# **Identification of Dispute Sources in the Construction Industry via Court Files**

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#### ABSTRACT

Contracting parties generally tend to resolve their disputes through the litigation process. The lengthy litigation process reduces the belief among the parties that the disputes are resolved peacefully, and this destabilizes the sustainable structure of the construction industry where disputes are very common. Determining the most common sources of disputes in construction lawsuits is very important in terms of taking necessary precautions beforehand. Additionally, increasing the competency levels of construction and judicial actors regarding construction processes is extremely important in terms of making the judicial process more efficient and faster. Therefore, this study aims to reveal the most frequent dispute sources in the construction industry, the competency levels of judicial actors including expert witnesses and the average duration of the construction-related litigation process for the superior courts. Hence, 346 construction-related lawsuits conducted between 2018 and 2021 were examined via content analysis to classify the common themes. Lawsuits were investigated via the official websites of Courts of Cassation and National Judicial Network Information System (UYAP). Next, the frequency analysis was conducted to detect the significance of each theme via SPSS software. It is highly believed that this study will enable the decision-makers to take necessary precautions before the dispute occurs as well as improve the dispute resolution process in the construction industry. Projects related to superstructure works constituted the majority of the disputes ending up with the judicial process. Additionally, the majority of the disputes detected from lawsuits resulted from "Debit and Credit" related issues. Moreover, the litigation process was also detected as a very lengthy process. Furthermore, it is detected that majority of the lawsuits were rejected by the Courts of Cassation due to inadequacies of the competency levels of the judicial actors.

**Keywords:** Dispute, dispute resolution, contract, construction.

## 1. INTRODUCTION

Involving numerous stakeholders, construction projects aim to achieve desired quality, cost and time in accordance with the project contract with the help of limited resources [1]. Having

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commercial relations carried out by over 200 industries, the construction sector [2] has played a significant role in the economic growth of countries [3]. However, due to the complicated nature of construction projects, change is inevitable [4], [5]; thus, the relationship that commences positively between the parties is likely to deteriorate over time [6]. As a result of this, most of the projects end up with disputes for which contracting parties are liable to settle in a timely manner in order not to undermine their commercial relationships [7]. The contracting parties generally tend to resolve their disputes through litigation process which takes a long time as a result of many factors, and thus projects may lose both time and money [8]. The lengthy litigation process reduces the belief in resolving the dispute peacefully in the eyes of the contracting parties [9] and this destabilizes the sustainable structure of the construction industry where disagreements are very common.

Increasing the efficiency and competency levels of the construction and judicial actors related to construction proceedings are extremely essential for the judicial process to be more effective and rapid [10]. Additionally, developing solutions for dispute prevention is very vital to take the necessary precautions beforehand. Notwithstanding the popularity of the dispute resolution process, studies with respect to the investigation of the litigation process in conjunction with the construction industry in Turkey have been found out as insufficient. Investigating the proceedings until 2007, a study was conducted to spot the frequency of dispute types as per the provisions of Contract of Work in Turkish Code of Obligations, [11]. Later, the competency levels of actors taking part in the judicial process were investigated via semi-structured interviews conducted with 10 expert witnesses [10]. Moreover, the competency levels of judicial actors taking the role in construction-related lawsuits in Turkey were also revealed through semi-structured interviews conducted with judicial actors [12]. Furthermore, in the previous study [13], problematic areas concerning the litigation process were investigated by analysing the leading cases conducted by only Courts of Cassation until 2017. Since 2017, new regulations have been released to improve the judicial process, which has dramatically changed the jurisdiction system as well as the competency levels of judicial actors in Turkey. The main changes being intended to improve litigation process in Turkey have been enacted with respect to Expert Witness [14], establishment of the Regional Courts which started their duty on 20th July 2016 for Building Audit [15]. Since there have been the abovementioned major changes in the litigation process, a comprehensive reinvestigation of the litigation process is extremely crucial to detect the main dispute sources of the construction industry as well as the competency levels of construction and litigation actors. Additionally, awareness of practitioners in the construction industry in terms of the average duration of the litigation process is very vital so as to enable decision-makers in the construction project to compare the litigation process with the other alternative dispute resolution methods. This aids the decision-makers to form the project contract by considering alternative dispute resolution processes. Therefore, in order to lead the construction to take the necessary precautions during the course of the construction projects and improve the competency levels of litigation actors, this study aims to detect the average duration of the litigation process for the superior courts, the most frequent dispute sources in the construction industry and the competency levels of judicial actors. For this reason, 346 appealed construction-related cases conducted between 2018 and 2021 were examined through content analysis in order to categorize the common themes as per the average duration of the lawsuits, the types of projects, the source of disputes and the decisions of the upper courts. Then, the frequency analysis was conducted via SPSS program to determine the magnitude of each theme under the categorizations. The cases were gathered from the websites of Courts of Cassation and UYAP in which leading cases are provided. It is explicitly believed that spotting the most frequent dispute sources may enable the decision-makers to take necessary precautions in the construction projects in advance. Additionally, judicial actors and lawmakers may take advantage of this research so as to improve the bottlenecks of the litigation process. Moreover, it is believed that this study revealing the average duration of litigation process will definitely rise the success of the dispute resolution process by enabling the practitioners to seek their rights with the help of alternative dispute resolution processes. Furthermore, international construction organizations seeking to make investment in Turkey can benefit from the outputs of this study in terms of the litigation process and its possible outcomes. To evaluate the outputs of this study provided in the section of Conclusions and Recommendations, it is highly believed that foreknowledge concerning the litigation process in Turkey is to be illustrated; hence, a summary of the literature reviews is provided in sections 2 and 3.

## 2. DISPUTE RESOLUTION PROCESS IN CONSTRUCTION INDUSTRY

Organizations of the jurisdiction system and their roles differ from country to country. In Turkey, there are two main justices, namely judicial and administrative. In addition to this, there are three levels of the justice system, namely, Courts of First Instance, Regional Courts and Supreme Courts. Courts of Cassation and Presidency of the Council of State are authorized as Supreme Courts for civil and administrative cases respectively. The Regional Courts (Courts of Appeal) may conduct a new investigation and a legal audit by collecting evidence that has not been collected by the concerned Court of First Instance and may hear witnesses again as well as may conduct a site survey in order to make a determination.

Courts of First Instance under Judicial Justice have two main divisions which are Civil Courts and Criminal Courts. Civil Courts contain Civil Courts of Peace, Civil Courts of General Jurisdiction and Specialized Courts. If the concerned Specialized Courts are not available in a district, Civil Court of General Jurisdiction is authorized. Courts of First Instance concerning administrative justice - which are regulated via Legislations #4576 [16] and 4577 [17] - are categorized under three main courts which are "Administrative Court", "Presidency of the Council of State - Chamber Number 1" and "Tax Court". Most of the decisions given by the Courts of First Instance are rejected by the Regional Courts or Courts of Cassation due to the fact that the boundaries of authority concerning Courts of First Instance are not well known by the construction and judicial actors, and this further extends the duration of the litigation process unnecessarily [10]. Even though appealing brings justice, the prolongation of the process contradicts with Judicial Economy [25] (Article 141), [26] (Article 6), which results in time and money consumption for the dispute parties. The recognition of the boundaries concerning the authority and structure of civil and administrative courts prevents the prolongation of the construction-related cases, thus the organizational structure of courts is comprehensively illustrated in Figure 1, and later their authorizations - which are to be known to interpret the outputs of this study provided in the section of Conclusions and Recommendations - are defined in this chapter.

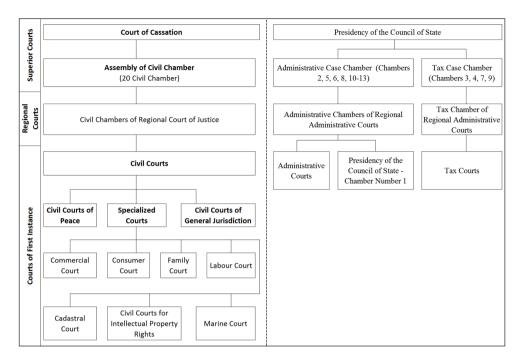


Figure 1 - Organization of Civil and Administrative Justice in Turkey

Administrative Court is authorized in disputes arising between the contracting parties due to administrative contracts made for the execution of one of the public services except for contracts referring to arbitration. Cases related to the tendering processes made by public services and claims concerning misinterpretation and misapplication of the legislation by the public services are conducted by the Administrative Courts. Tax Courts are authorized for the cases concerning tax issues of the organizations. According to articles 1 and 2 in Administrative Trial Procedure Law [18], disputing parties are not invited to the court in the cases conducted by Council of State, District Administrative Courts, Administrative Courts and Tax Courts. Thus, the determination is made as per case documents by the concerning courts. This procedure is also called "Written Trial Procedure". Different opinions have been put forward in the doctrine about whether the written trial procedure applied in our administrative judicial system is fair or not. Some jurists strongly argue that arrangements for the implementation of the oral proceedings should be made in order to demand justice by the concerning parties [19], [20]. Civil courts are empowered to deal with cases concerning property rights and personal property cases that are outside the duties of the peace courts and private law [21]. The Commercial Courts are responsible for conducting all commercial lawsuits, regardless of the value or amount of the subject matter [22]. Mediation is a compulsory process before suing in Commercial Courts. Courts of Peace are authorized in cases such as lawsuits for the sharing of movable and immovable property or rights, ending the partnership, debt of arising from the rental, and mediation issues [23]. Mediation is the prerequisite for suing in commercial courts and labour law [24]; therefore, the majority of construction-related cases are coordinated in terms of the mediation process by Courts of Peace. According to Article 25/1 of the Cadastral Law No. 3402 [25]. The Cadastral Court is authorized for the cases related to property ownership of immovable, land registry, deed annotation, border disputes of lands, and the works imposed by the private laws. The power of Consumer Court granted by consumer rights protection and their duties cover cases regarding disputes that may arise from practices for the consumers [26]. Mostly constructionrelated cases caused by the selling of the land, dwelling, material and equipment are heard in Consumer Courts. The Labour Courts are empowered to deal with legal disputes such as compensation, employee receivables between workers and the employer or the representative of the employer according to the Labour Courts Law No. 7036 [24]. Mediation is a mandatory process in advance of suing in Labour Courts. The rights of the craftsman are protected under Articles 1 to 3 of the Law of Intellectual Property Rights Number 5846. The utilization and any change of the work produced by a craftsman are subject to the craftsman's permission. In disputes such as the verbal or written form of the works, computer programs, photographs, maps, plans, projects, sketches, all kinds of architectural, urban designs, projects and models arising from this issue, Civil Courts for Intellectual Property are authorized [27].

Majority of the Turkish contract in the construction industry refer directly to the litigation process before applying to an alternative dispute resolution process (ADR) [10]. However, in some special cases such as labour [28], commercial [22] and consumer [26] related cases, mediation is a prerequisite of the application to the litigation process. By the same token, mediation as an ADR method is dictated by law in some special cases in Turkish Construction Industry. In other countries such as Europe and USA, ADR methods are part of the standard form of contracts. In FIDIC contract which is adopted all over the world as well as in Europe, Dispute Adjudication Board (DAB) and arbitration are referred to settle the dispute respectively [29]. In the UK, in New Engineering Contract 4 (NEC4), any dispute is to be referred to adjudication first, before applying to arbitration or litigation, as appropriate [30]. In the USA, The American Institute of Architects (AIA) contract pinpoints Dispute Review Board (DRB) which is known as DAB in FIDIC contract, mediation, arbitration and Initial Decision Maker (IDM) to settle the dispute between the contracting parties [31].

With regard to neutral dispute resolution, court types and their authorizations differ from country to country. Litigation is one of the most common and reliable processes to resolve disputes within the construction industry. In the UK, Technology and Construction Court (TCC) deals with construction dispute cases (e.g., buildings, engineering and surveying). TCC is part of the Queen's Bench Division of the High Court of Justice under the Civil Deviation of the Court of Appeal under the Supreme Court of the United Kingdom. TCC accepts disputes which are over the value of £250,000. The amount which is under this is dealt at the County Court [32]. The fact that there is a court for construction cases is the biggest feature that distinguishes the English court system from the Turkish court system.

In the USA, the federal court structure consists of three main levels which are district courts, also called as trial courts, circuit courts which are the first level of appeal, and the Supreme Court which is the final level of appeal. In the USA, a small percentage of the construction disputes filed end up going to litigation because the majority of the cases are resolved before the litigation process or assigned over to arbitration; therefore, 1 or 2 percent of the cases are carried to the litigation statistically. In the USA, decision-makers in the construction industry

do not elect to have a jury trial. The litigation system in the USA is similar to the Turkish litigation system in terms of having 3 levels of the court hierarchy.

### 3. TURKISH JUDICIAL SYSTEM

Filing a lawsuit and responding to the filed lawsuit are conducted with a petition. The time for the defendant to respond to the petition begins with the petition of the lawsuit notified to the defendant, and this period is two weeks (HMK m. 127). However, if the defendant party does not submit the rebuttal petition to the court, it is deemed to disclaim all claims of the plaintiff in the petition (HMK m.128). If there is a reply petition by the defendant, 2 weeks is allowed for the claimant to give a rejoinder petition (HMK m.136). The petitions must be written clearly, and evidence and the defence are proved thoroughly to the concerned court (HMK m.129). The claimant should apply to the authorized courts; otherwise, the prerequisite of the case is not fulfilled. Due to missing knowledge concerning the authorization of the courts by construction practitioners as well as judicial actors, numerous numbers of construction-related cases have been rejected by superior courts [13]. These interminable inappropriate acts prolong the hearings and conclude with the time and cost overrun as well as deteriorate the relationships of the contracting parties. In cases of hesitation in the understanding of the court's authority regarding the subject of the case. Regional Courts authorize the relevant Court of First Instance and the Courts of Cassation authorize the relevant Regional Courts (HMK m. 22). If a lawsuit is not filed to the authorized court, the court which is applied gives a decision of rejection of the venue. Plaintiff should apply to the court to take the case to the authorized court within the following two weeks; otherwise, the case is deemed as have not been opened (HMK m.20). The process of Courts of First Instance is illustrated in Figure 2 below.

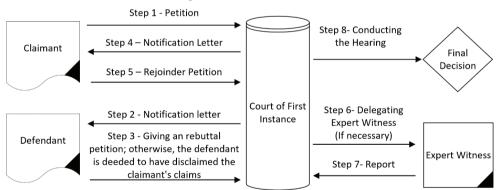


Figure 2 - Process of Courts of First Instance

Courts of First Instance concerning judicial justice consist of Civil Courts of Peace, Civil Courts of General Jurisdiction, and Specialized Courts [21]. Commercial Court, Consumer Court, Family Court, Labour Court, Cadastral Court, Civil Courts for Intellectual Property Rights and Marine Court are categorized under Specialized Courts. Civil Courts of General Jurisdiction are authorized in the case of the absence of Specialized Courts.

Regional Courts of Justice were established for appeal with the law numbered 5235 in 2004 and started their duties in 2016, and thus, judicial justice has become a three-level judicial system [33]. There are 191 Law offices and 177 criminal offices in the Regional Courts of Justice [34]. If the case amount is over the monetary limit which is defined by Article 341 in the Law of Civil Procedure, the parties can apply to Regional Court for an appeal within 2 weeks following the decision of the Courts of First Instance (Hukuk Muhakemeleri Kanunu m.345) [22]. This monetary limit is increased every year by the General Notification of the Tax Procedure Law (HMK Ek Mad. 1) [22]. If the due date of application to the superior court falls into the judicial vacation, the periods are deemed to be extended by one week from the end day of the judicial vacation, without the need for a separate decision (HMK m. 104) [22].

The Courts of Cassation, which is the last review authority in judicial justice, is in charge of reviewing the decisions of Regional Court (Yargıtay Kanunu m.1) [35]. There are twenty-three legal departments in the Courts of Cassation charged with reviewing civil cases, and this number has been changed to twelve in 2016 with the law numbered 6723 [36]; however, this change hasn't come into force. One of the parties can apply to Court of Cassation for an appeal within 2 weeks following the decision of the Regional Court (Hukuk Muhakemeleri Kanunu m.361) [22] as long as the case price is over the monetary limit which is defined by articles 362 and 369 in the Law of Civil Procedure. This price is increased every year by the General Notification of the Tax Procedure Law (HMK Ek Mad. 1) [22]. The case is examined at the General Assembly of Civil Chamber when the Courts of First Instance resist the reversion decision given by the Courts of Cassation. Additionally, General Assembly of Law is authorized when there is a conflict concerning jurisprudence between the civil chambers of courts of cassation and when one of the chambers intends to change a jurisprudence (Yargıtay Kanunu m.15) [35].

During the judicial process, actors such as judges, lawyers and expert witnesses play crucial roles to conduct the hearing most effectively. In Judicial Justice, being a judge requires graduation from an accredited law school, succeeding in a judgeship exam and interview, and being less than thirty-five years old [37], [38]. Justice Academy of Turkey (TAA) established in 2019 [39] provides training programs for judges, judge candidates, notaries and lawyers. Lawyers advocate for their clients in the court and in the other judicial bodies like arbitration, and thus a successful defence is vital for the triumphant hearing [40]. Also, certified lawyers can act as mediators during the mediation process [41]. Being a lawyer entails having an accredited law degree, completing a legal internship and registering in a Bar [40]. In addition to this, the candidates of lawyers, judges and notaries who graduated from law school after 1999 should pass the Entrance Exam for Legal Professions [42]. An expert witness is a natural person who is consulted for an expert report in order to provide technical information about the cases [43]. To be an expert witness, 24 hours of training concerning the proficiency of expert witness requires to be completed by the experts who are experienced in the concerning area for a minimum of 5 years. Every 3 years, 6 hours of theoretical and practical training is to be completed to renew the license of the expert witness.

## 4. METHODOLOGY

To thwart the negative consequences of the dispute, in this study, it was aimed to determine the average duration of the litigation process in higher courts, the most common disputed areas in the construction industry and the competency levels of judicial actors. Therefore, of 346 construction related lawsuits conducted between 2018 and 2021, 133 Regional Court decisions and 213 Court of Cassation decisions regarding the construction projects were reviewed. The cases were obtained from the official websites of Courts of Cassation and UYAP. To achieve the objective of this study, the reviewed cases were categorized according to the dispute subjects and project types with the help of content analysis. Later, the frequencies of the following comparisons were computed and average duration of the litigation process in higher courts was determined by using frequency analysis with SPSS software: "Project Types versus the number of cases conducted by regional courts and courts of cassation", "The subject of the lawsuits versus the number of cases conducted by regional courts and courts of cassation", "Decision of Appellate Court versus the number of cases conducted by regional courts and courts of cassation", "Decision of Appellate Court versus Subjects of Lawsuits", "Project Types versus Subjects of Lawsuits", "Durations of Proceedings Conducted by Courts of Cassation". The summary of the methodology is illustrated in Figure 3 below.

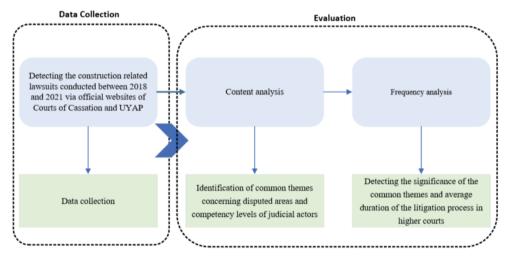


Figure 3 - Summary of Methodology

#### 5. FINDINGS

In the wake of investigating the 346 construction-related cases conducted between 2018 and 2021 with the help of content analysis and frequency analysis, the categorizations of Project Types of the cases and their frequencies as per the number of cases conducted by Regional Courts and Courts of Cassation are depicted in Table 1 below.

Table 1 - Frequencies of Project Types of the Cases Conducted by Regional Courts and
Courts of Cassation

	Number	and Frequen	Average Duration (Year)		
Project Types	Regional Court	Courts of Cassation	Frequency	Courts of Cassation	
Superstructure Works	68	191	75%	1.81	
Finishing Works	21	5	8%	2.20	
Electrical Works	5	3	2%	2.33	
Building Audit Works	1	6	2%	2.67	
Infrastructure Works	25	7	9%	1.71	
Electrical/Mechanical Works	5	1	2%	1.00	
Mechanical Works	3	-	1%	-	
Design Works	5	-	1%	-	
Total/Average	133	213	100%	1.84	

At the first glance of Table 1, in construction-related cases, the average duration of Courts of Cassation is 1.84 years. It turns out that the projects with the highest number of disputes are related to the superstructure works which constitute 75% of the total lawsuits. This is followed by Infrastructure works and finishing works with 9% and 8% respectively. Cases related to the "Building Audit Works" were resolved with the longest period of 2.67 years by the Courts of Cassation. The minimum duration of the case conducted by Courts of Cassation was related to Electrical/Mechanical Works, which is 1 year. Comparisons of the subjects of the lawsuits with the number of lawsuits conducted by Regional Courts and Courts of Cassation are tabulated in Table 2 below.

Table 2 - Frequencies of Subjects of the Lawsuits Conducted by Regional Courts and Courts of Cassation

Subjects of the Lawsuits	Number	and Frequenc	Average Duration (Year)	
Subjects of the Lawsuits	Regional Court	Courts of Cassation	Frequency	Courts of Cassation
Registration and Nullification for Deed and Title	18	62	23%	1.98
Occupational Accident	3	4	2%	2.00
Debit and Credit	79	77	45%	1.70
Termination of Contract	10	21	9%	1.81
Project Delay	12	36	14%	1.89
Defective Products	11	13	7%	1.85
Total/Average	133	213	1.84	

It is beyond the question that the biggest number of cases was related to monetary issues, which constitute 45% of the total cases. It is followed by Registration and Nullification for Deed and Title (23%) and Project Delay (14%), Termination of Contract (9%), Defective Products (7%) and Occupational Accident (2%). Additionally, while the minimum duration of the cases conducted by Courts of Cassation is higher than 1.7 years, dispute resulting from occupational accidents has a maximum duration of 2 years. Frequency analysis of the decisions made by Regional Courts and Courts of Cassation is given in Table 3 below.

Table 3 - Frequencies of the Decisions made by Regional Courts and Courts of Cassation

Final Decisions of Appellate	Numbe	er and Freque	Average Duration (Year)	
Courts	Regiona Courts of I Court Cassation		Frequency	Courts of Cassation
Reassessment - Unsuitable Case Condition	7	20	8%	2.30
Reassessment - Needs for Expert Judgment	1	2	1%	2.00
Approving the Verdict	31	40	21%	2.75
Reassessment - Decision of Rejection of Venue	51	72	36%	1.03
Reassessment - Missing Review and Wrong Assessment	38	67	30%	1.99
Approving Verdict with a Correction	0	5	1%	2.20
Reassessment - Defective Expert Judgment Report	4	6	3%	1.83
Reassessment - Not Offering Taking an Oath	1	1	1%	3.00
Total/Average	125	191	100%	1.84

The reassessment decision concerning the rejection of the venue – which results from the application to the wrong courts by plaintiffs and their lawyers - constitutes the biggest number of lawsuits by 36%. In addition to inadequacy of the knowledge of the lawyers regarding the authorizations of the courts, Judges in the Courts of First Instance heard these cases without rejecting them. It can be inferred from this study that the competency levels of the judicial actors such as lawyers and judges are not adequate in terms of authorizations of the courts. It is followed by the reassessment decisions resulting from Missing Review and Wrong Assessment by 30% due to inadequacies of the judges in terms of construction related cases. Next, Unsuitable Case Condition constitutes 8% of the total cases which also implies the inadequacies of the lawyers and judges in terms of construction related cases. It is followed by Defective Expert Judgment Report by 3%. Not Offering Taking an Oath by 1% and Needs for Expert Judgment by 1%. Only 22.5% of the cases were approved by the Appellate Courts.

Comparing the cases depicted in Table 3, while lawsuits resulting in reassessment decisions due to rejection of venue took a minimum duration which is 1.03 years, lawsuits resulting in reassessment decisions due to not offering to take an oath took a maximum duration which is 3 years. Decisions of Regional Courts and Courts of Cassation are compared with the case subjects as depicted in Table 4 below.

Table 4 - Comparison of the Decisions of Regional Courts and Courts of Cassation with Case Subjects

	Subjects of Lawsuits						
Final Decisions of Appellate Courts	Debit and Credit	Defective Products	Project Delay	Occupational Accident	Termination of Contract	Registration and Nullification for Deed and Title	Total
Reassessment - Needs for Expert Judgment	0.3%	0.0%	0.0%	0.3%	0.3%	0.0%	0.9%
Reassessment - Unsuitable Case Condition	3.8%	0.3%	0.3%	0.3%	0.9%	2.3%	7.8%
Reassessment - Missing Review and Wrong Assessment	12.1%	3.2%	5.5%	1.2%	3.8%	4.6%	30.3%
Reassessment - Decision of Rejection of Venue	19.4%	1.2%	4.3%	0.0%	2.0%	9.0%	35.8%
Approving Verdict with a Correction	0.3%	0.0%	0.3%	0.0%	0.0%	0.6%	1.2%
Approving the Verdict	9.0%	0.9%	3.2%	0.3%	1.2%	6.1%	20.5%
Reassessment - Defective Expert Judgment Report	1.4%	0.6%	0.0%	0.0%	0.9%	0.0%	2.9%
Reassessment - Not Offering Taking an Oath	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.6%
Total	46.2%	6.1%	13.6 %	2.0%	9.0%	23.1%	100%

Reassessment decisions were made by Regional Courts and Courts of Cassation for 78.3% of the cases. By the same token, Courts of First Instance made the wrong determination by 78.3%. It is clearly revealed that the competency levels of the actors taking part in the Courts of First Instance have to be improved. The most problematic area is the authorization of courts concerning Debit and Credit related issues, which constitutes 19% of the total cases. Secondly, decisions of Courts of First Instance were rejected by Appellate Courts by 12% for the cases concerning Debit and Credit issues. 9% of the cases related to Registration and

Nullification for Deed and Title were rejected by Appellate Courts due to filing the lawsuit to the unauthorized courts. A comparison between the project types and the subject of the lawsuits is illustrated in Table 5 below.

Table 5 - Comparison of the Decisions of Regional Courts and Courts of Cassation with Project Types

Subjects of Lawsuits							
Project Types	Debit and Credit	Defective Products	Project Delay	Occupational Accident	Termination of Contract	Registration and Nullification for Deed and Title	Total
Infrastructure	5.5%	1.4%	1.7%	0.0%	0.3%	0.3%	9.2%
Electrical Works	1.4%	0.3%	0.0%	0.6%	0.0%	0.0%	2.3%
Finishing Works	5.5%	1.2%	0.3%	0.0%	0.0%	0.3%	7.2%
<b>Building Audit Works</b>	0.3%	0.3%	0.9%	0.0%	0.6%	0.0%	2.0%
Superstructure	30.1%	2.9%	10.1%	1.4%	8.1%	22.5%	75.1%
Electrical/Mechanical Works	1.4%	0.0%	0.3%	0.0%	0.0%	0.0%	1.7%
Mechanical Works	0.6%	0.0%	0.3%	0.0%	0.0%	0.0%	0.9%
Design	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%
Total	46.2%	6.1%	13.6%	2.0%	9.0%	23.1%	100.0%

30% of the debit and credit-related cases are related to superstructure projects. Also, 23% of the superstructure project related cases were associated with nullification for deed and title. In addition to this, 10% of the cases concerning project delay resulted from superstructure projects. Furthermore, 8% of the total cases related to superstructure works were about the termination of the project contract. When the remaining remarkable figures are examined, 5.5% of the cases relate to debit and credit and finishing works, and 5.5% of the cases are related to debit and credit and infrastructure work. Durations concerning the lawsuits conducted by Courts of Cassation are depicted in Table 6 below.

Table 6 - Durations of Proceedings Conducted by Courts of Cassation

Courts	Case Duration (Year)				
Courts	Minimum		Maximum		
Courts of Cassation	1	1.84	3		

As is derived from the study, the cases of the third degree of appellate courts named Courts of Cassation took 1.84 years as average while the longest period of the cases is 3 years and the shortest period of the cases is 1 year.

#### 6. DISCUSSIONS

Since project contract is one of the major sources of dispute, the first step to be taken for the prevention of disputes is to form the project contracts thoroughly, correctly and understandably [44], [45]. In the UK, construction actors are also of the opinion that an improved project contract better governs the project management which enables the decision makers to settle the disputes [46]. As is defined in the "Freedom of Form Principle" defined in the Law of Obligations, the contract is not subject to any form unless otherwise stated in the law. However, as is derived from the reviewed lawsuits, most of the contracts of the cases subject to Contract of Work were formed verbally, which ended up with time consumption due to lack of proof.

It is derived from this study that litigation is a long-lasting process and may deteriorate business relationships. This very long process of litigation also contradicts the basic law principle, namely the necessity of concluding cases within a reasonable time, which is also called judicial economy [47], [48].

Superstructure works, finishing works and infrastructure works are the most sensitive projects in terms of the disputes related to monetary issues; therefore, the contracts of these projects are to be clear concerning the debt and credit-related issues [8]. The majority of the disputes in superstructure projects are related to the subjects concerning the nullification for deed and title, project delays and termination of the project contract. Preparation of the project contracts of superstructure projects by considering these subjects is very vital in terms of clarity and covering all project scopes. In addition to contract preparation, managing the contract with the adoption of BIM in construction projects may also enable the practitioners to manage all project scopes thoroughly [49].

One of the most imperative project deliverables to be considered when making a construction contract is project duration; however, it is difficult to accomplish a construction project in which many construction activities are beyond the control of the contractor [50], [51]. It was also detected in this study that most of the projects end up with disputes due to delays in projects. Despite the efforts made by construction practitioners and a great deal of empirical research, construction projects still suffer from delays and the risks of construction delay are global issues, with more than 40% of projects in the construction industry being delayed worldwide [52], [53].

Also, some of the disputes concerning the design work detected in this study were related to intellectual property rights, and these cases were conducted by Civil Courts for Intellectual Property. Concerning the issue of intellectual property rights, most project contract forms do not fully define it although the issue is of interest to project stakeholders [49].

Defective expert witness report is one of the major causes of rejection of the cases by Courts of Cassations, which undermine the litigation process. One of the biggest reasons can be shown as the lack of qualifications of expert witnesses. The experience in lawsuits reveals that numerous expert witnesses are very inadequate to improve themselves in terms of

technology changing rapidly [54]. Secondly, expert witnesses in the construction industry tend to accept all kinds of cases without considering their expertise areas [10].

As is derived from this study, one of the most problematic areas in construction-related cases is the lack of knowledge of construction and law actors concerning the authorizations of the Court of First Instance. Enough law lectures concerning law are not provided in engineering and architectural departments, and availability of little if any lawyers - who specialized in a certain domain - is very problematic. These issues may cause the application of unauthorized courts which can delay the litigation processes further. Also, since construction actors have limited knowledge about the litigation process, the majority of the disputes occurring in the construction projects tend to be carried to the litigation without considering the drawbacks of the litigation process.

The majority of the lawsuits were related to the disputes resulting from debit and credit issues for which Commercial Courts and Civil Courts are authorized. Firstly, the inadequate definitions of the contract terms related to payment may result in dispute among contracting parties. Additionally, inefficiency and ineffectiveness of the mediation process related to commercial cases also increase the number of the debit and credit related lawsuits [13]. It is also asserted in the literature that changes in projects can be overwhelming and have a significant impact on project success and profitability ending up debit and credit related disputes [55]; therefore, changes in construction projects are also to be managed thoroughly.

It was detected that reassessment decisions concerning the rejection of the venue were made by the superior courts due to selecting the wrong courts by plaintiffs resulting from the inadequacies of the knowledge of the lawyers to the authorizations of the courts. Later, substantial numbers of the lawsuits were declined by the superior courts due to missing reviews and wrong assessments performed by the judges. In addition to this, judges in the Courts of First Instance heard these cases without rejecting them. These drawbacks stand for that the competency levels of the judges are also not adequate. Also, reassessment decisions due to unsuitable case conditions imply the inadequacies of the lawyers and judges in terms of construction related cases. Furthermore, a great number of the lawsuits were declined due to the defects in the expert witness reports, which indicate the disqualifications of expert witnesses.

#### 7. CONCLUSIONS AND RECOMMENDATIONS

Having sophisticated nature and involving a high number of stakeholders, construction projects mostly end up with disputes resulting in the litigation process. An in-depth investigation of construction-related lawsuits is extremely important for diminishing the disputes in the construction industry as well as reveal the drawbacks concerning the litigation process related to the construction industry. Hence, this study aimed to divulge the most common dispute causes in the construction industry, the competency levels of judicial actors including expert witnesses and the average duration of the litigation process for the superior courts.

Regional Courts and Courts of Cassation gave reassessment decisions by 78.3% of the cases. Reassessment decision due to rejection of venue constitutes the majority of the rejected lawsuits by superior courts. It is followed by "Missing Review and Wrong Assessment",

"Unsuitable Case Condition", "Defective Expert Judgment Report", "Needs for Expert Judgment" and "Not Offering Taking an Oath" respectively. To reduce the number of the reassessment decisions, competency levels of judicial actors concerning debit and credit related lawsuits are to be improved in Commercial Courts and Civil Courts. Additionally, participating in the cases conducted by Courts of First Instance, judicial actors' competency levels related to project delay and registration and nullification for deed and title also have to be increased in order to diminish wrong determination of the cases as well as reduce the duration of the litigation process. Next, petitions, rebuttal petitions rejoinder petitions - whose processes are also defined in Figure 2 - have to be written by lawyers whose experiences are closely related to the case subject in order to diminish the number of unsuccessful lawsuits resulting from rejection of venue. Later, the expertise areas of expert witnesses in the construction industry have to be more specific to reduce defective expert witness reports. Also, the qualifications of expert witnesses can be improved by accelerating the training duration and including a final exam in the training program.

The vast majority of construction-related cases arise from projects with superstructure works. It is followed by Infrastructure Works, Finishing Works, Building Audit Works, Electrical Works, Mechanical Works and Design Works. Additionally, with regards to superstructure projects, "Debit and Credit" related disputes constitute the majority of the lawsuits. Furthermore, it is detected that Courts of Cassation rejected majority of the lawsuits related to "Debit and Credit". To improve the dispute resolution process in the construction industry in Turkey, contract terms should be improved in accordance with the subjects concerning debit and credit. Other sources of the disputes - which are Registration and "Nullification for Deed and Title", "Project Delay", "Termination of Contract", "Defective Products" and "Occupational Accident" respectively - are relatively less compared to the debit and credit related cases; however, they are significant and also require to be controlled and monitored closely in construction projects.

Since project contract is one of the sources of the dispute, standard forms of contracts for Turkish construction industry can be formed to reduce contract-related disputes. Also, since construction projects are complex in nature, all contracts in the construction industry should be formed in written or official forms rather than verbal ones to diminish misapprehensions.

Moreover, the litigation process was detected as a very lengthy process. Average duration of litigation process conducted by Courts of Cassations was detected as 1.84 years. As is detected in this study, the dispute resolution process is long; therefore, being defined by Law of Civil Procedure, the monetary limits concerning carrying the cases to the upper courts can be increased in order to reduce the duration of the litigation process. By considering the lengthy litigation process, contracting parties are recommended to consider alternative dispute resolution processes in their contract before seeking their rights through litigation. By the same token, the project contract should refer to the reasonable dispute resolution process to which contracting parties can apply in case of any dispute between the contracting parties instead of directly referring to the litigation process whose prolongation may result in monetary loss and deterioration of relationships. Furthermore, it is also highly suggested that alternative dispute resolution processes such as arbitration, mediation, dispute adjudication process, expert determination and negotiation can be part of the lectures for the Bachelor's Degree in engineering and architecture departments.

To diminish the number of disputes carried to the litigation, it is also recommended that construction law lectures are to be included in the bachelor's degrees of engineering, architecture and law departments. Since delay is one of the major sources of the dispute, employing a scheduler may also contribute to lowering the number of disputes related to project delays by informing the possible delays in advance. Additionally, disputes related to the design work resulted from intellectual property rights which were conducted by Civil Courts for Intellectual Property. To diminish the number of lawsuits, the awareness of construction actors in terms of property rights can be risen by involving this subject in the bachelor's degree in engineering and architecture departments.

This study is unique by investigating dispute domains in the construction industry from law point of view. It is believed that this study will pave the way for improving the constructional dispute resolution process with the help of the outputs of this study. Moreover, this study is also believed to shed light on the improvement of the litigation process by illuminating the possible inadequacies encountered during the course of construction-related proceedings. Furthermore, this study may enable the legislative to improve the legislation concerning Contract of Works in Code of Obligation numbered 6098 in Turkey by considering the abovementioned outputs.

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