A case study: The impact of low-cost carriers on inbound tourism of Saudi Arabia

Mohammad Alsumairi a, Kan Wai Hong Tsui a, b, *

a The School of Aviation, Massey University, Palmerston North, New Zealand
b Aviation Policy and Research Center, The Chinese University of Hong Kong, New Territories, Hong Kong

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ABSTRACT
This study investigates the impact of low-cost carriers (LCCs) on Saudi Arabia's tourism demand. It also provides an understanding of the relationship between air transport development and tourism development in the Gulf region. The Box–Jenkins SARIMA-X models were employed to model and forecast international tourist arrivals to Saudi Arabia, using monthly international tourist arrivals to Saudi Arabia from July 2010 to December 2015. The forecasting models were significantly accurate, with lower values of MAPE, MAP, and RMSE. The findings suggest that an increase in airline capacity, religious travel, and airline competition are associated with the increasing international tourist arrivals to Saudi Arabia. This also indicates that there is a positive relationship between air transport development and tourism development. Further aviation liberalisation in the Gulf region is discussed to give opportunities for the region's LCCs to increase their share of the increasing air travel demand, thereby enhancing tourism development.

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1. Introduction

Over the past few decades, many changes have occurred in the aviation industry as a result of the move towards liberalisation of the aviation market and airline deregulation (Adler et al., 2014; Fu and Oum, 2014). Many low-cost carriers (LCCs) have been established and have started to compete in the global aviation market. Their increasing market presence in most regions has given air passengers another option for airline services, which has led to increased demand for air travel. This low-cost business model is mainly designed to offer air services to those who cannot afford to travel with traditional legacy airlines. In fact, the majority of LCCs' demand is from leisure and price-sensitive customers (Graham, 2006). However, business travellers have become increasingly interested in using LCCs recently. This might be due to a number of factors, including more frequent flights and short turnaround times (Mason, 2005).

Regardless of the high percentage of leisure passengers using LCCs, the low-cost business model has become suitable for attraction-based destinations and resort-based destinations (Ahmed, 2013). The important link between tourist destinations and LCCs has become more obvious for airline managers who realised that this link has actually driven air travel demand. Considering the situation of many aviation markets, such as the United States (US), Europe, and the Asia-Pacific region, the penetration of LCCs into these regions has contributed significantly to tourist flows and the development of the tourism industry as a whole (e.g. Barbot, 2006; Bieger and Wittmer, 2006; Brillha, 2008; Echevarne, 2008; Graham and Dennis, 2010; Graham and Shaw, 2008; Williams and Baláž, 2009).

The emergence of LCCs in the Gulf region (including Saudi Arabia) has been quite a recent phenomenon, and the delay of LCC development in the region was caused by strict aviation regulations that were enforced by the governments of the Gulf States (Morrison and Mason, 2016; Wald, 2013). Nevertheless, some of the Gulf countries (e.g. Saudi Arabia) have recently taken initiatives to change the aviation environment and policy, and have also started to lessen the restrictions on market entry and liberalise their aviation markets step by step (O'Connell and Williams, 2011). From the airline industry's perspective, the Gulf countries have recorded remarkable growth for both the aviation and tourism industries (Planagan, 2007). Notwithstanding, the current political issues (e.g. the Arab Spring revolution), the Gulf countries have continued to
pursue substantial development and investment into their aviation and tourism sectors (e.g. Baporikar, 2011; de Wit, 2014; Henderson, 2006; Lohmann et al., 2009; Sharpley, 2008; Squalli, 2014; Vespermann et al., 2008). The majority of these investments have been concentrated in the four Gulf countries, including Saudi Arabia, the United Arab Emirates (UAE), Qatar, and Oman. In recent years, these four countries have been characterised by a strong drive for air travel and tourism. In particular, the UAE (Dubai and Abu Dhabi) and Qatar (Doha) have already become the home bases of the world’s three best network airlines: Emirates Airline, Etihad Airways, and Qatar Airways. Compared with these three largest of the world’s three best network airlines: Emirates Airline, Etihad Airways, and Qatar Airways. Compared with these three largest Gulf carriers, the network and air passenger traffic of Saudi Arabia’s national carrier (Saudi Arabian Airlines) is not in the “top best airlines” list; however, it is still one of the major full-service airlines (PSA) in the Middle East with a significant presence, transporting a total of approximately 15.10 million international tourists and international pilgrims visiting Saudi Arabia during the Hajj, Umrah, and Ramadan (World Tourism Organisation, 2015; Zamani-Farahani and Henderson, 2010). In addition, the roles of Saudi Arabia’s three major international airports (Jeddah, Medina, and Riyadh) cannot be considered to be international gateway hubs like Dubai, Abu Dhabi, and Doha International Airports in handling traffic. Since Saudi Arabia is not in the list of the top 20 busiest international air transport and tourism centres in the world (World Tourism Organisation, 2015).

In terms of the Gulf region’s aviation market, the global aviation industry has realised four important aspects: (i) the growing aviation market demand in the Gulf countries; (ii) the impact of the Gulf’s “Big Three” carriers on international routes and global air travel demand; (iii) the competitive advantage of those “Big Three” carriers’ hubs (Emirates Airline, Dubai; Etihad Airways, Abu Dhabi; and Qatar Airways, Doha) over other rivals worldwide; and (iv) the rapid growth of the LCC sector in the Gulf region. Therefore, it is important to note how the UAE, Qatar, and Saudi Arabia have evolved to become important tourist destinations and connection points for global tourist flows in the 21st century. Given the increasing importance of the airline and tourism sectors on the Saudi Arabian economy, it is essential to generate accurate forecasts for international inbound tourism of Saudi Arabia and determine the contribution of the region’s LCCs to its tourist flows. It should be noted that this study only investigates international inbound tourism to Saudi Arabia (e.g. religious tourism or pilgrimage tourism) while considering its significance in boosting the Saudi Arabian economy by creating more employment and income in the tourism industry; there is a strong link between economic development and inbound tourism (Tourism Information and Research Centre, 2012). While there is numerous academic literature on the impacts of LCCs on the tourism industry in the Gulf region can be found, the main purpose of this study seeks to apply a widely adopted time-series forecasting model in addressing a gap in the air transport and tourism literature of Saudi Arabia. In particular, this study aims to contribute to a thorough understanding of the emergence of LCCs and their contribution to tourist flows in Saudi Arabia. It is important to note that research of this nature can be fairly represented as a case-study of Saudi Arabia’s aviation and tourism sectors.

The format of this paper is structured as follows: Section 2 is the literature review of aviation, LCCs and tourism. Section 3 discusses the development of the aviation and tourism sectors and LCCs in Saudi Arabia and the Gulf region. Section 4 describes the methodology used to forecast the number of monthly international tourist arrivals to Saudi Arabia and provides a description of the dataset. Sections 5 and 6 present and discuss the empirical findings and discuss the policy implications. Section 7 summarises the key findings and discusses the limitations of this study.

2. Literature review

2.1. Aviation, LCCs, and tourism

The relationship between aviation (including LCCs) and tourism has become increasingly recognised worldwide (e.g. Barrett, 2008; Bieger and Wittmer, 2006; Brilha, 2008; Chung and Whang, 2011; Dennis, 2007; Donzelli, 2010; Echevarne, 2008; Graham et al., 2008; Sengür et al., 2014; Vera Rebollo and Ivars Baidal, 2009). Nowadays, more than 50% of international tourists choose airlines as the mode of transportation to travel between destinations, especially for long-haul distances (O’Connell, 2011a). Over the past few decades, air transport liberalisation and LCCs have played an essential role in stimulating tourism (e.g. Dobruszkes et al., 2016; Warnock-Smith and Morrell, 2008; Warnock-Smith and O’Connell, 2011; Yarde and Jonsson, 2016). It is evident that many governments worldwide can be reluctant when they come to liberalise their aviation markets. This is because it may lead to more competition, lower fares, reduced restrictions on capacity, and reduced profits for national airlines. Therefore, governments usually try to assess the benefits and costs of aviation market liberalisation to their economy and tourism sector (Duval, 2008). It is important to note that tourism's benefits are essential considerations in aviation policy and the governments have to ensure that aviation liberalisation will benefit both the country’s airline and tourism sectors (Forsyth, 2006).

In addition, many countries try to protect their national airlines by imposing restrictive bilateral systems and entry barriers on other foreign airlines, including LCCs. This is often in an attempt to limit their access to profitable routes and exemplary time slots in their aviation markets (Zhang and Findlay, 2014). For instance, in China, private airlines and LCCs have been under a lot of pressure operating in an unfavourable and sometimes hostile aviation environment, even though China’s LCC ‘Spring Airlines’ was contributing significantly to the flow of air passengers on their route networks (Zhang and Lu, 2013). However, this perspective has changed in some regions and some governments have realised the significant effect of aviation liberalisation upon tourism (e.g. Dobruszkes and Mondou, 2013; Fu and Oum, 2014; Lieshout et al., 2016; Surovitsikh and Lubbe, 2015). In fact, some governments have started to revise their international aviation policies in order to take advantage of the benefits brought about by liberalising their aviation markets and LCCs. Spain is an example that has realised the important link between aviation and tourism. The Spanish government used this link to form new aviation policies in order to assist the growth of international tourism by liberalising its aviation market and granting more access to LCCs. Recently, Spain recorded considerable growth in its tourism industry as a result of the significant market share that LCCs achieved, which was about 53% in 2009. The low-fare and point-to-point flights to Spanish tourist destinations offered by LCCs were the major factors that not only contributed to the increased number of international tourists coming to Spain, but also to economic development in Spain (e.g. Aguiló et al., 2007; Forsyth, 2008; Rey et al., 2011). Similarly, Barrett (2008) emphasised that LCCs have played an important role in the growth of tourism.

Furthermore, LCCs have been the subject of researchers who have tried to investigate their impact on other aviation organisations and on overall aviation growth (e.g. Alderighi et al., 2012; Homسombat et al., 2010; Klophaus et al., 2012; Pearson et al., 2015). Prior to the entry of LCCs, many regional airports were underutilised. For instance, many airports in Europe struggled to attract new customers and consumers. However, when LCCs started...
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