Learning from the Past: Analysis of Factors Contributing to Construction Project Disputes in Australia

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Abstract

It is commonly acknowledged that the nature of construction projects is largely fragmented as it is invariably carried out by diverse parties having different aims and objectives. Such a lack of integration typifies the nature of construction industry and arguably makes it prone to project disputes. This paper presents a research study that investigated the key factors that contributed to actual disputes occurred in past construct projects in Australia. The research provides a review of underpinning background knowledge on construction project disputes, as well as their origins. In particular, the research focuses on five main types of disputes: breach, failure to settle and appeal, interpretation, insurance and indemnity and security of payments. Based on this theoretical framework, a qualitative analysis was conducted on 78 court cases data obtained from the LexisNexis database to determine key factors contributing to construction project disputes. The results of this investigation determined that the main factors contributing to disputes were damages, negligence, timing, payments and variations. The 'payments' factor was the highest contribution factor (more than 50%) across all the analysed dispute types. This suggested that most of the disputes originated from a payment disagreement. Additionally, "breach" was found to be the most frequent type of dispute occurred, with 'damages' as the main contributing factor within this type of dispute. The main implication derived from the research findings is that the identified factors contributing to disputes have some element to them that can be specified in the contract and potentially help prevent a dispute, for instance: the amount of general damages that an alleged party can claim; the specification of materials to avoid defective work and thus negligence; the procedure to follow when an extension of time is required; a description of progress and payment claims following its respective legislation; and an appropriate agreement when a contract variation is needed. If these issues are carefully described and understood in the contract, potential disputes can be avoided.

Keywords: Construction, Disputes, Factors, LexisNexis, Australia

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1. Introduction

The construction industry is of great significance to Australia. In 2009, it was reported to employ 9.1% of the country's workforce, making it the fourth largest industry and contributor to Australia's GDP (Gross Domestic Product) (Australian Bureau of Statistics, 2010). Furthermore, Campbell (1997) explains that the construction industry is extensive, formed by diverse types of professions, and fragmented, including different aims and objectives according to the participating parties. Consequently, these characteristics make the industry prone to construction project disputes.

The Australian Bureau of Statistics recorded that in 2004-2005 the construction industry was responsible for almost 50% of all industry disputes. During 2008 and 2009, the dispute percentage compared to the rest of the industries decreased to 27% (Australian Bureau of Statistics, 2010). Such improvement could possibly mean that Australia is embracing various dispute resolution and avoidance methods; however the industry still needs to encourage these approaches further.

Diekmann and Nelson (1985) state that construction industry frequently fails to analyse the actual costs associated with dispute occurrences. For instance, disputes have a great impact on the number of working days lost in the construction industry as opposed to any other industry. The construction industry lost nearly one additional day of work, when compared to employees involved in industrial disputes across all industries (Australian Bureau of Statistics, 2010). Therefore, it is in the industry's benefit to be aware of the factors contributing to disputes to be able to control and minimise any legal expenses resulting from such disputes. In addition, companies need to take into account that there are not only direct financial costs incurred when experiencing a dispute. Hidden costs, including time-value of money, damage of reputation and long-term business relationships, and opportunity costs, among others, should also be considered (Cushman and Carter, 2001). Because of the high cost of disputes identified above, it is important to understand the critical factors that lead to disputes so they can potentially be minimised, or avoided altogether. The aim of the study presented in this paper is to highlight significant sources of disputes that are evident in past construction projects. It is also aimed to provide some recommendations on dispute resolution and prevention methods, as many of the analysed disputes could have been prevented.

The paper details an analysis to identify the most significant factors contributing to construction project disputes in Australia. Although there are a number of past research studies that investigated the similar issue using survey questionnaire and interview techniques, this study took a different approach in determining the most recurrent 'factors' contributing to construction project disputes amongst 78 real-life court cases publicly available from an Australian law database. A qualitative analysis using NVivo 9 which involves the factors' contribution to each court case, as well as their frequency is presented. These factors were analysed to determine how, and the extent to which, they contribute to various types of construction project disputes.

In the next section, a theoretical background related to construction disputes, origins of disputes and types of disputes is presented to establish some key conceptual framework adopted in the study. The methodology employed to carry out the analysis is then explained, followed by the presentation and discussion of the identified factors contributing to construction project disputes. The paper concludes with the summary of key findings and recommendations.

2. Theoretical background

2.1 Construction disputes

According to Black (2009), a 'dispute' is a conflict or controversy; a conflict of claims or rights; an assertion of a right, claim, or demand on one side, met by contrary claims or allegations on the other. Tillett (1991) defines a dispute as something that typically highlights the existence of incompatibilities between the parties. For Morgan (2008), dispute is a contentious issue that the parties to a construction contract disagree upon, or would be likely to disagree upon, and which needs to be resolved by some means or other, either within or outside the contract.

Based on these overarching definitions, and for the purposes of this study, a construction dispute is defined as a disagreement between two or more parties involved in a construction project where litigation is needed. In order for a dispute to arise, an aggrieved party usually serves a written notice either by hand or by certified mail to the party in default. Therefore, it is only called a dispute when all of the parties involved have been notified with the details of the contention (Standards Australia, 1997).

2.2 Origin of disputes

Many problems, arguments and contract variations arise every day in a construction project. The leaders of the project make vital decisions daily to keep the project flowing; these decisions may differ from what the contract specifies. Nevertheless, in most projects the problems are resolved between the people on site, without it becoming a dispute (Campbell, 1997). So, if the involved parties are dealing with these contract changes regularly, what is it that transitions them into a dispute? Construction problems manifest themselves when errors are revealed; changes and ineffective communication create bottlenecks and thereby inefficiency. Cheung and Yiu (2006) summarise specific sources of construction disputes based on an extensive review of past research. Some of the common sources of disputes identified in their research include:

- Variations (due to site conditions, client changes, design errors, etc.);
- Ambiguities in contract documents;
- Failure to comply with payment provisions;
- Timing (schedule delays, delayed design information, delayed site possession, etc.);
- Damages; and
- Professional negligence.

2.3 Types of disputes

Within the context of Australian construction industry, Hollingdale et al. (2009) categorise disputes into five main types: (1) Breach of contract; (2) Failure to settle and appeal; (3) Insurance and indemnity; (4) Contractual interpretation; and (5) Security of payments. Each of these types of disputes is described below.

2.3.1 Breach of contract

The objective of a contract is to represent in writing, the sole declaration of an agreement made between the parties involved. However, the lack of knowledge or understanding of it makes the contract likely to be broken. The primary obligation of a contractor is to carry out the work required, to agreed standards, in a specified time; characteristics that should be detailed in the related contract (Adriaanse, 2005). Therefore, if any of the agreements have not been honoured by one or more of the participating parties on the contract, it may provoke a dispute. The disputes that arise by not following the specifications of the contract are classified as breach.

2.3.2 Failure to settle and appeal (arbitration and dispute resolution)

The construction industry is trying to embrace and encourage alternative dispute resolutions (ADR) as a process to follow in the appearance of a conflict, before or instead of the contractual parties proceeding to litigation. It involves various processes that help prevent and/or manage a conflict between the contractual parties. In order to make sure that the industry is aware of these techniques, it became a compulsory action to be described in the contract. The aim of arbitration and mediation strategies is to make the construction industry realise that the best approach to dealing with disputes is to avoid them altogether (Feld and Carper, 1997). However, the process of managing a conflict is still fairly new to the construction industry of Australia. Therefore, it is reasonable to think that it will take time for the industry to fully recognise it as a primary option before litigation. Nevertheless, there are companies that are already using ADR. Some contracts nowadays dedicate a particular clause for Arbitration and Dispute Resolutions; the breach of such a clause could cause a dispute.

2.3.3 Insurance and Indemnity

In the construction industry it is of common practice to have a management plan for a project; this plan usually includes risk assessment, risk allocation and risk management. The parties to a construction contract carry particular types of insurance that reflect the risks that they are taking on in connection with the project (Hollingdale et al., 2009). The nature of a contract of insurance, commonly referred to as an insurance policy, is that the insurer undertakes to make payments to or for the benefit of the insured on the occurrence of some event (Uff, 2009). Three common insurance policies in the industry are works/property insurance, public liability insurance and workers' compensation. The insurance provisions in construction contracts are closely associated with those for indemnity and care of the works. It is common nature for the contractor to be responsible for the safety and protection of all

the work, temporary work, plant and materials and for any damage to property or injury to the person. A dispute is likely to happen if the responsible party fails to protect any of these previously mentioned elements; consequently the respective party could be entitled to a breach of duty and could face severe consequences for it.

2.3.4 Contractual interpretation

Contractual interpretation, as the name implies, refer to contracts that leave room for personal interpretation. When the interpretation of the contract differs from one party to the other, a dispute is likely to arise. If the contracting parties attach different meanings to the same term, then neither is bound by the understanding of the other. Nevertheless, if one of them knew or had reason to know what the other understood the disputed term to mean, and did not follow their definition, a dispute is probably going to occur. The words of a contract are normally given their ordinary and popular meaning; this is unless the parties use them in a technical sense or if a special meaning is given to them. Therefore, the contract should be drafted carefully to accurately reflect the agreement between the parties, which would also possibly prevent a dispute associated with its interpretation.

2.3.5 Security of payments

There are generally two main participants in a construction contract: the client and the contractor. The client, who proposed a project, expects to see the works specified in the contract in exchange for the agreed amount of money. On the contrary, the contractor expects the payments in exchange for the agreed works. There are generally implied terms in the contract in relation to the payments, their distribution, and sometimes retention of a percentage of it. Given the fact that the parties which are performing the works depend on this payments in order to maintain functioning, a delay or an absence of payment could easily provoke a dispute. Nowadays, it is common practice to withhold a percentage of the payment from the principal contractor to its subcontractor(s) in appropriate circumstances. However, if the principal contractor withholds payment and a request to do so happens to be invalid, they may be liable for breach of contract. Unfortunately, it is not always clear when a principal contractor is required and allowed to withhold part of the payment (Bampton et al., 2011).

3. Methodology

The methodology employed in this study involved an extensive review of relevant literature to provide a theoretical understanding of construction disputes followed by the mining and analysis of qualitative data obtained from real court cases relevant to the Australian construction industry. The details of this analysis and the sample used for the analysis are presented in the following sections.

3.1 Sample

The sample used in this study consisted of 78 court cases extracted from LexisNexis database. The simple selection criterion of the cases was that they had to be relevant to the

construction industry in any State or Territory of Australia. The cases were heard in a number of different courts mainly including the High Court of Australia and the Court of Appeal, Supreme Court and Administrative Tribunal of every State and Territory.

The extraction of the cases from LexisNexis includes 78 cases from 1966 to 2012, involving companies or organisations participating in the construction industry; whether they were contractors, designers, builders, insurance companies, investors, or clients. The court cases used in this investigation have been made public and are available online; therefore, there is no breach of privacy or confidentiality towards any company or organisation. Nevertheless, the cases were only used to investigate the source of the dispute, rather than the outcome of the case. Also the identities of the parties involved in each case are not disclosed in the findings.

3.2 Analysis approach

The data from the selected cases were imported into NVivo 9 to perform a text analysis. NVivo 9 is a qualitative data analysis program that can perform two types of word queries: word frequency and word search. The word frequency feature (Figure 1) allows the user to identify the most repeated words. It provides an option to adjust the search; for instance, the number of letters was increased to a minimum of 4 to avoid common words that were not useful. Furthermore, it allows for deleting words that are of no interest; for example, Australia, Queensland, New South Wales, which were common words and were not needed for this particular query. This feature was used to identify the most significant factors contributing to disputes in the construction industry with reference to the list of factors presented in Section 2.2.

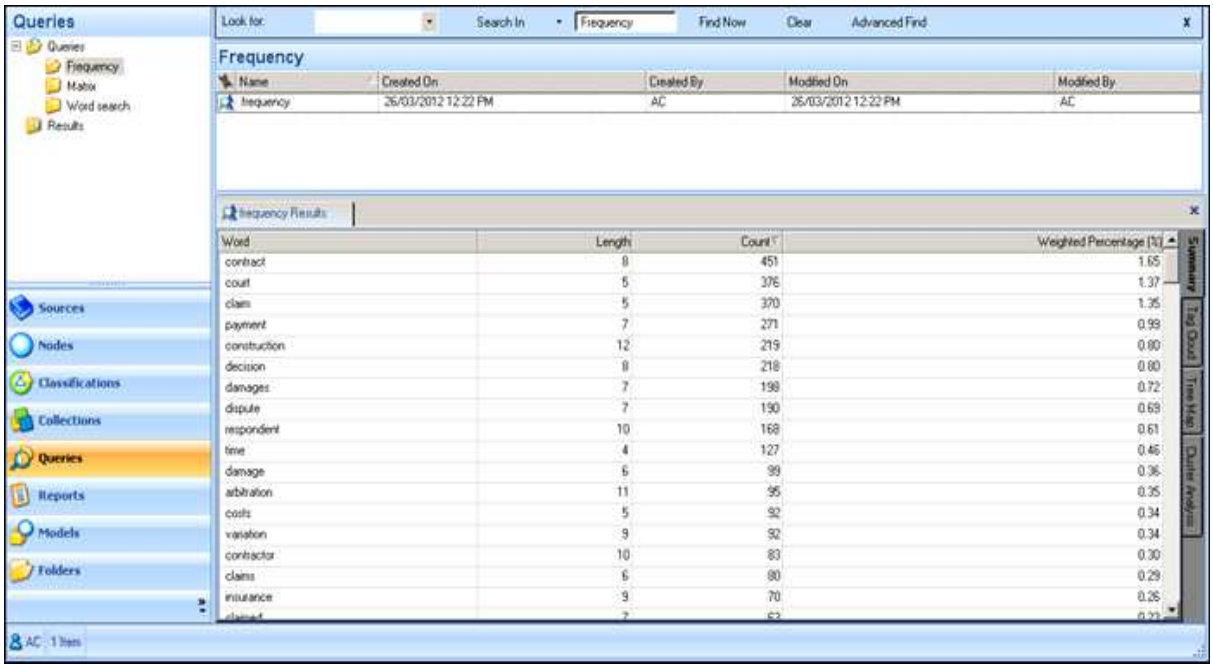

Figure 1: Word frequency queries in NVivo 9

Once the significant (most frequent) factors were identified, a word search was carried out in order to find any cases involving those terms or words with similar meanings. The word search facilitated the coding of the court cases. The coding feature allows each court case to be tagged in a 'types of dispute' and 'factors contributing to disputes', creating nodes and relationships between them. It is important to mention that each case can be tagged (or coded) into more than one dispute type and factor.

Following the coding of all cases, matrix coding was conducted. Matrix coding allows the user to compare items and display the results in a table or matrix. This feature was used to determine the frequency between the five types of disputes (as presented in Section 2.3), and the top five factors contributing to these disputes. Therefore, the matrix consisted of two parameters: types of disputes and factors contributing to disputes. Every court case was also coded into these parameters.

4. Results and discussion

4.1 Overall frequency of factors contributing to disputes

The factors contributing to construction project disputes found in this study were attained from the analysis of the 78 court cases and queries done through NVivo 9. By using word frequency queries, five factors having highest frequencies were identified. These factors are damages, negligence, payments, timing and variations. Word search queries were then carried out to identify how many of these court cases were associated with each of the identified factors contributing to construction project disputes, as illustrated in Figure 2. According to the figure, the most frequent factor was payments, accounting for 50 disputes out of the 78 analysed cases. It was closely tailed by damages (45 disputes); timing (38 disputes); variations (23 disputes); and lastly, negligence (17 disputes).

Not surprisingly, payments dominated as a root cause in more than 50% of the disputes. This is one of the most basic yet critical sources of disputes in the construction industry (and perhaps in any other industries). Fundamentally all of the parties involved in the contract require cash flow to maintain the business operations, whether it is for staff, materials, plant, administration, or any general construction expenses that arise every day. Consequently, and as stated previously, it is critical to describe, in detail, any payment related clauses in the contract. Although this does not guarantee that a dispute will not arise, it may prevent it from happening. Moreover, the factor of payments was also predominantly an additional 'indirect' source of dispute for the rest of the factors contributing to disputes. Some of the cases were not coded into the factor of payments, as that was not the primary source of the dispute. However, it is monetary compensation that parties to a contract generally seek to repair any damage done.

The factor of damages, similar to payments, was a strong factor contributing to construction disputes. Different events happened in the court cases generally came down to damages. In the appearance of a claim for damages, the cases analysed generally proceeded to ask for payment compensation. Therefore, it is recommended to include in the contract the amount

of general damages that the parties to it would be entitled to in case of a claim of damages being needed.

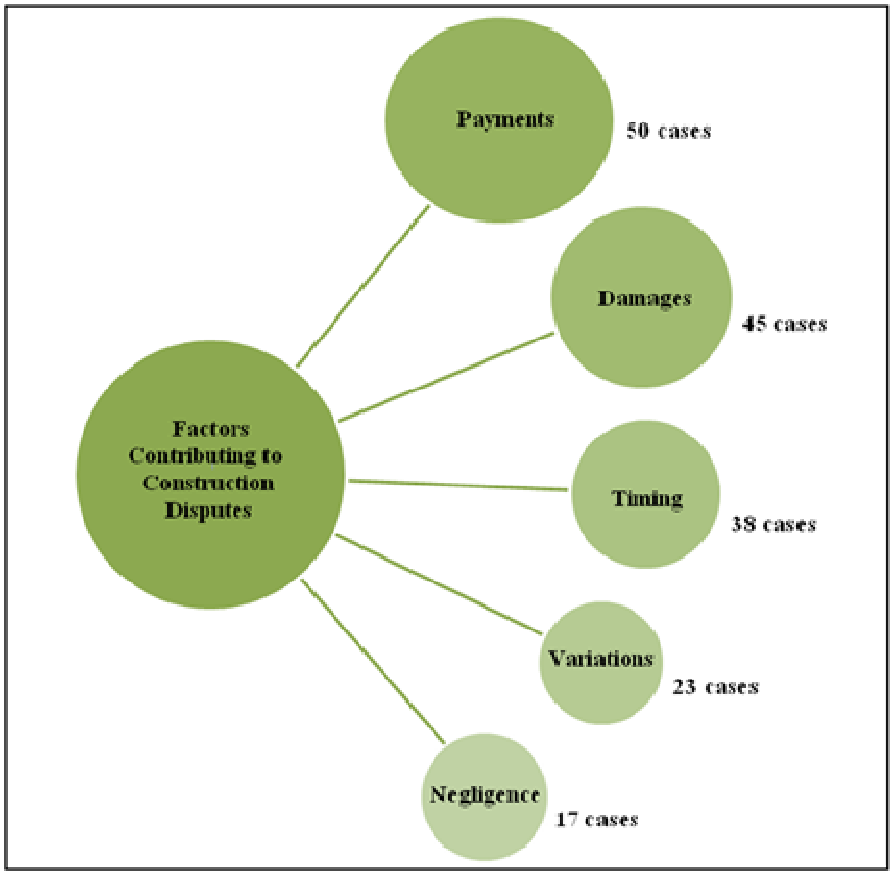

Figure 2: Top five factors contributing to disputes (by number of cases)

4.2 Frequency of the factors contributing to different types of disputes

Following the identification of the top five factors, the court cases were coded into one or more of the five types of disputes described in Section 2.3. Table 1 presents the numbers of court cases (as well as its respective percentage) that were coded into each factor as well as each type of disputes.

Table 1: Frequency of Factors Contributing to Different Types of Disputes

Type of dispute	**Contributing Factors**				
	Damages	Negligence	Payments	Timing	Variation
Breach of Contract	20 (26%)	7 (9%)	11 (14%)	7 (9%)	5 (7%)
Failure to Settle & Appeal	9 (12%)	1 (1%)	11 (14%)	10 (13%)	4 (5%)
Insurance & Indemnity	4 (5%)	6 (8%)	3 (4%)	3 (4%)	2 (3%)
Contractual Interpretation	7 (9%)	3 (4%)	8 (10%)	8 (10%)	5 (7%)
Security of Payments	5 (6%)	0 (0%)	17 (22%)	10 (13%)	7 (9%)

According to the table, it can be seen that the highest number of cases is associated with damages as a contributing factor to breach of contract (26% of the total number of cases). Bailey (1998) stated that any breach will be entitled to a claim for damages. Damages are therefore a major factor contributing to construction disputes because it is commonly involved in the classification of a breach of contract. The party alleging a claim for damages usually receives monetary compensation. Nevertheless, it is also common to request specific performance from the party which performed the breach in order to repair the damages caused (Adriaanse, 2005). The most common form of damages is defective work. This factor contributing to a dispute would usually be dealt with by covering the necessary expenditure to rectify the works plus any consequential losses.

The second highest number of court cases is associated with the payments factor that causes dispute in terms of security of payments (22%). This factor also accounts for reasonably high proportions of dispute cases related to breach of contract (14%) and failure to settle and appeal (14%). Therefore, it can be inferred that the payments factor is as equally important as damages because it can result in a considerable number of litigations across different types of disputes. The payments factor is likely to contribute to disputes as every entity from the construction industry depends on payments in order to maintain the on-going operation of a business. In a construction contract, the contractor is usually entitled to carry out and complete the specified works, as well as required to provide everything necessary for completion. On the contrary, the employer's part of the contract is typically the payment of money. Disputes may arise in deciding when the contractor's obligations are satisfied, what amount of money is payable and at what date. Consequently, all of these elements should be clearly stated in the contract in order to avoid a subsequent related dispute (Uff, 2009).

Similar to the payment factor, but to the less extent, timing factor also resulted in considerable number of cases with disputes related to security of payments (13%), failure to settle and appeal (13%) and contractual interpretation (10%). In the construction industry, numerous variables make it hard to be bound to a definitive completion date. There are endless unexpected and uncontrollable events that could cause a delay on the works. These events could compromise the progress of the works, and therefore prevent the responsible party from not finishing by the agreed date on the contract, making timing the source of the dispute. In an attempt to be reasonable with the respective parties within a contract, the construction industry has modified most current standard contracts in order to entitle the contractor to an extension of time (EOT). However, an EOT would only be granted where the delay was caused by events beyond the control, or reasonable control of the contractor (Bailey, 1998).

Variation factor is present as a cause of dispute fairly equally across all the five dispute types. Although this factor is not the most prominent within the context of this study, variation is one of the most common sources of disputes. The expression 'variation' is commonly used in the construction industry to identify an alteration to the contract, whether this is made by an addition or omission to the works and terms specified in it. Disputes often arise in relation to these variations due to misconceptions as to what the consequence of what appears to be relatively simple changes (Bailey, 1998). Moreover these changes could alter

the scope of works under the contract to such an extent that it could be viewed as creating a separate contract from the original. Therefore, the involved parties should not only thoroughly know and understand their contract, but also any variation that was made to it. Variations to a contract should be given the same importance than the original contract, and therefore both of these should be acknowledged and understood thoroughly. Because these agreements are commonly done through an oral agreement in the construction industry, there is a possibility that the parties could interpret what was said in a different way, or perhaps the person that ordered the variation did not have the power to do so.

Among the sample court cases analysed, 'negligence' appears to be the only factor that resulted in all types of dispute except security of payments. Negligence seems to mainly cause the disputes associated with breach of contract and insurance and indemnity. Negligence, in its tortious context is a breach of duty, which means not taking reasonable care to prevent damage to others from occurring when engaged in anything that requires careful performance a reasonable person would do (Bailey, 1998). It is an action, or omission of an action, that could endanger the life, health, properties, morals or comfort of the public. Nevertheless, negligence can also be found in the context of breach of contract. Common participants in this context are engineers and architects, who can be accountable for carrying out a noncompliant or negligent design or supervision (Uff, 2009). Defective work as a consequence of a negligent design can also be reflected as a negligent act, whether it arises during or after the construction phase of the project.

5. Conclusion

The construction industry, as one of Australia's largest and most important industries is also one of the biggest contributor to disputes. To better understand this issue, the study presented in this paper was conducted to examine significant sources of disputes that were evident in past construction projects and to provide some recommendations on dispute resolution and prevention methods, based on lessons learnt from the past.

By analysing 78 documented historical court cases related to construction disputes, the study determined that the five most frequent factors among the construction industry were damages, negligence, timing, payments and variations. It was also found that these factors were related to each other. Their relationships were identified through a common pattern of events. For example, when the factors of disputes were of negligence, timing and/or variations, a claim for the damages would be justified. Damages as another recurrent factor in construction disputes are usually compensated financially. Thus, most of the cases end up recurring to the factor of payments. Not surprisingly payments was the most common factor contributing to disputes, being responsible for causing more than 50% of the analysed disputes.

Furthermore, the contribution of the factors were also analysed with respect to the classification of disputes, which include: breach of contract, failure to settle and appeal; insurance and indemnity; contractual interpretation; and security of payments. The factor having the highest frequency was damages, particularly, those that caused breaches of contract. However, payments and timing factors were found to have a broader effect,

causing disputes fairly equally across multiple types of disputes. Negligence and variations factors appeared to be less prominent within the context of this study.

Based on the above findings, practical implications can be drawn. All of the identified factors contributing to disputes have some element to them that can be specified in the contract and potentially help prevent a dispute. For instance, the amount of general damages that an alleged party can claim; the specification of materials to avoid defective work; the procedure to follow when an extension of time is required; a description of progress and payment claims following its respective legislation; and an appropriate agreement when a contract variation is needed. If these examples are carefully described and understood in the contract, then both parties will appreciate the consequences of failing to comply with any of them. Although this may not help to completely prevent disputes, it would significantly help reduce the likelihood of them. To better understand and prevent disputes, future research can build on the existing study by examining the dynamic relationships between the identified factors. Such research would help to depict a more complete network of dispute sources to which relevant project stakeholders can refer in order to develop preventative strategies to effectively reduce and manage dispute risks.

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