

PROFILING OF CONSTRUCTION DISPUTES IN PRIVATE PROJECTS

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To my late grandparents,
may their memory be a comfort and a blessing.
To my beloved husband, parents, brother, aunties and uncles,
for always loving, supporting and believing in me.
And all of my friends especially Yoke Mei,
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ABSTRACT

Construction disputes often break out due to multiple causes and are attested by numerous court cases reported in law journals. While lessons could be learned from previous incidents, recurrence should be avoided. Profiling process comprised of studying patterns of conducts of particular data subjects and categorising such subjects in relation to exhibited conduct is found to be lacking in the subject of construction disputes. Hence, this research aims to develop a construction dispute profile based on legal cases to improve the contract management practice. The objectives of the research are to establish the attributes as well as the causes of disputes involved, to identify the legal issue(s) arising from construction dispute cases and finally to develop a validated dispute profiling framework. Doctrinal legal research and a review of the literature were adopted as the methodology of the research. This qualitative research approach used Issue, Rules, Analysis, Conclusion (IRAC) and content analysis techniques to analyse the data. Fifty four (54) Malaysian reported construction dispute cases related to contractual issues occurring in private construction projects between the years 2000 and 2013 were identified and used as the data. The three main attributes for identification were disputed projects, case and court process characteristics. Results indicated that there are six subgroups of causes of construction dispute emerging from the cases, namely contract law, law in tort, payment, determination, time, and site and execution of work. Under the payment subgroup, non-payment showed the highest frequency among others. Some legal issues pertaining to retention sum and winding up were also identified. The cases, attributes and causes of disputes established were used as a basis to develop a framework of the construction dispute profile. To validate the practicality of the proposed construction dispute profile framework, an online questionnaire survey validation process was carried out. Majority of the respondents concurred with the findings and agreed that the framework could be the basis for the development of construction disputes database system in the future.

ABSTRAK

Pertikaian dalam industri binaan sering kali timbul dari pelbagai punca dan dibuktikan melalui kes-kes mahkamah yang dilaporkan dalam jurnal undang-undang. Walaupun pengajaran dapat dipelajari dari pengalaman lepas, pengulangan harus dielakkan. Proses pemprofilan yang merangkumi kajian corak tingkah laku subjek data tertentu dan mengkategorikan subjek berkenaan dengan tingkah laku yang ditunjukkan didapati kurang dijalankan dalam bidang pertikaian pembinaan. Oleh itu, kajian ini bertujuan untuk membangunkan profil pertikaian pembinaan berdasarkan kes-kes mahkamah untuk memperbaiki amalan pengurusan kontrak. Objektif kajian ini adalah untuk mengenal pasti sifat-sifat serta punca-punca pertikaian yang terlibat selain untuk mengenal pasti isu-isu perundangan yang timbul daripada kes-kes pertikaian pembinaan dan seterusnya untuk membangunkan rangka kerja profil pertikaian yang disahkan. Penyelidikan undang-undang berasaskan doktrin dan kajian literatur telah digunakan sebagai metodologi penyelidikan. Pendekatan kajian kualitatif ini menggunakan Isu, Kaedah, Analisis, Kesimpulan (IRAC) dan teknik analisis kandungan untuk menganalisis data. Lima puluh empat (54) kes pertikaian pembinaan Malaysia yang berkaitan dengan isu kontrak yang berlaku dalam projek pembinaan swasta antara tahun 2000 dan 2013 telah dikenal pasti dan digunakan sebagai data. Tiga sifat-sifat utama yang dikenal pasti adalah projek pertikaian, kes dan proses pengadilan. Dapatan kajian menunjukkan bahawa terdapat enam subkumpulan penyebab pertikaian pembinaan yang diperolehi dari kes-kes tersebut, iaitu undang-undang kontrak, undang-undang tort, pembayaran, penentuan, masa serta tapak dan pelaksanaan kerja. Di bawah subkumpulan pembayaran, pembayaran tidak dibayar menunjukkan frekuensi tertinggi di antara yang lain. Beberapa isu undang-undang yang berkaitan dengan wang tahanan dan penggulungan syarikat juga dikenal pasti. Kes-kes, sifat dan punca pertikaian yang dikenal pasti telah digunakan sebagai asas untuk membangunkan rangka kerja profil pertikaian pembinaan. Bagi mengesahkan praktikalnya rangka kerja profil pertikaian pembinaan yang dicadangkan, proses pengesahan melalui tinjauan soal selidik dalam talian telah dijalankan. Majoriti responden bersetuju dengan hasil kajian ini dan mencadangkan bahawa rangka kerja ini dapat menjadi asas bagi pembangunan sistem pangkalan data pertikaian pembinaan pada masa akan datang.

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LIST OF ABBREVIATIONS

AC	-	Law Reports Appeal Cases
ADR	-	Alternative Dispute Resolution
All ER	-	All England Law Reports
AMR	-	All Malaysia Reports
BNM	-	Bank Negara Malaysia
BQ	-	Bill of Quantities
BR	-	Broadcasting Reports 1979-
CA	-	Court of Appeal
Ch	-	Cases in Chancery
CIA	-	Central Intelligence Agency
CIDB	-	Construction Industry Development Board
CIPAA	-	Construction Industry Payment and Adjudication Act
CJ	-	Chief Judge
Cl/cl	-	Clause
CLJ	-	Current Law Journal
EPU	-	Economic Planning Unit
FBI	-	Federal Bureau of Investigation
FBI	-	Federal Bureau of Investigation
FCJ	-	Federal Court Judge
FIDIC	-	International Federation of Consulting Engineers
GDP	-	Gross Domestic Product
ICE	-	Institution of Civil Engineers
ICR	-	Industrial Cases Reports
ICT	-	Information and Communication Technologies
IEM	-	The Institution of Engineers Malaysia

J	-	Judge
JCT	-	Joint Contracts Tribunal
JKR/PWD	-	Jabatan Kerja Raya / Public Works Department
KB	-	Law Reports King's Bench
LAD	-	Liquidated Ascertained Damages
LOU	-	Letter of Undertaking
LRT	-	Light Rail Transit
MBAM	-	Master Builders Association Malaysia
MLJ	-	Malayan Law Journal
MLJU	-	Malayan Law Journal Unreported
MPW	-	Master Work Programme
O/o	-	Order
OSS	-	Office of Strategic Services
PAM	-	Pertubuhan Akitek Malaysia / Malaysian Institute of Architects
PMBOK	-	Project Management Book of Knowledge
QB	-	Law Reports Queen's Bench
RFI	-	Request For Information
RFID	-	Radio-Frequency Identification
RHC	-	Rules of the High Court
RIBA	-	Royal Institute of British Architects
RICS	-	Royal Institution of Chartered Surveyors
S/s	-	Section
SLR	-	Singapore Law Report
S.O.	-	Superintending Officer
TLR	-	Times Law Reports
UK	-	United Kingdom
UNSUB	-	Unknown Subject
V.O.	-	Variation Order
WLR	-	Weekly Law Reports

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Construction is one of the important industry that significantly contribute to the growth and development of a nation's economy (Jelodar and Yiu, 2012). Despite Malaysia' national gross domestic product (GDP) in year 2016 grew at an average rate of 4.2%, an annual growth rate of 7.4% was recorded for the construction industry (CIDB, 2017). A list of implemented large-scale projects are also found under the 10th Malaysia Plan for a period of five years from 2011 to 2015 (EPU, 2015). This further indicates the significance of the construction industry, as a main driving force for the national GDP and economy of the nation as a whole (CIDB, 2016).

In order for economic and social activities to be carried out, the construction industry is therefore accountable for planning, design, construction, maintenance and the ultimate demolition of the buildings as well as infrastructures and the like. Although the contributions and role played by the construction industry are well acknowledged (Mohd Danuri *et al.*, 2015), yet, the construction industry could not break away from conflict and/or disputes which is part and parcel of the industry's nature (Cheung, Yiu, and Suen, 2004).

1.2 Background of Issues

Conflict and disputes in the construction industry has always been a great concern as it may involve high stakes i.e. multi-million dollar investments, professional reputations or even business survival. Construction disputes inhibit prompt completion of projects and within budget. High attendant cost is also associated with both direct cost i.e. attorneys, claims consultants, time management, project delays) and indirect/ consequential costs (disintegration of working relationships, distrust between parties, lacking of teamwork and follow-on poor workmanship). Although the construction industry is very prone to conflict and disputes, yet it plays an important role in contributing to a country's economy.

1.2.1 Construction Disputes

Despite the important role and contribution played by the construction industry, yet, the construction industry is also well-known for its highly adversarial nature (Mustaffa, 2009; Rahman and Kumaraswamy, 2001; Rhys Jones, 1994) and its fertile sources of conflicts and disputes (CIDB, 2016; Mohd Danuri *et al.*, 2015; Zuhairah *et al.*, 2010; Oon, 2003). The construction industry is highly fragmented and complex (Khalfan, McDermott, and Swan, 2007; Sommerville, Craig, and Bowden, 2004) which, conflicts and/or disputes are inevitable in construction projects. Conflicts occur when there is a divergence of interest (Fenn, *et al.*, 1997) and if the conflict is not resolved, it would then escalate into a dispute (Yates, 1998), as disputes is a conflict of claims or rights (Garner, 2009). In the construction industry, contractual disagreements are cited as one of the main sources of disputes (Chong and Zin, 2010; Thompson, 1998).

Disputes require resolution and various method of dispute resolution are made available. Dispute resolution can be categorised into two: traditional and also alternative dispute resolution (ADR). Conventionally, disputes are normally resolved

via litigation (court) (Harmon, 2003). However, due to some of its shortcoming, ADR i.e. arbitration, mediation, adjudication, negotiation, expert determination, mini trial, dispute review board (DRB) and hybrid methods were developed and promoted (Zuhairah *et al.*, 2010; Hussin and Ismail, 2015). However, Zulhabri *et al.* (2008) found that the Malaysian construction industry experience of alternative dispute resolution (ADR) is rather low as compared to the traditional dispute resolution i.e. litigation, in spite of its widespread advocacy. This explains why courts are facing backlog.

Table 1.1: Construction Dispute Values and Length of Disputes According To Region from Year 2011 – 2016

REGION	AVERAGE DISPUTE VALUES (US\$ MILLIONS)						AVERAGE LENGTH OF DISPUTE (MONTHS)					
	2011	2012	2013	2014	2015	2016	2011	2012	2013	2014	2015	2016
North America	10.5	9	34.3	29.6	25	21	14.4	11.9	13.7	16.2	13.5	15.6
Asia	53.1	39.7	41.9	85.6	67	84	12.4	14.3	14	12	19.5	14.6
Middle East	112.5	65	40.9	76.7	82	56	9	14.6	13.9	15.1	15.2	13.7
UK	10.2	27	27.9	27	25	34	8.7	12.9	7.9	10	10.7	12
Continental Europe	35.1	25	27.5	38.3	25	19	11.7	6	6.5	18	18.5	14.1
GLOBAL AVERAGE	32.2	31.7	32.1	51	46	42.8	10.6	12.8	11.8	13.2	15.5	14

Source: ARCADIS (2017)

It would also be beneficial to look into the construction disputes value and the length of disputes. Table 1.1 depicts that Asia region recorded a higher average construction dispute value along with the average length of construction dispute consistently in comparison with the global average from year 2011-2016. Although the time needed to resolve the construction disputes reduce significantly in year 2016, however the construction dispute values in Asia documented otherwise as compared to the year before with a recording value of USD84 million.

In Malaysia alone, it is also found that the total claimed amount of all construction disputes in year 2016 currently stands at RM1.4 billion (KLRCA, 2016). According to Lim (2014), the average time frame to commence and conclude a construction dispute case takes about a year, based on recent years workings of the High Court. From the statistics presented, this further proves that the construction industry is plague with disputes.

Disputes and litigation are so prevailing that the courts have become backlogged thereby justifying the establishment of the construction courts with its sufficient case load (CIDB, 2016). The specialist construction court is established by the Malaysian Judiciary effective from 1 April 2013, at the joint request of the Construction Industry Development Board (CIDB) and the Bar Council Malaysia. Two courts of the High Court of Malaya, in Kuala Lumpur and Shah Alam were dedicated to hear the construction disputes (Chief Registrar's Office, 2013). Since its establishment on 1 April 2013, 831 cases were registered up to December 2014 (CIDB, 2016). Despite the establishment of the construction courts, there are still considerable outstanding cases being recorded for year 2015 based on the statistics reported in CIDB Construction Law Report 2015. Thus, it is evident that the construction industry has been laden with too many time-consuming and costly disputes.

Before the establishment of construction courts, a construction dispute is usually heard in the civil courts such as High Court. However, a construction dispute is now heard in the construction court instead, upon its establishment. The jurisdiction of the construction court includes building and construction disputes; engineering disputes; claims by and against engineers, architects, surveyors, accountants and other specialist advisers; claims relating to the quality of goods sold or hired and work done, materials supplied or services rendered; claims relating to the environment including pollution cases. Construction court also deals with the challenges to decisions of arbitrators in construction and construction related matters; and appeal from Subordinate Courts in construction and construction related cases (Chief Registrar's Office, 2013).

1.2.2 Profiling

'*Profiling*' originate from a latin word and is defined as the act or process of learning information about someone or something based on what is already known

(Merriam-Webster, 2016). Information on a specific subject could be captured via profiling. It is a process management of any specific mechanism (Salahuddin and Othman, 2016). Profiling provides an opportunity to review the information it contains for further inquiry or guidance such as a case profile of a particular construction dispute can give details about the dispute in certain point. In summary, profiling produces knowledge, rather than just data (Hildebrandt, 2007).

Profiling had been successfully adopted by various fields, namely business and product development, marketing and customer management, crime/fraud detection and healthcare (Brand *et al.*, 1995; Germain, 2000; Feinberg *et al.*, 2002; Inhoff, 2004; Deveryr, 2010; Thomas, 2012). They collect and profiled a set of identified data from individuals, transactions and/or events.

The work by Watts and Scrivener in 1993 and 1995b suggests ways of improving documentation and administration processes used in the construction industry so that the number of disputes and their cost may be lessened. Knowledge of the frequency of occurrence of disputes within the building industry and the manner in which they are settled is an essential basis for this study. Data have been taken from cases which finally reached the Australian and United Kingdom courts between 1989 and 1991. By reviewing of the claims discussed in the judgments for these construction cases the types and frequency of the sources of dispute were able to be identified. While, the research done by Abidin (2007) aims to develop the profile of construction disputes feature or characteristic of the dispute consisting of the nature of disputes, the parties involved, type of the project, when do the disputes occurred and standard form of the contract for the project involving 72 Malaysian cases which were collected between year 1997-2007.

1.3 Problem Statement

It is well aware that the construction industry is laden with disputes. There are many court cases in relation to construction projects (Kong and Yeow, 2016). This finding is in congruent with the recent statistics presented by CIDB (2016) on the high number of disputes cases which are referred to the Malaysian courts for settlement. In view of the increasing construction disputes, the construction industry continues to struggle in finding ways to resolve them equitably and economically (Arditi and Pulket, 2005; Cheng *et al.*, 2009). The postponement in settling construction disputes would pose a negative effect on project progress, which eventually leads to cost and time overrun besides detrimting the relationship between the contracting parties in disputes (Iyer *et al.*, 2008). As such, in managing the construction disputes, two efforts which can be made were identified by Kumaraswamy (1997) namely dispute resolution and dispute prevention. However, it is found that much of the managerial effort centres around the development of dispute resolution processes instead of dispute prevention (Cheung, Yiu, and Suen, 2004; Cheung and Yiu, 2006; Zulhabri *et al.*, 2008; Cheng *et al.*, 2009; Tazelaar and Snijders, 2010; Thirunavakarasu and Mathew, 2010; Zuhairah *et al.*, 2010; Mohd Danuri *et al.*, 2015; Mohd Danuri *et al.*, 2016; Lee *et al.*, 2016). Nevertheless, a perceptible shift towards a better approach to resolve a construction dispute via mitigation, prevention or avoidance is crucial (Whitfield, 1994; Vallero and Vesilind, 2006; Mehany, Gad and Esmaeili, 2017).

Dispute resolution is a reactive approach in managing construction disputes as the resolution efforts does not exist unless and until the disputes occurs. Information on construction disputes is mainly utilised by lawyers and judges as well as construction players which could also be the disputants. Massive amount of information needs to be collected, analysed and presented by lawyers in a construction dispute resolution. Precedent knowledge and cases are adopted as reasoning by lawyers and judges in a construction dispute (El-adaway, 2008). In contrast, individual's knowledge and experience is relied on heavily without proper referencing of precedence knowledge by construction players in the effort to resolve the construction disputes (Shin, 2000). If the disputants (construction players) are

made aware of the court's decision in advance with some certainty, they would most likely settle the disputes out of court instead of undergoing the aggravation and expenses in relation to court proceedings (Iyer, Chaphalkar and Patil, 2013). The desirability of profiting from the experiences of others as well as of avoiding re-invention of the wheel are the reasons for learning the problems addressed (Brooker and Lavers, 1997). There is a lack of research which adopts/uses documented work similar to legal cases/case law. Most of the research on dispute resolution are found to have adopted the fieldwork approach, for example, via questionnaires surveys and interviews (Lu *et al.*, 2017; Mohd Danuri *et al.*, 2016; Lee *et al.*, 2016) which have not been found to be very effective in reducing the number of cases brought to court. Therefore, there are precious knowledge and experience hidden in the legal cases/case law that can be reviewed and profiled, subsequently a framework can also be developed from it.

On the other hand, as of current, much of the construction dispute mitigation, prevention or avoidance research revolved around project management such as risk allocation and monitoring (Cheung, 2014; Burr, 2016), as well as the understanding and appreciation of a well written construction contract apart from the drafting of terms/clauses of the contract (Cheung and Yiu, 2006; Chong and Zin, 2010; Chong and Phuah, 2013). There is limited research on dispute mitigation, prevention or avoidance which involved legal cases/case law. Watts and Scrivener (1993,1995a, 1995b) looked into Australian and United Kingdom building cases from 1990-1991 while Abidin (2007) studied Malaysian construction cases from 1997-2007, but both researchers did not attempt to address the legal issues leading to the judicial decision nor develop a framework in relation to construction disputes profile. Hence, the initiative to develop the construction dispute profile framework based on legal cases/case law would be able to make up on this especially in the Malaysian scene by offering an informative approach or practical guide which would assist in dispute avoidance, prevention or mitigation.

In order to develop the abovementioned framework, the attributes of the disputed cases would need to be established which highlight the disputed project characteristics, case characteristics and court process characteristics as it has relation to the court cases. For example, who are the parties in the disputed court cases, type

of projects involved, etc. Besides that, it is also crucial to find out the reason behind a dispute along the way, in order to avoid it rather than resolving it, as the resources which are used to resolve the problem can be better utilised elsewhere in improving the construction project (Fenn, 2007). Therefore, the causes that contribute to the disputed cases are identified as well. Lastly, would be the identification of legal issues which is the foundation of a case as it lays down the principles leading to the judicial decision making. By having access to this framework, construction players would be able to benefit from precedent knowledge from past disputed cases that were brought to court apart from rely on their individual's knowledge in resolving disputes. Besides that, they could also pre-empt a dispute from occurring whereby construction players could taking preventive measure or extra caution during the progress of their project with the available knowledge that had been established based on the attributes set out in the framework.

Finally, the result from this research forms the basis for subsequent research. Other researchers could cite this research to support their work. This is very similar to what some of those researchers (Ngacho and Das, 2014; Supardi *et al.*, 2010; Supardi *et al.*, 2011; Kenyatta *et al.*, 2015; Ramachandra and Rotimi, 2014; Supardi *et al.*, 2012; Makori *et al.*, 2015; Nawi, 2015; Fauzi and Aripin, 2016) had done by citing the work of Abidin (2007) in order to support their research work.

1.4 Research Questions

1. What are the attributes of construction disputes? (i.e. what are the nature/different types of construction dispute cases brought to court, who are the parties involved, what kind of the project is involved, what type of procurement is adopted, when do the disputes occurred, what are the standard form of the contract used, how long is taken to resolve the disputes)
2. What are the causes of the construction dispute cases?

3. What is the legal issue(s) arising from the dispute cases and the decision made by the court judges?
4. How information found in dispute cases can be put into good use/reference to legal and industry professionals?

Some of these questions were researched by other researchers of which majority of it are based on fieldwork data gathered and hardly any court cases data research upon or referenced. Therefore, it would be wise to look into these using court cases accordingly.

1.5 Research Aim and Objectives

The aim of this research is to develop a construction dispute profile framework based on legal cases/case law that will help to improve the contract management practice. The following objectives have been established to achieve the aforementioned aim of this research:

1. To establish the attributes for the construction dispute case profile.
2. To determine the causes that contribute to the construction dispute cases.
3. To identify the legal issue(s) arising from each construction dispute cases.
4. To develop a framework of the construction dispute case profile.
5. To validate the framework of the construction dispute case profile.

1.6 Scope of Research

The research is confined to the following scope and limitations:

1. Construction disputes can be classified into three categories namely contractual disputes, organisational disputes and technical disputes. In this research, the emphasis would be on contractual disputes. As according to Iyer, Chaphalkar and Patil (2013), construction contract is found to be the recurrent feature towards disputes occurrence.
2. The source of data collection is from library database consisting of court cases which record the dispute and judgement (Lexis-Nexis, 2000). Malaysian construction disputes cases which had been brought to the High Court, Court of Appeal or Federal Court from year 2000 to 2013 are selected for analysis in the data collection process. Disputes cases from year 2000 to 2013 were selected as it is believe that recent cases dated not older than 20-30 year are much better and it is advisable to stop when there are changes in the law (Côté and MacGregor, 2014). The duration was selected by taking into consideration the implementation of PAM Standard Form of Contract 1998. Generally, construction projects may take averagely two years to complete (Long and Young, 2009; CIDB, 2016b). Hence, cases starting from year 2000 were selected. Despite this, there is also possibility that construction dispute cases in relation to PAM Standard Form of Contract 1969 were included as well, due to the protracted duration in settlement of cases in Courts. As there is changes in the law with the new Construction Industry Payment and Adjudication Act 2012 (CIPAA) which came into force on 15 April 2014 (Bar Council Malaysia, 2014), the cases that had been taken into consideration stop in year 2013 as highlighted by Côté and MacGregor (2014). However, this does not render the research invalid as there are precedence knowledge and lesson to be learnt from the problems addressed in the cases still to avoid re-invention of the wheel.
3. Although the construction industry consist of public construction projects and private construction project, but the focus of this research is primarily on private construction projects. This is due to the contribution of private

contruction projects based on the value of project awarded. There is a total of 5091 private construction projects which contributed 77.78% (RM178.14 billion) value of project awarded as compared to 22.21%% (RM50.88 billion) for 1764 public construction projects in 2016 (CIDB, 2017b). From these figures, it is further reflective that private construction projects are having a lion's share in the construction industry and of higher potential for disputes to occur.

4. Arbitration cases that was brought to court was not taken into consideration in this research because under Section15(5) and Section 18(10) of the Malaysian Arbitration Act 2005, there are very limited grounds of appeal against an arbitration award (Zuhairah *et al.*, 2010). Furthermore, it is revealed that there are several indirect factors, which influence the decision making of arbitrators namely, their experience, technical expertise, cognitive skills, decision making approach, background characteristic, human nature, etc of the arbitrator, apart from the facts of the case, evidences and documents presented during the arbitral proceedings (Singhi amd Jangir, 2010; Goel, 2011; Seth 2011; Iyer *et al.*, 2013). As such a 'pure' judgement from the court judges' perspective is preferred over others in respect of the disputed cases for this research.

1.7 Significance of the Research

The contribution of the research is in developing a construction disputes' profile in Malaysia which serves as an instrument to put precedence knowledge into good use. This research project advances knowledge of disputes in construction by converting precedence disputes into a source of valuable knowledge for identification of dispute characteristics in current and future projects in our local scene. In addition, there is much emphasis put forth with regards to the best practices in construction industry as well as professionalism of late (Bordass and Leaman, 2013; CIDB, 2016). It is also hope that the legal and construction players are able to

better advice clients on the preparation of contracts and documentations needed in cases of dispute. By having the framework, the construction players would be able to gain insight into the various types of construction cases brought to court, the decisions, and the principle/basis of those decisions made by the judges. The cases also can be referred to as precedence for judgement in similar cases. It is of the aspiration that with such knowledge and information, legal and construction players would be able to improve their practices for a healthy and vibrant construction industry thereby rid the perception that the industry was laden with disputes eventually.

From this profile, construction players will have a clearer picture on the background of the disputes or potential dispute issues and sound judgements can be made based on defined dispute characteristics. Disputes are anticipated at an early stage of project before it occurs and deteriorate to a devastating stage. Besides profiting from the court analysis, construction players are able to avoid re-invention of the wheel. Thus, this research also assist in the decision making process with reference made to past court cases rather than solely relying on individual's knowledge and experience. These all together would be able to assist the construction players in managing a construction project better off.

The parties in construction such as employer, an architect, project manager, main contractor, sub-contractor and supplier will be more responsible in carrying out their duties. Duties could be carried regularly, diligently, efficiently and effectively based on lesson learned from previous disputes, i.e. without making similar mistakes of which was made in previous dispute cases. This would also indirectly facilitate the creation of a more harmonious working relationship among the construction team members. A healthier competitive environment could also exist, whereby construction parties will work together to prevent dispute from occurring in their projects besides ensuring a successful project delivery. In addition, this research which consist of analysis of court cases would be useful to make recommendations on industry practices, law amendments where necessary, apart from minimising the number of disputes for the smooth implementation of construction projects.

The current research framework also helps to develop a general and comprehensive base for future research especially in construction disputes. It will help construction players and researchers to be aware and understand that profiling practice that can also be applied in the construction industry. This research will act as a guidance to mitigate, prevent or avoid construction disputes. Furthermore, the construction players will also be exposed to the attributes and causes as well as the principle/legal issues that are needed in order to minimise a dispute from occurring which would hamper a project's progress.

1.8 Research Approach

Literature review is conducted which provided an insight in relation to profiling and the relevant attributes in relation to construction disputes, construction disputes and its management, the causes of construction disputes and legal issues that are related to construction disputes. It also assist in setting up the direction of this research as in the determination of the research aim and objectives apart from providing a better understanding on the subject matter and methodology to be adopted as well as the sources of data to be included i.e. law journals, books in relation to construction disputes, etc.

Legal research using doctrinal methodology is also adopted for this research. This research approach is library based with no specific methodology required (Thornton, 2004). In carrying out this legal research, court cases were examined. A four step legal analytical process which is known as Issue, Rule, Analysis/Application, Conclusion (IRAC) was conducted. The court cases are synthesized to come to a conclusion. The facts of the cases and the reasoning for each court decisions in order to establish the legal principles applied by the courts in deriving their decision are studied, of which would also assist in the identification of the legal issues arising from each construction dispute cases.

Subsequently, thematic content analysis technique is adopted in extracting data manually via a thorough study of court cases. Data is extracted according to the attributes established through literature review which had been conducted earlier. Content analysis is found to be less biased compared to a survey or interview as existing court cases in the form of text data are utilised.

Subsequently, a construction dispute profile framework is developed utilising the information gathered according to the predetermined attributes, causes of disputes as well as the legal issues from the review of court cases. This framework is then validated through online questionnaire survey which was distributed to construction stakeholders i.e. contractors, consultants, experts in construction law and academics in Malaysia.

1.9 Organisation of the Research

The research is organised into seven chapters. An introduction to the essence and problems that necessitate this research can be found in chapter one. The context of the research is also briefly discussed. The research aim and objectives are being addressed together with the scope that highlights the limitations of the research.

Chapter two is a review on related literatures and works (published or unpublished) on construction industry along with project and/or construction management. Reviews are done in relation to construction disputes and the attributes of construction disputes.

Chapter three then discusses the research methodology; consisting of data collection methodology and analytical methodology in ensuring the attainment of the aim and objectives of this research

This is then followed by chapter four, which is the analysis and discussion chapter of the research highlighting the attributes of construction disputes, the causes of dispute cases, the case analysis and legal issues. Subsequently, chapter 5 addressed the discussion of the proposed framework of construction dispute case profile.

Chapter six attempts to validate the proposed framework of construction dispute case profile via a web-based/online questionnaire survey and lastly chapter seven then concludes the dissertation along with subsequent recommendation for future research.

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