Journal of Engineering, Project, and Production Management
2020, 10(3), 162-169

Construction Contract Conversion: An Approach to Resolve Disputes

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Project Management
Received December 12, 2019; received revisions December 17, 2019; January 22, 2020; February 12, 2020; accepted February 27, 2020
Available online March 18, 2020

Abstract: A construction contract is a mechanism to bind a project owner and a contractor in a legal agreement to construct a project against a designated monitory consideration. However, projects are usually assembled over a long period with high uncertainty and complexity. Under such a dynamic business transaction, current static contracts fail to arrange for an appropriate and stable transaction. This paper reveals, through a questionnaire survey that was sent to all grade1 and 2 contractors and all owners in Riyadh-Saudi Arabia, the most common construction contracts in Saudi Arabia and the use, causes and benefits of contract conversion. The lump sum and the unit price are the most dominant type of contracts. Owners who select the former convert them during construction to unit price contracts leading to considerable benefits to contract parties including successful project completion with negligible disputes and better relationship. Owners are advised to include a clause in the construction contract to give them the privilege, not the obligation to convert the contract from one type to another.

Keywords: Contract, Saudi Arabia, conversion, construction, disputes.

DOI 10.2478/jeppm-2020-0018

1. Introduction

Contracting is fundamentally a consensual activity. The contract is commonly and universally defined as a legally enforceable agreement which is a manifestation of the mutual assent on the part of two or more persons. The mutual assents are determined usually through the offer and acceptance mechanisms. The subjective theory of contract was prevailing the contracting interpretations and analysis to determine the required "Meeting of Minds" through the actual and literal intentions of parties. The subjective theory, however, was replaced entirely in late 1960 by the objective theory of contract to accommodate the needs of a national market and the needs of the commercial classes (Perillo, 2000). The objective theory of contract states that mutual assent to a contract is determined by reference to external acts and manifestations rather than to evidence of subjective and internal intentions. That is, courts use and analyse the outward manifestations, mostly the words of the contract, to determine the intentions of the parties involved.

In the construction industry, different organizations including the owner, consultants, contractors, suppliers, subcontractors, etc. work together under different delivery systems to build various types of projects, i.e. commercial building, residential, industrial, highways, dams, etc. Contracts are the main mechanisms that bond all these organizations to develop and construct those projects. We believe that the most critical and troublesome contract is the construction contract, which is between an owner and a contractor when it is used in the Design-Bid-Build delivery system. The contracting activity entails the use of the offer and acceptance mechanisms to reach to an agreement. The owner seeks offers from contractors to construct a project based on a given scope of work usually includes drawing, specifications, contract conditions, agreement, and addenda. Interested contractors usually submit their offers to the owner after they spend considerable efforts in studying the project documents, evaluating performance risks, and ensuring that all contingencies are addressed in the contract documents to eliminate any possibilities for conflicts and disputes. The owner studies and analyses all the offers and, subsequently,

accepts an offer or several offers depending on the used project delivery system. The owner's acceptance of the offer marks the beginning of the construction agreement, which is formally and legally consolidated by signing a construction contract with the contractor with that offer. It is not uncommon that changes and modifications to the signed contract emerge at intervals of time over the life of the contract to tailor the contract to the new changing environment and conditions. These changes and modifications are necessary to respond either to mistakes in the project documents and/or to contract interpretations, especially to those related to risks. Those changes are always sources of contractual problems, especially those changes related to the risks which are usually costly, considerably efforts taking, time-consuming, and most conclude in disputes. As a consequence, the construction industry is characterized as a precarious business and suffers dearly from contract disputes, which are rather increasing in their frequencies and magnitudes. Many authors have attributed the high frequency of disputes to many factors and mainly to ambiguities in the project documents. We also argue that the used contracts fail to arrange for an appropriate and stable transaction especially in an environment where participants from various professions, each has its goals and desires to secure the most of its benefits, work together to build a structure. These issues are common although most of the used contracts are from the standard contracts which are claimed that they have had gone through rigorous scrutiny, refinement and modifications through judicial systems. The question that is arising out of these observations is whether contracts in their current forms are suitable for construction projects? It is argued that construction contracts have significant deficiencies in accommodating the dynamic nature of the business transaction in the construction industry, which is different from other industries. Projects are usually assembled over a long period with high uncertainty and complexity and, therefore, they do not fulfil the objective theory of contract. Uncertainty and contractual problems are the primary sources for making the static construction contracts unsuitable for such transactions and, hence, for the development of construction disputes.

It is believed that the current construction contracts are static and rigid to cope with the dynamic nature of construction projects. It is argued that should construction contracts be flexible to conversion whenever the dynamic nature of the project necessitates such action then the contract will be more suitable for the construction. It is believed the use of convertible contracts will reduce the frequencies of disputes and, hence, allow owner and contractors to complete projects with high or at least satisfactory performance and win-win situation. The following research questions were raised:

Do owners and contractors exercise construction contact conversion whenever they use any type of construction contract?

If they do, then what are the drivers behind those conversions?

What are the gained benefits for both parties from such conversions?

The above research questions are believed to be applicable to all construction industries in the world. Although this issue is of global concerns, the researchers attempted to answer these questions by using information extracted from the Saudi construction industry simply because they have direct access to this industry with a hope that the research outcomes will be used globally.

The construction industry in Saudi Arabia is probably the largest among those in the Middle East. The Saudi construction industry has markedly evolved and reached the level where it contributes to a total gross outcome around 6.35 per cent during the period (2011–2015) and expected to rise up to 7.05 percentage in 2020, jumping from a value of US$105.6 billion in 2015 to US$148.5 billion in 2020 (PRNewswire, 2016). The construction industry in Saudi Arabia recruits around four million personnel from all specialty spectrums, interacting together in different projects to introduce projects deliverables, which make the industry full of variables to be controlled properly toward the final products (Domínguez and Alfonso, 2007). Unfortunately, this industry is characterized by massive construction disputes. As part of this study, the extent of disputes in the Saudi construction industry was investigated and found to occur twice every month and mostly because of ambiguities in the contract documents.

The purpose of this paper is to explore the most commonly used construction contracts in Saudi Arabia, the extent of contract conversions as project progress, the drivers behind contracts conversion, and the consequences of contract conversions. This paper is an attempt to reveal and for the first time, the use of contract conversion for resolving disputes to the benefits to both contracting parties. The optimum aim of this research is to improve the conditions of the construction contract through contract conversion doctrine.

The objective of this study is to define the common types of construction contracts that are used in the Saudi construction industry; to investigate the occurrence of contract conversion from one type to another over the contracting period; to determine the drivers behind contracts conversions; and to determine the benefits that the contracting parties gain from such conversions.

2. Literature Review

A construction contract is a mechanism to bind a project owner and a contractor in a legal agreement to construct a project against a designated monitory consideration.

There are several types of construction contracts in the construction industry from which owners can select and use to bind contractors to build their projects. These types of contracts are designated by the way the disbursement will be made either based on a lump sum, unit price, or cost-plus. Owners and contractors may utilize many different types of arrangements depending on the circumstances of the project. The lump-sum contract type entails a total fixed price for all construction-related activities. An owner uses this type of contract when he believes that he has a well-defined scope of work and desires to transfer the construction risk to the contractor. Contractors respond to such risk transfer by including some contingencies associated with carrying the risk. The unit price type of contract is used when the quality of work is well defined, but the quantities are not. This type of contract allows owners to adjust the unit prices during scope changes making it easier for the contracting parties to reach into agreements during change orders. Cost-plus

contracts are used when the quality and quantity of work are undefined. Under this type of contract, the owner reimburses the contractor for work completed based on authenticated invoices plus agreed-upon fees as either percentage of the cost, fixed fee, incentive fee, or guaranteed maximum price.

The concept of having a "convertible" contract is not new in the construction industry, but it is not incorporated and documented in contracts. It is believed that contract conversion has been used in practice, but without any formal arrangements. In a construction context, the convertible contract idea is similar to what is used in the Construction Manager at Risk (CM@Risk) delivery system. Under this system, the owner selects a contractor based on a qualification system for providing services such as constructability and value engineering and other services during the design stage, making the relationship between the contractor and the owner important based on a prime cost contract. Upon completion of the design stage, the owner uses the same contractor to undertake the construction based on another and mostly fixed-price contract. Inconvertible contracts, there is only one contractor involved for both stages. The contract convertibility concept on construction projects is still in the development stage, with little work published to date.

Moazzami (2013) indicated that convertible contracts, as a hybrid contracting strategy has been used in some oil and gas projects where different contract price arrangements such as cost reimbursable, unit rate, and lump sum were used at different levels of project definition and through the project life cycle to allocate cost and performance risks between contracting parties appropriately. He suggested a reasonable amount of progress in detailed engineering (50%-60%) or the amount of subcontracted work packages before conversion are accepted measures to decide the appropriate time of conversion. Moazzami et al. (2015) used the grounded theory to develop a theoretical framework to determine the conversion point and to enhance the conversion processes in convertible contracts. They justified the use of the grounded theory to the limited publications of industrial and academic scholars and even the limited publications are general in nature. Fenton et al. (2016) emphasized the benefits of the convertible lump sum EPS model and the importance of the involvement of clients in the decision-making process to get the best flexible plants that will respond to the plant operation requirements.

Carmichael and Karantonis (2015) suggested giving the owner the option but not the obligation to discretionarily convert the contract payment whenever such a conversion is worthwhile for him. They proposed a framework for when an owner can implement the suggested conversion option, and its valuation follows an options analysis.

The above researchers discussed contract conversions which are used under either the Engineering, Procurement, and construction or design-build delivery systems. None have discussed the construction contract conversion under the design-bid-build delivery system. This study focuses on the construction contract conversion under the design-bid-build delivery system.

3. Research Methodology

A comprehensive study was conducted to study disputes in the Saudi construction industry and the construction contract conversion concept. This study is devoted to the later and a separate full paper has been devoted to present and discuss the issue of disputes. Therefore, this section presents the research methodology for the comprehensive study with emphasis on construction contract conversion. The objectives of this study are to recognize and describe the types of contracts used to regulate the execution of construction projects in Riyadh City (Saudi Arabia), the extent of contract conversion, the causes of contracts conversions, and the consequences of contracts conversions were achieved through the execution of the following steps. The initial step involved a comprehensive literature review of pertinent articles, which helped us study diverse causes of disputes in construction projects and the methods that are used to solve those disputes including contract conversion. The second step involved the development of the necessary tool—a structured questionnaire for the whole study—for data collection. The questionnaire comprised of five parts. The first part consisted of questions demanded baseline information such as background education, experience, title in the organization, and so forth of the respondents. The second part consisted of questions associated with the identification of pertinent causes of disputes in construction projects in Saudi Arabia. The third section consisted of questions on contractors' reactions to solve disputes. The last part contained questions seeking information about contract conversions such as experiencing contract conversion from one type to another, from what type of contract was the conversion, the reasons for contract conversion, and the recognized results from the contract conversion. Due to time and cost constraints and the descriptive nature of the study, the postal survey was used to gather the required data from owners and construction contractors. Watson and Noble (2007) indicated that the postal survey is the most common technique used by many researchers in descriptive studies.

The third step was gathering the required data by means of the developed questionnaire from the top management of owners and grade 1 and 2 contractors that are stationed in Riyadh city, Saudi Arabia. For bidding on government projects, the Classifying Directorate of the Ministry of Municipalities and Rural Affairs groups contractors, based on qualification criteria, into different specialties (building, industrial, highway, etc.) and into five grades. Each graded contractor is given a threshold for projects it may compete for. For instance, grades 2, 3, 4, and 5 contractors have upper limits to bid for projects with values of up to 280, 70, 21, and 7 million Saudi Riyals, respectively, while grade 1 contractors have no restrictions. The directorate lists 155 classified contractors in Riyadh city in which 87 grade-1 contractors and 68 grade-2 contractors. There is no well-known list of owners to define the owner population. Therefore, a list of repetitive builders was generated, including 34 government agencies and 45 private owners. The following statistical formula was used to calculate the minimum acceptable and representative sample size for the study. The formula specified a minimum sample size of 20 contractors, as shown in Eq. (1) and Eq. (2):

$$n_0 = \frac{pq}{e^2} \quad (1)$$

$$n = \frac{n_0}{1+\frac{n_0}{N}} \quad (2)$$

In the equations, p = 0.5, q = (1-p) = 0.5, e (desired level of precision) = 10%, and N= population.

However, both populations were considered small and the decision was made to send the questionnaire to all contractors and owners with the hope that the number of responses would exceed the calculated minimum sample size.

The fourth step was data analysis using simple statistical tools (frequency, mean, and standard deviation) and simple mathematical techniques such as percentage and average.

4. Data Analysis and Results

The questionnaire was sent in the last quarter of 2017 through email to the 79 owners and the 155 contractors and was requested to complete and return the questionnaire within a three-week time frame. The questionnaire was followed up with emails, telephone calls, and personal visits to prompt and encourage the invited contractors and owners to participate in the study. Fifty-four owners and one hundred and thirty experts from contracting organizations completed and returned the questionnaires over 5 weeks period. For improving reliability, only questionnaires that were at least 80% completed were considered and included in the analysis. All the returned questionnaires were accepted and comprised the total number of participants. Table 1 presents the number of owners and contractors that were invited to participate in the study and the number of respondents to the questionnaire.

Table 1. Contacted and responded owners and contractors

	Contractors			Owners		
	G[1] 1	G 2	Total	Gov	Private	Total
Contacted	87	68	155	34	45	79
Responded	62	68	130	34	20	54
Response Rate	71.30 %	100 %	83.87 %	100 %	44.40%	68.35 %

1 Grade

About 84% of the contractor's population and about 68% of the owner's population participated in the study, which is considered way above the typical norm of 20–30% response rate in most postal questionnaires surveying the construction industry (Akintoye and Fitzgerald, 2000). It seems that contractors, especially grade 2 (100% response rate), and owners, especially government (100% response rate), appreciated the study objectives and showed great interest in the topic of the study. This great response indicates the desires of the owners and the contractors to find a solution to prevailing contractual problems in the industry and, hence, it is believed they provided high-quality data.

4.1 Characteristics of Participating Contractors

The majority of the participating contractors, in both grades, and the Owners are well educated with college degrees, with about 15% and 44.44%) embrace master's or Doctor of Philosophy degrees, respectively. The most prevalent (about 66% of the contractors and 30% of the owners) of the respondents are construction and project managers, and the remainders are architects, cost engineers, general managers, and directors. The majority (85.38% of the contractors and 59.26% of the owners) play a major role as decision-makers during the project's constructions, and the reminders are advisories. This reflects the depth of the influence of their role in the construction, shaping and directing the firm and industry by the decisions they take, and controlling the construction by assessing the processes or possess the combined role of both assessment and advisory. Significance of their role in the study comes out from their recommendations, decisions, and advisement to determine the extent of contract conversions and their effectiveness in resolving disputes. The majority of the participants from the contractor organizations (about 65%) have more than 10 years of experience in the construction industry, whereas the majority of the participants from the owner side (about 52.0%) have 5 to less than 10 years of experience. Almost all participants have involved in and completed at least 5 projects which have been completed mostly under either lump-sum or unit price contracts. This involvement in sizable projects commenced by the participating contractors improves the quality of the results, as it represents a wider view of the industry.

The majority (about 86% of these participants) are employed by national construction companies. The construction market for years in Saudi Arabia relied solely on national contractors, but this situation has changed during the last few decades with importing the experiences to Saudi and mixing them with the international contractors. Investment regulation did not open the doors widely to the international contractors without any limitations, but it was regulated through the SAGIA to protect mainly the local contractor.

This stand changed with Saudi vision 2030, allowing the self-control of the market and investors' attraction to invest around 8 trillion SAR in all the 8 sectors announced, including the construction.

4.2 Types of Used Contracts

The results indicated that the most common types of contracts are the unit price and the lump sum, as shown in Table 2. Based on the empirical data, contractors and owners use both contracts in about 91% and 94% of their projects, respectively. It is worth noticing that government owners use those type of contracts in all their projects. The government purchasing regulations dictate that all government agencies shall use the unit price or the lump-sum contracts in all their purchases, including construction projects. The popularity of these contracts could be attributed to the way owners allocate budgets for their building investments. They may believe that the allocated budgets are enough within a narrow range to build their projects, and the desire to get the commitment of contractors to build their desired facilities for the allocated budgets. However, ambiguities and poor qualities of projects' documents cause excessive change orders which drive the costs beyond the upper limits of the allocated budgets and promote an environment for conflicts and disputes. In government projects, approval for increasing the allocated budget beyond the upper limit is extremely difficult and takes a long time for approval.

Table 2. Frequency of used types of contracts

(a) Contractors' responses

Type of contracts	Grade 1		Grade 2		All	
	Frequency	Percent (%)	Frequency	Percent (%)	Frequency	Percent (%)
Lump sum	34	54.84	34	50	68	52.30
Unit price	19	30.65	31	45.59	50	38.46
Cost-plus	9	14.52	3	4.41	12	9.23
Total	62	100	68	100	130	100

(b) Owners' responses

Type of contracts	Government		Private		All Owners	
	Frequency	Percent (%)	Frequency	Percent (%)	Frequency	Percent (%)
Lump sum	23	67.65	5	15.00	28	51.85
Unit price	11	32.35	12	60.00	23	42.59
Cost-plus	0	0.0	3	25.00	3	5.56
Total	34	100	20	100	54	100

Under these types of contracts, many disputes occur very frequently. The results indicated that in general contractors and owners encounter disputes very frequently. The majority (60%) of the contractors, regardless of their grades, and the majority (60 %) of the private owners' experience two disputes every month. However, the majority (55.89%) of the government owners encounter one dispute every month. It seems that because of a government owner awards, as per government policy, a contract to a single general contractor and, therefore, has fewer participants in developing the project and, hence, fewer disputes than the other participants do. Contractors contract also with subcontractors, which expose them to more conflict and disputes. Private owners may break projects into packages and award each package to a prime contractor, which exposes the private owners to more conflicts and disputes. The results indicated that a good number of Grade 2 contractors encounter 3 and more disputes every month. This means that the causes of disputes in the construction environment of Grade 2 contractors are significantly operative. The results indicated that this alarming frequency is attributed to ambiguities in project documents and poor project management practices.

The dispute frequency in the Saudi construction industry is considered higher than the other similar industries in other countries. Malleson (2015) concluded that the dispute frequency occurrence during the last year was at least once a month in 30 percent of the respondents. With this significant and frequent dispute frequency, it could be easily said that most of the efforts are expended on resolving such disputes rather than directing such efforts toward project objectives and preventing disputes in the first place.

Although the lump sum and the unit price are the most popular contracts that are used in the construction industry, it is evident that they do not comply with the dynamic nature of the business transaction in the construction industry. Under such a business transaction, it is impossible to resolve every detail and foresee every contingency at the outset. Therefore, these contracts fail to arrange for an appropriate and stable transaction especially in an environment where participants from various professions, each has its goals and desires to secure the most of its own benefits, work together to build a structure. Furthermore, each participating organization has its own culture, education, and objectives that may conflict with other organizations. The unit cost and in particular the lump sum contracts are inflexible for changes, and any alteration to its contents are considered a breach of the contract. Every alteration mandates both contract parties to renegotiate the contract in terms of new cost, time and risk distribution. Upon reaching an agreement on the change, the contract is amended and signed. This process, which referred to in the industry as a change order, constitutes convertibility of the contract. However, under this arrangement, reaching an agreement is usually time consuming and difficult.

These contracts are usually prepared from standard contracts by the owner or his agents and are forwarded along with other project documents to contractors who intend to undertake the construction activities for pricing purposes.

4.3 The extent of Contract conversion as a proposed solution to the dispute

Under these contracting arrangements and high disputes frequency, it was encouraging to inquire about the possibilities of contract conversion as a method for changing the prevailing unhealthy environment. To our surprise, the participants indicated that they have had witnessed sizable contract conversions, as shown in Table 3. The majority (about 65%) of the participants from the contracting organizations, in response to an inquiry, if they have had converted contracts from one type to another, indicated they had experienced such conversions at a certain stage of the construction process. The results indicate that Grade 1 contractors experience contract conversion more than Grade 2. Grade 1 contractors execute larger and more complex projects than those executed by Grade 2. Hence, the level of risk and uncertainty are greater in Grade 1 projects. It seems that what contractors perceive at the planning stage are not effective in eliminating risks. Also, owners may have significant problems in defining the project scope. The selection of a type of contract based on erroneous assumptions regarding the scope and risk assignment may drive owners and contractors to reconsider their business transaction arrangement leading to agree in converting the signed contracts to alternative contracts which deem more appropriate. Only 9 participants from the owners' organizations and mostly from the private (7) indicated they had experienced contract conversions. Government

owners have very rigid rules concerning contract alterations and almost impossible contact conversion.

It is evident that contract conversion is widely used in the construction industry. However, it is assumed that such conversions take great efforts and consume time and money because both parties go through tedious negotiations to reach an agreement. It is anticipated that should such conversions are considered in contracts would have a great impact on reducing efforts, money, and time and in keeping the owner and contractor relationship intact.

Table 3. Experienced contracts conversions

(a) Contractors' responses

Experienced a contract conversion	Grade 1		Grade 2		All	
	Frequency	(%)	Frequency	(%)	Frequency	(%)
Yes	53	85.48	31	45.59	84	64.62
No	9	14.52	37	54.41	46	35.38
Total	62	100	68	100	130	100

(b) Owners' responses

Experienced a contract conversion	Private		Government		All	
	Frequency	(%)	Frequency	(%)	Frequency	(%)
Yes	7	35	2	5.8	9	16.67
No	13	65	32	94.1	45	83.33
Total	20	100	34	100	54	100

4.4 Contract Conversion

The results indicate, as shown in Table 4, that most contracts were converted from the lump-sum to the unit price. Under the lump-sum contract, an owner agrees to pay his contractor a designated price for constructing his project according to stipulated drawings and specifications. The majority of construction risks are transferred to the contractor who offers a high price to protect himself from such risks. However, this type of contract is very rigid for changes that the owner may order over the execution of the contract. Excessive changes drive what was considered a known project price to different levels, which may exceed the project allocated budget. It seems that owners trade-off higher risks under the unit cost with lower change orders.

Interestingly five participants from the contractors' organizations indicated that they had experienced contract conversions from unit price to lump sum. It seems that these participants after the execution of projects discover that the project scope (quantity and quality) is very well defined and desire to pin the project price to a designated budget and to transfer risks to the contractor. Three participants from the contracting organizations indicated that they had experienced contract conversion from lump sum to cost-plus. This type of conversion happens only when the complete scope of the project is not well defined.

Table 4. Contract conversion occurrence

(a) Contractors' responses

Alteration	Grade 1		Grade 2		All	
	Frequency	(%)	Frequency	(%)	Frequency	(%)
From Lump-Sum to Unit	44	83.02	25	80.65	69	82.14
From Unit Cost to Cost-Plus	3	5.66	2	6.45	5	5.95
From Lump-Sum to Cost-Plus	2	3.77	1	3.23	3	3.57
Missing	4	7.55	3	9.77	7	8.33
Total	53	100	31	100	84	100

(b) Owners' responses

Alteration	Private		Government		All	
	Frequency	(%)	Frequency	(%)	Frequency	(%)
From Lump-Sum to Unit Cost	5	71.43	2	100	7	77.78
From Unit Cost to Cost-Plus	1	14.29	0	0	1	11.11
From Lump-Sum to Cost-Plus	1	14.29	0	0	1	11.11
Missing	0	0	0	0	0	0.0
Total	7	100	2	100	9	100

4.5 Reasons for Contract Conversion

The owners and contractors although agreed on the reasons for conversions, but they differ in their orders. Table 5 presents the reasons for contract conversion and their frequencies. The participants from the contracting organization indicated that contracts were converted for an undefined quantity of work, undefined project scope, and financial constraints. The participants from the owners' organizations indicated that financial constraints, an undefined quantity of work, and undefined project scope are the reasons for contract conversions. The listed reasons confirm that complexity and uncertainty have a great impact on cost and performances.

Table 5. Reasons for contract conversion

(a) Contractors' responses

Conversion reasons	Grade 1		Grade 2		All	
	Frequency	(%)	Frequency	(%)	Frequency	(%)
Financial constraints	11	20.75	10	32.26	21	25.00
Undefined quantity of work	23	43.40	8	25.81	31	36.90
Undefined project scope	16	30.19	6	19.35	22	26.19
Missing	3	5.66	7	22.58	10	11.90
Total	53	100	31	100	84	100

(b) Owners' responses

Conversion reasons	Private		Government		All	
	Frequency	(%)	Frequency	(%)	Frequency	(%)
Financial constraints	4	57.14	1	50.00	5	55.56
Undefined quantity of work	1	14.29	1	50.00	2	22.22
Undefined project scope	1	14.29	0	0.00	1	11.11
Missing	1	14.29	0	0.00	1	11.11
Total	7	100	2	100	9	100

4.6 Contract Conversion Rewards

The participants indicated that the contract conversions have resulted in the successful completion of projects, eliminating disputes, and improvement of the relationship between the parties of the contract. The contract conversion is considered as a corrective action to wrongly selected contract type at the beginning of the construction phase. The owner, in particular after monitoring the project progress and maybe after several conflicts and disputes arise of the contract, concludes the unsuitability of the selected contract type. The conversion has had positive and desirable results for both parties. Under such an environment, improved relationships between the contracting parties, projects are completed successfully free of disputes.

This step of conversion reflects that the contract conversion can be used not only to overcome disputes in projects, but also to establish a win-win relationship with the contractor, avoid opportunism, and correct the unbalanced contracts.

However, it is believed that the contract parties have reached to such contract conversion agreement after a difficult journey of contractual problems and tedious negotiations. Termination of a contract and reentering into a new contract format is a tedious process and require considerable efforts from contract parties. Of course, considerable efforts are costly and time-consuming. It is assumed that should those contracts have had conversion clause in their conditions of the contracts they would have reached to the same conclusions easily and with much lower costs and much shorter durations.

Table 6. Results of contracts conversions

(a) Contractors' responses

Conversion results	Grade 1		Grade 2		All	
	Frequency	(%)	Frequency	(%)	Frequency	(%)
Project was completed successfully	26	49.06	11	35.48	37	44.05
Diminished Disputes	15	28.3	8	25.8	23	27.3
Better relationship between parties	9	16.98	6	19.35	15	17.86
Missing	3	5.66	6	19.35	9	10.71
Total	53	100	31	100	84	100

(b) Owners' responses

Conversion results	Private		Government		All	
	Frequency	(%)	Frequency	(%)	Frequency	(%)
Project was completed successfully	3	42.86	1	50.00	4	44.44
Diminished Disputes	2	28.6	0	0.00	2	22.22
Better relationship between parties	1	14.29	0	0.00	1	11.11
Missing	1	14.29	1	50.00	2	22.22
Total	7	100	2	100	9	100

5. Conclusion

It is evident that contract conversion is practiced in reality to resolve situations that arise during the execution of projects. Contracts conversions during construction are common in Saudi Arabia to resolve conflicts and disputes,

accommodate prevailing business transactions, and rebalance risk. Owners in Saudi Arabia usually use the lump sum and unit price contracts to bind contractors to construct their projects. Unfortunately, both contracts do not tailor to the dynamic business transaction nature of construction projects. Consequently, conflicts and disputes arise very frequently due to undefined quantities of work, the undefined scope of work, and financial constraints. Therefore, those owners who initially select lump sum contracts for the construction of their projects tend to convert them during construction to unit price contracts. The conversion into unit price contracts is more suitable for projects that are characterized by an undefined quantity of work, undefined scope, and financially constrained. These owners who convert contracts from lump sum to unit price have reaped considerable benefits, including successful completion of their projects with negligible disputes and better relationships with contractors.

Although this study is limited to the Saudi construction industry, the findings could be generalized to other construction industries in the world as construction contracts are the common denominator in the design-bid-build delivery system.

As transaction occurs over a long period, owners are advised to include a clause in every contract to give the owner the right, not the obligation, to convert the underlined contract during the execution of construction activities to another type that deemed to be more suitable to the execution of the project.

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