

# An Analysis of the Current Procurement System in Saudi Arabia

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Saudi Arabia (SA) has been experiencing many issues in its mega projects. Some studies show that around 70% of the public projects in SA are delayed. One of the factors that have resulted in problems is the traditional contracts system, or the Saudi procurement system, which selects contracts solely based on the lowest price. Research was conducted to find a solution to low performance attained when using the Saudi Procurement system. The Performance Information Procurement System (PIPS) was identified as one of the most successful construction delivery systems, which has a 98% success rate in six different countries with risk and cost reduction up to 30%. This paper proposes to add the Clarification Phase, which is the most important phase in PIPS, into Saudi Arabia's current procurement system to remedy their continuing issues. This paper conducted a survey including 157 engineers, 33 consultants 9 owners, 5 vendors, 13 academics, and 28 architects, in order to gain an understanding on how to improve the public procurement system in Saudi Arabia. The survey concluded that 80.61% of participants believed the Saudi procurement system selects poor performing contractors and 96.20% of participants in the survey feel that there needs to be a change in the Saudi procurement system.

**Key words:** Design-bid-build, delays, Saudi Arabia, PIPS, contractors' solicitation

## Introduction

Saudi Arabia has one of the largest construction industry markets in the Middle East. This country is predicted to lead much of the growth in the Middle East through 2015 (World Construction, 2012). Although Saudi Arabia is a great source of growth for the Middle East, their construction industry has experienced various problems that have led to many project failures. These failures have caused the government to spend millions of dollar in an effort to remedy the problems. Several studies have aimed to measure the size of the problem. Zain Al-Abedien (1983) discovered that delays were the norm for 70% of the projects taken up by the Ministry of Housing and Public Works. Al-Sultan (1989) did another study that shows a similar percentage; he concluded that 70% of Saudi Arabia's public projects had time-overrun issues.

On the other hand, Al-Ghafly (1995) surveyed contractors, consultants, and owners to determine the frequency and degree of construction delays. The contractors said that 37% of the projects suffered from delays, while the consultants agreed that 84% of the projects under their supervision suffered from delays. In addition, he stated that the estimated time overrun for a project amounted to 39% over the original specified time. Assaf and Al-Hejji, (2006) conducted a survey to measure the performance of several different projects in Saudi Arabia. They found that the average percentage of delays in projects is between 10% and 30% of the original time that the project is scheduled to end.

Al Turkey (2011) conducted a survey by distributing a questionnaire to more than 300 project managers from different sectors and disciplines. The questionnaire addressed implementation issues associated with projects in Saudi Arabia. The study concluded that 80% of the projects were subject to overrun costs, while 97% faced time issues. Another study was conducted to identify the main causes of the delay in the Saudi construction industry. These studies identified 63 factors that adversely affect projects, and these factors were classified into four main categories. The most significant of the four categories was related to factors dealing with the client (Albogamy et al., 2012).

## **Problem**

One of the major factors that affect the Saudi Arabian public construction performance is their procurement system. Research shows that contractors, who have been selected based on the lowest price, are unqualified and perform poorly on projects (Assaf and Al-Hejji, 2006). According to Albogamy (2012) the major risk that affects project performance is the low bid method which is utilized in the Saudi procurement system.

Through intensive research of different procurement systems, the most successful procurement system was identified as the Performance Information Procurement System (PIPS). Since 1994, Dr. Dean Kashiwagi has been the director of Performance Based Studies Research Group (PBSRG), where he has been testing the PIPS process for over 20 years. PBSRG has run more than 1,750 tests in 31 U.S. states and six countries totaling to \$6.3 Billion (\$4.1 Billion in construction projects and \$2.2 Billion in non-construction projects) with a customer satisfaction rating of 98% (PBSRG, 2014). The PIPS model consists of four phases (Kashiwagi, 2014). The most important phase of the PIPS model is the clarification phase. It requires that the winning vendor of a project submit detailed documents to ensure that they have the capability to successfully complete the project.

The documentation shows that the PIPS system seems to minimize the issues that the SA procurement system encounters. The researchers propose by identifying the difference between the SA and PIPS system a solution to the Saudi construction issues can be identified.

## **Objectives**

The main objectives of this research include the following:

1. To identify the main differences between Saudi procurement system and PIPS.
2. To upgrade the current public procurement system in Saudi Arabia.
3. To study the perceptions of the major parties by conducting a survey on the current procurement system in Saudi Arabia.

## **Research methodology**

The following research methodology was proposed:

1. Review the current Saudi Arabian procurement system (DBB).
2. Review the Performance Information Procurement System (PIPS).
3. Compare the two delivery methods and identify fundamental differences.
4. Conduct a survey aimed at measuring the viewpoints of the construction industry participants on the current procurement model.
5. Propose a model based on survey results and respondents viewpoints.

## **The Government Procurement System in Saudi Arabia**

The Ministry of Finance in Saudi Arabia has published in its website the Government Procurement System, which was published in March 1977 and issued by Royal Decree No. M/14. The system received some minor changes in September of 2006, and issued by Royal Decree No.58M. The Government Procurement System shows that there are three different types of procurement (See Figure 1) in Saudi Arabia's procurement system which are: public procurement competitions, direct purchases and specific purchases. Each type of procurement is for special and unique items. The majority of the acquired purchases are under the category of public procurement competitions.

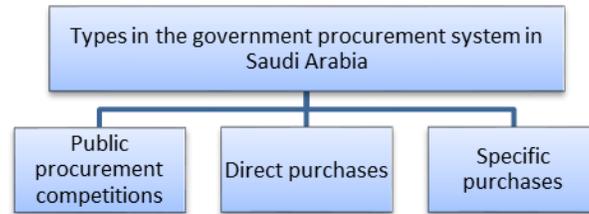


Figure 1: Different Types in the Government Procurement System in Saudi Arabia (Ministry of Finance 2006)

### *Government Procurement under Public Procurement Competitions*

Projects under the public procurement competitions start with the proposals submission phase. This phase includes sending an announcement to all the competitors identifying the date of the pre-bid meeting, the deadline for submitting bids, and the location that the bids will be opened. At the appointed date, all of the bids will be opened at a specific location and the selection phase will begin. In this type of procurement, the main factor that determines the winning contractor is whoever bids the lowest price. The three main phases of the procurement process are shown in Figure 2.



Figure 2: Vendors' selection phases (Ministry of Finance 2006).

The selection phase is the most important phase in this process. In this phase, members of the evaluation committee review the vendors' offers. There are two different ways to handle a situation where the prices all the provided offers are more expensive than market price (project budget):

- A. The members of the evaluation committee will negotiate with the vendor who has the lowest proposal to reduce their price to be close to market prices. If the vendor refuses to lower their price, they will negotiate with the vendor who has the second lowest offer.
- B. If the government is not able to find a vendor who has a cost similar or close to the market price, they are going to remove one or more of the project specifications by the Commission, provided that the use does not affect the project in the future.



Figure 4: Handling with proposals (Ministry of Finance 2006)

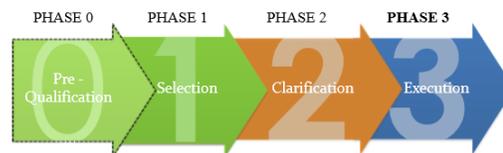
The final phase in the process is the proposals formulation phase. In this phase the proposals are formulated and submitted. Ministry of Finance (2006) specifies that the only language that is acceptable to use is Arabic, but they do

not mind providing another language alongside Arabic. All the documents such as contracts, time of the tasks, project specifications, drawings, and correspondence need to be in Arabic. The operating and maintenance contracts must be in the period of five years (there may be an increase in the period as it deems appropriate by the Ministry of Finance).

### **Performance Information Procurement system (PIPS)**

The PIPS model is very simple and easy to apply. PIPS focuses on utilizing the expertise of vendors to produce high performance (Kashiwagi, 2014). In addition, the amount of transactions in the whole supply chain can be reduced by using the PIPS system. The model consists of four different phases: Pre-qualification, Selection, Clarification and Execution. The model has the following objectives:

- Reduce the amount of transactions and effort of both parties.
- Reduce decision-making and control in the process to minimize the risk.



*Figure 5: PIPS Phases (Adapted from Kashiwagi, 2014)*

The clarification phase is the most important step in PIPS, and it has the following objectives:

- Clarify what is included in the project scope.
- Simplify the proposal so that all parties understand what will be done and how it will be done.
- Identify if the proposal is acceptable to the client.
- Obtain a more defined expectation for the project by getting the buyer to identify areas of risk that were not clearly communicated.
- Finalize the vendor's proposal with the client.

In the clarification phase, the winning contractor of the project must submit the following documents: mitigation plan, project scope, project schedule, weekly risk report, and list of potential risks. All of these documents ensure that the vendor can do their job properly.

### **A comparison of the Performance Information Procurement System (PIPS) and the Saudi Arabian Procurement System**

The following table explains the comparison between the Saudi Arabian (SA) procurement system and PIPS delivery method.

Table 2

*A comparison of PIPS and the current SA procurement system*

Phases	PIPS	Saudi Arabian procurement system
Pre-Qualification and Proposals submission	<ul style="list-style-type: none"> <li>• Education and training.</li> <li>• Use of metrics</li> </ul> May include finical info and insurance.	<ul style="list-style-type: none"> <li>• Bidding must be by the same time and place with all the required documents, such as total price, 1-2% of primary financial guarantee.</li> <li>• The owner may exclude contractors, if the project size is larger than their financial and technical capabilities.</li> </ul>
Selection	<ul style="list-style-type: none"> <li>• Vendors selected for their expertise, how they can control risks with value added, the cost of the project and interview (five criteria).</li> <li>• Zone prices are only more or less than the project budget, around 10%</li> <li>• Do not select based only on the lowest price.</li> </ul>	<ul style="list-style-type: none"> <li>• The minimum number of vendors is two.</li> <li>• Selection based on the lowest price.</li> <li>• In some cases, removing some elements from the project.</li> <li>• The contractors' proposals cannot be less than 35% below the market prices.</li> <li>• Prices are negotiable</li> </ul>
Clarification	<ul style="list-style-type: none"> <li>• Scope.</li> <li>• Project schedule.</li> <li>• Identify risks that are with and without control.</li> <li>• Milestone schedule.</li> <li>• (WRR) that includes (RMP) weekly.</li> </ul>	N/A
Execution and implementation	<ul style="list-style-type: none"> <li>• WRR(weekly risk report)</li> <li>• DR (director report)</li> </ul>	<ul style="list-style-type: none"> <li>• There is an inspection of the contractor's performance by the consultant.</li> </ul>
Risk handling	<ul style="list-style-type: none"> <li>• WRR (weekly risk report).</li> <li>• Using experts to identify risks.</li> </ul>	<ul style="list-style-type: none"> <li>• Punishments system.</li> </ul>

### Research Method

The survey was administered in order to develop the public procurement system in Saudi Arabia. The information collected in this paper included responses from 157 engineers, 33 consultants 9 owners, 5 vendors, 13 academics, and 28 architects. All of the participants that were involved in the survey work in government sectors with an interest in the Saudi procurement system. There were 245 participants that responded to the survey out of 664.

The participants in the study had a spectrum of experience which included; 124 participants had less than three years of experience, 128 participants had between 4 to 15 years of experience and 34 participants had more than 16 years of experience. All participants have practical experience in the most common types of construction such as residential buildings, commercial building, healthcare construction, industrial construction and heavy civil construction.

### Survey Result

Approximately eighty-one percent (80.61%) of participants in the survey believe that the traditional Saudi procurement system selects poor performing contractors as is shown in Fig 6. Moreover, 95.97% of participants think that the selection of contractors based solely on the lowest price criterion affects projects negatively.

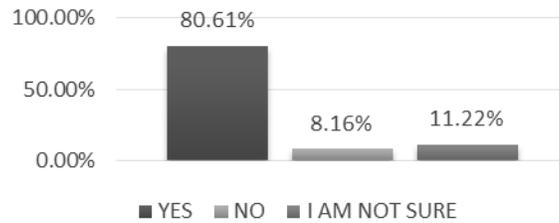


Figure 6: Traditional system selects poor performing contractor.

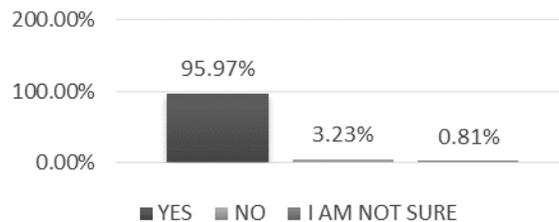


Figure 7: Selection of contractors based on the lowest price affects project negatively.

Around forty-one percent (40.68%) of participants strongly agree and 48.02% agree that contractors need to be required to identify risks before a contract is signed in order to improve project performance, while only 3.93% of them disagree and 7.91% of participants are not sure. In addition, 69.89% of participants strongly agree and 26.14% of them agree that the contractors must have a plan before a contract is signed because this will improve the performance of the project and minimize losses in time and money. However, only 0.57% of them disagree, and 3.41% are not sure. Moreover, 62.50% of participants strongly agree and 32.95% of them agree that contractors need to be required to review the scope of a project and verify that it is correct because the participants believe that this will improve project performance while 0.57% of them disagree, and 3.98% of participants are not sure. Finally, 40.8% of participants strongly agree, and 41.38% of them agree that a contractor should be required to resolve all owner concerns before a contract is signed. However only 5.17% of them disagree, and 12.64% of participants are not sure.

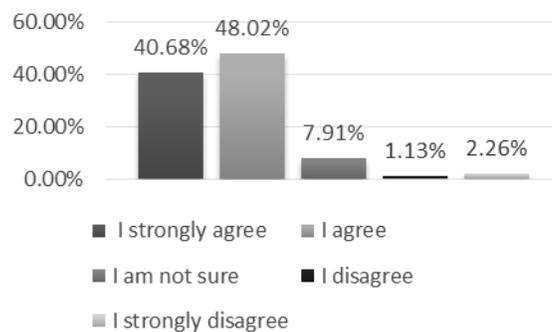


Figure 7: Require contractors to identify risks.

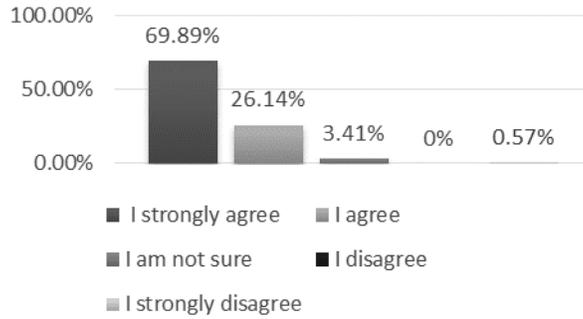


Figure 8: Contractors must have a plan.

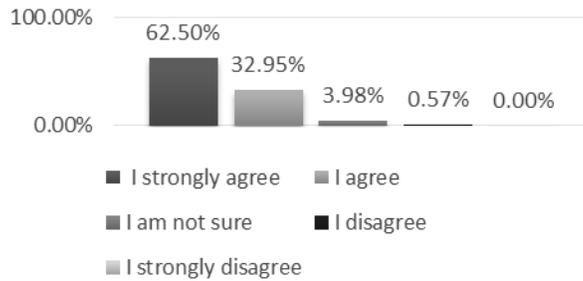


Figure 9: Require a contractor to review the project scope.

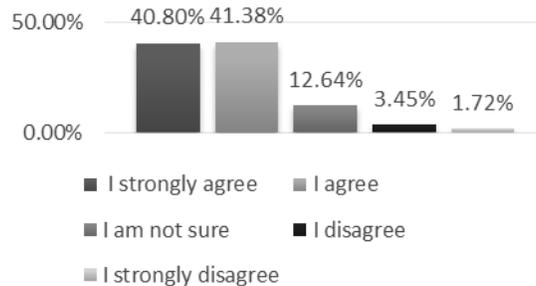


Figure 10: Require a contractor to resolve all owner concerns.

### Upgrade the Saudi Arabian Procurement System Delivery Method

Based on the results of the survey, which supports making some improvements into the Saudi procurement system, a new phase will be added to the Saudi procurement model, the clarification phase, after the selection phase. This phase confirms that the contractor is an expert, knows his work accurately and can reduce potential risks. The current model has been upgraded and consists of four different phases: Proposals Submission, Selection, Clarification, and Contract Formulation. All vendors have to pass the four phases before one of them will be able to sign the project contract.

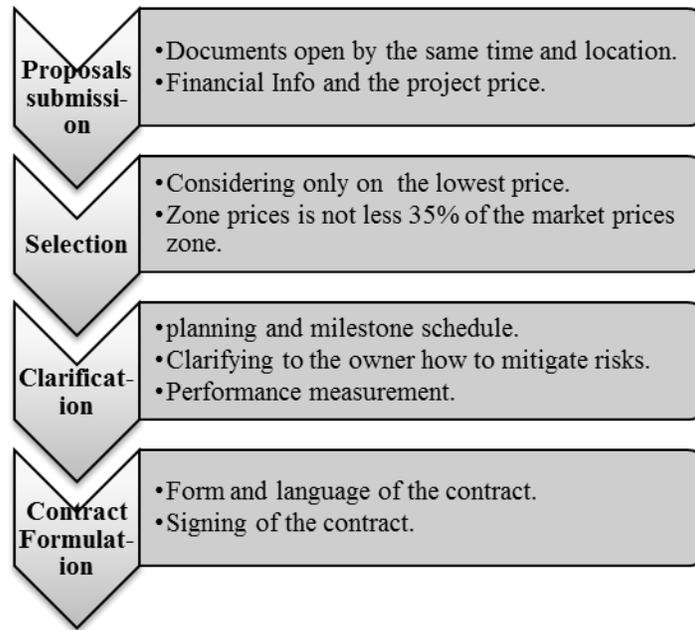


Figure11: Upgrade the Saudi Arabian Procurement System

Table 3

### *Upgrade the Saudi Arabian Procurement System*

Phase	Upgrade the Saudi Arabian Procurement system Delivery Method
Proposals submission	<ul style="list-style-type: none"> <li>• Proposals must be submitted at the same time and location.\</li> <li>• The owner may exclude contractors, if the project size is larger than their financial and technical capabilities.</li> <li>• May include financial Info and the project price in one page.</li> </ul>
Selection	<ul style="list-style-type: none"> <li>• The minimum number of vendors is two.</li> <li>• Vendors selected based on only lowest prices.</li> <li>• Zone prices is no less 35% of the project budget in market prices zone.</li> <li>• Scope.</li> <li>• Project schedule.</li> </ul>
Clarification	<ul style="list-style-type: none"> <li>• Identify risks that are with and without control.</li> <li>• Performance measurements.</li> <li>• Milestone schedule.</li> </ul>
Contract Formulation	<ul style="list-style-type: none"> <li>• Form and language of contracts.</li> <li>• Signing of the contract.</li> </ul>

### **Conclusion & Recommendations**

Saudi Arabia has several fundamental problems related to their current procurement system which have led to project delays and cost overrun. These problems had a negative impact on the performance of many projects. The fundamental issue of the Saudi Arabian procurement system is that they select contractors/vendors solely based on the lowest bid without considering other high-value criterion. The government of Saudi Arabia should consider adding a clarification phase, which is the most important phase in the Performance Information Procurement System, to their procurement system to improve project performance. In addition, this paper conducted a survey including 157 engineers, 33 consultants, 9 owners, 5 vendors, 13 academics, and 28 architects that support making

some improvements into the Saudi Arabian procurement system. 95.97% of participants think that selection based solely on the lowest price affects projects negatively, 88.7% of them agree to require vendors to identify risks, and 96.03 % of participants agree to require contractors to have plans. Moreover, 95.45% of participants agree to require vendors to review the scope of projects, and 82.18% of participants agree to require a contractor to resolve all owner concerns before signing a contract to improve performance. The following points support an upgraded Saudi Arabian procurement system:

- Choose the expert vendors/contractors by improving the procurement model
- Require contractors to identify risks by submitting plans, which show how the expert contractors handle risks
- Contractors have to review the scope of a project and verify that it is correct
- Require a contractor to resolve all owner concerns before a contract is signed
- Require a contractor to resolve all owner concerns before a contract is signed in order to improve projects performance

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