ISTANBUL TECHNICAL UNIVERSITY ★ GRADUATE SCHOOL OF SCIENCE ENGINEERING AND TECHNOLOGY

FACTORS AFFECTING DISPUTE RESOLUTION METHODS IN INTERNATIONAL CONSTRUCTION COMPANIES

M.Sc. Thesis

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SEPTEMBER 2015

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SEPTEMBER 2015

İSTANBUL TEKNİK ÜNİVERSİTESİ ★ FEN BİLİMLERİ ENSTİTÜSÜ

ULUSLARARASI İNŞAAT SÖZLEŞMELERİNDE UYUŞMAZLIK ÇÖZÜMÜ YÖNTEMLERİNİ ETKİLEYEN FAKTÖRLER

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EYLÜL 2015

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Date of Submission : 2 September 2015
Date of Defense : 18 September 2015

To my best friend Kaveh Shahidi

FOREWORD

First of all, I would like to thank my thesis advisor, Prof.Dr. Heyecan GİRİTLİ, for enduring support as she backed me up through every steps of the way. I can not thank her enough by words.I would also like to show my appreciation to dear pinar ateş, for her helps and guidances during the process of this surveysurvey.
Last but certainly not least gratitude is due to my family as they have been protecting me by their pure love.

Yours Faithfully,

Sahar BAHEMAT
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ABBREVIATIONS

DRM **:** Dispute Resolution Methods
PM **:** Project Manager
DRB **:** Dispute Review Board
ADR **:** Alternative Dispte Resolution
DR **:** Dispute Resolution
PMBOK **:** Project Management Body of Knowledge
PMI **:** Project Management Institute

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FACTORS AFFECTING DISPUTE RESOLUTION METHODS IN INTERNATIONAL CONSTRUCTION CONTRACTS

SUMMARY

Construction projects are complex tasks. This projects invitably have unique set of designs and technical specifications and are implemented by main contractor and succontractors which mostly corporate for first time having no idea about eachother's personality and characteristics. As each project is unique, we can not expect contractors to anticipate all aspects of project. therefore mistakes and inconsistencies are undeniable. However, conflict regardless of any reason is a common occurrence in construction industry [17].

Today, claims and disputes in construction projects are one of the sources of delay in projects that have caused many problems for parties as well as wasting large amount of time and expenses [7]. Dispute management as a method to resolve these differences is an appropriate way of dealing with such complications, which includes identification, evaluation, prevention and settlement of disputes. Therefore, resolutions could be established or these differences could be prevented before occurring by correct identification and assessment of cases, prevents disputes occurrence or find a solution for them.

Dispute management encompasses a history as long as contract and claim possibilities are integral parts, even in the simplest common projects [34]. Experts believe that it's impossible to completely eliminate the probability of claims by parties; but it's possible to decrease the occurrence of these claims by %90 through identifying the responsible, hazards and risks of contracts and susceptible points of disputes in advance [31].

This study has been accomplished by the objectives of critique and has compared more common methods to manage disputes in international companies achieving some effectual targets. İn this study, we also compare on an individual basis, the influences of the cultures, trust and risk on the disputes in context of parties of the cited countries.

Risk is recognized as the most significant factor when choosing Dispute Resolution Methods (DRMs) and negotiation is the most preferred DRM in projects with high level of trust between contracting parties. But in some countrıes, disputes arising from foreign investment are generally being resolved in public trial (litigation). This method of dispute resolution is not compatible with foreign investments and this is a very important deterrent factor in this case [32].

To achieve the objectives of this study, a questionnaire survey was conducted. The importance and the rate of the factors affecting selection of dispute resolution methods in terms of their affection on the choice of respective dispute resolution methods and rate of the suitability of each dispute resolution method on given project conditions to analyse the perception of the respondents that formed the essence of the questionnaire were researchedç

The English, Turkish and Persian versions of the questionnaire were all sent to the survey

sample. A “non-random” survey sample consists of 34 professionals including architects, engineers, project managers and experts with experiences of international construction contracts whom responded to the questionnaires. Descriptive analyse was conducted to analyse the variables.

In conclusion, he survey introduces new opportunities for comparison of the affection of cultural, trusts and risks on the dispute resolution methods by choosing to analyse the disputes between the partners of international contracts in Iran and Turkey. Hopefully, further studies will be investigated in more details for these subjects.

Keywords: DRM, International construction, Risk management, Project management, Dispute management

ULUSLARARASI İNŞAAT SÖZLEŞMELERİNDE UYUŞMAZLIK ÇÖZÜMÜ YÖNTEMLERİNİ ETKİLEYEN FAKTÖRLER

ÖZET

İnşaat projeleri karmaşık görevlerdir. Bu projelerin benzersiz tasarımları ve teknik özellikleri var. Uluslararasi Bir inşaat projesinde iki ana taraf vardır. Bu taraflar iş sahibi ve yüklenicidir. Diğer katılımcılar ise alt yükleniciler, danışmanlar, tedarikçiler vb. olarak sayılabilir. Projelerin her aşamasında, taraflar arasında anlaşmazlıkların çıkması olağandır ancak inşaat projelerinde, en çok yapım aşamasında sorunların yaşandığını söylenılebılır. inşaat sektörü diğer sektörlerle karşılaştırıldığında, riskin en yüksek olduğu sektörlerdendir.

Bir ülkenin dış politikasındaki değişikliklerden, hava koşullarında olağanüstü şartların yaşanmasına kadar birçok şey, projeleri etkileyen faktörlerdendir. Bu nedenle taraflar, projelere başlarken kendilerini güvence altına alma yoluna gitme eğilimindedir; bu durumu da sözleşmeler ile sağlarlar. Ama Her projenin eşsiz olduğu için, müteahhitlerin projenin tüm yönlrrini tahmin etmelerini bekleyemeyiz. Literatürde uyuşmazlıklar, çözülemeyen hak talepleri olarak tanımlanmaktadır ve uyuşmazlıkların nedenleri birçok çalışmayla incelenmiştir. Bu çalışmalara göre süre, gecikmeler, değişiklikler, ödemeler gibi hususlar uyuşmazlıkların yaşanmasında etkilidir.

Uluslararası inşaat ortak girişimlerinde, malsahibi ile yüklenici arasında yaşanan uyuşmazlıklar en sık rastlanan durumdur ve buna uygun olarak en çok incelenen uyuşmazlık tipidir. Ancak, literatürdeki bulanık bir alan olarak görebileceğimiz üzere, çokuluslu firmaların birlikteliği, aynı amaçlarla iş yapmalarına rağmen, Ortak Girişim'in müşterekleri arasında düşmanca durumlar yaratabilir.

Sözleşme hükümlerinin yeterince açık olmaması, tarafların süreç boyunca olağandışı hallerle karşılaşması ve sözleşmelerinde bu gibi durumlarla ilgili hükümlerin bulunmaması ya da tarafların sözleşme hükümlerini layıkıyla yerine getirmemesi gibi durumlar, taraflar arasında uyuşmazlıkların ortaya çıkmasına zemin hazırlamaktadır.

Bu nedenle projelerde hatalar ve tutarsızlıklar inkar edilemez. Ancak anlaşmazlık her hangi bir nedenle olursa olsun, inşaat sektöründe yaygın bir durumdur.

Yurtiçi ve yurtdışı inşaat piyasasında uygulanmakta olan birçok uyuşmazlık çözüm yolu vardır. Bu yollar yargısal ve alternatif uyuşmazlık çözüm yolları (Alternatif Dispute Resolution-ADR) olarak iki başlık altında incelenmektedir. Yargısal yollar, yoğun prosedürlü süreçler iken, ADR yolları daha esnek ve tarafların kontrolünde olan süreçleri içerir.

ADR yollarında sonuçlar, taraflar arasında aksi bir anlaşma bulunmuyorsa, bağlayıcı değildir ancak yargısal yollarda sonuçlar, tarafları memnun etmese dahi bağlayıcıdır.

Bu nedenle uyuşmazlık çözümünde tercih edilen yolların özellikleri de, sürecin başarı açısından önemlidir. Her yolun farklı karakteristik özellikleri ve uygulama prosedürleri vardır.

Tarafların seçim yaparken uyuşmazlıkların yapısı ve nedenlerini belirleyerek, uyuşmazlığın çözümünde en avantajlı yolu seçmeye çalışması doğru bir yaklaşım olacaktır.

Uyuşmazlık çözüm yollarının seçiminde, yöntemlerin özelliklerinin büyük önem taşıdığı da göz önüne alınırsa, hangi yolun nasıl kriterler göz önüne alınarak seçildiğinde dair çalışmaların önemli olduğu söylenebilir. Ancak ulusal ve uluslararası literatürde bu tür çalışmalar az sayıdadır ve bu çalışmalarda belirgin bir kamu ve özel sektör ayrımına gidilmemiştir.

Günümüzde, inşaat projelerindeki gecikmeler ortaklar arasındaki anlaşmazlıkların yani sıra zaman kaybına ve yüksek maliyetlerin en büyük sebepleridir. Uyuşmazlık yönteminin farklılıklarının giderilmesi için tanımlanması, değerlendirilmesi, önlenmesi ve anlaşmazlıkların çözümünü içeren bu tür komplikasyonlar ile ilgili uygun bir yöntemdir. Bu nedenle, yasa tasarısı uygulanmalı yada bu farklıklıkar ön görülerek doğru tespitler ve değerlendirmeler yapılarak bu sorunlara çözüm yolları bulunmalı.

Uyuşmazlık yönetimi sözleşme süreci kadar bir geçmış kapsar ve iddia olanakları sözleşmelerin ayrılmaz bir parçasıdır. Uluslararası inşaat ortak girişim projeleri doğaları gereği farklı kültürel ortamlara ait kişileri birlikte barındırır. Böyle bir ortamda iş yapmak, taraflar arasındaki çatışmalara ve hatta uyuşmazlıklara uygun, onları kaçınılmaz kılan bir atmosfer yaratmaktadır

Bu çalışma eleştiri hedefleri ile gerçekleştirilmiştiri. Uluslararası şirketlerde anlaşmazlığı yonetmek ıçın daha yaygın metotlerı karşilaştırmaktayız ayrıca bu çalışmada anlaşmazlıklarda kültür, güven ve risk etkilerini bıreysel olarak karşılaştırmaktayız.

Bu çalışmanın amacı, uyuşmazlıklar ile kültürö güven ve risk ilişkisini uluslararası inşaat Ortak Girişimleri kapsamında, bireysel ölçekte incelemektir.

Çalışmanın amacına ulaşmak için, bir anket çalışması yürütülmüştür. Uyuşmazlık sebeblerı, uyusmazlık nedenlerinin önemi, uyuşmazlık çözüm yöntemlerini etkileyen faktorler ve katılımcıların hanki yolu tercıh ettıgı oluşturmaktadır. Ön çalışmanın ardından, anketin Türkçe ve İngilizce çevirileri çalışmanın örneklemine yollanmıştır. Uluslararası inşaat Ortak Girişim projeleri deneyimi bulunan mimar, mühendis, proje yontemlerı ve danışmanlardan oluşan 34 kişilik bir anketcevaplandırmıştır

Sonuç olarak, Türkiye'de ve yurtdışında yapılan çalışmalar, inşaat sektöründe yargısal yollardan ADR'ye doğru bir yönelişin olduğunu göstermektedir. Özellikle kamu projeleri ADR kullanımı için çok uygundur ve Bu projelerin geniş kapsamlı ve uzun süreli olması, uyuşmazlıkların yaşanması için uygun zemini hazırlamaktadır.

Sonuçlara gore Güven kültürü ile dolaysız orantıdadır. Güven aslında şirketler arasında paylaşılan değerlere dayalı bir kültür yaratarak başlar. Güven oluşturmak

diğer tarafla ilişkilerde dürüstlük, doğruluk ve açıklık dayalı kişilerarası ilişki kurmak için bir kararlılık gerektirir.

çalışmanın, risk, güven ve kültürün uyuşmazlık çozumu yolların seçmımını etkisinin Ortak Girişim müşterekleri arasına yönelik olması araştırmalara yeni bir kapı açmaktadır. Uyuşmazlık Çözüm Yöntemleri seçerken risk en önemli faktör olarak kabul edilmektedir ve müzakere sözleşme taraflar arasındaki güven düzeyi yüksek projelerde en çok tercih edilen çozum yoludur.

Bu konunun ileriki çalışmalarda daha detaylı inceleneceği umut edilmektedir. Uluslararası inşaat projelerinde, risk,güven ve kültür ile uyuşmazlıkların arasındaki ilişki gözardı edilemeyecek ve geniş bir konudur.

Bu araştırma, yalnızca Ortadoğu'da faaliyet planlayan uluslararası müteahhitlere üzerinde duruldu. Gelıcekte bu konuda daha fazla ayrıntılı anketlerın yapılmasını umuyoruz.

1. INTRODUCTION

1.1. Background

Globalization, in application to project-based industries such as construction, tends to offer attractive opportunities for companies that reside in one country and perform work in another country to diversify and expand their market shares [21]. International construction projects provide opportunities for developing countries to advance in the global economy, and for international firms to increase their profit and market share.

When entering foreign markets, they are however, likely to face with many challenges and difficulties in association with moving into those markets. Apart from their domestic contracts, contracting firms which are operating abroad must be aware that the contracts they sign may contain some major additional modified clauses that address international issues.

These issues may be attributed to differences in cultures, economic conditions, specifications standards, legal frameworks, exchange rate regulations and levels of trust across countries. As such culture, trust and risk are all aspects that effect how disputes should be handled and thus, how DRM should be chosen [11].

There are many types of DRMs. An understanding of the various forms of DRMs and their critical factors are great advantage in handling disputes. Many studies described the different DRMs and their characteristics [4]. Despite the attractive opportunities that international construction offers, there are many challenges and difficulties when moving into international markets. These include the many risks associated with international construction, whether external or project-specific risks, the different culture the company needs to deal with and manage, and the level of trust the international parties share. All these aspects affect the way the contract clauses are drafted, including the dispute resolution clause.

However, a limited number of studies investigated the basis of the verdict on choosing certain DRMs in international contracts.

This study investigates factors that effect choosing DRMs in international construction contracts. It also aims to help international contractors in the selection of the appropriate DRM during their operations in the Middle East.

1.2. Objective of the Study

The overall objectives of this study are to provide the understanding of the factors that affect the choice of the DRM in international contracts. In addition, these would make us capable of reaching general recommendations on which DRMs are to be used, when operating in Middle East countries such as Turkey and Iran.

The specific objectives of the study are as follows:

- Considering the main sources of disputes in international projects and most preferred ways to manage dispute in 2 country, comparing the effect of culture, risk, and trust on the choice of DRM in these different nationalities
- Examining the characteristics of international projects and investigate any differences in the dispute problems arising from International Projects;
- Examine different views of most preferred ways to manage dispute in Iranian and Turkish international project
- To identify the most popular dispute resolution mechanism(s) for international projects
- Analyze the factors affecting selection of the dispute resolution methods

The purpose of this study is to help international contractors with the selection of the appropriate DRM during contracts on given identified culture characteristics, trust levels and risk factors

1.3. Outline of the Study

The study presented here consists of five chapters.

Chapter 1 constitutes the previous sections that highlight the motivations and

objectives of the study.

Chapter 2 presents a review of existing literature which was performed to support the study undertaken in this thesis. It explores the literatures that are relevant to understanding the developments and interpreting the results of this study. The scope of this literature review was expanded to include researches that examine the following three areas of interest in this study: culture, trust and risk with their relations to construction disputes.

Chapter 3 consists of two main sections. The first section specifies a method of data collection, survey design procedures and measurement of factors that are currently affecting the choice of DRMs in international contracts and to determine how culture, risk and trust affect this choice. The second section presents the statistical analysis of the survey data.

Chapter 4 presents the research findings

Chapter 5 conclusion of thesis is being discussed

2. LITERATURE REVIEW

2.1. Chapter Review

This chapter begins with a brief definition of international projects and their common rules and factors affecting them throughout the world. Then, we carry on with the dispute as one of the most important challenges faced in international projects before considering the dispute resolution methods including formal and alternative DRMs and literature review of the three important factors of culture, trust and risk along with their affection on selection of dispute resolution methods on Iranian and Turkish international projects and their relationship with construction.

At the end, we have the comparison survey of DRMs between Turkey and Iran, which will lead managers to best decision making choices and cause them to have realistic estimation of probable disputes in projects.

2.2. International Construction Contracts

Briefly, international contracts are agreements related to two or more countries in case of at least one foreign case like different nationalities, locations or subjects of the contracts [19]. Such contracts may be between states or amongst a state and a private party or it could also be exclusively among private parties and of course, different rules governing the various aspects of international contracts [30].

This type of contract in spite of its international character, is not only related to the sovereignty of states. Therefore, it will not be subjected to the provisions of public international law and despite its foreign basis and characteristic, it will be subjected to the provisions of internal rules. Thus, a domestic contract has not fundamental differences with an international agreement in terms of nature، quality and juridical effects and can be studied in the same legal category. However, international contracts with intergovernmental treaties are quite different in nature.

Public international law governs solely on international treaties and it doesn't cover international contracts. Actually international contracts have a close relationship with rules of governments. For better and more accurate understanding of the international contracts concept, it's better to know about contract definition. Hence by following this study, we briefly have managed to mention what has been discussed about this matter. Contract means "a written or verbal agreement, especially the ones concerning employment sales or tenancy that is intended to be enforceable by law" [28]. when it comes to construction contract, it simply has a meaning of a mutual or legally binding agreement between two parties based on certain policies and conditions generally recorded in documentation form [23].

The two parties involved are the owner and the contractor. International construction contracts are international agreements, which parties have different nationality and construction industry associated with two or more countries which are subjected to international rules which is happening to expand their market shares.

International projects are being accomplished mainly for the reasons like searching for a new geographical presence or new international stakeholders, increase of global market and political power, global effectiveness, access to scarce or unique resources and reduction of the risk through geographical diversification [10].
Construction contracts can be divided into two different categories. First contracts are the ones, which are subjected to demolition and reconstruction after the destruction of the environment. Second contracts would deal with providing direct services to the construction of an asset i.e. managemental contracts and construction management [27].

Due to the internationalisation, every sector including the construction industry is faced with high levels of competitiveness, uncertainty, risk and dispute problems[10]. **S**ubsequently, we have mentioned about these items which need to be addressed in the international construction projects to reduce the disputes during the project.
In the Figure 1.1 [29], indicates main characteristic of international projects.

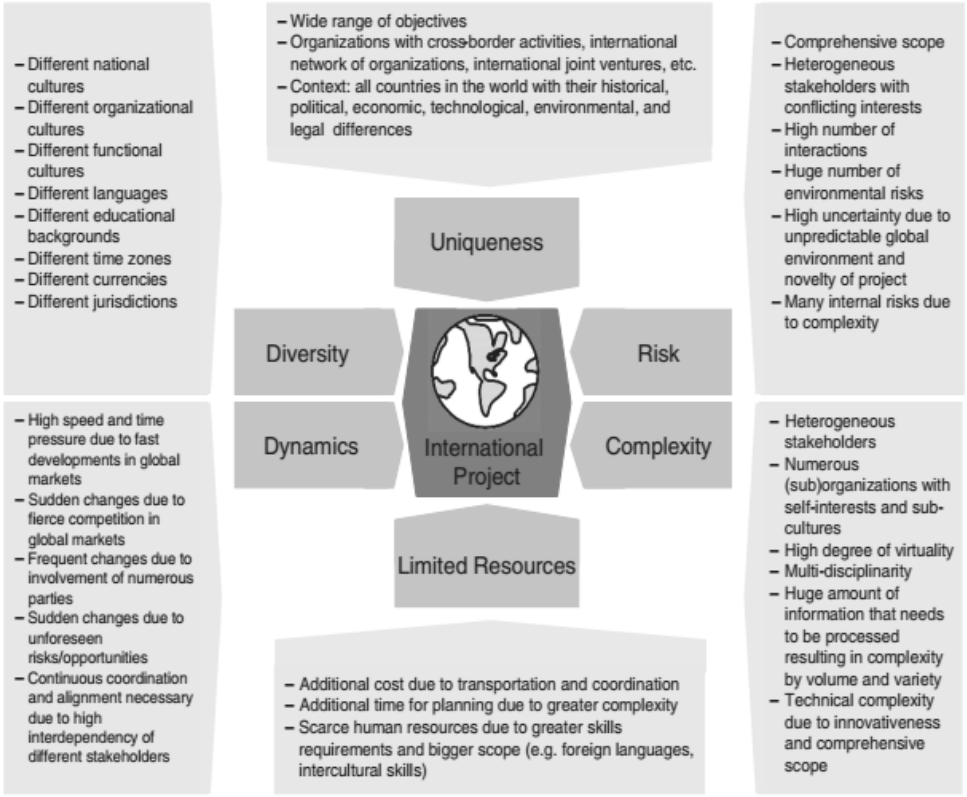

Figure 1.1: Main characteristic of international projects.

2.2. Disputes

Dispute, is an integral part of the modern contracts which nowadays, has been considered as a common part of the construction projects [6]. The concept of the claim in contract is not a new conception; and the cognizable point is how managers evaluate the claim process and their way of responding. In any construction project, disputes occurrence is typically the rule, not an exception [21]. The different contractual factors, cultural backgrounds, legal and economic factors, languages, technical standards, procedures, currencies, and trade customs involved in international projects make projects even more vulnerable to disputes.

According to the contract's definition, contractor is obliged to carry out instances under the agreement with known quality within the specified time based on specific expenses [9]. Therefore, by examining this definition, it can be deduced that if any of

the main factors of the contract are changed and not complied with its regulations, it could cause the contractor's claim [1].

The main cause of the claims can be summarized by two main factors of "changes" and "delays" [2]. The project management requires to dominate the factors leading to changes and delays in order to meet high targets of the project and to make necessary actions if needed. Based on this point of view, comprehensive studies and researches have been accomplished on the different aspects of dispute management. Using of the word "claim" is generally followed by an emotional reaction which often is associated by the concept of charge and retaliation [2].

This concept also includes consequences such as breaking down the parties' relationship, conflict and a need for arbitration or legal proceedings, which the sum of these cases would lead to the delay in accomplishing the project and the exorbitant payments [2]. In order to not face these problems, appropriate methods for dealing with disputes have been presented in this research which by adherence to these practices, unnecessary and inappropriate impacts will be reduced significantly.

Basically, contract may issue correction or amendment during implementation and operation due to the mistakes in the main designs, preparation of bidding documents, unforeseen circumstances or the need to adapt to new operating conditions.
If parties have enough knowledge and experience in construction law and reach to an agreement and then are required to sign the amendment, no problem will arise. But if the parties cannot make an agreement about any of the factors above, claim of bidders or contractors may cause disputes.
Dispute, has been defined as a difference in opinion. It is simply an unresolved and a failure to manage conflicts which has happened between parties.
In most cases, contractor's claims are being discussed on boards of directors and possible solutions are presented. But if claims abort in company's top management levels, they will lead to the legal authorities by the claimant party.
In general, the main reasons causing dispute in the contracts have been divided into three considerable categories as each of these parts have some segments[4].

1) **Contractual Matters**
    - Payment
    - Variations
    - Extension of time
    - Quality of work
    - Project scope definition
    - Risk allocation
    - Technical specification
    - Management
    - Unrealistic client expectation
    - Availability of information
    - Unclear contractual terms
2) **Cultural matters**
    - Unfamiliar with local conditions
    - Difference in ways of doing things
    - Poor communication
    - Adversarial approach in handling dispute
    - Lack of team spirit
    - Previous working relationships
3) **Legal matters**
    - Lack of knowledge of local legal system
    - Conflict of laws
    - Jurisdictional problems

In In the construction industry, disputes are inevitable components of the projects. One in five construction projects end up with disputes so if a company is deciding to sign an international contract, they should admit the fact that the contract will include some additional amendments which the dispute resolution is one of this exigent clauses.

Unmanaged disputes may lead to a failed project so before starting one, there are some strict rules to be followed that could avoid or minimize the risk of disputes.

These terms generally define the selected dispute resolution methods and its necessities.

2.4. Dispute Resolution Methods (DRMs)

the The construction industry is one of the top-ranked industries for the number of disputes. So contractors have to be aware of dispute resolution methods to select appropriate method for each specific case. Dispute management, is a title which Project Management Institute (PMI) has added to Project Management Body of Knowledge (PMBOK) along with special appendices beside headings of safety management, environmental management and financial management as one of the areas of construction project management. Even though this title is not placed in the main context of this standard, advertency of this institute can indicate the importance of this subject and its role in project management.

Dispute management in the broadest sense, includes all procedures used for removing, preventing or managing claims if needed. These procedures have been divided into four categories containing of claim identification, claim quantification, claim prevention and claim resolution.

The most important part in dispute management is being fully aware of the texts of the contract and its terms and provisions. Accurate recognition of the claim can be reached only by carefully reviewing the contract and compare it with the existing realities.

Although drawing up a detailed contract, which clearly defines its aspects and potential risks, is not as easy as it sounds, but getting close to it as possible can reduce the risk of various claims. The exact definition of the project scope, reasonable and realistic schedule, adopt appropriate methods in carrying out the project and having a detailed risk management program, may be some of the ways available to reduce or eliminate the claims potentials.
In addition to the mentioned cases, transparency and clarity of the language of the contract, Imposed time deadline for RFI (request for information) procedure, Providing conditions of partnership of the parties in project benefits, contractors prequalification process, establishment of DRB (dispute review board) are also some

other ways to remove claims or convert them to contract changes.

It is obvious that the prolongation of time to respond to a claim and making appropriate decisions, are not in the interest of any of the parties. Therefore using of the methods with less expense and less time wasting can always be the good substitute for legal and judicial proceedings. Options such as negotiation, mediation and arbitration are some available ways to do before judicial actions. However, in all cases an estimation of costs should be measured.

Dispute resolution methods can be grouped into two main categories which each group has also some segments [9].

1) Formal dispute resolution methods

- Litigation
- Arbitration

2) Alternative dispute resolution methods

- Mediation
- Adjudication
- Negotiation
- Mini trial
- Dispute review boards

First we are going to consider these methods along with their advantages and disadvantages, then we will continue with factors effecting dispute resolution methods.

2.4.1 Alternative dispute resolution methods

For the best choice in dispute resolution, first of all we should choose the appropriate method and make the best decision. For this subject, we should recognise all available ways. These paths have been divided to Formal and Alternative resolution methods.

Alternative dispute resolution (ADR), is an excellent and a friendly option of parties to deal with the controversy that allows contractors and bidders to reach an early resolution with less expenses before going to the court [24]. Common features of

these methods are the non-judicial nature of them and the mutual consent of parties.

In fact many courts require parties to consider some forms of ADR before beginning the formal ways. There has been a general increase in all forms of ADR in recent years because of the advantages offered that includes, reduced cost, fast resolution, privacy, and less adversity in the effect [26].

ADR is a win-win non-compulsory method for both parties which increases their opportunities to resolve disputes prior to formal administrative procedures and enables them to apply at their own requests and also the private proceedings of this methods prevents any damage to the credibility and reputation of the parties[25].

There are many benefits to alternative dispute resolution (ADR), including:

- While formal DRM is processed which began after the dispute had occurred, it is possible to take precautions to avoid problems from the beginning in ADR.
- Complaints are processed and resolved more quickly while being less stressful.
- The process leads to the more creative options, which Parties create their own process and craft along with their own agreements.
- Savings times of attorneys, staffs, and parties who are federal employees.
- Quicker resolution than a hearing would offer and less time that the parties would spend under the pending cloud of formal ways.
- Creative resolutions would only be acceptable to the parties, which a third-party reviewer could not impose.
- A durable and voluntary agreement.

Against all this advantages, ADR has some disadvantages too which are listed below [9].

- ADRs can be used as a stalling tactic.
- Parties not compelled to continue negotiations or mediation.
- Do not produce legal precedents.
- Exclusion of pertinent parties weakens final agreement.
- Parties may have limited bargaining authorities.
- Little or no check on power imbalances between the parties.

- Disclosure of information and truthfulness of communications that depend on good faith of the parties.

In ADR process, parties can refer to a particular method or can predict several methods of Dispute Resolution (DR) as phased transition in a sequential process [15]. It is also possible to combine some methods with each other and use them as a combinatorial method. International Federation of Consulting Engineers (FIDIC) also applies a combination of these methods through a committee entitled as "dispute adjudication board" which the DR delegation deals with several dispute resolution methods at the same time. In this section, we are going to discuss advantages and disadvantages of ADR methods in a light literature review [15].

2.4.1.1 Mediation

Mediation is as one of the most common means of dispute resolution in construction projects. It is a voluntary, inexpensive, quick, confidential, informal and consensual process, which doesn't damage continuity of parties relationship [16]. A mediator assists the disputants to resolve conflicts. In mediation no decisions will be imposed out of parties desires. Mediator has no authority to make imperative decisions and bilateral concessions that are being considered and it is completely based on parties desires and agreements [3]. Basically, mediation usually solves the problems and eliminates sources of the conflicts. That is why it is the most growing way on dispute resolution methods. According to the researches that were conducted in the United States, more than 75 percent of the issues and disputes are successfully resolved by this method [37].

An independent third party, often called 'neutral' or 'mediator' congregates the parties to resolve their dispute. Neutral cannot impose a decision on the parties and there exist no strict procedures or rules of evidence.

Harmon (2003) states, as a first step, the mediator builds a relationship with the disputants and attempts to understand each party's issues and desires. Allowing parties to tell their story with their own perceptions of the facts is one of the most important steps of the mediation process. Mediators can then educate the parties with their opponent's position that might have been accurately or faultily communicated.

Subsequently, the mediator develops a mediation strategy to guide the disputant to a satisfactory solution for both parties.

Currently, mediation is the fastest growing form of the ADR methodologies in construction.

Mediation can be defined as a process, which comprises of five steps:

1) Both parties should agree to solve the problem with mediation method.
2) Secondly, which is also one of the most important factors in success of the process is choosing the right mediator. Qualification and experience of the person is very important.
3) Preparation for mediation process.
   - Reporting the subjects of the dispute.
   - Analyzing the process and the dispute by parties.
   - Preparation and defining of the documents that may resolve the problem.
   - Prioritize of the subjects by parties in accordance with their requirements.
   - Gathering documents by claimant party to prove the claim.
   - As well as other processes.
4) Start of mediation process.
5) Making decisions.

2.4.1.2 Negotiation

Negotiation is the quickest way of dispute management with less cost and most preferred solution in dispute due to the claim. The process begins in workshop, where parties decide to solve the dispute by a private and confidential way. Then it is going to continue at the parties headquarters to overcome misunderstandings and to set the required documents along with unifying the view of the parties to be able to make their own decision and accomplish an agreement [3].

In many contracts parties consensus to resolve the disputes through negotiation in an ordinal mechanism, before turning to other resolution methods. Distinctive features of this method is its quickness, cheapness and also the absence of the third party's intervention.

There is no special process on this method and it has been named as the most flexible

and informal DR method. The negotiation process can simply be summarized as follows:

- Pre-negotiation and evaluation.
- Deciding on the basic points for negotiation.
- Defining the problem and preparing document of the main points.
- Orientation toward requirements of parties agreement on a deal.
- Agreement of parties in a common point.

The success of this method depends on willingness of parties to resolve the problem if it is mainly due to the fact that none of the parties are ready to lose their chances and interests. Linguistic and cultural differences in international agreements is a negative point, which dissuade parties to use this method. Negotiation allows you to participate directly in decisions that affect you. In the most successful negotiations, the needs of both parties are considered.

Finally in the case of failure to a negotiation, dispute will refer to other methods of resolution and in case of success, an agreement shall be regulated. Negotiated agreement can become a contract and be enforceable and in the event of further refusal of either party, the proceeding will be based on the regulated agreement.

2.4.1.3 Adjudication

Adjudication is a short term dispute resolution process which becomes the most appropriate method when the time is an essence or the process has to reach quick provisional decisions, especially in payment decisions or where the project is required to continue while awaiting for decision of a judge or an arbitrator.

Adjudication counts as an alternative for arbitration. However, the “abidingness” of an adjudicator decision may not be final. As it can be subjected to a review or appeal to arbitration or litigation.

In this process, a neutral impartial person calls for an adjudicator whom listens to outline of the arguments of both parties and decides on a resolution for the dispute within a predetermined time limit. If one of the parties is not satisfied with the decision made by an adjudicator, it is still enforced but the party whom adjudicator

ruled in favour controls the disputed amount of money while subsequent dispute resolution carries on with the procedure.

Adjudicators receive training and are employed by professional bodies but adjudicator shouldn't be obligated to make judgement. Some distinguished characteristics of this method has been gathered below.

- The most important characteristic of this approach is the time limit.
- Parties can challenge the decision if they are not satisfied.
- The method does not involve going to court or using traditional legal system.
- Adjudicator solves the dispute within the legal rights of parties.

Adjudicator is the most similar way to arbitration. Hence some similarities and differences of these methods have been written below.

Similarities

- Both methods operate out of the usual legal system.
- Both can only be used through the agreement of both parties.
- Both are confidential, allowing parties to air their grievance in a private way protecting their reputation.
- Decision of arbitrator and adjudicator are binding and in most circumstances are enforceable in law.

Differences

- Adjudicators are not bound by the rules of arbitration.
- Arbitration is more formal than adjudication.
- Decision of and adjudicator is less binding and may be more easily changed in court.
- Arbitration is used extensively in a more wide variety of situations.

Adjudication has been a part of "Disputology" in the construction industry and is frequently found in the dispute resolution of international projects [5].

2.4.1.4 Mini Trial

Mini trial is a short term non-binding informal alternative dispute resolution method, mostly used by businesses and federals to resolve legal issues without incurring the expense and the delay associated in the court.

Mini trial is not a judicial process. Compared to the litigation, mini trial is being considered in a very short term of prejudicial dispute management way. It's more expensive in contrast with other ADR methods but cheaper and faster than arbitration and litigation. This method is more suitable for use in the large and complex construction disputes and legal issues [13].

The process begins when parties agreed to resolve the dispute by mini trial method before parties assign a dominant manager who is being a neutral independent individual to represent them in case of dispute occurrence. He or she may act as a mediator or conciliator rather than a judge when the case has been presented to help the executives to reach a satisfactory solution.

Both parties present their respective documents by evidences they deem appropriate and share them with each other and after the presentation, factual witnesses and expert witnesses may also make a further presentation. Then the neutral party assesses the possible agreement ways and results. After neutral party's decision, parties re-examine the issue if they cannot reach an agreement and the neutral counsellor writes a report describing likely outcomes of the matter. This report contains his recommendation for resolution of the problem.

Parties may agree on a solution and case will be closed but if this second stage fail to produce a way, they may want to explore another DR method or they can withdraw from the case [16].

Mini trial is a low cost and fast going process in comparison with judiciary. While dispute can be solved by this method in a few months, it may take some years to be solved in the court. Also business relationships may be disrupted in arbitration or litigation methods but in this way relationships have more chance to be saved. Also the parties themselves provide the reliability of process.

2.4.1.5 Dispute review board

Dispute Adjudication Board (DAB) also known as Dispute Review Board (DRB), is an ADR method to resolve disagreements without involving the expensive process of litigation in large and complex construction projects, which could save up the project budgets, time and legal fees [33]. According to the DEBF in 2000, 97 percent of disputes of construction industry were solved without a need for litigation, by using DRB.

The review board, contains three experienced neutral reviewers (architect or constructor) with technical experience, which one of them is being selected by the contractor and the other one is being chosen by the owner and the third one is selected jointly.

The costs of the review board is usually being shared by the owner and the contractor. The DRB has two main responsibilities. The first one is getting involved in the project continually by visiting the site and checking the progress of the work. This operation helps them to play a very useful role in preventing disputes. The second major responsibility begins when discrepancy happens. If parties cannot solve the issue by themselves, DRB will hear both parties comments at a meeting and produce a recommendation on the basis of the facts they have witnessed during the project visit and the board's own expertise for resolving the dispute. If parties cannot reach an agreement by DRP's recommendation, they may try other methods.

Although DRB has been supported in construction industry but it has not yet been addressed perfectly in terms of quantitative assessments.

2.4.2 Formal dispute resolution methods

For more difficult disputes which parties couldn't reach an agreement by any of ADR methods, the only remaining way is the formal DRM and going to the court.
Formal dispute resolution method is in accordance with the court proceedings (litigation) and arbitration[9]. This directions are often the more appropriate methods of the complex disputes and can result in a fair and reasonable answer for both

parties. But it is costly and long lasting process.
Comparing to litigation, arbitration can be assessed as a faster and less formal solution but it is also enough cumbersome to do. In this section we are going to discuss this two methods for the dispute resolution.

2.4.2.1 litigation (going to court)

In the construction sector, the parties may choose litigation as a resolution method when they have any dispute for a contract. Litigation may provide some advantages while it has too many disadvantages that should be considered carefully. If the parties are to apply to the court for an issue of disagreement, they must first make sure that they cannot solve the conflict through other alternative solutions. Because many alternative solutions offer less cost and faster time in the construction industry.

The most basic definition of the litigation is the resolution of a dispute by a judge in the court between parties, which is assigned by government [12].

The decision of the litigation is final and is often irreversible. The resolution process may take longer than expected, the defence documents submitted to the court and the necessary paperwork, lawyer fees may expose parties a very serious time and financial costs. Also the healthy and fair decision making to the constructional dispute may require a deep technical knowledge and background, which judges in the local courts mostly lack. Another disadvantage is the privacy issue. Companies that are taking their disputes to the court must always know the fact that litigation process is always open to the public and it is opposed to their privacy policy. Considering that at least one of the parties is a popular company and open to investors in stock market, being in the court for a big dispute would eventually harm company's corporate image.

Litigation at local courts must be thought twice when it comes to consideration for international venture capital companies. Such companies are mostly at a disadvantage when they go to local courts because judges might be under influence of local national values, which play an important role in their decision making. This would cause international foreign companies to lose the case. Instead, such companies can take the issue to the authorized international courts to get a better unbiased results. But it must never be ignored that all these would lead to a great loss

in time and costs. In addition, since public will be notified of all litigation process of each side, it would eventually eliminate the possibility of new co-operation between the same parties in the future projects which parties may again desire to work with each other. This would result in loss of competition and the advantages of both parties in construction market [5].

According to Hughes and Murdoch in 1992, construction companies should apply to litigation only if they are facing some of the conditions below:

- If the dispute occurs due to absolute legal reasons.
- If experts verify that court would definitely solve the dispute in a fast time.
- If there are more than two parties claiming rights in a complex dispute, for which there is not a sufficient resolution method.
- If one of the parties think that, they are 100% right in the dispute.

Then it would be reasonable to apply along with the court decision.

2.4.2.2 Arbitration

Arbitration DRM, is also called as quasi-judicial or un-governmental dispute resolution method, which was designed as an economic alternative to the court trials and litigations.

The process begin when parties agree to resolve the problem by arbitration. This agreement can occur in two ways:

1. Stipulation (in the contract)
2. Arbitration agreement (after dispute accrued)

This agreement shows parties genuine willingness to settle the problem through arbitration and also limits the parties right to take the dispute to the court. Parties may agree on numbers of arbitrators, place of the arbitrators or the language of arbitral proceeding and the applicable substantive law.

Claimant party prepares a document including a short summary of the background facts and a list of all claims and sends the statement of the claim using the court's mailing address.

When other party receives the statement of claim, she/ he has the right to specify a statement of counterclaims and choose a second arbitration. If not, nominating committee will appoint an arbitrator from arbitrator's list by random.

Then parties present their evidences. Unlike litigation, there is no limitation on the evidences in arbitration in specified time. The arbitrators are responsible to keep the information. So no one from outside would be familiar with the disputes, course of relevant proceedings and the results.

After making decision by arbitrators, claimant party can refer it to the enforcement office, unless the other party agrees to enforce in voluntarily. If any of parties has an objection to arbitrator's verdict, there is a possibility of taking the case to the court.

Here are some advantages and disadvantages of applying to arbitration:

Advantages

- Less formal than litigation.
- Faster resolution.
- Lower cost as mostly no need of lawyers.
- Much more privacy as it is not open to public.

Disadvantages

- Arbitrators' knowledge in law area mostly are evaluated as insufficient.
- Since parties press charge with the arbitration for faster resolution, results might not be 100 percent fair.

Arbitrator's decision may not be final if parties have not stated to obey it for sure at the beginning of the process, so it might result in waste of time.

2.5. DRMs Selection

After acquaintance with DRMs, we should know how to choose the best method in different situations and it is more important to know, which factors we should consider while selecting the best suitable way to solve the problem.

Considering different characteristic and properties of each specific project, it is

obvious that claims and disputes that have occurred in each project will be different. Project managers should have the ability to recognize the best method in different projects and different situations. Parties may agree on a method at first and stipulate the contract or the deal for a resolution, after the dispute has occurred.

There are several standards that should be considered in selection of appropriate method in dispute state of affairs, which experts have discussed these factors. Some of these factors and their important points have been summarized below [12]:

Cost

Every dispute resolution has its own financial obligation. In alternative methods, parties undertake this responsibility under the rules of their own reconciliation and determine the rules of covering the cost but in certain process like litigation sharing of cost is subjected to rule. DRM's cost is one of the most important factors which parties should consider due to the project budget.

Reliability

Controlling the reliability of some methods is under the control of parties (like mediation) but in some methods like litigation it is impossible to save the reliability. Also in the methods, which involve impartial individual, credibility of person is so important.

Reconciliation

Most parties desire a win-win approach in term of features, they may prefer ADR methods because in formal methods, parties have no rights to protest against the result.

Creative solutions

In the methods that include impartial individual third party, suggesting different ideas can help to achieve different results.

Applicability of decision

All DRMs are not suitable for all disputes. So it would be better to consider the

applicability of chosen method while assessing the dispute.

Equality

It is important for parties to achieve fair and equitable result. So they should consider this factor on their decision for sure.

Flexibility

Judicial proceedings like arbitration and litigation occurs in accordance with certain procedures and rules. This rules are laid down by law and parties have no authority to change the rules. However methods like negotiation and mediation in ADRMs are more flexible and parties make the rules of process by themselves.

Formality

Level of formality, which parties expect from resolution process and final a decision is an important factor in election of DR. if it is important to receive a formal result from the process, they would better choose judicial methods.

Information of neutral party

In some DRMs neutral party is getting involved. Being knowledgeable is an important characteristic for this imperial person. Especially if dispute is due to technical issues, it is vital for involved participants to have sufficient information and experiences.

Impartiality

In methods that involve neutral party, given confidence and trust by him/her to parties is an important factor.

Preservation of relations

In construction sector, parties may get across in another project and another time. So it's important for them to save their relationship while resolving the dispute. In alternative methods they have more chance to save their relationship by a win-win opinion. But in judicial methods by a win-lose mentality, one of the parties will not be satisfied by the result. Therefore this will damage the relationship.

Private

If it's important for parties to keep their problems as a secret between themselves because of their future business life, they would better choose an alternative method.

Time

One of the most important factors in success of construction projects is completion of the project in the scheduled time. Disputes are one of the major factors of extension of the process. So speeding of the process is being considered as an important factor in method selection.

Volunteering

DRM should be chosen by parties voluntary. Especially in ADRMs voluntary participate of parties in process, which is an important factor.

Apart from the aspect of this factor, there are so many other factors like binding of decision, fairness, culture and those that affect DRM.

In international projects, bureaucratic structure of international institution is restricting the use of ADR. Researches indicate that occurred disputes in international projects are 7.5% more than internal projects [14].

So today experts are reconsidering all alternative ways and educate some individuals for this important issue.

2.6. Culture

2.6.1 Culture definition

Culture in specialized definition emerged around mid-19th century in the writings of anthropology scholars. Scientific use of word culture was done by Taylor (an English anthropologist) at the late of the aforesaid century. He defined culture as a complex whole, which includes knowledge, believes, arts, morals, laws, customs, and any

other capabilities and habits acquired by a human as a member of society[18].

Culture in a general concept is being defined as: life quality of a group of people which is transmitted from a generation to the next. Culture is one of the most important factors affecting management. Ignoring its role, will follow the lack of internal cohesion and external compliance.

Organizational culture is a subject that has been spread recently in the realm of knowledge management and organizational behaviour which is being defined as a system of common perception of members due to organizations. This feature results in separation of two organizations. The system consists of a set of features that are very valuable to the organizations [35]. These 10 organizational features include:

1. **Operation**
2. **Honesty**
3. **Competition**
4. **Sprit of team work**
5. **Organizational morale**
6. **Innovation**
7. **Management support**
8. **Individual success**
9. **Loyalty**
10. **History of the organization**

Understanding, respecting, accepting, and managing across cultural differences effectively in the construction projects, can enhance the organization/ project's effectiveness and provide a competitive advantage, while ignoring or failing to manage cultural differences may lead to many problems in the project, such as project delays and decrease in productivity [20].

2.6.2 Cultural dimension

Since culture is a complex concept that makes an important role in accelerating the pace of progress in the project, it is necessary to develop the means by making it more concrete. Culture can be identified in terms of constructs referred to as the culture dimensions [18].

When managers do not have sufficient knowledge of organizational culture, its dimensions and indicator, they will face many problems such as conflict, incoherence and decline in the performance.

Therefore, identification of the culture helps managers to use strength points of project and anticipate its weakness points by a full knowledge and awareness. Dimensions define forms a continuum that allows a framework for analysis and management of culture differences [22].

If there is a cultural matter and if it is going to be considered for analysis, there must be some dimensions. So that it can be defined and measured. In this section, the culture's dimension has been studied from Denison and Hofsted points of view.

Hofsted has identified four dimensions (which is called the aspects of Hofsted) to define the business value associated with national culture. These dimensions are:

1. **Power imbalance:** how a society deals with injustices. This dimension is about inequality of power in a society Hofsted defines the power imbalance as the criteria and according to which, organizations and institutions of a country with less power, accept that power is being distributed unfairly.

2. **Uncertainty Avoidance:** The criteria by which members of a culture feel threatened by ambiguous unknown situation. High uncertainty avoidance brings rigid rules, formal structure, precision and punctuality. Otherwise low uncertainty avoidance introduces flexible rules, informal structure, toleration and relaxed works.

3. **Individualism:** individualism is common in societies where relations between people are damaged. Anyone just follows his or her own interests and family. On the contrary, pluralism is common in societies where people are placed in strong and unified groups from birth and all their lives and are being supported in exchange for their loyalty to those groups. In collectivist countries, employers are expected to be more committed to employees and their families.

4. **Masculinity:** a degree of society's manner towards materialism and aggressiveness differentiates masculinity from femininity. In patriarchal societies, jobs are being divided and most of the tasks are given to men. In these societies there are many stresses on the social success, compete, and succeed in carrier life. Moreover, in democratic societies, there are too much stress towards relationships, life skills and social performances.

He also have published "Values survey module" for the use in research on the cultural differences that have been approved by many researchers and scholars.
Hofsted defines culture as an intangible subject, which causes distinction in groups, organizations and nations from each other. According to him, culture is composed of two main factors. Internal values that are not objective and external factors such as social relationships (such as hail), and symbols (such as words or gestures) that are more objective in terms of methods and procedures. Hofsted carried out his research using a questionnaire survey called "Values survey module". With the help of the results of this survey, he won a number of indicators that reflect a country's cultural characteristics and dimensions.
Hofsted emphasis on the fact that his intended dimensions are not a duplicate or a formula that he believes of being concepts and frameworks, which equip us to analytical tools to understand cultural differences. These tools can be used for better controls on the matter and managing individuals and groups by different cultures.
For example, multinational companies, which are establishing international teams, may apply to Hofsted framework for understanding cultural differences that are being faced in their daily practical experiences. Knowing these differences can prevent dispute in international management. Using this framework shows that we cannot always assume that apparently similar countries, which are located in same region, should have the same culture.
These dimensions also show a method to define the cultural features of a particular organization or country.
Aspects investigation of the culture based on Denison survey.

This model has four main dimensions of adaptability, mission, involvement and consistency, which are defined to evaluate any dimensions. This model has some advantages such as:

- Instead of individuals character evaluation, examines the group behavior.
- It is applicable during the whole period of the project.

The graphical chart of this model[31] shows characteristics of the organizational culture on both internal and external focus and the flexibility with 12 levels of indicators. Following Figure 2.2 indicates the values survey module of the cultural differences have been approved by researchers.

Figure 2.2: Graphical model of Daniel Denison.

Four main dimensions and indicators of each model has been explained as follow:

Involvement

With indicators of empowerment, team orientation and capability development in this dimension, people at all levels feel involved in decision-making and this decision is effective on their works and directly tied with the project objectives.

This dimension generally talks about human capability, ownership and responsibility.

Are our people enough aligned and engaged?

Consistency

Includes indicators of coordination, integration, agreement and core values.

In this dimension, Leaders are skilled at reaching agreement and have enough influence in employees' behaviors.

This dimension generally defines values and systems that are the main basis of strong culture.

Does our system create leverage?

Adaptability

Comprises of three indicators such as organizational learning, customer focus and creating change. These projects are driven by owner, are risk taking, heeding their mistakes, and have the capacity to change.

Are we listening to our customers?

Mission

Encompasses three dimensions of strategic direction and intent, goals and objectives and vision. Probably the most important feature of the culture is its mission. This dimension defines a meaningful long-term direction for the organization.

Do we know where we are going?

Denison model has both vertical and horizontal axis, which has divided the model into four parts. The vertical axis contains the amount and time of focus in corporation culture. This axis has two internal and external focus points at the edges.

The horizontal axis refers to the amount of flexibility, which forms one side that leads to static culture and on the other hand leads to a flexible culture.

2.6.3 Effect of culture on dispute resolution

Generally, if lack of attention to the cultural believes and values of the people does not lead to failure of the projects and not accomplish the goals, this will at least cause serious problems in process of project and will waste a lot of energy to solve the problem.

Therefore, identification of the culture helps managers to use strength points of the project and anticipates its weakness points by full knowledge and awareness.

Nowadays effect of culture especially in international construction projects is undeniable managerial issue [36]. As we considered, culture has different dimensions that can effect the projects and if we have enough knowledge about the host country's special culture before participating in a project, we can prevent many disputes or manage them in a better way while happening.

In a prepared survey by Majid Moghaddam (master student of project management in Shahid Beheshti University of Iran), dimensions and indicators affecting the organizational culture in Iranian construction projects were being measured by Daniel Denison's model.

Relevant data have been gathered by questionnaire from the project managers, architecture, engineers and faculty members of Tehran University. The analysis of results show that adaptability has the highest and getting involved in work has the lowest score in Iranian construction projects, and between 12 indicators, vision and development capability were located at the upper limit. Some indicators like coordination, integration and team orientation have earned the lowest rating.

The results of factor analysis showed that from the standpoint of respondents, vision has the greatest impact on managers organizational culture.

In international construction projects, knowledge sharing, innovation and problem solving are the most important points for the project success. In the other hand language problems, poor communication and prejudices are major challenges, which may lead to disputes if not properly managed. For example, for a better relationship with the government of the host country and the public, it is more logical to have a local office with local employees.

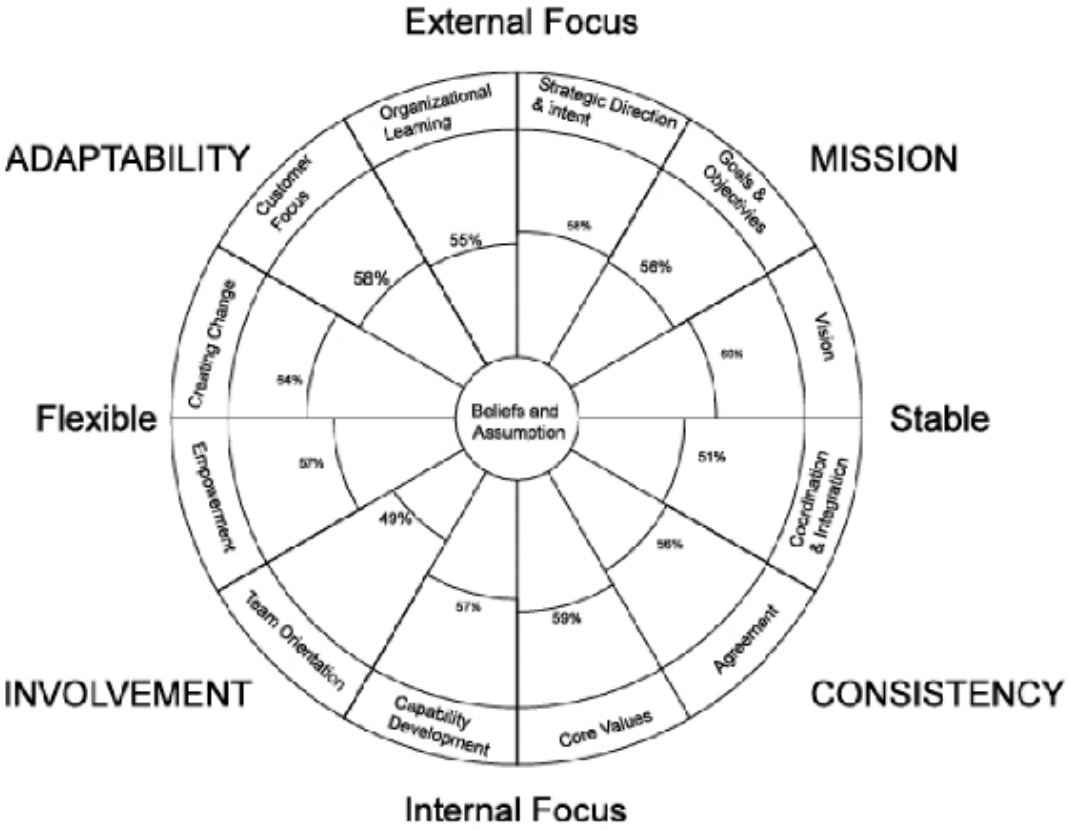

Figure 2.3: Graphical model of Daniel Denison in Iranian construction projects

As a result, human resources, knowledge, communication, safety and time management in the project can significantly be influenced by the culture.

2.3. Trust

Management that is based on trust is a modern expression of an ancient idea that its deficiency is fully obvious in today's society.

Management based on trust is a technique, which People mostly use in their relationships. However, it has not yet been used as a behavioral technique that can be taught and used in different positions.

Trust is an interdisciplinary discipline, which arises from fields such as psychology and sociology. Tyler believes that trust is the basis for understanding how to create effective partnerships in organizations. In fact, trust is a key element that creates partnership and as we know, participation in organizations has always been a key

point of success. Today, organizations are looking for new ways to promote partnerships between individuals and groups and taking advantages of it. Therefore, they pay attention more than any other time to trust and a way to strengthen and making it real [37].

In general, psychologists have described trust and confidence-building process as one of the foundations of individual development.

In this study by a sample definition of trust and counting its dimensions, we are going to consider importance of trust in organizations, projects and especially international projects.

2.7.1 Trust definition

Shaw defines trust as believing in others because we dependent on others to meet out demands and Taylor believes that trust is a dynamic phenomenon that is dependent on the interaction and various factors that can be effective in building trust scheme. In definition of interpersonal trust, three elements should be taken under consideration [36]:

Cognitive consequences potential

Some researchers consider it as a risk, while others define it as uncertainty. However, researchers believe that interactions are trustable when cognitive results are possible.

Dependence

Trust is dependent on other side. If one side does not need to depend on the other one, it will not be called trust at all. Emerson defines dependence as a source of power. In this case, one of the parties is the source of power.

Sense of security

In trust, a person is faced with cognitive outcomes and feels the sense of security that must be related to the other side with own desire and not only they are not afraid of their works are not going as they want, but also feel peace and secure by this process [25].

Charlton describes trust as non-negotiable continuous learning process in any

relationship [12].

Scholars have studied trust in different aspects but there is a little evidence of any attempt for consolidation of this knowledge and the creation of a comprehensive theory of trust.

2.7.2 Trust Dimensions

Robbins has identified the key aspects hidden in the concept of the trust in five dimensions:

1. Integrity

Honesty implies on integrity and dignity in Robbins points of view. While evaluating the trustworthiness of the people, this point seems more important than the rest. Because without understanding the moral character and honesty of others, other dimensions of trust will not be meaningful [20].

2. Competence

Competence includes knowledge and skills between people and technical skills.
Does a person know what he/ she is talking about?
It is almost certain that when we do not believe the ability of someone, we do not listen to his words. We must believe that the person has necessary skills and abilities to implement what he promises.

3. Consistency

Consistency implies on reliability, predictability and good judgment in dealing with the situation. Lack of consistency in words and deeds destroys trust. This aspect is very convenient for managers because nothing will be considered ahead of imbalances between what executives preach and what they expect their colleagues to do.

4. Loyalty

Loyalty is a desire to preserve the reputations of others. It's required of trust that people can rely on individuals and not to act opportunistically.

5. Openness

Can people be trusted to be told the whole truth?

A part of manager's job is working with people to find solutions for problems. But manager's achievements to the sufficient knowledge and creative thought wholly depends on people's beliefs and the trust on them. Trust and reliability are the moderated access of a manager to knowledge and corporation.

People do not follow non-honorable managers. For example, in the list of the qualities that people admire, their leaders honor is always on the top. Honor is an absolute necessity for management.

If people want to follow someone willingly, whether on the battlefield or in the boardroom, they want to ensure that he is worthy of their trust first.

2.7.3 Variety Of Trust In Organization

There are three kinds of trust in organizational communication.

1. Deterrence-based trust

The most fragile relationships are inhibited by the deterrence-based trust. An imbalance may spoil the relationship. This type of trust is based on the fear of reprisals when you misuse the trust. In these communications people act to what they say because they are afraid of the consequences of not performing their duties.

Trust based on deterrence is effective as long as there is a punishment possibility and the consequences are clear like the relationship between manager and employee.

2. Knowledge-based trust

Most of organizational communications are grounded in knowledge-based trust. This kind of trust happens when managers have necessary cognition of employees so they could correctly predict their likely behavior. In this type of trust, knowing people and predicting their behavior is being used instead of contracts and punishments. This type of trust happens gradually. Ironically, in this method, contradictory behavior does not cause failure in trust.

3. Identification based trust

Trust comes to the highest level between two sides and when there is emotional relationship in between. This type of connection allows one of the parties to act as a broker of other party. We call it the third kind of trust or identification-based trust. In this case, existence of trust is because of both parties awareness of each other's plans and they respect each other's desires and dreams.

2.7.4 Managerial aspects of trust

The following dimensions evaluate managerial aspects of trust:

Team management

This dimension refers to the effective management of team and success in individual goals and managing conflict within the groups.

Information sharing

This dimension refers to a trending of an individual performance, feedback and disclosing information about organization in a fair atmosphere.

Work support

This dimension refers to staff's support when needed and providing information about the job to describe activities.

Credibility

This dimension includes a tend to listening, paying attention to the suggestions, empowering others to express their feelings, admitting mistakes and ensuring that employees enjoy their position.

2.7.5 Trust building

Trust is not a trivial subject and it should be reinforced as a continuous behavior. Trust is so crucial especially for risk management. Trust is a complex and multifaceted concept. There is no simple formula for building trust. Trust is in fact more art than science. Its creation is very difficult while it is so easy to lose it.

Trust building needs continuing ethical behavior. Creating and maintaining trust is not so simple or quick but indeed requires a growing process.

First step: Culture

Development of trust in organizations needs to create a cultural basis on the common values amongst employees and that would be the first step. If in an organization, culture is in contradiction with the values, trust will be destroyed in that organization.

Second step: Management

Management is a sense of mutual trust based on shared values and vision. If an organization is created on the basis of common values, employees will be more pledged to it until they are being convinced that the project targets are the way to achieve their goals.

Third step: Building relationships

The management and staffs become pledged to build relationships with foundation of honesty, solidarity and real attention to people and others to create a culture with the same values.

2.7.6 Effects of trust in projects and dispute resolution

Trust is an important organizational element for the success of the project. The results show that low levels of trust increase stress and reduce productivity and causes lack of innovation and impact the decision making process in the project. On the other hand, high levels of trust increase employee morale, reduce absenteeism, increase organizational innovation and effective management changes.

Building trust is not an easy process it is a dynamic phenomenon and the benefits derived from trust make it more valuable. However, with more emphasis placed on the importance of trust in construction projects, many studies have started to focus on the issue of trust, whether it is being more collaborating or a traditional project setup.

Commencing from[30] studies, it has been concluded that in construction projects

cognitive –based trust has the highest trust type. Parties try to revive any information about each other before signing the contract. A company or a person whom presents necessary records and information is more trustable by others.

Second highest trust type in international construction projects is system-based trust. This kind of trust has been derived from an accomplishment of contract, which contains all rights and obligations of the parties and is conformance to organizational policy.

Among three categories of trust in Wong's study, affect-based trust model is the last influential. This does not defy the fact that showing care, concern, and consideration to other parties help to promote a good work relationship, yet it proposes that things should not be taken too personal in a work environment [39].

In another research, the engineering and physical sciences research council, made an interview with contractors, subcontractors, and project parties to investigate the role of trust in construction projects and research the parties different perceptions of trust and their effects on international projects [39].

By this interview they witnessed that level of the trust on people, initially depends on organization's reputation and most of interviewees were disposed to the trust on people rather than companies. According to them, trust is developed by the various ways like true communications between parties, company's reputations and reliance and sharing information openly. Another way of trust building according to them is parties reliance to each other to be able to meet the project goals and on time delivery of the outcome in accordance with standards.

People have different opinion about trust building based on their position in organization, which has been concluded from a research. They realized that some factors like company factors, project and contract type, can also affect the trust building. From the researches, it was also obvious that in larger projects, risks are being larger so trust building is being more difficult.

Trust begins by creating a culture based on shared values. Building trust requires a commitment to establish interpersonal relationships based on honesty, integrity and openness in relations with the other party. So it is recommended that organizations

look for a creation of a full atmosphere of trust in the projects.

2.8. Risk

2.8.1 Risk definition

Risk or so-called “aleatoric”, has been derived from the Latin word “alia” meaning “dice”. Risk is a random event amongst known possibilities, which the probability of occurrence of each events is measurable but the exact prediction of each of the events is not known in advance. There are some different definitions of risk which some of them are mentioned below:

- Risk in Oxford dictionary has been defined as “a situation involving exposure to danger”.
- Hildtroth investment dictionary has defined risk as potential loss of investment that can be calculated.

Chapman has defined risk in a more rigorous definition as calculating the probability of economic benefits or losses, injuries, physical harms or delays that are consequences of uncertainty that arise as a result of specific action.

- In construction projects, risk includes probabilistic factors that are not predictable in beginning of the project.

The word risk can be used when it is possible to assess the probability of the phenomenon.

2.8.2 Classification of project risks

Three types of classifications are defined for risks under the project.

1. **Category of the risk**
2. **Class of the risk**
3. **Type of the risk**

Category of risk: area of risk on the project is being classified as follows.

- **Project risk**

This kind of risk is associated with organizational responsibilities within the project such as risks related to resource allocation and scheduling software. This kind of risk is controllable.

- **External risk**

This kind of risk penetrates from the outside of the project and is not in area of basic input and output of the project system such as the risk of the natural disasters.

- **Consortium risk**

This kind of risk is placed between internal and external risks. Because the environment is located outside of the project but it is closely related with internal components of the project. This risk associated with areas such as customers, contractors and suppliers. In fact, the risk is associated with defined inputs and outputs for the system. For example, delay in delivery of materials by suppliers is in this category.

Class of the risk: the impacts of risk occurrence on the project are classified as follows:

- **Executive risk**

This risk is related to the performance, purpose, quality and technical affairs of the project. This kind of risks affects the completion and implementation of the project. If technical problems lead the project to increase in time and cost, executive risk will change to cost and time risk.

- **Time risk**

This kind of risk is related to the time differences in deadline and the end of the project. Effects of this type of risk are affecting cost risk and executive risk.

- **Cost risk**

It is related to financial differences between the project cost and estimated budget. It is undeniable that the cost risk is in a close relationship with the time risk and it can be related to executive risk.

- **Additive risk**

This kind of risk is insignificant by itself but important risks may occur by their accumulation. For example, a slight increase in the cost of a construction work does not have much effect on the project budget but if the project is facing with a wide

population of contractors, the outcome of these increases, can be a very important risk.

- **Catastrophic risk**

This category of risk includes all types of risks, which individually have significant effects and influence on other risks. This kind of risk happens so rarely but importance of its effect is so high. For example, critical technologies for disposal of lesions which need special equipment.

- **Environmental, health and safety risk**

These risks include cases that cause harmful effects on environment during the project. Serious incidents of this type of risk will have severe effects on the project time and budget.

Type of risk: this risk classification which would depend on the project size, type and condition.

- **Technical risk**

Include technological risks like the risk of the traditional methods of production.

- **Human risks**

Includes the risks related to the human links of the project, like risk on expert's experience.

- **Financial risk**

Risks related to the financial system of the projects, such as statuses and financial documents.

- **Economic/ Political risks**

Risks related to situation of economic/ political environment of the project i.e. inflation.

- **Risk of lack of support**

Lack of shareholders support would result in unreasonable conduct of the project implementation to reduce the goals and poor performances of the departments.

Classifications of the project risks, is not limited to the above cases. For example external risk may be predictable or unpredictable. According to the project life expectancy, lifetime of products and locations of the project could make these specific risks definable in every steps of the project.

2.8.3 Risk management history

In fact, risk management and project management have common roots and both were born in late 1950s. Back then, PERT method (Program Evaluation and Review Technique), which developed for Polaris space rocket project, was used in projects as a first formal planning techniques for planning activities which assumingly had some uncertainty on the time of the projects. This technique involves project-planning model.

Branches of decisions on PERT method were usually based on certain activities while in a new approach to the project model, we could have some possible choices. This new method that was named "generalized PERT" at first, was after called GERT method (Graphical Evaluation and Review Technique). GERT method enables the possibility to identify main activities in the beginning of the project and possible activities, which are not determined until the completion of a project, and can be considered in preparing the project schedule.

After these, we come across SCPRT method (Synergistic Contingency Planning and Review Technique). SCPRT created sophisticated understanding of the uncertainties and risks associated within the project. In order to use this method effectively, SCPRT was extended by PERT and GERT methods.

First steps were taken to develop the process of a formal and a separate risk management by this method. SCPRT method includes four stages such as determining the range of risks, structuring risks, measuring risks and implementation of programs to deal with them. During the 1980s and early 1990s, different options of this method and some new models were used for different range of applications and for a wide range of trends, which frequently were discussed by the general title of engineering and the risk management.

2.8.4 Effect of risk on international projects

From the late 80s with the serious issues of the project management and development of its framework in various international organizations, risk management appeared as one of the important aspects of the project management. Since then, risk management has been studied in the integrated project management standards. Here

we explore those standards and risk managements that have no government status and have been known as Global expertise and international organizations. Terms defined in these organizations are in the advice and propose mood. Some of these organizations, which have international credibility, have been noted in the following:

- PMI (Project Management Institute) creature of PMBOK (Project Management Body Of Knowledge).
- APM (Association of Project Management) author of PRAM (Project Risk Analysis and Management) a part in PMBOK.
- ISO (International Standard Organization) the author of Guidelines for quality management in projects (ISO-10006).

Here we will explore risk management methods in international construction projects by these three major organizations.

2.8.5 Techniques and methodologies for risk management in international projects

Project management body of knowledge

It can be admitted that the most recognizable global reference is PMBOK. Integrity and combined vision with other project management processes in this guideline, has made it a powerful tool in all project management processes. Table 2.1 indicates basic steps of risk management from viewpoint of this guide.

Table 2.1 Risk Management Process in PMBOK.

Risk management process in pmbok
Risk management planning
Risk identification
Qualitative risk assessment.
Quantitative risk assessment.
Planning to respond the risks
Monitoring and risk control.

Risk management planning:

Risk management planning is the first step of the risk management process before entering the other stages that are repeating rotary.

Risk management planning is the process of deciding how to conduct risk management activities for a project. At this stage, the level and type of risk management, Commensurate with project risk and importance of the project for the organization, requirement resources and risk management activities and principles of risk facing are being determined.

Risk identification

After the preparations, the initiation of the risk management process is fully performed. Project can enter the first step in the risk management cycle called risk identification. At this stage, risks of project (threats and opportunities) are being described and documented using specific methods and tools.

Qualitative risk assessment

As multiple risks are identified in the projects, considering them all would be such a time-consuming and costly, therefore for a logical management we should prioritize them at first. In qualitative assessment, risks priority is being determined based on the probability of occurrence and their impact on project objectives to indicate more important risks at the top. As a result, risky and sensitive areas of project being considered under sufficient accuracy for future actions.

Quantitative risk assessment

After prioritizing risks in qualitative evaluation, quantitative assessment can be made on high priority risks. Quantitative risk assessment means the numerical analysis of collective effect of important risks on its objectives.

Planning to respond to the risks

It is obvious that the risk management process can be stopped after the evaluation of identified risks. For this reason, the next stage in the process of risk management is making decision about a respond way to identified and prioritized risks.

Monitoring and risk control

The last step of the risk management process that is used in the implementation phase of the project occurs when responses are adopted and includes in the risk management program and the project will be under surveillance and monitoring during implementation to find new risks or change the risks and the related responses. On this stage of the risk management, according to information and gathered data in previous stages, following actions are carried out:

- The process of identifying, analyzing and programming for new risks.
- Keep track of specific risks.
- Monitoring situation and general conditions of the project in order to use of discretionary resources.
- Monitoring of unimportant risks
- Reviewing the monitoring and control process
- Evaluation of the success of planned responses.

ASSOCIATION OF PROJECT MANAGEMENT (APM)

Project management institute that is located in UK is one of the best-known and respected references in the field of project management. In the last set of project management knowledge, published by this association, risk management has been discussed briefly. In this reference, the general process of risk management in the form of risk identification and assessment and resource allocation in order to deal with risks has been posed.

Since the mid-1990s, the Association of Project Management binge to develop Project Risk Analysis and Management guide (PRAM) which involves the abstract of the experiences of a large number of UK institutions.

The stages of risk management in third guideline can be divided to 3 main steps. In first step, project strategy is being determined then its operational proceedings turn after strategic stage in the last step.

Implementation of programs should be set and necessary and informing should be imported under accurate monitoring and control.

ISO10006 (INTERNATIONAL STANDARD ORGANIZATION)

International standard organization, which contains national standards, prepares and publishes international standards by its own internal technical committee. In fact, this International Standard is providing guidance for quality management in projects and is working as a complementary for ISO9004 to improve the quality of the projects. Generally, this standard is about quality part in the project management.

Under the paragraph 7-7 of this standard and with title of risk related processes, risk management has been defined as follows: “minimizing the effect of potential negative events and maximum use of the opportunities for improvement".

Risk management in this process contains these steps:

1. **Risk identification:** in the beginning of the project, risks resulting from transactions related to activities, processes and products of the project and stakeholders are being identified and recorded. This identification not only considers areas of time and cost, but also includes areas such as product quality, security, reliability, responsibility, professionalism, information technology, safety, health and the environment. Any known risks should be carefully recorded and someone should be assigned to manage it.
2. **Risk assessment:** the process includes quantitative and qualitative analysis of the risks and generally consists of estimating the probability and impact of risks.

3. **Risk behavior:** a method to eliminate, reduce, transfer, share or take the risk and plans to benefiting from opportunities, determines possible ways to behave with risk.
4. **Risk control:** in all of the project life cycle, the risks must be identified and evaluated by an iterative process and should be under continuing monitoring and control.

A variety of methods in recent years, especially after the 90s risk management has been created. Today, despite this methods principles of the risk management, it also has the same basic common steps which have no significant differences in between. It is obvious that the earlier the risk management process apply in initial phases of the project, will be more effective and less costly. In addition by delaying implementation of this process, impact and cost of actions will be reversed.

3. RESEARCH METHODOLOGY

3.1. Chapter overview

This chapter clarifies each stage of the research, we are going to explain what this survey is about and which methods we have used to achieve an understandable result. Then we carry on with the questionnaire design, survey samples, data collection methods and analysis mechanisms that are applied to the validation techniques, which have been utilized. Finally we will accomplish the outcome of the survey.

3.2. Research design

The questionnaire survey method is chosen for data collection in the research presented here. Questionnaire surveys have been the most common way of data collection for the factors effecting the choice of dispute resolution method, which is central to the research presented here.

3.3. Survey sample and data collection

The participants of the study were selected based on convenience of access. Therefore, the sampling method is a convenience sampling. The respondents that constitute the sample of the study are highly qualified and experienced professionals in international contracts. The questionnaires were distributed via e-mail to 80 international construction industry professionals and 34 questionnaires were returned for analysis, which means we had a response rate of 42.5%.

3.4. Questionnaire design

In order to achieve the research objectives, the questionnaires were accessible through the Internet and were developed in Turkish and English languages to collect information for measuring the study variables.

The questionnaire that was used as a research instrument to collect data was

composed of five main parts and its ethic letter was attached to the questionnaire's document mail.

The first part involves general questions on the profession and experience of the respondents, disputes they have faced and methods they would have preferred to resolve. The second part included the following questions:

- Does culture affect the choice of DRM in international construction contracts?
- Does risk affect the choice of DRM in international construction contracts?
- Does trust affect the choice of DRM in international construction contracts?

The third part of the questionnaire solicits the information regarding the importance of the factors affecting the selection of dispute resolution method.

The fourth part asks for the information regarding the rate of the factors affecting the selection of dispute resolution methods in terms of their affection on the choice of the respective dispute resolution method.

The fifth part solicits information regarding the suitability ranking of each dispute resolution method in the given project conditions.

The questionnaires were sent out by emails to 34 different samples including architects, project managers, and engineers from Iran and Turkey.

4. RESEARCH FINDINGS

Based on the research design, the cover letters and questionnaires were sent out to a group of experts in the international contract administration field and dispute resolution. IBM Statistical Package for the Social Sciences (SPSS) method was used to analyse the data.

4.1. Descriptive statistic analysis

This section provides descriptive data on the responded surveys consisted of 34 respondents whom 61% were Iranian and the rest were from Turkey.

As shown in the table 4.1, the most of the respondents are construction engineers (20.6%) and architects (47%), while the rest are project managers and academicians. Besides, a majority of respondents (55.94%) possessed more than five years of experience in the dispute resolution as shown in the Table 4.2.

Table 4.1 : Profession of the respondents .

Profession of respondents	**Complete responses**		**All (including missing)**	
	Frequency	**Percent**	**Frequency**	**Percent**
Architect	6	40	16	47
Construction engineer	6	40	7	20.6
Project manager	2	13.33	2	5.9
professor	1	6.67	4	11.8
Missing	0	0	5	14.70
Total	**15**	**100**	**34**	**100**

Table 4.2 : Respondents' years of experience in international construction projects.

No. of years of experience in construction industry	Complete responses		All (including missing)	
	Frequency	Percent	Frequency	Percent
1-5 years	6	40	16	47.02
6-10 years	5	33.4	7	20.59
11-15 years	2	13.3	5	14.7
16-20 years	2	13.3	3	8.82
21-30 years	0	0	1	2.95
Missing	0	0	2	5.88
Total	**15**	**100**	**34**	**100**

4.2. Does Culture Affect the Choice of DRMs?

Table 4.3 shows the results of the expert's responses on whether cultures affect the choice of DRMs in international construction contracts. As is seen from the table, 59.3% of the experts agreed that culture affects the choice of DRMs in international construction contracts.

Table 4.3: Effect of culture in dispute resolution method selection

culture	Frequency	Percent	valid percent	Cumulative percent
No	11	32.4	40.7	40.7
yes	16	47.1	59.3	100.0
total	27	79.4	100.0	
Missing	7	20.6		
Total	34	100.0		

4.3. Does Trust Affect Choice of DRMs?

Table 4.4 shows the results of the expert's responses on whether trust affects the choice of DRMs in international construction contracts. As is seen from the table, 68 % of the experts agreed that trust affects the choice of DRMs in international construction contracts.

Table 4.4. Does trust affect choice of DRMs

trust	Frequency	Percent	Valid percent	Cumulative percent
no	8	23.5	32	32.0
yes	17	50	68	100.0
total	25	73.5	100	
Missing	9	26.5		
Total	34	100.0		

4.4. Does Risk Affect Choice of DRMs

Table 4.5 shows the results of the experts' responses on whether risk affects the choice of DRMs in international construction contracts. As is seen from the table, the majority of the experts (80.8%) agreed that risk affects the choice of DRMs in international construction contracts.

Table 4.5. Does risk affect choice of DRMs

Risk	Frequency	Percent	Valid percent	Cumulative percent
No	5	14.7	19.2	19.2
Yes	21	61.8	80.8	100.0
Toal	26	76.5	100.0	
Missing	8	23.5		
Total	34	100.0		

When asking experts whether culture, risk, and trust affect the choice of DRMs, 16 experts out of 34 agreed culture, 17 experts of 34 agreed trust , and 21 out of 34 agreed on risk effect on dispute resolution method choice. Tables indicate that "risk" by valid rate of 80.8% has the most affection on choice of DRM.

4.5. What Factors Currently Affect the Choice of DRMs

The sources of the disputes and given importance of the factors affecting the selection of the dispute resolution methods are the main variables used in the

analyses. The mean and the standard deviation of these variables are determined and listed in the Table 4.6.

Table 4.6. Factors affecting the choice of DRMs

No.	Factor	N	Mean	Standard Deviation	Rank
1	Cost of resolving the dispute	22	3.64	1.465	13
2	Time taken to resolve the dispute	25	4.24	.831	5
3	National Law & Juristication	25	4.56	.583	1
4	Neutral party technical knowledge	25	4.28	.792	3.5
5	Complexity of the contract /work	25	4.04	.841	8.5
6	Confidentiality and privacy	25	3.40	1.000	15.5
7	Past experience with the DRM	25	3.56	.870	14
8	Binding outcome	25	4.08	.862	7
9	Contract or Funder or Insurrance Requirements (mandated)	25	3.84	.943	12
10	Court System	25	4.28	.678	3.5
11	Enforceeability of decision	25	4.32	.852	2
12	Flexibility of the process	25	4.04	.735	8.5
13	Formality of the process	25	4.00	.816	10
14	Preservation of relationship	25	4.20	.816	6
15	Nature & Size of the dispute	25	3.28	.792	17
16	Value of the contract	25	3.40	.764	15.5
17	Duration/term of the contract	25	3.92	.909	11
18	Language used in the DRM process	25	3.00	1.000	20
19	Neutral party level of involvement	25	3.20	.707	18
20	Need for legal precedent	25	3.12	.726	19
Valid N		22			

As shown in the table 4.6, “National Law & Jurisdiction” factor was ranked first, while “Enforceability of decision” was ranked second. There were two factors that tied for the third place: “Neutral party technical knowledge” and “court system”. The least factors mentioned by the respondents were “Neutral party level of involvement”, “Need for legal precedent” and “Language used in the DRM process”.

4.6. Ranking of factors for each DRM

The following tables show the ranking of factors listed under each DRM. Table 4.7 examines the extent to which factors were considered by the respondents in selecting the negotiation resolution method. the respondents were asked to provide scores for

each factor in terms of their effect on the choice of the respective Dispute Resolution Method (DRM) in an international construction contract, from -3 to +3, with;

-3: major negative effect
-2: moderate negative effect
-1: minor negative effect
0: no effect
+1: minor positive effect
+2: moderate positive effect
+3: major positive effect

There are two factors that tied for the first place: 'Cost of resolving the dispute' and 'Time taken to resolve the dispute'. The third important factor was 'Confidentiality and privacy'. In other words, more of the respondents (95%) tend to agree that negotiation allows people to save money and time, with 5% remaining neutral.

Table 4.7 examines the extent to which factors were considered by the respondents in selecting the negotiation resolution method. the most important factor is ' cost of resolving the dispute' . There were two factors that were ranked as second in importance: 'time taken to resolve the dispute' and 'confidentiality and privacy' . Enforceeability of decision was a factor that was found as having no positive affect in selection of negotiation. 55.4% of the respondents agree that negotiation clauses are enforceable, with 44.4% remaining neutral.

Table 4.8 indicates level of the importance of the factors effecting selection of mediation to resolve the dispute. the most important factor is ' cost of resolving the dispute' while Enforceeability of decision was found as having no positive affect in selection of mediation. 50% of the respondents agree thet formality of the process has negative effect and 50% remained neutral.

Table 4.9 examines the level of the importance of the factors affecting respondents decision to choose mini trial dispute resolution method. the most important factor is 'National Law & Jurisdiction' . and cost of resolving the dispute has no positive effection to choose this method. 55.5% of the respondents agree that need for legal precedent has negative effection while 33.3% believe on its positive effection and 11.1% remained neutral

Tablo 4.7: Ranking of Factors for Negotiation

Factors		**7** +3	**6** +2	**5** +1	**4** 0	**3** -1	**2** -2	**1** -3	Responses	Mean	Rank
1	Cost of resolving the dispute	12 60%	6 30%	1 5%	1 5%				20	6.45	1.5
2	Time taken to resolve the dispute	11 55%	8 40%		1 5%				20	6.45	1.5
3	National Law & Juristication		2 10%	9 45%	9 45%				20	4.65	11
4	Neutral party technical knowledge			5 25%	3 15%	2 10%	4 20%	6 30%	20	2.85	19
5	Complexity of the contract /work		12 66.7%	3 16.7%	3 16.7%				18	5.5	6
6	Confidentiality and privacy	10 58.8%	5 29.4%		2 11.8				17	6.35	3
7	Past experince with the DRM	8 47.1%	4 23.8%	2 11.8%	3 17.6%				17	6.00	4
8	Binding outcome	1 5.9%			2 11.8%	8 47.1%	3 17.6%	3 17.6%	17	2.82	20
9	Contract requirements			1 5.6%	15 83.3%	2 11.1%			18	3.94	15
10	Court System			5 27.8%	12 66.7%	1 5.6%			18	4.22	14
11	Enforceeability of decision	1 5.6%	1 5.6%	1 5.6%	4 22.2%	8 44.4%	2 11.1%	1 5.6%	18	3.5	16
12	Flexibility of the process	5 27.8%	8 44.4%	2 11.1%	3 16.7%				18	5.83	5
13	Formality of the process			1 5.6%	5 27.8%	9 50.0%	3 16.7%		18	3.22	17
14	Preservation of relationship	2 11.1%	5 27.8%	9 50.0%	2 11.1%				18	5.38	8
15	Nature & Size of the dispute	1 5.6%	6 33.3%		3 16.7%	7 38.9	1 5.6		18	4.33	13
16	Value of the contract				4 22.2%	8 44.4%	6 33.3%		18	2.88	18
17	Duration/term of the contract	1 5.6%		8 44.4%	8 44.4%	1 5.6%			18	4.55	12
18	Language used in the DRM process	6 33.3%	2 11.1%		10 55.4%				18	5.22	9
19	Neutral party level of involvement		5 27.%	2 11.1%	11 61.1				18	4.88	10
20	Need for legal precedent	6 33.3%	1 5.6	7 38.9	3 16.7%	1 5.6%			18	5.44	7

Tablo 4.8 Ranking of factors for Mediation

Factors		**7** +3	**6** +2	**5** +1	**4** 0	**3** -1	**2** -2	**1** -3	Responses	Mean	Rank
1	Cost of resolving the dispute	11 55%	8 40%		1 5%				20	6.45	1
2	Time taken to resolve the dispute	6 33.3%	10 55.5%	1 5.5%	1 5.5%				18	6.16	2.5
3	National Law & Juristication		9 50%	6 33.3%	3 16.6%				18	5.33	8.5
4	Neutral party technical knowledge	7 38.8	8 44.4		3 16.6%				18	6.05	5
5	Complexity of the contract /work	7 38.8	8 44.4%	1 5.5%	2 11.1%				18	6.11	4
6	Confidentiality and privacy	2 11.7%	4 23.5%	9 52.9	2 11.7				17	5.35	7
7	Past experince with the DRM		3 17.6%	3 17.6%	11 64.7%				17	4.52	12
8	Binding outcome			4 22.2%	8 44.4%	2 11.1%	4 23.2%		18	3.66	17.5
9	Contract requirements			2 11.1%	9 50%	6 33.3%	1 5.5		18	3.66	17.5
10	Court System		1 5.5%	4 22.2%	10 55.5%	2 11.1%	1 5.5		18	4.11	15
11	Enforceeability of decision				8 44.4	6 33.3	3 16.6%	1 5.5%	18	3.16	20
12	Flexibility of the process	1 5.5%	11 61.1%	2 11.1%	4 22.2%				18	5.5	6
13	Formality of the process				9 50%	6 33.3%	3 16.6%		18	3.33	19
14	Preservation of relationship	1 5.5%	7 38.8%	7 38.8%	3 16.6%				18	5.33	8.5
15	Nature & Size of the dispute	5 27.7%	1 5.5%	1 5.5%	3 16.6%	8 44.4			18	4.5	13
16	Value of the contract	1 5.5%	6 33.3	7 38.8%	2 11.1%				18	4.77	11
17	Duration/term of the contract			6 33.3%	8 44.4%	2 11.1%			18	3.77	16
18	Language used in the DRM process	1 5.5%	6 33.3%	1 5.5	10 55.5%				18	4.88	10
19	Neutral party level of involvement	6 33.3	10 55.5%	1 5.5%	1 5.5				18	6.16	2.5
20	Need for legal precedent		7 38.8	1 5.5%	3 16.7%	7 38.8%			18	4.44	14

Table 4.9: Ranking of factors for mini trial

Factors		**7** +3	**6** +2	**5** +1	**4** 0	**3** -1	**2** -2	**1** -3	Responses	Mean	Rank
1	Cost of resolving the dispute				7 38.8%		6 33.3%	5 27.7%	18	2.5	20
2	Time taken to resolve the dispute		1 5.5%	4 22.2%	5 27.7%	1 5.5%	3 16.6%	4 22.2%	18	3.27	18
3	National Law & Juristication	3 16.6%	7 38.8%	4 22.2%	3 16.6%		1 5.5%		18	5.38	1.5
4	Neutral party technical knowledge			3 16.6%	15 83.3%				18	4.16	11
5	Complexity of the contract /work		8 47%	5 29.4%	4 23.5%				17	5.23	5
6	Confidentiality and privacy			1 5.8%	6 35.2%		5 29.4%	5 29.4%	17	2.58	19
7	Past experince with the DRM			4 22.2%	5 27.7%	6 33.3%	2 11.1%		17	3.64	15
8	Binding outcome		6 33.3%	6 33.3%	3 16.6%	3 16.6%			18	4.83	8
9	Contract requirements	2 11.1%	8 44.4%	3 16.6%	4 22.2%	1 5.5%			18	5.33	3.5
10	Court System	2 11.1%	9 50%	1 5.5%	6 33.3%				18	5.38	1.5
11	Enforceeability of decision	2 11.1%	8 44.4%	2 11.1%	6 33.3%				18	5.33	3.5
12	Flexibility of the process		4 22.2%		3 16.6%	9 50%	2 11.1%		18	3.72	14
13	Formality of the process		10 55.5%	4 22.2%	3 16.6%		1 5.5%		18	5.22	6
14	Preservation of relationship			1 5.5%	9 50%	6 33.3%	2 11.1%		18	3.5	17
15	Nature & Size of the dispute	1 5.5%	5 27.7%	1 5.5%	11 64.7%				18	4.77	9.5
16	Value of the contract	1 5.5%	6 33.3%	1 5.5%	10 55.5%				18	4.88	7
17	Duration/term of the contract		1 5.5%	1 5.5%%	8 44.4%	7 38.8%	1 5.5%		18	3.66	16
18	Language used in the DRM process			8 44.4%	3 16.6%	6 33.3%	1 5.5%		18	4	13
19	Neutral party level of involvement			1 5.5%%	17 94.4%				18	4.05	12
20	Need for legal precedent		6 33.3%	2 11.1%	10 55.5%				18	4.77	9.5

Table 4.10 examines the factors were considered by the respondents in selecting the review board resolution method. 'neutral party technical knowledge' has been indicated as most important factor and 'neutral party level of involvement' was ranked as second in importance. 61% of the respondents agree that review board clauses are enforceable, with 27.7% remaining neutral.

Table 4.10: Ranking of factors for review board

Factors		**7**	**6**	**5**	**4**	**3**	**2**	**1**	Responses	Mean	Rank
		+3	+2	+1	0	-1	-2	-3			
1	Cost of resolving the dispute		2 10%	9 45%	1 5%				20	3.05	20
2	Time taken to resolve the dispute	3 16.6%	11 61.1%	2 11.1	2 11.1				18	5.83	1.5
3	National Law & Juristication		3 16.6%	10 55.5%	5 27.7%				18	4.88	10
4	Neutral party technical knowledge	8 44.4%	4 22.2%	1 5.5%	5 27.7%				18	5.83	1.5
5	Complexity of the contract /work		7 38.8%	8 44.4%	3 16.6%				18	5.22	5.5
6	Confidentiality and privacy			4 23.5%	7 41.1%	5 29.4%	1 5.8%		17	3.82	17.5
7	Past experince with the DRM		2 11.7%	3 17.6%	4 23.5%	6 35.2%	2 11.7%		17	3.82	17.5
8	Binding outcome			4 22.2%	13 72.2%	1 5.5%			18	4.16	15
9	Contract requirements				6 33.3%	8 44.4%	4 22.2%		18	3.11	19
10	Court System				17 94.4%	1 5.5%			18	3.94	16
11	Enforceeability of decision		3 16.6%	8 44.4%	5 27.7%	1 5.5%	1 5.5%		18	4.61	14
12	Flexibility of the process	2 11.1%	3 16.6%	9 50%	4 22.2%				18	5.16	7
13	Formality of the process		1 5.5%	10 55.5%	7 38.8%				18	4.66	13
14	Preservation of relationship		8 44.4%	4 22.2%	6 33.3%				18	5.11	8
15	Nature & Size of the dispute		7 38.8%	9 50%	1 5.5%	1 5.5%			18	5.22	5.5
16	Value of the contract		13 72.2%	2 11.1%	3 16.6%				18	5.55	3.5
17	Duration/term of the contract			14 77.7%	4 22.2%				18	4.77	11
18	Language used in the DRM process		6 33.3%	1 5.5%	11 61.1%				18	4.72	12
19	Neutral party level of involvement	5 27.7%	1 5.5%	1 5.5%	11 61.1%				18	5	9
20	Need for legal precedent	2 11.1%	7 38.8%	7 38.8%	2 11.1%				18	5.5	3.5

Table 4.11 indicates the level of the importance of the factors effecting selection of adjudication to resolve dispute, rated by respondants. By the bliefs of the respondents "formality of the process" is the most important factore and cost of resolving the dispute has the least influence in selecting adjudication to resolve the dispute.

Table 4.11: Ranking of factors for adjudication

Factors		**7**	**6**	**5**	**4**	**3**	**2**	**1**	Responses	Mean	Rank
		+3	+2	+1	0	-1	-2	-3			
1	Cost of resolving the dispute			5 25%	3 15%	2 10%	4 20%	6 30%	20	2.85	20
2	Time taken to resolve the dispute			2 11.1%	4 22.2%	8 44.4%	4 22.2		18	3.22	19
3	National Law & Juristication	2 11.1	5 27.7%	4 22.2%	2 11.1%	2 11.1%	2 11.1%	1 5.5%	18	4.61	12
4	Neutral party technical knowledge	2 11.1	6 33.3%	3 16.6%	7 38.8%				18	5.16	2.5
5	Complexity of the contract /work		6 35.2%	6 35.2%	5 29.4%				17	5.05	4
6	Confidentiality and privacy		1 5.8%	2 11.7%	6 35.2%	6 35.2%	2 11.7		17	3.64	16
7	Past experince with the DRM		1 5.8%	3 17.6%	3 17.6%	6 35.2%	3 17.6%	1 5.8%	17	3.41	18
8	Binding outcome		4 22.2%	10 55.5%	3 16.6%		1 5.5%		18	4.88	8.5
9	Contract requirements	1 5.8%		8 47%	8 47%	1 5.8%			17	4.82	10
10	Court System		8 44.4%	3 15%	6 33.3%	1 5.5%			18	5	5.5
11	Enforceeability of decision		6 33.3%	8 44.4%	3 16.6%		1 5.5%		18	5	5.5
12	Flexibility of the process		1 5.5%	2 11.1%	4 22.2%	8 44.4%	3 16.6%		18	3.44	17
13	Formality of the process	5 27.7	8 44.4	1 5.5%	4 22.2%				18	5.77	1
14	Preservation of relationship	1 5.8%	1 5.8%	6 35.2%	2 11.7%	6 35.2	1 5.8		17	4.17	14
15	Nature & Size of the dispute		2 11.1%	14 77.7	2 11.1%				18	5	5.5
16	Value of the contract		1 5.5	14 77.7	3 16.6%				18	4.88	8.5
17	Duration/term of the contract		1	7 38.8	2 11.1%	8 44.4%			18	4.05	15
18	Language used in the DRM process		1 5.5%	7 38.8	9 50%		1 5.5		18	4.38	13
19	Neutral party level of involvement		6 33.3%	2 11.1%	10 55.5				18	4.77	11
20	Need for legal precedent		6 33.3%	9 50%	3 16.6%				18	5.16	2.5

Table 4.12 examines the extent to which factors were considered by the respondents in selecting the arbitration resolution method. the most important factor is

"enforceability of decision" . national low and juristication ranked as second in importance. Cost of resolving the dispute was a factor that was found as having most negative affect in selection of negotiation. 88.3% of the respondents agree that formality of the process is important, with 11.1% remained neutral.

Table 4.12: Ranking of factors for arbitration

Factors		**7**	**6**	**5**	**4**	**3**	**2**	**1**	Responses	Mean	Rank
		+3	+2	+1	0	-1	-2	-3			
1	Cost of resolving the dispute				5 26.3%	6 31.5%	7 36.8%	1 5.2%	19	2.78	20
2	Time taken to resolve the dispute	3 17.6%	5 29.4%	5 29.4%	1 5.8%	1 5.8%	1 5.8%	1 5.8%	17	5.05	9.5
3	National Law & Juristication	7 38.8%	6 33.3%	2 11.1%	2 11.1%		1 5.5		18	5.83	2
4	Neutral party technical knowledge	1 5.5%	2 11.1%	9 50%	6 33.3%				18	4.88	12.5
5	Complexity of the contract /work	2 11.7	3 17.6%	11 64.7%	1 5.8%				17	5.35	5
6	Confidentiality and privacy	1 5.8%	1 5.5%	1 5.8%	4 23.5%	4 23.5%	4 23.5%	2 11.7%	17	3.29	18
7	Past 59xperience with the DRM	1 5.8%		4 23.5%	3 17.6%	7 41.17%	2 11.7%		17	3.76	16
8	Binding outcome	5 27.7%	6 33.3%	5 27.7%	2 11.1%				18	5.77	3
9	Contract requirements	1 5.5%	5 27.7%	11 61.1%	1 5.5%				18	5.33	6
10	Court System	1 5.8%	9 52.9%	5 29.4%	2 11.7%				17	5.52	4
11	Enforceeability of decision	8 44.4%	6 33.3%		4 22.2%				18	6	1
12	Flexibility of the process	2 11.7%	4 23.5%	8 47%	1 5.8%	1 5.8%			17	5	11
13	Formality of the process		4 22.2%	12 66.6%	2 11.1				18	5.11	8
14	Preservation of relationship		1 5.5%	5 27.7%	2 11.1%	6 33.3%	3 16.6%	1 5.5%	18	3.55	17
15	Nature & Size of the dispute	1 5.5%	1 5.5%	14 77.7	2 11.1%				18	5.05	9.5
16	Value of the contract	1 5.5%	2 11.1%	14 77.7%	1 5.5%				18	5.16	7
17	Duration/term of the contract			1 5.5%	2 11.1%	14 77.7%	1 5.5%		18	3.17	19
18	Language used in the DRM process		6 33.3%	2 11.1%	9 50%		1 5.5%		18	4.66	14
19	Neutral party level of involvement		1 5.5%	7 38.8%	10 55.5%				18	4.88	12.5
20	Need for legal precedent		1 5.5%	7 38.5%	2 11.1%%	7 38.5%	1 5.5%		18	4	15

Table 4.13 presents the level of the importance of factores selecting litigation DRM ranked by respondants. In the point view of respondants “binding outcome” is the most important and “time taken to resolve the dispute” is the least important factore in selecting this method. 88.2% believe that in litigation there is no flexibility in process and 11.1% remained neutral in this case.

Table 4.13: Ranking of factors for litigation

Factors		**7**	**6**	**5**	**4**	**3**	**2**	**1**	Responses	Mean	Rank
		+3	+2	+1	0	-1	-2	-3			
1	Cost of resolving the dispute		1 5.5%	1 5.5%	1 5.5%	1 5.5%	4 22.2%	10 55.5%	18	2	19
2	Time taken to resolve the dispute				1 5.5%	1 5.5%	6 33.3%	10 55.5%	18	1.61	20
3	National Law & Juristication	6 33.3%	4 22.2%	4 22.2%	2 11.1%		2 11.1%		18	5.44	5
4	Neutral party technical knowledge	1 5.5%			6 33.3%	8 44.4%	3 16.6%		18	3.38	11
5	Complexity of the contract /work	6 35.3%	3 17.6%	2 11.7%	3 17.6%		1 5.8%	2 11.7%	17	5.05	6
6	Confidentiality and privacy				4 23.5%	1 5.8%	4 23.5%	8 47%	17	2.05	18
7	Past experince with the DRM			2 11.8%	3 17.6%	4 23.5%	8 47%		17	2.94	13
8	Binding outcome	11 61.1%	3 16.6%	2 11.1%	2 11.1%				18	6.27	1
9	Contract requirements	7 38.8%	8 44.4%	2 11.1%	1 5.5%				18	6.16	2
10	Court System	4 22.2%	6 33.3%		1 5.5%	1 5.5%	4 22.2%	2 11.1%	18	4.5	7.5
11	Enforceeability of decision	3 16.6%	9 50%	3 16.6%	3 16.6%				18	5.66	3
12	Flexibility of the process				2 11.1%	3 16.6%	10 55.5%	3 16.6%	18	2.22	17
13	Formality of the process		12 66.6%	4 22.2%	2 11.1%				18	5.55	4
14	Preservation of relationship			1 5.5%	2 11.1%	9 50%	1 5.5%	5 27.7%	18	2.61	16
15	Nature & Size of the dispute	1 5.5%	7 38.8%	1 5.5%	2 11.1%	1 5.5%		6 33.3%	18	3.94	10
16	Value of the contract	1 5.5%	8 44.4%	1 5.5%	2 11.1%	1 5.5%	5 27.7%		18	4.5	7.5
17	Duration/term of the contract		1 5.5%		2 11.1%	7 38.8%	6 33.3%	2 11.1%	18	2.72	15
18	Language used in the DRM process		1 5.5%		2 11.1%	7 38.8%	7 38.8%	1 5.5%	18	2.77	14
19	Neutral party level of involvement				10 55.5%	1 5.5%	6 33.3%	1 5.5%	18	3.11	12
20	Need for legal precedent	6 33.3%	3 16.6%		1 5.5%		1 5.5%	7 38.8%	18	4.05	9

By considering the factors listed under each DRM in above tables and dividing the importance level of factors, the results achieved are shown in the Table 4.14.

Table 4.14: Summarizes the choice of a DRM that is recommended depending on the effects of factors involved in an international project in Middle East

Nr	Factors	Negotiation	Mediation	Review Board	Adjudication	Arbitration	Mini Trial	litigation
1	Cost of resolving the dispute	√	√	√	X	X	X	X
2	Time taken to resolve the dispute	√	√	√	X	X	X	X
3	National Law & Juristication	√	√	√	X	X	X	X
4	Neutral party technical Knowledge	X	√	√	√	√	√	X
5	Complexity of the contract /work	√	√	√	√	√	√	
6	Confidentiality and privacy	√	√	X	X	X	X	X
7	Past experince with the DRM	√	√	X	X	X	X	X
8	Binding outcome	X	X	X	X	√	X	√
9	Contract requirements	X	X	X	X	√	X	√
10	Court System	X	X	X	X	√	√	X
11	Enforceeability of decision	X	X	X	X	√	√	√
12	Flexibility of the process	√	√	√	X	X	X	X
13	Formality of the process	X	X	√	√	√	X	√
14	Preservation of relationship	√	√	√	X	X	X	X
15	Nature & Size of the dispute	X	X	X	√	√	√	X
16	Value of the contract	X	√	√	√	√	√	X
17	Duration/term of the contract	X	X	√	X	X	X	X
18	Language used in the DRM process	√	√	√	X	X	X	X
19	Neutral party level of involvement	√	√	√	√	√	√	X
20	Need for legal precedent	X	X	√	√	X	√	X

Note: The symbol "✓" = recommended DRM for the corresponding factor. The symbol "x" = not recommended DRM for the corresponding factor.

4.7. How do culture, risk, and trust interact in choosing a DRM

Table 4.15 presents the mean scores and the standard deviation of the different DRMs for different project conditions.

Mediation was most likely recommended in low-risk projects in Near East and/or Middle East, where there is high trust between parties (M= 89.47, *SD*=10.79). The mean scores in Table 5.14 are converted to ranks in Table 5.15

Table 4.15: Mean scores and Standard Deviations of DRMs in different project conditions

	Negotiation	Mediation	Review Board	Adjudication	Arbitration	Mini trial	litigation
High risk / neutral trust	45.50 22.12 SD	48.50 20.60 SD	59.00 21.25 SD	53.50 20.84S SD	65.79 25.67S SD	57.37 31.06 SD	74.21 33.55 SD
High risk / high trust	51.05 23.78	55.26 20.92	67.37 24.23	65.79 15.39	68.42 25.22	66.84 28.69	80.00 32.66
High risk / low trust	27.89 18.13	31.05 14.86	61.58 8.34	63.16 19.16	79.47 30.60	75.26 37.91	79.47 37.64
Low risk / neutral trust	41.58 17.08	54.21 24.11	76.84 31.46	68.95 20.79	74.21 30.61	63.16 29.64	67.89 26.79
Low risk / high trust	88.82 22.33	89.47 10.79	55.26 25.25	51.58 21.15	63.63 24.32	37.37 18.51	27.37 13.68
Low risk / low trust	53.16 21.87	57.37 23.53	57.37 24.69	74.74 32.38	64.21 28.54	45.79 21.94	66.32 18.02

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Table 4.16: Ranks of DRMs in different project conditions (across rows)

	Negotiation	Mediation	Review Board	Adjudication	Arbitration	Mini trial	litigation
High risk / neutral trust	7	6	3	5	2	4	1
High risk / high trust	7	6	3	5	2	4	1
High risk / low trust	7	6	5	4	1	3	1
Low risk / neutral trust	7	6	1	4	2	5	3
Low risk / high trust	2	1	4	5	3	6	7
Low risk / low trust	6	4	4	1	3	7	2

In high-risk projects, negotiation was the least used whereas litigation was the most frequently used DRM. It is seen that arbitration followed by review board are the most frequently used DRMs in most project conditions, except in low trust projects. In low-risk projects, where there is high trust between parties, it is highly recommended by the experts to use mediation.

5. CONCLUSIONS and LIMITATIONS

In this thesis, the different dispute resolution methods employed in international construction contracts and effects of the factors involved with the different methods were discussed. Affective factors on DR has been measured in two countries of Iran and Turkey.

Although the number of respondents were not as expected and from 80 questionnaires sent out to the samples, 34 of them responded the questions. This limitation may affect the punctuality of analysis of findings of the survey and should be taken in consideration.

To identify the organization and study its behavior and performance, Knowledge of the culture is so important and a very fundamental step. Having enough awareness about the host country's culture would help a lot to prevent disputes as analysis shows that 59.3% of survey samples agreed by culture affection on choice of dispute resolution methods.

Trust is in the direct proportion by the culture. Trust actually begins by creating a culture based on shared values between companies. Building trust requires a commitment to establish interpersonal relationship based on honesty, integrity and openness in relations with the other party. That is why companies are being recommended to create a full atmosphere of trust in projects and 68% of samples believe on trust affection in choice of DRM.

The most affective factor of DRM is the risk as respondents' point of view by the rate of 80.8% of agreement. Risk management has been known as the most important aspect of the project management in international projects. Paying attention to different techniques of risk management in global references obviously proves this subject's importance in this field.

Results confirm that arbitration is recommended in all project conditions expect law trust projects, where mediation is highly recommended in low risk situations when there is high trust between parties.

Although negotiation is not recommended at all in high risk conditions, but it has been known as the best choice to save money and time in dispute resolution process.

Arbitration and review board are in the part of acceptance by the respondents as a highly recommended method.

In conclusion, culture, trust and specially risk are the factors that should be subtly considered in dispute management in international projects. Definitely a strong dispute resolution process is the most important asset of the general conditions of a contract. Although in some situations, the court of law is the only way to resolve the dispute, but the ultimate intention of the ADRMs is to solve the problem with the least side effects and detriments.

This research focused only on international contractors planning to operate in the Middle East. I Hope that further surveys with more details will be conducted on this subject in the years to come.

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APPENDICES

APPENDIX A.1 Ethic Letter of the Questionnaire in English.....

APPENDIX A.2 The Questionnaire in English.....

APPENDIX A.3 Ethic Letter of the Questionnaire in Turkish.....

APPENDIX A.1 Ethic letter of the questionnaire in English

Re: Questionnaire

Dear Sir/ Madam

I am writing to let you know that I have attached a questionnaire along with this letter and I would kindly ask for your expertise as it would be a very big help for us to establish some facts in accordance with the methodology of this research. This survey is developed as a part of the graduate research project which investigates the effects of culture, risk and trust on the selection of the appropriate Dispute Resolution Methods (DRMs) in international contracts. It is being conducted at Istanbul Technical University, Institute of Science and Technology. Because you have been identified as an expert in this field, we are inviting you to participate in this research study by completing the survey in the following link.
https://www.surveymonkey.com/s/P3QDQS7
If you agree to participate in this project, please answer the questions on the questionnaire as best as you can. It may take only 15 minutes to complete. The information collected will be kept confidential and it will be only used for the research purposes. Please note that you may skip any question at any time that you feel uncomfortable answering. Please don't hesitate to contact me if there is any need to do so.

Researcher: Sahar Bahemat sahar.b.sh@gmail.com

Supervisor: Prof. Heyecan Giritli giritli@itu.edu.tr

Thank you so much for your time and looking forward to hearing from you very soon.

Yours sincerely,

Prof. Heyecan Giritli

APPENDIX A.2 The Questionnaire in English

1. What is your profession and job title?

……

2. Your years of experience in international dispute resolution

   a) Less than one year ☐
   b) 1 to 5 years ☐
   c) 5 to 10 years ☐
   d) 10 to 15 years ☐
   e) 15 to 20 years ☐
   f) 20 to 30 years ☐
   g) More than 30 years ☐

3. What type of disputes were you involved in?

   a) Scope of work ☐
   b) Plans & specifications ☐
   c) Cost overruns ☐
   d) Time delays ☐
   e) Differing site conditions ☐
   f) Design issues ☐
   g) Construction defects ☐
   h) Professional liability Other (please specify) ☐

4. What type of dispute resolution method have you been involved in?

   a) Negotiation ☐
   b) Mediation ☐
   c) Dispute Review Board ☐

d) Adjudication
e) Arbitration ☐
f) Mini Trial ☐
g) Litigation Other (please specify) ☐

5. Does CULTURE affect the choice of DRM in international construction contracts? Please explain your answer.(i.e., If one of the contracting parties is from the US and the other is from the Near East and/or Middle East?)

a) YES ☐
b) NO ☐

6. Does RISK affect the choice of DRM in international construction contracts? Please explain your answer. (Risk is defined as the possibility that an event, its impact, and interaction may turn out differently than anticipated)

a) YES ☐
b) NO ☐

7. Does TRUST affect the choice of DRM in international construction contracts? Please explain your answer.(Trust, in this study, is measured by how one organization perceives the competence of the other organization based on its past performance, capability, reputation, organizational role and financial status)

a) YES ☐
b) NO ☐

8. Assume a Western-based international contractor is planning to operate in the

Near East and/or Middle East and is seeking your advice on the factors to consider when selecting DRM(s) to state in the international contract with the owner. The contractor is currently in the contract formation stage.

Given this situation, please rate the listed factors in terms of their importance in the choice of DRM, click on the circle that best describes the level of importance

	Unimportant	Little importance	Moderately important	Important	Very important
Cost of resolving the dispute					
Time taken to resolve the dispute					
National Law & Juristication					
Neutral party technical knowledge					
Complexity of the contract /work					
Confidentiality and privacy					
Past experince with the DRM					
Binding outcome					
Contract or Funder or Insurrance requirements (mandated)					
Court System					
Enforceeability of decision					
Flexibility of the process					
Formality of the process					
Preservation of relationship					
Nature & Size of the dispute					
Value of the contract					
Duration/term of the contract					
Language used in the DRM process					
Neutral party level of involvement					
Need for legal precedent					

9 Rate the aforementioned factors in terms of their effect on the choice of the respective Dispute Resolution Method (DRM) in an international construction contract, from -3 to 3, with;

--3: major negative effect
--2: moderate negative effect
--1: minor negative effect
0: no effect
+1: minor positive effect
+2: moderate positive effect
+3: major positive effect

	Negotiation	Mediation	Review Board	Adjudication	Abitratration	Mini Trial	Litigation
Cost of resolving the dispute							
Time taken to resolve the dispute							
National Law & Juristication							
Neutral party technical knowledge							
Complexity of the contract /work							
Confidentiality and privacy							
Past experince with the DRM							
Binding outcome							
Contract or Funder or Insurrance requirements (mandated)							
Court System							
Enforceeability of decision							
Flexibility of the process							
Formality of the process							
Preservation of relationship							
Nature & Size of the dispute							
Value of the contract							
Duration/term of the contract							
Language used in the DRM process							
Neutral party level of involvement							
Need for legal precedent							

10. Please enter a score from 10 (least favorable) to 110 (most favorable) to indicate the suitability of each DRM given the project conditions (country, risk & trust) defined in the first column.

	Negotiation	Mediation	Review Board	Adjudication	Abitratration	Mini Trial	Litigation
High risk/ neutral trust							
High risk/ risk trust							
High risk/ low trust							
Low risk/ neutral trust							
Low risk/ high trust							
Low risk/ low trust							

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