

PARTNERING APPROACH TO SUPPORT COLLABORATIVE WORKING  
ENVIRONMENT IN MECCA CONSTRUCTION INDUSTRY

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PARTNERING APPROACH TO SUPPORT COLLABORATIVE WORKING  
ENVIRONMENT IN MECCA CONSTRUCTION INDUSTRY

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This project report is dedicated to my mentor Shaikh Saleh Ali Al-Turki.

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## **ABSTRACT**

Saudi Arabia construction industry is considered as one of the largest growing markets in the Middle East. The government of Saudi Arabia has been allocating billions of USD in the development of the country. The western province is at the center of this development starting from the expansion of the holy mosque to the industrial and commercial construction in the holy city. Like many other construction industries around the world, Saudi Arabia is facing serious issues regarding the success of delivery system of construction projects such as delays and cost overrun. Therefore, this study has been undertaken with the aim to evaluate the potential application of partnering concept to promote collaborative working environment as a strategy to minimize the limitations of traditional project delivery system as practiced now in Saudi Arabia. The methodology that has been adopted for this study includes literature research, interview with expert panels and distribution of questionnaire survey. All the data has been collected from experts in the construction industry of Saudi Arabia, precisely at the holy city of Mecca. The outcome of this research indicates the importance of potential benefits that are brought by implementing this partnering, because partnering is found to have the potential to change the construction industry to work in a more cooperative and collaborative environment. The challenges of applying this approach have also been identified. Among them are very competitive environment among the industry players and domination of the traditional mindset. This study gives more insight to partnering strategies that can merge to solve many problems encountered when using traditional delivery methods in Saudi Arabia construction industry.

## ABSTRAK

Industri pembinaan Arab Saudi dianggap sebagai satu pasaran terbesar yang berkembang di Timur Tengah. Kerajaan Arab Saudi telah memperuntukkan berbilion USD dalam pembangunan negara. Wilayah barat adalah di tengah-tengah pembangunan ini bermula dari pembesaran masjid suci hingga ke pembinaan industri dan komersil di kota suci. Seperti banyak industri pembinaan lain di seluruh dunia, Arab Saudi juga menghadapi isu serius seperti kelewatan penyediaan projek dan peningkatan kos. Oleh itu, kajian ini telah dijalankan dengan tujuan untuk menilai potensi penggunaan konsep kerjasama berpasukan dalam suasana berkolaborasi sebagai strategi untuk mengurangkan kelemahan dan masalah yang wujud disebabkan penggunaan kaedah pelaksanaan projek tradisional yang diamalkan sekarang di Arab Saudi. Metodologi yang telah digunakan dalam kajian ini termasuk kajian literatur, temubual dengan panel pakar dan pengedaran borang soal selidik. Data telah dikumpulkan daripada responden yang terdiri daripada pakar-pakar dalam industri pembinaan di Arab Saudi, secara tepatnya yang terdapat di kota suci Mekah. Hasil kajian ini secara umumnya menunjukkan sememangnya terdapat potensi dan manfaat yang boleh diperolehi dengan mengaplikasikan konsep kerjasama berpasukan ini. Ia berpotensi untuk mengubah industri pembinaan untuk dijalankan dalam suasana dengan persekitaran yang lebih bekerjasama dan berkolaborasi. Cabaran menggunakan pendekatan ini juga telah dikaji. Adalah didapati diantara cabaran yang dihadapi adalah sikap persaingan yang tinggi dikalangan pemain industri dan mentaliti yang masih terkongkong dengan cara kerja tradisional. Kajian ini memberi gambaran bahawa strategi kerjasama sepasukan boleh diintegrasikan sebagai kaedah untuk mengatasi masalah yang dihadapi dalam penggunaan kaedah pelaksanaan projek secara tradisional di dalam industri pembinaan di Arab Saudi.

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**LIST OF ABBREVIATIONS**

|        |   |   |
|--------|---|---|
| DB     | - | Design and Build  |
| DBB    | - | Design Bid Build  |
| JODP   | - | Jabal Omar Development Project                          |
| KSA    | - | Kingdom of Saudi Arabia                                 |
| NESMA  | - | National Engineering Services and Marketing Corporation |
| PCA    | - | Principal Component Analysis                            |
| SBG    | - | Saudi BinLadin Group                                    |
| SPSS   | - | Statistical package for social science                  |
| SUSRIS | - | Saudi US Relations Information System                   |

## **APPENDICES**

### 1- Interview Questions

## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Introduction**

The Kingdom of Saudi Arabia (KSA) has experienced a construction boom of unprecedented volume during the past decade, attracting construction professionals from all over the world. Construction industry was the greatest recipient of the government spending during both the First (1970-1975) and Second (1975-1980) National Development Plans. It has received 49.6% and 32% of total government expenditures during the two plans, respectively (Al-Jarallah, 1983). Construction industry in Saudi Arabia employs 15% of the total labor force and uses 14% of the total energy consumption in the country. It contributes about 20% to the total non-oil gross domestic product. The government of Saudi Arabia is progressively allocating huge amount of resources and money to develop its infrastructure all over the country. The government of Saudi Arabia is progressively allocating huge amount of resources and money to develop its infrastructure all over the country. The economic position of the country has driven the government to invest hundreds of billions in construction projects.



Mecca Al-Mukarramah is regarded as the holiest site in Islam and is the center of the annual Islamic pilgrimage. This place holds a special position for the followers of the Muslim religion all over the world and it receives over 20 million pilgrims during Umrah season alone (Mohammed, 2014). The high volume of religious devotees and tourists in this city has led to the enormous infrastructure development in Mecca. The expansion of the Holy Mosque has cost the government \$10.6 B in just a span of 6 years (2010 to 2015). This enormous cost of development was to develop the 6000 square meter (sq.mt.) area around the holy mosque (Qssas, 2014). This indeed illustrates the high cost of construction and development in this famous city. Furthermore, land ownership is one of the major challenges that are faced by the developing authorities. Land rates around the central area of Mecca were around \$80,000/SM during 2008 (Al Thaqafi, 2008). This figure rose to \$133,000/SM during 2010 and to \$400,000/SM during 2013 (Elawi *et al.*, 2015). Consequently, the Saudi government spent over \$8.8 billion on land acquisition between 2009 and 2010 (Al Mufadhli, 2011).

Due to this boom, the construction industry in the kingdom especially the holy city Mecca have been following project delivery methods/systems to successfully execute projects from the first phase to the closing one. The most common project delivery systems in the KSA is the Design Bid Build (DBB) (Alofi *et al.*, 2015). One of the major factors that affects the Saudi Arabian public construction performance is their procurement stage of the project delivery system (Alofi *et al.*, 2015). 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). The major risk that affects project performance is the low bid method which is utilized in the Saudi procurement system (Albogamy *et al.*, 2012). Cost and time overruns are serious issues in Saudi Arabia while research findings indicate that around 70% of the construction projects in Saudi Arabia have faced delays (Zain Al-Abidien, 1983). This trend continued even during 2006, it was found in the Eastern Province that 70% of projects faced time overruns by 10% to 30% of the estimated project schedule (Assaf and Al-Hejji, 2006). Projects in Mecca (Western province) are not an exception to construction problematic issues such as cost and time overrun (Elawi *et al.*, 2015).

Since the design bid build delivery method entities work separately especially the design party and the build party, Collaborative delivery methods where construction has input into design are growing in popularity. Under these collaborative arrangements, design and construction are contractually obligated to work together in the best interest of the project (Hale, 2009). Therefore, formation of alliances and collaborative working between parties has become a contemporary management strategy that can be used to improve business performance (Lei, 1993). In recent years there has been a growing interest in the use of collaborative work environment in construction (Institute and Hancher, 1989; Latham, 1994). During the 1990s, partnering and related forms of collaborative have been seen as a way of dealing with the fragmentation and lack of integration that have bedeviled attempts to improve project performance over the years (Hardcastle et al., 2008; Higgin and Jessop, 2013).

Project delivery systems and partnering in a sense of collaboration have been discussed in many past studies. However none has touched the area of investigating the potential benefits and challenges when applying partnering in project delivery system in the construction industry of Mecca, Saudi Arabia. Moreover, the practices of project delivery system in Mecca construction industry have been identified in this study to reach the conclusion of how important is applying partnering and collaborative working environment into project delivery systems practiced in Mecca construction industry.

## **1.2 Problem Statement**

The KSA is experiencing a rapid growth in construction industry, both in urban and rural areas. The government is allocating huge amount of resources for development. The economic position of the country has driven the government to invest in construction projects(Elawi *et al.*, 2015). Between 2008 and 2013, the

government spent close to \$574.7 B on construction projects(LLC, 2011). This high rate of spending has led many in the world to recognize the Saudi construction industry as the largest construction market in the Middle East. Looking ahead, the construction industry analysts around the world expect this growth to advance even more(Langdon, 2012). From the past three decades, all construction institutions in this region have agreed upon the fact that this industry is faced with the grave issue of inefficiencies, non-performance, and the lack of an analysis on construction problematic issues(Elawi *et al.*, 2015).

Problematic issues of construction project in the Kingdom such as delays, cost overrun, poor quality, conflict of interests, collaborative inquiries between construction teams, etc. have asserted the need of an approach that synchronizes the parties involved of any construction project in project delivery process. In the same content, a question arise on how important would be the benefits that are brought when applying partnering and collaborative working environment approach to the project delivery system and how potential they are towards the success of project delivery. An investigation of challenges when applying this approach will make a guideline for strategists to come up with more real implementations of collaborative working environment when delivering a project to mainly deal with fragmented work processes.

### **1.3 Aims and Objectives**

This research aims to evaluate partnering in a sense collaborative working environment to re-engineer the existing fragmented work processes of the Saudi Arabian construction industry at the holy city of Mecca. In order to achieve the aim of this study, selective objectives have to be met as follows:

1. To evaluate the current practices of project delivery system in Mecca construction industry.
2. To investigate the potential benefits of applying partnering collaborative working environment concepts to traditional work systems.
3. To investigate the major hindrances and challenges that Mecca construction industry is facing when applying partnering.

#### **1.4 Scope and Limitations of the Study**

The study is limited to the kingdom of Saudi Arabia construction industry precisely the ongoing work at the holy city of Mecca and its current status in practicing traditional work system. It covers the private sectors in the industry including stakeholders and parties (e.g., clients/owners, architects, suppliers, engineers, surveyors, general contractors, subcontractors and developers). In this research, three stages have been investigated starting with evaluating the current practices of project delivery systems in Mecca construction industry. Secondly, investigating the potential benefits of partnering and collaborative working environment to the construction industry of Mecca. Lastly, the challenges of applying partnering in project delivery system.

Furthermore, the study has undertaken both quantitative and qualitative approaches. A statistical approach using Statistical package for social science (SPSS) instrument testing the data collected from a survey questionnaire which have been carried out. The respondents are the parties, teams and stakeholders of the construction industry at the holy city of Mecca, KSA including clients/owners, architects, suppliers, engineers, surveyors, general contractors, subcontractors and

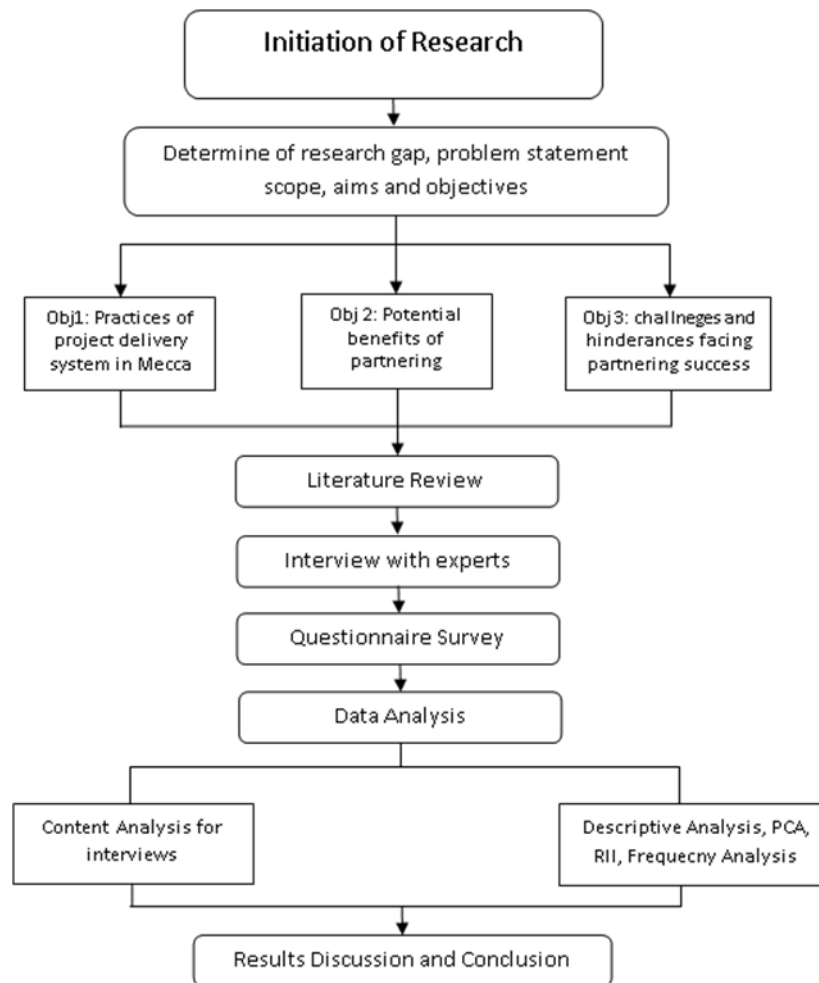
developers. These respondents have responded to an interview to identify the potential benefits and challenges of partnering and collaborative working environment when applied to traditional work systems. The questionnaire have been generated to evaluate these benefits and challenges. Partnering approach with a collaborative working environment is considered as a strategic approach to improve project delivery system in Mecca construction industry performance.

### **1.5 Significance of the Study**

It has been found that some problematic issues face the project delivery success. Thus, sustaining the welfare of the country and following the right steps of achieving a successful delivery of projects is needed. This research does not only provide some statistical readings of the current practices of delivery systems in the KSA but also could help the industry into elevating by applying a strategic partnering collaborative working environment. Partnering and collaborative working environment strategies can represent the millstone needed in managing construction projects delivery system that involve different teams into working simultaneously for the success of project delivery while avoiding obstacles such as delays, cost overrun, variation order, conflict of interests and poor quality. Especially with the case of design bid build and Design Build systems that are the most common systems practiced in the country. It causes some sort of fragmentation of work processes. Thus, applying partnering to project delivery practices can be very beneficial to all parties involved. In this study, the potential benefits have been identified and investigated through a sequence of tests to highlight the importance of partnering approach to the construction industry of Mecca. There is also an investigation of challenges that face the implementation of partnering for future strategies to emerge and face the challenges.

## 1.6 Brief Research Methodology

The research methodology that this study follows is as explained in the following flow chart of the research.



**Figure 1.1:** Research Methodology Flowchart.

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