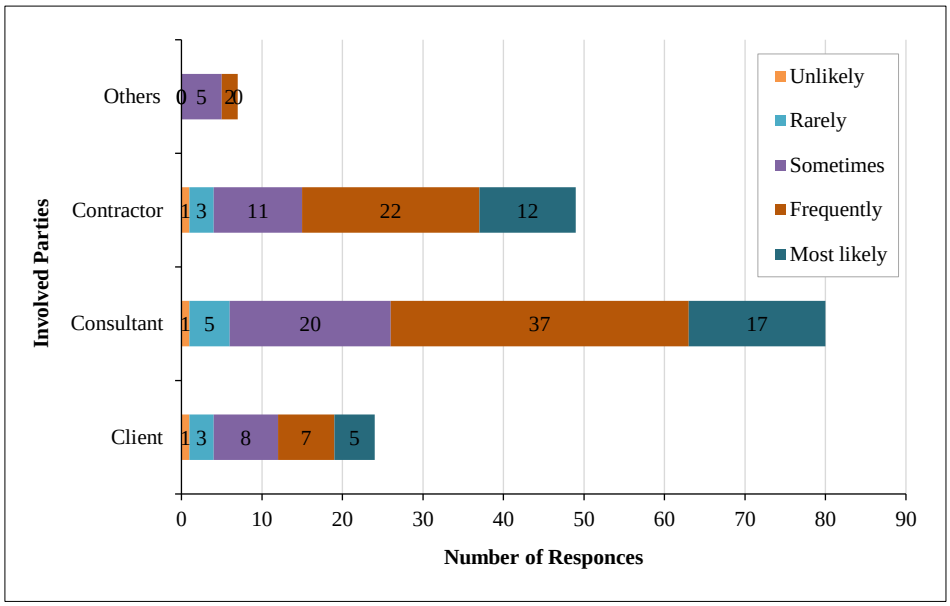

Figure 8. Miscommunication leading to payment issues

According to the data shown in Figure 8, consultants involved in construction projects have the consensus that miscommunication can cause problems with payments, with 52% of them expressing this concern. Contractors are not behind, with 45% of them agreeing that miscommunication can lead to payment issues. Clients, on the other hand, show a lower level of agreement, with around 30% acknowledging the potential impact of miscommunication on payment disputes. Among those categorized as "others," 38% share the belief that miscommunication could result in payment problems in construction projects. These findings highlight that consultants and contractors are more likely to recognize the link between miscommunication and payment disputes, while clients and others may perceive it as an occurrence, or a less significant concern based on their experiences. The data presented in the graph supports the notion that misunderstandings leading to disputes are prevalent throughout the industry. When examining the statistics, it is evident that a significant number of respondents from each role have encountered conflicts related to obligations. This emphasizes the importance of addressing this issue. By analyzing the survey data and the graph, it becomes apparent that there is a need for clarity and understanding regarding obligations among all project stakeholders. This can contribute to reducing disputes and ensuring project execution. These findings align with research conducted by Loosemore & Lee [31]. Well, according to Silva et al. [32] study, one of the reasons for disputes in construction projects is a lack of understanding of the terms used. Recent studies by Ramon Gil-Garcia et al. [33] highlighted the importance of having contracts. They suggest that effective communication and clear documentation, improved contract management, and clearer guidelines minimize conflicts and enhance project outcomes. When miscommunication leads to issues, it can get into arbitration or litigation; Table 6 shows the analysis of court cases.

Table 6. Court cases from case study

Questions	Client	Consultant	Contractor	Other
United Project Management (M) Sdn Bhd v. Southern Builders (J) Sdn Bhd	High	High	High	Low
Plaintiff: Confidential Company A(Contractor) vs. Defendant: Confidential Company B(Client)	Low	Low	Low	Low
Miscommunication and Contractual Disputes	Low	Low	Low	Low
Use of Standardized Contract Templates	Low	High	High	High
Adherence to Contract Rules and Regulations	High	Low	High	High
Collaborative Approach to Contract Negotiation	High	High	High	High
Alternative Dispute Resolution Mechanisms	High	High	Low	Low
Weighted Average Perception	3.731	3.999	3.871	6.938

The analysis involved assessing stakeholder groups, including clients, consultants, contractors, and others, to understand their perspectives on aspects related to construction projects and contract management. In the case of "United Project Management (M) Sdn Bhd v. Southern Builders (J) Sdn Bhd," all groups except the "Others" category perceive a likelihood of miscommunication and disputes arising. On the other hand, in a scenario involving "Plaintiff; Confidential Company A (Contractor), vs. Defendant; Confidential Company B (Client)," all groups express a perception of potential disputes. Furthermore, stakeholders have a perception regarding the relationship between miscommunication and contractual disputes overall. However, when it comes to using contract templates, following contract rules and regulations, adopting an approach to contract negotiation, and utilizing alternative dispute resolution mechanisms, clients, consultants, and contractors tend to have varying perceptions. Some holding high perceptions while others maintain low ones. These differences underscore the importance of communication and alignment among stakeholders to minimize the risk of disputes in construction projects. For the court case, two analyses of legal concern and mitigation strategies and a combination of five questions were asked to survey participants. Figure 9 shows the analysis of those questions.

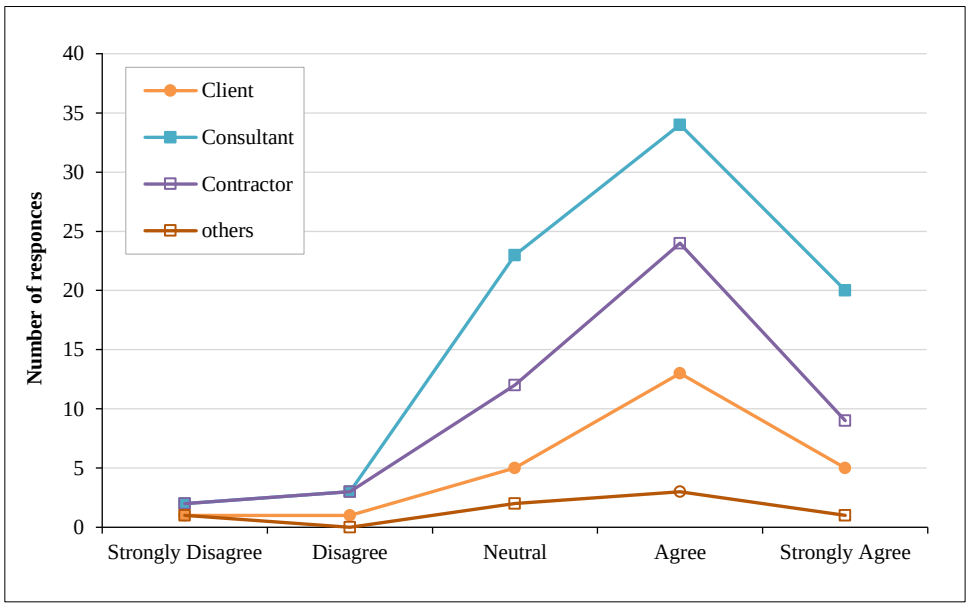

Figure 9. Legal concern in case of case 2

After doing an analysis of the survey results, the frequency of disputes caused by miscommunication has been noticed; it has been noticed that miscommunication and lack of clarity in terms and conditions lead to legal disputes and financial losses in construction contracts. In general, respondents express a perception of disputes. Participant response on the use of standardized contract templates indicates a growing consensus among respondents in favor of implementing strategies to prevent miscommunication-related disputes. Regarding focuses on contract templates and clear language usage, a significant majority of respondents (80% across all roles) either agree or strongly agree with this approach. On the level of agreement, as it promotes a collaborative approach to address miscommunication issues, mostly all parties agree that there should be a collaborative approach to contract negotiation. On utilizing alternative dispute resolution mechanisms and maintaining a level of agreement among respondents has been noted. The responses obtained from stakeholders in the construction industry demonstrate their recognition of the importance of implementing strategies aimed at minimizing disputes arising from miscommunication.

This indicates a growing recognition of the significance of contracts, collaboration, and alternative dispute resolution methods in ensuring project completion. The recent survey findings validate the research conducted by Smith et al. [26], which suggested that miscommunication can lead to conflicts. The survey results demonstrate that professionals in the industry are increasingly acknowledging the need for strategies to mitigate disputes. These results align with the work of Johnson [34], who emphasized the effectiveness of contracts and collaborative approaches in minimizing issues in construction projects. The data clearly shows a consensus among construction industry professionals regarding the importance of employing strategies to minimize communication-related disputes. This alignment with research strengthens the importance of adopting these strategies to enhance efficiency and effectiveness in construction projects while reducing complications. In response, regarding court cases and miscommunication, varying perspectives among the participants are revealed. While some cases are strongly associated with miscommunication, others are not. Respondents agree that contract language, collaboration, and alternative dispute resolution methods play a vital role in reducing disputes caused by miscommunication.

4. Conclusions

All in all, for this research project, an analysis was conducted on how communication works in the construction industry of Sabah, Malaysia. The main goal was to understand the causes of miscommunication and its consequences. All involved stakeholders in the construction industry were surveyed to examine their viewpoint. The results showed that everyone agreed on the importance of communication and how harmful miscommunication can be for project outcomes. Overall, 99.12% of respondents agreed that miscommunication can lead to several issues leading to arbitration and litigation.

- The causes of miscommunication were noted as differences in work practices accounting for a substantial 27% of responses, lack of communication protocols at 25%, language barriers at 19%, technological limitations at 14%, cultural differences at 12%, and other factors at 3%.
- The results indicate that miscommunication plays a vital role in causing conflicts or disputes among all parties involved. It is examined that for all stakeholders, it's clear that communication breakdowns frequently lead to disagreements or conflicts in construction projects.
- Results show that parties involved in construction projects are aware of how miscommunication can lead to consequences such as conflicts, errors in design, and delays in payment. According to the statistics observation, a substantial 45% of consultants and 38% of contractors reported more frequent conflict occurrences.
- Lack of familiarity with frameworks like the PAM Contract, CIPAA, and CIDB standards was noted. This knowledge gap emphasizes the need for targeted education and training within the construction industry. By improving the understanding, it will minimize conflicts, especially when it comes to arbitration and litigation; we can work towards smoother project outcomes.
- The challenges caused by miscommunication, clients, and other stakeholders worry about contract noncommunication issues, whereas consultants and contractors are more positive about understanding these problems and their potential consequences.
- A significant majority of participants, accounting for 82.30%, either strongly agree (55.30%) or agree (27%) on the importance of well-defined communication protocols in construction projects. This emphasizes the consensus within the industry regarding their significance.
- A significant 46.40% of respondents perceive visual aids as one of the highly effective ways to tackle this issue, and 32.10% acknowledge them as an effective way to emphasize their substantial contribution in simplifying intricate ideas within construction communication.
- From all groups, about 77.90% believe that using cloud-based collaboration tools is effective in improving communication for construction projects, which aligns with the industry's increasing acceptance of technology-driven solutions.

In essence, this study emphasizes the need for knowledge of frameworks and standards. Strategies like using contract templates and alternative methods for resolving disputes were seen as good ways to reduce communication-related conflicts. This research provides insights into addressing communication challenges and improving project efficiency in the construction industry.

5. Declarations

5.1. Author Contributions

Conceptualization, M.F. and H.M.M.; methodology, M.F. and H.M.M.; validation, M.F. and H.M.M.; formal analysis, M.F.; data curation, M.F.S. and S.M.S.; writing—original draft preparation, M.F.; writing—review and editing, M.F., H.M.M., and S.M.S.; visualization, M.F.; supervision, H.M.M. and M.F.S. All authors have read and agreed to the published version of the manuscript.

5.2. Data Availability Statement

The data presented in this study are available on request from the corresponding author.

5.3. Funding

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5.5. Institutional Review Board Statement

Not applicable.

5.6. Informed Consent Statement

Not applicable.

5.7. Declaration of Competing Interest

The authors declare that there are no conflicts of interest concerning the publication of this manuscript. Furthermore, all ethical considerations, including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancies have been completely observed by the authors.

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