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Adjudication as a Dispute Resolution Mechanism in the Saudi Construction Industry

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Abstract This research investigates the possibility of adjudication as a dispute resolution mechanism for construction disputes in the Kingdom of Saudi Arabia. The research focuses on construction law adjudication in the United Kingdom, particularly on the Housing Grant, Construction, and Regeneration Act and the Scheme for Construction Contracts, to be able to show the process of adjudication in relation to construction disputes. The researcher believes that if the United Kingdom and other common law countries were able to make adjudication a statutory law, then the Kingdom, with its rapid growth in the construction industry, should take the initiative to adopt or create an adjudication process to be applied in construction disputes. Adjudication is a speedy dispute resolution process and can improve cash flow and limit delays in the completion of construction projects. The researcher conducted a qualitative study by scrutinising documents related to the topic and interviewing construction professionals and stakeholders within the Kingdom. The feedback was promising for future research on the topic and the possibility of making it legal by including it in the present Public Works Contract or therecently drafted Public Construction Contract.

Keywords Adjudication, Dispute, Construction Contract, HGCR, and Scheme for Construction Contracts

1. Introduction

1.1. Background of the Study

Saudi Arabia, through its Crown prince and Chairman of the Council of Economic and Development Affairs, Mohammad bin Salman bin Abdulaziz Al-Saud, recently presented the Kingdom of Saudi Arabia's long-term vision, *Saudi Vision 2030*. It is the vision of the Kingdom of Saudi Arabia (KSA) to become the heart of the Arab and Islamic worlds, with a determination to become a global investment powerhouse and transform the country's unique strategic location into a global hub. The Crown Prince said it is an ambitious yet achievable plan, which expresses the long-term goals and expectations reflected in the country's strengths and capabilities.

Almutairi (2015) stated that there is a boom in the economy, particularly in the construction industry. It can be gleaned from *Saudi Vision 2030* that the government will increase activity on expanding infrastructure. According to the Arab News (2017), *Saudi Vision 2030* is proving to be effective, with the Kingdom's construction sector showing growth potential. According to the report, the Vision, which plans to move the economy away from oil profits, is driving construction activity in both residential and non-residential segments.

Hussein (2014) said that Madjid Karoub cautioned thatif litigation problems in the construction industry were not addressed, economic development and government administration would be hindered. According to Almutairi (2015), the increasing number of contract litigations before the courts could interrupt the judiciary sector and other related services.

1.2. Motivation for the Study

Despite the opportunities in Saudi's construction sector, there are various challenges that need to be resolved. According to Almutairi (2015), different construction methods and different contract specifications, among other issues, are some of the major problems facing construction projects. These issues often result in litigation, which, according to him, is "problematic" because it delays the completion of the contested projects.

1.3. Aims and Objectives

In particular, the researcher aims to achieve the following:

1. To study laws of foreign jurisdictions regarding adjudication
2. To study cases decided by adjudicators
3. To examine previous research that is related to the present study
4. To present the findings and conclusions of previous

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studies
5. To identify the gaps existing in the previous studies and laws that were analysed
6. To observe the events occurring on a construction site and
7. To apply these findings in the introduction of adjudication as a form of dispute resolution in the Kingdom.

1.4. Research Questions

The researcher sought to determine the benefits of having an adjudication clause in construction contracts as a means of settling disputes that may arise during the implementation of projects covered by a particular contract, entered into by the contracting parties. Specifically, answers were sought to the following:

1. Whether adjudication can be an effective means of settling construction disputes in the Kingdom;
2. Whether adjudication may lessen the clogging of judicial cases pertaining to constructions; and
3. Whether the comprehensive explanation of this paper on the advantages of adjudication may persuade parties to include an adjudication clause in their construction contracts.

1.5. Scope and Limitations of the Study

The research covered adjudication as defined by laws in different jurisdictions. It includes adjudication, as compared to litigation and other modes of settling disputes. This research comprehensively scrutinised the United Kingdom's Housing Grants, Construction, and Regeneration Act of 1996, particularly on adjudication, as well as the provisions of the Scheme for Construction Contracts to be able to show its processes, procedures, and applicability.

This research covered relevant cases from the United Kingdom that involved adjudication and analysed works published and readily available on the internet that can be cited accurately, some from studies in different countries or the laws of other countries. The researcher interviewed relevant professionals, such as those with knowledge of adjudication and the law of the Kingdom; work owners; engineers; and people who manage construction sites.

This research was limited to the use of documents that are relevant to the topic of this research. Interviews were limited to no less than 15 people, with the exception of foreign experts available for a chatroom interview. No less than 15 questions were asked on the topic, The observation covered events related to construction activities that could lead to conflicts or disputes.

1.6. Research Significance

Many previous studies related to the construction industry in the Kingdom of Saudi Arabia have been conducted. Examples of previous studies are as follows:

1. *Causes of litigation in the Saudi Arabian construction industry* (Almutairi, 2015);
2. *A review of projects and construction law practice in Saudi Arabia* (Medallah, 2015);
3. *Lean construction as an innovative approach for minimising risks in Mega-Construction projects in the Kingdom of Saudi Arabia* (Mohamed, 2016);
4. *Barriers to implementing lean construction practices in the Kingdom of Saudi Arabia (KSA) construction industry* (Sarhan, Xia, Fawzia, Karim, & Olanipekun, 2018); and
5. *Saudi Arabian green economy infrastructure: Barriers, strategies & opportunity - An analysis* (Albanawi, 2015).

1.7. Need for the Research

Previous research pertaining to construction in Saudi Arabia has focused either on litigation or other modes of dispute resolutions. While there are a few mentions of adjudication in the literature, as yet no one has undertaken a comprehensive study of adjudication as a mode of dispute resolution in the Kingdom of Saudi Arabia.

2. Literature Review

The literature review identified gaps in previous studies and suggested how this research can fill those gaps. It also uses plain language for the reader to have a better understanding.

2.1. Research Background

This literature review explains and clearly defines construction contracts, as well as discussing the clauses thata construction contract should contain. This review also identifies research based on construction contract conflicts, its sources, and manners of resolution. Various modes of dispute resolution are briefly discussed and compared with adjudication and literature defining and explaining adjudication is reviewed. From the literature review, the researcher identified the solutions proffered by previous studies and determined the gaps that this proposed research might fill.

2.2. Existing Body of Knowledge

This section will describe the background of the research and will examine the existing body of knowledge on relevant topics pertaining to this research.

2.2.1. Construction Contracts

Rodriguez (2017) defined a construction contract as a document containing the agreement, the date, and the parties who will participate in the construction process. He stated that a construction agreement is usually executed between the owner of the project and the contractor, or supplier that provides the services.

2.2.2. Construction Conflicts and Disputes

Keator (2011), citing Burton (1990), defined a dispute as a

short-term disagreement where the disputants can negotiate the issues involved. On the other hand, he defined conflict as a deeply rooted issue that is seen as "non-negotiable". In this present research, however, the words will be used interchangeably. Cakmak and Cakmak (2013) and Rauzana (2016) described the construction industry as a complex and competitive environment where participants with different views, talents, and levels of knowledge of the construction process work together.

Conflict seems to be synonymous with construction projects, with problems such as project costs, project delays, reduced productivity, loss of profit, or damage in business relationships at the root of this conflict (Jaffar, Tharim, & Shuib, 2011). McManamy (1994) stated, "The complex and lengthy process of designing and building makes construction a process in which disputes are virtually ensured". Conflicts in the construction industry arise due to the involvement of different disciplines in the projects, all facing many relative uncertainties, which makes conflicts and disputes almost inevitable (Whitfield, 1994).

2.2.3. Sources of Conflicts in Constructions

Jaffar et al. (2011) classified the causes of conflicts into three groups:

1. Conflicts due to behavioral problems;
2. Conflicts due to contractual problems; and
3. Conflicts due to technical problems.

Jaffar et al. (2011) stated that behavioural problems include human interaction, personality, cultures, and the professional backgrounds of the parties involved. They cited Vorster (1993), who said conflicts are due to individual ambition, frustration, desire, communication, level of power, fraud, and faith. Hohns (1979) said in construction it is well served if the parties know about the people involved.

Cakmak and Cakmak (2013) adapted the causes of disputes reported byKumaraswamy (1997), classifying them into sevencategories. These categories are shown in Table 1, below:

Table 1. Categories of the Most Common Causes of Disputes

Cause of Disputes	Category
1.1 Variations initiated by the owner	**Owner Related Sources**
1.2 Change in the scope of work	
1.3 Delay in giving possession	
1.4 Accelerating work completion	
1.5 Unrealistic expectations	
1.6 Delay in payment	
Delay in work progression	**Contractor Related Causes**
2.2 Time extensions	
2.3 Financial failure of the contractor	
2.4 Technical inadequacy of the contractor	
2.5 Tendering	
2.6 Quality of work	
3.1 Design error	**Design Related Causes**
3.2 Incomplete specifications	
3.3 Quality of design	
3.4 Availability of information	
4.1 Ambiguities in the contract documents	**Contract Related Causes**
4.2 Different interpretations of the contract provisions	
4.3 Risk allocation	
4.4 Other contractual problems	
5.1 Adversarial/controversial culture	**Human Behaviour Causes**
5.2 Lack of communication	
5.3 Lack of team spirit	
6.1 Site conditions	**Project Related Causes**
6.2 Unforeseen Changes	
7.1 Weather	**External Factors**
7.2 Legal economic factor	
7.3 Fragmented structure of the sector	

2.2.4. Manner of Resolving Disputes

2.2.4.1. Meetings/ Negotiation

Cheung (2014) stated that if a problem cannot be prevented, the first step to resolving it is, typically, to start with negotiation between the disputants. Negotiation, according to Cheung, empowers the parties' absolutefreedom to choose the form, process, or type of agreement they come to. Negotiating construction problems demands cooperative effort from the disputants (Cheung, 2014). Carter and Kadir (2016) provided the option of meetings to resolve disputes. Meetings are useful because parties can meet to talk frankly about the dispute.

2.2.4.2. Mediation

Kessler (2017) stated that mediation is a private dispute resolution process where a mediator is a neutral party who has no vested interest in the outcome and is trained to facilitate a settlement between parties. A party may enter mediation voluntarily, or as a result of a court order, and it does not bind the parties in any way other than by mutual agreement (Harmon, 2002).

Kelsey (2018) declared that a skilled mediator will facilitate a solution to a problem that may best fit the needs of parties but has no power to decide who is right or who is wrong. With this process, the mediator attempts to understand the issues and desires of the disputants to develop a strategy to guide the disputants to the goal of resolving the conflict to each party's satisfaction.

2.2.4.3. Arbitration

Arbitration clauses have been used in standard agreements since 1871 and for many years it has been used as an alternative to litigation. Binding arbitration is a process where the opposing parties submit their dispute or conflict for a binding determination by one, or a panel of, arbitrators. Another difference is that adjudication is a private matter, unlike litigation (Harmon, 2003).

An arbitration decision is usually rendered after the close of the hearing and is binding on all parties (Harmon, 2003). An award is the full and final settlement of all the disputes, and the decision is final and unlikely to be vacated except on grounds such as fraud, corruption, arbitrator misconduct, prejudicing the rights of a party, or refusal to hear evidence (Harmon, 2003). In the case of *First Preservation Capital vs. Smith Barney* (1996), the court held that it would overturn an arbitration award only if there is a "manifest disregard of the law".

Arbitration may sometimes be the nominated dispute resolution procedure in a construction contract. It should be seen as a last resort because it is best employed in large complex disputes where the parties intend to continue with their commercial relationship (Carter & Kadir, 2016).

Litigation

Almutairi (2015) stated that litigation in construction projects has varying impacts all over the world and can lead to a cascade of financial consequences for the contractor and project owners. In the same manner, Carter and Kadir (2016) stated that court action can be a long and expensive process that may end up with a decrease in the sum claimed in a dispute if it is not managed properly.

2.2.4.4. Adjudication

According to Redmond (2001), adjudication is meaningless unless it is qualified by adding to the particular model of adjudication that is being discussed. He said adjudication is a word that has been used to describe various dispute resolution processes in construction projects for many years.

This research pertains to adjudication as it is found in construction industries. It will be discussed in detail below in relation to some common law countries' construction contracts and laws. Before discussing its process, it should be noted that there are two kinds of adjudication: contractual adjudication and statutory adjudication. Ranasinghe and Korale (2011) stated that contractual adjudication is provided for in the conditions of a contract in the absence of a statute governing adjudication. Statutory adjudication, on the other hand, is governed by legislation, such as the UK's Housing Grant Construction and Regeneration Act 1996.

Parties to adjudication often concentrate on the legal aspect of adjudication. Giwani (2009) stated that there are three principal points to consider in adjudication, which are: practical points pre-adjudication; during adjudication; and post-adjudication. Adjudication is a 28-day process (subject to extension by agreement) and is considered to be a quick and confidential process. It can be automatically available at any time if it is included in a construction contract. A successful party may seek the court's order to enforce the decision (Carter & Kadir, 2016).

Housing Grants, Construction and Regeneration Act 1996 of the United Kingdom (HGCR)

The HGCR Act is an Act of Parliament of the United Kingdom and came into force in May 1998. It is also known as the Construction Act. According to the Act, if the contract does not comply with the requirements, then the Scheme for Construction Contracts is the scheme that applies. The 2011 amendment made the Act applicable to all construction contracts, including those that are not in writing. However, the adjudication clause must still be in writing. Muigua (2011) stated that the Act was enacted to regulate matters on construction contracts and architectural work, including dispute resolution in the construction industry. In *Christiani & Nelson Limited versus The Lowry Centre Development Co. Ltd* (2000), the court held that parties to a contract could not contract out of the terms of the Act.

The objective of the Act was shown in the case of *Macob Civil Engineering Ltd versus Morrison Construction Ltd* (1999). According to the court, the intention of the Parliament was plain, the purpose of adjudication is to introduce a speedy mechanism for settling disputes on a provisional interim basis and requires a decision to be enforced, pending the final determination of disputes by arbitration, litigation, or agreement.

2.2.5. Overview of Construction Contract under Housing Grants, Construction and Regeneration Act 1996

The HGRC Act is an omnibus Act, as the title itselfimplies. It does not deal with matters regarding construction only, instead, it has different sections relating to different topics. Part II of the Act, which is the subject of this research, pertains to construction contracts and was summarised by Muigua (2011) as follows:

a. Definition of a construction contract, section 104-107;
b. The provision for adjudication, section 108;
c. Provisions concerning payments, section109-113; and
d. Supplementary provisions, section 114-117.

2.2.5.1. Definition of Construction Contract

A construction contract and its general definition are explained in clause 2.2.1 above. Under the HGCR Act, however, its broad definition is set out in sections 104 (1) and 104 (2):

"(1) In this Part a "construction contract" means an agreement with a person for any of the following—

(a) the carrying out of construction operations;
(b) arranging for the carrying out of construction operations by others, whether under sub-contract to him or otherwise;
(c) providing his labour, or the labour of others, for the carrying out of construction operations.

(2) References in this Part to a construction contract include an agreement—

(a) to do architectural, design, or surveying work, or
(b) to provide advice on building, engineering, interior or exterior decoration or on the laying-out of landscape, in relation to construction operations."

According to Redmond (2001), disputes arising from some other contract are not able to be referred to adjudication

under the Act, unless the parties agree to submit their dispute in this way. In the same manner, Muigua (2011) articulated that the Act excludes employment contracts and further provides that where a contract includes both construction and non-construction operation, then the Act only applies to the contract relating to construction.

2.2.5.2. Construction Operations

In order to determine whether a contract is indeed a construction contract, Section 105 paragraph 1 defines "construction operations" as follows:

"105 Meaning of "construction operations".

(1) In this Part "construction operations" means, subject as follows, operations of any of the following descriptions—

(a) construction, alteration, repair, maintenance, extension, demolition, or dismantling of buildings, or structures forming, or to form, part of the land (whether permanent or not);

(b) construction, alteration, repair, maintenance, extension, demolition, or dismantling of any works forming, or to form, part of the land, including (without prejudice to the foregoing) walls, roadworks, power lines, telecommunication apparatus, aircraft runways, docks and harbours, railways, inland waterways, pipe-lines, reservoirs, water-mains, wells, sewers, industrial plant and installations for purposes of land drainage, coast protection or defence;

(c) installation in any building or structure of fittings forming part of the land, including (without prejudice to the foregoing) systems of heating, lighting, air-conditioning, ventilation, power supply, drainage, sanitation, water supply or fire protection, or security or communications systems;

(d) external or internal cleaning of buildings and structures, so far as carried out in the course of their construction, alteration, repair, extension, or restoration;

(e) operations which form an integral part of, or are preparatory to, or are for rendering complete, such operations as are previously described in this subsection, including site clearance, earth-moving, excavation, tunnelling and boring, laying of foundations, erection, maintenance or dismantling of scaffolding, site restoration, landscaping and the provision of roadways and other access works;

(f) painting or decorating the internal or external surfaces of any building or structure."

The only exception is that for an operation to be described as a construction operation it needs to be a work that will form part of the land. The phrase, "*part of the land*", relates to the principle in the classic case of *Minshall versus Lloyd* (1837) that "goods that are fixed to the land become the property of the owner of the freehold of the land, subject to the interest of any relevant leaseholder or other person with an interest in the land" (Redmond, 2001).

In the case of *Gibson Lea Retail Interiors Ltd versus Makro Self Service Wholesalers Ltd* (2001), the court held that shop fitting works were "not" construction operations under the HGCR Act because the fittings supplied were not fixtures. However, Muigua (2011) articulated that, based on the above case, where a contract provides for an adjudication dispute resolution process, adjudication and the HGCR Act provisions on adjudication will apply whether or not the work is a construction operation. According to him, if the contract does not provide for adjudication, a party who intends to refer the matter to arbitration must check if it is excluded or not under the HGCR Act.

2.2.5.3. Agreement in Writing

Section 107 of the HGCR Act provides:

107 Provisions applicable only to agreements in writing.

(1) The provisions of this Part apply only where the construction contract is in writing, and any other agreement between the parties as to any matter is effective for the purposes of this Part only if in writing.

The expressions "agreement", "agree" and "agreed" shall be construed accordingly.

(2) There is an agreement in writing—

(a) if the agreement is made in writing (whether or not it is signed by the parties),

(b) if the agreement is made by an exchange of communications in writing, or

(c) if the agreement is evidenced in writing.

(3) Where parties agree otherwise than in writing by reference to terms which are in writing, they make an agreement in writing.

(4) An agreement is evidenced in writing if an agreement made otherwise than in writing is recorded by one of the parties, or by a third party, with the authority of the parties to the agreement.

(5) An exchange of written submissions in adjudication proceedings, or in arbitral or legal proceedings in which the existence of an agreement otherwise than in writing is alleged by one party against another party and not denied by the other party in his response constitutes as between those parties an agreement in writing to the effect alleged.

Redmond (2001) stated that if the agreement is in writing, the parties automatically have the right to refer the dispute to adjudication. However, this time, the entire provisions of section 106 are deleted. The Construction Act now applies to all construction contracts, whether they are wholly in writing, partially in writing, or wholly oral. One must note that despite the amendment, adjudication clauses must still be in writing, otherwise, the scheme for construction contracts applies.

2.2.6. Overview of Adjudication under the HGCR Act 1996

The Statutory right to refer disputes to adjudication was provided in section 108 of the Act, as follows:

108 Right to refer disputes to adjudication.

(1) A party to a construction contract has the right to refer a dispute arising under the contract for adjudication under a procedure complying with this section.

For this purpose, "dispute" includes any difference.

(2) The contract shall—

(a) enable a party to give notice at any time of his intention to refer a dispute to adjudication;

(b) provide a timetable with the object of securing the appointment of the adjudicator and referral of the dispute to him within 7 days of such notice;

(c) require the adjudicator to reach a decision within 28 days of referral or such longer period as is agreed by the parties after the dispute has been referred;

(d) allow the adjudicator to extend the period of 28 days by up to 14 days, with the consent of the party by whom the dispute was referred;

(e) impose a duty on the adjudicator to act impartially; and

(f) enable the adjudicator to take the initiative in ascertaining the facts and the law.

(3) The contract shall provide that the decision of the adjudicator is binding until the dispute is finally determined by legal proceedings, by arbitration (if the contract provides for arbitration or the parties otherwise agree to arbitration), or by agreement.

The parties may agree to accept the decision of the adjudicator as finally determining the dispute.

(4) The contract shall also provide that the adjudicator is not liable for anything done or omitted in the discharge or purported discharge of his functions as adjudicator unless the act or omission is in bad faith and that any employee or agent of the adjudicator is similarly protected from liability.

(5) If the contract does not comply with the requirements of subsections (1) to (4), the adjudication provisions of the Scheme for Construction Contracts apply.

The UK's HGCR Act 1996, cited above in toto, sets out the minimum requirements for a statutory adjudication procedure. It was summarised by Gould (2007) as follows:

1. Notice: The party to a construction contract intending to refer a particular dispute to the adjudicator should have the right to give notice to the other party at any time;
2. Appointment of adjudicator: It is mandatory to secure the appointment of an adjudicator and furnish him with the details of the dispute within seven days of the notice;
3. Time scale: Appointed adjudicator should decide the case within a period of 28 days;
4. Extending timescale: With the consent of the parties, the 28 days can be extended another 14 days if it is agreed to during the time the dispute is referred to the adjudicator;
5. Act impartially: Adjudicators are statutorily required to act impartially;
6. Act inquisitorially: The Act requires that the adjudicator takes the initiative in ascertaining facts and the law. Hence, the adjudicator has the power to investigate the issue in a manner he deems fit.
7. Binding nature: The adjudicator's decision is binding until a dispute is finally determined by legal proceedings, arbitration, or agreement.
8. Immunity: Acts or omissions in the discharge of his functions as an adjudicator will not make him liable unless there is bad faith on his part.

According to Gould (2007), if parties to a construction contract in a contractual adjudication do not comply with the statutory requirements, then the above process will be implied to the contract. However, if the construction contract does comply, parties may include more detailed provisions, such as the enforcement of the decision.

Muigua (2011) stated that Section 108 (1) grants the freedom to any party to a construction contract to refer any dispute, arising under the contract, to adjudication, at any time while the contract is in force. He said that such referral is a right, and not an obligation, and thus the party referring has the freedom to decide whether to take the dispute to adjudication or another procedure permitted by their contract. The other party has no other option but to comply.

2.2.6.1. Decided Cases on Adjudication

Dispute within section 108 of the HGCR Act includes "any difference". It was anticipated by the Act that there may be some difficulty in establishing whether a dispute has arisen. The possibility of arguing a matter that has been decided by adjudication, and subsequently discovered that it is not in fact a dispute, would create serious doubt as to the enforcement of such a decision (Redmond, 2001).

It is clear in the Act, particularly Section 108 (1), that "dispute" includes "any difference". This was held in the case of *RG Carter Ltd versus Edmund Nuttall LTD* (2000). The facts show that Carter entered into a sub-contract with Edmund Nuttall, incorporating the standard terms of sub-contract DOM/1. The contract contained an adjudication clause. A dispute arose concerning the appropriate method for valuing the work, which Edmund Nuttall referred to as adjudication. Carter, instead of answering, applied to the Court for an injunction to stop the adjudication proceeding, claiming a lack of jurisdiction by the adjudicator. The court pronounced the following:

> **"A clause providing that a difference was not a dispute capable of reference to adjudication until mediation had taken place did not comply with Section 108 because a party has a right to adjudicate disputes (including differences) at any time. Such a clause attempts to postpone the right to adjudicate."**

Regarding Sections 108 (2), (3), and (4); they provide for optional stipulations on adjudication which parties may contract out. In the case of *Connex South Eastern Ltd versus M.J. Building Services Group plc* (2005), regarding the term"at any time", the court pronounced the following:

"In respect of the cross-appeal the phrase "at any time" meant exactly what it said. There were no time limits, and so a party could bring a dispute at any time even after completion of the works."

Section 108 (2) (c) requires the adjudicator to reach a decision within 28 days after referral, or a longer period agreed to by all parties involved. This is subject to the restrictions provided under Section 116, upon which the provisions are cited in toto below:

116 Reckoning periods of time.

(1) For the purposes of this Part periods of time shall be reckoned as follows.

(2) Where an act is required to be done within a specified period after or from a specified date, the period begins immediately after that date.

(3) Where the period would include Christmas Day, Good Friday, or a day which under the M6 Banking and Financial Dealings Act 1971 is a bank holiday in England and Wales or, as the case may be, in Scotland, that day shall be excluded.

According to Redmond (2001), if the contract does not contain the above requirements, it is not compliant with the Act and the law that will apply will be the Scheme for Construction Contracts.

The Act directs adjudicators to act impartially and fairly to all involved parties. The latter means that the tribunal should give the parties a reasonable opportunity to be heard and provide evidence against the claims of their opponent (Muigua, 2011). In the case of *RSL (South West) Ltd v Stansell Ltd* (2003), the court held that parties involved in an adjudication should be given.

In the case of *Specialist Ceiling Services Northern Limited versus ZVI Construction (UK) Limited* (2004), the court developed a test to determine bias in adjudication. The court held in this case that the adjudicator had applied the correct test to determine whether or not there was any risk of bias and had then gone on to reach a decision, uninfluenced by such "without prejudice" material as he had seen. As a result, there was no objective indication of bias or unfairness.

The Act provides that the decision of the adjudicator will remain binding until a final determination of the dispute by legal proceedings, arbitration, or agreement. Muigua (2011) added that an adjudicator and its employees or agents are exonerated from liability for any action or omission during their tenure except if there is bad faith. The case of *HG Construction Ltd versus Ashwell Homes (East Anglia) Ltd.* (2007) reiterated the principle that an adjudicator's decision may not be overruled by a subsequent adjudicator. To the extent that an adjudicator purports to decide any dispute that has already been decided by an earlier adjudicator, the later adjudicator's decision will not be binding.

In the case of *Balfour Beatty Construction Northern Ltd versus Modus Corovest (Blackpool) Ltd* (2008), the court, through Justice Coulson, held that the overriding principleis that the court will always endeavour to enforce the adjudicator's decision. The facts of the case were as follows:

2.3. Adjudication under the Scheme for Construction Contracts

Failure to comply with section 108 of the HGCR Act results in the automatic application of the Scheme for Construction Contracts. Redmond (2001) stated that the Scheme is not just supplementary to the contractual provisions or to fill in the gaps, instead, all of its adjudication provisions apply, including the provisions that deal with wider procedural issues than those required by Section 108. He said the Scheme may overrule provisions included in the contract even if it complies with the HGCR Act. The existence of a dispute, or "any difference", is the sole condition for bringing a matter to adjudication. No other procedure needs to be followed before referring the matter (Redmond, 2001).

Under paragraph 2, the Scheme mandates that the person selected by the parties or the "adjudicator nominating body" as adjudicator shall indicate, within two days of receiving the request, whether or not he is willing to act. The adjudicator nominating body is defined by the Scheme as a person or party not privy to the dispute but a publicly declared body that selects adjudicators as requested by a referring party. Paragraph 4 of the Scheme mandates that the adjudicator shall be a natural person who shall act in his personal capacity and not an employee of any of the parties to the dispute. Also, a person requested or selected to act as an adjudicator shall declare any interest, financial or otherwise, in any matter relating to the dispute.

Under paragraph 5(1) of the Scheme, the nominating body is required to communicate the selection of an adjudicator to the referring party within five days of receiving a request to do so. Failure of the nominating body to communicate the selection to the parties results in an option for the parties.

Under paragraph 5(3), in all circumstances, a person requested to act as adjudicator shall indicate whether or not he is willing to act within two days of receiving the request. If the adjudicator named indicates that he is unwilling to act or fails to respond, paragraph 6(1) gives power to the referring party to:

(a) request another person (if any) specified in the contract to act as adjudicator, or

(b) request the nominating body (if any) referred to in the contract to select a person to act as adjudicator, or

(c) request any other adjudicator nominating body to select a person to act as adjudicator.

Under paragraph 7(1), where an adjudicator has been selected in accordance with paragraphs 2, 5, or 6, the referring party shall, no later than seven days from the date of the notice of adjudication, refer the dispute in writing (the "referral notice") to the adjudicator. The referral notice shall be accompanied by copies of, or relevant extracts from, the construction contract and such other documents as the referring party intends to rely upon (Paragraph 7 (2)). In the same manner, copies of those documents shall be served to the other parties to the dispute.

2.4. Resolution Proffered by Previous Studies

The researcher reviewed previous studies and learned that there are different sources of construction contract conflicts or disputes. One study said adjudicators are often preferred in construction contracts. The reason for this was the fact that the process of adjudication is very swift and it will not hinder the progress of the construction project. The interim decision can be enforceable until it is challenged in court. Adjudication can either be a statutory adjudication or contractual adjudication. Choosing adjudication in the event that there is a conflict in a construction contract does not mean the parties waive their right to mediation or other modes of dispute resolution.

2.5. Gaps in the Existing Literature

Previous studies have explained the source and resolution of conflicts in construction contracts, as well as the different modes of settling disputes. However, none of the previous studies fully explained how an adjudication clause couldbe included in a construction contract. Previous studies in Saudi Arabia, for instance, have not discussed why the current Public Works Contract or the proposed Public Construction Contract do not include adjudication as one of the modes for settling conflicts that may arise. This research was proposed to fill these gaps.

3. Research Method

This study used qualitative research in a number of ways: Document analysis, regarding adjudication and construction contracts; and a descriptive case study on the causes of conflicts on construction sites. These methods were used to understand adjudication as a means of dispute resolution in the Kingdom of Saudi Arabia.

Document analysis is a form of qualitative research in which documents are interpreted by the researcher to provide voice and meaning in assessment of a chosen topic (Bowen, 2009). As with focus groups or interview results, analysing documents incorporates coding content into themes for analysis.

Bowen (2009), citing Denzin (1970), stated that document analysis can be combined with other qualitative methodsas a means of triangulation; triangulation is the combination of methodologies used to study the same phenomenon. A researcher using a qualitative approach is expected to use multiple sources of evidence (Yin, 1994); apart from documents, a qualitative researcher may gather data from other sources. Bowen (2009) agreed with Eisner (1991), who stated that triangulation of data results in a high degree of credibility. Through using information collected utilising different methods, a researcher can reduce the impact of potential biases that may exist in a lone study. Triangulation can protect a researcher from accusations that their findings are simply a result of a single method or source (Patton, 1991).

3.1. Selected Method and Justification for Selection

The researcher proposed the use of qualitative analysis, through document analysis, because it is a low-cost way to obtain the necessary data. It can be combined with data from interviews with people who are well-versed in adjudication or who are experts in the laws of the Kingdom.

In addition to document analysis, a descriptive case study was appropriate for this research because the researcher planned to study one construction site. Through observation, the researcher planned to describe how conflicts ordisputes may arise on a construction site. Also, the researcher may be able to observe how workers on a construction site deal with any conflicts or disputes that mayarise.

Research Methods	
Interviews	Three Clients (work Owners) Three Engineers Three architects Three contractors Three Mediators
Document analysis	Documents on adjudication, arbitration, and mediation.
Descriptive Case Study	Case Studies of causes of conflicts in construction sites

3.2. Sample Population and Size

The research opted to use non-probability sampling through purposive sampling. Purposive sampling is not a mutually exclusive category of sampling techniques, rather many other non-probability techniques are purposive in nature (Alvi, 2016). In purposive sampling, the sample is approached with a set purpose in mind and with predefined criteria for the elements to be included in the study. The researcher only included those who meet the predefined criteria. The researcher planned to interview three clients (work owners), three engineers, three architects, three contractors or sub-contractors, and three mediators. The manner of selection was purposive, in the sense that any number of those professionals were available, however, they were limited to the given criteria to be interviewed i.e., only three persons per profession were interviewed. The reason for such a limited sample size was that this research was conducted in a limited period of time, and the other data needed was from previous, related literature.

3.3. Stages of Data Gathering

The researcher proposed gathering documents for analysis in accordance with the three primary types of documents posited by O'Leary (2014):

1. Public records: Records in the Kingdom that are readily available to the citizens of Saudi. Examples of these are decided cases that are allowed to bedisclosed to the public, annual reports of the judiciary, policies, laws on construction, laws on adjudications, and others;

2. Personal documents: First-person accounts of an individual's actions, experiences, and beliefs. Examples of which are blogs regarding construction that can be found on the internet, incident reports, journals, and news regarding construction in the Kingdom;
3. Physical evidence: Physical objects found within the study setting. Examples of these are flyers, posters, agendas, handbooks, and training materials.

The researcher asked open-ended questions so the interviewees were free to express their ideas and information. The interviews were conducted in the interviewee's primary language, either Arabic or English, to gain the most information from the interviewees.

Observations were conducted by looking at the activities of stakeholders in a construction site, meetings with the work owner and engineers, the way engineers conducted inspections on the ongoing works, and the manner in which they supervised their projects. The researcher observed how conflicts or disputes arose at one construction site and the manner in which the stakeholders chose to solve any issues or problems.

3.4. Method of Data Analysis

All data gathered by the researcher was scrutinised carefully and used for comparison. Applicability to Saudi construction contracts was kept at the forefront of the analysis. Answers gathered from interviews were used to formulate suggestions and recommendations at the end of this study. Observations during the data-gathering period were scrutinised with an open mind to avoid bias.

In order to avoid bias, this research used triangulation, as explained by Bowen (1999). Each document was analysed with no preconceived ideas in mind to remain as unbiased as possible, while balancing the information gathered from interviews with the interview observation. Data from the site observation included only those events that took place during the time that the researcher was present on the site.

4. Results and Discussion

4.1. Data from Interviews Encountering Conflicts or Disputes

The first interview question was designed to identify the title of the person being interviewed in order to stay within the sample size; as previously stated, fifteen people from five related professions were interviewed.

The second question was designed to gauge how familiar the interviewee was with the term "disputes in the construction industry". All the respondents were familiar with this term and their explanation can be summarised as follows:

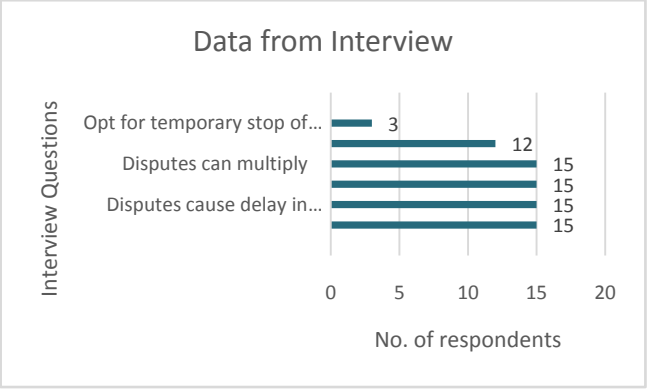
1. Disputes are inevitable, not only in construction but in almost all aspects of daily activities;
2. Disputes cause delays in completion of projects;
3. Disputes can be very expensive; and
4. Disputes can multiply.

All of the respondents agreed that disputes are expected or unavoidable and cause delays in completing a project due to work stopping. The work owners interviewed indicated they opt to temporarily stop the work if there is a conflict, in part to avoid further damage. An example of a temporary stoppage is when a sub-contractor installs materials that are sub-standard, so the work owner stops the work, informing the main contractor of the issue. The time taken to replace them will cause a delay in the main contractor's contract. If that happens, the first conflict has produced another conflict. Whitfield (1994) stated that the involvement of different disciplines in construction projects leads to conflicts among parties. This was validated by the results of the interview.

The disputes these professionals encountered while at work resulted in decreased trust between parties. One architect said, “When I made an unintentional design error, it seems that my credibility was gone" (Architect, 2). This unintentional error, according to Carter and Kadir (2016), constitutes professional negligence; a professional, in the absence of an express stipulation to the contrary, shoulddo their work with reasonable skill and care. Another respondent, Work Owner (2), said when a contractor delayed the start of construction, he almost sought termination of the contract and made an offer to other bidders, however, he did not because he realised that the delay was excusable due to bad weather.

Responses from the respondents on the causes of disputes validate Kumaraswamy’s (1997) dispute categories (see Table 1, p.). The responses can also be classified according to Jaffar et al.'s (2011) classification, namely: conflicts due to behavioural problems; conflicts due to contractual problems; and conflicts due to technical problems.

When questioned, the interviewed respondents (with the exception of mediators) unanimously said that they solved disputes and conflicts through communication and negotiation. The interview results on this validate Keator’s (2011) work, which indicated that disputes are short-term disagreements in which the issues can be negotiated by the disputants. Cheung (2014) also said that if a problem cannot be prevented, resolving it typically starts with negotiation between the disputants.



Data on Adjudication Mediation

The interview respondents identified mediation, arbitration, and litigation as a remedy if they could not agree or compromise on a solution to their disputes. Some of the interview respondents who experienced mediation said it is a good remedy for solving disputes because the involved parties are the ones who will make the settlement and that they can present their side directly to the other party without the intervention of a lawyer. The interview responses affirm Harmon's (2002) work, where he stated that it is very important to allow the parties to tell their stories based on their own perceptions of the facts, which may influence the parties' behaviour.

Arbitration

Interview respondents who experienced arbitration also said that it is a good dispute resolution mechanism but it takes more time in preparation of documents. Those who experienced it said that it is similar to litigation. Harmon (2003) also stated that in arbitration business relationships can be preserved because it is less disruptive and takes less time. He also said that arbitration clauses are sometimes incorporated by parties into standard contracts, whether public or private. In American jurisprudence, particularly based on *First Preservation Capital vs. Smith Barney* (1996), the decision of the arbitrator will be reversed only if there is a clear disregard for the law.

Almost all of the respondents mentioned that litigation is the best way to solve a dispute. Work Owner (3) said that if the dispute is simple, he will not go straight to court because litigation destroys trust and relationships of the parties. He also said that it will destroy possible contracts in the future. Not only that, it is very expensive and time consuming. Work Owner (2) said that in litigating disputes for a particular sum of money, sometimes the court awards a lesser amount. The above revelations from the interview affirm Almutairi's (2015) statement that litigation in construction projects may lead to a cascade of financial consequences for both parties.

Adjudication

All the interviewed mediators knew of adjudication as another form of dispute resolution. They even cited some benefits of having adjudication on the Public Works Contract or other contracts. They said that adjudication is a quick and confidential process and that if it was included as one of the clauses in a construction contract the party who was affected may rely on it automatically.

The reason why some of the respondents did not know about adjudication was that the KSA does not have a statutory law on adjudication. Some respondents suggested that those responsible for drafting construction laws in the Kingdom should make our very own model for adjudication or, if not, at least adopt the procedure for adjudication from countries that have a thrivingadjudication process.

Architect (1) said the rapid growth of the construction industry in the Kingdom has resulted in multiple misunderstandings. Mediator (2) said in their work there area lot of referred disputes that make mediators in the Kingdom scarce. With the introduction of adjudication, the number of cases that they need to mediate will be reduced. Interview respondents also said that if other countries can do it for the benefits of their construction sector, then the Kingdom should follow suit.

Work Owner (1) said, "if this adjudication which is a quick and confidential process, is to be enforced in the Kingdom, it might lessen the clogging of court caseson construction disputes". The engineers and contractors that were interviewed said that the introduction and implementation of adjudication in construction disputes will help smooth the flow of construction projects. When asked if they were willing to push for the introduction of adjudication in the construction contracts of the Kingdom, they all affirmed.

According to the interviewed mediators, even if the Kingdom does not have a statutory law on adjudication the parties themselves may include it in their contract adjudication clause and they may include the procedure that will be observed. The mediators reasoned that there is still a freedom of contract in the Kingdom, as long as it does not contradict the Public Works Contract.

The above responses answer the question raised by the researcher on whether or not adjudication can be an effective means of settling construction disputes. The question on whether it will reduce the clogged judicial system on construction cases was positively validated by the responses in the interview.

Data from Observation

The researcher, through observation, found that each participant has different work or interests of their own that they need to safeguard. In guarding their interest, it may, at some point, encroach into the interests of the other workers. As a result, disputes occur. If these disputes are not settled in a meeting, through agreement or compromise.

This observation supports Cakmak and Cakmak's (2013) statement describing the construction industry as a complex and competitive environment where participants have different views, talents, and levels of knowledge. The complexity of the environment, according to them, was the fact that each participant has their own goal and expectation to benefit themselves and/or their work.

Data from Document and Analysis

Housing Grants, Construction and Regeneration Act

The researcher deeply scrutinised the HGCR Act of the United Kingdom. It has different topics but only Part II, concerning construction adjudication, will be fully discussed. It is the first adjudication law for construction contract upon which other Common Law.

The literature reveals that the HGCR Act applies only to construction contracts. This means, for example, that inthe case of employees on a particular construction project deciding to strike, the contractor or the work owner cannot demand adjudication to settle the dispute. There is, however, an exception, that is if the parties agree to submit their disputes to adjudication and its procedures under the Act

(Redmond, 2001).

The literature indicated that if a work is not within the definition of construction operations, but the contract provides for adjudication, the HGCR Act still applies, but if there is no adjudication clause in the contract, the person intending to refer a dispute must check if the work is not excluded by the Act (Muigua, 2011). Even if the principle activity (e.g power generation) is excluded by the Act, Redmond (2001) stated that works, like construction of buildings and civil engineering works within the site, are not excluded, unless the work itself is expressly excluded by the Act.

The literature reveals that prior to 2011, the provisions on adjudication applied only to written contracts. After its amendment, the provisions of adjudication currently apply to written and oral contracts for construction. However, there is a mandate that clauses regarding referral to adjudication within the Act must still be in writing. If not in writing, the Scheme for Construction Contracts will be applied.

The literature reveals that a dispute includes "any difference". Hence any misunderstanding may qualify as a dispute, which may be subject to adjudication under the Act. In the case of *Specialist Ceiling Services Northern Limited versus ZVI Construction (UK) Limited* (2004), even if the adjudicator receives a letter from a party, as long as he acts "without prejudice" then there is no bias or unfairness. Also, the case of *HG Construction Ltd versus Ashwell Homes (East Anglia) Ltd.* (2007) reveals that an adjudicator's decision may not be overruled by a subsequent adjudicator.

The research found that the statutory requirements under the Act will be implied if the contractual adjudication agreed by the parties did not fully comply with the Act. If the contract fully complied with the Act, the parties may include other provisions (e.g., enforcement of the decision or their rules in adjudicating). The literature also revealed that referral to adjudication is not an obligation but a right; a right can be waived. The referring party does not have the obligation to adjudicate but may proceed directly to arbitration or litigation.

The clause referral "at any time" was held to be construed according to its literal meaning, as decided in the case of *Connex South Eastern Ltd versus M.J. Building Services Group plc* (2005).

Scheme for Construction Contracts

The literature revealed that if the parties to a contract fail to comply with Section 108 of the Act, the Scheme for Construction Contracts applies. The Scheme may overrule provisions of the contract, even if it complies with the Act. Redmond (2001) stated it is not just supplementary to the contractual provisions or to fill in the gaps. All its adjudication provisions apply, including the provisions that deal with wider procedural issues than those required under Section 108 of the Act. For example, a party who intends to refer a dispute to adjudication did not give notice, so the provision of the Scheme applies. Under the Scheme, a party referring must give notice.

The adjudicator under the Scheme may adjudicate more than one dispute under the same parties and the same contract (see par. 8 of the Scheme, Appendix B). Parties may also agree to extend the period to reach a decision. Under paragraph 9 (see Appendix B), the appointed adjudicator may resign at any time by giving notice in writing to the parties.

Under the Scheme, (see Appendix B) paragraph 12 requires an adjudicator to act impartially in carrying out his duty and avoid unnecessary expense. He is also enjoined to ascertain the facts and the law necessary to determine the dispute. Under paragraph 20 of the Scheme, the adjudicator is empowered to open up, revise, and review any decisions taken. He may also decide who is liable for payment, the due date, and the final date of payment including interest (see Appendix B, par. 20).

5. Conclusions and Recommendations

5.1. Conclusions

Adjudication is designed as a speedy mechanism for resolving construction disputes. Its success in the United Kingdom and the adoption of this legislation in other common law countries for their own adjudication laws for construction contracts should influence the Saudi Council of Ministers' advisers to suggest its adoption for the Kingdom's own adjudication law for construction disputes. Disseminating information on the benefits of adjudication is a key factor if stakeholders in the construction industry want a speedy and efficient mechanism for settling their disputes. One of the advantages, particularly the speedy resolution of disputes through adjudication, can improve cash flow and limit the delay in the completion of construction projects in the Kingdom. Applying it to Saudi Arabia would be a great leap for its construction industry.

5.2. Recommendations

The researcher conducted the research using qualitative interviews and document analysis. It focused only on the United Kingdom's HGCR Act of 1996 and that of the Scheme for Construction Contracts. It is recommended that a wider study is undertaken, not only of the United Kingdom's adjudication law but also of other common law countries, such as the adjudication laws of Australia and New Zealand. It is recommended that quantitative research on this topic, with a larger sample size, should be done to compare the differences with this research. This study further recommends that future researchers draft a sample adjudication procedurefor the Kingdom of Saudi Arabia and present it, through quantitative research, to ascertain its acceptance or disapproval within the Kingdom.

5.3. Contribution to Knowledge

This research found that the Kingdom's construction contract and construction industry is not familiar with

adjudication. This research may be a stepping stone toward the adoption of adjudication in the Kingdom. The revelation of this research about the existence of a statutory law, particularly the HGCR Act and that of the Scheme for Construction Contracts, may influence stakeholders in the KSA to propose, or recommend, the creation of the first Saudi Construction Adjudication Law.

List of Cases

Balfour Beatty Construction Northern Ltd v Modus Corovest (Blackpool) Ltd

[2008] EWHC 3029 (TCC)

Christiani & Nelson Limited versus The Lowry Centre Development Co. Ltd (2000) Unreported

Connex South Eastern Ltd versus M.J. Building Services Group plc (2005)

Fastrack Contractors Ltd v Morrison Construction Ltd [2000] BLR 168

Macob Civil Eng. Ltd v Morrison Construction Ltd [1999] EWHC Technology 254

RG Carter Ltd versus Edmund Nuttall LTD (2000).

RSL (South West) Ltd v Stansell Ltd (2003) EWHC 1390 (TCC)

REFERENCES

[1] Almutairi, S. (2015). *Causes of litigation in the Saudi Arabian construction industry*. Arizona State University. Retrieved from: https://repository.asu.edu/attachments/157972/content/Almutairi_asu_0010N_15165.pdf.

[2] Alvi, M. H. (2016). A manual for selecting sampling techniques in research. Retrieved from: https://mpra.ub.uni-muenchen.de/70218/1/MPRA_paper_70218.pdf.

[3] Arab News. (2017). *Saudi construction sector revitalized by Vision 2030 – Report.* Retrieved from: http://www.arabnews.com/node/1197176/corporate-news.

[4] Bowen, G. A. (2009). Document analysis as a qualitative research method.

[5] Brown, H., & A., M. (1993). *ADR Principles and Practice*. London: Sweet and Maxwell.

[6] Cakmak, E. & Cakmak, P. I. (2013). *An analysis of causes of disputes in the construction industry using analytical network process*. Okan University, Turkey.

[7] Cheung, S. O. (2014). Critical factors affecting the use of alternative dispute resolution processes in construction. City University of Kong Kong.

[8] Chonko, L. (2012). *Ethical Theories*. University of Texas at Arlington. Retrieved from: http://www.dsef.org/wp-content/uploads/2012/07/EthicalTheories.pdf.

[9] Coulson, R. (1994). *Business arbitration - What you need to know* (5th ed.). American Arbitration Association, New York.

[10] Denzin, N. K. (1970). *The research act: A theoretical introduction to sociological methods*. New York: Aldine.

[11] DiDonato, L. (1993). *Alternative methods to resolve contract disputes: Approaches to effective prevention.* American Association of Cost Engineers, Morgantown, W.Va.

[12] Eisner, E. W. (1991). *The enlightened eye: Qualitative inquiry and the enhancement of educational practice*.Toronto: Collier Macmillan Canada.

[13] Elliot N. (2005). Connex Eastern Ltd v. MJ Building Services Group plc, Blog. Retrieved from: https://www.fenwickelliott.com/research-insight/adjudication-case-notes/connex-south-eastern-ltd-v-m-j-building-services-group-plc.

[14] Flinders, D. J. (1992). In search of ethical guidance: Constructing a basis for dialogue. *Qualitative Studies in Education*, 5, 101-115.

[15] Galbraith, J. (1973). *Designing complex organizations*. Addison-Wesley.

[16] Gidwani, K. (2009). Adjudication in practice. Article in Fenwick Elliot. Retrieved from: https://www.fenwickelliott.com//sites/default/files/Adjudication%20in%20Practice.pdf.

[17] Gould, N. (2007). Adjudication and ADR: An overview. Article from Fenwick Elliot. Retrieved From: https://www.fenwickelliott.com//sites/default/files/nick_gould_-_adjudication_and_adr_-_an_overview_matrics_paper.indd_.pdf.

[18] Harmon, K. M. J. (2002). Mediation: Satisfaction in the process and outcome. *Construction Briefings*, June 6.

[19] Harmon, K. M. J. (2003). Resolution of construction disputes: A review of current methodologies. *Leadership and Management in Engineering.* Retrieved from: https://ascelibrary.org/doi/pdf/10.1061/(ASCE)1532-6748(2003)3%3A4(187).

[20] Hohns, H. M. (1979). *Preventing and solving construction contract disputes*. New York: Van Nostrand Reinhold.

[21] Hussein, A. (2014). *10 thousand projects Gulf tripped because of judicial disputes*. ALjazirah Newspaper. http://www.al-jazirah.com/2014/20141219/ec4.htm.

[22] Jaffar, N., Tharim, A. H., & Shuib, M. N. (2011). Factors of conflict in the construction industry: A literature review. *Procedia Eng*., 20, 193–202.

[23] Keator, T. (2011). Dispute or conflict? The importance of knowing the difference. Retrieved from: https://www.mediate.com/articles/KeatorT1.cfm.

[24] Kelsey, K. P. (2018). *Mediation: The sensible meansfor resolving contract disputes*. Retrieved from: https://www.mediate.com/articles/kelsey.cfm.

[25] Kessler M. L. (2017). Using mediation to resolve construction disputes. *Lexis Practice Advisor Journal*. Retrieved from: https://www.lexisnexis.com/lexis-practice-advisor/the-journal/b/lpa/archive/2017/09/27/using-mediation-to-resolve-construction-disputes.aspx.

[26] Kumaraswamy, M., & Yogeswaran, K. (1998). Significant sources of construction claims. *International Construction Law Review*, *15*(1), 144-160.

[27] McManamy, R. (1994). Indusrty pounds away at disputes.

Engineering News-Record, 24(3).

[28] O'Leary, Z. (2014). *The essential guide to doing your research project* (2nd ed.).

[29] Patton, M. Q. (1990). *Qualitative evaluation and research methods* (2nd ed.). Newbury Park, CA: Sage.

[30] Rauzana, A. (2016). Causes of conflicts and disputes in construction projects. Department of Civil Engineering, Syiah Kuala University, Jl. Syech Abdul Rauf, Banda Aceh Province, Indonesia. Retrieved from: http://www.iosrjournals.org/iosr-jmce/papers/vol13-issue5/Version-6/F1305064448.pdf.

[31] Rodriguez, J. (2017). 4 common types of Construction Contracts. *The Balance*. Retrieved from: https://www.thebalance.com/common-types-of-construction-contracts-844483.

[32] Rodriguez, J. (2017). What is a Construction contract agreement? *The Balance*. Retrieved from: https://www.thebalance.com/contract-agreements-844530.

[33] Sieber, J. E. (1992). *Planning ethically responsible research.* Newbury Park, CA: Sage.

[34] Vorster, M. C. (1993). *Dispute prevention and resolution*. Austin, Texas: Construction Industry Institute (CII).

[35] Whitfield, J. (1994). *Conflicts in construction, avoiding, managing, and resolving*. London: Macmillan Press.

[36] Yin, R. K. (1994). *Case study research: Design and methods* (2nd ed.). Thousand Oaks, CA: Sage.