



Identification of the Causes of Conflict among Construction Players in Sarawak, Malaysia

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Abstract: Construction-related conflict is one of the issues that require considerable attention in the construction industry. Hence, this study intends to identify the factors causing conflict among the construction players in Sarawak, Malaysia. Simple random sampling was used to select the respondents for this research. Respondents for this research comprised contractors, consultants, and clients in organizations. Out of 196 distributed copies of the questionnaire, a total of 80 copies were completed and returned amounting to 40.81% response rate. The Statistical Package for Social Science (SPSS) was used to obtain descriptive statistics. The Relative Importance Index (RII) was used to rank the factors causing conflict. A total of twenty-five (25) factors were identified. Insufficient funding was ranked the most severe among factors causing the client-related conflict. Changes in design was ranked first among factors causing the contractor-related conflict. Poor contract management was ranked first among the factors causing the consultant-related conflict. The findings in this research complement the existing body of knowledge on construction-related disputes. This research has provided a better understanding of the factors that could lead to conflicts among the construction players during the execution of construction projects.

Index Terms: Conflict, construction players, Malaysia, Sarawak

I. INTRODUCTION

The construction industry is always associated with a complex and competitive environment in which the stakeholders have different opinions, skills, and levels of knowledge about the construction process. Various professional parties work together in a complex environment, and each of them has their own goals with a view to obtaining their benefits. According to Ejohwomu, Oshodi, & Onifade [1], the stakeholders can be classified into internal (e.g., the clients, consultants, and contractors) or external (those that had no inputs in the construction phase such as the end-users).

Since construction projects involve different players from various backgrounds having diverse expertise, construction projects are vulnerable to conflicts. Examples of identified conflict in the existing literature among others are the poor management by the client and contractor, weak financial strength on the part of the client, contractor or sub-contractor error in the specification and the different site conditions [2].

Conflict in the construction industry is a growing issue that has attracted more research interest among scholars. Conflict may disrupt the construction work and subsequently cause a delay in the work progress and increase the project cost. To solve the conflict, it may consume more time and money, which ultimately leads to a project over budget and delay. According to Younis [3], when the conflict occurs, it may require a minimum of twenty-five percent of the time to resolve the dispute.

Al-Sibaie et al. [4] examined the impact of conflict on the performance of international projects in Malaysia. The findings showed a significant relationship between internal conflict, social conflict, and project performance and that they contribute to about 27 percent of the variance in project performance. Even if Al-Sibaie et al. [4] included Sarawak in their data collection, their study differs from the current research in terms of scope and focus. Ling and Khoo [5] investigated the relational practices that can improve construction project outcomes in the Malaysian construction industry. Although Ling and Khoo's [5] work also relates to the harmonization of relational conflict, their research differs from this current research in terms of focus and scope. Panahi et al. [6] examined the impact of conflict on the organizational commitment of internal construction stakeholders in the Malaysian construction industry. The findings indicated a high level of value conflicts in the construction organizations, which significantly and negatively affected the commitment of the internal stakeholders in the Malaysian construction industry. Again, even if the Sarawak state was included in their data collection, the focus and scope of Panahi et al. [6] work differ from the current study. Due to the research gap identified in the literature, the current research aims to identify the causes of construction-related conflict among construction workers in the eastern region of Malaysia. This study covers Sarawak State only due to the following reasons: firstly, the state is separated from Peninsular Malaysia by the South China Sea with a distance of 600 kilometers. Secondly, Sarawak is divided into three regions: coastal lowlands comprising peat swamp as well as narrow deltaic and alluvial plains, a vast area of undulating hills of about 300 meters and the mountain highlands extending to the Kalimantan border.

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Hence, the geographical location and diverse culture of the Sarawak people have necessitated the conduct of this research.

II. LITERATURE REVIEW

A. Concept of Conflict

The term conflict and dispute are being used interchangeably because some scholars do not differentiate between conflict and dispute. Conflict can be defined in many ways. Fenn [7] states that conflict can be described as a disagreement with a person or among a group of individuals regarding an idea, interest, or goal. Handy [8] views conflict as a process where an individual becomes uncomfortable with differing objectives in completing a task. According to Fenn [7], conflict occurs when there is the inconsistency of interest between two or more person, and therefore, could be considered as a pandemic. When the mechanisms for evading them are exhausted or inadequate then, the conflict may lead to dispute; a conflict, therefore, develops into a disagreement when the required techniques for solving the difference have failed [7,9]. Hence, dispute and conflict are distinct and linked with different defensible issues.

B. Types of Conflict

Conflict in the construction industry is divided into four types: intra-personal conflict, inter-personal conflict, intragroup conflict, and inter-group conflict.

Intra-personal Conflict

According to Okuntade [10] and Hellriegel [11], intra-personal conflict is the conflict which individual worker faces in their daily activities in the construction industry. This view means that intra-personal conflict is the conflict that happens within an individual [10, 11, 12]. Such conflict can be described as the conflict that occurs when decisions need to be taken, and it is a conflict of the mind.

Interpersonal Conflict

Inter-personal conflict is the form of conflict between two or more individuals. Inter-personal conflict occurs when parties are at variance in their views towards achieving a specific goal. It also happens when there is a natural difference in human personality, work ethics, or belief. For example, the workmate may disagree over the strategies of problem-solving or sharing resources with others, or an employee may enter conflict with the client or customer [10, 12-13, 14].

Intra-group Conflict

Intra-group conflict is the conflict among groups in the same team or command. In other words, intra-group conflict is the conflict between some or all of the group members within an organization. The intra-group dispute involves more people than the intra-personal conflict and interpersonal conflict [8, 13-14].

Inter-group Conflict

Inter-group conflict is the conflict that involves two or more groups within an organization. Such conflict occurs between a group of people based on race, religion, ethnicity, or level of decision-making. It could be formal or informal in these groups, and the members of these groups interact with each other for different purposes. These groups are different

in goals, activities of the work, power, and prestige [10].

C. Cause of Conflict

Research conducted regarding the conflict in the construction industry showed that conflict is uncontrollable to a specific national system. The book titled "Dispute Resolution & Conflict Management in Construction" evaluated several legal systems of 20 countries from Europe and North America to the Middle East and Asia [15]. It also established that conflict in the construction industry might be due to the nature or location of the country, social, political, cultural, religious, and environmental features.

Daoud and Azzam [16] identified five leading causes of construction conflict in the Middle East construction industry. They include owners' modifications to the standard condition of the contract, concerned parties' inability to understand the contract clauses, disturbance of parties' performance by local culture, changes in the regulation of the law and legislation, and poor documentation during the administration of the contract.

Furthermore, Kumaraswamy [17] summarizes the causes of conflict in Hong Kong into proximate cause and root cause. He states that the diversities between the consultant, client, and contractor arising from the construction grievance.

According to Gould [18], possible conflicts in the construction industry cannot be proven to be the result of the root cause. For example, the purpose of the conflict might be due to the incompetence of project contributors and insufficient information provided by the client. Also, immediate apparent causes are proximate causes such as the client's slow response or change by the client. Consequently, these proximate causes may lead to conflict.

In the United Kingdom (UK), the most common cause of conflict in the construction industry is negligence while in Australia, indecisiveness and failure are the most common causes of conflict. Watt & Scrivener [19] conducted a survey and computed the data from 60 building issues within two nations. From the study, 290 causes of these issues have been recognized. Then, these causes were further categorized into 21 different categories that were again sub-divided into five sub-group subjects according to their nature. The five groups are payment, determination of the agreement, time, tort, the location, and implementation of work.

Mansfield [20] researched the conflict in the Nigerian construction industry. The finding shows that the conflict is caused by the finance and payment arrangement, poor management, shortage of materials, inaccurate estimation, and overprice fluctuations. Ogunlana & Promkutong [21] also conducted a study on construction conflict in Thailand. It was found that the conflict faced by the construction industry in Thailand could be the shortage or inadequate infrastructure caused by the client and consultant, or caused by the contractor's incompetence.

Mezher & Tawil [22] surveyed the cause of conflict in Lebanon's construction industry from the standpoint of owners, contractors, and architectural or engineering firms.

It was found that the owner had more concern with the financial issues of the contract rather than the contractual relationship.

Also, the consultant considered project management issues to be a significant cause of conflict. The cause of conflict reported by researchers from different countries are summarized in Table 1:

Table 1: Cause of conflict in the literature

Author	Country	Findings
Daoud & Azzam, 1999	Middle East	Five major cause of conflict in construction contracts: Alteration, Lack of understanding, variation in legislation and guidelines, poor communication and the Impact of local culture.
Mezher & Tawil, 1998	Lebanon	Financial issues, contractual relationship, project management issues
Kumaraswamy, 1997	Hong Kong	Two areas: roof cause and proximate cause
Ogulana & Promkutig, 1996	Thailand	Shortage of inadequate in industry infrastructure, contractor incompetence
Watts and Scrivener, 1995	United Kingdom & Australia	Comparison of 60 sued construction conflict in UK & Australia; 290 cause of conflict categories into 50sub-group.
Mansfield et al, 1994	Nigeria	Finance and payment arrangement, poor contract management, shortage in materials, inaccurate estimation and over price fluctuations.

D. Causes of Conflict among Construction Players

Though many studies have been conducted and the casual factor of construction conflict cannot fit into a single framework. Literature has shown that some of the causal factors of conflict can be attributed to the construction parties such as contractor, client, and consultant. Consequently, this study has grouped the construction conflict into three major themes: client, consultant, and contractor. It is summarized in Table 2.

Table 2: Causes of Conflict

Group	Causes of conflict
Client	Insufficient funding. Impractical allocation of resources. Wrong choice of contractor Slow decision making. Client behavior Late site handover

	Change of location of the construction site Ambiguities in contract documentation Design change due to variation of developers Poor contractor’s sub-contractor Improprate construction method Contract award to an incapable contractor
Contractor	Poor contract management Scope change or changing of the order by the contractor Inappropriate coordination of information
Consultant	Inadequate design Poor contract management Late identification and resolution of drawing and specification Error and omission in project design
Other	Underpayment term Poor quality materials Unskilled site workforce Site problem Poor communication

III. METHODOLOGY

A. Research Method and Instrument

This study adopted a quantitative research strategy in carrying out the research. Copies of the questionnaire were administered to the targeted population.

The questionnaire was divided into two sections: Section A- Respondent’s profile and background. Section B- containing information on causes of conflict among construction players and the most critical factors causing conflict among construction players in Sibu Town. Moreover, a 5 point Likert Scale (1= not important, 2= less important, 3=moderately important, 4= important and 5=very important) was adopted to answer the questions in Section B.

B. Data Collection

According to Leary [23], a questionnaire survey is used to collect data because it is cost-effective and more comfortable to administer than a personal interview.

The copies of the questionnaire were distributed by hand and emailed to the respondents representing each construction firm, consisting of a quantity surveyor, project manager, architect, consultant, contractor, and engineer.

C. Sampling Techniques

There are two main types of sampling techniques: probability and non-probability. Probability sampling is a method that allows each of the individuals to be chosen randomly by chance. Simple random sampling is an example of the probability sampling which was adopted in this study to select the sample size.

Non-probability sampling is a technique that does not attempt to select a random sample from the population of interest, but it is used to select elements that are involved in the sample [24].

Simple random sampling was used in this study because the population need not be divided into sub-population due to its disproportionality.

D. Sample Size

This research used the Slovin formula to calculate the sample size, as stated by Israel [25]. This formula was used because the sample size provides proportionately more information for a small population than for a large population. The total population of the respondents was 384, which consisted of 364 contractors, six consultants, and 14 developers. The sample size was determined using the formula [14].

$$n = \frac{N}{1 + N(e)^2} \tag{1}$$

Where n = sample size

N = Total population = 384

e = Probability of committing an error in selecting a small representative of the population

I.e. e = 0.05(95% confidence level)

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{384}{1 + 384(0.05)^2}$$

$$= 196$$

Hence, the sample size for this study was 196 respondents.

E. Data Analysis

In this study, descriptive statistics was adopted as the targeted population of the Sibubconstruction firm was small, and the response rate was low. The descriptive statistics were used to determine the frequencies, mean, standard deviation, and percentage of collected data in the returned copies of the questionnaire.

Statistical Package for the Social Science (SPSS) version 12.0.1 was used in this study to analyze the data which was collected from the returned copies of the questionnaire. The mean attribute score (MAS) was used in this study. As recommended by Emerson [26], the mean of the response was interpreted by extrapolating the following scale, as shown in Table 3. The range is commonly used to interpret the five-point Likert scale.

Table 3: Classification of the Average Index

Classification	Rating Scale
Most Important	4.50 < Mean Index > 5.00
Important	3.50 < Mean Index > 4.49
Moderately Important	2.50 < Mean Index > 3.49
Less Important	1.50 < Mean Index > 2.49
Not Important	1.00 < Mean Index > 1.49

Source: Emberson et. al (2005)

Moreover, the Relative Importance Index (RII) was also used in this study. Relative Importance Index (RII) method is frequently used for data collected through the ranking scale or measurement method. In this research, the five scale rating measured the respondents' perspective regarding the causes of conflict in Sarawak, as asserted by Kumaraswamy and Chan

[27]. The relative importance index was calculated using the formula presented as follows:

$$(RII) = \frac{\sum(1x_1 + 2x_2 + 3x_3 + 4x_4 + 5x_5)}{A \times N} \tag{2}$$

Where,

X_1= number of the respondents for rarely occur / Not Important

X_2 = number of respondents for seldom occur / Less Important

X_3 = number of respondents for occur moderately / Moderately Important

X_4 = number of respondents for often occur/Important

X_5 = number of respondents for most common occurrence / Very Important

A = the highest weight (i.e. 5 in this case)

N = total respondent

IV. DISCUSSION OF RESULT

A. Respondents' Background

Tables 4 below presents the demographic features of the respondents that participated in the survey.

Table 4: Demographic Feature of Respondents

Type of Profile		
Respondent's Organisation	Frequency	Percentage
Developers	16	20.0
Contractors	50	62.50
Consultants	6	7.5
Client organizations	8	10.0

B. Organization

Fig. 1 shows that 80 respondents were from different companies. They were divided into four categories, which are the developer company, contractor company, consultant company, and others. The graphs show that the developer company consists of 16 respondents (20%), a contractor company consists of 50 respondents (62.5%), a consultant company consists of 6 respondents (7.5%) and the other consists of 8 respondents (10%).

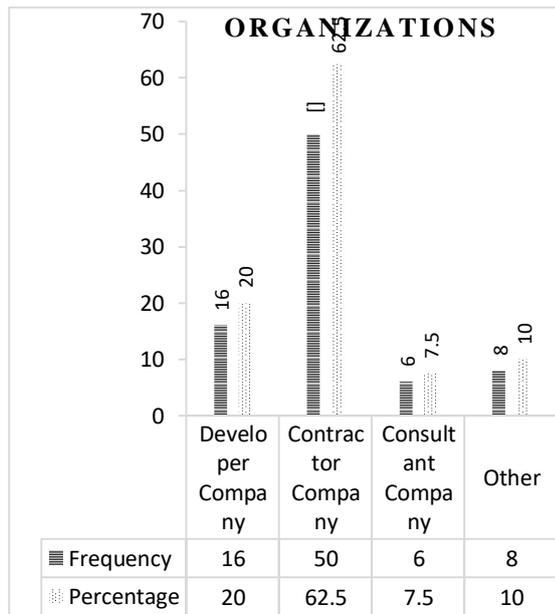


Fig. 1: Organizations of Respondents

C. work experience

Fig. 2 shows that 18 respondents (22.5%) had less than five years of work experience. Most of the respondents had between 5 and 16 years of work experience, 20% had more than 16 years of work experience while respondents with more than 20 or with 30 years of work experience were 8.8%.

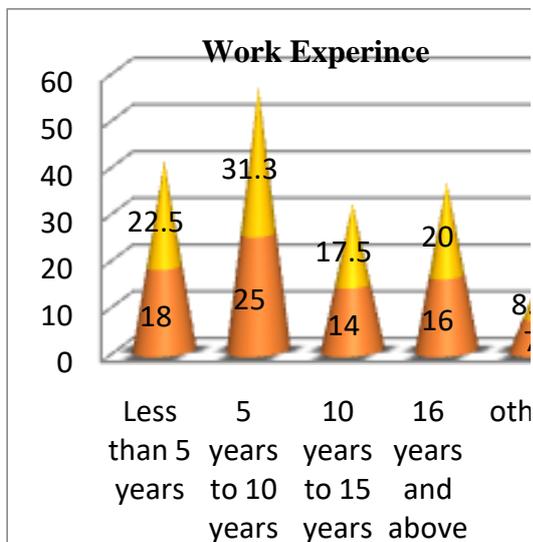


Fig 2: Work Experience

D. The Causes of Conflict among Construction Players

Table 5 below shows the responses to Section B of the questionnaire on the three groups of the factors causing conflict in Sarawak. The Relative Important Index (RII) computed for each factor identified the most important to the least significant cause of conflict in the construction industry. According to the calculated RII values, these factors were ranked and showed in Table 5. The Statistical Package calculated the mean for Social Science (SPSS), as shown in Table 5 below.

Table 5: Grouping of the factors causing conflict

Group	No.	Causal Factors of Conflict	Mean	RII
Client Related Conflicts	1	Insufficient Funding	4.65	0.930
	2	Wrong Choice of Contractor	4.51	0.903
	3	Impractical Allocation of Resources	4.41	0.883
	4	Slow Decision Making	4.28	0.855
	5	Client Behaviour	4.21	0.843
	6	Ambiguities in Contract Document	4.15	0.830
	7	Late Site Hand Over	4.11	0.823
	8	Change of Location of Construction Site	4.10	0.820
	9	Design Change due to Variation of Developer	4.04	0.808
Contractor Related Conflicts	1	Poor Coordination of Subcontractor	4.50	0.900
	2	Contract Award to Incapable Contractor	4.38	0.875
	3	Inappropriate Coordination of Information	4.30	0.860
	4	Poor Contract Management	4.28	0.855
	5	Scope Change to Change order by Contractor	4.25	0.850
	6	Inappropriate Construction Method	4.19	0.838
Consultant Related Conflict	1	Poor Contract Management	4.51	0.903
	2	Late Identification and Resolution of Drawings and Specification	4.24	0.848
	3	Error and Omissions in Project Design	4.16	0.833
	4	Late Preparation of Drawings and Other Contract Documents	4.11	0.825
	5	Inappropriate Design	3.98	0.795
Other Related Conflict	1	Site Problem	4.56	0.913
	2	Poor Quality Materials	4.13	0.825
	3	Breakdown in Continuation	4.11	0.823
	4	Unskilled Workforce	4.10	0.820
	5	Under Payment Terms	4.05	0.810

E. Client-Related Group

Table 6: Ranking of client-related causes of conflict

	No	Factor Cause of Conflict	Mean	RII	Rank
Client Related Group	1	Insufficient Funding	4.65	0.930	1
	2	Wrong Choice of Contractor	4.51	0.903	2
	3	Impractical Allocation of Resources	4.41	0.883	3
	4	Slow decision	4.28	0.855	4
	5	Client Behaviour	4.21	0.843	5
	6	Ambiguities in Contract Document	4.15	0.830	6
	7	Change of Location of Construction Site	4.11	0.823	7
	8	Late Site Handover	4.10	0.820	8
	9	Design Change due to Variation of Developer	4.04	0.808	9

Based on the ranking, the first ranking factor is "insufficient funding" (RII: 0.930). The client or financier who makes payment to both contractors and consultants because the operationalization of the project depends on smooth cash flow. Therefore, if there is conflict in this area, the project's progress is negatively affected. "The wrong choice of the contractor" (RII: 0.903) is ranked as the second cause of conflict. Clients sometimes need to appoint a contractor to deliver the work on a construction site. However, the wrong choice of contractor such an inexperienced or irresponsible contractor may cause conflict. This ranking is because the inexperienced or irresponsible contractor may not be able to handle the work properly, hence creating a delay in the progress of the project work.

The third-ranked cause of conflict is the "impractical allocation of resources" (RII: 0.883). Before the project starts, the client has to make sure all the materials or funds needed to meet the requirements.

However, the carelessness of the client, such as insufficient funds may lead to conflict. The fourth-ranked cause of conflict is slow decision making by the client (RII: 0.855). A slow in decision-making by the client can cause delays of work on-site, and may eventually lead to conflict between the two parties. "Client behavior" (RII: 0.843) is ranked fifth. Client behavior such as changing the standard of contractor's condition, changing the design after the construction has started may lead to conflict. "Ambiguities in contract document" (RII: 0.830) is ranked sixth. Ambiguities in the documentation of the contract may lead to the unclear specification. This behaviour can cause errors and may lead to an unrealized goal in the process of executing the project work.

"Late site hand over" (RII: 0.820) is ranked seventh among the conflict-related factors. The client's late handing over the construction site to the contractor may cause a delay in the project and thus increase the project cost. This increase in cost may eventually cause conflict between the client and the contractor. "Change of construction site location" (RII: 0.823) is ranked number eight. Change of the construction site may lead to a shift in the entire nature of the work as initially required under the contract, thus causing extra work, which may lead to conflict.

"Change of design due to variation of developers" (RII: 0.808) is ranked as the last factor among all the client-related conflict. A developer's wish to reduce the cost may lead to replacing the materials with low quality, which may cause risk in the future. However, when the contractor and designer disagree with the replacement done by the developer, it may lead to conflict because they have failed to achieve a consistent idea.

F. Contractor-Related Group

Table 7: Ranking of contractor-related causes of conflict

	No	Factor Cause of Conflict	Mean	RII	Rank
Contractor Related Group	1	Poor Coordination of Sub-contractor	4.50	0.900	1
	2	Contract Award to Incapable Contractor	4.38	0.875	2
	3	Inappropriate Coordination of Information	4.30	0.860	3
	4	Poor Contract Management	4.28	0.855	4
	5	Scope Change of Change order by Contractor	4.25	0.850	5
	6	Inappropriate Construction Method	4.19	0.838	6

Based on the ranking, the first ranked cause of conflict is "poor coordination of sub-contractor" (RII: 0.900). Poor coordination of sub-contractor by the contractor may lead to conflict because the sub-contractors may not properly manage and complete their will on time, which can lead to delay of the project. "Contract award to the incapable contractor" (RII: 0.875) is ranked as the second cause of conflict. Conflict may arise when the consultant insists that the work must be given to a specific contractor. This situation is sometimes associated with shoddy work and delay in project completion, which can cause conflict.

The third-ranked cause of conflict is the "inappropriate construction method" (RII: 0.860). If a contractor chooses an inadequate method for performing the task in construction, it may lead to conflict. "Poor contract management" (RII: 0.855) is ranked fourth. To successfully bid the projects, the

contractor must be a professional in contract writing. Poor management of contract by the contractor may lead to time overrun, which eventually may cause the delay of the project. Delay of the project may result in negative impacts such as a conflict between contractor and developer, over cost, loss of productivity and profit, and contract breaks off.

"The change in the order of the scope by the contractor" (RII: 0.850) ranked fifth. When a contractor intends to avoid extra cost by making changes, such changes may affect the scope of work and contract sum. Changes without informing the developer may lead to conflict. "Inappropriate coordination of information" (RII: 0.838) is ranked the last among contractors-related conflict. Inappropriate coordination of information such as being unable to manage information effectively and failure to transmit the information to other parties may cause a delay in the project work. This situation may eventually lead to conflict.

G. Consultant-Related Group

Table 8: Ranking of consultant-related causes of conflict

	No	Factor Cause of Conflict	Mean	RII	Rank
Consultant Related Group	1	Poor Contract Management	4.51	0.903	1
	2	Late Identification and Resolution of Drawing and Specification	4.24	0.848	2
	3	Error and Omission of Project Design	4.16	0.833	3
	4	Late Preparation of Drawing and other Contract Document	4.13	0.825	4
	5	Inappropriate Design	3.98	0.795	5

Based on the mean value criteria, the first ranked area is "poor contract management" (RII: 0.903). A consultant who manages a project without executing the required management principles may eventually bring about conflict in the process. "Late identification and resolution of drawing and specification" (RII: 0.848) is ranked as second. Late identification and resolution of drawing and specification may lead to conflict. This situation may occur because the consultant did not identify the errors and omissions in the functioning drawings early enough.

Thus, activities already completed may require alteration when such errors and omissions are discovered after the commencement of the project. This situation may eventually lead to conflict. The third-ranked cause of conflict is "error and omission in project design" (RII: 0.833). Errors made in the design process by the consultant may cause difficulty in achieving an acceptable level. When the errors and omissions in a design are not acceptable by other stakeholders, such as developers and contractors, the design consultant may be severely criticized, thereby leading to conflicts.

"Late preparation of drawing and other contract documents" (RII: 0.825) is ranked as the fourth cause of conflict. Late preparation of drawings and other contracts documentation such as the Bill of Engineering Measurement and Evaluation may lead to conflict because it may influence the smooth running of the work.

This situation may lead to a delay in the project, which in turn may cause conflict. "Inappropriate design" (RII: 0.795) is ranked last among the consultant-related conflict. The extra time taken to review, amend, and accept an inappropriate design for construction works may cause a delay in the execution of a project. When an error is identified in the design, works are temporarily suspended until the consultant address such error. There is a high possibility of conflict occurring because other construction parties may not accept the amendments made by the consultant.

H. Other Related Group

Table 9: Ranking of other related causes of conflict

	No	Factor Cause of Conflict	Mean	RII	Rank
Contractor Related Group	1	Site Problem	4.56	0.913	1
	2	Poor Quality Materials	4.13	0.825	2
	3	Breakdown in Communication	4.11	0.823	3
	4	Unskilled Site Manpower	4.10	0.820	4
	5	Unclear Payment Terms	4.05	0.810	5

Based on the mean value criteria, the first ranked cause is "site problem" (RII: 0.913). Inadequate site or site investigation report leading to unforeseen site conditions could give rise to conflict between the various parties involved. Again, when the main contractor denies the sub-contractor access to the site, there can be conflict. "Poor quality material" (RII: 0.825) is ranked as second. Poor quality of material may lead to conflict. This situation may occur because the poor quality of the construction materials may lead to poor workmanship, thus leading to an unacceptable product. Most often, the project owner insists that correction be made or that parts of work be removed entirely. "Breakdown in communication" (RII: 0.823) is ranked as third among the causes. It may result from an inability to interpret the drawings and failure to execute instructions. Ineffective communication can occur when one party fails to communicate effectively with one another concerning issues like design, compensation, and payment.

"Unskilled site manpower" (RII: 0.820) is ranked the fourth. Employing an unskilled workforce at the project site can obstruct the performance of work as specified and may lead to error or mistake. For example, if the workers in the project site do their work without following the instructions and specifications of the project, extra time and cost may be needed on alteration and correction, thereby leading to conflict. "Unclear payment term" (RII: 0.810) is ranked last among the other factors. Unclear payment term occurs when the developer is not able or refuses to pay for the completed work as stated in the contract; this also has the possibility of causing conflict.

V. CONCLUSION

This study has identified the most common factors that cause conflict among the construction players in Sarawak. Furthermore, the factors have been categorized into four: client-related conflict group, contractor-related conflict group, consultant-related conflict group, and other related conflict groups. The most severe client-related conflict is insufficient funding, while the most severe contractor and consultant relevant factor is poor contract management.

However, for the category under other factors, the site problem is the most critical factor.

The present study has drawn some practical implications for the construction industry. First, the finding of the present study has given a better understanding of the construction parties with regards to factors causing conflict and the method used to manage them. It was, therefore, recommended that clients should appoint a quantity surveyor for the cost advice and plan the budget to prevent the factors causing conflict. Besides, compromising methods should be avoided to sufficiently manage funds.

A significant limitation to this research is the research scope. Data was collected from the respondents in Sarawak state alone. Future research may examine the factors causing conflicts among the construction players in Sabah state.

REFERENCES

- O. A. Ejowomu, O. S. Oshodi, & M. K. Onifade, Causes of Conflicts in Construction Projects in Nigeria: Consultant's and Contractor's Perspective", *Nigerian Journal of Technology*, 2016, pp. 270-277.
- S. M. Levy, "Project Management in Construction 5th Edition", 2007, pp. 261-293.
- G. Younis, "Minimizing construction disputes: the relationship between risk allocation and behavior attitude", 2016.
- E. Z. Al-Sibaie, A. M. Alashwal, H. Abdul-Rahman, U. K. Zolkafli, "Determining the relationship between conflict factors and performance of international construction projects," *Engineering, Construction, and Architectural Management*, 21(4), 2014, pp. 369-382.
- F. Ling and W. Khoo, "Improving relationships in project teams in Malaysia", *Built Environment Project and Asset Management*, 6(3), 2016, pp. 284-301.
- B. Panahi, E. Moezzi, C. N. Preece, W. N. Wan Zakaria, "Value conflicts and organizational commitment of internal construction stakeholders", *Engineering, Construction and Architectural Management*, 24(4), 2017, pp.554-574.
- P. Fenn, D. Lowe, & C. Speck, "Conflict and dispute in construction", *Construction Management and Economics*, 1997, pp. 513 -528.
- Handy, "Understanding Organization Harmondsworth, England: Penguin Book Ltd, 1983.
- M. Loosemore & R. Dehebani, "Tension, Problem and Conflict Behaviour", In Proceedings of CIBW 65 International Symposium on Building Procurement, University of Hong Kong, 1994.
- T. F. Okuntade, "Causes and effects of conflict in the Nigerian construction industry", *International Journal of Technology Enhancements and Emerging Engineering Research*, 2(6), 2014.
- J. J. D. Hellriegel, R. W. Slocum, Woodman, "Organizational behavior", 7th Edition, New York: West Publishing, 1995.
- A. J. Karen, "The influence of proportional and perceptual conflict composition on team performance", *International Journal of Conflict Management*, 11(1), 2000, pp. 56-74.
- S. E. Jackson, & R. S. Schuler, "A meta-analysis and conceptual critique of research on role and ambiguity and role conflict in work settings", *Organizational Behaviour and Human Decision Processes*, 36(1), 1985, pp. 16-78.
- Simmons & Peterson, "Managing Conflict in Organization: Fourth Edition", 2000.
- P. Fenn, M. O'Shea, & E. Davies, "Dispute Resolution and Conflict Management in Construction: An International Review", London: Taylor and Francis, Ed.1998.
- O. E. K. Daoud and O. Azzam, "Sources of disputes in construction contracts in the Middle East", *Technology, Law and Insurance*, 1999, 4(1-2), pp. 87-93.
- M. Kumaraswamy, "Conflicts, claims, and disputes in construction", *Engineering Construction & Architectural Management*, 4(2), 1997, pp. 95-111.

18. N. Gould, P. Capper, G. Dixon, & M. Cohen, "Dispute Resolution in the Construction Industry", London: Thomas Telford, 1999.
19. V. Watts, & J. Scrivener, "Building disputes settled by litigation comparison of Australian and UK practice", *Building Research & Information*, 23(1), 1995, 31-38.
20. N. Mansfield, O. Ugwu, & T. Doran, "Cause of delay and cost overruns in Nigeria construction projects", *International Journal Project Management*, 12(4), 1994, pp. 254-260.
21. S. O. Ogunlana, & K. Promkuntong, "Construction Delays in a Fast-Growing Economy: Comparing Thailand with Other Economies", *International Journal of Project Management*, 1996, pp. 37-45.
22. T. Mezher & W. Tawil, "Cause of delays in the construction industry in Lebanon", *Engineering Construction & Architectural Management*, 1998, pp. 252-260.
23. M. R. Leary, "Behavioral Research Method (2nd Edition)", Pacific Grove, C.A Brookes/Cole, 1995.
24. M. P. Battaglia, "Nonprobability Sampling. Encyclopedia of Survey Research Methods, SAGE Publication. Bvumbwe, An Exploratory Study of Dispute Resolution Methods in the South African Construction Industry", *International Conference on Information and Finance*, 2011, pp. 32-36.
25. G. D. Israel, "Determining Sample Size. Program Evaluation and Organization Development," University of Florida, 1992.
26. E. Emerson, S. Malam, I. Davies, & K. Spencer, "Adults with Learning Difficulties in England 2003/4. London: Office of National Statistics," 2005.
27. M. M. Kumaraswamy & D. W. M. Chan, "Contributors to construction delays", *Construction Management and Economics*, 16:1, 1998, pp. 17-29.

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