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Critical Evaluation of the Contract Selection Process Used in the Construction Industry of Kuwait

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Abstract: The paper investigates and assesses the contract selection procedure used in Kuwait's construction sector. The ideas and insights of engineers involved in significant Kuwaiti construction projects will be extensively considered. In the Kuwaiti building sector, various ways of choosing the contract form will be discussed. In order to gather pertinent data about the country's primary construction projects, questionnaires will be used. This methodology ensures a first-hand account of the challenges and preferences within the industry. This data will be analyzed to determine the best ways to enhance the current system utilized for Kuwaiti building contracts for the choice of contract forms and payment terms that could benefit from the inclusion of measures to guarantee those types of task delivery systems and payment terms in the country's future construction projects. This paper explores the typical contract types and payment mechanisms used in Kuwait, drawing on a thorough analysis of current literature, governmental regulations, and business practices. The Standard Forms of Contract, which offer fixed-priced payments, have become the most popular option. However, when used for extensive and technically challenging projects, this contract form's simplicity presents difficulties. Additionally, the existing system encourages contract awards based on the lowest tender, which raises questions regarding appropriateness and proportionality. The study suggests an arsenal of criteria for improving the deal selection process, with an emphasis on diverse terms of payment inside the task delivery system, in order to allay these worries. It highlights the need for a more comprehensive approach for deal selection that takes project complexity, financial constraints, and long-term project interest into account. The proposed criteria additionally include adaptability to project complexity, ensuring flexibility for challenges in large projects. Financial considerations, aligning with budgetary requirements, are crucial. The emphasis is on long-term project success, and finding a balance between simplicity and adaptability in contracts is key. These comprehensive criteria aim to improve decision-making in selecting standard contract forms for construction projects, addressing challenges in large, technically demanding endeavors in Kuwait. This research contributes to the field by introducing a novel set of criteria for contract selection, tailored to the Kuwaiti construction context. The study's originality lies in its approach to addressing the challenges posed by current practices and its focus on refining the system for future projects. Additionally, the study employs a rigorous questionnaire survey to extract firsthand insights from industry professionals, ensuring a robust and contextually relevant exploration of the contract selection landscape in Kuwait's construction sector.

Keywords: standard forms; project delivery system; payment terms

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1. Introduction

The person in charge and the builder of a particular project are legally bound by a construction contract. The contract will typically specify exactly how much will be delivered as payment for the finished task as well as how it will be dispersed [1]. An agreement involving a number of individuals that provides a legal framework and generates the duty to do or not do something is known as a contract [2]. An agreement between the parties in

which each confers upon the other an enforceable duty and the right to seek remedy for the breach of those responsibilities is known as a legal framework [3]. A critical stage in negotiating contracts for both the hiring party and the customer is choosing the appropriate type of contract. Based on the interests of projects in the short and long term, all parties must choose a contract [4]. Priority is primarily given to the construction method, design by the workers and subcontractors, the design plus phasing of construction, the clients' equipment installations, and other elements depending on the degree of project complexity [5] within the construction sector. The three contract types that are most frequently used are lump-sum, cost-plus, and rate-per-unit contracts [6]. Almost all contracts, regardless of the kind being used, are amended and/or customized to meet the unique requirements of a project [7]. Construction contracts are built on a number of different components, such as terms and circumstances, obligations, and understandings regarding the legality of the contract. This indicates that the development contract must adhere to three requirements. These are the legality of the contract element, factors, and accessibility of the qualifying parties [8]. The idea that selecting the best contractor from the pool of applicants will directly affect the project's success is particularly prevalent in the construction sector [9].

According to earlier research, the Normal Domestic Contract, which uses a set cost as the method of payment, is the most common kind of building contract in Kuwait [10]. The risk of an improper and disproportionate contract allocation exists since the contact selection procedure does not include a detailed examination of the construction project. When it comes to large-scale and technically complicated construction projects, the SDC's simple terms present challenges. The Chamber of Commerce of Central Tendering in Kuwait now awards contracts based on the lowest bid. In major Kuwaiti construction projects, the general contract form known as "legal general contracts" was first published in 1971 and has since become one of the contract agreements used in both private and public projects [11]. Although this agreement has undergone a number of alterations, its fundamental phrases have not changed much [12]. The author's primary goal in the current study is to offer several criteria that will enable adjustments to be made to the current system of contract selection. The author will primarily concentrate on the many options for payment arrangements within the assignment delivery system in order to better understand the system currently in place in Kuwait for choosing contract forms for construction projects.

The significance of this study lies in its potential to contribute valuable insights to both national and international agendas in construction project management. By undertaking a comprehensive analysis and proposing the best method to improve the practice of selecting contract forms, the research aims to address existing challenges and gaps in the selection of contract forms. Furthermore, the study's findings may resonate globally, offering insights and methodologies that can be adapted to enhance contract selection practices in various international construction contexts. Ultimately, the study aspires to foster improvements that align with broader goals of efficiency, transparency, and fairness in construction project management, contributing to the advancement of construction projects on both national and international scales.

This study seeks to contribute to the enhancement of current practices by developing the best method to select contract forms and develop the performance of Kuwaiti's construction industry, which is aimed at improving the efficiency and effectiveness of contract form selection within the Kuwaiti construction sector. The primary aim of this research is to investigate and assess the existing system utilized in the selection of contract forms for construction projects in Kuwait. The research endeavors to answer three crucial questions: 1. What is the existing method used to select the contract forms within Kuwait? 2. How feasible is the current process of choosing contract types to guarantee successful contract delivery? 3. What is the procedure required to improve the method used to select the contract forms for the construction projects within Kuwait? To achieve the outlined aim, this research pursues three main objectives: critical analysis of the existing system used to select the contract forms; Reviewing the international approaches to selecting the contract

forms for the construction projects: Proposing the best method to select the contract forms to enhance the performance of the construction industry in Kuwait.

2. Theoretical Background

2.1. Kuwait Construction Sector Overview

The government of Kuwait has made substantial attempts to ensure that the economy of the nation is not solely reliant on oil, considering the current trends in oil production [13]. Due to this, the diversification of Kuwait's economy has been prioritized with the revenues gained from the oil industry; as a result, the construction industry of the nation experienced massive growth. However, this was not always the case since the construction sector declined in Kuwait in 2008 and recovered by 2014 [14]. In addition to this, the integration of Kuwait with its neighboring nations has also created a massive appeal for investment in the construction sector. The growth of this particular sector is believed to be impacted by several factors, including an attractive environment for investment, diversification, competition, and trade exposure [15]. According to a survey by Flanders Investment and Trade [16], the value of the construction sector in Kuwait was nearly 3.2 billion USD during FY13, which represented an annual growth real value of 3.6 percent. The survey also indicated that the total value of the underway or planned projects within Kuwait is 188 billion USD. It was also seen that 76 percent of the overall construction accounts were for the transport sector. There was a decline in oil prices and an economic slowdown that resulted in an impact on the business environment. The contraction of this industry has continued during the COVID-19 pandemic period, which caused major disruptions within both the non-residential and residential building segments. Thus, the recovery of the construction sector is expected to increase by 2.4 percent during 2021, but this recovery is considered weak in comparison to its growth in the past decade [16]. Kuwait has announced its new Vision 2035, which is meant to decrease the reliance on gas and oil resources even further, which is why many initiatives have been undertaken by the government to heavily invest in this sector. One of the major investments is related to the Kuwait Development Plan, which aims to aid in the development of infrastructure and stimulate the economy. However, there have been various issues and challenges within this industry, such as increasing construction costs, political instability, corruption, and many others. Due to such issues, in particular, foreign as well as domestic investors become fearful of investing, which hinders this sector from growing [17]. During the recent COVID-19 outbreak, this sector has struggled substantially, which resulted in a 7 percent decline in output during 2019. A major contributor to this decline was the weakness in civil engineering and energy work. In addition to this, the bureaucratic environment within Kuwait is extremely incompetent, and this becomes a major issue for the construction of large-scale infrastructure projects. During 2020, the number of building permits issued declined by nearly 40% [17].

2.2. The Contract Selection Process Used in the Construction Project of Kuwait

The domestic standard form is the one that Kuwaiti construction projects most frequently choose to employ. It was discovered that the most popular payment method was "fixed price." The special condition defines how the project is described on the contract form, whereas the overall state is defined by domestic standards. Kuwait has a lot of projects, but there are only a few payment methods available, which are often Guaranteed Price, Remeasure, or Cost Plus [10]. These are the most widely accepted payment methods and are used everywhere [18]. Faraj claims [10] that distinct phases are experienced by different construction projects. A proposal and feasibility study, planning, preparing a consultant agreement, documenting a contract, the building endeavor and follow-up, finishing the work and receiving permission, and maintaining and operating it are the six key stages that the project goes through. The 'life cycles of the project' are the name given to these stages.

The three primary documents that serve as the foundation for contract types in Kuwait are those that deal with technical specifications, contract conditions, and tender documents.

The contract deed is another option [10]. Directions on Tenderers, the Bid Tenderness, one Initial Warranties structure, the Final Guarantee form, the Bid Paperwork, and declarations are all included in the tender document [19]. The "general conditions" specify how key terms like "contract", "employer", "contractor", and "engineer" should be used. Clauses specifying the responsibilities and authority of the "engineer" for the client are also included, as are restrictions on the amount of work the "main contractor" may subcontract. Additionally, there are "general obligations" that outline the contract's structure, performance guarantees, site visits, and the "sufficiency of the tenders", which is the section of the agreement that outlines the contractor's minimally acceptable performance standards and is determined by the customer. The responsibilities, rights, and relationships of the involved parties are included in the performance contract [8,10]. Although they contain information on some of the general conditions' articles, the particular conditions are not part of the general terms and conditions. Additionally, phrases, details, objects, and circumstances that are not mentioned in the overall circumstances may be incorporated in the special conditions [8].

It is possible that there will be issues with the bidding during the tender phase. Because of the context of the bidding procedure, this may be the result of an error occurring or a failure to follow the necessary guidelines. Late offers, incomplete bids, contradictory offers, alternative bids, and comparable bids could be the cause of the issues [20]. In Kuwaiti building projects, the contracting parties frequently experience these issues and challenges. They include project cancellation, job delays, variation orders, contract document issues, and dispute settlement. Construction projects can be delayed for a variety of reasons, both internal and external [21]. Negotiation is a mediation, arbitration, and lawsuit are all possible techniques for resolving disagreements [22]. In construction projects, arbitration and litigation have established themselves as the most common forms of dispute resolution [23].

Although the construction business has limitless potential, it is a very complicated sector, and a number of factors can have a significant impact on the success of any project. The administration of construction projects faces a number of difficulties. Contract management is one of the elements most important for the project's success in order to assure the efficacy of such initiatives. This method entails enabling parties to sign a contract outlining specific duties they must fulfill for one another [24]. The construction projects may experience a variety of contractual issues, including financial difficulties, problems with the tender documentation, such as deals and drawings, problems with important adaptations or specifications that affect the caliber of the work, political difficulties, administrative difficulties, problems with the parties to the contract, problems with settling disputes and arbitration, problems with the use of technological advances, and career ethical issues [25]. Contractual concerns that are frequently encountered in Kuwaiti construction contracts include liability, joint venture agreements, and tendering regulations. The Central Bid Committee is in charge of evaluating and awarding contracts on its behalf to the federal government when it comes to bidding [26]. However, it has come to light that the government has not strictly adhered to the tender requirements. When the Kuwaiti government negotiates contracts, this problem is much more obvious. The resolution of party disputes is a crucial issue as well. The main problems are governmental corruption and bureaucratic red tape, which make it difficult to settle disagreements amicably. According to Kuwaiti law, parties to a contract may agree to international arbitration in such circumstances [27].

Construction contracts are required to minimize potential conflicts that may occur throughout the construction process. Contracts that include specific conditions and conditions for each party make those parties legally obligated to carry out their obligations [28]. However, conflicts between the parties involved frequently result in contract disputes. This might have a significant effect on construction projects since it could make the legal actions and other variables even more complicated, which would make managing the project as a whole more challenging [29]. However, due to the significant divergence in their interests, parties cannot avoid disputes. Markus claims [30] that the construction business is one where conflict is always prevalent, which makes interparty cooperation

exceedingly challenging. Each stakeholder assesses success differently because there is no universal definition of success due to the individual nature of each endeavor. While contracts are meant to provide each party with protection, there are frequently gaps in their coverage, especially when one of both parties is uninformed of the suitability of the conditions that are listed [31]. As a result, there are a number of problems with contracts, such as construction delays, project terminations, change requests, and dispute resolution.

2.3. Prior Studies on Construction Contract Selection

According to [32], Kuwait's construction sector has undergone significant growth; this outlines how construction projects in general have increased significantly throughout the previous 10 years. At the same time, despite the rise in construction projects, there hasn't been development to deal with other aspects of construction contracts such as selection, procurement, and dispute resolution. It is mentioned by [33] that Kuwait's construction sector is lacking in proper systems to manage larger-scale projects; this has caused a lot of delays and other issues.

According to [34], there are problems with even simple issues for larger-scale projects; however, due to the larger scale, simple issues left unaddressed can create problems for the fulfillment of the contract. As the problems happen, the stakeholders experience negative impacts with multiple ramifications, including litigation. According to the study by [35], construction projects require effective systems to record data; this entails managing a significant amount of data on the project and the workers who are required to perform it. The data also needs to outline the materials, the equipment, and any plans or drawings. Furthermore, the study also highlights how risks and events need to be documented, such as weather, work done, and any major activities completed, such as pouring the concrete. With the daily logging of the data, it is possible to then manage the project effectively. However, Kuwait's documentation system is very poor, and the data is not reliable or detailed enough [36]. Furthermore, a lot of the documentation is done manually in Kuwait's construction sector and is utilized mainly for litigation purposes rather than ensuring successful project completion. With manual documentation, many important aspects of construction projects are left out, especially when considering the initial contract form [37]. The documents also are illegible over time, and important data is lost forever. Moreover, one of the more important aspects of selecting a contract is managing the particular conditions required for the project, which is useful in helping the decision-maker understand the issues and project requirements that have to be addressed. The project conditions are one of the most important considerations in determining whether the contract is chosen and the chance that it will succeed [38].

2.4. Gaps in the Existing Understating of the Contract Forms Selection Process

No single sort of agreement can be perfect, as has become clear from the literature on the subject. Each contract type is typically distinct since different parties to the agreement have different requirements. The division of responsibilities for any project must be clearly defined because the efficacy of any building endeavor depends largely on aspects like managerial abilities, thorough work plans, experience, deadline-sensitive deliverables, and many other things [39]. This emphasizes how crucial it is to choose the proper kind of contract because it will have an impact on how the parties to the contract will interact. Additionally, it is crucial for the contract choice to be very explicit about how both the requirements of the contractor and the owner will be met [40]. A lot of builders have a different perspective than owners because the former believes that earnings should be maximized, which might lead to cutting corners with supplies or other labor. Owners, on the flip side, think that expenses should be low, the original timetable should be followed as first promised, and the finished product will be of good quality [41]. The review of literature has provided information on the various contract types as well as the system currently in use in Kuwait for contract selection. Lack of knowledge regarding agreement selection and its different needs for Kuwait, especially, is one of the most obvious gaps

in the literature. Furthermore, as massive construction has been mostly disregarded in the literature, understanding contractual concerns within Kuwait's construction projects is fairly restricted. Due to the fact that large-scale initiatives are frequently the most challenging, this particular feature is essential. The selection of contracts for these initiatives can also be very advantageous for Kuwait's construction projects, as each side will be able to comprehend the needs of the other while attempting to choose contracts that are appropriate. Additionally, the majority of research studies have concentrated on the absence of technology or suitable management techniques while frequently ignoring the social and human variables that would be employed to execute those technologies. Contracts must also take into account soft management elements like trust, and it would be advantageous to look into this perspective further in order to understand how it functions in project management. There are numerous possibilities in regard to the criteria that must be met when choosing a contractor, but much of this data is not tailored to the situation in Kuwait [42].

3. Method and Data Presentation

3.1. Measures and Questionnaire Design

The purpose of this study is to identify the techniques employed in Kuwaiti construction projects to select appropriate standard contract forms. In light of the research question, this research falls under the pragmatism research philosophy. The aim is to find out the different opinions of the involved stakeholders on the types of standard contract forms that are being used in construction projects in Kuwait. That is, the involved parties would need to express their opinions and how they came to decide on the standard form and contracts to adopt. The research intends to use this information to come up with a model for the selection of construction contracts. This model would, thus, influence the future selection of standard contractual forms. A survey questionnaire will be completed to explore their thoughts regarding contract issues, improvements to be made, what the most important factors are for them when selecting contracts, the criteria used for the evaluation and selection of any contract, and others to ensure that all the opinions and honest thoughts of the participants are being recorded. This step will involve the discussion of the collected data. The analysis will be performed with the SPSS tool for the surveys.

The need for discussions as well as analysis of the findings is clear since this is what will allow the researcher to understand what aspects of Kuwait's existing contract format selection system are deficient and might be made better by using the right strategies. The methods that need to be developed for the existing system to choose the contact form from various project delivery systems and payment terms based on many factors, including time, size, and kind, are shown in Figure 1.

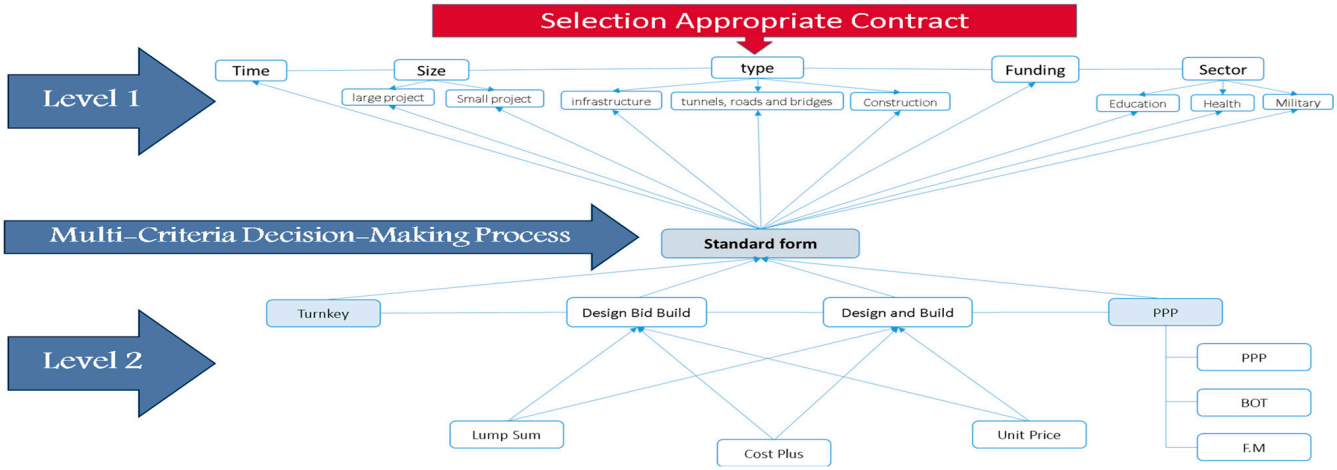

Figure 1. The Strategy proposed to develop the existing system used to select the contract forms in the public sector in Kuwait.

3.2. Sample and Data Collection

This survey deals with two main sectors of Kuwaiti construction projects, that is, the public sector and the private sector. The private sector in Kuwait includes the consultant office and contractor company, while the public projects focus on the practical sector related to the project, which includes the Ministry of Public Works, Housing, Electricity and Water, Defense, and the Kuwait Oil Company. The survey was done either by email or in person, between 22 June and 22 August 2022. From the initial data presented, the researcher hoped that all 150 respondents would submit their responses. However, the author received only 92 responses. The author understood that the survey would not be 100% efficient and that some questions would not have been well understood by the correspondents. Table 1 shows the structure of the questionnaire designed for this study. Table 2 shows the category, characteristics, frequency, and percentage along with the professions, organization, role, experiences, and rates of understanding.

Table 1. Focus on Housing, Electricity and Water, Public works, and the Kuwait Oil Company and contract forums for construction projects in Kuwait.

Section	Focus
1	Participants Profile
2	Collection of data concerning the Standard forms, Project Delivery system, and payment terms used for construction projects in Kuwait
3	Collection of data concerning the system used to select contract forms for construction projects in Kuwait

Table 2. Category, characteristics, frequency, and percentage along with the professions, organization, role, experiences, and rates of understanding.

Characteristics	Category	Frequency	Percentage (%)
Professions	Engineer	77	84
	Architect	15	16
Organization	Employer	37	40
	Consultant	31	34
	Contractor	20	22
	Other	4	4
Role	Project Manager	33	36
	Site-Engineer/Consultant Engineer	32	35
	Contract Specialist	27	29
Experience	Above 30 years	25	27
	20 to 30 years	16	17.5
	10 to 20 years	26	28
	Less than 10 years	21	23
	No. Experience	4	4.5
Rates of Understanding	High-Level rate (7–10)	70	76
	Medium rate (5–7)	15	16.3
	Low-Level rate (1–4)	7	7.7

The research study conducted a thorough analysis of Standard Forms of Contract (SF), Project Delivery Systems (PDS), and Project Management (PM) practices within Kuwait's construction projects. The study examined the acceptance of different common contract forms, including the frequency with which they were used, and it discovered important variables that influenced their choice. The key factors considered include levels of experience, organizational characteristics, roles on the projects, and understanding of the contract. The level of experience is crucial, as individuals with different levels of experience may

approach contract selection differently. More experienced professionals may have insights into the historical performance of certain contract forms and could base their decisions on past project experiences. The nature and policies of the employing organization can significantly impact contract selection. Different organizations may have specific preferences or constraints that influence their choices in contract forms. The roles individuals play in construction projects, such as project managers, contract specialists, or engineers, can shape their perspectives on contract selection. Different roles may prioritize certain aspects of contracts based on their responsibilities. Participants' comprehension of contract terms and conditions is a critical factor. A clear understanding can lead to informed choices aligned with project requirements, while a lack of understanding may result in suboptimal decisions. The predominance of various project delivery methods and the characteristics that influence them, particularly in terms of experience, were also looked at. The study examined the prevalent payment terms used in Kuwaiti building endeavors and evaluated how frequently they were used, taking into account how experience, organizational decisions, responsibilities within the project, and contracting knowledge affected these choices. These thorough metrics provide important insights for both scholars and practitioners in the industry by shedding light on the prevalent practices and underlying causes of Kuwait's construction projects.

The study employs the chi-square test to examine the relationships between categorical variables. The rationale behind choosing the chi-square test in this study lies in its suitability for analyzing categorical data and assessing the associations between different categorical variables. As the study aims to investigate the factors influencing contract selection, project delivery systems, and payment terms, many of the variables involved are categorical in nature. These categorical variables include levels of experience, organizational affiliation, roles on projects, and understanding of contracts. The chi-square test allows the researcher to examine whether there is a statistically significant association between these categorical factors and the preferences or choices made by participants in terms of contract selection, project delivery systems, and payment terms. By using the chi-square test, the study can determine if there are any patterns, dependencies, or significant differences in the responses based on the identified factors [5]. In the context of the research questions and objectives, the chi-square analysis helps to unveil potential relationships between the selected factors and the decision-making processes related to construction projects in Kuwait. This statistical method provides a quantitative basis for understanding the significance of these associations, contributing to the overall aim of identifying key factors that influence the selection of contract forms. The results from the chi-square analysis will inform the conceptual framework and rationalizing strategies proposed in the study, aligning with the broader goal of enhancing the procedures of contract form selection in the Kuwaiti construction sector.

4. Results and Analysis

The data collected included several sorts of standard forms of contract used as a means of discovering the most common forms of contract in this industry. The forms include the New Engineering Contract (NEC), the Infrastructure Conditions of Contract (ICC), the Joint Contract Tribunal (JCT), the International Federation Consulting Engineers (FIDIC), and the Kuwait Domestic Contract Form. The study also included project delivery systems such as the traditional Design-Bid-Build (DBB), Design and Build (D&B), Build Operation Transfer (BOT), Turn-Key Projects, Management Contracting and Partnering (PPP), as well as several sorts of payment terms, such as Lump Sum, Unit Price or Bill of Quantities, Cost Plus (Cost Reimbursable) and Guaranteed Maximum Price Some of these forms of contract are popular, while others are used less frequently [18].

4.1. The Standard Forms of Contract, PDS, and PM Used for Construction Projects in Kuwait

The result of Table 3 shows that Kuwaiti domestic forms were proven to be the most popular standard form, since most participants claimed to have often interacted with

them, while FIDIC was the second most popular standard form of contract, respondents saying since most respondents claimed to have sometimes interacted with it. However, the remaining types of contract forms, such as NEC, JCT, and ICC, were not known in construction projects in Kuwait since above 60% selected 'I do not know'. Furthermore, the standard forms of contract have been affected by factors such as level of experience, organization, roles of project, and understanding of contracting forms. Overall, the mean for Standard Forms of contract in construction projects in Kuwait was 1.05, with a median of 1 and SD of 0.5. Table 3 shows that the KWT domestic form of contract and NEC/NCC forms of contract have been not affected by any factor (p-value > 0.05). FIDIC forms of contract were affected by all factors (p-value < 0.05) except 'understanding of contracting forms' (p-value = 0.532 > 0.05). ICE/ICC Forms of the contract were affected by all factors ($p < 0.05$) except 'organization' (p-value = 0.132 > 0.05). Finally, JCT forms of contract were affected by 'levels of experience' (p-value = 0.044 < 0.05).

Table 3. Kuwait's construction Project: SF, PDS, PM practices, and influential factors.

Characteristics	**Most Section**	**Chi-Square Test**				**Total Effect**
Standard Forms		**Levels of Experience**	**Organization**	**Roles on the Project**	**Understanding of Contracting**	
KWT Domestic Form of Contract	Often	0.839	0.88	0.084	0.603	Mean (1.05) Median (1) S.D (0.5) Min Max
FIDIC forms of contract	Sometime	0.015	0.008	0.025	0.532	
JCT Forms of contract	Unknown	0.044	0.584	0.277	0.353	
ICE/ICC Forms of contract	Unknown	0.001	0.132	0.022	0.036	
NEC/NCC Forms of contract	Unknown	0.084	0.602	0.170	0.504	
Project Delivery System	**Most Section**	**Levels of Experience**	**Organization**	**Roles on the Project**	**Understanding of Contracting**	**Total Effect**
Traditional Design-Bid-Build	Often	0.097	0.610	0.179	0.289	Mean (1.91) Median (2) S.D (0.55)
Design and Build	Sometime	0.422	0.114	0.467	0.218	
Partnership Public Privet (PPP)	Sometime	0.021	0.838	0.249	0.309	
Turn-key Project	Sometime	0.090	0.435	0.788	0.642	
Management Contracting	Sometime	0.609	0.516	0.506	0.563	
Payment Terms	**Most Section**	**Levels of Experience**	**Organization**	**Roles on the Project**	**Understanding of Contracting**	**Total Effect**
Lump Sum	Often	0.042	0.762	0.049	0.008	Mean (1.75) Median (1.8) S.D (0.53)
Unite Price or Bill of Quantities	Sometime	0.047	0.156	0.745	0.301	
Cost Plus (Cost Reimbursable)	Sometime	0.251	0.014	0.048	0.213	
Guaranteed Maximum Price (GMP)	Never	0.750	0.234	0.119	0.768	

The traditional design-bid-build was the most common of all the five systems presented, with most of the participants stating that they use it often, while all other sorts of delivery systems ranked closely to each other and were being used in Kuwaiti construction projects since they were most frequently selected. These results show that most of the participants selected the "sometime" option for those delivery systems being used in Kuwaiti construction projects. Indeed, all the project delivery systems are present in the construction projects in Kuwait, but some, as stated above, are more popular than others. I believe that the most popular system is viable in the majority of the sectors, while the suitability of the rest of the systems varies with sectors and the nature of the project, hence the above results. Overall, the mean for the delivery system of contracts in construction projects in Kuwait was 1.91, with a median of 2 and SD of 0.55. Moreover, the project delivery system (PDS) has not been affected by factors (p-value > 0.05) except that the partnership is affected by Levels of experience (p-value = 0.021 < 0.05).

Lump sum payment terms are the most common of the four payment terms presented. Many professionals have indicated that they have often used lump sums as a payment term in a construction project. The surveyed participants claim to use it often, while the rest use it in some cases. Unit price payment method is the second most popular payment term, with participants claiming to have used it often and sometimes. However, the result shows that Cost plus Payment terms are used in Kuwaiti construction projects since the participants selected "some time". Furthermore, GMP is the least popular method, as the highest selected percentage was 'never' and 'I do not know'. These two options might mean that there is no evidence of the use of this type of payment term in construction projects in Kuwait. Generally, the mean for payment terms in construction projects in Kuwait (1.75), median (1.8), and SD (0.53). Furthermore, the terms utilized as compensation for Kuwaiti construction projects have been affected by level of experience, organization, Roles of project, and understanding of contracting forms where Guaranteed Maximum Price (GMP) and Unite Price or Bill of Quantities have been not affected by any factor (p-value > 0.05) except Unite Price or Bill of Quantities has been affected by Levels of experience (p-value = 0.047 < 0.05). Lump Sum has been affected by all factors except Organization (p-value = 0.762 > 0.05). Cost Plus (Cost Reimbursable) has been affected by Organization and Roles on the project (p-value = 0.014, 0.048 < 0.05, respectively).

4.2. Selection of the Standard Depends on Criteria for Construction Projects in Kuwait

This section was divided into four different categories, as outlined in the following sub-sections. As portrayed in the sections, it is essential to establish whether the selection and modification of standard forms of contracts are factors of the payment method, project delivery system (responsibility), size of the project, and the sector it falls under, as well as the sources of funding for the project or not. Below is a clear result in Table 4 that illustrates the decision made when selecting a specific standard form for the contract to let on a lump sum/fixed cost basis, re-measurement basis, cost reimbursable/variable fee basis, or target cost clauses; this part of the survey considered payment term criteria with a different statement.

4.2.1. Select a Specific Form According to Payment Methods for Construction Project in Kuwait

The result shows that in Table 4 above, the most often used a specific standard form when the contract was let on a lump sum/fixed cost basis and re-measurement basis since the majority of participants selected "often" while a large number of participants selected "neutral" when the contract was let on a cost reimbursable/variable fee basis or a target cost clause. There was also a percentage of participants who selected "neutral" for a lump sum/fixed cost basis and a re-measurement basis; 12.6% and 24.4% were selected separately. Furthermore, most of the participants were between 'rarely' and 'often' and were in the 'neutral' category because the mean was 2.96, median = 3, and SD = 0.77. This result motivated the author to explore the results in greater depth to compare with different sub-

sections where are on Table 4 illustrations that the result in detail shows the high percentage of participants was with whom have a high level of understanding of the contract form where those participants mostly selected natural with 36.8% for cost reimbursable/variable fee basis and target cost while with experience of more than 30 years all selected "neutral" for cost a reimbursable/variable fee basis and target since 36% and 34% selected these respectively while this sub-group stated "always" for a lump sum/fixed cost basis with 48% while "often" and "rarely" for re-measurement basis 36% for each state. Table 4 shows that the Effect of the Payment method on standard form selection was affected by 'level of experience', 'organization', 'roles in the project, and 'understanding of contracting forms' where the variable When the contract is let on a lump sum/fixed cost basis, it was affected by 'levels of experience' and 'organization' (p-value = 0.01, 0.005 < 0.05, respectively), while the other variables (when the contract is let on a re-measurement basis; when the contract is let on a cost reimbursable/variable fee basis; and when the contract includes target cost clauses) were not affected by factors (p-value > 0.05) except the variable When the contract was let on a re-measurement basis, it was affected by the organization (p-value = 0.001 < 0.05).

4.2.2. Select a Specific Form According to Responsibility for Construction Project in Kuwait

Table 4 expresses the decisions made. When the contract is let on a traditional design-bid-build (DBB) basis and design and build (DB) basis, they are rarely used as a specific standard form, since 27.2% and 26.4 selected "rarely", respectively. In addition, all the other participants mostly selected "often", with 32.2% for a build operation transfer (BOT) basis, 33% for a turnkey basis, and 33.7% for a partnering agreement basis. However, the highest number of participants chose "neutral" for all statements, which were between 23.9% and 27%. Furthermore, the mean was 3.01, with median = 3 and SD = 0.93. Indeed, the high percentage of neutrals that were selected motivated the author to investigate which of the participants most commonly selected 'neutral'. However, 40.7% of participants were employers, and generally, they selected neutral for all of the states in the Table 4, with 40.5% for a traditional design ID build (DBB) basis, 29.7% and 37.8% for the rest of the states [42]. In addition, 29.7% of the participants were Contract Specialists and they mainly selected neutral from all of the states in the Table 4, with 40.7% opting for a traditional design-bid-build (DBB) basis, 33.3% for a design and build (DB) basis, 37% for a turnkey basis, 46.2% for a partnering agreement basis and 29.6% for a build operation transfer (BOT) basis. Basically, the employers and the Contract Specialist mostly selected "neutral" for those statements. Participants with a high level of understanding mostly selected "rarely" since 29.5% opted for a traditional design-bid-build (DBB) basis and 27.3% for a design and build (DB) basis, while all the other participants selected "often", with 36.4% for Turnkey and 35.5% for a Partnering Agreement basis (PPP).

Table 4 shows that the Effect of the Project Delivery System and Responsibility on the selection of a specific form has been affected by the level of experience, organization, Roles of the project, and understanding of contracting forms where, the variable When the contract is let on a traditional design-bid-build (DBB) basis has been affected by all factors except Understanding of contracting forms (p-value = 0.546 > 0.05), while the variables "When the contract is let on a Traditional Build operation transfer (BOT) basis" and "When the contract is let on Turnkey basis" have not been affected by factors (p-value > 0.05) except the variable When the contract is let on Turnkey basis has been affected by levels of experience (p-value = 0.044 < 0.05). The variable When the contract is let on a partnering agreement basis has been affected by organization and understanding of contracting forms (p-value = 0.044, 0.043 < 0.05, respectively). Finally, the variable When the contract is let on a traditional design and build (DB) basis has been affected by levels of experience and organization (p-value = 0.019, 0.029 < 0.05, respectively).

Table 4. The study utilized various measures to assess the influence of factors on contract selection, project delivery systems, and payment terms in Kuwait's construction projects.

Characteristics	Most Section	Chi-Square Test				Total Effect
Funding		**Levels of Experience**	**Organization**	**Roles on the Project**	**Understanding of Contracting**	
Project has a supply chain	Neutral	0.140	0.043	0.430	0.143	Mean (2.95) Median (3) S.D (1)
Project if privately financed	Often	0.006	0.812	0.244	0.363	
Project if Public financed	Neutral	0.011	0.159	0.261	0.339	
Responsibly	**Most Section**	**Levels of Experience**	**Organization**	**Roles on the Project**	**Understanding of Contracting**	**Total Effect**
Traditional Design-Bid-Build	Rarely	0.013	0.021	0.001	0.546	Mean (3.01) Median (3) S.D (0.93)
Design and Build (DB)	Rarely	0.019	0.029	0.443	0.693	
Build operation transfer (BOT)	Often	0.240	0.257	0.500	0.353	
Turnkey	Often	0.044	0.09	0.903	0.559	
Partnering agreement	Often	0.512	0.044	0.113	0.043	
Payment Terms	**Most Section**	**Levels of Experience**	**Organization**	**Roles on the Project**	**Understanding of Contracting**	**Total Effect**
Lump Sum	Often	0.01	0.005	0.117	0.372	Mean (2.96) Median (3) S.D (0.77)
Unite Price or Bill of Quantities	Often	0.125	0.001	0.236	0.229	
Cost Plus (Cost Reimbursable)	Neutral	0.934	0.709	0.556	0.481	
Target cost clauses	Neutral	0.792	0.466	0.415	0.554	
Size and Sector	**Most Section**	**Levels of Experience**	**Organization**	**Roles on the Project**	**Understanding of Contracting**	**Total Effect**
Project is let large and complex	Often	0.270	0.180	0.797	0.224	Mean (3.08) Median (3) S.D (0.99)
Project is let small and simple	Often	0.066	0.444	0.277	0.873	
Each different public sector	Neutral	0.565	0.331	0.463	0.189	

4.2.3. Select a Specific Form According to Size Sectors for Construction Project in Kuwait

Table 4 shows that the mean was 3.01, with median = 3 and SD = 0.93. Generally, the most frequently selected were in between 'often' and 'neutral', where 'often' is selected as a specific standard form when the project is left either large and complex or small and simple since 28.9% of participants selected "when the project is let large and complex" and 30.3% for "when the project is let small and simple". A number of participants did not provide their views on using a specific form for "each different public sector", and accordingly, they were deemed to have selected 'neutral' around 30.8%. However, the highest second option was selected "neutral" for "when the project is large and complex or small and simple". Around 25% of participants were selected for all of the statements [43].

In general, there are a high number of participants who do not provide their review for the sub-group of experience, where the most selected was "neutral" with 30.7%. However, the Contract Specialists sub-group was around 28.9% of the participants and most of them did not provide their review, since 34.6% of them selected "neutral" for the state "when using the specific standard form for each different public sector"; 26.7% "when the project is let large and complex" and 38.5% "when the project is let small and simple". Furthermore, the result reveals that a high number of participants did not provide their review for most states of this survey. The size and Sector of the selection of standard forms have not been affected by the level of experience, organization, Roles of the project, and understanding of contracting forms (p-value > 0.05).

4.2.4. Select a Specific Form According to Funding for Construction Project in Kuwait

Table 4 shows that using a specific standard form when the project has a supply chain and is privately financed or publicly financed, 'neutral' was often selected, with 30% for "when the project has supply chain" and 24.4% for "publicly financed", while "when the project privately financed" was mostly selected "often" since 30% of participants were selected. However, the second most commonly selected was "rarely" for "when the project had a supply chain or was privately financed", with 28.9% and 26.4%, respectively, except "when the project was publicly financed" since 26.4% selected "rarely" as the second option. In addition, the mean was 2.95 with median = 3 with SD = 1.

Furthermore, 28.6% of participants were Contract Specialists. The latter mainly selected "neutral" for all states "when the project had a supply chain, was privately financed, or publicly financed with 42.3%, 34.6%, and 26.9%, respectively. In addition, the result in details show that 40.7% of participants were employers who mostly selected "neutral" for "when the project had a supply chain or privately financed with 35.1% and 37.8%, respectively, except" when the project was Public financed" since 32.4% selected often the most chosen. Basically, the "Employers" and "Contract Specialists" sub-groups mainly selected "neutral" for those statements, while that most of the participants with more than 30 years of experience selected "rarely" for funding criteria with 33.3% selecting "when the project had as supply chain", 37.5% "when the project was privately financed" and 41.7% "when the project was Publicly financed". However, the source of funding on the selection of a specific form was affected by the level of experience, organization, roles in the project, and understanding of contracting forms while the selection of a specific form of funding was not affected by any factor except the variable "when the project supply chain is affected by the organization (p-value = 0.043 < 0.05), and the level of experience influences the variables when the project is privately financed and when the project is Public financed (p-value = 0.006, 0.011 < 0.05).

5. Discussion

The literature review highlighted the importance of aligning contract forms with project characteristics, organizational goals, and contextual factors. However, the specificity of Kuwait's construction projects, its unique socio-economic landscape, and the regulatory frameworks governing public sector projects necessitated a dedicated exploration. However, the result found there are limits to using contract forms in Kuwait, and the most significant point was that the level of understanding of the process method to select the contract forms in Kuwait was poor. The data revealed a widespread sentiment among industry professionals that the existing system for selecting contract forms for Kuwait's construction projects lacks clarity and transparency. Respondents indicated that the current system does not adequately address the diverse needs of various project types and sectors, often leading to confusion during the project execution phase. The data indicated that the complexity of the existing contract forms is a significant concern. Respondents expressed difficulties in understanding and applying these forms due to their intricate nature. This complexity was found to contribute to disputes and delays in project execution, further

emphasizing the need for critical analysis. A notable disparity was found in the perception of the existing system between the public and private sectors.

Previous studies have emphasized that the choice of contract type and procurement method significantly impacts project outcomes, including cost, quality, schedule adherence, and risk allocation. Historically, Kuwait's construction sector has primarily followed traditional lump-sum contracts [43]. However, a shift towards more strategic contract selection approaches has been observed, driven by the need to reduce disputes and inefficiencies. The international construction industry relies on different organizations, each offering unique approaches to construction contract selection. The JCT from the UK, the AIA, and the FIDIC are prominent players in this regard. These organizations provide standardized contract forms tailored to diverse project types, emphasizing risk allocation, transparency, and dispute resolution mechanisms. They cater to both simple and complex projects, from design-bid-build to design-build and turnkey contracts. The AIA stands out for its commitment to customization and clarity, promoting fairness and equity among project stakeholders [44]. The FIDIC suite of contract forms is globally recognized and widely used in major international projects, offering a balanced allocation of risks among contracting parties. FIDIC offers clear and well-defined contracts designed for risk reduction and efficient project management, and JCT offers a range of standardized contract forms tailored to different project types, emphasizing the clarity and established legal precedents in its contracts. The literature underscores the need for customization in standardized contract forms to align with Kuwait's unique context. While standardized contracts provide a strong foundation, customization is essential to ensure they meet the specific requirements of Kuwait's construction sector [45]. The JCT, AIA, and FIDIC offer degrees of flexibility and customization, allowing adjustments to contract clauses and provisions to accommodate local legal and cultural nuances.

The literature highlighted that the previous methodology predominantly focused on financial aspects and payment terms, often overlooking technical intricacies and project-specific requirements. This emphasis on financials could result in an inadequate match between the selected contract form and the project's unique characteristics, affecting the overall success of construction projects. The existing methodology lacked a systematic framework for selecting contract forms that comprehensively addressed various project aspects.

The survey reveals that the Kuwaiti domestic contract form is the most widely used standard form of contract in the construction industry, followed by FIDIC. This reflects the dominance of local contract forms in the construction sector and aligns with the existing methodology, which prioritizes standardized domestic contracts. Most respondents favor the traditional project delivery method. This method involves a sequential approach, with design preceding construction. This preference aligns with the existing practices in Kuwait's construction sector, which have historically followed conventional approaches.

The results suggest that, apart from the form of payment (lump sum), the other variables do not strongly impact the selection of contract forms. A lump sum implies that contractors receive a fixed sum for their services, regardless of the final project cost. This highlights the need for a more comprehensive approach. This is intended to improve contract form selection while maintaining clarity and consistency.

Most of the participants had substantial experience, with over 30 years in their respective fields. They demonstrated a high level of expertise in the construction industry. Respondents represented diverse sectors within the industry, with housing and major construction being particularly prominent. Despite the experience of many participants, there were challenges in their knowledge of the system used for selecting contract forms. Notably, contract specialists and project managers, despite their experience, lacked a comprehensive understanding of the selection process. This underscores the need for further investigation, especially into the specific practices of various sectors. The knowledge gaps in contract specialists and project managers highlight a need for better education and awareness regarding the contract form selection process.

The paper does not discourage traditional methods but encourages consideration of alternative project delivery methods when appropriate. This flexibility is in line with international best practices.

By developing a comparative table (see Table 5), the study aims to highlight how contract selection procedures, project delivery systems, and payment terms vary or align with international practices. This cross-cultural analysis can reveal insights into whether Kuwait's construction sector exhibits patterns distinct from or similar to global trends. Variations may arise from cultural, economic, or regulatory differences. Understanding these distinctions can enrich the global discourse on construction project management and contribute to the development of more context-specific best practices.

Table 5. The comparison between the local study Kuwait and international organizations of construction contract selection.

Aspect	Kuwait	AIA [46]	JCT [47]	FIDIC [48]
Preferred Contract Forms	Domestic mostly in the Public Sector, FIDIC might be used in the privet sector	There are many types of contact forms that have been used.	There are many types of contact forms that have been used.	There are more than 6 books such as Silver, Yellow, Red, White, Gold, and Green.
Common Project Delivery	Traditional, Design-Bid-Build	Design-Bid-Build, Design and Build Management Partnering, Framework Agreement	Design-Bid-Build, Design and Build Management Partnering, Framework Agreement	Design-Bid-Build, Design and Build Management Partnering, Framework Agreement
Popular Payment Mechanisms	Lump Sum, Unit price	Lump Sum, Cost-Plus-Fee, Unite price	Lump Sum, Cost-Plus-Fee, Unite price	Lump Sum, Cost-Plus-Fee, Unite price
Unique Findings Influencing Contract Selection	There is a limitation to selecting a contract form for the construction project in Kuwait	Those approaches consider classifying the project and selecting the contract depending on each statement and those approaches have a gaudiness for How to select the suitable type of contract related to the Project.		

The study output carries implications for both theoretical frameworks and practical applications in the field of construction project management. The findings may contribute to refining existing theoretical models related to contract selection and project delivery systems. For practitioners, the study offers practical insights into the factors influencing decision-making in Kuwait's construction sector. The identified criteria and rationalizing strategies can be applied by industry professionals to enhance the effectiveness, transparency, and fairness of their contract selection processes. Additionally, the study may inform policy considerations for industry stakeholders and governmental bodies.

The paper encourages a more balanced approach to contract form selection. It advocates for the inclusion of additional factors, such as technical aspects, quality, project complexity, size, and time requirements. This approach aims to ensure that the selected contract forms align better with the unique characteristics of each project. While the historical methodology favored cost efficiency, the new framework emphasizes the need for a more systematic approach to consider a broader range of variables. It recognizes that contract forms should be selected based on a project's specific requirements rather than focusing solely on cost.

6. Conclusions and Future Works

The study has revealed that the Kuwaiti domestic contract form is the most popular standard form of contract, followed by the FIDIC. The most common project delivery method is the traditional method, and the most common form of payment is the lump sum. Further studies were undertaken to determine whether the forms of payment, size,

and type of projects and systems of delivery affected the type of standard contracts to be used. The results revealed that, besides the effects of the lump sum form of payment on the selection of standard forms of contracts, the respondents were neutral about the effects of the other variables presented. It could be concluded, therefore, that the rest of the variables have little or no effect on the selection of standard forms of contract. It would be advantageous if further studies could be conducted on the process of selecting standard forms of contract to establish the factors that affect such processes. More respondents could be involved so as to create a more comprehensive study.

Furthermore, studies on the sample selected to be involved in this study revealed that the majority of those sampled had over thirty years of experience in their fields of specialization and all of them generally portrayed high levels of understanding. The respondents came from all sectors of the industry. Sectors such as housing and major constructions were, however, predominant in this study. However, there were unexpected results. In Section 4.2, most selections were between "Never, Rarely and sometimes". The author found that, although there were a number of people involved in this study who had a high level of experience and understanding of contract forms, there were also a high number of contract specialists (29%) and project managers (36%). However, these did not have sufficient knowledge of the system to select the contract form, even if they knew how to deal with the contract during the life of the project. This means that investigation of the system requires a deep investigation of the contract department of each sector that has a number of construction projects in Kuwait, such as public works, housing, electricity and water, and oil. In addition, the author has suggested that it would be useful to arrange an interview with personnel from the above sectors to investigate on an individual basis their system of selection of contract forms for their construction projects.

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