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Dispute Resolution Methods' Choice in International Contracts: A Survey of International Contractors' Perspective of Trust

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Abstract: Construction disputes are an integral part of the construction process. Deciding on the appropriate dispute resolution method (DRM) for construction projects requires vigorous investigation to bring up the dispute to a conclusion in the least time and least cost possible. There is an increasing trend in construction management research on the less tangible management aspects, including trust in construction. However, little attention is paid to establishing procedures for mitigating the impact of such aspects on different project activities such as the contract formation and dispute resolution process. The aim of this study is to explore whether trust between contracting parties has effect on the choice of DRMs. A survey was conducted to collect data from industry professionals about the current DRMs used in construction projects. Statistical analysis was performed to compare between the uses of different DRMs given different trust levels. Results of the survey show that eighty-five percent of the respondents' choice of DRMs was based on the normal practices used by their companies. In general, the most DRM employed was arbitration followed by negotiation then mediation. The least was litigation, and mini-trial was not employed in any of the projects. The conclusion of this research is an incremental step to further the understanding of the intangible management aspects that might influence the choice of DRMs in international contracts. This study will be further extended to compare the current practices employed in the industry with experts' recommendations which would be of great significance and benefit to contractors venturing into the international business.

1 Introduction

Construction disputes are an integral part of the construction process. Disputes are time consuming, expensive, and unpleasant. The importance of bringing the dispute to a conclusion as efficiently and cost effectively as possible cannot be overstated. Thus, choosing the most suitable dispute resolution methods (DRM) is crucial. There are many DRMs such as litigation, arbitration, dispute review board (DRB), mediation, adjudication, mini-trial, and early neutral evaluation. DRMs vary in terms of cost of the process, duration taken to resolve the dispute, and decision enforceability (Chan and Suen 2005; Yates and Smith 2007; Gad et al. 2011). However, in most standard contracts, arbitration is still used as the default DRM with minimum thought placed on how the dispute resolution process can be designed to control or lessen both the risk of claims and the cost of disputes that may arise (Gebken and Gibson 2006; Seifert 2005).

Since handling dispute negotiation involves individuals and their beliefs, there is an increasing trend in the construction management research on the less tangible management aspects of construction, such as trust. Trust is proposed by many studies as an aspect that improves the success rate of projects and,

thus, should be considered within the discipline of project management (Atkinson et al. 2006; Lendra and Andi 2006). While in construction, it is not understood as well as other hard project management tool, it has different tailored models and definitions depending on the discipline of interest (Kadefors 2004; Romahn and Hartman 1999) and can also be viewed from different angles, depending on the context (Rousseau et al. 1998).

Although some scholars view contracts as a legal document whose main objective is to avoid risk, others see the contract as a basis for mutual trust between parties (Rousseau et al. 1998). Thus, there is a mutual expectation/contractual trust that promises made are kept. A contract is a demonstration of trust through written or verbal guarantees. Trust is not only formed when the contract is signed, it occurs at all stages of a contract—negotiation, execution, and closeout (Lau 2001). Construction projects and contracts are mostly based on confrontations that lead to mistrust (Zaghloul and Hartman 2002). Contract clauses usually reflect the trust level the parties have for each other; a party displays trust that the other party will perform what is agreed upon in the contract (Kadefors 2004; Zaghloul 2003).

It becomes apparent that trust should affect how the contract should be drafted, how the project should be managed, how disputes should be handled, and, thus, how DRMs should be chosen. The objective of this study is to explore the different factors affecting the choice of DRMs in current international construction projects located in Middle East and Asia, and investigate the effect of trust on this choice. The findings presented in the paper are part of a larger study that investigated the effect of culture and risk (in addition to trust) on the choice of DRMs in international construction contracts. However, in this paper, the results of the trust aspect as it applies to international construction projects will only be addressed. Accordingly, the aim of this paper is to answer the following research questions:

1. What factors currently affect the companies' decision on selecting a specific DRM?
2. How does trust affect the choice of DRMs?

1.1 Trust in construction

In construction management, trust has been mostly acknowledged and seldom examined and thus has become one of the most important research areas (Swan et al. 2005). In general, there is an agreement that trust is a psychological state involving vulnerability, where a belief exists that the individual/organization on whom we depend will meet our positive expectations rather than our fears (Jing and Ling 2005; Kadefors 2004; Lau 2001; McAllister 1995). Trust also involves common shared community norms of a mutual expectation that partners will not take advantage of any vulnerability in the process and, thus, will behave in an acceptable manner (Lau 2001). Thus, it is the willingness to be dependent on others and rely on their actions, which makes it exchange-based (Swan et al. 2005). The more there is interdependencies between the contracting parties, the more the need for trust to improve efficiency and performance (Kadefors 2004).

The benefits of trust, on an individual, project or organizational level, are unlimited. Trust helps reinforce individuals' willingness, confidence, expectations, beliefs, and behaviors to overcome risk, with a belief that others would not take advantage of them (McAllister 1995; Wong et al. 2008). In a trustful environment, gaps are bridged, faith is established, and members' strengths in an organization is reinforced. Thus, in the construction environment, trust can improve the relationship among parties (Wong et al. 2008). In conducting business, it creates advantages, such as voluntary cooperation, improved communication and negotiation, better team building and commitment, acceptance of decisions and effective response to crisis, mutual learning, reduced harmful conflict, lower project cost, shorter project duration, and improved performance (Bijlsma and Koopman 2003; Jing and Ling 2005; Romahn and Hartman 1999; Rousseau et al. 1998).

Risk is one of the main elements that affect the final cost of a construction project. With risk and uncertainty, the need for trust or distrust emerges (Bijlsma and Koopman 2003; Romahn and Hartman 1999). Although the decision to trust bears some risk, the decision to distrust means giving up some potential benefits (Romahn and Hartman 1999), which makes trust constitute a solution for some risk problems by allowing risk-taking (Bijlsma and Koopman 2003). Trust also decreases uncertainty due to

better communication and increased flexibility, and accordingly better problem solving, leading to less time and money spent on a project (Swan et al. 2002).

There are many ways to measure trust in the construction industry. Most studies measured trust levels through categorizing trust into different types such as interpersonal trust measures that includes competence, integrity, and intuition (Wong et al. 2008). Lendra and Andi (2006) proposed four elements needed to measure the level of trust: 1) exhibiting trust, i.e., the existing trust; 2) achieving results, i.e., conforming to business commitments; 3) acting with integrity, i.e., consistent manner behavior; and 4) demonstrating concern, i.e., respecting others (Lendra and Andi 2006). Other researchers used trust strength (weak, semi-strong, and strong trust relationship) to categorize trust.

In 1996, Cummings and Bromiley (1996) developed a survey instrument that can be used to measure organizational trust which they called the Organizational Trust Inventory (OTI). By organizational trust, they addressed the degree of trust between units of an organization or between organizations. OTI instrument was based on the assumption that trust is a belief that should be assessed through an affective, cognitive, and an intended behavior. Thus, the survey was constructed to reflect these three components of trust. An OTI-short form (OTI-SF) was further developed which is a 12-item questionnaire condensed version of the 62-item OTI-long form. It was proven that the OTI-SF provides a more usable questionnaire without sacrificing substantial measurement assets (Cummings and Bromiley 1996).

2 Methodology

A cross-sectional survey design was utilized to collect data from industry professionals about the current DRMs used in international construction projects in the Middle East and/or Asia. Surveys provide a numeric description of the trends or opinions of a population by systematically studying a sample of that population and then generalizing the results on the whole population. Survey research includes questionnaires or structured interviews for collecting the data (Creswell 2009). Questionnaires were chosen to collect information on the factors affecting the choice of DRMs and the current practices in choosing DRMs, as they relate to trust.

2.1 Survey design

The population for this study is the employees responsible for drafting or involved in negotiation of international contract documents signed between a local owner and an international contractor. These employees can work in international construction project located in Middle East and Asia for contractors based in English-speaking countries. The population of interest is spread across different areas, making simple random sampling not feasible. Accordingly, a convenience sampling procedure was employed by approaching individuals or firms that will most likely agree to participate. Problems with such type of sampling include the compromised accuracy of estimates, limitation to generalizability, and inability of calculating the sampling error (Abowitz and Toole 2010).

To develop the sampling frame, databases that list the names and contacts of international contractors involved in international projects were utilized. Examples of such lists include the Engineering News-Record (ENR), which lists the top international contractors and owners involved with international construction. This database was filtered to create a list of international contractors that fit the criteria for this study (international contractors based in English-speaking countries that operate in the Middle East or Asia). The sample for the study consists of procurement/contracts departments' employees working at these companies during the year 2011.

When selecting the survey modes, a web-based questionnaire was developed, using an online survey tool (Zoomerang). This web-based option was chosen because the study involves participants from different regions around the world who can respond anytime and from anywhere in the world. In addition, all respondents work in well-established facilities and have web access. Web-based administered surveys are also inexpensive compared to other means, such as mail surveys or self-administered surveys (Creswell 2009).

2.2 Survey mode

A total of 100 survey requests were sent via email during the months of May, June, and July 2011 to international contractors. Contractors were first contacted through telephone to obtain contact information for the person in the company most capable of answering the survey. The survey constituted four waves of contact. First, the employee was sent an email incorporating the cover letter and a link to the web-survey. One week after sending the first email, the second wave started by sending a follow-up email to non-respondents, emphasizing the importance of their participation and requesting their response. In the third wave, non-respondents were re-contacted by phone requesting their participation. The fourth wave began, if no response was received from the company contact. In this case, another employee in the same company, who qualified to take the survey, was contacted and the first wave began again.

2.3 Survey instrument

The survey instrument consisted of two major sections. The first section included eight questions requesting general information on the company and participant. The second section involved questions regarding two projects. Each project was divided into three parts; eight general project information-related questions, ten DRMs' related questions, and twelve trust-related questions. A short introduction of the survey's purpose requesting procurement/contracts departments' employees' participation was included in the email first sent and in the beginning of the survey.

In order to be able to adequately measure trust, the Organizational Trust Inventory – Short Form (OTI–SF) instrument developed was used to measure the level of trust between the international contractor and the owner as part of this study's (Cummings and Bromiley 1996). The OTI–SF is a twelve-item questionnaire that allows subjects to express their opinion on a 7-point Likert-type scale ranging from “strongly agree” to “strongly disagree.” For details about the 12 questions asked, refer to Cummings and Bromiley (1996). The ratings from the OTI-SF for each project are used to create a measure of trust between the parties for each project. The higher the trust sum, the higher the trust level.

3 Results and analysis

The data collected from the survey are analyzed using both descriptive and inferential statistics. Descriptive statistics are used to describe the size and distributions of various attributes of the population, while inferential statistics are used to compare and relate between the variables in question. The results are divided into three sections. First, descriptive overview information on the companies, projects, and the DRMs used are presented, followed by results and analysis of the two research questions of the study.

3.1 General information

Surveys were emailed to approximately 100 employees from 36 companies—42 responded. Of these 42, five were excluded, since they did not meet the study criteria. Of the 37 remaining responses, 17 did not complete all the survey questions. However, the 17 respondents answered questions on the factors affecting the choice of DRMs. Thus, it was decided to include these 17 respondents' responses in answering the first research question. Of the 20 companies with complete responses, seven companies provided information on two projects resulting in a total of 27 projects with complete responses. Table 1 Table 1 provides information on the home country of the respondents' company.

Looking at the DRMs employed in the contract, eighteen projects out of the 27 employed more than one DRM in the contract document. In general, the most DRM employed was arbitration followed by negotiation then mediation. The least was litigation, and mini-trial was not employed in any of the projects (Table 2).

Table 1: Home country of company

Home country of the company	Frequency
U.S.A.	16
Canada	2
Australia	1
Europe	1
Total	20

Table 2: DRMs stated in the project contract document

DRM stated in contract document	Complete responses
Arbitration	26
Negotiations	18
Mediation	12
Dispute Review Board/ Dispute Adjudication Board (DRB/DAB)	7
Adjudication	5
Litigation	5
Mini-trial	0

When asking respondents on the basis on which DRMs were chosen, seven out of the 27 projects had country regulations and/or laws that necessitated the selection of the DRM(s) stated in the project contract, such as procedures, rules, and regulations of the Qatar International Center for Commercial Arbitration (QICCA). Fifty-five percent of the respondents reported it was normal practice used by the other contracting party, 30% reported it was normal practice used by our company, and the remaining respondents chose other reasons, i.e., 85% of the respondents reported it was normal practice used by the companies (Figure 1). Other options included mandated by a standard contract document, such as the International Federation of Consulting Engineers (FIDIC).

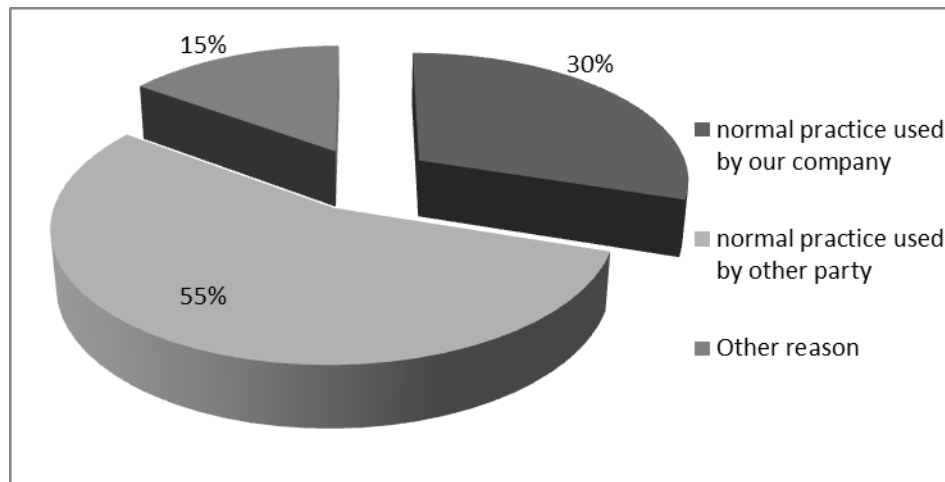


Figure 1: Basis on which DRM chosen in contract

3.2 What factors currently affect the choice of DRMs?

Respondents were asked to select the factors that affect their company's decision on the choice of DRMs. The first eight factors listed in Table 3 were the choices provided to the respondents. The shaded rows were added by the respondents in the 'others' choice. The table includes the responses of all 37 companies that responded (including ones that didn't complete the whole survey). It is seen from the table that 'location of project' followed by 'laws' were the highest mentioned factors while 'level of trust borne with other party' was eighth in terms of frequency mentioned. The least factors mentioned by the respondents were 'value of the contract', 'need to bring in third parties to process', and 'binding outcome'.

Table 3: Factors affecting the choice of DRMs

No.	Factors affecting choice of DRM	Frequency	Percentage mentioned
1	Location of the project	33	89%
2	Laws	27	73%
3	Risks in project	26	70%
4	Local customs	19	51%
5	Type of contract	19	51%
6	Past business relationship	18	49%
7	Limitation of Liability on the contract	18	49%
8	Level of trust borne with other party	15	41%
9	Contract requirements (mandated)	3	8%
10	Cost of resolving the dispute	2	5%
11	Enforceability of decision	2	5%
12	Court system	2	5%
13	Division of neutral's compensation among parties	1	3%
14	Binding outcome	1	3%
15	Need to bring in third parties to process such as PM	1	3%
16	Value of the contract	1	3%

Note: Rows 9 through 16 were added by respondents (not originally included in survey)

3.3 Does trust affect the choice of DRMs?

Trust scores obtained from the survey were categorized into three main categories—low, neutral, and high trust levels. A score less than eight is 'low trust', from eight to 18 is 'neutral trust', and higher than 18 is 'high trust'. These scores were mainly chosen to provide adequate project representation for all trust levels. Figure 2 shows the number of projects in each trust category, based on the score levels defined above.

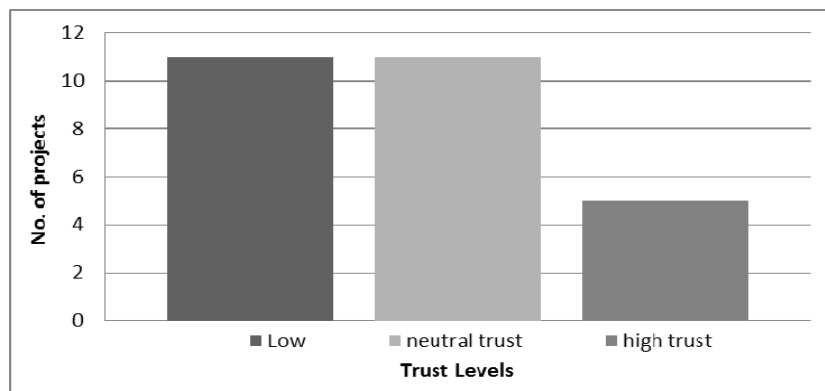


Figure 2: Number of projects with different trust levels

Figure 3 shows the percentage of projects in which different DRMs were stated in the contract categorized based on different project trust levels—low, neutral, and high trust level. For low trust projects, arbitration had the highest frequency, followed by negotiations, mediation, and litigation and adjudication, while Dispute adjudication board/Dispute review board (DAB/DRB) was not employed at all. In neutral trust projects, arbitration had the highest frequency, followed by negotiations, DRB/DAB, mediation, litigation, and adjudication. As for high trust projects, arbitration had the highest frequency, followed by adjudication, DRB/DAB and mediation, and negotiation. Litigation was not used in high trust projects.

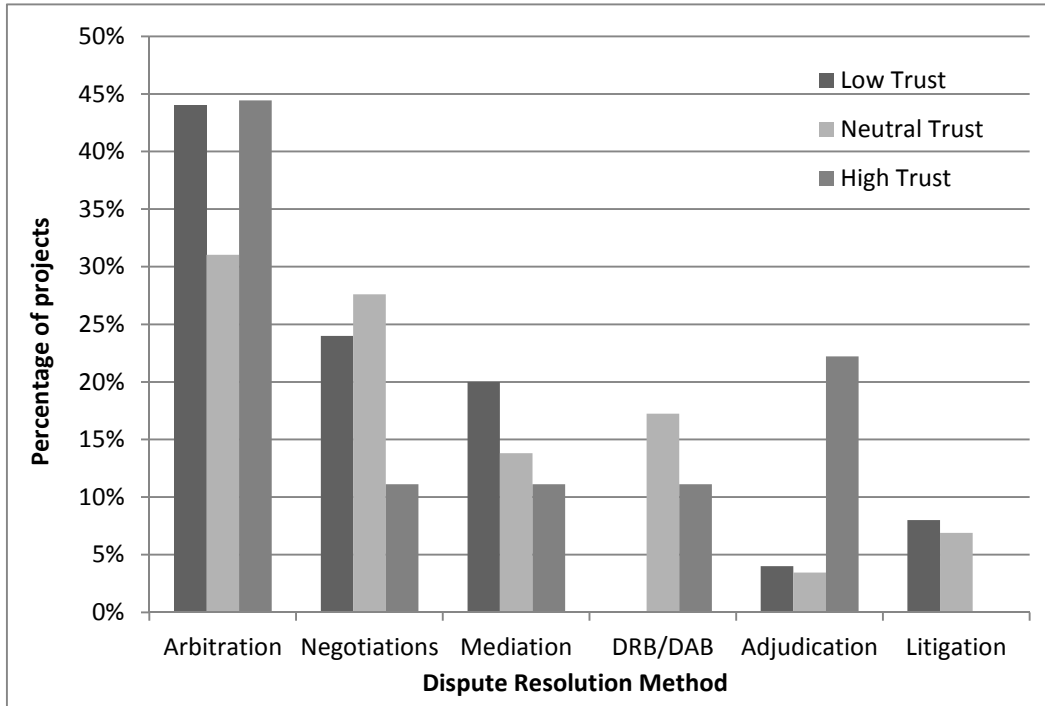


Figure 3: Percentage of projects in which DRMs was stated in contract in projects with different trust levels between parties

The results of the survey for the DRMs used in each project were frequencies. The Chi-squared test is a good statistical option to test if a relationship exists between two categories, i.e., trust level (low, neutral, and high) and use (Yes/No) of each DRMs. It assumes the expected value for each cell is five or higher. Since the expected frequency in some instances is less than five, Fisher's exact test is used to conduct a chi-squared test. Fisher's exact test is a statistical significance test used in the analysis of contingency tables and usually employed when sample sizes are small. The principle behind the test is to obtain a P-value, which is a combination of the frequencies actually obtained (i.e., the probability of every possible combination which indicates more evidence of association), the higher the P-value, the stronger the evidence the two proportions are truly different (Agresti and Finlay 1997). It is illustrated by Eq. (1) as follows:

$$[1] P = \frac{(a+b)!(c+d)!(a+c)!(b+d)!}{a!b!c!d!N!},$$

Where a, b, c, d = individual frequencies of each cell in the contingency table
 N = total frequency

Fisher's exact test was utilized to test all DRMs. The following hypothesis for DRB/DAB was made, for example:

H_0 : There is no statistically significant relationship between DRB/DAB use and the three trust levels between the contracting parties in the project.

H_a : There is a statistically significant relationship between the DRB/DAB use and the three trust levels between the contracting parties in the project.

DRB/DAB was used in 17% of the neutral trust projects compared to 11% in high trust projects (Figure 3). An online 2x3 Fisher's exact test calculator was used (Joosse 2011). After performing Fisher's exact test, it was determined the null hypothesis is rejected, i.e., there is a statistically significant relationship between DRB/DAB use and the trust level of the project ($p = 0.034$, two-tailed Fisher's exact test).

In addition, the hypothesis for adjudication was as follows:

H₀: There is no statistically significant relationship between adjudication use and the three trust levels between the contracting parties in the project.

H_a: There is a statistically significant relationship between adjudication use and the three trust levels between the contracting parties in the project.

Adjudication was used in 4% of low trust projects compared to 3% in high trust projects and 22% in high trust projects (Figure 3), which was found insignificant, i.e., the null hypothesis cannot be rejected, i.e., there is no statistically significant relationship between adjudication use and trust level of the project ($p = 0.207$, two-tailed Fisher's exact test). The remaining DRMs did not have a statistically significant relationship with the project trust level ($p > 0.05$, two-tailed Fisher's exact test).

Observing those results indicate trust is a factor ignored in the industry. As highlighted by previous studies, the ways contracts are setup clearly disagree with the benevolence and openness required to maintain trust (Kadefors 2004; Swan et al. 2002). Trust is not an aspect usually taken into consideration, while drafting a contract document. From an industry perspective, there emerges a need to increase the level of awareness regarding the trust effect on setting up dispute resolution method clauses. Contract clauses should be drafted to reflect the trust level between parties.

4 Conclusions

The paper's main objectives were to identify the different factors affecting the choice of DRMs in international construction contracts and to investigate the current practices in choosing DRMs, as they relate to trust. A cross-sectional survey design was utilized to collect data from industry professionals about the current DRMs used in international construction projects in the Middle East and/or Asia. The survey revealed the most important factors that companies consider when choosing a DRM are the 'location of project' followed by 'laws'. 'Level of trust borne with other party' was the eighth factor in terms of frequency mentioned.

A descriptive and statistical analysis was performed to compare between the uses of different DRMs given different project conditions. Eighty-five percent of the respondents reported it was normal practice used by the companies to employ the DRM chosen. It is seen that arbitration followed by negotiation and mediation are the most frequently used DRMs in most project conditions, except in high trust projects, where adjudication and DRB/DAB were most frequently utilized. DRB/DAB and adjudication were the least used in low and neutral trust projects, respectively. It was a remarkable observation that negotiation was the least used in high trust projects. Comparing statistically between the uses of different DRMs given different project conditions using Fisher's exact test, the only project condition that showed a statistical significance was DRB/DAB in different trust levels.

The conclusion of this research is an incremental step to further the understanding of the factors that, in general, influence the choice of DRMs in international contracts and of trust level, in specific. This study will be further extended to compare the current practices employed in international construction industry with experts' recommendations. This would be of great significance and benefit to contractors just starting their international business and are unaware of the current and recommended practices of DRM choices.

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