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AN INVESTIGATION OF JUDICIAL DISPUTE RESOLUTION IN TURKISH CONSTRUCTION INDUSTRY

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AN INVESTIGATION OF DISPUTE PROCESS IN THE CONSTRUCTION INDUSTRY IN TURKEY

A thesis submitted by Murat ÇEVİKBAŞ in partial fulfillment of the requirements for the degree of **MASTER OF SCIENCE** is approved by the committee on 01.06.2018 in Department of Architecture, Housing Production and Construction Management Program.

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LIST OF ABBREVIATIONS

ADR	Alternative Dispute Resolution
ANN	Artificial Neural Network
BDT	Boosted Decision Trees
CBR	Case Based Reasoning
DRB	Dispute Resolution Board
FIDIC	International Federation of Consulting Engineers
ISTAC	İstanbul Arbitration Centre
IT	Information Technology
JDR	Judicial Dispute Resolution
MAUT	Multiattribute Utility Technique
UPM	Universal Prediction Model
WEKA	Waikato Environment for Knowledge Analysis

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ABSTRACT

AN INVESTIGATION OF JUDICIAL DISPUTE RESOLUTION IN TURKISH CONSTRUCTION INDUSTRY

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Department of Architecture

MSc. Thesis

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A project contains numerous tasks coordinated with associated resources to achieve specific goals. Just like in the nature of a project depending on its density of multidisciplinary tasks, a construction project is also considered to be very sophisticated. Therefore, it is probable to encounter many challenges and risks in the projects. When the number of tasks and resources along with their interactions are considered, dispute could be inevitable in construction projects. There have been numerous researches on dispute resolution processes such as litigation. Studies reveal that litigation is a lengthy and an expensive process and may deteriorate the close relationships between the parties. Despite concerned inconveniences, project parties mostly tend to resolve their disputes through litigation in Turkey. This situation necessitates taking specific precautions in order to prevent the losses caused by litigation process. Hence, in this study, as the most preferable method of resolving disputes concerning construction in Turkey, litigation process is intended to be investigated from different aspects. Two fundamental subjects contributing to the success of litigation process are examined namely, determining the most problematic dispute sources in construction related cases by detecting their occurrence rates, and determining the qualifications and competency levels of the judicial actors taking part in litigation process. In the first phase of this research, 282 cases conducted by Courts of Cassation in Turkey between the years 2007 and 2017 are found to be relevant to construction sector and are investigated. The subjects of the cases are coded as per defined contents to detect the sources of disputes and the obtained data are analysed via SPSS software in order to set out the most problematic sources of disputes. This data is also utilized to serve the second objective of this research, which is set to detect the qualifications and competency levels of the judicial actors taking part in construction related cases in Turkey. Additionally, to serve this objective, in the second phase of this

study, semi-structured interviews are conducted with the judicial actors who are judges, lawyers and expert witnesses. The interviews are analysed through content analysis.

In conclusion, concerning the first objective of this research, contract contents, civil project types, contracts between employers and contractors, debits and credits related disputes are detected as the most frequent dispute sources. Contract content is detected as the most problematic source of dispute. It is believed that improving standard contract types with respect to the areas stated above would certainly reduce the number of disputes resulting from contracts by eliminating the ambiguities. Concerning the second objective of this research, reassessment decisions were made by Courts of Cassation for almost %96 of the construction related cases conducted by Courts of First Instance between 2007 and 2017. It is detected that the reassessment decisions mostly resulted from missing review and wrong assessments made by judges, and inexistence of expert witnesses in the courts. This outcome presents data concerning the qualifications and competency levels of judicial actors in construction related cases. Moreover, via the interviewees' opinions, some insufficiencies are detected concerning technical knowledge of construction of judicial actors, experiences of the judicial actors, the numbers of judges and the ethical attitudes of lawyers and expert witnesses. Finally, some suggestions are made on how to improve the litigation process in resolving disputes related to construction.

Key Words: Disputes in Construction, Competency Levels of Legal Actors, Legal Process in Construction, Content Analysis, Construction

ÖZET

TÜRK İNŞAAT SEKTÖRÜNDE ANLAŞMAZLIKLARIN ÇÖZÜMÜNDE YARGI SÜRECİNİN İRDELENMESİ

Murat ÇEVİKBAŞ

Mimarlık Anabilim Dalı

Yüksek Lisans Tezi

Tez Danışmanı: Doç. Dr. Almula KÖKSAL IŞIKKAYA

Bir proje, belirli hedeflere ulaşmak için ilişkili kaynaklarla birlikte ele alınan çok sayıda işi bünyesinde barındırır. Yapım projeleri de süreç itibariyle farklı disiplinlerden gelen paydaşların bulunması nedeniyle karmaşık bir yapıya sahiptir. Bu çok disiplinli yapıdaki projelerde birçok zorluk ve risk ile karşılaşılması olağandır. Proje bünyesindeki işlerin sayısı ve aralarındaki etkileşimleriyle birlikte kaynaklar göz önüne alındığında, inşaat projeleri içinde uyuşmazlık kaçınılmaz olabilmektedir. Hukuki davalar gibi, uyuşmazlıkları çözümleme süreçleri konusunda çok sayıda araştırma yapılmıştır. Yapılan çalışmalar, dava sürecinin uzun ve pahalı bir süreç olduğunu ve taraflar arasındaki yakın ilişkileri bozabileceğini göstermektedir. Türkiye'de proje tarafları çoğunlukla uyuşmazlıkları dava yoluyla çözme eğilimindedir. Ancak bu süreç uzun, pahalı ve pek çok durumda tarafları tatmin edici düzeyde değildir. Bunun altında yatan nedenlerin başında Türkiye'deki genel hukuk işleyişi ve aktörlerin genel mesleki profili yer almaktadır. Bu durum, dava sürecinden kaynaklanan kayıpları önlemek için belirli tedbirler almayı gerekli kılmaktadır. Bu nedenle, bu çalışmada, Türkiye'de inşaat ile ilgili uyuşmazlıkların çözümlenmesinde en çok tercih edilen yöntem olan dava sürecinin farklı yönlerden incelenmesi amaçlanmıştır. Dava sürecini daha etkin kılabilmek için konuya iki temel noktadan bakmak gerekmektedir. Birincisi, inşaat ile ilgili davalardaki uyuşmazlık nedenlerinin belirlenmesi ve bunların sınıflandırılarak oranların belirlenmesi, ikinci olarak, dava sürecine katılan yargı ile ilgili aktörlerin nitelik ve yeterlilik düzeylerinin belirlenmesi konuları incelenmiştir. Araştırmanın ilk aşamasında, 2007 ve 2017 yılları arasında Türkiyede Yargı Mahkemeleri tarafından yürütülen 282 davanın inşaat sektörü ile ilgili olduğu tespit edilmiş ve bunlar incelenmiştir. Bu davaların konuları, uyuşmazlıkların kaynaklarını tespit etmek için tanımlanmış içeriklere göre kodlanmış ve elde edilen veriler, en sorunlu anlaşmazlık

kaynaklarını ortaya koymak amacıyla SPSS yazılımı ile analiz edilmiştir. Bu veriler aynı zamanda, araştırmanın ikinci amacı olan, Türkiye'de inşaat ile ilgili davalarda yer alan yargı aktörlerinin niteliklerini ve yeterlik seviyelerini saptamaya yönelik olan ikinci amaca hizmet etmek için de kullanılmıştır. Ayrıca, bu amaca hizmet etmek amacıyla, bu çalışmanın ikinci aşamasında, hakim, avukat ve bilirkişilerden oluşan yargısal aktörlerle yarı yapılandırılmış mülakatlar gerçekleştirilmiştir. Görüşmeler içerik analizine tabi tutulmuştur.

Sonuç olarak, bu araştırmanın ilk amacına yönelik; sözleşme içerikleri, inşaat projeleri türleri, işverenler ve yükleniciler arasındaki sözleşmeler, borçlar ve kredilerle ilgili uyuşmazlıklar en sık karşılaşılan uyuşmazlık kaynakları olarak tespit edilmiştir. Sözleşme içeriği en sorunlu anlaşmazlık kaynağı olarak tespit edilmiştir. Standart sözleşme türlerinin yukarıda belirtilen alanlara göre iyileştirilmesinin, belirsizlikleri ortadan kaldırarak sözleşmelerden kaynaklanan uyuşmazlıkların sayısını kesinlikle azaltacağına inanılmaktadır. Bu araştırmanın ikinci amacı ile ilgili olarak, 2007 ve 2017 yılları arasında İlk Derece Mahkemeler tarafından yürütülen inşaat davalarının neredeyse % 96'sı için Yargıtay tarafından yeniden değerlendirme kararları verilmiştir. Yeniden değerlendirme kararlarının çoğunlukla, hakimler tarafından yapılan eksik gözden geçirme ve yanlış değerlendirmelerden ve mahkemelerde bilirkişilerin bulunmamasından kaynaklandığı tespit edilmiştir. Bu sonuç, inşaat ile ilgili davalarda yargı aktörlerinin nitelik ve yeterlik seviyelerine ilişkin veriler sunmaktadır. Ayrıca, görüşülen kişilerin görüşleri aracılığıyla, yargı aktörlerinin inşaat ile ilgili teknik bilgileri, deneyimleri, hakimlerin sayısı ve avukatların ve bilirkişilerin ahlaki tutumları hakkında bazı yetersizlikler tespit edilmiştir. Son olarak, inşaat ile ilgili uyuşmazlıkların çözümünde dava sürecinin nasıl iyileştirilebileceğine dair bazı önerilerde bulunulmuştur.

Anahtar Kelimeler: İnşaatta Anlaşmazlıklar, Yasal Aktörlerin Yetkinlik Düzeyleri, İnşaatta Yasal Süreç, İçerik Analizi, İnşaat

CHAPTER 1

INTRODUCTION

1.1 Literature Review

Dispute is a widely discussed topic in literature. To be able to clearly explain dispute, it is essential to define conflict which is surely a prerequisite of the occurrence of any type of dispute. Conflict exists where there is a clash of interests, disagreement in beliefs and ideas between two or more parties [1], [2]. Like in most multidisciplinary areas, conflicts seem to be an inevitable part of construction industry due to differences in perceptions among the parties [3]. However, as Kumaraswamy [2] pointed out, conflicts don't always end up with disputes but settlement. Likewise, satisfaction in an organization can be improved by moderate levels of conflict until the point where the conflict shifts to claim [4]. In case of not being able to settle the claim on a satisfactory basis, dispute occurs. There are two main types of dispute resolution methods namely, Judicial Dispute Resolution (JDR) and Alternative Dispute Resolution (ADR) as depicted in Table 1.1.

Table 1.1 Dispute resolution methods

Judicial Dispute Resolution (JDR)		**Alternative Dispute Resolution (ADR)**						
Litigation	Arbitration	Adjudication	Conciliation	Mediation	Mock-Trial	Dispute Resolution Board	Expert Determination	Negotiation

Dispute resolution processes namely Litigation, Arbitration, Adjudication, Conciliation, Mediation, Dispute Resolution Board (DRB), Expert Determination and Negotiation have been widely discussed in literature. Large spectrum of studies related to not only strong and weak sides of dispute resolution methods but also selection criteria of dispute resolution methods have been widely conducted by the researchers [5], [6], [7], [8]. Although there are many studies related to dispute resolution methods in construction industry, there are limited studies investigating the construction related litigation process and its actors. Understanding the factors influencing the occurrence of disputes determines the performance of a construction project [9], [10]. In this matter, a study with respect to determination of frequency of disputes as per only Contract of Work in Turkish Law of Obligations was made by Apanoğlu [11]. This study covered the cases conducted by Courts of Cassation until 2007. By doing this, the researcher investigated the main sources of disputes conducted by litigation as per Contract of Work and one of the main points found out by him is that contract which is the main definition term of Contract of Work is the biggest reason for disputes concerning construction industry in Turkey. However, other sources of dispute other than articles of Contract of Work were not taken into consideration by the researcher. Also detecting the qualifications and competency levels of judicial actors through investigation of the cases and judicial actors concerning construction industry could help improvement of litigation process which is accepted as the main dispute resolution method in Turkey. Still, there is no study conducted in this matter.

1.2 Objective of the Thesis

Even though a project looks like a complex structure containing numerous uncertainties, it is a systematic process containing finite resources within a defined period of time to obtain desired objectives. There have been many researches defining 'project' in different aspects. A widely accepted definition pertaining to project made by PMI [12, p. 3] expresses that "*A project is a temporary endeavour undertaken to create a unique product, service, or result.*" However, a project contains numerous uncertainties inherent in its temporary endeavour. This temporary endeavour may cover wide spectrum of stakeholder groups. Each stakeholder has different level of responsibility, power and expectation during his/her interaction with each other and with the project.

Intention of each stakeholder to maximize his/her benefit brings the coordination between the project actors to a standstill and this results in dispute. Since the projects have complexity due to having different and controversial interests of stakeholders during the finite project life cycle, numerous uncertainties wait at the door. Considering these amounts of variables and uncertainties in construction projects, deviation is inevitable. Therefore, construction sector is identified as a dispute ridden industry.

Problem Statement:

Although, construction industry drives the Turkish economy [13], [14] unfortunately Turkish construction industry suffers from construction related dispute resolution processes in terms of time, cost and arguable results. Actors such as lawyers and judges are expected to be qualified with technical and judicial knowledge. Qualifications of judicial actors define their skills which are to be ruled by legislations and equipped to act as concerned actors. By the same token, qualifications of a judicial actor are expected to deal with the requirements of resolving disputes successfully. However, the actors who take part in construction disputes such as judges and lawyers of parties are unfamiliar to construction process where disputes arise. In Turkey, judicial actors take part in the system with bachelor's degrees of law without specific knowledge of construction which creates ambiguity and inefficiency in disputes, therefore specialty courts tend to highly depend for their jurisdiction on expert witnesses whose reports constitute another problematic area. Concerning the obstacles resulting from judicial actors' lack of construction related technical knowledge; qualifications of judicial actors related to their vocation are to be questioned. Additionally, there have been many unsuccessful cases concerning construction industry in terms of the quality of performed works. This also necessitates questioning the competency levels of judicial actors.

Projects' parties having dispute meet numerous problems in the litigation process in terms of time and cost consumption [15], [5]. Despite these problems of litigation process, contracts of construction projects mostly refer to the Courts of First Instance to resolve the dispute rather than other ADR methods. Hence, in order to make litigation process more reliable and faster, the following objectives are intended to be achieved in this study;

1. To detect the main sources of disputes based on construction industry in Turkey.

2. To define the qualifications and competency levels of judicial actors for construction related cases in Turkey.

In order to develop background of this study, initially, an extensive literature review is conducted with respect to the following topics;

- General jurisdiction process in Turkey,
- Dispute resolution processes in construction industry in Turkey.

In order to achieve the main objectives of this research, qualitative and quantitative analyses were used respectively. A quantitative method is conducted to accomplish the first objective of this research. Previous study by Apanoğlu [11] conducted to determine the causes of dispute in construction where he categorised the cases until 2007 as per articles of Contract of Work. Hence, in this study, cases conducted by Courts of Cassation related to Turkish construction industry between the years of 2007 and 2017 are investigated in order to categorize them as per their contents. Further, in addition to classification of the cases as per Contract of Work as in Apanoğlu, other significant categorizations are required in order to provide an in-depth analysis to figure out problematic sources of disputes along with qualifications and competency levels of judicial actors.

In this research, the reasons behind focusing on the cases only handled by Court of Cassation are that determinations of Courts of Cassation indicate 'Court Practices' , that is to say; they are binding for the other Courts of First Instance, and are accessible to the public. By doing this research, it is aimed to reach a conclusion concerning the main problem areas in disputes, and this also presents data for the second objective, which identifies qualifications and competency levels of judicial actors.

In the second phase of this research, a qualitative method is conducted. Hence, semi-structured interviews are made with expert witnesses, lawyers and judges as actors participating in litigation process concerning Turkish construction industry in order to identify the qualifications and competency levels of judicial actors.

1.3 Findings

Through analysing the construction related cases conducted by Courts of Cassation in Turkey, the main dispute sources and qualifications and competency levels of judicial actors concerning construction are released. To support the findings related to qualifications and competency levels of judicial actors, semi-structured interviews are conducted with the judicial actors namely, judges, lawyers and expert witnesses who are experienced in the cases concerning construction. With respect to main sources of the disputes encountered in construction industry, drafting the contract is detected as one of the main causes due to having not standardization. Especially, contracts containing multi-disciplinary works contain risks of disputes. Additionally, projects associated with contracts signed between the parties of employers and contractors, and 'Contracts of Flat in Return for Land' substitute the most problematic areas added to dispute sources. Moreover, monetary issues are detected as the other common dispute sources in the construction projects in Turkey.

With respect to qualifications and competency levels of judicial actors, %96.1 of the decisions given by Courts of First Instance are rejected by Courts of Cassation. These unsatisfactory determinations of Courts of First Instance result from the some specific reasons. First of all, unexperienced and unbranched judicial actors having inadequate technical knowledge constitute one of the main causes of wrong determinations of Courts of First Instance. Moreover, due to the excessive amounts of cases assigned to the judges, they spend inadequate time for the cases. Furthermore, inadequate claimants' and defendants' petitions mislead and prolong the cases.

1.4 Original Input

There are many studies conducted concerning disputes and resolution processes in construction projects on national and international levels. The literature in this research area indicates that problems regarding disputes, resolution methods and etc. are discussed and models are generated in different levels and perspectives.

Among all the current dispute resolution methods, litigation is adopted as the most common dispute resolution method to resolve the disputes in construction projects in Turkey. The judicial actors in litigation play the most crucial role in resolving construction related disputes. However, there isn't any study conducted from the

judicial actors' perspective and any contribution to this area would certainly improve the effectiveness of it. That's why this study is conducted to contribute to the improvement of this process not only by detecting the insufficiencies concerning the judicial actors who are judges, lawyers and expert witnesses but also by offering some improvement on the current situations of these actors. It is believed that presenting the main problematic areas in regard to the sources of the disputes as well as the qualifications and competency levels of the judicial actors whose roles are crucial in dispute resolution process will be the major benefits of this research.

CHAPTER 2

GENERAL JURISDICTION PROCESS IN TURKEY

2.1 Structure of General Jurisdiction in Turkey

Elements of jurisdiction system and each of their roles differ from country to country. In Turkey, structure of Superior Court is constituted from Judicial Justice, Administrative Justice, Constitutional Jurisdiction, Military Criminal Justice, Military Administrative Justice and Jurisdictional Dispute. Superior Courts and their responsibilities in terms of jurisdiction process are depicted in Table 2.1 below.

Table 2.1 Superior Courts and their responsibilities in terms of jurisdiction process

Superior Courts	**Jurisdiction Processes**
Court of Cassation	Judicial Justice
Presidency of the Council of State	Administrative Justice
Constitutional Court of Republic of Turkey	Constitutional Jurisdiction
Military Court of Cassation	Military Criminal Justice
High Military Administrative Court	Military Administrative Justice
Court of Jurisdictional Disputes	Jurisdictional Dispute

Court of Cassation conducts the Judicial Justice which is an ordinary justice system. Court of Cassation contains 23 Civil Chambers and 20 Criminal Chambers. Each Civil Chamber has its own individual responsibilities. Under the Courts of Cassation, there are 'Courts of First Instance' (Trial Courts) consisting of Civil Courts and Criminal Courts. Civil Courts constitute Civil Courts of Peace, Civil Courts of General Jurisdiction and Specialized Courts. In the absence of a Specialized Courts in a district, Civil Court of General Jurisdiction is authorized. With respect to Criminal Courts, it is

segregated into General Criminal Courts and Specialized Criminal Courts. In the absence of a Specialized Criminal Court in a district, concerned General Criminal Court is authorized to deal with the related case.

Civil Courts of General Jurisdiction under the Civil Courts are the main courts handling the cases concerning construction. The hierarchical organization of Judicial Justice is depicted in Figure 2.1 below [16], [17]. In this figure, the courts marked in blue conduct the construction related disputes.

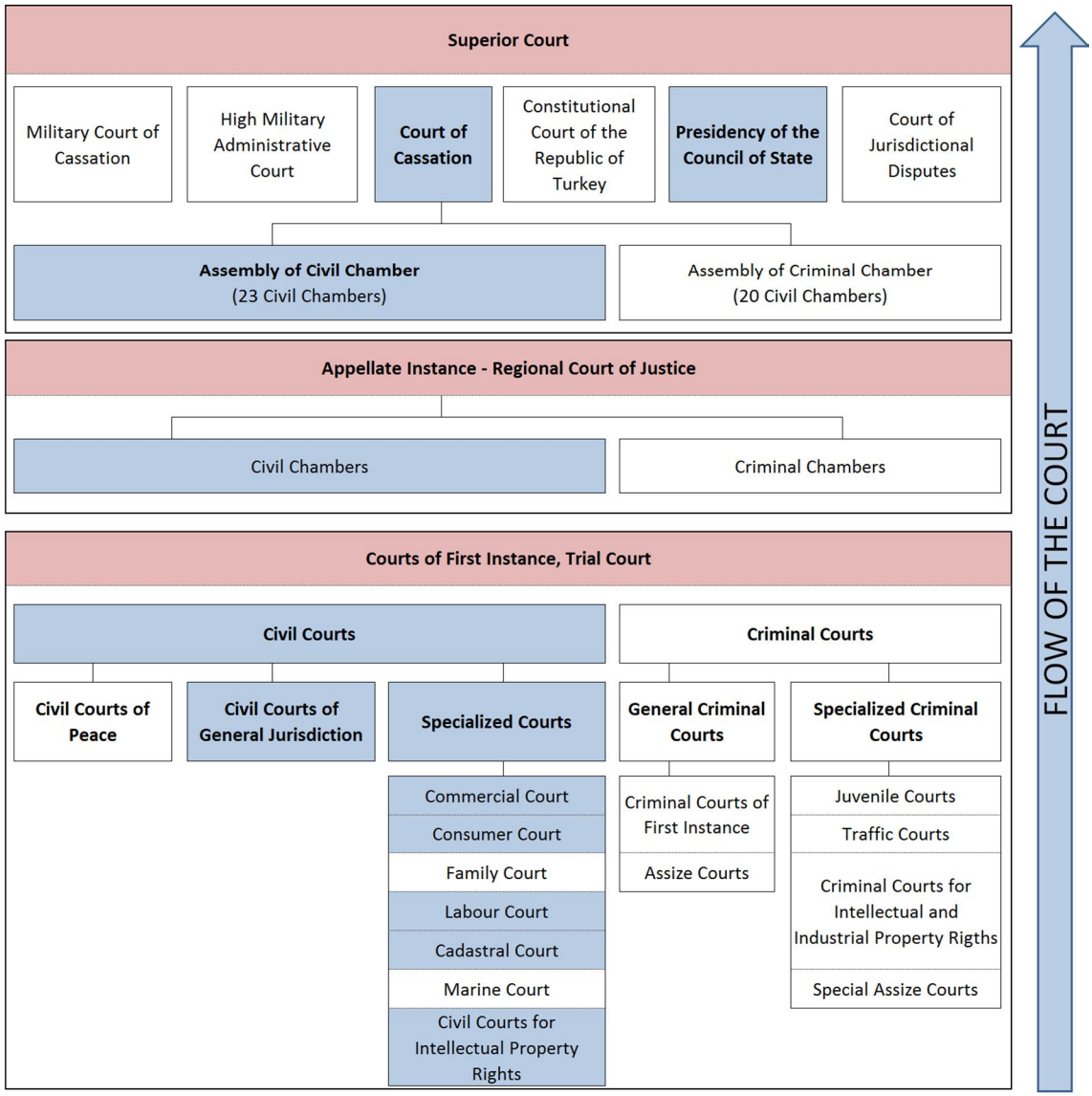


Figure 2.1 Organization of judicial justice in Turkey

'Presidency of the Council of State' conducts 'Administrative Justice' in Turkey. Hierarchical organization of Administrative Justice contains three main levels namely, Presidency of the Council of State, Regional Administrative Courts and Courts of First

Instance. Overall organization of Administrative Justice is illustrated in Figure 2.2 below [16].

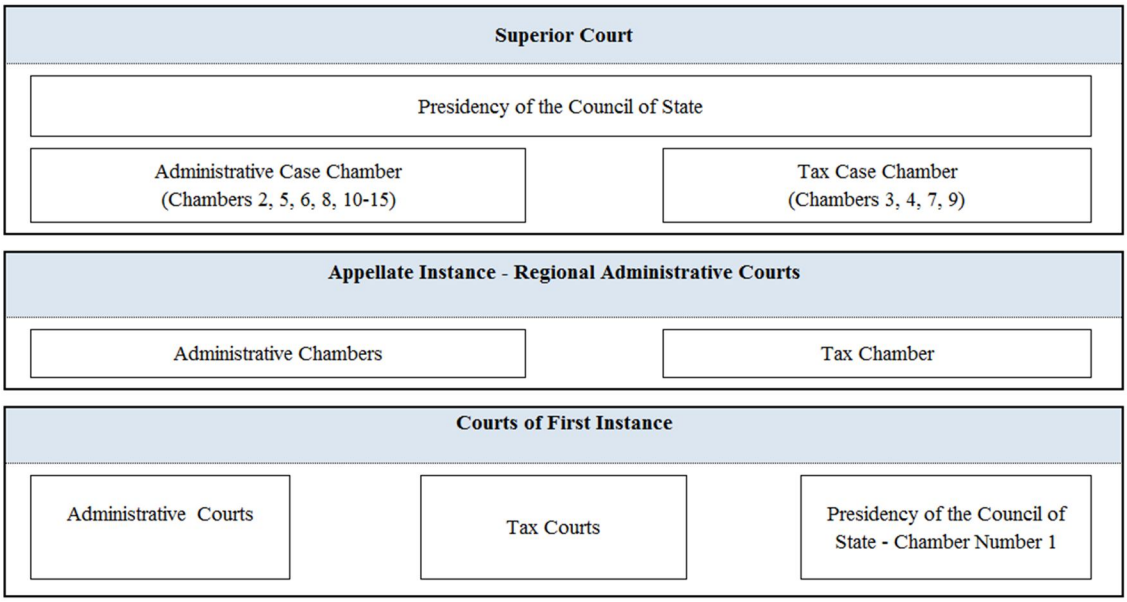


Figure 2.2 Administrative justice in Turkey

Presidency of the Council of State is in charge of the cases concerning governmental issues in terms of administration and tax. With respect to debates in construction projects, in case of any debate concerning Construction Permit and Cadastral Issues between the contractor and government, the contractor may apply to an Administrative Court to resolve the debate. The clarified Superior Courts above, namely; Court of Cassation and Presidency of the Council of State deal with the cases related to constructional issues. Although the remaining 4 superior courts, as shown in Table 2.1, do not handle the cases concerning constructional debates, their commissions are mentioned in short below.

Constitutional Court of Republic of Turkey is another superior court which rules constitutional jurisdiction. Laws regulated by Turkish Grand National Assembly cannot supersede the constitution. Therefore, Constitutional Court of Republic of Turkey supervises these laws in this matter [16].

Military Court of Cassation, as a Superior Court, rules Military Criminal Justice. Military Court of Cassation is a Court of Last Resort. Below this court, there are Courts of First Instance containing Disciplinary Courts and Military Courts. Disciplinary Court is only in charge during the war according to Article Number 6413 of Disciplinary Law of Turkish Military [18].

Military Administrative Justice is ruled by High Military Administrative Courts to conduct any military related issues including administration. High Military Administrative Courts work as 'Courts of Last Resort' and 'Courts of First Instance' [19].

As the final Superior Court, Court of Jurisdictional Disputes has the authority to resolve the conflict between judicial jurisdiction, administrative jurisdiction and military jurisdiction as defined by Article #158 in Constitution of Turkey. However, in any conflict between Constitutional Court and other courts, determination of Constitutional Court supersedes the others [20].

2.2 Regulations Dominating Turkish Construction Industry

In Turkey, Law is segregated into Public and Private Law as depicted in Table 2.2 below [16].

Table 2.2 Branches of Turkish Law

Public Law
A. Public International Law
B. Constitutional Law
C. Administrative Law
D. Tax Law
E. Criminal Law
F. Law of Criminal Procedure
Private Law
A. Civil Law
1. Law of Persons
2. Family Law
3. Law of Inheritance
B. Law of Obligation
C. Commercial Law
1. Law of Commercial Enterprise
2. Company Law
3. Law of Commercial Papers
4. Insurance Law
5. Maritime Law
D. Private International Law
1. Nationality Law
2. Law on Legal Status of Aliens
3. Conflict of Law

Table 2.2 (cont'd)

4. Law of International Civil Procedure
E. Labour Law
1. Individual Labour Law
2. Collective Labour Law
3. Social Security Law
F. Law of Civil Procedure
G. Debt Enforcement and Bankruptcy Law

Law of Obligation which is part of Private Law is the main law regulating the dispute in Turkish Construction Industry. The first Turkish Law of Obligations transferred from Swiss Code of Civil Law came into force on 22nd April 1926 with a law number 818 in Turkey. The second and the final update was released on 11th January 2011 with a law number 6098 and put into practice on 1st July 2012. [16]. Turkish Law of Obligations regulating debit and credit between people is an integral part of Civil Law. However, due to having enormous contents of Obligation Code, it is regarded as a separate Law in Turkey [16]. Obligation Code contains 18 parts and defines the debtor-creditor relationship along with related contract types as illustrated in Table 2.3 below [21].

Table 2.3 Content of Obligation Code

Part	Obligation Code	Articles
Part 1	General Conditions	1 - 82
Part 2	Conditions with respect to Debtor-Creditor Relationship	83 - 130
Part 3	Ending the Debtor-Creditor Relationship and Extension of Time	131 - 161
Part 4	Special Conditions for Debtor-Creditor Relationship	162 - 182
Part 5	Changing the Side of Debtor-Creditor Relationship	183 - 392
Part 6	Service Contracts	393 - 469
Part 7	Contract of Work	470 - 486
Part 8	Publication Contract	487 - 501
Part 9	Deputation Relationship	502 - 525
Part 10	Work without Deputation	526 - 531
Part 11	Commission Contract	532 - 546
Part 12	Mercantile Agent, Mercantile Representative, Other Tradesman	547 - 554
Part 13	Money Order	555 - 560

Table 2.3 (cont'd)

Part 14	Safekeeping Contract	561 - 580
Part 15	Bailment Contract	581 - 603
Part 16	Gambling and Betting	604 - 606
Part 17	Contract of Lifetime Income and Nursing until Death	607 - 619
Part 18	Ordinary Partnership Contract	620 - 649

'Contract of Work', which takes place in part 7 above, is the main part of 'Obligation Code' regulating construction related disputes. Considering the content of a dispute in construction industry, judges mostly associate the cases with 'Contract of Work'. It is defined with the articles starting from 470 to 486 under Chapter 5 of 'Turkish Law of Obligations' and its content is illustrated in Table 2.4 below. It presents both the previous Obligation Law number 818 and the current Obligation Law number 6098 in terms of article number and in the following parts of the study, the data is presented by making use of both of article numbers.

Table 2.4 Content of Contract of Work

Obligation Code Contract of Work Part 7		
Article Numbers of Contract of Work		Description
# 6098 After 01.07.12	# 818 Before 01.07.12	
A		DEFINITION
470	355	Contract
B		ARTICLES
I		CONTRACTOR LIABILITIES
1-471	356	General responsibilities of contractor
2-472	357	Material
3-473	358	Commencement of work and defect in execution
4		RESPONSIBILITIES IN CASE OF DEFECT
4-a-474	359	Indication of defect of work by Client after handing over

Table 2.4 (cont'd)

4-b-475	360	Client rights resulted from defects of work
4-c-476	361	Defects caused by client and warned by contractor
4-d-477	362	Acceptance of work
4-e-478	363	Time limit of opening a case due to defects of work
II		PAYMENT BY CLIENT
1-479	364	Due date of payment
2		PRICE
2-a-480	365	Lump sum price
2-b-481	366	Price as per value (Unit measure and Cost plus fee)
C		CANCELLING THE CONTRACT
1-482	367	Cancelling the contract due to exceeding the bidding
2-483	368	Destruction of work before completion
3-484	369	Cancelling the contract through paying completed work
4-485	370	Time and cost claim in case of client defects
5-486	371	Cancelling the contract du to death and loss of contractor

Project contract rules the debtor and creditor relationship between the project parties. Validity of a contract is not tied by any form of the contract unless otherwise specified by the law according to 'Freedom of Form Principle' which is defined by the articles 12-17 of Obligation Code. Therefore, parties have the right to include any agreement in any form as long as it does not conflict with the law. If the contract of a construction project enforced to be set in written or official form by the law is prepared in a different form, the contract is not accepted by the law and doesn't tie the parties. For instance, 'Contract of Flat In Return For Land' shall be official and prepared through notary [22] [23].

After the completion of contractual issues, the contractor is responsible for the defects of the product for 2 years for the movable assets, 5 years for the immovable assets and 20 years for the immovable assets containing a big defect according to the articles 147 and 478. This warranty period cannot be changed by any contract according to article 148. This period is commenced after the product is handled over to the client as defined by article 149 of Turkish Law of Obligations.

If the claimant's loss is higher than the amount decided by the court, the claimant shall prove the loss as defined by the article 180 of Turkish Law of Obligations. Although the

cost resulting from the change in scope and disruption is calculable, their effects on the time require sophisticated analysing methods such as Impacted As Planned vs As Build Analysis, Impacted As Planned Analysis, Time Impact Analysis/Windows Analysis, Collapsed As Build Analysis as defined by SCL (2004). These analyses are based on critical path method which is proposed to be used in a project administered by International Federation of Consulting Engineers (FIDIC) contract in case of the occurrence of claims related to the extension of time [24]. Despite the difficulties in the calculation of delays in completion of the projects, these methods are unfortunately not mainly used throughout the dispute resolution process in Turkey.

2.3 Actors of General Jurisdiction in Turkey

There are many actors contributing to litigation process. Significances are defined as follows;

Defendant: The party sued in a case.

Claimant: The party suing in a case.

Judge: A public official being in charge of deciding the right or wrong side of the hearing in a court is called as judge. The following main qualifications of being a judge are defined by law [25]; Candidates who are lawyers shall have minimum 3 years of experience, pass the written exam and the interview and not be over 45 years old as of 1st January of the year of exam. Judge shall graduate from law faculty for judicial or administrative justice. Additionally, for administrative justice, on condition of not exceeding 20% of recruitments for each term, candidates who graduated from departments containing adequate law education can also apply for the position of judges.

Prosecutor: Prosecutor is a person who investigates the offence on behalf of government in order to submit his/her dictum to the court. Prosecutors work for Ministry of Justice. Regulations ruling the appointment of the prosecutor are the same for the trial judges as defined above.

Lawyer: A person who defends the defendant or claimant in a court. With respect to qualifications to work as a lawyer in Turkey, one year internship is to be completed after graduation from law faculty, and Bar Association is to be enrolled respectively [26];

Expert Witness: A person who is an expert or has a technical knowledge to clear up a specific subject for a court via his/her reports. The regulation of Expert Witness was released on 3rd August 2017 through Official Gazette [27]. To be an expert witness, the following qualifications shall be abided by;

- The course of expert witness is given to a candidate who has five years of professional seniority. The course constitutes three main subject areas which are fundamental, theoretical and practical.
- Fundamental course consists of minimum 18 hours of theoretical and 6 hours of practical training.
- Theoretical course contains general principles of jurisdiction, provisions of the legislation of expert witness, qualifications of expert witness, obligations and authorization of expert witness, ethical principles, procedures and principles of proofing, procedures and principles of inspection, principles and procedures regarding the separation of technical and legal subjects, technics of writing a report etc.
- Practical Course contains Expert Witness Portal, Conducting a case study to improve the attendee's ability of systematic technic implication concerning the preparation of an individual or a group report,
- Expert witnesses shall take minimum 6 hours training course for every three years in order to renew their licences.

Arbitrator: A person who rules the case of arbitration. Arbitrator is an impartial third party to release a determination. Arbitrator's name is either defined in the contract or appointed by the parties afterwards. Arbitrator has a technical knowledge with respect to dispute and arbitral processes. This voluntary procedure should be set via a written arbitration agreement at the outset of the project.

Mediator: A person who rules the case of mediation. The mediator discusses with the concerned parties in order to conclude with a settlement. To be a mediator in Turkey the following qualifications are required; minimum 5 years of experience as a legist, completing the mediation training and succeeding in the written exam made by Ministry [28].

Conciliator: A person who rules the case of conciliation. A conciliator appointed by solicitor conciliates the defendants and claimers. To be a conciliator, certification of conciliation is required. Legislation ruling the qualifications of conciliator is defined by the Official Gazette dated on 5th August 2017 [29].

Adjudicator: A person who rules the case of adjudication. Adjudicator is an impartial third party to resolve a dispute. Adjudication process is not regulated by the law in Turkey.

Witness: A person who witnesses in the court for a dispute event.

CHAPTER 3

DISPUTE RESOLUTION IN CONSTRUCTION

3.1 Dispute Resolution Process in Construction Industry

Projects are unique and different in nature. Therefore, it is expected that dispute reasons and amounts of incurred cost stemming from construction contracts may vary from project to project. A dispute is evaluated according to the contract and the fact in order to be resolved. Therefore, existence of experienced professionals and expert witnesses to evaluate and in terms of the contracts and the facts are vital for appropriate determinations to resolve disputes. In addition to utilizing experienced professionals in dispute resolution process, choosing an appropriate dispute resolution method is essential for the success of the process. To adopt the best method fitting to the case, various factors shall be taken into consideration including relationships, cost, time, contract, legality, technicality, stakeholder, finance, politics etc. The most preferable dispute resolution process is litigation for the construction industry in Turkey due to lack of knowledge of the other dispute resolution methods [30]. In Turkey, most of the construction contracts refer directly to litigation in case of disputes. If a dispute resolution fails via negotiation, parties apply directly to judicial resolution methods [30]. Despite long and expensive nature of litigation process, most of the contracts in construction directly refer to courts for any dispute event. To serve the purpose of the study, litigation method is deeply elaborated with the help of literature review under this section. Additionally, other resolution methods are also reviewed in order to have a holistic point of view for the dispute resolution processes.

Litigation process is mostly time and cost consuming for the project stakeholders [31]. Moreover, litigation process is open to public and this effects the reputation of the parties negatively. Furthermore, litigation process may disrupt the concerned trading

and/or relationship between the parties. Therefore, difficulties and complexities resulting from litigation have encouraged the quick growth of ADR methods. Various ADR are introduced to avoid lengthy and expensive neutral methods such as mock-trial, adjudication, conciliation, mediation, DRB, expert determination and negotiation. Most of these resolution methods are used in different parts of the world. However, methods of adjudication, mock-trial and DRB are not commonly conducted in Turkey, unless otherwise specified in the contract. Conciliation is mainly used for the criminal cases in Turkey [32]. In order to elaborate dispute methods systematically, each method is grouped under JDR and ADR methods as depicted in Figure 3.1 below.

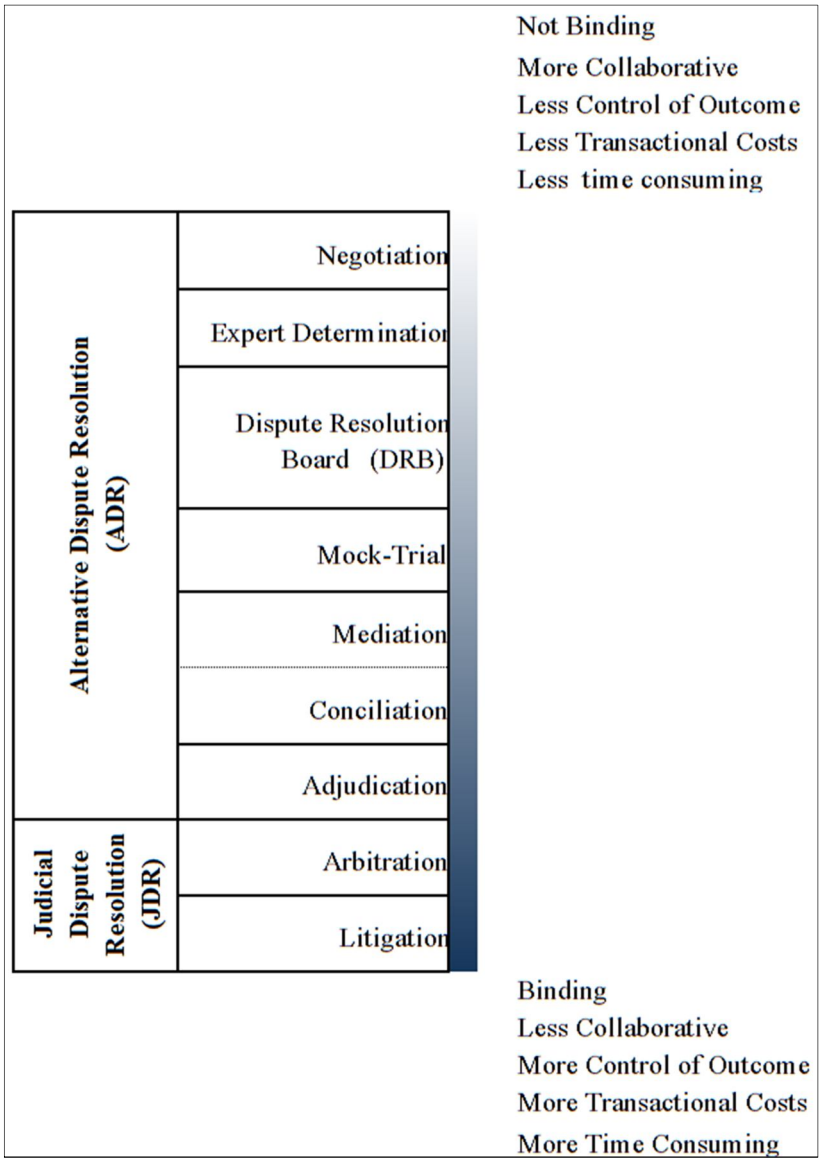


Figure 3.1 Effects of dispute resolution methods

According to Figure 3.1, while level of binding, control of outcome, transactional cost and time consumption get higher as moved to litigation which is called as trial and court proceeding as well, level of collaboration lowers. When getting away from litigation, all the mentioned characteristics of a process change to vice versa.

3.1.1 Judicial Dispute Resolution Methods (JDR)

3.1.1.1 Litigation

Litigation is one of the most common processes to resolve the disputes in construction industry in the world. This process is conducted by a judge and provides binding decision. However, it is often relatively slow and an expensive process compared to other dispute resolution methods [33]. At the end of the process, business relationship and trading between parties can be deteriorated.

Concerning litigation process in Turkey, İlter [30, p. 589] states that "*In most disputes, parties try negotiation and if this is not successful, dispute is taken to arbitration or litigation right away.*" After this long process, determination is binding for the parties, if the claimer and defendant accept the decision. If one of the parties is not satisfied with the award of the Court of First Instance, claimer can apply to Regional Court of Justice or Court of Cassation for appeal. Then the process is prolonged again. In order to apply to Regional Court of Justice for an appeal, following regulations shall be obeyed [34];

- The amount of claim is to be higher than 3.110 TL as of 01.01.2017 excluding libel suit. Libel suit doesn't require a limit according to Article 341/2 of Law of Civil Procedure,
- A petition is to be submitted to the concerned Court of First Instance within two weeks after the award.

Regional Court of Justice makes one of the following decisions after reviewing the determination made by Courts of First Instance [16], [34];

- If determination given by Court of First Instance conflicts with the laws and/or procedures, Regional Court of Justice revokes the award given by the Court of First Instance and asks reassessment to the concerned Courts of First Instance according to Article 353/a of Law of Civil Procedure.

- If the Regional Court of Justice accepts the award given by Courts of First Instance, application of appeal is rejected according to Article 353/b/1 of Law of Civil Procedure.
- Regional Court makes a decision without opening a new case according to Article 353/b/2 of Law of Civil Procedure as long as the procedure of judgment conducted by Court of First Instance is correct but following defects are detected; If there is a mistake made by Court of First Instance with respect to associating the law with the case, and this doesn't require reassessment, or if there is a mistake related to the reason of determination made by Court of First Instance.
- If Regional Court of Justice finds shortcomings which don't require new hearing to complete, Regional Court of Justice makes a decision after completion of shortcomings according to Article 353/b/3 of Law of Civil Procedure.
- In the other circumstances, Regional Court of Justice conducts a new hearing with respect to dispute.

If the claimant or defendant is not satisfied with the determination of Regional Court of Justice and amount of claim is higher than 41.530 TL as of 01st January 2017, claimer can apply to Court of Cassation.

If the claimant believes that the determination of the case conflicts with the law, then the claimant can apply to Court of Cassation for appeal with a petition. Concerned Civil Chamber in the Court of Cassation makes one of the following determinations below [16], [34];

- If the Civil Chamber in the Court of Cassation agrees with the award given by the Courts of First Instance, the award is accepted.
- If the Civil Chamber disagrees with the award given by the Courts of First Instance and asks reassessment, the Court of First Instance either accepts the reassessment or rejects the decision of reassessment. If the Court of First Instance approves the award of Civil Chamber, the case is opened again and the determination is changed as per law. If the decision of reassessment is rejected by the Court of First Instance, unsatisfied party of the case can carry the case to General Assembly of Civil Chamber in the Court of Cassation to give the final determination.

3.1.1.2 Arbitration

Arbitration is a voluntary procedure and it is an alternative method to the litigation to settle the matter out of the court. This process involves arbitrators as impartial outsiders appointed by the parties or a person named in the contract. Arbitrator has a technical knowledge with respect to dispute and arbitral processes. Arbitration is set as a part of main contract or as a different contract. Parties have right to structure this agreement to resolve the desired issues. This voluntary procedure should be set through a written arbitration agreement at the outset of the project. Without this agreement arbitration is not considered. Arbitration provides resolution with less time and cost compared to litigation through impartial tribunal [35]. Arbitration is a confidential and relatively quick and flexible process compared to litigation. However, costs can be similar to litigation. Arbitration cost is provided by the concerned parties. In order to give a final decision, arbitrators evaluate the disputes with the help of event related videos, photographs, expert testimonies, documentations, schedules; as-planned or original schedule, as-built schedule, modified as-built schedule and adjusted schedule [36].

Legislation with respect to arbitration was released via Code of Civil Procedure with a law number 6100 dated on 12th January 2011 in Turkey [34]. In addition to this, a legislation named Law of İstanbul Arbitration Centre (ISTAC) released on 20th November 2014 through law number 6570 entered into force on 1st January 2015 [37]. This law regulates the activities of ISTAC in order to resolve disputes through arbitration and other concerned ADR methods. Istanbul Arbitration Centre conducts the dispute resolution processes as a neutral institution providing efficient dispute resolutions through arbitration and mitigation. While ISTAC conducts the arbitrations for both international and domestic parties, mitigation is conducted for only domestic parties by ISTAC [38]. The regulations with respect to Arbitration and Mediation were established by Istanbul Arbitration Centre on 26th October 2015. The determinations of arbitrations through ISTAC are binding for the concerned parties.

To initiate an arbitration process, claimant can apply to secretariat of ISTAC. Then, the Secretariat notifies this application to the concerned parties. The number of arbitrators can be decided by the mutual agreement of the parties. Odd number of arbitrators shall be chosen including one. If there is no mutual agreement, one or three arbitrators are appointed by the arbitration tribunal. If there is one arbitrator and there is no mutual agreement within 30 days after the notification of arbitration, the board of arbitration

appoints an arbitrator on behalf of the parties. If the process is conducted by an arbitration tribunal, each party should appoint an arbitrator. If a party fails to appoint an arbitrator, the board appoints the arbitrator on behalf of this party. Unless otherwise specified, these two arbitrators appoint a third arbitrator within 15 days after their appointment. Otherwise, the board appoints the third arbitrator on behalf of them. If one of the sides of the claimant or defendant is more than one person and there is a disagreement between the people in the party, the board appoints an arbitrator on behalf of the party having disagreement. The third arbitrator moderates the arbitration tribunal. The process with respect to arbitration process is depicted in the Figure 3.2 below.

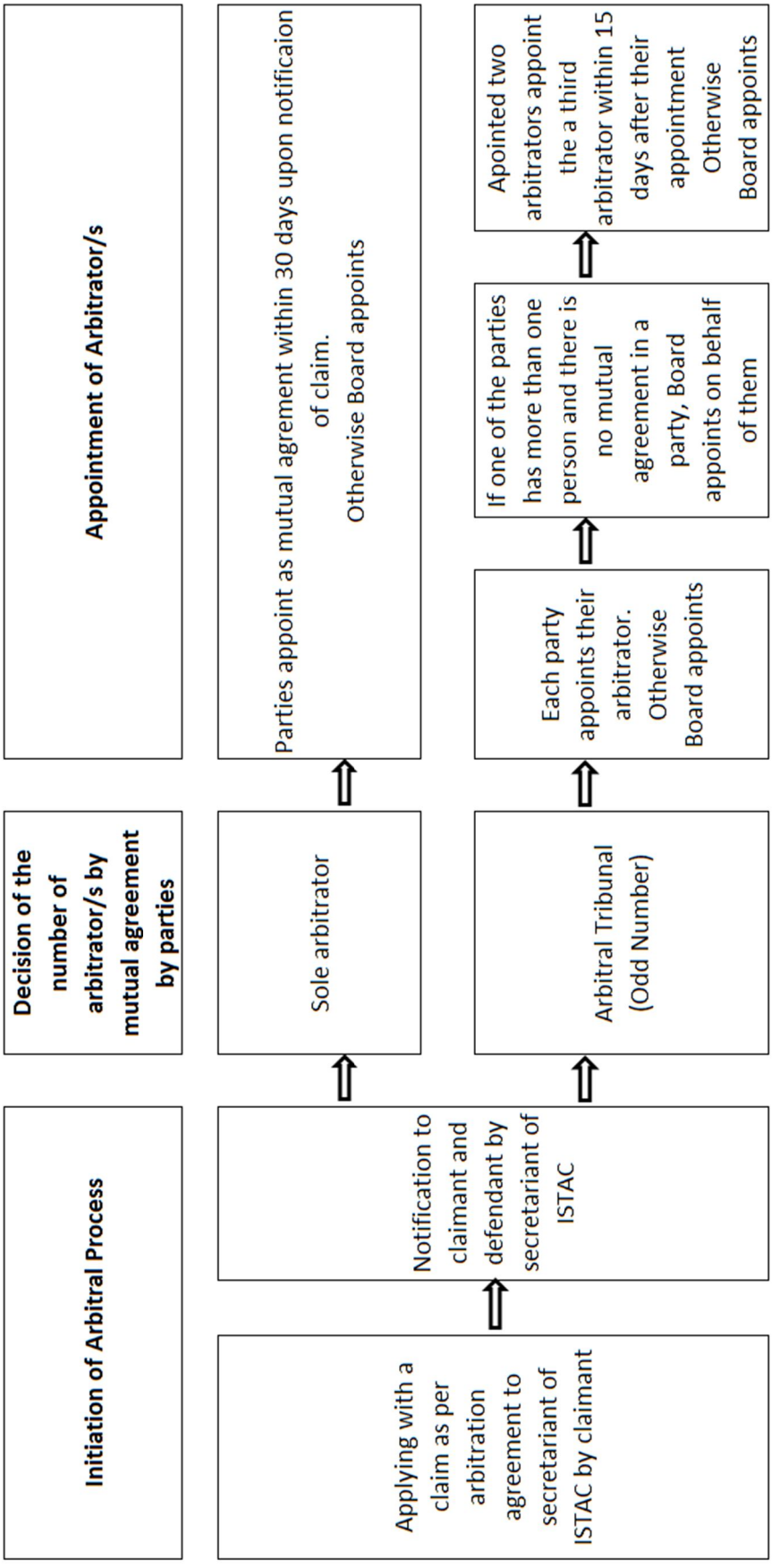


Figure 3.2 ISTAC arbitration process

With respect to location of the arbitration, unless otherwise specified, arbitration is conducted in Istanbul; otherwise, it can be conducted in a place according to mutual agreement of the parties [38]. Sole arbitrator or arbitration tribunal can organize a hearing to listen to witnesses, experts or any other related person upon the request of a party. Without any approval of the all concerned parties, unrelated people are not allowed to be in the hearing. After the conclusion of the hearing, new evidences or new claims are not allowed to be presented in the arbitration as long as it is not allowed by the sole arbitrator or arbitral tribunal. Arbitrators' decisions bind the all concerned parties.

3.1.2 Alternative Dispute Resolution Methods (ADR)

3.1.2.1 Adjudication

Adjudication is an ADR method containing impartial third party. In order to resolve the dispute encountered in a project with the help of an adjudication process, the process shall be defined in the contract. Compared to arbitration and litigation, it takes much shorter time and requires less cost due to faster hearing. The successful party can apply to the court to enforce the decision made by the adjudicator. Unless the decision of adjudicator is enforced by court, process remains confidential and private. Due to nature of adjudication, there are no strict rules and procedures binding the concerned parties during the process of adjudication. At the end of the process, conciliator typically issues a non-binding recommendation in order to endeavour to resolve the dispute [39]. In other words, decisions are made mostly based on win lose scenario. Therefore, it may not satisfy the both parties at the same time and this may destroy the relationships between the parties.

Unless otherwise specified in the contract, adjudication process is not directly tied by the regulation in Turkey. However, if a contract considers the adjudication process such as FIDIC contracts made in a project in Turkey, parties shall obey the articles defined in the contract. According to FIDIC [40, p. 2], the term of adjudication is used as Dispute Adjudication Board (DAB) defining *"DAB which means the person or three persons so named in the Contract, or other person(s) appointed under Sub-Clause 20.2 [Appointment of the Dispute Adjudication Board] or Sub-Clause 20.3 [Failure to Agree Dispute Adjudication Board]*." According to Clause #20.0 regulating the appointment of

the DAB in the FIDIC, DAB shall be jointly appointed by the parties by the date stated in the Tender Documents [40, pp. 59-60]. The board constitutes either one or 3 adjudicators. If the number of persons in the DAB is not stated in the contract and the parties don't agree on the number, DAB constitutes 3 persons. If the number of adjudicators is considered as 3, each party nominates his/her person and receives the other party's approval. Then, the third person is appointed by the joint agreement of the concerned parties. The third arbitrator acts as a chairman. Determination of litigation and arbitration supersede the determination of DAB.

3.1.2.2 Mediation

The Law on Mediation was released through the law number 6325 on 22nd June 2012 and entered into force on 22nd June 2013 in Turkey [41]. According to Article 2 of the Law, mediation method is a voluntary dispute resolution process and conducted by a mediator who is an impartial and independent third party. The mediator gets training for convincing the concerned parties by applying systematic techniques. The mediator holds discussions and negotiations between the concerned parties in order to enable them to understand each other. Mediation process is relatively quiet, quick and cost saving process compared to JDR and Adjudication. Average length of mediation resolution process is depicted in Figure 3.3 below.

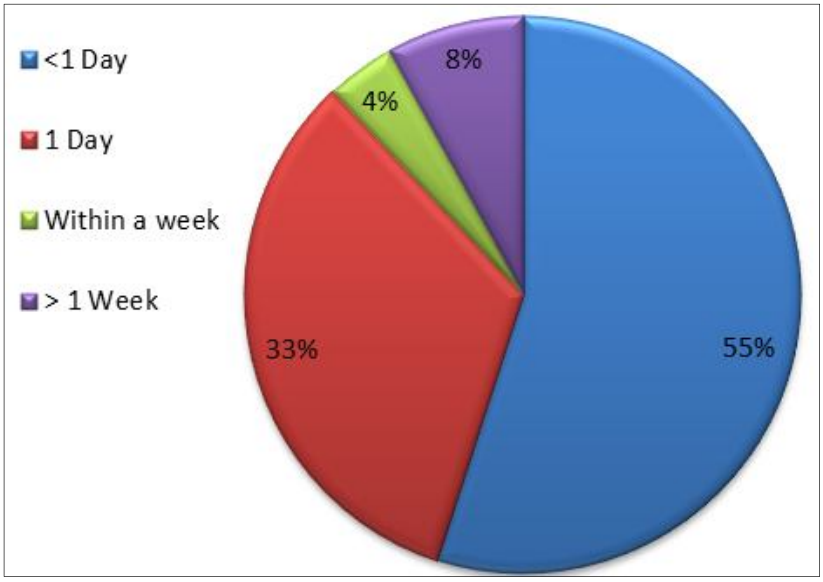


Figure 3.3 Length of mediation resolution [42]

According to Figure 5, mediation process mostly takes less than a day by 55%. Besides, since the mediation process is confidential, relationship between the parties is not deteriorated. Although it is a time saving process, only three disputes concerning Contract of Work were resolved by mediation process as of end of 2017 in Turkey [28].

ISTAC provides service with respect to mediation. In order to resolve the dispute through mediation of ISTAC, there should be an agreement referring to mediation rules. Even if the process of mediation is not stated in a contract, parties willingly initiate mediation process afterwards in accordance with mediation rules. The claimant shall apply to secretariat in line with the rules defined in ISTAC mediation rules. With respect to the appointment of a mediator, the mediator should be a person or persons assigned according to mutual agreement of the parties. Otherwise, ISTAC appoints the mediator on behalf of the parties. A mediator should be enrolled to the mediation registry of Ministry of Justice. Mediation process only conducts the cases concerning national subjects. Unless otherwise specified, the board of ISTAC considers appointing one mediator. The mediator shall be a lawyer in Turkey. Therefore, just like in the cases encountered in construction projects, interpretation of cases requiring specialized knowledge is difficult. This issue is highlighted and recommended by Dost [43, p. 474] that prerequisite of mediator as a lawyer should be revoked in Turkey.

3.1.2.3 Conciliation

Conciliation is an ADR method conducted by an impartial party appointed by concerned court. Conciliation is similar to mediation; but, releases non-binding recommendations at the end of the process [39]. This process is not mainly applied as a dispute resolution method in construction industry in Turkey. It is a dispute resolution method for the criminal cases in Turkey and it is a process very similar to mediation process in Turkey. Conciliation process is regulated by articles 253, 254, 255 entering into force on 17th December 2014 [29], [32]. After an offence is committed, a conciliator is appointed to the case to investigate in order to provide his/her consideration to the court. If the case is eligible for conciliation to be resolved, conciliator who conducts the conciliation process is appointed to the cases by the concerned solicitor. Conciliator shall resolve the dispute within 30 days and this period can be suspended to maximum 20 more days [29].

3.1.2.4 Mock Trial

Mock-trial is a voluntary procedure of ADR method. Mock Trial is known as Mini-Trial, Private Judging or Summary Jury Trial in the world. This process is not referred in Turkish Law. Unless otherwise defined in the contract, it is not an obliged procedure. Mock-trail uses elements of negotiation as well as litigation. In mock-trial, an impartial person who can be a retired judge conducts the hearing along with the representatives of each party (Lawyers, witnesses and any other relevant people). These meetings generally take place outside of the courtroom. At the mock-trial, lawyers present indictments of their representatives to the panel members. This method might be useful for the cases which haven't been able to be settled via negotiation. This process is like litigation process but conducted in order to predict the determination of the cases before the litigation process. Cases that would take years can be resolved via mock trial in a few days. Therefore, process of mock trial is less expensive and time consuming compared litigation. Additionally, this process may save the business relationships as well as continuity of concerned projects. The process is not binding for the parties; but, findings obtained from the mock trial can be presented in other resolution methods including litigation.

3.1.2.5 Dispute Resolution Board (DRB)

DRB is a voluntary procedure of ADR method. DRB is known as Dispute Review Boards and Dispute Avoidance Boards in the world. This process is not stated in Turkish Law. Unless otherwise defined in the contract, it is not an enforced procedure. The board members are appointed at the outset of the project and should be referred in the contract. The member of board is required to have relevant experience about the project and have adequate knowledge of contractual issues. DRB contains members from both parties. Primary role of this board is to help the parties to avoid dispute through communication during the course of the projects [44]. Despite all attempts of DRB, if dispute arises, this board assists the project parties in resolving disagreements occurred during the course of the project. At the end of the process, it makes recommendations with respect to disputes according to fact and the project contract. It is a very effective and formal way compared to negotiation. Additionally, comparing to other JDR methods, it is a more time and cost effective method. The evaluation and determination of the DRB can also be used in the other dispute resolution methods.

3.1.2.6 Expert Determination

Expert determination is one of the voluntary ADR methods in which an impartial expert in the subject of dispute is appointed by the project parties mutually [45]. Unless otherwise defined in the contract, it is not a compulsory procedure. This process is not stated in Turkish Law and recommended by any institution in Turkey. In this process, parties can consult the dispute subjects to an expert to get an expert judgment. This expert should have experience with respect to the area of the dispute subjects. If the provided report by the expert does not resolve the dispute, it can also be used in any dispute resolution method in the future as evidence. This process is cost and time effective process compared to the other dispute resolution methods except negotiation. Additionally, since this process is confidential, business relationships are protected.

3.1.2.7 Negotiation

Negotiation in ADR is the most preferable method in which concerned parties discuss the dispute directly in order to resolve the dispute before relying on a neutral decision of a third party. Sanghera [46] states that "*Communication is the most important aspect of a project and the most important skill for a project manager to have."* Negotiation fed by effective communication is generally the first attempt to dispute resolution due to being a relatively fast and inexpensive method compared to other methods. Additionally, after the resolution of dispute through negotiation, the existing relationship of the concerned parties is kept going on. However, parties want to get winning situation at the end of the bargain. If the parties have approximately equal power on each other, win-win scenario may occur. However, if a party has power on the other party, the party having power tends to force to win. For instance, Porter [47] emphasizes the power of supplier and power of customer in the study of "Porters Five Forces". In this study, the supplier has power on customer in the following situation; uniqueness of the supplier's product, having no substitution of supplier or difficulties in switching the supplier. On the other hand, if the customer is not dependent on the supplier's existing channels of distribution, customer has power on suppliers in negotiation phase. In this case, the supplier chooses to be the losing party in advance of negotiation in order to sustain their business relationship. As exemplified, in Turkey, mostly clients have power on the contractors. Similarly, contractors mostly have power on the subcontractors. Therefore, contracts mostly are initiated in support of

organizations that have power in Turkey. These kinds of contracts result in disputes to be resolved by litigation in Turkey.

3.2 Literature Review in Construction Disputes

The need to meet the supply and demand of the world after the end of World War II triggered the potential of the rapid growth for some countries. As a sign of development, construction projects have begun to increase as well as production [48]. The increase in construction projects inevitably led to an increase in the amounts of disputes [48]. Therefore, necessary measurements have been sought in order to prevent the projects and parties from the losses in terms of time and cost caused by disputes [31]. In this context, one of the earliest remarkable studies was made by Diekmann [49] in 1985 through investigating severity and frequency of claims concerning construction to determine dispute sources. Since then, many researchers have contributed to the recognition of dispute sources by investigating the disputes in different projects in different countries in order to eliminate the disputes in the construction projects. Correspondingly, researchers have turned towards on how to resolve the disputes which increased in number and to seek alternative dispute resolution methods. Studies concerning this subject accelerated after 1980th. One of the earliest and remarkable studies investigating dispute resolution methods was made by Posner R. A. [50] in 1986. Since then, successive studies in this field have been made and contributed to literature by determining the strong and weak sides of the dispute resolution methods as well as offering some alternative dispute resolution methods. In addition to this, efficiencies and effectiveness of dispute resolution methods in different contexts have been studied by the researchers. Furthermore, some algorithms for predicting the results of the litigation process have been developed and studied in different perspectives.

Before the overview of dispute resolution methods which are studied by researchers in different aspects, it is crucial to concentrate on the studies aiming to detect the sources of disputes. In 2016, Irlayıcı Çakmak [51] aimed to detect dispute causes; hence, investigated 166 cases obtained from Supreme Technical Board of Ministry of Environment and Urban Planning in Turkey. The cases covered ten years period from 2005 to 2015, and seven main general dispute categories were figured out namely, unit prices by almost 22%, delays and extension of time by almost 21%, contractual matters by almost 17%, variations by almost 15%, contract documents by almost 11%,

payments by almost 10%, and other types of disputes by 6%. Furthermore, she elaborated each dispute category to figure out the related causes of disputes extensively. With respect to unit prices category, the main causes of disputes were identified as follows; determination of a new unit price, scope of the unit price, and revised unit price. Regarding the delays and extension of time, number of days behind programmed, claim of time extensions and liquidated damages were detected as the main causes. Contractual issues like scope of the contract, unclear terms in contract and inadequate contract drafting were also emphasised related to the third biggest dispute category. Remaining dispute categorises cover the following issues; project revisions, changes in the work, unforeseen scope changes, differences between project design and contract documents, contradictory and error of information in the contract documents, plans and specifications that contain errors and payment. This study contributes to literature by diagnosing the frequency of dispute causes in order to help prevent the occurrence of future disputes in the projects.

Additionally, İlter [52] aimed to develop comprehensive lists with respect to dispute factors and categories. To achieve this goal, along with extensive literature review, 50 construction projects having contract amounts over one million USD in Turkey were examined via surveying method and interviews with the Project Managers. She identified extension of time as the most frequently observed dispute category with the frequency of 3.16 concerning minimum 1 and maximum 5. Payments with the frequency of 2.76 and quality of works with the frequency of 2.36 were detected as the other main dispute categories. With regard to dispute factors, variations with the frequency of 2.94 over 5 followed by late instructions by the employers by 2.76, inadequate/incomplete specifications by 2.66 and unclear contractual terms by 2.58 were detected as four most frequent dispute factors. She also added value to this area by detecting the dispute categories with their frequencies in order to reduce potential disputes in projects.

To detect the most frequent dispute sources in international projects in China, Chan and Suen [53] gathered some data through face to face interviews with 40 participants. They segregated the sources of disputes into three main categories namely, contractual matters, cultural matters and legal matters respectively. The most significant sources of disputes with respect to contractual matters were payment by nearly 90%, variations by almost 80%, extension of time and quality of works by nearly 75%. With respect to

dispute category concerning cultural matter, unfamiliarity in local conditions was spotted as the main dispute source by about 60%. Lack of knowledge of local legal system, conflict of laws and jurisdictional problems were presented as the main dispute sources, by almost 10% each, under the category of legal matters. They took the matter of dispute on a different perspective by defining both dispute types and dispute categories.

Also, Love et al. [54] aimed to identify the origin of disputes in construction projects in Australia to help reduce the occurrence rates of disputes. To achieve this, they made use of data collected from dispute cases conducted between 1998 and 2007 in Western Australia and focus groups interviews with clients and contracting organisations. With respect to the interviews with the focus groups, one of the major dispute causes was detected as payment resulting from quality problems, scope changes, ambiguities in contracts and insufficient contract documentations. Additionally, of the overall claims, payment issue constitutes 75% of subcontractors', 13 % of contractors', 7 % of consultants', and 7 % of suppliers' claims. Furthermore, poor planning, resourcing, practice and documentation were detected as major contributing pathogens. Competitive tendering process was also set out as one of the major dispute causes due to price which is a primary factor for the selection of contractors and subcontractors. Love et al. [54] also figured out that majority of disputes concerning construction were settled using alternative dispute resolution methods in Australia and litigation method was eschewed by the construction firms due to needs of resourcing and emotional effort which are essential to reach a resolution. Of the disputes resolved by litigation process, disputes between contractors and their employers constitute the biggest portion of the cases.

By analysing the overall factors contributing to the occurrence of disputes, Jaffar et al. [55] aimed to overview the factors of disputes in construction industry. They gathered the data through extensive literature review. They categorized the previous studies' contents as per dispute factors and segregated these factors into three main areas namely, behavioural problems, contractual problems and technical problems. Their investigation on dispute matter attracts the attention of the researchers to take necessary precautions for the aforementioned dispute categories in advance.

With respect to dispute sources, dispute categories and their occurrence rates, findings obtained from the studies vary. It is inferred from the studies that there is no 'one size fitting all' approach in this matter. Case-based reasoning with respect to classifications

of disputes may provide optimal solutions for concerned projects. Therefore, in this study, after reviewing the cases conducted by Courts of Cassation in Turkey, necessary categorisations are aimed to be defined correspondingly.

3.2.1 Studies in terms of Dispute Resolution Methods

Choosing an appropriate dispute resolution method in a construction project is vital for the project in terms of time and cost [56]. While a specific method works properly to resolve dispute under specific circumstances, it may not be effective for the others. In addition, wrong selection of a dispute resolution method may cause dissatisfaction of the concerned parties. Studies with respect to litigation process made my various researchers reveal that litigation is an expensive and time consuming process compared to other dispute resolution methods [57], [58] , [59], [60], [61], [62], [63], [64] as well as having disturbance effect on the business relationships. These negative effects of litigation have sky rocketed the studies with regards to other dispute resolution methods. A number of studies were conducted about the effectiveness of dispute resolution methods with different aspects in different environments. With respect to JDR methods, arbitration is found as time and cost effective method compared to litigation and therefore, it is believed to increase the value of other dispute resolution method [61]. By the same token, Besaiso et al. [65] express the arbitration process as following;

> It seems that arbitration will stay at the forefront of dispute resolution techniques. This is not because arbitration is not without limitations, but because of the absence of any real competition from any other dispute resolution mechanism. Although court litigation appears to be a hard option to swallow, adjudication is considerably ignored and almost nonexistent. Mediation or conciliation also has many more sociocultural challenges. Therefore construction arbitration is expected to continue gaining new territories (p. 9).

Arbitration is neither fully formal like litigation nor fully informal like mediation [66]. In mediation, instead of strict legal issues like in litigation, the parties are encouraged to look for alternatives and find solutions through compromising. Numerous researchers have focused on dispute resolution processes and contributed to the evolvement of dispute resolution methods. Therefore, under this chapter, the most relevant

contributions to both ADR and JDR methods made by researches are demonstrated as followings;

Chong and Zin [8] aimed to discover the factors needed to be considered for the selection of dispute resolution methods concerning construction industry in Malaysia. To do this, interviews and questionnaires were conducted with the local professionals experienced in contract administration and dispute resolution processes concerning construction. According to this study, negotiation and mediation were the most preferred ADR options to resolve dispute events; nevertheless, the appreciations with respect to outcomes of ADR were detected as very little. Adjudication was not popular with the construction industry in Malaysia compared to other ADR methods. Arbitration and litigation were mainly adopted as JDR methods due to being well recognitions in the industry. Additionally, seven latent factors were revealed contributing to selection criteria of dispute resolution methods. These are; process of ADR with the rating of 3.7 over 5, effect of proceedings with 3.7, reliable decision with 3.7, expert ruling with 3.6, informal method of proceedings with 3.6, traditional approach of proceedings with 3.6 and outcome of ADR with 3.5. It can be concluded that the methods of ADR were the main selection criteria for dispute resolutions due to their recognitions. On the other hand, the outcomes of ADR processes were not major concerns for selection of dispute resolution methods due to their unpredictability.

A variety of models were developed to predict the outcomes of litigation process. To start with, Pulket and Arditi [58] developed a Universal Prediction Model (UPM) in order to predict the outcome of litigation process concerning construction. The code of program was developed via Waikato Environment for Knowledge Analysis (WEKA) and contains consolidation of data, selection of attribute, hybrid classification and performance assessment. Additionally, with respect to prediction of outcome of the litigation process, various models were also developed by researchers in different studies via Artificial Neural Network (ANN) with a prediction rate of 66.67% [67], Case Based Reasoning (CBR) with a prediction rate of 83.33% [68] and the Boosted Decision Trees (BDT) study with a prediction rate of 89.59% [69].

A dispute resolution selection model based on an analytical hierarchy process and multi-attribute utility technique (MAUT) was presented by Chan et al. [7]. The Model accommodated five components: Selection factors, dispute resolution methods, utility factors, relative importance weightings and user's preferred weightings. The

quantitative data was obtained from 41 experts who were lawyers, professional quantity surveyors, arbitrators, project directors, solicitors, academics. 15 selection factors concerning dispute resolution methods were gathered with the light of previous studies and the most 9 relevant factors were short listed by the interviewed experts. These 9 selection factors were detected as confidentiality, third party control on the process, preservation of business relationships, reducing the adverse effect due to cultural difference, addressing power imbalance, enforceability, cost reduction, speedy in time and reducing the adverse effect due to different legal system. Importance of these 9 selection factors were analysed as per dispute resolution processes namely, litigation, arbitration, adjudication, expert determination, mediation, DRB and mini-trial. According to the opinions of the concerned interviewees about third party control on the process, litigation had the biggest rate by 95.24% within the all dispute resolution processes. On the other hand, compared to other dispute resolution processes litigation contained the lowest rates concerning confidentiality by 16.83%, speedy in time by 22.20%, cost reduction by 22.80%, preservation of business relationships by 23.05%, reducing the adverse effect due to cultural difference 39.02%, reducing the adverse effect due to different legal system by 40.49%, addressing power imbalance by 49.88%. Compared to other dispute resolution processes, mediation process had the lowest rate for third party control on the process by 52.56%, which is contrary to litigation. However, mediation got the highest rates for the confidential by 91.59%, preservation of business relationships by 85%, reducing the adverse effect due to cultural difference by 81.22%, addressing power imbalance by 70.98%, cost reduction by 80.98%, speedy in time by 83.66% and reducing the adverse effect due to different legal system by 74.39%. With respect to dispute resolution methods, the most appropriate method was determined as orderly follows; mediation, expert determination, arbitration, mini-trial, adjudication, DRB and litigation.

In addition to the studies concerning dispute resolution methods on diagnosing the rates of preferences and the corresponding reasons of selections, a number of studies were also conducted to develop specific models related to the selection of dispute resolutions to help improvement of dispute resolution processes.

Scientific framework for understanding and administratively resolving disputes over contract articles were detected by Chaphalkar and Patil [70]. In order to achieve this goal, 17 arbitration awards and cases conducted by High Court and Supreme Court were

examined. 263 types of claims were detected. Of the 263 claims, 106 claims were related to variations and deviations. Through analysis, a flow chart was produced with respect to decision support system for variations resulting from change in design, drawings and specifications. This decision support system was proposed for the contract managers as an excellent tool.

Also, İlter [71] developed a multi-criteria decision making model for selecting the appropriate dispute resolution method in construction projects in her doctoral thesis through conducting extensive literature review, surveying and expert panel methods.

CHAPTER 4

METHODOLOGY

Previously, the structure and the hierarchy of general jurisdiction and responsibilities of each organization were defined and then the branches of Turkish law and regulations dominating Turkish construction industry were elaborated in order to compose the mosaic of general jurisdiction process in Turkey in the Chapter 2 of this study. In this sense, Contract of Work which is part of Obligation Code was deeply investigated. As the next step in Chapter 2, the relevant judicial actors were defined as well as the laws regulating the current qualifications of judicial actors and their responsibilities. Finally, dispute resolution processes in construction industry and their practicability in Turkey were deeply examined under Chapter 3 through investigating the conducted studies. Literarture with respect to dispute sources concerning construction and the current dispute resolution methods worldwide were deeply investigated.

As defined previously, Turkish construction industry suffers from dispute resolution processes concerning time and cost as well as arguable results. As the most preferable dispute resolution method in Turkey, litigation is a more time and cost consuming process compared to the other dispute resolution methods. Although parties of projects encountering disputes meet numerous problems with the litigation process [15], [5], construction projects' contracts made in Turkey mostly point out litigation method to resolve the disputes without referring to any other ADR methods. Additionally, there appears the question of the qualifications and competency levels of the judicial actors who participate in disputes concerning construction. Firstly it is intended in this study to detect the main sources of disputes based on construction industry in Turkey in order to reduce issues causing disputes in construction projects and secondly, due to some inconveniencies with litigation process, it is aimed to define the qualifications and competency levels of judicial actors for construction related cases in Turkey in order to

make litigation process more reliable and faster. To achieve these goals, this study accommodates quantitative and qualitative methods collectively. A quantitative method was used to reach the first and second aim of this research. Construction related cases in Turkey between the years of 2007 and 2017 are investigated in order to determine the main problematic sources of disputes. Cases are reviewed through the web sites of www.kazanci.com and www.kararara.com. These websites provide the data for cases each of which contains determination of Court of Cassation along with the claimant claim, defendant claim, determinations of Courts of First Instance and associated law numbers with the concerned case subject. The Courts of Cassation's final verdicts on each case also provide information on the performance of the Courts of First Instance. In other words, Court of Cassation reviews the act of Court of First Instance on matters and decides whether the court handled the case properly. The Court of Cassation's verdict on that matter provides us information about the qualifications and the competency levels of the judicial actors. The summary of content analysis with respect to the quantitative phase of this research is illustrated in Table 4.1 below.

Table 4.1 Content analysis and their corresponding objectives

Research Objective	Source of Data	Method	Content Themes	Description
To detect the main sources of disputes	www.kazanci.com www.kararara.com	Content Analysis	Articles in Contract of Work Claim Type Project Type Scope of Contract	Courts of Cassation's Construction related cases in Turkey between the years of 2007 and 2017 were investigated. Frequency analysis was used to determine the occurrence rate of each theme.
To define the qualifications and competency levels of judicial actors	www.kazanci.com www.kararara.com	Content Analysis	Reasons for Reassessment: Expert Witness Need, Unsuitable Case Condition, Missing Review and Wrong Assessment, Defective Expert Report, Decision of Rejection of Venue, Improper Oath Taking. Type of Approvals: Approving the Judgment, Approving the Judgment with a Correction	Determinations made by Courts of Cassation are tabulated as in the content themes and frequency analysis was used to determine the occurrence rate of each theme. The determination reasons provide indication of the judicial actors' qualifications and competency levels.

A total of 420 cases retrieved and investigated between 2007 and 2017, 282 cases are found to be relevant to construction sector in Turkey. After the cases are grouped as per relevant content themes, frequency analysis is applied by means of SPSS software in order to figure out the occurrence rate of each content theme statistically. The main purpose of the content analysis is to transform the qualitative data into quantitative data through classification. Thus, dispute categories including the main dispute reasons and specific data concerning the qualifications and competency levels of judicial actors are generated in order to be able to take related crucial precautions concerning construction projects beforehand.

In the first stage of this research the major sources of disputes and the determinations of Courts of Cassation for the cases are categorized. By this way, the challenges in dispute process including the qualifications and competencies are determined substantially. In order to reach the root of the problems, an in depth investigation was needed. Obviously, the opinions of judicial actors who participated in judicial process concerning construction area is vital to shed light on the current qualifications and competency levels of judicial actors and to make appropriate determinations on how to improve the litigation process with the help of their advice. To serve this purpose, the technique of face to face interaction is adopted in order to obtain relevant data from each interviewee; thus, as a qualitative method, semi-structured interviews are preferred as a technique.

Technique of semi-structured interview provides the interviewer to be flexible in terms of questions directed to interviewee [72]. Even though the lists of interview questions are determined in advance, in semi-structured interviews, participants are given chance to explore the points they feel are important via the clarification made by interviewer in a conversational manner [73]. Moreover, it is considered essential for the interviewer to interfere during the conversation to ask for further clarifications concerning specific replies of the participants and avoid the occurrence of irrelevant points. Hence, semi-structured interviews were conducted with the judicial actors taking part in litigation process concerning construction industry. Questions were directed to the participants verbally and responses were instantly recorded as notes on the personal computer of the interviewer. The interviews were conducted with 10 expert witnesses, 4 lawyers and 4 judges. Each semi-structured interviews took almost one hour with each participant. The data gathered via semi-structured interviews were analysed through content analysis which was also adopted

in the part of quantitative research of this thesis. Content analysis mainly used by social science is a process aiming to systematically analyse the data obtained from archives, documents, newspapers, cinemas, television series etc. [74]. According to Yıldırım A. and Şimşek H. [75], summarized and interpreted data is elaborated through an in-depth descriptive approach in content analysis. Hence, hidden themes could be figured out. The main idea of content analysis is that similar data is gathered through defined themes in order to make them more understandable by the readers [75]. Thus, contents are coded as inductive approach in this analysis.

In the second phase of the research, the semi-structured interviews took average an hour with each interviewee.

Even though supplementary questions were produced to elaborate the opinions of the respondents, the following are major questions directed to the expert witnesses taking part in the cases concerning construction;

1- Have the courts summoned you to the case according to your expertise area? What kind of difficulties have you encountered when you were preparing reports?

2- Are judges' requirements and the case documentations understandable for you while preparing your reports?

3- Do the petitions of claimants and defendants make the case subjects clear enough? What are the effects of these petitions on the determination phases of the cases?

4- What is your opinion about the qualifications and competency levels of judges, lawyers and expert witnesses taking part in construction related cases?

The semi-structured interviews' questions directed to expert witnesses and corresponding objectives are tabulated in Table 4.2 below.

Table 4.2 Questions of semi-structured interviews directed to expert witnesses and corresponding objectives

Questions	**Objectives**
1	Do detect the qualifications and competency levels of judges
2	Do detect the qualifications and competency levels of judges
3	Do detect the qualifications and competency levels of lawyers
4	Do detect the qualifications and competency levels of judges, lawyers and expert witnesses

With respect to questions related to judges and lawyers participating in construction related cases, six questions are directed as followings;

1- Have you ever encountered any difficulties in understanding the construction terminology and associating the laws with the construction process etc. during the litigation process concerning construction?

2- At what level do you need the expert witness report during the cases concerning construction?

3- Do the petitions of claimants and defendants make the case subjects clear enough? What are the effects of these petitions on the determination phases of the cases?

4- What is your opinion about the decisions of reversal given by Courts of Cassation with respect to determinations of Courts of First Instance?

5- What are your suggestions to make the judicial process more effective and efficient?

6- What is your opinion about the qualifications and competency levels of judges, lawyers and expert witnesses taking part in construction related cases?

The semi-structured interviews' questions directed to Judges and Lawyers and corresponding objectives are tabulated in Table 4.3 below.

Table 4.3 Questions of semi-structured interviews directed to judges and lawyers and corresponding objectives

Questions	**Objectives**
1	Do detect the qualifications and competency levels of judges and lawyers
2	Do detect the qualifications and competency levels of judges and lawyers
3	Do detect the qualifications and competency levels of lawyers
4	Do detect the qualifications and competency levels of judges, lawyers and expert witnesses
5	Do detect the qualifications and competency levels of judges, lawyers and expert witnesses
6	Do detect the qualifications and competency levels of judges, lawyers and expert witnesses

After data are gathered, the main ideas of legal actors are categorized. By doing this, common emphasised opinions of these legal actors are defined and coded accordingly in order to detect qualifications and competency levels of litigation actors namely, expert witnesses, lawyers, judges. Hence, significant replies of the participants including opinions and advices are quoted to support the findings of the study.

Demographic characteristics such as age, profession, total experience, experience in construction, the organization where she/he works are crucial to define in order to judge the quality of data received from interviewed Judicial actors. These are presented in table 4.4 below.

Table 4.4 Demographic characteristics of judicial actors participating in semi-structured interview

Profession	**Actor No**	**Age**	**Current Organization**	**Total Experience (Year)**	**Experience in Cases Concerning Construction (Year)**
Judge	1	46	Isparta Courthouse, Civil Court	20	6
Judge	2	62	Retired	25	5
Judge	3	43	Isparta Courthouse, Enforcement Court	18	6
Judge	4	73	Retired	39	25
Lawyer	1	65	Private Law Firm	30	30
Lawyer	2	62	Private Law Firm	25	5
Lawyer	3	25	Private Law Firm	1.5	1.5
Lawyer	4	74	Private Law Firm	38	38
Expert Witness	1	42	Süleyman Demirel University, Department of Civil Engineering	18	5
Expert Witness	2	40	Süleyman Demirel University, Department of Civil Engineering	18	18
Expert Witness	3	53	Süleyman Demirel University, Faculty of Law	29	20
Expert Witness	4	37	Private Construction Firm	13	5
Expert Witness	5	44	Akdeniz University, Technical Sciences Vocational School	22	7
Expert Witness	6	35	Private Construction Firm	10	6
Expert Witness	7	40	Private Construction Firm	16	10
Expert Witness	8	60	Süleyman Demirel University, Department of Civil Engineering	35	30

Table 4.4 (cont'd)

Expert Witness	9	43	Akdeniz University, Technical Sciences Vocational School	18	10
Expert Witness	10	42	Private Construction Firm	18	12

CHAPTER 5

FINDINGS

5.1 Main Sources of Disputes in Turkish Construction Industry

Cases concerning construction industry between 2007 and 2017 in Turkey are analysed through www.kararara.com and www.kazanci.com websites, and are categorized according to defined contents namely, 'Contract of Work', 'Claim Type', 'Project Type', 'Project Scope of Contract' and 'Determinations made by Court of Cassation'. According to the analysis, tables from 5.1 to 5.7 are introduced. These outcomes provide fruitful data to achieve the two objectives of this research namely, detecting the main sources of disputes and qualifications and competency levels of judicial actors.

If the parties facing dispute have a contract for the project, the court evaluates the concerning case according to the articles in Contract of Work, since the articles in this contract are binding while resolving contract related disputes. Therefore, Contract of Work is the first step for investigating the dispute sources in the construction industry. Firstly, 282 cases are investigated and categorized as per articles in Contract of Work. Table 5.1 indicates the dispute sources based on the articles in Contract of Work, and the frequency of occurrence is also illustrated in the table.

Table 5.1 Frequencies of articles in Contract of Work

Article #	Description	# of Cases	Percent (%)
470/355	Contract	197	69.9
471/356	General responsibilities of contractor	7	2.5
472/357	Material	6	2.1

Table 5.1 (cont'd)

473/358	Commencement of work and defect in execution	5	1.8
474/359	Indication of defect of work by Client after handing over	12	4.3
475/360	Client rights resulted from defects of work	10	3.5
476/361	Defects caused by client and warned by contractor	2	0.7
477/362	Acceptance of work	9	3.2
478/363	Time limit of opening a case due to defects of work	1	0.4
479/364	Due date of payment	2	0.7
480/365	Lump sum price	11	3.9
481/366	Price as per value (Unit measure and Cost plus fee)	17	6.0
483/368	Destruction of work before completion	1	0.4
484/369	Cancelling the contract through paying completed work	2	0.7
Total		**282**	**100.0**

It should be noted that there are some changes in law and in codes of law during the period of 2007-2017. In year 2012, a new Obligation Code was released, and article numbers for the law 818, which refers to the previous law, and 6098, which refers to the final Obligation Code, are introduced in Table 5.1 above in order to refrain from confusion. In the first column of Table 1, while first number in each row refers to the final release of Obligation Code # 6098, the following number refers to the previous Obligation Code # 818.

The first article namely, 'Contract' is the general term of the Contract of the Work, and any dispute which is not matched with the other articles is associated with this article of 'Contract' by the concerned court. As derived from Table 5.1, 'Contract' defined with article # 470/355 is seen as the major sensitive area by almost 70% in terms of dispute occurrence rate. That is to say, contractual issues by a long way surpass the other articles which consist of about a third of the total. Moreover, monetary issues which cover the articles from 479 to 481 constitute about 11% of the overall cases.

In addition to categorising the dispute sources only as per Contract of Work, claim types of claimants, project types and scope of contract are also crucial to categorise the disputes further since these issues also contribute to the occurrence of construction related disputes. Thus, diagnosing the issues in these categorisations could help detect dispute sources and

help prevent projects from potential disputes. In order to deeply investigate the main sources of disputes, the aforementioned analyses are tabulated in Tables 5.2, 5.3 and 5.4.

After deeply investigation of these 282 cases, claim types are categorized as followings;

- Debit and Credit
- Cancellation of Contract
- Defective Products
- Delay
- Occupational Accident
- Registration and Nullification for Deed and Title

Frequencies of concerned claim types are tabulated in Table 5.2 below.

Table 5.2 Frequency of claim types

Claim Type	**# of Cases**	**Percent (%)**
Debit and Credit	142	50.4
Defective Products	63	22.3
Delay	32	11.3
Termination of Contract	22	7.8
Registration and Nullification for Deed and Title	21	7.4
Occupational Accident	2	0.7
Total	**282**	**100.0**

Considering claim types, debit and credit related cases constitute the majority part of the cases by almost 50%. Disputes related to debit and credit constitute the issues mostly concerning interim payments, payments concerning additional works etc. Additionally, defective product is found as the second dispute source area of the total cases concerning claim types. The other types of dispute sources namely, delay by about 11%, termination of contract by almost 8%, registration and nullification for deed and title by about 7% and occupational accident by about 7% are detected. İlter and Bakioğlu [10] state that debit and credit based claim such as renewing the price, additional payment, determination of unit price and cash flow issues are the most frequent dispute sources in construction projects.

As presented in Chapter 4, the dispute sources are also investigated as per project types. The analysis of disputes sources based on project type are presented on Table 5.3

Table 5.3 Frequency of project types

Project Type	**# of Cases**	**Percent (%)**
Construction Works	169	59.9
Finishing Works	36	12.8
Mechanical	26	9.2
Infrastructure	26	9.2
Electrical	12	4.3
Electrical/Mechanical	5	1.8
Design	4	1.4
Auditing	4	1.4
Total	**282**	**100.0**

Construction works define the projects such as housing, hospital etc. which contain other related disciplines provided in Table 5.3 above as well as civil works. According to the table, projects related to construction works are detected as the main problematic areas with the number of 169 over 282 cases and while this corresponds to approximately 60% of the overall cases, finishing works ranks as second by almost 13%. Since projects concerning construction works mostly contain many divisions of such as civil works, finishing works, mechanical works, electrical works, design etc., coordination between the disciplines carries many risks in terms of dispute. This fact clarifies the high occurrence rate of construction works. Thus, attention to the projects containing multi-disciplinary works is to be closely paid during the project life cycle.

The next analysis about the dispute sources is ‘Scope of Contract’ as presented in Table 5.4 below.

Table 5.4 Frequencies of scope of contract

Scope of Contract	**# of Cases**	**Percent (%)**
Design Contract	3	1.1
Building Audit Contract	4	1.4
Contract of Flat in Return for Land	73	25.9
Construction Contract excluding Contract of Flat in Return for Land	202	71.6
Total	**282**	**100.0**

The most remarkable finding of this table is that 'Construction Contract excluding Contract of Flat in Return for Land' constitutes the biggest part of the cases by nearly 72%, which covers approximately three fourth of the total cases. Secondly, Contract of Flat Return for Land corresponds to approximately 26% of the overall cases. After deep investigation of the cases containing Contract of Flat in Return For Land, 62 over 73 cases concerning the 'Contract of Flat in Return for Land' were conducted after the release of Urban Transformation legislation dated on 15th December 2012. This legislation accelerated the amount of the projects related to urban transformation due to given some privileges to the contractors and house/land owners. Since the amount of projects concerning this issue increased annually, the number of disputes increased accordingly. Contract of Flat In Return For Land shall be prepared with an official way through notary according to law [22] [23], however; this result questions the reliability of Contract of flat in Return for Land due to the rise in disputes.

5.2 Defining the Qualifications and Competency Levels of Judicial Actors

So far, as stated in the purpose of this study, the main problem areas in the content of the cases concerning construction industry along with their occurrence rates have been classified. The data gathered by these cases are also believed to shed light on the qualifications and competency levels of the judicial parties through investigation of the decisions of approval and reversal verdict given by Courts of Cassation for the determinations of Courts of First Instance. To do this, these concerned 282 cases are

reviewed in terms of the determinations of Courts of Cassation, and they are categorised as per following decisions;

- Reassessment - Needs for Expert Witness
- Reassessment - Unsuitable Case Condition
- Reassessment - Missing Review and Wrong Assessment
- Reassessment - Defective Expert Report
- Reassessment - Decision of Rejection of Venue
- Reassessment - Not Offering Taking an Oath', and
- Approving the Judgment
- Approving the Judgment with a Correction

Frequencies of given determinations by Courts of Cassation is demonstrated in Table 5.5 below.

Table 5.5 Frequencies of determinations by Courts of Cassation

Determination by Court of Cassation	**# of Cases**	**Percent (%)**
Reassessment - Missing Review and Wrong Assessment	123	43.6
Reassessment - Needs for Expert Witness	83	29.4
Reassessment - Defective Expert Report	33	11.7
Reassessment - Decision of Rejection of Venue	21	7.4
Reassessment - Unsuitable Case Condition	7	2.5
Approving the Judgement with a Correction	6	2.1
Approving the Judgement	5	1.8
Reassessment - Not Offering Taking an Oath	4	1.4
Total	**282**	**100.0**

While Courts of Cassation approved the determinations of Courts of First Instance by only almost 4%, Courts of Cassation made decisions of reassessment for the cases conducted by Courts of First Instance by nearly 96%. One of the reassessment reasons which is 'Missing

Review and Wrong Assessment' made by Courts of First Instance constitutes the majority of the determinations of reassessment with the number of 123 cases out of 282 in total. The second biggest reason of reassessment which is 'Needs for Expert Witness' constitutes approximately 30% of all the cases because of the lack of expert witnesses in the cases.

Considering the overall 282 cases, Courts of Cassation accepted 11 determinations given by Courts of First Instance, whereas the remaining 271 cases were determined to be reassessed. In other words, around 96% of the cases carried to Courts of Cassation were found incorrect and required to be reassessed. It can be derived from these findings that a great majority of Courts of First Instance determinations were found unsatisfying. Considering the factors contributing to the wrong decisions made by the Courts of First Instance, the associated errors namely, 'Missing Review and Wrong Assessment', 'Need for Expert Witness', 'Decision of Rejection of Venue', 'Unsuitable Case Conditions' and 'Not Offering Taking an Oath' which are provided in Table 5.5 are related to the qualifications and competency levels of the judicial parties. Furthermore, 12% of the reassessed decisions are related with the expert witnesses' defective reports. This outcome indicates the qualifications of expert witnesses as another problematic area. Excluding the expert witnesses' defects over these factors, the reassessed cases which stem from inadequate qualifications and competency levels of the other judicial actors namely, judges and lawyers correspond to approximately 85%.

As another attempt to determine the qualifications and competency of the judicial actors, cross tabulation is made between the reassessment decisions and claim types in Table 5.6 below. It is believed that an in-depth analysis in terms of highlighting to what extend the constructional issues concerning claim types is misinterpreted by the related courts.

Table 5.6 Cross Tabulation between claim type and determination by civil chambers of Courts of Cassation

Claim Type	Determination by Civil Chambers of Courts of Cassation																	
	Reassessment - Needs for Expert Witness		Reassessment - Unsuitable Case Condition		Reassessment - Missing Review and Wrong Assessment		Reassessment - Defective Expert Report		Reassessment - Decision of Rejection of Venue		Reassessment - Not Offering Taking an Oath		Approving the Judgement		Approving the Judgement with a Correction		Total	
	# of Cases	%	# of Cases	%	# of Cases	%	# of Cases	%	# of Cases	%	# of Cases	%	# of Cases	%	# of Cases	%	# of Cases	%
Debit and Credit	41	15	5	2	64	23	17	6	7	2	4	1	1	0	3	1	142	50
Termination of Contract	0	0	1	0	9	3	5	2	4	1	0	0	3	1	0	0	22	8
Defective Products	27	10	1	0	25	9	5	2	3	1	0	0	0	0	2	1	63	22
Delay	8	3	0	0	14	5	6	2	3	1	0	0	0	0	1	0	32	11
Occupational Accident	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	2	1
Registration and Nullification for Deed and Title	7	2	0	0	11	4	0	0	2	1	0	0	1	0	0	0	21	7
Total	83	29	7	2	123	44	33	12	21	7	4	1	5	2	6	2	282	100

As it can be seen in the table, the sources of reassessment decisions made by Courts of First Instance are mostly associated with 'Debit and Credit' (50%) and 'Defective Products' (22%). Concerning 'Debit and Credit', 64 reassessment decisions were made due to 'Missing Review and Wrong Assessment' which constitutes 23% of the overall cases, and 41 reassessment decisions were made due to 'Needs for Expert Witnesses' which constitutes almost 15% of the total cases. Concerning 'Defective Products', 27 reassessment decisions were made due to 'Needs for Expert Witnesses' which constitutes 10% of the overall cases and 25 reassessment decisions were made due to 'Missing Review and Wrong Assessment' which constitutes 9% of the overall cases. These outcomes firstly indicate the lack of construction knowledge of judicial actors related to issues of 'Debit and Credit' and 'Defective Products'. Additionally, as derived from the outcome, the lack of expert witnesses caused the courts to make inappropriate decisions. Consequently, 'Debit and Credit' and 'Defective Products' issues in this process need specific knowledge of construction process in order to elaborate the conditions of cases correctly.

Each civil chamber conducts the cases as Courts of Cassation and each of 23 civil chambers has individual responsibility area which is regulated by Courts of Cassation in Turkey [76]. Among them, General Assembly of Civil Chamber play crucial role. According to legal process, if the Court of First Instance insists on its decision and refuses the reassessment determination made by the Civil Chamber of Courts of Cassation, the case is evaluated again by General Assembly of Civil Chamber which takes place under Court of Cassation [34] as explained in detail in Chapter 2. In order to collect further data concerning the qualifications and competency levels of judicial actors, it is also crucial to define the number of cases conducted by General Assembly of Civil Chamber. By doing this, numbers of Courts of First Instance refusing the reassessment decisions of Courts of Cassation are detected. Frequencies of data concerning Civil Chambers and their determinations are depicted in Table 5.7 below.

Table 5.7 Frequencies of data concerning civil chambers and their determinations

Civil Chamber	Determination by Civil Chambers of Court of Cassation																	
	Reassessment - Needs for Expert Witness		Reassessment - Unsuitable Case Condition		Reassessment - Missing Review and Wrong Assessment		Reassessment - Defective Expert Report		Reassessment - Decision of Rejection of Venue		Reassessment - Not Offering Taking an Oath		Approving the Judgement		Approving the Judgement with a Correction		Total	
	# of Cases	%	# of Cases	%	# of Cases	%	# of Cases	%	# of Cases	%	# of Cases	%	# of Cases	%	# of Cases	%	# of Cases	%
Civil Chamber # 3	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
Civil Chamber # 11	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
Civil Chamber # 13	7	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	9	0
Civil Chamber # 14	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	4	0
Civil Chamber # 15	62	0	7	0	92	0	28	0	9	0	4	0	0	0	4	0	206	1
Civil Chamber # 20	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
Civil Chamber # 23	11	0	0	0	25	0	4	0	9	0	0	0	4	0	1	0	54	0
General Assembly of Civil Chambers	1	0	0	0	3	0	1	0	0	0	0	0	1	0	0	0	6	0
Total	83	0	7	0	123	0	33	0	21	0	4	0	5	0	6	0	282	1

The most remarkable finding from this table is that General Assembly of Civil Chamber conducted 6 cases which constitute nearly 2 % of the overall cases. While only one case was approved by General Assembly of Civil Chamber, reassessment decisions were still made for 5 cases by General Assembly of Civil Chamber. This finding indicates that there appears disagreement between these courts although the amounts of the cases are few in number. This is another reason of prolongation in the duration of decision making process of litigation.

To sum up, based on all the data gathered in the quantitative part of this study, qualifications of judicial actors seem to be an arguable issue that need to be reconsidered by the legislators, judicial actors, and trade chambers. In the second phase of this research, further study is conducted to detect qualifications and competency levels of judicial actors via semi-structured interviews as a qualitative approach.

5.3 Analysis of the Semi-Structured Interviews with the Judicial Actors

In addition to the first phase of this research concerning the cases conducted by Courts of Cassation to define the sources of disputes and qualifications and competency levels of the judicial actors taking part in construction related litigation process, semi-structured interviews with the judicial actors namely, expert witnesses, lawyers and judges participating in the construction related cases are conducted to support the findings related to qualifications and competency levels of judicial actors derived from the first phase of this research. All the findings gathered via the replies of the participants are analysed and the content is coded to access the hard core relevant to the objective of this study. The irrelevant outcomes are excluded in order not to digress the main objective of the study. As well as the predetermined list of interview questions, extra questions are directed for clarification of the replies given by the participants during the interviews. The data is obtained from the interviewees' replies concerning the questions which are both predetermined and restructured during the interviews. Common ideas of participants are coded and tabulated in Table 5.8.

Table 5.8 Common ideas of the participants taking part in the semi-structured interviews

Emphasised Statements by the Judicial Actors	Judges (Over 4)	Lawyers (Over 4)	Expert Witnesses (Over 10)
Judicial actors have inadequate knowledge of construction terminology	4	3	
There is no obstacle regarding the association of the law numbers with the subjects of the disputes concerning construction	4	4	
Courts often summon wrong expert witnesses to the cases according to their main expertise areas	10		
Courts mostly need expert witnesses' reports during the cases concerning construction	4	4	
Judges' requirements and the case documentations are not clear			7
Petitions of claimants and defendants do not make the case subjects clear enough			7
Workloads of the judges are too much. Judges do not have enough time for the cases to review	3	3	1
Clauses of project contracts are not detailed and clarified adequately	2	1	8
Developing a Standard Contract such as FIDIC is expected to reduce the number of disputes			6
Qualified and correct expert witnesses are to be chosen according to case subjects	4	4	8
Asking additional expert witnesses' reports which is sometimes encountered prolongs the cases unnecessarily			6
Lawyers shouldn't guarantee the result of the cases to their clients			3
Utilizing the private experts are beneficial to produce understandable petitions		1	3
Judges expertise areas should be considered during the rotations of judges	3	2	

Table 5.8 (cont'd)

Vocational specialization of judicial actors are recommended	2	3	8
Young judges tend to give wrong determinations due to inadequate experiences	3	4	2
Training the judicial actors about technical issues in construction is believed to reduce wrong judgements in construction related cases.	2	2	
'Contract of Work' is proposed to be a part of law education	1		

Since qualifications and competency levels of judicial actors are aimed to be detected, the findings are elaborated separately under three sections as judges, lawyers and expert witnesses respectively.

5.3.1 Defining the Qualifications and Competency Levels of Judges

To begin with, in order to achieve the second objective of this research which is to identify the qualifications and competency levels of judicial actors, in this section, it is aimed to figure out the concerned objective in terms of judges via the output obtained from the semi-structured interviews made by not only judges but also lawyers and expert witnesses.

First of all, when the related questions about the qualifications and competency levels of judges are directed to 10 expert witnesses, all the expert witnesses participating in the interviews are of the opinion that they were sometimes assigned to the irrelevant cases in conjunction with their main expertise areas. It is mostly believed by the expert witnesses that this resulted from the lack of technical knowledge of judges conducting the concerned cases. Concerning this issue, Expert Witness #8 claims that

> "*A structure concerning the case can be related to building, dam or renovation of a historical structure; but, judges think that civil engineers are masters on the all the construction related subjects. For instance, historical structure is not an obligatory course in our engineering education. To sum up, when the courts summon the expert witnesses, courts should consider civil engineers' expertise*

areas. Due to the lack of knowledge of judges with respect to construction terminology, they may summon wrong expert witnesses related to the case subjects."

In addition to summoning wrong expert witnesses, asking for unnecessary additional reports from expert witnesses by judges is also believed to indicate the lack of construction knowledge. Expert Witness # 5 supports this statement and adds that

"In addition to assigning a wrong expert witness, during a case, judges mostly ask for additional reports from concerned expert witnesses upon any objections by any side of the case without considering that the query is relevant or not."

Expert Witness #3, who used to work as a prosecutor also suggests that

"Judges shouldn't also allow any prolongation and duration of written notices should be shortened. If 'Judicial Economy' is implemented enough in litigation process, justice manifests."

Asking for unnecessary additional reports from expert witnesses by courts due to lack of technical knowledge of judges is considered to extend the dispute resolution process.

All the expert witnesses reach a consensus with respect to the statement that requirements necessary to resolve the disputes such as petitions of claimants and defendants and other related documents are sometimes not clear, and this is thought as another reason of prolongation of litigation process. To support this point, Expert Witness #5 states that

"*Documentation containing missing information or ambiguity should be asked by the judge to the concerning parties in order to clarify the case. Mostly, the documentations of the cases transferred to the expert witnesses are not completed. This may mislead the expert witnesses, and also prolong the preparation process of expert witnesses' reports due to additional correspondences.*"

Expert Witness #6 also supports this belief that

"Petitions of the claimants and defendants are not elaborated by the judges before sending these documents to the expert witnesses".

As the reason behind the inadequate investigations of case documentations including claimants' and defendants' petitions, Judge #1 and Lawyer # 3 express that workload of

the judges are too much and this reduces the unit/time of reviewing the cases before the hearing.

Except Judge #3, all the judges and lawyers interviewed express that young and inexperienced judges tend to make mistakes. Lawyer # 3 contributes to this matter by stating that

> *"In the first year of judges, their decisions are reversed almost by 50% due to lack of experience."*

In addition to this, Lawyer # 3 also takes the attention to the issue concerning the appointment of the judges by expressing that

> "*Sometimes a criminal judge is relocated as a civil judge, and this requires him/her to gain new experience which of course will take some time. The issue related to appointment of judges to the new areas increases wrong determinations due to lack of experience in their new fields."*

5.3.2 Defining the Qualifications and Competency Levels of Lawyers

With respect to the qualifications and competency levels of lawyers, data is obtained from semi-structured interviews via not only the lawyers' but also the judges' and expert witnesses' past experiences and observations throughout the cases.

Majority of the interviewed expert witnesses agree on the statement that defendant and claimant petitions, which are mostly prepared by lawyers who take part in litigation process, sometimes don't clarify the case matters clear enough; consequently, inappropriate petitions prolong and mislead the cases. In this matter, the biggest responsibility with respect to preparations of convenient petitions belongs to lawyers participating in resolving disputes concerning construction. The most remarkable reply concerning this issue is given by Expert Witness #3, who was working as a prosecutor, by expressing that

> *"If the claimant does not initiate the petition clear enough and the defendant doesn't answer the petition correctly, they could mislead the case, and determination of the court can be unsatisfying correspondingly. These kinds of cases mostly are carried to Courts of Cassation. In law, there is a statement as 'Judicial Economy' which defines a rapid process along with a satisfying award. In order to implement the Judicial Economy, claimants' petitions also should be*

clear, evidences should be enough and presented on time."

It is derived from this statement that quality of claimants' and defendants' petitions written by lawyers is one of the factors contributing to Judicial Economy. This issue is also expressed by Expert Witness #8 as

> *"While preparing the defendants' and the claimants' petitions, a lot of irrelevant subjects are exaggerated. For me, mostly, they emphasize subjects which are not related to their indictment, and repeat the same irrelevant subjects several times in a different way in their petitions."*

Another contribution with respect to this concern is made by Judge #1 by adding that

> *"Sometimes there are some petitions that we do not understand anything. It's very important indeed. We understand the subjects of petitions during the field investigations. Petitions have vital importance in terms of preparation of field investigation. Otherwise, they negatively affect the processes of the cases."*

Lawyer #1 also agrees with this belief and states that,

> *"Of course, a case is lost or won through petitions. For this reason, the demands and quantities in the petitions should be taken very seriously as the parties tie themselves up with these petitions. In general, if the concerned petition is not initiated by a lawyer, it won't be clear."*

In conclusion, claimants' and defendants' appropriate claims via well prepared petitions are essential for satisfying awards by the courts, therefore; it is highly beneficial to encourage the parties to get the lawyers to initiate petitions at the outset of the case. Moreover, lawyers should closely pay attention to the contents of the claims and prepare the related petitions correspondingly in order not to mislead and prolong the process of litigation unnecessarily.

Three expert witnesses with the numbers of 1, 3 and 6 suggest that lawyers should accept the cases which are more relevant to their expertise area and reject the ones which are out of their proficiency. Expert witness #1 supports this statement by suggesting that

"Lawyers should not accept all cases, shouldn't open unnecessary cases in order not to slow down justice process and shouldn't guarantee the result of the case for their clients. Lawyers should accept the cases according to their expertise areas. As

in medicine, lawyers should also specialize as per the case subjects."

To sum up, three main points are detected concerning the inadequacies related to the qualifications and competency levels of lawyers namely, poorly prepared petitions of claimants and defendants mostly prepared by lawyers, and unspecialized lawyers directing the courts wrongly, lawyers misleading the clients by guaranteeing to win in order to gain profit from the cases. At the same time, all these factors stemming from lawyers tend to prolong the litigation processes to a large extent.

5.3.3 Defining the Qualifications and Competency Levels of Expert Witnesses

An expert witness is the only person who can lead the judge concerning the technicality of a case. Lack of expert witnesses reports mostly mislead the judges, and determinations of these kinds of cases are rejected by the Courts of Cassation as investigated from the contents of the cases in the first phase of this research which adopts a quantitative approach. The questions to figure out the qualifications and competency levels of expert witnesses are directed to not only expert witnesses but also judges and lawyers. The replies are coded as per their contents by excluding the irrelevant replies; moreover, relevant replies are quoted to support the findings.

One of the significant findings is related to the expertise areas of expert witnesses. It is claimed by the expert witnesses and one of the lawyers who participated in the interviews that expert witnesses should define their main expertise areas more specifically like structure, dam, historical buildings etc. and should be summoned to the case according to their defined expertise field. In this matter, Expert Witness #9 states that

> *"An expert should apply for being an expert witness in line with his/her main expertise area."*

Expert Witness #9 continues by claiming that

> "*Civil Engineers who are expert witnesses tend to handle all the construction related cases due to their profits. Also this is wrong"*.

This unethical manner is also emphasised by Expert Witness #8 as

> "*Most of the expert witnesses tend to accept all the cases even they are not*

related to their expertise areas because of the fee paid for their reports."

In addition to this, most of the outcomes obtained from the interviews are on the same direction that the technical knowledge of expert witnesses concerning their specific fields in construction has to be sufficient to direct the courts correctly by presenting appropriate reports. Lawyer #3 also makes contribution to this statement by expressing that

> *"I think the reports of the expert witnesses who are not academics do not reflect the fact very much because of lack of specific technical knowledge. What's more, the knowledge of expert witnesses should be tested in terms of their competencies concerning their fields for defined periodic intervals."*

It is thought that assigning the correct expert witnesses to the cases according to their expertise areas and is beneficial to increase the success of the cases.

CHAPTER 6

RESULTS AND DISCUSSION

Disputes are part of the nature of the construction projects. However, the judicial systems and its actors seem to contribute to the problem rather than solve it in a timely and cost effective and mostly in a fair way. This research argues that the course of judicial proceeding is part of the problematic areas in dispute resolutions. Therefore, the objective of this research contains two parts which are; determining the sources of disputes, and determining the qualifications and the competency levels of judicial actors. Therefore, the methodology of this research was structured accordingly. Series of quantitative analysis were made in order to determine the sources of disputes and the qualifications and competency levels of judicial actors in Turkey. Then, a qualitative approach was followed to make an in depth analysis in regard to judicial actors for the dispute resolutions in construction projects.

In this study, initially, 282 cases conducted by Courts of Cassation between the years 2007 and 2017 in Turkey are reviewed and the contents of the cases along with their occurrence rates are classified as per the Contract of Work, claim type, project type, scope of contract in order to detect both the most problematic sources of disputes in the contents of the cases and the qualifications and competency levels of judicial actors. Following the in-depth review of the cases and the classification, the data are analysed via SPSS as a quantitative study. Consequently, the main problematic sources of disputes along with inadequate qualifications and competency levels of judges, lawyers and expert witnesses are revealed. In the second phase of this research, it is aimed to detect the qualifications and competency levels of judicial actors participating in construction related cases in Turkey. To achieve this objective, 10 expert witnesses, 4 lawyers and 4 judges taking part in construction related judicial process in Turkey are interviewed through applying semi-structured interview technique as a qualitative

approach. The replies are coded via content analysis in order to detect the problematic areas in the competency levels and qualifications of judicial actors participating construction related cases in Turkey.

It is derived from the findings that construction contract is the most common dispute source in construction [77]; because, analytical approach is not mainly adopted for the preparation of the majority of a contract at the outset of the project [30]. Additionally, of the contracts prepared in construction sector in Turkey, 70% of the contracts were drafted without considering any type of standard contacts [71]. With respect to disputes resulting from contract, it is found that construction projects such as buildings or any other related turnkey projects containing more than one discipline carry higher probability of risks; therefore, close attention is to be paid to these kinds of projects during the contract stages of the projects in order to prevent the amount of potential disputes by eliminating the ambiguities. Contents of 'Construction Contract' and 'Contracts of Flat in Return for Land' are presented as the biggest sensitive areas in dispute as derived from the findings in the first phase of this research. When the contents of contracts are investigated, monetary issues under the title of debit and credit rank as the most frequent dispute source related to contracts. This is followed by defective products. Therefore, while initiating the project contract, these subjects are to be taken deeply into consideration to eliminate ambiguities. This analytical outcome is also supported by the opinion of Judge #4, who was interviewed for the second stage of the study, also emphasises this issue based on his experiences by expressing that an unclear contract is also one of the major factors of reassessment decisions given by Courts of Cassation for the determinations of Courts of First Instance. Not only a poorly prepared contract but also not having a standardised project contract mostly result in dispute and this increases the density of litigation process as well as increasing the workloads of the concerned judicial actors. Similarly, Expert Witness# 1 also suggests on this issue that

> "*The content of contracts must be clear enough. Contracts protecting the strong sides of the projects inevitably cause disputes in the future. Therefore, standard contracts such as FIDIC also need to be implemented in Turkey. Since there is no obliged standard contract in private construction sector in Turkey, a contract is either prepared to protect the rights of the strong side of the parties or poorly prepared due to lack of technical knowledge of construction.*"

Thus, it is believed that obliging a standard form of contract to the project such as FIDIC contract is believed to reserve the rights of both sides of the project parties; therefore, it is highly beneficial for construction projects to utilize standard contracts according to project types in order to take significant precautions against negative impacts of potential debates. As a result of this, the amount of disputes related with contracts and the number of prolonged cases would be reduced. In addition to this, improving the qualifications of the judicial actors related to issues of 'Debit and Credit' and 'Defective Products' is believed to contribute to the success of the litigation process. Moreover, summoning qualified expert witnesses to the courts to clarify these areas is surely believed to improve the success of the litigation process.

One of the most remarkable findings concerning the qualifications and competency levels of judicial actors is that the young judges and the lawyers accepting all kinds of cases instead of specializing on particular subjects tend to make wrong assessments due to insufficient legal and technical knowledge concerning construction. Whereas, construction industry has its own characteristics like industries of Medicine and Information Technology (IT) and requires specific knowledge in order to resolve any dispute concerning construction. As also stated by Expert Witness #10, judicial actors such as judges and lawyers participating in litigation process concerning construction area mostly have bachelor's degree without specializing in a specific subject in current judicial process in Turkey, and it is concluded that as a result of judicial actors' being unfamiliar with the terms and process concerning construction industry, the time and cost consumption rise. It is suggested by Judge # 1 that Contract of Work is to be an integral part of law education. Additionally, judges and lawyers are to be occupationally branched. Furthermore, judges' main area of expertise such as Criminal Courts, Civil Courts, Consumer Courts, Commercial Courts etc. are to be considered during their rotations to the other courthouses and this is believed to improve the control of the judges on the cases. Encouraging the judges and lawyers to specialize on a specific subject is believed to skyrocket the success of the litigation process and diminish the burdens of Courts of Cassation correspondingly. Additionally, it is believed that in addition to judicial knowledge, equipping the judges and lawyers with technical and process based knowledge concerning construction would also decrease wrong determinations and lengthy process of litigation considerably.

All the judges participating in the interviews reach a consensus on the point that judges

mostly have lack of technical knowledge concerning construction industry; therefore, qualified expert witnesses are to be assigned to the case. Otherwise, judges can be misled. The regulation related to expert witnessing released on 03rd August 2017 hinders the legists in most cases to be expert witnesses but paves the way for the specialists to be expert witnesses for the cases related to their own fields. This new legislation is believed to reinforce the qualifications and competency levels of expert witnesses, and it is thought to reduce the expert witnesses' defective reports in the upcoming cases. However, this is not thought to be sufficient to bring the cases about construction industry to successful conclusions. Expert witnesses' own expertise areas such as geotechnics, hydraulics, transportation etc. must also be taken into consideration while resolving the cases related to construction. This statement is also supported by the expert witnesses and one of the lawyers taking part in the semi-structured interviews. This is thought to increase the success of the cases by eliminating expert witnesses' defective reports. With the help of the findings derived from the expert witnesses interviewed, it is also recommended that expert witnesses who take part in the resolutions of the cases concerning construction industry accept to be expert witnesses only for the cases which are related to their own expertise areas and reject the ones about which they are not specialists. This is believed to improve the qualifications and competency levels of expert witnesses to direct the judges correctly and bring the cases concerning construction industry to successful conclusions. Assigning wrong expert witnesses mostly result in wrong assessment by the courts and prolongation of the litigation process respectively. The rate of assigning correct expert witnesses according to case subjects can be increased by educating the judges in terms of construction terminology and process. Expert Witness #8 advises in this matter that

> *"Judges should at least be aware of specifications and tendering regulations concerning construction industry in order to assign the correct expert witnesses as per the source of problematic areas of construction, and to be able to evaluate the validity of expert witnesses' reports."*

What is more, Expert Witness # 2 recommends that

> "*Assigning the correct expert witnesses definitely results in satisfying awards.*"

In order to improve the process of assigning correct expert witnesses to the cases, Judge #1 also suggests in this matter that

"Responsibility of assigning the right expert witnesses to the cases should be given to professional chambers."

By doing this, amounts of unsuccessful reports and unaccepted cases by Courts of Cassation are believed to reduce.

Next, it is derived from the interviews that inadequate number of judges is believed to contribute to wrong assessment due to spending less time on the each case. Therefore, considering the outcomes, increasing the number of the judges is highly beneficial for dispute resolutions concerning construction projects. By doing this, through reliable awards in a timely manner, the quality of litigation process concerning construction industry would be increased.

At the outset of the case, improving the claimants' and defendants' petitions is believed to prevent lengthy and unsatisfying litigation process. Therefore, these petitions are proposed to be initiated by lawyers and it is suggested that lawyers not mislead the court by giving unnecessary and irrelevant claims in the petitions. Expert Witness #1 also suggests in this matter that

"Involvement of private experts in petition process written by claimant and defendant may help clarify the intentions of parties."

These are thought to reduce additional correspondence between the judicial actors and thus expedite the judicial process.

In the future, this study can help the parties having dispute to recognize litigation process before attempting. Additionally, these parties can reinforce their project contract with the help of dispute sources obtained from this study. Moreover, judicial actors and law-makers benefit from outcomes obtained from this study to improve the bottlenecks of litigation process and qualifications and competency levels of judicial actors.

Since there were limitations of this study, as the cases conducted by only Courts of Cassation in Turkey between 2007 and 2017 were investigated to identify solely the sources of disputes and qualifications and competency levels of judicial actors who are judges, lawyers and expert witnesses, further studies can be conducted out of this limitation. This study can be enhanced through contributions of other actors participating in judicial process concerning construction like contractors, claimants, defendants etc. Finally, this study is also believed to contribute to the future studies

concerning development of standard project contracts and the comparison of advantages and disadvantages of dispute resolution methods.

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PUBLISHMENTS

Papers

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