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Saudi Arabian aviation construction projects: Identification of risks and their consequences

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Abstract

Airport projects are considered to be very complex, as they face a number of challenges which inevitably expose them to risks. In Saudi Arabia, the aviation sector is considered an important sector due to the fact that Saudi Arabia is the first destination for Muslims on an annual basis. As a result, the Saudi government has allocated a significant amount of its general budget to this sector through the General Authority of Civil Aviation (GACA). However, it has been found that these projects are still delivered with a significant number of time and cost overruns. These consequences are typically generated from the risks involved in the projects. Thus, the aim of this paper was twofold: first, to identify risks associated with aviation construction projects in Saudi Arabia and, second, to evaluate the consequences of these risks on a number of GACA projects. Critical literature reviews of common risks associated with aviation projects have been carried out. These were followed by 13 semi-structured interviews with expert project managers, including clients, contractors and consultants who have been involved in GACA projects. As a result, 54 new risks have been identified and classified into three levels: internal, external and *force majeure*. Results have confirmed the existence of time and cost overruns for GACA projects. The significance of the identified risks is currently being assessed and will be reported in a further paper.

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1. Introduction

Until the 1980s, there were only three airports in the Kingdom of Saudi Arabia (KSA) [1]. Currently, the number of airports in Saudi Arabia has increased to 26, including four international, eight regional and 14 domestic

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airports. As a result of this huge increase, the number of travellers has increased correspondingly (see Figure 1), and is expected to reach 100 million in 2020 [2]. The main aim of the General Authority of Civil Aviation (GACA) in Saudi Arabia, which plays the role of client representative (the Saudi government), is centred on facilitating the development of air travel by applying the strictest standards in the construction, management and operation of airports, and aeronautical navigation infrastructure and the maintenance of such systems [2].

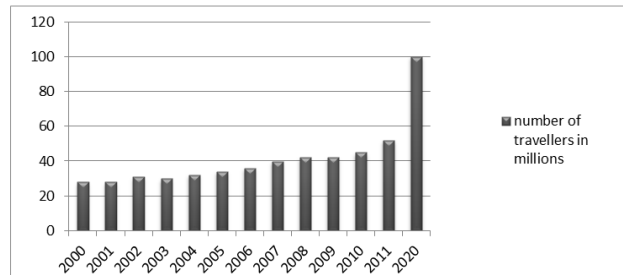


Figure 1: The number of travelers going through Saudi airports.

Source: The Saudi Arabian General Authority of Civil Aviation website, accessed April 14, 2013.

Among the different types of construction projects, airports projects are recognized as being some of the most complex [3]. Their importance comes from the fact that they represent a country's economy, development and production level [4]. Furthermore, there are challenges and difficulties involved within the construction industry, and the level of involvement is increased in the context of airport construction [5]. A number of studies have outlined and explained the challenges associated with airport projects, such as [6] and [7], among others. The following challenges are associated with Saudi Arabia's aviation projects (see Figure 2):

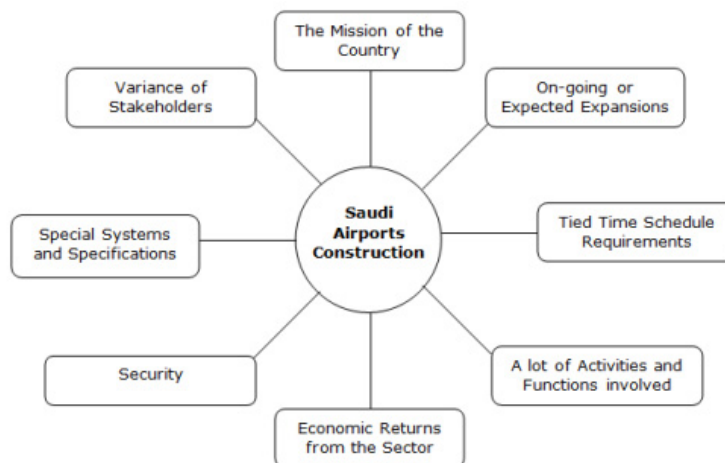


Figure 2: Challenges facing airport construction projects in Saudi Arabia Adopted from (Alnasseri *et al.*, 2013).

- Ongoing or expected expansion and renewal projects: A number of domestic, regional and international airports are undergoing expansion to increase their ability to face increasing demand [8].
- The variance of stakeholders involved, all of whom are very involved during the project lifecycle: As a result, the achievement of a consensus among these stakeholders is quite challenging [9]. This can be clearly seen in the context of Saudi aviation projects, especially in the ongoing Public Private Partnership (PPP) undertaken Project of Medina Airport, where a consortium of companies has been awarded the contract to build and operate the airport and then transferring it to the GACA after 25 years (the period of the concession agreement) [10].

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