



Assessing Causes of Contractual Disputes from Different Type of Condition of Contracts

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Abstract: In a construction industry, a Condition of Contract (CoC) is primarily used to ensure a project can be delivered successfully with minimum disputes. The contractual disputes rooted from many factors, including from the improper management of conflict between parties in the project, misinterpretation of the CoC, lack of documentation, and discrepancies and ambiguities of documents which may lead to as cost overruns, project delay and project cashflow. Thus, a comprehensive CoC plays a significant role to express the rights and obligations of the main contracting parties. CoC functions in stating to each party on what they shall do and to the extent of their entitlement of rights and obligations under the contract. Despite having various of published CoC such as PAM Contract and series of PWD Form of Contract to govern the construction projects, numerous construction cases in relation to contractual disputes are still increasing over the years and there has been little discussion about the causes of disputes. It indicates the ineffectiveness of the contract provision in the CoC. Hence, this study presents thorough review of the disputes occurs in the construction industry by outlining the issues raised in the court cases. This scenario has paved this paper to achieve the objectives of the research, including to identify the factors attribute to the construction dispute and to investigate the provision in CoC that caused the contractual disputes. The data collection used was mainly through literature synthesis and surveys. The results revealed that there are five attributes of construction disputes. The findings of the paper would be beneficial to practitioners in increasing their awareness of the flaws in the CoC and could be helpful in mitigating the disputes.

Keywords: Conditions of contract, dispute, causes

1. Introduction

In projecting a nation's physical development through construction industry, wide range processes are involved which revolve around the pre-construction stage, construction stage and post-construction stage. All contracting parties in the industry were bound with a written agreement signed by them which defining their relationships and obligations in the particular projects (Heap et al., 2011). In enhancing the smooth progress of construction projects, (Adnan et. al., 2008) suggested to employ the best method for strategizing the contract between contractors and clients. The authors mentioned that the strategy may reduce the future disputes especially in outlining the rights allocation of responsibilities. Additionally, standard form of contract functions to regulate the contractual obligations and expectations during the contract administration process.

Standard form of contract or the Condition of Contract (CoC) is part of the document project which to navigate the construction stakeholders for the construction projects. It sets out the general conditions or rules to be followed by the contracting parties i.e. client and main contractor and the roles of those parties who will be governed by the rules.

Further, the CoC published by recognized authority of the industry does not only provide a basis for legal framework in identifying the rights, obligations and duties of the contracting parties but also establishing the contract administrative procedure for the smooth project execution. On the other hand, an appropriate documentation presents a clear agreement between client and contractors. It was supported by (Lim and Ahmad, 2015) that unclear documentations potentially lead to the contractor’s confusion and disrupt the construction process especially on the claim and payment issues. It is because most of the contractors were not familiar with the jargons or legalese terms provided in the provision of contract. Thus, misinterpretation between contracting parties were occurred.

In Malaysian construction industry, the organizations that issued the CoC are divided into 2 which are public sector and private sector. The former was issuing the PWD Form of Contract and the latter was issuing PAM Contract. However, for international projects, FIDIC and JCT are the common standard form of contract used. Table 1 illustrates several types of CoC that commonly used in the Malaysian construction industry depending on the type of projects involved.

Table 1 - Types of Condition of Contract (CoC) (Sources: Rajoo (2014), Oon (2002), Ng (2017)).

Sector	Organizations Producing the COC	The Condition of Contracts
Government / public sector	Public Work Department (PWD)	<ul style="list-style-type: none"> • PWD Standard Form for Traditional General Contract • PWD Standard Form for Turnkey Design & Build Contracts • PWD Standard Form for Other Contracts • CIDB Standard Form of Contract
Private sector contract	Construction Industry Development Board (CIDB)	<ul style="list-style-type: none"> • CIDB Standard Form of Contract
	Pertubuhan Arkitek Malaysia (PAM) The Institution of Engineers, Malaysia (IEM) Kuala Lumpur Regional Centre for Arbitration (KLRCA) Private Organizations	<ul style="list-style-type: none"> • PAM Forms • IEM Forms • KLRCA Standard Form of Building Contracts • Bespoke / Ad hoc Standard Form of Contract
Contracts of an international nature		<ul style="list-style-type: none"> • FIDIC Standard Form of Contract • JCT Standard Form of Contract • ICE Standard Form of Contract • IMechE and IEE Standard Form of Contract

2. Research background and Motivation

PWD Form of Contract and PAM contract are the most popular and widely used form by Malaysian public-sector agencies and the latter for private agencies. By having these standard forms of contracts, contractors and client abide to follow the rules and obligations issued hence the construction projects can be delivered successfully with minimum disputes. The issues concerning on interpretation and understanding of construction contract have been highlighted over the years. It is because the process involved in the construction projects was referring to the vast amount of contract provisions (Heap et. al., 2011). This contractual dispute is eventually caused the conflicts or disagreement between the contracting parties on their contractual rights and job scope descriptions. It has been supported by (Hamizah et. al., 2016) that disputes occurred in the construction industry were influenced by many factors which include the rights, responsibilities and liabilities of the contracting parties. The study conducted by (Mohamad et. al., 2012) resulted most of the respondents agreed on the inadequacy of the contractual provisions and recommended on clear procedure, simplicity and clear classification of the standard form of contracts. These points indicate an imperative need for this study to investigate the common provision in standard form of contracts or CoC that caused the construction disputes.

Additionally, Construction Industry Development Board (CIDB) reported the increment of construction court cases registered is heightened up from the year 2015 to year 2017 which illustrated in Fig. 1. It indicates the number of construction cases for the year 2017 had rose dramatically twice the amount of cases reported from the previous years. Referring to the Malaysia Law Journal, most of the construction cases focused on the disputes on payment, claim, and breach of contract. (Mohamad et al., 2012) emphasized that any failure in construction industry is a vital issue and the contracting parties shall revert to their contractual provisions as main reference to resolve the issues. Based on the Fig. 1, the statement does not reflect the action hence it indicates that the current CoC spared no warrant to the key of

successful construction projects. Moreover, the Asian International Arbitration Centre (AIAC) has also recorded 932 cases in 2017 with more than 700 cases under disputes related to the construction sector (The Malaysia Reserve, 2018). Majority of the dispute cases in AIAC were also related to payments issues, poorly construction contracts and low work quality. All the issues may have rooted from the misinterpretation of the CoC.

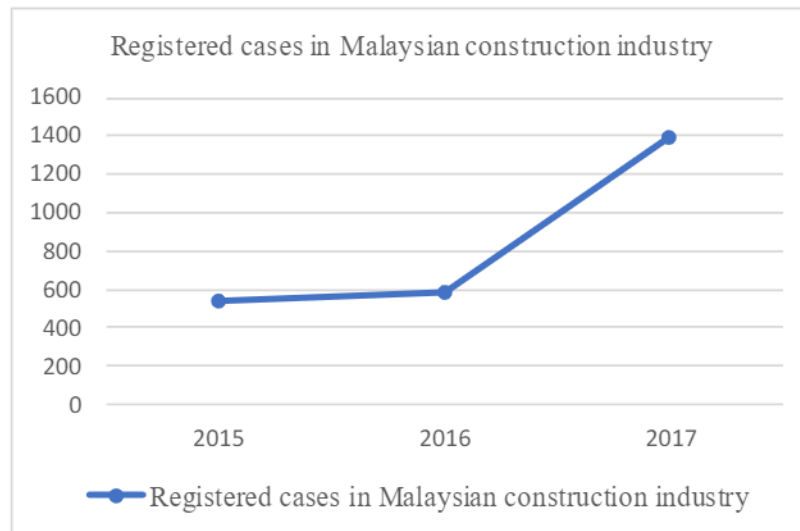


Fig. 1 - Construction court cases (Sources: CIDB Construction Law Report, 2015, 2016 & 2017).

This interpretation error could also lead to the illegibility of CoC. (Heap et. al., 2011) summarized the misunderstanding between the contracting parties caused by the difficulties in grasping the technical legal terms or jargons due to their non-legal background. This commonly happened among the contractors and it was recommended for the contractors to be well versed in interpreting the clauses in the CoC. Also, there are series of revised standard form of contracts used in Malaysia. (Heap et. al., 2011) opined that the contractors were still familiar with the former version hence the clarity of contract remains unclear and blur. (Lim and Ahmad, 2015) opined that unclear documentations especially for the contractual provisions will lead to the contractor's confusion and disrupt the process of claim i.e. the descriptions of job description are unclear and vague hence the contractors will make their own assumptions which encumbered the contractor's progress of works and lead to different pricing. CoC is an important document that function as the essential ingredients of the main reference which will heighten the chance of successful payment and claim. Nonetheless, it might negatively impact to the construction projects with project overruns, project delay and the worse scenario is abandoned project.

Similarly, two court cases below depict the disputes rooted from the CoC in the Malaysia construction industry and demonstrate clearly on the causes and effects to the construction projects. There are as follows:

2.1 Case: Kerajaan Malaysia vs Global Upline Sdn Bhd [2017] 1 CIDB-CLR 31

This case exhibits the confusion on determining on the period of completed works and misinterpretation of the term "completion" in the provisions of contract or CoC, which trigger attendant issues of releasing the performance bond. Kerajaan Malaysia (KM) appointed the Global Upline Sdn Bhd (GUBS) to execute the redevelopment works of Kota Kinabalu International Airport, which bound with the supplementary provisions, and the works had been categorized into 3 sections. The main issue contended in this case is when GUBS has completed the practical completion by 98.81% and demanded to release 50% of the performance bond. However, KM contended that following to the CoC, the completed works done by GUBS were not in accordance to the project director's satisfaction. The High Court decided that the level of completion works by GUSB was reasonable and fair hence GUSB had achieved the practical completion. Nevertheless, the Court of Appeal found that the supplementary CoC agreed by both parties outlined the practical completion meant that the works must be fully completed, hence KM can issue the Certificate of Completion and release the performance bond.

In fact, this unclear term of "completion" provided in the CoC has been a vexed issue throughout the years. (Lan et. al., 2018) weight on the need of clear contractual provisions to guide the contracting parties of what constitutes "completion", "practical completion", "substantial completion", "100% completion" or otherwise. Additionally, a comprehensive evidence document may represent the parties' views on the actual progress on site hence avoiding this perennial problem. Eventually, this may lead to the disruption of the contractor's cash flow and other projects on hand.

2.2 Case: Usahasama SPNB-LTAT Sdn Bhd vs. Abi Construction Sdn Bhd [2017] 1 CIDB-CLR 193

This case discusses the dispute arose on the Clause 66 of PWD Form 203. Usahasama SPNB-LTAT Sdn Bhd appointed Abi Construction Sdn Bhd (ACSB) to perform the construction works under a PWD Form 203 Contract. However, Usahasama issued the contract termination on 19 February 2008. ACSB issued a notice of arbitration dated 12 February 2014 for the disputes arose. However, it was contended by Usahasama that the notice of arbitration was premature due to decision of disputes were not referred to the Superintending Officer (S.O.) earlier and the Arbitrator had no jurisdiction to decide the dispute. Hence, the Court held that Usahasama was estopped (prevent from making assertion) from objecting as no issue was raised during the first notice of arbitration. According to the Clause 66 PWD Form 203, any dispute shall be brought to the S.O. and both parties need to be contractually agreed to refer the dispute to the arbitration which essential for multi-tiered dispute resolution e.g. arbitration. This case resulted the imperative need of clear CoC to contractually bind the agreement between disputing parties. If the clause was failed to comply, it may have resulted in a challenge to the arbitral tribunal’s jurisdiction. (Janice, 2018) highlighted the considerations that shall be taken by the contracting parties that may appropriate for them. Also, the author emphasized the need to enhance the clauses with clarity and sufficient detail which to avoid the ambiguity that may lead to project delay and additional cost.

Both of cases mentioned above implicate the importance of CoC for disputes settlement and its function as main reference in resolving disputes. However, the main roles of CoC that bind the contracting parties for the construction project remain arguable. This reflects to the increment number of disputes in the construction industry illustrated in Fig. 1 which also could evolve with time and money-related. There is a growing body of literature that recognizes the importance of CoC, however, studies that investigate the factors lead to the disputes in use of CoC is remain unexplored. Due to this drawback, this paper aims to investigate significant factors lead to the construction disputes empirically and identify which provisions that cause the disputes.

3. Literature Review

This study consists of 1 pivotal role, which consist of 1 main theme and a total of 5 sub-themes related to disputes caused by the CoC. Pivotal role defined as an important point that affects the success of a thing. In this study, CoC is the main anatomy in determining the project success. In synthesizing the previous literature, Fig. 2 presented the entity-relationship model (ERM) between the main theme that is the concept of dispute in the construction industry and the 5 sub-themes. According to Song et. al. (1994), ERM model represents the relationship of the entities by structuring the information or data collected. This conceptual model is to guide the author to develop the main ideas in categorizing the sub-themes.

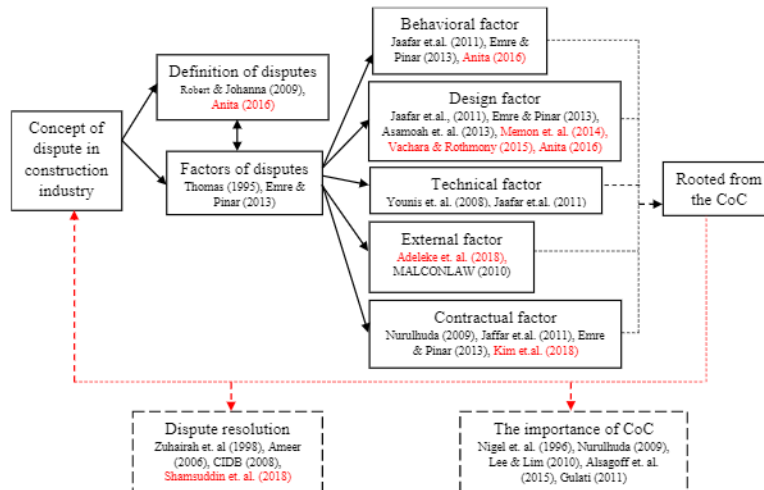


Fig. 2 - ERM model adapted by Song et. al. (1994).

Moreover, the general findings of this study have been specifically categorized into the year of publications which been analyzed in the Table 2, range from year 2003 to 2019. However, there are additional studies related to the precedent court cases and contract law, which ranged below than year 2000 due to the unavailability of current studies. Referring to the Table 2, it demonstrates the limitation of articles and paper published by the previous author. It was proven that although disputes in CoC are a vexed issue in the construction industry, it was remained unreported.

Table 2 - Overview of the year of publication in relation to construction disputes.

No	Year of Publication	Authors	Total of Articles/Papers
1	2018	(Adeleke. et. al., 2018; Kim et. al., 2018; Shamsuddin et. al, 2018)	3
2	2016	(Anita, 2016)	1
3	2015	(Vachara & Rothmony, 2015; Alsagoff et. al., 2015)	2
4	2014	(Memon et. al., 2014)	1
5	2013	(Emre & Pinar, 2013; Asamoah et. al., 2013)	2
6	2011	(Gulati, 2011; Jaafar et. al., 2011)	2
7	2010	(Lee & Lim, 2010; MALCONLAW, 2010)	2
8	2009	(Nurulhuda, 2009; Robert & Johanna, 2009)	2
9	2008	(CIDB, 2008; Younis et. al., 2008)	2
10	2006	(Amer, 2006)	1
11	1998	(Zuhairah et. al., 1998)	1
12	1996	(Nigel et. al., 1996)	1
13	1995	(Thomas, 1995)	1

3.1 Definition of Dispute

The terminology of ‘dispute’ is a heated debate to be discussed especially in the context of construction industry. Literally, ‘dispute’ arise when two or more parties failed to understand something and had a disagreement between them. The dispute occurred contractually or non-contractually (Oxford Dictionary, n.d.). (Anita, 2016) opined that the disputes rooted from the improper management of conflict between parties. It is essential to understand what constitutes the disputes by focusing on contractual administration and management. Hence, it may control the higher impact or probability of occurrence of disputes in the construction industry (Mohan, 2003)

Aligned with the above-mentioned definition of dispute, in the case of *ZAQ Construction Sdn Bhd & Anor v Putrajaya Holdings Sdn Bhd*, the term ‘disputes’ remarks as ‘differences’ and ‘controversies’. However, the Court stated that the clarity of the term shall be defined in the sense of what constitutes a dispute. This depicts that the term “dispute” is not to acknowledge the literal meaning of it, rather to highlight on what constitute of it. In addition, (Robert and Johanna, 2009) described dispute as clear unresolved disagreement that met the conclusion of negotiations. Briefly, dispute derived when there is miscommunication between parties, however it can be resolved and may meet the end with any alternative disputes resolution (ADR) e.g. mediation, negotiation, arbitration, etc.

3.2 The Importance of CoC

The use of CoC is one of the alternatives to mitigate the disputes among the contractor and client by nominating the S.O. to supervise all the construction works. CoC is a salient document to be bound together in the contract or tender document by outlining the liabilities and responsibilities of the construction key-players, process and procedures of payment, valuation of variation, preliminaries work, EOT, termination, etc. (Nurulhuda, 2009).

However, any amendments to the CoC could be made by omitting and adding any general supplementary or other contract conditions to suit the nature of construction works. For instance, common standard form of contracts used for conservation works is PWD Form of Contract but there was amendment made to the CoC prior to the nature and principle of works i.e. the provision of National Heritage Act, parties involved and insurances of extra works (Lee and Lim, 2010).

CoC was bound to be agreed and obliged by the contracting parties. The essence of CoC is important to the parties to understand the contract, terms and conditions, agreement, standard form of contract and contract document (Nurulhuda, 2009).

In *Kam Mah Theatre Sdn. Bhd. V Tan Lay Soon*, the respondent; Tan Lay Soon entered into a binding agreement with the appellant; Kam Mah Theatre Sdn Bhd for the sale of land. However, the agreement prepared by the respondent was not agreed by the appellant. It is because the words written in the agreement reveal certainty and too ambiguous. Hence, no acceptance made in this contract by appellant. It depicts that if both parties whom entered the contract does not agreed with the terms and conditions used, the contract could not be executed. Thus, in determining the formation of contract, the CoC shall be spelled clearly.

The other court case to indicate the importance of CoC is in *Cheng Hang Guan & Ors V Perumahan Farlim (Penang)*. The plaintiff, Cheng Hang Guan & Ors rent on land of two dwelling house and vegetable farm. Upon the

payment of rent, a condition to terminate the tenancy within one-month notice was endorsed on the receipts payment. However, the plaintiffs were illiterate farmers and could not understand the conditions which were in English. Hence, it was wrong to infer that the plaintiff accepted the conditions by conduct because he knew nothing about the conditions appeared on the receipt.

It shows that the terms and conditions in a contract is important. It must be written in a clear language and could be understood by all the parties involved. It proved that the plaintiff has no intention to accept the conditions which intention is one of the important element to constitute a contract (Alsagoff et. al., 2015). Thus, the contract is invalid without the intention of the parties (Gulati, 2011).

In brief, if the CoC is expressly mentioned in the standard form of contract such as PWD 203 or PAM 2018, the parties involved may view it as terms and conditions to be followed with. Nigel et. al. (1996) described the standard form of contract used to impose the specific CoC which related to the settlement of disputes.

3.3 Factors of Dispute in the Construction Industry

Every construction project bound to have disputes in each of the construction stages. The series of activities in the construction projects are risky, therefore, the dispute is unable to be eliminated however it can be reduced and controlled (Thomas, 1995). (Emre and Pinar, 2013) classified the common cause of disputes into categories which are; behavioral factor, design factor, technical factor, external factor and contractual factor.

3.3.1 Behavioral Factor

Construction industry is a complex and competitive environment where it involved with various stakeholders. Each of them has their own purpose and goals towards the construction process works (Emre and Pinar, 2013). Client, contractor, consultants, workers, and administration staff are among the common stakeholders involved in the construction industry. (Jaffar et. al., 2011) highlighted that this type of factor is one of the common disputes which rooted from the reluctance of checking the constructability, clarity and completeness of construction works and poor communication among project team.

Meanwhile, (Anita, 2016) categorized this factor into two which are caused by client and caused by the consultants. She pointed out unclear instructions is one of the disputes that always caused by client. According to PWD Form 203A (Rev. 1/ 2010); clause 5.0 and PAM Contract 2018; clause 2.0, all the instructions were uttered clearly and precisely which it shall be provided in written. It is supported by the case of *Juara Serata Sdn Bhd v Alpharich Sdn Bhd* where the respondent, Alpharich Sdn Bhd made a counterclaim for payment on repairing the defective works. However, the High Court rejected the counterclaim due to several reasons. One of the reasons was the absence of written construction from Architect, hence no ground held for the counterclaim. It depicts that the client and contractor had erred in understanding and interpreting the CoC.

Moreover, the dispute also caused by the consultants, which are lack of knowledge and experience, poor management, inadequate information and less responsibility in accordance with the contract (Anita, 2016). According to (Emre and Pinar, 2013), they summarized that disputes may also cause by contractor such as technical inadequacy, poor management, extension of times, delays in works progress, financial failure and performance of works. PWD Form 203A (Rev. 1/2010); clause 10.0 and PAM Contract 2018; clause 1.0 had specified the contractor's obligations. Nevertheless, the case of *Hatimuda Sdn Bhd v Turnpike Synergy Sdn Bhd & Anor* portrays that the CoC was not been obliged where the contractor did not perform his work regularly and diligently, hence led to the delays and extension of time (EOT) which it shall be referred to Clause 43.0; PWD Form 203A (Rev. 1/2010) and Clause 23.0; PAM Contract 2018.

3.3.2 Design Factor

Next, design stage is the crucial stage which unavoidable and negatively impact the cost, quantity and quality of the projects (Vachara and Rothmony, 2015). The authors also evaluated the disputes arise related to design which are; unclear overview of designs, poor design management, and limited understanding of the importance of design errors among the design teams. It has been supported by (Emre and Pinar, 2013) that design errors, design quality, inadequate specifications and availability of information are among the common design disputes arise in construction industry.

In *Perunding Hashim & Neh Sdn Bhd v Axa Management Services Bhd* (previously known as BH Insurance (M) Bhd), the plaintiff, Perunding Hashim & Neh Sdn Bhd liable for the design deficiencies which led to the failure of the designed structure. This negligent act of deficiencies in design drawings after subsequent submission of revised drawings uttered poor performance of works and design management by the plaintiff.

Also, (Asamoah et. al., 2013) identified that design is one of the variation determinants found in construction industry. This view is supported by the study from (Memon et. al., 2014) that design complexity in Malaysia's JKR projects caused the variations and disputes by increasing the project cost, delay in completion and logistic delays. Although most of the available literature on design deals with the variation, the term 'variation' in Clause 24.0; PWD Form 203A has been disputed in the case *Sykt Ismail Ibrahim Sdn Bhd & Ors v Kerajaan Malaysia*. The claimant, Sykt

Ismail Ibrahim Sdn Bhd entered into Contract with the Government and the dispute arose was the variation of the five bridges to be designed and built. However, the Court opined that the Variation is invalid under the CoC hence the Contract Sum shall not be adjusted or altered as per Clause 29.0. Meanwhile, the learned arbitrator claimed that it is not disputed that the design changes is 'Variation' as per clause 24.0; PWD Form 203A.

3.3.3 Technical Factor

Jaffar et. al. (2011) highlighted the common disputes arise due to technical factors which are the contractor failed to execute the works in a competent manner and late instructions given by the architect, engineer or superintending officer (S.O.). The technical factors consist of all the conditions work on site, materials supply chain, project schedule and equipment failure (Younis et. al., 2008).

For instance, in appeal case of *Kerajaan Malaysia (Jabatan Kerja Raya) v Globe Globe (M) Sdn Bhd*, the parties entered into a contract and the defendant, Globe Globe (M) Sdn Bhd could not complete the project within the contract period and requested a total of three EOTs. Two EOTs have been granted by the JKR but the third EOT was rejected. The third EOT applied due to the delay in approving the IBS components and of giving possession which was due to the Appellant's own conduct. Thus, it was foreseen that this event will lead to the delay in site possession. According to the High Court, the appellant was breach of Clause 43.1; PWD Form 203A when it did not inform the JKR of its decision to reject the third EOT with non-consideration. However, the appellant argued that Clause 43.0 does not expressly provide that that need to notify the contractor if the EOT application is rejected. It depicts that the dispute caused of technical factor rooted from the discrepancies in interpreting the CoC.

3.3.4 External Factor

The study by (Adeleke et. al., 2018) resulted a significant positive relationship between external factors and construction risk management. This external factor included the fragmented structure factors, legal and economic factors, political factors, technology factors and environmental factors. The authors believed that the CoC were found to reduce the construction risk or disputes which caused by the external factors.

With regard to all Standard Form of Contract used in Malaysia such as PWD Form 203A and PAM Contract 2018, the provision of force majeure clause is most significant to ignite the dispute caused by the external factors (MALCONLAW, 2010). In the case of *Muhammad Radhieddeen bin Abdul Khalid v Saujana Triangle Sdn Bhd*, the defendant, Saujana Triangle Sdn Bhd failed to complete and hand over the works on time due to the economic factors which is beyond the control; the escalation in the cost of raw materials and finance charges. However, the contract signed between both parties does not contain any force majeure clause. Therefore, the defendant was not able to imply the clause as there were no general rule to what constitutes a situation of force majeure. Although the cause of delay might impede or obstruct the work performance, the defendant has no rights and obligations to deny the failure of late completion of works.

3.3.5 Contractual Factor

Every business including construction activities start with the formation of contract which outlined all the rights and obligations of contracting parties (Nurulhuda, 2009). In avoiding any dispute arise, the CoC must be clear and unambiguous. (Emre and Pinar, 2013) listed the disputes caused by contractual related, which are ambiguities in contract documents, misinterpretations of the CoC, allocation of risk and other contractual problems. (Jaffar et. al., 2011) opined that contractual matters are the main cause of construction disputes which include variation, EOT, payment, availability of information, determination, and management.

Collectively, all the disputes caused of the behavioral factor, design factor, technical factor and external factor mentioned above derived from the misinterpretation of CoC. It indicates unclear and vague information provided in the CoC will led to the disputes and discrepancies. In *Majlis Perbandaran Seremban v Maraputra Sdn Bhd*, the applicant contended that the Arbitrator misinterpret Clause 54.0 PWD Form 203A; payments upon termination by concluding that only contractor may refer to disputes to arbitration, and not the employer. Meanwhile, the Arbitrator's decision is correct in law. Although the appellant was attempting to appeal the claim, the Court held that all decisions made by the Arbitrator was cogent and certain based on reference of CoC.

Another example, *Maya Maju (M) Sdn Bhd v Putrajaya Homes Sdn Bhd* indicated the dispute arise due to the use of work "any" and "may" in the CoC. It depicts an ineffective communication between project team where the defendant, Putrajaya Homes Sdn Bhd made a typographical error with the 'copy and paste' approach from the 1983 version of JKR 203A; Clause 63.0 to the PWD Form 203A (Rev. 1/2010); Clause 54.0. Hence, the Court held the use of the word "shall" in the Clause 54.0; PWD Form 203A (Rev. 1/2010) which it does not render such a reference mandatory.

In addition, this contractual factor caused by the adequacy of knowledge gained by every contracting parties which it determined the level of understanding of definition, interpretation and clarification of the contract including the provisions of CoC. It has been confirmed with the study made by (Kim et. al., 2018) where one of the root causes of

disputes is due to inadequate contract clarifications performed especially during the pre-contract stage. This situation led to the intervention of client towards consultant’s decision. The study had proven that adequate contract clarifications performed among parties will result the high applicability and enforceability of CoC.

Based on the 5 factors mentioned above, it demonstrates that all construction disputes were caused by the misinterpretation, inadequacy and lack of understanding of the term mentioned in CoC. These 5 factors were also being presented in the previous court cases which reflect that the issues of CoC were not only mentioned in the literature but in the real scenario of construction industry. Also, Table 3 listed the analysis of court cases with a total of eleven and Table 4 depicts the use of precedent court cases accordingly in this study.

Table 3 - Overview of the court cases.

Code	Year	Dockets	Cases
1	2019	MLJU 620	Hatimuda Sdn Bhd v Turnpike Synergy Sdn Bhd & Anor
2	2019	1 MLJ 281	Kerajaan Malaysia (JKR) v Globe Globe (M) Sdn Bhd
3	2018	MLJU 1629	Maya Maju (M) Sdn Bhd v Putrajaya Homes Sdn Bhd
4	2017	MLJU 2315	Sykt Ismail Ibrahim Sdn Bhd & Ors v Kerajaan Malaysia
5	2017	MLJU 950	Muhammad Radhieddeen bin Abdul Khalid v Saujana Triangle Sdn Bhd
6	2015	MLJU 598	Juara Serata Sdn Bhd v Alfarich Sdn Bhd
7	2013	MLJU 1289	ZAQ Construction Sdn Bhd & Anor v Putrajaya Holdings Sdn Bhd
8	2012	9 MLJ 585	Perunding Hashim & Neh Sdn Bhd v Axa Management Services Bhd
9	2004	5 MLJ 469	Majlis Perbandaran Seremban v Maraputra Sdn Bhd
10	1994	1 MLJ 108	Kam Mah Theatre Sdn Bhd v Tan Lay Soon
11	1993	3 MLJ 352	Cheng Hang Guan & Ors v Perumahan Farlim (Penang)

Table 4 - A review of the use of court cases.

No	Overview of disputes caused by CoC in the construction industry	Code (Refer to Table 2)
1	Definition of disputes.	7
2	Behavioral factor.	1 & 6
3	Design factor.	4 & 8
4	Technical factor.	2
5	External factor.	5
6	Contractual factor.	3 & 9
7	The importance of CoC	10 & 11

Table 3 and Table 4 are significantly demonstrating the relationship between the previous literature and the use of court cases to be referred.

3.4 The Resolution of Disputes in the Use of CoC

The speed and cost settlement of construction dispute can be made through the alternative dispute resolution (ADR) methods which has been specified in all standard forms of construction contract (Shamsuddin et. al., 2018). Comparing to litigation, Zuhairah et. al. (1998) opined that ADR is perceived for cost efficiency, privacy and time effective. Malaysian construction industry is mainly focused on the arbitration method which it complies under the Arbitration Act 2005. There is a strong indication that arbitration is a common alternative to resolve the construction disputes where the provisions of arbitration was specified in clause 66.0; PWD 203A (Rev. 1/2010) Contract and clause 37.0; PAM Contract 2018.

However, in PAM Contract 2018, there are other ADR methods have been introduced in resolving the construction disputes which are as the following:

- Clause 34.0 – Mediation
- Clause 35.0 – Expert Determination
- Clause 36.0 – Adjudication

All the CoC were spelled out for the contracting parties to be obliged with. (Nurulhuda, 2009) emphasized all the methods mentioned above are varies depending the CoC, nature of work, number of contractors, funding agencies and other related factor. It depicts that the remedies arise for construction dispute resolution are on the discretion of client. However, the CoC must be designed fairly and not heavily biased to the client.

In addition, any payment dispute relating to construction works will be conducted under the Construction Industry Payment Adjudication Act 2012 (CIPAA 2012). This initiative was made to allocate fairer risk between the client and the contractors, facilitate the process of payment, and to guarantee security and remedies for the recovery of payment (CIDB, 2008). Moreover, the study made by Ali and Ameer (2006) indicated that dispute of delayed and non-payment were escalated in the Malaysian construction industry which will affect the delivery chain. Hence, the use of CIPAA is one of the methods to mitigate the disputes in Malaysian construction industry.

4. Research Methodology

This study employed a systematic literature review method for reviewing the articles by using manual searching and online database and survey by using questionnaire to 45 Quantity Surveyors in consultancy firms mainly in Klang Valley, Selangor. The methods of reviewing were conducted using one main online database, namely LexisNexis which specifically use to identify the precedent court cases. Moreover, to enhance the output of obtaining the relevant articles, manual searching efforts on several established sources such as Science Direct, Academia and ResearchGate which contained journals related to the construction disputes, PAM Contract and PWD Form. Furthermore, there are three main stages involved in selecting the relevant articles which firstly is the selection process of databases that hold comprehensive citation lists related to the construction disputes. Secondly, the databases were searched explicitly related to PAM Contract and PWD Form by developing the key search word terms. Third, narrowed down the search results by filtering the title according to the title, location, year of publication, and to the inclusion and exclusion criteria. Collectively, this study managed to extract 21 articles and 11 number of precedent court case related to construction disputes by adopting thematic analysis for extracting data.

Moreover, the survey conducted to the experienced respondents who are well-verse and familiar with both PWD Form 203A and PAM Form 2006 (With Quantities) is to identify the most significant contributory factors of contractual disputes based on the contractual provision. All the data collected through survey were analysed with SPSS (Statistical Package for the Social Sciences) software. This combination method of systematic literature review (SLR) and survey resulted to identify the factors that potentially lead to construction disputes caused by CoC which primarily gained through SLR. Thus, it determined and ascertained the loopholes of the current version of CoC in administering the construction project.

5. Results and Discussion

5.1 The Significant of Contractual Provision to the Construction Disputes

Based on a questionnaires survey conducted among the 45 Quantity Surveyors, each of the respondents were asked to identify 5 contractual clauses which frequently lead to construction dispute. There were 81 clauses stated in the PWD 203A and 29 clauses in the PAM 2018. As indicated in Table 2 and Table 3, the contract clause with the highest frequency is identified as the most frequent clauses that often lead to the contract dispute and the otherwise.

The results revealed that for PWD 203A, Clause 43; Delay and Extension of Time as the clause that the most frequency lead to contract dispute with majority of 87%. Next, Clause 24; Variations with 67%, Clause 28; Payments to Contractor and Interim Certificate and followed by Clause 44; Claims for Loss and Expenses, Clause 5: S.O Instruction and Clause 31: Final Account and Payment Certificate both with 31%. The other clauses listed in the table scored less than 30% but is still identified as the contract clause which potentially often lead to contract dispute is Clause 25; Valuation of Variation. Contrastingly, for PAM 2018 (With Quantities), most of the respondents agreed that Clause 30; Certificates and Payment as the clause that frequently leads to contract dispute with majority of 78% agreeing to it. This is followed by Clause 11; Variations, Provisional and Prime Cost Sums with 67%, Clause 23; Extension of Time with 62%, Clause 24; Loss and/or Expense Caused by Matters Affecting the Regular Progress of the Works with 56%, and Clause 2: Architect's Instructions with 40%. Additionally, Table 5 and Table 6 depict the list of CoC in PWD Form 203A and PAM Form 2018 that often lead to the construction disputes hence thwart the construction process especially on time and money related.

Table 5 - Contract clauses in PWD form 203A that often lead to construction disputes.

CLAUSE	DESCRIPTION	FREQUENCY
Clause 1	Definitions and Interpretation	1
Clause 5	S.O Instruction	14
Clause 6	Scope of Contract	1
Clause 8	Contract Documents	5
Clause 9	Representations, Warranties and Undertaking of the Contractor	1
Clause 10	Obligations of the Contractor	5

Clause 12	Programme of Work	6
Clause 13	Performance Bond / Performance Guarantee Sum	5
Clause 14	Indemnity in Respect of Personal Injuries and Damage to Property	1
Clause 15	Insurance Against Personal Injuries and Damage to Property	4
Clause 18	Insurance of Works	2
Clause 20	Unfixed Materials and Goods	1
Clause 22	Design	3
Clause 23	Employment of Workmen	1
Clause 24	Variations	30
Clause 25	Valuation of Variation	10
Clause 26	Bill of Quantities	3
Clause 28	Payment to Contractor and Interim Certificates	23
Clause 29	Adjustment of Contract Sum	1
Clause 30	Fluctuation of Price	3
Clause 31	Final Account and Payment Certificate	14
Clause 34	Prime Cost / Provisional Sums	2
Clause 35	Materials, Goods and Workmanship	2
Clause 36	Inspection and Testing of Materials, Goods and Equipment	1
Clause 38	Possession of Site	3
Clause 39	Completion of Works	1
Clause 40	Damages for Non-Completion	3
Clause 43	Delay and Extension of Time	39
Clause 44	Claims for Loss and Expense	16
Clause 46	Access for Works etc.	1
Clause 47	Sub-Contract or Assignment	1
Clause 48	Defects after Completion	9
Clause 50	Suspension of Works	2
Clause 51	Events and Consequences of Default by the Contractor	1
Clause 52	Termination on National Interest	3
Clause 56	Surviving Rights	1
Clause 59	Nominated Sub-Contractors and/or Nominated Suppliers	1
Clause 60	Payment to Nominated or Sub-Contractor or Supplier	2
Clause 61	No Liability of Government to Nominated and/or Sub-Contractor or Supplier	1
Clause 66	Notice, etc.	1
Clause 69	Stamp duty	1

Table 6 - Contract Clause in PAM Form 2018 (With Quantity) that often lead to contract dispute.

CLAUSE	DESCRIPTION	FREQUENCY
Clause 1	Contractor's Obligations	4
Clause 2	Architect's Instructions (AI)	18
Clause 3	Contract Documents, Programme and As-Built Drawings	9
Clause 5	Levels and Setting Out of the Works	1

Clause 6	Materials, Goods and Workmanship to Conform to Description, Testing and Inspection	5
Clause 8	Site Agent	1
Clause 9	Access to the Works	1
Clause 10	Site Staff	3
Clause 11	Variations, Provisional and Prime Cost Sums	30
Clause 12	Contract Bills	4
Clause 13	Contract Sum	1
Clause 14	Materials and Goods	3
Clause 15	Practical Completion and Defects Liability	8
Clause 18	Injury to Person or Loss and/or Damage of Property and Indemnity to Employer	4
Clause 19	Insurance against Injury to Person and Loss and/or Damage of Property	2
Clause 20	Insurance of New Buildings/Works - By the Contractor and by the Employer; Insurance of Existing Building or Extension - by the Employer	3
Clause 21	Date of Commencement, Postponement and Date for Completion	4
Clause 22	Damages for Non-Completion	6
Clause 23	Extension of Time	28
Clause 24	Loss and/or Expense Caused by Matters Affecting the Regular Progress of the Works	25
Clause 25	Determination of Contractor's Employment by Employer	5
Clause 26	Determinations of Own Employment by Contractor	1
Clause 27	Nominated Sub-Contractors	5
Clause 28	Nominated Suppliers	6
Clause 30	Certificates and Payment	35
Clause 31	Outbreak of Hostilities	2
Clause 34	Adjudication and Arbitration	1
Clause 36	Notice	1
Clause 37	Performance Bond	9

Interestingly, Table 7 shows the comparisons between the top 5 of clauses in PWD 203A and PAM2018 which significantly lead to contract disputes are differently ranked namely Clause 43 (PWD203A), Clause 30 (PAM2018), and Clause 28 (PWD203A), Clause 23 (PAM2018). This demonstrates that disputes in construction projects can be caused unpredictably as it based on contractual provision (clauses) provided in CoC of different forms of contract used and it may also due to other factors as well.

Table 7 - Comparisons between clauses in PWD 203A and PAM2018.

RANK	PWD Clause	PAM Clause	Remarks
1	43.0 Delay and Extension of Time	30.0 Certificates and Payment	X Different
2	24.0 Variations	11.0 Variations, Provisional and Prime Cost Sums	√ Similar
3	28.0 Payment to Contractor and	23.0 Extension of time	X

Interim Certificates					Different
4	44.0	Claims for Loss and Expense	24.0	Loss and/or Expense Caused by Matters Affecting the Regular Progress of the Works	√ Similar
5	5.0 & 31.0	S.O Instruction & Final Account and Payment Certificate	2.0	Architect's Instructions (AI)	√ Similar

5.2 Factors That Lead to the Dispute in the Use of CoC

Upon analysing the data information gathered from the previous relevant literature, The CoC has been identified as one of the main contributory factors to disputes in the construction industry. Previous study addressed that the complexity of contract documentation in a construction contract is most likely the main cause that hinders the understanding of contract participants primarily in fulfilling their obligations and contractual needs. There are several studies conducted also discovered that the existing of CoC governing a construction industry is lacking clarity (Bunni 2003; Chong & Zin 2010). It is significant to note that when the contract participant can comprehend every clause mentioned in the contract with less help, this proved to show that contract has clarity. Additionally, a contract that is easy to understand is free from uncertainty.

Besides, the long sentence length, the presence of many redundant legal expression and poor layout are the major factors that affect clarity in the CoC (Ali and Wilkinson 2010; Chong and Zin 2010; Wright and Fergusson 2009). The contract participants are faced with difficulty in understanding the CoC due to the use of legal terms and unnecessary formality in the contract clause (Wang & Yang 2005; Ali & Wilkinson 2010). This shows that, it is important to ensure the contracts are written with clarity as the primary users of the contract are commonly consists of the contracting parties and the contract administrator without a strong legal background. It is also significant to note that the message conveys in the CoC is able to be transferred perfectly by removing the redundant terms, replacing the legal jargons with more simplified words and structure of the sentences. The use of clear and plain language is highly suggested to be applied in the COC (Broome & Hayes 1997; Rameezdeen & Rajapakse 2007; Ali & Wilkinson 2010). With the amendment and revision made to the latest edition of the CoC, it has become more complex and difficult to be comprehend. Meanwhile, the first edition of the CoC was drafted using precise language (Bunni, 2003). Table 8 tabulates the findings from synthesizing the previous literature on the factors that lead to the dispute in the use of CoC.

Table 8 - Factors that lead to the dispute in the use of COC.

		FACTORS THAT LEAD TO THE DISPUTE IN THE USE OF COC						
AUTHOR	YEAR	LEGAL UNDERSTANDING	EXPLANATION OF CONTRACT CLAUSE	COMPETENCY OF CONTRACT ADMINISTRATION	FAILURE OF CONTRACT DRAFTER	CONTRACTUAL LANGUAGE	AGED CONTRACT	AMENDMENT MADE
Greene et. al	2012				X			
Ali & Wilkinson	2010	X						
Chong & Zin	2010	X	X					
Harmon	2010	X	X					
Cheung & Yiu	2007		X					
Rameezdeen & Rajapakse	2007	X	X			X		
Mohamad & Zulkifli	2006	X	X				X	
Murali	2006			X				

Styllis	2005		X		X
Wang & Yang	2005	X			
Cutts	2004	X	X		
Berry et. al.	2003				X
Bunni	2003				X
Candlin et. al.	2002		X		

FACTORS THAT LEAD TO THE DISPUTE IN THE USE OF COC

AUTHOR	YEAR	FACTORS THAT LEAD TO THE DISPUTE IN THE USE OF COC						
		LEGAL UNDERSTANDING	EXPLANATION OF CONTRACT CLAUSE	COMPETENCY OF CONTRACT ADMINISTRATION	FAILURE OF CONTRACT DRAFTER	CONTRACTUAL LANGUAGE	AGED CONTRACT	AMENDMENT MADE
Chong et. Al	2001	X	X					
Heap & Rosli	2001	X	X					
Mitropoulos & Howel	2001	X				X		
Bresnen & Marshall	2000	X	X			X		
Cheung	1999		X					
Broome & Hayes	1997	X	X					
Barnes	1996				X			
Aitkens	1995				X			
Thomas et. al.	1994	X	X					
Martin	1993	X						
Powell-Smith	1989			X				
Wallace	1986			X				

Through the synthesis of previous literature, majority of the researchers admit that the use of the COC itself may cause contract dispute. The prominent factors that lead to the contractual dispute in the COC is the explanation of contract clauses. These is followed by the use of legal jargons in the COC, the failure of the contract drafter, contractual language, competency of the contract administrator, amendment made to the existing COC and aged contract. This means that since the construction industry has indeed become a catalyst that spurs economic growth for the country, the use of the COC must be established to govern the construction project. Based on the findings, it is suggested that an extensive training should be provided to the contract participant in order to help them to be more well-verse to the contract structure and can easily understand the contract. It is also important to ensure the construction process could be delivered smoothly and successfully as per contract. This study could also be beneficial to project team for having a clear understanding on clauses that potentially cause to contract dispute and therefore, they could mitigate any contractual disputes in the future.

The findings of this study demonstrate that there are several differences of causes lead to disputes between PWD Form 203A and PAM 2006 and 5 factors that caused the disputes of CoC which are behavioral factor, design factor, technical factor, external factor and contractual factor. Hence, the 5 clauses which often contribute to contract dispute based on the survey conducted under the PWD Form 203A are Clause 43; Delay and Extension of Time, Clause 24; Variations, Clause 28; Payment to Contractor and Interim Certificate, Clause 44; Claims for Loss and Expenses, Clause 5; S.O Instruction and Clause 31: Final Account and Payment Certificate. Meanwhile, under the PAM Form 2006 (With Quantities), the top 5 clause which often contribute to contract dispute are Clause 30; Certificates and Payment, Clause 11; Variations, Provisional and Prime Cost Sums, Clause 23; Extension of Time, Clause 24; Loss and/or Expense Caused by Matters Affecting the Regular Progress of the Works, and Clause 2: Architect's Instructions.

6. Conclusion

There are various causes that potentially contribute to disputes in construction projects. The contractual provision under the CoC is seen often leads to the contract disputes. Interestingly, from the research, 2 differences and 3 similarities of clauses that prone to disputes which presented in Table 7. Accordingly, the top of clauses that caused the disputes are time and money related. In construction industry, time and money are the golden factors of a successful project. In administering the construction project, the fundamental in understanding the provisional of contract is essential to avoid project delay, project cashflow, interruption of the third party and hidden cost i.e. legal fees and appointment of third party. Therefore, this study able to identify the 5 factors of construction disputes that rooted from the vexed issue of CoC and investigates which CoC that contribute the most to the construction disputes. Hence, based on the outcomes, the future research may focus on the recommendation to enhance the above-mentioned of top 5 clauses that caused the disputes in the construction industry and to improve the clarity and the contractual language by using a plain language in CoC.

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