UNIVERSITY OF SOUTHAMPTON

AIR TRANSPORT SYSTEMS OF THE GULF COOPERATION COUNCIL COUNTRIES

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Abstract

The significant role played by the airline industry in enhancing and improving economic, social and political development is widely recognised by governments in advanced and developing countries and is reflected in the literature of transport geography and related fields. In the Middle East, the Gulf Cooperation Council (GCC) countries recognise the fundamental importance of civil aviation to their national economies. Governments and planners have created wide-ranging infrastructures to facilitate the development and operation of efficient air services. These services are critical elements not only within the oil-based economies and the changing social fabrics of the region but also within the wider context of international political cooperation at local, regional and global levels.

In its brief history the success that the airline industry in the GCC region has achieved has been impressive. Distances between major centres of population are great and alternative means of transport are limited or unsatisfactory. Rail transportation is practically non-existent throughout the Arab world and as road networks do not cover all the urban centres the distances involved make air travel the best modal choice available. The airline industry and system, therefore, have been developed to meet the immediate requirements of the six countries that form the GCC. The region now with its well established international airports provides connections between the West and the East and provides opportunities and channels for growth in the competitive environment created by global, regional and local market forces.

This study is an attempt to evaluate these market forces in order to analyse their impact on the airline industry in the area. Its primary goal is to demonstrate how market forces can be used as a framework for analysing problems and challenges that are facing the airline industry in the area under consideration. It also compares the strategies applied by governments and airline companies to investigate how airlines in the region deal with their problems and gain an understanding of the mechanics of airline deregulation, privatisation, alliances and open sky polices recently applied in the hitherto regulated global market. Airlines are and will continue to be under the ever present demand to rationalise costs and manage yields; also to employ the most effective strategies for expansion and growth without incurring unacceptable costs.

The study is designed to draw upon a range of sources not previously exploited and to contribute towards the further development of air transport geography. It is hoped that the work may have some value in an academic and in a practical context.

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PART I: RESEARCH FRAMEWORKS

Chapter 1

Contexts, problems and approaches

1.1 Introduction

Undoubtedly, it is widely recognised among geographers, social scientists and development planners that transport has played and will continue to play a fundamental role in social, economic, and political development (Hoyle and Smith, 1998). Many developing countries, and the Gulf Cooperation Council (GCC) countries are no exception, are concerned with ways to make their airline transport systems more productive. At the same time, there is growing concern about cost reduction so as to effectively compete in a dynamic global economy.

While it is known that air transport is one of the most important of the modern transportation modes, there is relatively little recent academic literature in the specific field of air transport written by geographers. However, there is a huge amount of literature covering the wider transport industries, much of it concerned with problems, issues and policies rather than with specific individual transport modes such as road, water, rail or air. Today, intermodalism and deregulation are key issues in global transport debates, but there is still room for studies based on specific modes and their problems in particular areas. This study fits into this category.

The 1980s and 1990s witnessed dramatic changes in the regulation of the transportation sector in the USA. With the Airline Deregulation Act of 1978, airlines were permitted to choose the routes they would serve and the fares they would charge. These changes have had profound effects on many aspects of airline operations, particularly on fares, service, quality and safety. However, airlines have altered their route structures by developing hub-and-spoke networks, and this has affected all of the above mentioned aspects (Bailey, 1985; Bailey et al., 1985).

The radical changes in the US airline industry have since influenced many other western countries. The deregulation and liberalisation of aviation markets has involved removal of government-imposed barriers to market entry, price and capacity competition (Meyer and Oster, 1987). Deregulation/liberalisation has typically reduced fares and increased the size of the market. The one clear explanatory factor found in most of these countries is the need for reduction in public budgets. This has resulted in policy discussions where privatisation and deregulation have been options in a plan for a more effective and a more competitive public transport market, which, in turn, would relieve the public budgets. It is also worth noting that air transport obviously differs a great deal from other transport modes where there seems to be much more scope for deregulation and where actual deregulation has been carried much further. This may be explained by the knock-on effect of international transport industries, making it impossible for one country to go for regulation if the countries surrounding it go for deregulation. Another important factor to take into account has been the relevance of ideology to the process of change by reducing the role of the state and increasing share-ownership by ordinary people, management and employees through sale of state assets. Here, the question to be asked is whether there is a general trend towards privatisation of public transport in the GCC countries or whether this is restricted to the developed world.

Strategic alliances between airlines and computer reservation systems (CRS) bias can have a wide range of impacts on industry performance (Oum et al., 1993; Wassenbergh, 1995; Youssef and Hansen, 1994). As these alliances gain popularity, particularly in Europe as industry regulation is liberalised, it is important to gain a better understanding of their consequences. Unfortunately, most the GCC carriers operate individually and none of them is yet using the strategies of alliances. Moreover, they are facing a high level of competition in a free global market from some large global reservation systems.

This chapter introduces the topic of air transport in the Gulf Cooperation Council (GCC) countries which provides the basic framework for research on problems, issues and trends. It also sets out the main objectives and hypotheses as well as the study's argument and methods that have been adopted. While the subject lies within the

general field of transport geography, the concern is with air transport. Specifically, it is about the air transport system in the Gulf countries. Thus, the geographical and political framework for the research not only include the Kingdom of Saudi Arabia (KSA) but also the five other major oil-exporting countries in the Middle East that form the GCC: Kuwait, Bahrain, the United Arab Emirates (UAE), Oman and Qatar. Although they vary widely in both size and population, these countries have much in common.

The discovery of oil in the 1930s and the subsequent wealth that flowed from it has inevitably produced fundamental economic changes in Saudi Arabia and other Gulf countries (Azzam, 1988; Kubursi, 1984b; Ramahi, 1973). It was soon clear that oil revenues would lead to rapid economic development, and one of the most visible indications of change was the public transportation system in the region. Gulf countries wanted swiftly to achieve what the rest of the developed world had accomplished over time. In order to do so, they had to depend heavily on high level investments in infrastructure to meet the growing needs of regional and social development (Kubursi, 1984a). The significance of oil revenues, therefore, in this context, is that it has played a major role in enhancing the airline transport industry in the GCC countries.

Nonetheless, it should be understood that the sudden jump from a traditional society to a modern one brings a huge number of negative consequences. Some strategies employed by the governments in the GCC group have failed as national carriers have faced several financial problems. In an age of privatisation and liberalism, these carriers still depend on subsidies from governments that own and operate them under tight control (Feiler and Goodovitch, 1994). Furthermore, the limited market in the GCC region suffers from the sharp decline in oil prices, and from the political consequences of the first (1980-88) and the second (1990-91) Gulf Wars (Starkey, 1996). The reasons why these national carriers fail lie at the heart of this study, which tries where possible to provide the answers by focusing on the sets of challenges and different circumstances in which the industry operates. The aim here is not to discuss airline deregulation/liberalisation, privatisation, etc. as applied to the airline industry

in major developed countries, but rather to discuss the significant impact of a deregulated airline industry and its effects on the GCC market.

1.2 The argument of the study

The argument of the study depends largely on the growing concern that the airline system in the GCC countries is in poor condition, and the industry operates under a wide variety of political, social and economic conditions. In order to understand their effects on the airline system, and to explain various market forces which directly or indirectly influence the air transport pattern in the GCC countries, this study explores, first, a huge amount of legislation that has recently been globally applied to the industry by emphasising its impacts on the airline system in the area studied. This international context gives a clear picture of a contemporary global free market in which each operator is assumed to maximise its net revenues. Thus, comparisons between the GCC system and the western system allow us to evaluate the degree of efficiency of the GCC system in serving travel demand, and major differences between national and international systems can be used to explain some major challenges facing the industry in the GCC countries. Having discussed the global forces in some detail, the next step is to examine closely the substantial amount of regional and local market forces which influence or support the provision of airline services in the region.

Following an outline of these forces, attention then turns to the problems that are facing the airline system in the GCC countries where low demand and over-capacity often arise. Indeed these difficulties directly affect the business results of the air carriers and the quality of service provided to passengers. Thus, when choosing this approach to the study, both political and economic aspects must be taken into consideration. The airline carriers wish to generate the lowest possible operating costs in order to achieve the best economic results, but the market and political situations force them to operate in a competitive environment. Therefore, the carriers may not always recover the costs of their operations. Passengers, on the other hand, are interested in high flight frequencies, a large number of non-stop flights, short waiting times between flights at transfer points, low fares, etc. In reality carriers are being

forced to operate under the combination of several political and economic forces. With these issues in mind, the study focuses its attention on the numerous problems facing the GCC countries' airline industry. What are these problems? The following are examples of a few of them.

In economic terms, there has been competition rather than co-operation among different national and international carriers as well as a high level of intermodal competition between air and road transport within and between the GCC countries. Many people, perhaps most, who can afford air transport within the region prefer to travel by car (over good roads, in air-conditioned vehicles) even when it takes longer. Another problem is over capacity. There has been a huge increase in the supply of airline services in the Gulf market in comparison with the demand for travelling; the gap between what is available and what is needed has widened dramatically. This is of course the reverse of what is found in poorer developing countries. Undoubtedly, the GCC countries depend on their income from oil revenues which in the late 1990s plummeted to relatively low prices; the effects of the depressed oil market can be seen in the area's airline industry as well as in many other aspects of the national economies.

On the political side, the majority of carriers in the area belong to the governments that operate them under tight governmental control. Moreover, the political issue raises problems concerned with security associated with the region in general and with air transport in particular. These problems have severely depressed demand for air travel as well as increasing the high insurance costs that are paid by the carriers in the Gulf region.

Clearly, the problems are not restricted only to economics and politics, but rather stretch out to reach social issues. Thus there are social questions, such as the fact that many people in the GCC region like to spend their holidays outside the area and they normally choose non-GCC international carriers which then take up a high proportion of the GCC external market, benefiting from the policies of deregulation in the United States and liberalisation in Europe.

Some of these problems surface in the thesis as major issues for investigation. The fundamental focus especially is on the impact of competition and deregulation on the GCC airline industry, because this highlights present-day issues and encourages comparison with other parts of the world where the same issues (in different contexts) are being debated. The argument goes one step further by addressing different strategies applied by operators in the region to deal with these problems. In addition, the study provides some important recommendations towards more efficient airline system operation. In the conclusion the study outlines models of GCC airline development by focusing on each individual carrier and on the characteristics of the system as a whole.

1.3 The study area

The particular focus of attention in this thesis is the analysis of the air transport geography of the Gulf countries. From this analytical side, the airline industry is considered the core of the study and involves the explanation and measurement of air transport development in the GCC region. This region, as mentioned earlier, comprises six countries: the Kingdom of Saudi Arabia (KSA), the United Arab Emirates (UAE), Kuwait, Oman, Bahrain and Qatar which work together through the Gulf Cooperation Council created in 1981 (World Market Research Centre, 1996). Through its headquarters located in Riyadh, the GCC operates through a series of specialised committees, holds regular and irregular meetings in different cities within the region, and publishes a variety of reports, documentation, and statistical reviews. The essential objectives of the Council are to inform policy, to enhance collaboration, and to promote development within the region. As in other world areas moving towards enhanced co-operation, however, these objectives are not achieved quickly or easily.

The GCC region is located in Southwest Asia, occupying most of the Arabian Peninsula. It has an area of about 2,678,052 km^2 and had a total population of about 28,921,000 in 1998 (Table 1.1). The GCC area is bounded on the north by Iraq and

Jordan, on the east by the Arabian Gulf, on the south by the Arabian Sea and the Republic of Yemen, and on the west by the Red Sea (Fig 1.1).

With the availability of large financial resources, the GCC countries have undertaken ambitious programmes for the development of their air transport to accompany the high levels of economic activity and the demand for the transport of passengers and goods. These countries have developed a large number of international airports and established important air transport carriers (Sampson, 1984).

Table 1.1: The GCC Countries: area, population, capital cities and major airlines

Country	Population (1998)	Area (km^2)	Capital city	Major airline
Bahrain	643,000	707	Manama	Gulf Air
Kuwait	2,027,000	17,818	Kuwait	Kuwait Airways
Saudi Arabia	20,665,000	2,255,000	Riyadh	Saudi Airlines
Oman	2,288,000	309,500	Muscat	Oman Air
Qatar	522,000	11,427	Doha	Qatar Airways
The UAE	2,776,000	83,600	Abu Dhabi	Emirates
Total GCC	28,921,000	2,678,052		

Source of area and population data: GCC Secretariat General, *Economic Bulletin*, 1999.

1.3.1 The GCC airports

The GCC countries possess at present 14 international airports which receive scheduled international flights; six of them are in the United Arab Emirates, three in Saudi Arabia, two in Oman and one in each of the other GCC states. These airports serve all the important urban centres and have runways exceeding 3000 metres in length. They were designed and constructed according to the highest standards of international airports and are equipped with the most modern technological means relating to air navigation, lighting and communication. Moreover, they contain important facilities to meet operational requirements at present and in the foreseeable future. The numbers, locations, and sizes of the GCC countries' airports were determined in consideration of the fact that they are national gateways to the various

Fig. 1.1: The GCC countries and their transport systems

States and Emirates, rather than only to meet economic criteria and to satisfy passenger and goods traffic demand (see Chapter 3).

The total number of passengers handled at the GCC airports in 1997 reached 42.1 million (Table 1.2). The opening of the King Fahd Causeway between Bahrain and the KSA has affected the volume of traffic between Bahrain and Dhahran airports negatively by diverting most of the traffic from air transport to land transport (Aljarad and Black, 1995).

Table 1.2: Passenger arrivals and departures at international airports in the GCC countries 1986-97 (Million passengers)

Country / Year	The UAE	Bahrain	KSA	Oman	Qatar	Kuwait	GCC
1986	1.2	1.0	21.0	1.0	0.9	2.6	27.7
1987	1.1	0.9	20.9	0.9	1.0	2.6	27.4
1988	1.2	1.9	20.4	1.0	1.0	2.8	28.3
1989	1.7	2.0	20.3	1.0	1.1	2.9	29.0
1990	4.9	2.0	20.9	1.1	1.1	1.4	31.4
1991	4.8	2.1	19.2	1.4	1.1	0.7	29.3
1992	6.7	2.4	23.4	1.4	1.3	2.5	31.4
1993	6.9	2.6	25.1	1.6	1.4	2.8	40.4
1994	7.9	2.7	26.0	1.8	1.6	3.1	43.1
1995	8.7	2.8	25.0	1.9	1.7	3.3	43.4
1996	10.1	2.8	20.1	2.0	1.9	3.6	40.5
1997	11.0	2.9	20.1	2.3	2.2	3.6	42.1

(Excluding transit passengers).

Source: GCC Secretariat General, *Economic Bulletin*, 1999.

The GCC countries have benefited from their geographical location between the East and West to serve a considerable percentage of transit passengers in many airports (Roberts and Fowler, 1995). While their proportion is less in Saudi Arabia and Kuwait, these transit passengers form a high percentage of the total passenger movement of the airports of the United Arab Emirates, Bahrain and Qatar. Nevertheless, some reduction in the number of transit passengers should be expected in view of scheduling a large number of non-stop flights between Europe and the Far

East (Graham, 1995). Three countries, the KSA, Bahrain and Oman, impose fees on aircraft crossing their airspace without landing therein. The charges vary between these GCC countries. The highest charges are those imposed by Saudi Arabia and the lowest charges are those imposed by Kuwait.

1.3.2 The GCC airlines

The GCC region is served by a varied group of airlines which connect the countries of the region with the rest of the world. Six national flag carriers, Saudi Airlines, Gulf Air, Kuwait Airways Corporation (KAC), Emirates, Oman Air and Qatar Airways, now operate in the region. These carriers are different in many ways. Historically, Saudi Airlines, which was founded in 1945, is not only the oldest airline in the GCC region, but also among the oldest airlines in the Middle East. In contrast Qatar Airways, the youngest carrier in the GCC region, was founded in 1993. The airlines also vary widely in terms of size, services (domestic, international or both), productivity, frequencies, the extent of networks and numbers of employees etc. (Tables 1.3, 1.4). With the exception of Emirates, Qatar Airways and Oman Air which have been formed recently (see Chapter 4), the other airlines are experiencing a period of consolidation after their rapid expansion between 1975 and 1984.

Saudi Airlines covers an international network of 341,695 km and a domestic network of 46,013 km. It serves 22 local airports, 7 airports in the GCC and 45 airports elsewhere in the world, including flights over the Atlantic to New York. In 1999, the airline transported 12,328,471 passengers, of whom 67 percent were carried on domestic routes. The largest carrier in the Middle East celebrated its 50th birthday in 1996 and has taken delivery of 61 new state-of-the-art aircraft ordered from American manufacturers Boeing and McDonnell-Douglas at a cost of US$6 billion. However, Saudia has faced an operating loss during many years in its relatively long history.

Emirates which is completely owned by the Government of Dubai was established to provide more frequent air service in order to improve the economic development of Dubai. The company started operations in the summer of 1985 by using a limited number of aircraft, some of which were hired to undertake regular flights to Mumbai (Bombay), New Delhi and Karachi (Azzam, 1988). When the company realised good

Table 1.3: GCC carriers' employees 1999.

IATA categories	Saudi Airlines	Emirates	Gulf Air	Kuwait Airways	Qatar Airways	Total GCC carriers
Pilots and Co-Pilots	1,162	451	494	282	105	2494
Other Cockpit Personnel	218	85	-----	10	25	338
Cabin Attendants	2,815	2,002	1,847	1,036	290	7,990
Maintenance and Ovehual	6,121	1,010	196	1,154	157	8,638
Ticketing, Sales and Promotion	2,432	154	603	329	187	3,705
Airport Handling	5,802	-----	628	655	58	7,143
Other Personnel	6,000	3,455	1,333	1,140	212	12,140
Total	24,550	7,157	5,101	4,606	1,034	42,448

Source: IATA (2000).

loading factors and profits in its first year of operation, the airline expanded its services to a large number of destinations. The airline currently uses modern fleets (Table 1.5) to carry more than 4.5 million passengers a year to 51 destinations across its worldwide network which was 164,365 km in 1999. With 7,157 employees, most of them foreigners, Emirates provides air services to 9 airports in the GCC region, 17 in Asia Pacific, 13 in Europe, 11 in the Middle East and Africa, and 2 airports in Australia.

Gulf Air is owned by the governments of the Bahrain, Abu Dhabi, Oman and Qatar, and its total network was about 296,500 km in 1999. With a fleet of 32 aircraft and 5101 staff, it serves 13 airports in the GCC region and 6 others in the Arab world and offers flights to Bangkok, Hong Kong and Manila as well as destinations in Europe such as London, Paris and Frankfurt. The shared airline has been facing a strong competition in its regional market. The decline in the level of its operation is mainly due to the loss of part of the market in favour of Emirates and Qatar Airways (Kingsley-Jones, 1999).

Table 1.4: The length of scheduled route GCC carrier networks (km) in 1999

Carrier	Length of scheduled route network (km)		Total
	International	Domestic	
Saudi Airlines	341,695	46,013	387,708
Emirates	164,356	--------	164,356
Gulf Air	288,195	8,356	296,551
Kuwait Airways	127,098	--------	127,098
Qatar Airways	NA	NA	NA
Oman Air	NA	NA	NA

Source: IATA (2000).

Kuwait Airways serves 8 airports in the GCC region, 8 airports in the Middle East and 21 other airports in the world including long-haul services to New York, Manila, Singapore and Bangkok. In 1999, the length of the network covered by the airline was 127,098 km. However, KAC suffered during the Gulf crisis when Iraq attacked

Kuwait in 1990 (Milde, 1991). The Airline owns 17 modern jet aircraft purchased after the liberation of Kuwait on 26 February 1991. The operating staff of the Kuwaiti airways amounts to 4606 employees, 40 percent of whom are national staff. However, KAC is still making losses on its operations; these were covered from the interest on its investments and by way of loans from the Kuwait government which owns the company. The carrier handled 2.13 million passengers in 1999.

Table 1.5: GCC carriers fleets in 1999

Aircraft type	Saudi Airlines	Emirates	Gulf Air	Kuwait Airways	Qatar Airways	Oman Air*
B777-200	19	9	0	2	0	0
B777-300	0	2	0	0	0	0
B747-300	10	0	0	0	0	0
B747-100	7	0	0	0	0	0
B747-400	4	0	0	1	0	0
B747SP	2	0	0	0	0	0
B747-200F	1	0	0	0	0	0
B767-300	0	0	10	0	0	0
B737-200	18	0	0	0	0	0
B727	0	0	0	0	3	3
A320	0	0	13	3	4	0
A330-200	0	5	4	0	0	0
A340-300	0	0	5	4	0	0
A300-600	11	5	0	5	3	0
A310-300	0	8	0	2	0	0
MD-90	26	0	0	0	0	0
MD-11F	4	0	0	0	0	0
L-1011	16	0	0	0	0	0
Grumman 2	4	0	0	0	0	0
Grumman 3	3	0	0	0	0	0
Grumman 4	6	0	0	0	0	0
Beech A-100	2	0	0	0	0	0
Beechcraft A-30	6	0	0	0	0	0
Falcon 900	2	0	0	0	0	0
ATR 42-500	0	0	0	0	0	2
Fokker F27-500	0	0	0	0	0	4
C550	2	0	0	0	0	0
Total	143	29	32	17	10	9

Source: IATA (2000). * From the carrier

Qatar Airways and Oman Air were created in the 1990s to serve the people of their respective countries. Oman Air is considered a small operator providing limited service to the domestic market in Oman and some international destinations, while Qatar Airways is trying to become an effective regional operator in the future. It operates 10 aircraft to link its home base (Doha) with 25 destinations, 7 of them in the GCC region. It also operates to Europe including a daily flight to and from London. Other international destinations now served by the airline include Paris, Munich, Bangkok, Karachi, Kathmandu, Manila and Mumbai. Although its home market is very small compared with other carriers in the region, Qatar Airways managed to handle more than a million passengers in 1999.

1.3 Aims and objectives

The main aim of this study is to analyse the air transport system of the GCC countries, from a geographical perspective, in order to understand how the airline companies in the area will face global, regional and local challenges. Beyond and within this main goal several more specific objectives can be listed as follows:

1. To better understand the domestic and international commercial aviation system and to identify the major characteristics of the airline industry in the GCC countries.
2. To measure and explain air transport development in the region to date as well as to predict future trends.
3. To give a broad insight into the current key issues influencing the industry in the area study.
4. To analyse the similarities and dissimilarities in the airline system between the six GCC countries, as there are cultural links between the countries on one hand and geographical, political and economic differences on the other.
5. To help planners identify several forces that can be used to improve and enhance commercial air transport services in order that they can plan for needed future changes.

Finally, it is hoped that this study can encourage more students to study air transport geography in other parts of the developing world in order to improve regional development in underdeveloped countries and to further enhance the growing literature of this hitherto relatively neglected sub-discipline.

1.5 Methodologies and data sources

In order to assess the impacts of increased competition, deregulation, privatisation and alliance strategies of regional and international airlines in the study area various methodologies have been used in this study. These were influenced by several variables related to the nature of this research which, although presented within the field of transport geography, is in essence a combination of geography, economics and air transport technologies. Both the nature of data that have been collected from several different sources and the data-collecting techniques that are available played a significant role in the analysis. It is often very difficult to gather everything related to the subject under investigation, but it is impossible when the study lies in developing world.

There has been little research on the impacts of market forces on the air transport industry, perhaps because of the methodological problems associated with isolating these impacts. In reality the industry is operated under a large number of factors that cannot be isolated easily particularly in social and economic studies. Problems associated with methodologies and data sources make it clear that it is a big challenge to write on such a subject. The collection of relevant data was conducted by two fundamental methods; both are important, and brought together they help in elaborating the argument of the study. First was a library search in the UK and the GCC region, involving both academic and official literature related to the subject. The second method and maybe the more important and difficult was the fieldwork which was divided into two periods.

All the GCC countries, their governments and authorities, and their airline companies publish vast amounts of literature in the form of reports and statistics. These published data and related non-published data were collected from their primary sources in the

first fieldwork period (from 26 Jan to 27 April 1998). Thus the study has been initially based upon available official documents and records, all of which were treated as raw data. Examples include the Economic Bulletin published annually since 1985 by the Secretariat General of the Cooperation Council for the Arab States of the Gulf. The Council also publishes an Annual Statistics Bulletin. The Government of Kuwait publishes an Annual Statistical Abstract through its Ministry of Planning Central Statistical Office; and the Directorate General of Civil Aviation publishes Air Transport Statistics. Similarly, Bahrain publishes an Annual Statistical Abstract and the Ministry of Development and Industry, Civil Aviation Affairs issues a Traffic Statistic Report. Similar publications are issued by the Sultanate of Oman's Documentation Center and the State of Qatar's Central Statistical Organisation. The Government of Saudi Arabia and Saudi Arabian Airlines publish many statistical reports which are very important in this study such as the Statistical Yearbook that is issued by Ministry of Defence and Aviation. These are key data sources among many other official publications to which reference is made in later chapters.

The second fieldwork period which was in the winter of 1998-99 covered all the six member countries. Its purpose was to find specific answers to a large number of questions dealing with the air transport industry in the GCC region that had arisen from the data collected during the first fieldwork period and subsequently analysed. The methods that were used involved asking these questions directly to people who are involved in the subject and could provide information about strategies and changes in the airline system in the GCC countries.

It is relevant to draw attention at this point to contrasted experiences of data collection and discussion during the two fieldwork periods in the GCC countries. In the first period, for example, the primary objective was the establishment of a network of data sources and contacts, and the discovery and acquisition of published reports and documents which are in the public domain and therefore normally (although not always) fairly easily accessible. Although not all documents known to exist were made available, this preliminary part of the field research was, in a sense, relatively straightforward. In contrast, the second fieldwork period gave rise to far greater problems associated with the more refined objective of finding answers to specific

questions and debating policy issues. Sometimes the questions asked were not answered, or perhaps not fully understood; at other times it was difficult to obtain access to the most appropriate and most knowledgeable person within a particular company; occasionally information requested was refused, ostensibly on security grounds, but in reality more probably because the person questioned was unable or unwilling to provide a coherent answer. Security considerations also constrained the illustration of the thesis: maps and photographs of air transport facilities in GCC countries are not normally allowed. Despite these problems, however, it has to be said that in the vast majority of cases enquiries were sympathetically received and the responses provided were generous, helpful and informative.

Finally it should be considered that the main sources of the data for the non-GCC carriers are the International Air Transport Association's (IATA) publications, Fleet Personnel, Financial Data and Traffic. All IATA sources are published on an annual basis.

1.6 Hypotheses

In the context of the aims, objectives, methodologies and data sources outlined above, it is possible briefly to define a series of seven hypotheses that collectively underpin this thesis as a whole. It should be explained that these hypotheses are, in one sense, characteristics that describe the air transport industries of the GCC countries from one perspective or another, with an eye to their history, their present-day problems, and their planning frameworks for the future. In another sense, each hypothesis encapsulates a series of specific issues or problems discussed at length in later parts of the thesis.

The seven hypotheses are:

1. The air transport industry in the GCC depends heavily on subsidies.
2. Not all carriers in the study area are equal in both in the quality and quantity of the service they offer.
3. The airline deregulation/liberalisation, privatisation and alliances force the industry into a competitive market environment.

4. In spite of the central location of the Middle East, its international airports are not chosen heavily as transfer points.
5. The 1990-91 Arabian Gulf War has had a negative effect on the demand of airline transport and its consequences will continue in the next few years
6. The number of operators is important to competition but the limited size of the GCC market would not be able to give them the opportunity to be profitable, thus over-capacity in both airways and airports characterise the industry.
7. The financial problems of the industry serving the GCC market require a basic change in the regulatory policy under which the industry now operates.

1.7 The study plan

This study is divided into three main parts. The first Part addresses the research frameworks and contains four introductory chapters. Chapter 1 provides the general background and gives a brief discussion of the argument that follows in the reminder of the thesis. Chapter 2 deals with the literature that has been written on the Middle East as a whole or on the GCC area on the one hand, and the literature of both the air transport industry and of air transport geography on the other. Chapters 3 and 4 chart the record of air transport development in the area since the early beginning of the airline transport industry.

Part II is designed to provide the main focus of the study by analysing market forces that affect directly or indirectly the industry in the region as well as by investigating the major problems to which these forces give rise. Three chapters deal with these forces and issues. Chapter 5 examines the contemporary global forces such as liberalisation, competition, privatisation etc. Regional forces are explored in Chapter 6, while Chapter 7 addresses several local forces. Chapter 8 evaluates the impacts of these sets of factors and discusses the current problems that are facing the airline industry in the GCC countries.

The third Part of the thesis is concerned with strategies for future development. Thus Chapter 9 is a discussion of different strategies that have been adopted by both the GCC governments and the carriers to deal with the problems identified. Finally Chapter 10 gives a summary and concludes by presenting models of present and future GCC airline development.

1.8 Summary and conclusion

This study explores and evaluates the geography of the airline transport systems in the Gulf Cooperation Council (GCC) countries by focusing on the impacts of several kinds of contemporary market forces which have strong effects on the pattern of the industry. The particular focus of attention is on the six member countries: the Kingdom of Saudi Arabia (KSA), Kuwait, Bahrain, the United Arab Emirates (UAE), Qatar and Oman. This work has been attempted because only a very limited range of literature in this important subject is available. Therefore, this thesis covers new ground in the field of air transport geography, so it is hoped that it might be able to open the door to more research in this field in the near future.

This first chapter has outlined the study's argument and provided a general background of the study area. It has also introduced the subject, indicated major aims and hypotheses, and discussed possible approaches. The major concern of this thesis is to identify some of the current problems which are facing the airline industry in the GCC countries and to help to find appropriate solutions, as well as to chart the development of commercial civil aviation in the area in the context of its historical, social, economic and political development. With this context established and this concern in mind, attention turns in Chapter 2 to a review of existing literature relevant to this investigation.

Chapter 2

A review of the literature

2.1 Introduction

As explained in Chapter l, the geographical framework of this study is provided by the Gulf Cooperation Council (GCC) countries of the Middle East, namely Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates (UAE). The investigation lies within the broad field of transport geography and is specifically concerned with problems of air transport networks and systems in the study area. In order to place the research within an appropriate context it is necessary to review the literature in a series of inter-related fields.

This chapter attempts to explore, as far as is relevant to the current research, three areas of literature and to discuss a representative but necessarily selective range of contributions. First, there is the literature of the geographical area of investigation, the Middle East, which is of course very substantial within geography and within many other related disciplines including history and archaeology, politics and economics. Second, there is the literature of aviation and of airline industries including air transport which provides a different but complementary context for the present study. Third, there is the literature of transport geography - and, within that, the more specific literature of air transport geography - which provides a more immediate but somewhat restricted background for the thesis.

These three areas of literature vary substantially in their extent and relevance to the present investigation. The broader areas are, by their very nature, more substantial in quantity but of limited specific relevance to the enquiry. The literature of air transport geography, in contrast, while obviously closely connected with this research, is nevertheless very limited in quantity. The fact that air transport has hitherto attracted

relatively little attention from transport geographers, and an awareness that no substantive study of the air transport systems of the GCC countries from a geographical perspective has hitherto been made, together provide a stimulus towards and a *raison d'être* for the completion of the present investigation.

2.2 The Middle East and the GCC region

It can be argued that, as a result of its global economic and geopolitical significance, the Middle East receives more attention in the literature of many academic disciplines, as well as in the more popular press, than any other major part of the developing world. The region has long exerted, and continues to exert, a powerful fascination in the minds of many who have visited, experienced or studied its complex landscapes, economies and societies. Historians, geographers, environmental scientists, economists and students of political science, among many others, all bring their particular emphases and skills to bear upon the analysis and interpretation of this region. In the context of this thesis, geographical interpretations come to the fore; but much of the literature of the region is inevitably rooted in the economics of oil and oil policies and in the complexities of international relations as analysed by political scientists. As for the present investigation, however, geography provides an essential framework for these diverse studies.

2.2.1 Economic development in the Middle East

There is a great deal of literature written on the various developments in the Middle East. In this context, one might note at the outset a very well argued study by Wilson (1995) who believes that it is very important to approach the Middle East from the perspective of development studies. He argues that such an approach is a result of the limited range of books and articles on the region written by British or American writers. However, according to his opinion there are a number of books in English by Arab writers, but most adopt a country or sub-regional perspective and do not treat the Middle East as an entity. This study is analytical rather than descriptive, with the analytical tools drawn from the theories of economic development. Historically the

period examined starts from the 1950s. Geographically the Middle East is defined to include the Arab world and non-Arab countries such Iran and Turkey.

A different overall perspective on the region is provided by Richards and Waterbury (1990). Its purpose is to outline examples and illustrations of some major problems as experienced in the Middle East. They believe that many of the fundamental problems and questions facing the region today can and should be approached in much the same way as one would approach the problems of any set of less-developed countries (LDCs). Accordingly, the authors begin by presenting an implicit "broad brush" model of LDC political economy, the three main interdependent axes of which are economic growth and structural transformation, state structure and policy, and social class. Each one influences and shapes the other; each is therefore both cause and effect. In general this work gives a useful broad contextual framework for understanding the social and economic changes that have characterised the region in this century. The difficulties faced by the Middle East in attempting to achieve development are explored by Nonneman (1988) in his book *Development, administration and aid in the Middle East.* The improvements and developments which have taken place in the Middle East are emphasised, including the historical, political and economic setting of Middle Eastern growth. Similarly, Gueciouer (1984) focuses attention, in his volume *The problems of Arab economic development and integration*, on exploring and addressing the current problems that are facing development in the Arab world. Work of this kind contains very significant materials dealing with problems of industrial and agricultural development as well as the role of technology in the advancement and integration of the Arab world. Other works of interest in this broad context include Sayigh (1982) who designed his study to examine the record of economic development in the Arab region over a period of fifty years, starting from 1930 and who in addition identifies and assesses the major issues which influenced the outlook for development at the turn of the $19^{th}/20^{th}$ century. Some chapters in Chapman and Baker (1992) *The changing geography of Africa and Middle East*, investigate economic and political changes, population growth and migration, urbanisation and trade; the Arabian Peninsula is described as 'the heart of the Middle East' by Gould in his chapter *The troubled Arab Middle East*.

A full statement of the basic physical, social and regional geography of the area is offered by Held (2000), a comprehensive study of the area published in successive editions. This third edition, which includes new maps and other illustrations, is divided into two main parts. The first part, in which transportation has been discussed, focuses on physical and cultural geography of the Middle East, while the second part concentrates on specific regions within it, focusing on Iraq, Syria, Jordan, Lebanon, Egypt, Cyprus, Iran, Turkey and the Arab Gulf countries. "Saudi Arabia: Development in the Desert" is a title of a chapter in this book.

An historico-geographical approach is adopted in Wagstaff's *The evolution of Middle Eastern landscapes* (1985) in which he examines the causes and the profound consequences of the area's evolution by tracing the modes of living, the political and military major events that unfolded across the region, and the general development through to the early nineteenth century. This provides a basis for an explanation of how recent geographical conditions and situations have emerged. The author's close interest in the region enabled him, in this work, to establish close links between Middle Eastern traditional and contemporary characteristics on the one hand, and the environmental conditions of the region on the other.

Manpower is considered the main factor in development in any country in the world. In the Middle East manpower was described as the crisis of development process by Birks and Sinclair (1980) who perceive the Arab world as a region of acute contrasts, including states with the highest per capita incomes in the world and states in need of basic development. Their study investigates and evaluates economic development in both groups of the Arab world by focusing on the national labour markets. The argument of this work is that in the Arab world the labour market is a particularly useful means of approaching and analysing economic development. The book is based upon a thematic analysis of individual national labour markets in the Arab world. These state-by-state studies are drawn together by international comparisons and examination of the international linkages between these national labour markets. The result is a regional perspective on manpower in the Arab world.

Privatisation and liberalisation are the key issues in the Middle East particularly in Egypt, Iraq and the Gulf countries. Economic liberalisation in the region is outlined by Harik and Sullivan (1992) in their volume entitled *Privatisation and liberalisation in the Middle East.* This study contains some important chapters dealing in particular with oil-exporting countries, especially that by Chaudhry in which economic liberalisation in Saudi Arabia and Iraq is examined from political and economic points of view.

2.2.2 Economic development in the GCC countries

Most if not all the literature which has been written on the Gulf region deals particularly with economic development dependent largely on the oil industry. Without oil the GCC countries would obviously be very different (El-Beblawi, 1982). In this context there are a number of fundamental studies that analyse the economic development in this part of the world. Kubursi (1984a) provides a good example of this in his book *Oil industrialisation and development in the Arab Gulf states.* He believes that culturally, historically, geographically, politically and economically the GCC states represent a rare instance of regional homogeneity, and the problems that confront them are similar also. Therefore, the purpose of his study is to explore the development potential of the region within a framework of co-operation among the GCC countries. The basic contention of the study is that economic development in the GCC region is inseparable from economic development in the Arab world at large. The author provides a macro-economic perspective of the Arab Gulf States and the region's economy as a whole and deals with oil, gas and downstream activities in this sector. Some problems are examined, in particular the prospects and problems of diversification with limited water and labour resources. The book concludes with the formulation of development strategy for the region.

Another notable and not dissimilar study is by El-Azhary (1984) entitled *The impact of oil revenues on Arab Gulf development.* This book examines the problems that have faced Gulf countries since 1981 due to the fall in oil prices. It also explores population and manpower problems and many issues connected with the impact of oil revenues on development in the region. The main focus throughout the book is on the six

member countries of the GCC. The author believes that these countries have followed the same path of economic development and that the problems that confront them are similar. Thus, the book provides an assessment of just how much the region depends on oil for both its economic prosperity and development and gives some indication of the problems that would face the region should the demand for oil decrease still further.

An attempt to investigate the dilemma of development in the oil producing countries of the Arabian Peninsula has been made by Osama (1986) under the title *The dilemma of development in the Arabian Peninsula.* Some problems in development administration are identified in certain oil-producing countries, all of which are dependent on one resource, though not all have been dealt with in depth, and possible solutions are explored. Rumaihi (1986) studies the Gulf in history and gives some background particularly before oil and then explores its economic and political development. Azzam (1988) clarifies the characteristics of the transitional stage under the investment climate in the Gulf; the industrial challenges in the GCC region and Gulf consumer market are also examined in some detail.

Some studies about oil development and the relations between Arab oil countries and Japan or Canada have appeared as a result of the significant role of oil energy in the world. A good example is the volume by Sharif (1986), a collection of fifteen essays presented at an international symposium entitled *The Arab Gulf states and Japan: prospects for co-operation*, held in Tokyo in 1984. The studies all focus on oil development and the relations between Arab oil countries and Japan. Sugihara and Allan (1993) provide other examples in their work, *Japan in the contemporary Middle East*. This book explores the current state of Japan's role in the contemporary Middle East, and discusses its implications in the future. Japan plays a pivotal role as one of the largest consumers of Middle Eastern oil. At the same time, Japan provides the Middle East with manufactured goods, capital and technology for industrialisation, and offers economic assistance to the less-advanced countries of the region. *Co-operation and development in the energy sector: the Arab Gulf states and Canada* is another volume edited by Kubursi and Naylor (1985). This volume groups together the proceedings of a conference organised in Hamilton, Ontario, in 1984 and co-sponsored

by McMaster University and the Petroleum Information Committee of the Arab Gulf states.

While most studies deal with the GCC group of countries and in some cases develop comparisons between them, other studies focus on individual. Saudi Arabia has received the most attention as a result of being the largest member of the GCC countries. El-Mallakh (1982) in his study investigates and describes the economics of oil as well as agriculture and water development. Various chapters explore the national planning for economic development in the country. *Saudi Arabia: a case study in development* is an attempt by Al-Farsy (1986) to cover the most important aspects of the political development of Saudi Arabia and its oil power. Ramahi (1973) made an attempt to present, particularly to the Western reader, a descriptive analytical study of the impact of the oil industry that is playing a significant role in economic development. The particular focus of attention in this book is the United Arab Emirates, and therefore the political history of this country is studied in some detail.

2.2.3 Arab oil policies

The Arab oil policies represent the current situation and reflect the outcomes of what has happened in the Middle East in general and the GCC region in particular since 1973. Undoubtedly, the airline industry like any economic activity is influenced largely by these policies. This part of the chapter will examine and evaluate some important literature in this field. The relation between oil and power has been explored by Al-Sowayegh (1984) in his study *Arab petro-politics*. Its aim is to evaluate the role and significance of oil as used by Arab producing countries to achieve their political goals. Further, he adds that the Arab leaders realised the importance of their oil wealth as a powerful factor in world politics, thus launching the region into the centre stage of international tension. So he underlines how oil has changed the political and economic structures and policies of the area. Another notable study is by Sayigh (1983) who clarifies and examines the Arab oil policies in that period. It contains some sharp criticism of certain aspects of these polices, and an examination of this study improves further understanding of relationships between oil importers and exporters. Tempest

(1993) provides a volume entitled *The politics of Middle East oil*, designed to give a broad insight into the current key issues facing the region.

2.2.4 OPEC and OAPEC

Both the Organisation of Petroleum Exporting Countries (OPEC) and the Organisation of Arab Petroleum Exporting Countries (OAPEC) deal with the marketing of crude oil, and although their differing constituencies are self-evident, the relationships between them are not always clear While OPEC is an international organisation, OAPEC was formed by Arab countries as a consequence of the common pressures in the regional political context and international events. Some studies that cover both organisations are mentioned here because the GCC region strongly influences the political and economic aspects of both organisations. Al-Nasrawi (1985) outlines the goal of Arab members of OPEC in the 1970s, but he argues that it is the market not OPEC that determines how much oil each member country will be able to sell. Al-Chalabi (1980) investigates the system for marketing crude oil and some basic issues of the OPEC oil price administration. Griffm and Teece (1982) explain the structure and behaviour of this intriguing organisation in a significant edited volume entitled *OPEC behaviour and world oil prices*. In this study the future of OPEC and the path of oil prices are considered; some chapters examine the market environment by applying modelling techniques to simulate oil demand for OPEC and non-OPEC production. In chapter 7, Pindyck offers his own assessment of the future price path of oil as well as emphasising the importance of explicitly treating the large degree of uncertainty that must be attached to any forecasted price path. Mabro (1986) edited papers by contributors to an Oxford Energy Seminar co-sponsored by OPEC and OAPEC, concerned with oil and development in the Middle Eastern countries. Finally, Maachou (1982) argues that OAPEC is one of the most innovative organisations in the Third World because of its single-minded concern for oil, which is at the centre of world affairs. He adds that the Arab countries began to use their oil as way of supporting their polices.

2.3 Air transport

In spite of the fact that domestic and international air transport systems have been extensively explored in many different ways, the majority of studies by academic writers concentrate their work particularly on the United States. The impact of airline deregulation in the USA since 1978 has been the main stimulus for the carriers to improve their services. As a consequence major airlines have increased hubbing operations in order to be able to face the increased competition which has been created by the new rules. However this part of the chapter evaluates and explores some studies before and after deregulation. Other literature written outside the USA is also examined.

2.3.1 Airline deregulation and liberalisation

Before exploring the literature that covers the deregulation of the airline industry in the USA, it is appropriate to refer to two studies before deregulation. Miller (1963) investigates the regulation and the economics of air transport while Jordan (1970) explores the effects of and changes in airline regulation in the USA.

The impacts of deregulation have been particularly investigated in several studies. A fundamental study dealing with the deregulation of the airline industry by Bailey et al. (1985) argues that no business has been affected as greatly as the airline industry. This study analyses the theory and policy underlying the deregulation process and provides an interim assessment of the effects of deregulation on airline performance. Many comparisons between the industry before and after deregulation have also been explored. The study addresses the legislation that mandated economic regulation of air transportation and the regulatory reform movement. The US experience with airline deregulation has also been evaluated and summarised by Mere et al. (1987) who examine the effects of deregulation on marketing as well as the various strategic responses to deregulation made by carriers. Swann (1988) examines the actual process of economic deregulation and privatisation, considering the relations between these two issues.

Benefits for airlines and users that have been generated since 1978 are the greatest significance of deregulation. In this context, the Organization for Economic Co-operation and Development (OECD) (1988) published a report in which it is shown that deregulation and progressive liberalisation produce substantial benefits to consumers and operators. Bailey (1985) studies the benefits of and the lessons from airline deregulation in the USA, arguing that the Act of 1978 gave the management of airlines complete freedom in the restructuring of their route networks as well as complete freedom of pricing. Morrison and Winston (1986) provide a careful assessment of the effects of airline deregulation, and find that the initial results confirm that airline deregulation significantly benefits the travelling public. They argue that the carriers have the flexibility which they need to better their financial outlook while the consumers gain the advantage of lower fares. Rakowski and Bejou (1992) use the life-cycle approach in examining the effects of airline deregulation. They argue that in such a competitive environment the stronger would survive and the weaker would disappear. This study provides more evidence about airlines destroyed by being deregulated while other airlines were created by the deregulation strategy.

Like other transportation modes, the airline industry had been regulated for a long period of time in Europe. However, in the EU, there had been pressures for relaxation of regulation of the air transport industry with respect to market access, service frequency and airfares. Cooper et al. (1990) state that transportation within the EC was highly regulated apart from the UK and Holland, emphasising the benefits and challenges of the 1992 liberalisation package. Briggs (1991) discusses and summarises the European regulations and the effects that would be generated from the second liberalisation package. Gialloreto (1992) explores the future of major carriers in Europe under a competitive environment. He believes that reducing operating costs is the key factor in a liberalised market, but most major European carries could not achieve this aim.

Caves and Higgins (1993) argue that EU liberalisation was based on the US experience. They investigate the effects of the liberalised UK-Europe bilateral air service agreements, attempting to examine the benefits of competition for the consumers. The impacts of EC liberalisation on route structure and traffic are also

addressed. They believe that free competition must increase efficiency, reduce airfares, with more choice of airlines and improved quality of services. They, however, could not provide a proof that fares are cheaper in a liberalised market, arguing that concentration of traffic at Heathrow Airport still exists and new entrants have not been allowed to serve the airport. Graham (1993) and Jorge-Calderon (1996) also state that the UK has been among the first countries in the EU to liberalise its airline market and this was a key force in pushing European liberalisation forward. Another study by Karyd and Haakan (1995) argues that while the EU as a whole was moving towards a fully liberalised aviation market, the Scandinavian market would be open for free competition by the end of 1995.

The third liberalisation package came into effect in 1993, giving the EU carriers greater freedom to set airfares as well as full freedom on intra-European routes. The impacts of the EU package on small communities are examined by Reynolds-Feighan (1995) who uses Irish regional airports as a case study, arguing that these airports are very important in terms of regional development. However, his results show that these small communities have not benefited from the liberalisation movement because airlines now compete only on profitable routes. On the other hand, Barrett (1992) argues that aviation in Europe might require regulation rather than deregulation. He goes further to say that without measures to promote contestability, liberalisation may merely reinforce the present high-cost system. The impact of airline deregulation on the airline industry in Canada is examined by Oum et al. (1991), arguing that the forces for change came from the USA as well as from Canada. They also address other key issues such as the privatisation of Air Canada and changes in the airline industry structure.

2.3.2 Hub-and-spoke systems

Hub-and-spoke development in the USA has been the subject of a large number of studies, constituting an important branch of the literature with different approaches to the analysis of the system. Lee et al. (1994) divide the studies which deal with hub-and-spoke into three major categories: the historical approach, the competition approach and the optimal hub network approach. The historical approach attempts to

chart the development of an airline network. The competition approach focuses on the ability of airlines to compete in a hub while the optimal approach attempts to provide solutions to hub-and-spoke networks, considering hub location and the number of nodes that should be connected. Hubs are also divided according to the nature of services and the policy adopted by the airlines. Ivy (1993) divides hubs into three groups: large, medium and small, while Windle and Dresner (1993) classify hubs into two types according to the nature of existing competition. The first is the anti-competitive hub, in which a single operator dominates a hub, while the second is the competitive hub, in which a hub is dominated by two carriers. They compare these two types, providing evidence that average prices tend to be high on monopoly routes compared to low prices on routes connected by double hubs, where competition forces the carriers to attract passengers.

In another approach, Hansen (1990) divides airline competitors into two types. The first are hub carriers that can offer a connecting service between any two points through their hub as well as a direct service to their hub. The second are direct carriers which provide a point-to-point service in any market. He develops a model of airline hub competition using three variables: cost, fare, and demand. In his argument, he emphasises that hub competition is represented as a game between a set of airlines attempting to maximise their profits. Aykin (1995) considers two networking policies. The first is nonstrict hubbing, which is characterised by more direct flights and some through hubs. The second is strict and restrictive hubbing, in which all flights must be connected to one hub. He investigates various aspects of these two policies, considering the hub location and the structure of the routes. Chou (1993a) explains that cities with hub facilities tend to be more convenient for scheduled and discounted flights. He argues that travelling between hub cities is easier than travelling between non-hub cities.

The success of the system depends upon the design of the network. O'Kelly (1986) adopts an approach to evaluating hub-and-spoke networks, stating that hub locations are key factors in enhancing hubbing systems. Oum et al. (1996) present a considerable piece of work dealing with the optimal pricing scheme of both hub and

spoke airports emphasising that the relationship between these kind of airports is complementary. Thus, the hub airport may subsidise losses by small spoke airports.

As the hub-and-spoke network structure has been widely used by US airlines, hub network problems began to attract attention in the operations research literature. For example, O'Kelly and Lao (1991) present an approach to dealing with hub-and-spoke network problems with the objective of minimising the total transportation cost. They argue that a basic network structure involves two hubs, the master hub that links all nodes and the minihub which is used as a regional sorting centre. Similarly, Kuby and Gray (1993) investigate hub network design problems using the network of the Federal Express Co., most of whose flights to and from the hub make one or more stopovers, with many smaller cities served by feeder aircraft which connect to other non-hub cities. Teodorović et al. (1994) also developed a model aimed at how a set of tools might help in solving the airline network design problem, while Dobson and Lederer (1993) and Trietsch (1993) are concerned with how to improve airline routes which connect a hub with its spoke.

On the other hand, Jennings (1993) argues that, despite the fact that hub-and-spoke systems are perhaps still widely used in the USA, they fail to increase profitability and force some major airlines to reduce their operations through this system. He adds that most US airlines have been forced to close at least one or two of their hubs, and gives many examples of this tendency. In another study, Chou (1993b) examines the changes in nodal accessibility and compares the spatial patterns of such changes between the decades before and after the deregulation of the airline industry. His results show that the increased airline hubbing operations since deregulation have not enhanced spatial concentration of nodal accessibility, and do not decrease the cost per passenger.

Baggage processing seems to be one of the great challenges to the hub-and-spoke system. Delays and handling errors are likely to occur in this system. Robustć and Daganzo (1992) state that baggage transfer is an important factor in a hub-and-spoke system, stating that major airlines operate nearly a hundred flights in just 30 minutes, with a huge amount of baggage needing to be handled immediately.

2.3.3 Airports

Worldwide, airports are among the most important elements in any air transport system. It is widely recognised that continued expansion of the airline industry would have a significant impact on existing facilities and airport infrastructures. Several airports are near capacity in both the developed and the developing world. As a result, there is a wide variety of research in the literature dealing with airports from different angles, according to the purpose of the study.

In the context of the Pacific market, Hansen and Kanafni (1990) introduce a paper dealing with transpacific hubbing over Narita airport in Tokyo, paying particular attention to airline hubbing and airport economics. They examine the capacity problems at the airport explaining the factors which have created this problem. Among these factors are the significant role of the airport, the degree of liberalisation that has allowed the US airlines fifth freedom rights in the Japanese market and the increasing demand on the airline industry in Japan. They believe that the central location of the airport, with its strong local market will make it the dominant transpacific Asian gateway for many years.

In another study, Costas-Centivany (1999) examines airport infrastructures in Spain, arguing that privatisation is a key strategy in the liberalised market which was created by the third and final package of European airline liberalisation. He emphasises the importance of the tourist industry in Spain and the general improvement of airport facilities which was needed to cope with the increasing demand for travel that was in turn created by the free competitive environment. Graham and Guyer (1999) discuss the problems of airport capacity in the EU, taking into consideration the growing concern over the impact of increasing demand for travel in the area. They argue that there is a lack of sufficient airport capacity, but any solution would have a strong negative impact on the environment that has already been affected by the sharp increase in mobility.

In a different perspective, a large number of studies focus their attention on airport planning as a key element in creating an effective air transport system. Bandara and Wirasinghe (1992) consider aircraft movement and passenger demand to be the most

significant factors in planning an airport terminal. They, therefore, analyse terminal planning from the passengers' perspective. Similarly, Goetz and Szyliowicz (1997) discuss transportation planning projects using Denver International Airport as a case study. They believe that although the airport was opened in 1995, it has received growing criticism. They conclude their work by suggesting that all environmental, social and economic factors should be considered before establishing a transportation project to avoid problems that cannot be solved easily after completing it. In a different approach, Wirasinghe and Bandara (1990) argue that gate positions are very important in planning an airport terminal, arguing that delays to aircraft are caused by the limited number of gates, which do not meet peak traffic demands. Lemer (1992) provides another study dealing with airport terminals which explores the issue of developing and operating terminals from perspectives of passengers, airport operators and airlines

Odoni and Neufville (1992) develop an approach to examining passenger terminals and to determining how to allocate other facilities such as baggage and security systems. This paper aims at creating a flexible design that should be able to provide all facilities efficiently and the ability to cope with future demand. Min et al. (1997) argue that their model could solve location and allocation airport problems without much difficulty. The aim of their work is to find the optimal airport sites and total numbers of passengers that could be handled by the chosen airport site.

A paper written by Hamzawi (1992) considers three elements which play a significant role as far as terminal buildings are concerned, namely passengers, aircraft and ground access vehicles. The paper focuses on different approaches that may be able to solve the problem of airport capacity with a general aim to reduce traffic congestion.

Air traffic control (ATC) is one of the important infrastructures at any airport. It organises aircraft movements, landing and take off. ATC systems are a source of flight delays in most international airports. Richetta and Odoni (1993) refer to this problem as the Ground-Holding Policy Problem (GHPP) in their study, which deals with the impact on cost of air traffic delays. Richetta and Odoni (1994) argue that air traffic congestion has become common in the US airports, and attempt to find a solution to GHPP.

2.3.4 Alliance strategies

Alliance partnerships between airlines have increasingly developed worldwide due to the open skies and global free competition environment. Alliances could enhance the ability of airlines to compete in today's global marketplace, this being one of the most important issues in the airline industry. The success of the new strategy has generated a large number of publications aimed at clarifying the characteristics of alliances between airlines.

Youssef and Hansen (1994) examine the impact of international alliances on airline services. They compare airline services before and after the alliance between Swissair and SAS using three variables: service quality, market concentration and fares. Another study by Wassenbergh (1995) assesses partnership between international airlines, considering future regulations that could create more cross-border alliances. He believes that the international airline industry would be ready to accept the new role of open skies and would welcome alliances as a tool for a global industry. Oum et al. (1993) and Oum and Taylor (1995) discuss global airline networks that could be developed through successful alliances. They investigate the benefits of global networks for both passengers and airlines. They argue that the ability of any airline to become involved in this strategy depends on its ability to become a significant partner in a powerful alliance. Airline mergers and alliances are also explored by Balfour (1995) who discusses interlining, joint operation and code sharing; he focuses his study on Europe while Lewis (1995) investigates air services between the USA and Canada. In his paper, more attention is paid to bilateral air services agreement and its role in increasing alliances between the carriers of the two countries.

2.4 Air transport geography

The geography of air transport is a component of transport geography that has until the 1990s received relatively little attention in comparison with other theoretical and mode-based aspects of the subject. It is noteworthy, however, that several recent general works on transport geography recognise the importance and potential of the field, and that there has also been something of an upsurge in publications reflecting

the effects of deregulation on airlines, airports and air transport systems. On both sides of the Atlantic, wide-ranging studies including Taaffe et al. (1996), Hoyle and Knowles (1992 and 1998), and Tolley and Turton (1995) have transformed the general literature of transport geography in the 1990s and drawn attention to the rapidly increasing and diverse literature that now characterises specialised parts of this lively sub-discipline.

An excellent example of this sort of study is the work by Taaffe et al. (1996) in which transport geography is viewed from two main perspectives. The first is descriptive and focuses on the historical and institutional aspects of the field; the other is analytical aiming to measure and explain transport development, as well as to predict its future development and to devise more efficient ways of organising transport systems. The book is divided into four parts. Part 1 and Part 2 describe the historical development of US transportation and selected institutional aspects in the context of some basic concepts and themes in transportation geography. The seven chapters in Part 3 and Part 4 deal with four different types of transportation analysis: spatial interaction, urban transport modelling, network analysis, and allocation analysis. Two chapters deal particularly with the geography of air transport. Airline deregulation in the United States is examined in chapter 5 while chapter 13 investigates linkages, hub-and-spoke systems and hub network design.

While Tolley and Turton (1995) provide wide-ranging references to aspects of the air transport industry in their integrated study of *Transport systems, policy and planning*, both editions of Hoyle and Knowles' edited work *Modern transport geography* (1992 and 1998) offer individual chapters devoted to the geography of air transport as seen from the perspective of individual authors, recognised experts in this field.

In the first edition of this volume, Sealy (1992) examines and evaluates the airline markets, paying particular attention to the United States air transport development. In the second edition, a chapter on air transport by Graham (1998a) addresses the current issues that have been applied to the international air transport industry. A brief examination has been paid to the forces of deregulation/liberalisation, competition and privatisation. The chapter also provides an investigation of the major problems of airport capacity.

Beyond this, in the geographical literature specifically related to air transport, there are two key studies that reflect and in a sense represent contrasted eras in the development in the subject: *The geography of air transport*, by Ken Sealy of the University of London, published in 1957 and for long the only substantial work in this field; and a more recent study entitled *Geography and air transport* by Brian Graham of the University of Ulster, published in 1995. Differences in approach and style are indicated in the respective titles of these two works: there is much more than a semantic difference between Sealy's 'of' and Graham's 'and'. Sealy (1957) considers in some detail the technical and economic characteristics of air transport in order to appreciate how and where traffic is generated. The author tries to discover why air transport is essentially a high-cost medium. Using maps and projections in the study, air transport is briefly discussed. The book is divided into two parts: The first investigates the physical geography of aviation as well as the technical and economic background of airline transportation; the second part of the study explores some aspects of air transport in Europe and the United States. Finally, Sealy's book gives a short look at airport location.

Graham's book contains fifteen chapters in three main parts. The first Part deals particularly with the historical development of the air transport industry and the contemporary distribution of air traffic, air transport markets, the geopolitics and economics of the industry and, finally, covers the relationship between uneven development and air transport industry. Part Two concerns the deregulated US airline industry as well as air transport liberalisation in Europe. It also deals with the North Atlantic, the Asia-Pacific region, and explores the evolving pattern of air transport industries of the Middle East, Africa and Latin America. The final Part sets out to investigate the demands for airport infrastructure and the problems of environmental pollution.

Generally the study explains the nature of both passenger and cargo air transport markets, and the demand for air transport under the policies of deregulation (or liberalisation) and privatisation which create a global competitive airline industry. It also describes the contemporary distribution of air traffic. The author analyses four sets of economic characteristics which are: (1) the compromise between capacity

yields, costs and market share; (2) air transport as a contestable industry-sunk cost, the difficulties of market entry and the significance of frequency; (3) the strategic advantages of incumbency; (4) additional barriers to market entry. The relationship between uneven development and air transport provision is examined at the global scale. The study examines, too, the relationship of air transport infrastructure and tourism.

In Part 2, the study investigates US deregulation and airline networks, with particular attention being paid to the advantages and disadvantages of hubbing theory as well as the benefits and costs of deregulation to consumers; and focuses on polices for air transport liberalisation in Europe and the geography of European air transport. In the final Part, the relationship between airport provision and a more competitive airline industry is emphasised. In this context the author considers airports as nodes in transport networks. The last chapter in the study debates the environmental impacts of air transport such as congestion, noise and atmospheric emissions. Graham's book covers the airline industry globally, and marks an enormous step forward in this field. This work is possible because of the huge amounts of statistical data now available that provide an increasingly clear picture of the contemporary world airline transport industry.

2.5 Summary and conclusion

This chapter attempts a careful investigation of several elements in the literature that provide useful and interdependent frameworks and bases for the present study that is unique of its kind. First, delving into a huge amount of literature that covers the Middle East and the GCC region as well as exploring the economic and political framework within which the study area lies, no study has been found that deals with the air transport industry. Although studies of the Middle East have not focused on the field of air transport, they do however give a detailed understanding of the political, geographical, social and economic factors that influence the airline industry in the region.

International airline policies have been given great attention in light of the extreme importance of the airline industry. Therefore, a wide range of studies concerned with

deregulation, liberalisation, hub-and-spoke system airports, and alliance strategies has been discussed. Details of the relatively limited recent academic literature in the specific field of air transport written by geographers have been reviewed, with special attention to key studies by Sealy and Graham. This review of the relevant literature reveals relatively little integration between the component areas discussed and relatively little material that is directly related to the present investigation. Nevertheless the three areas investigated: the Middle East/GCC, the air transport industry and the geography of air transport provide a wealth of indicators and useful contexts which will serve as points of relevance and support as this study proceeds.

Chapter 3

The development of the air transport system in the GCC countries

3.1 Introduction

The history of the Gulf air transport system dates back to the 1940s but the first record of airline operation was in Bahrain in 1918. Since then a series of dramatic steps have been taken to create a modern air transport system to serve the region. These radical steps have included comprehensive infrastructure programmes fuelled by a combination of economic expansion and population growth leading to increased industrialisation and urbanisation. In order to meet the increasing demand, the region's governments have invested heavily in creating modern international and domestic airports linking the capital cities of the GCC countries. The growth and progress of the system have continued successfully into the jet age and services have been maintained to high standard. With the accelerating economic development of the region, which enjoys the position of leading world energy supplier, several routes have been established to link the Gulf area with a large number of destinations in the Middle East, Europe, the Far East and the USA.

The aim of this chapter is to give an understanding of the current situation in terms of the air transport system in the area through a brief historical appraisal of the development of international and domestic airport systems in each country. In order to provide further background, reference is also made to traditional or older forms of transport. Most of the information provided in this chapter is drawn from official documents, some of them in Arabic, that were collected in both the first and second fieldwork periods.

3.2 Saudi Arabia

3.2.1 The traditional transport system

Thousands of years ago as people began to engage in commerce and trading began between separated communities, the camel was adopted as the means of overland transport in the desert and semi-desert regions throughout the Middle East and northern Africa. The camel does not need well-laid tracks to make its way. Thus the routes between towns were often ill defined. Nevertheless, with the passage of time and with the benefit of many generations of experience, the tracks developed into patterns. Thus a route between two places in a desert area might not be the direct one or the shortest distance but would instead take advantage of flat land and especially of the presence of strategically located fresh-water wells.

Camel caravans developed over many centuries into transport enterprises of great size and significance in the Middle East and Gulf countries and were used heavily until 1945. In Arabia, however, there were only a few trade routes along the fringes of the peninsula; but one route was very heavily travelled. This is the one to the Holy Cities of Makkah and Madinah, which has always been subject to high traffic density during the annual Hajj period (Fig 3.1). This fact is of considerable significance for the airline industry today (see chapter 7).

3.2.2 Railways

A combination of circumstances, but mainly foreign influence, and the fact that Saudi Arabia did not attain nationhood until King Abdulaziz proclaimed it in 1932, meant that commercial development in Saudi Arabia was very slow until after the Second World War. One result of this situation was that there were no railways. Transport continued to depend almost entirely on the omnipresent and tireless Arabian camel.

In the early part of the 20th Century, however, a project was promoted by the Turkish Government in Constantinople and German commercial interests to link Baghdad and Damascus by rail (the Baghdad railway). At about the same time the Hijaz Railway was a separate project to build a railway through the western part of the Arabian Peninsula to connect the city of Damascus with the Holy Cities of Makkah and

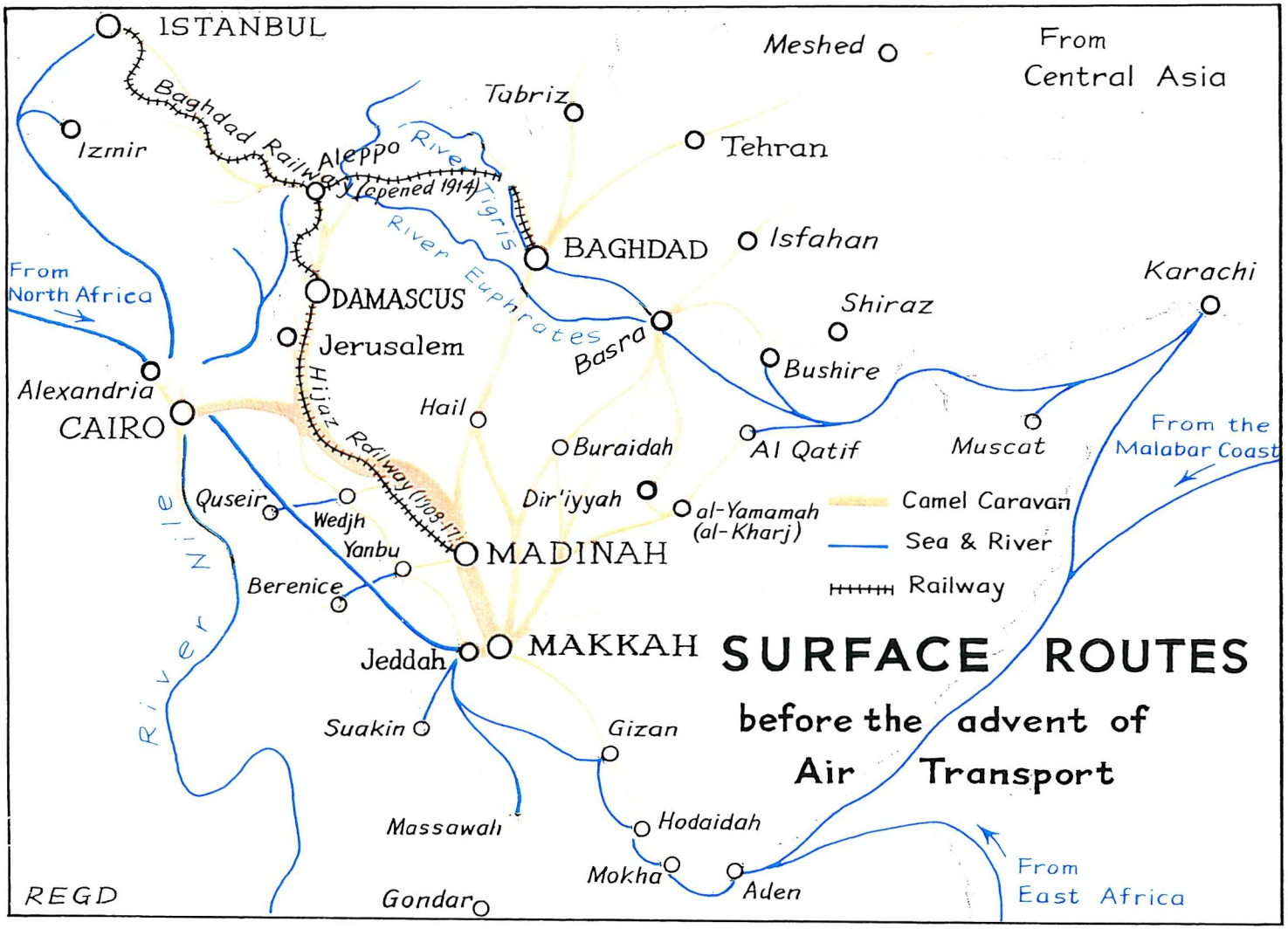


Figure 3.1: **The Arabian peninsula:** surface routes before the advent of air transport.
(Source: Davies 1995)

Madinah in the Hijaz region (Fig 3.2). Plans were made to build a narrow-gauge railway that would be routed via Amman (now the capital of Jordan) and Tabuk in the northwest corner of what is now Saudi Arabia, but then still part of the Ottoman Empire. To the south lay arid desert and mountainous Hijaz terrain. Construction problems were considerable and viaducts had to be built to carry the track over wide valleys that were subject to flooding. Financing was also a problem, but funds were eventually collected from both state and voluntary sources (Issawi, 1966).

The Hijaz Railway was completed in 1908, with its southern terminus at Madinah. Pilgrims welcomed the new form of transport. The onset of the First World War of 1914-18 halted the operation, as it became the target of attack and sabotage. After the war plans were made to reopen the railway, but political uncertainties prevented any reconstruction beyond the southern frontier of what was then the British protectorate of Transjordan. As for Saudi Arabia, other basic priorities demanded resources and the Hijaz Railway fell into disuse and disrepair (Hershlag, 1964; Issawi, 1966). There are no plans to redevelop it at present.

More recently the Saudi Arabian capital, Riyadh, was linked in 1951 by a modern railway with the port city of Dammam via Haradh and Hofuf, and later a direct short-cut link was constructed reducing the distance and travel time. Elsewhere in the Kingdom, suggestions have been made to build a network of railways to connect the main cities with northern outlet routes as well as with each other, but these ideas have not been developed beyond the preliminary planning stage as land travel needs have been largely met by huge investments in highway construction.

3.2.3 Roads

The discovery of oil near Dammam in the late 1930s was to change the entire character of Saudi Arabia in an extraordinary way. Income from oil revenues was channelled into development projects of great magnitude, creating large-scale industrialisation and commercial orientation (Al-Farsy, 1994; Findlay, 1994; Niblock, 1982). Villages became towns, towns grew into cities, and cities expanded into large metropolitan centres. The need for adequate surface communications became a top priority in post-World War II development plans. There were few roads in Arabia in

Figure 3.2: **The Hijaz Railway** which operated from 1909 to 1914 connected the Baghdad-Istanbul Railway (opened 1914) via Damascus with Madinah. (Photograph from the archives of the Royal Geographical Society, London).

1945 and hardly any of these were surfaced. To cross the peninsula by car was still an undertaking that required considerable durability, both for vehicles and passengers.

An enormous programme of road construction has given the Kingdom a network of interstate highways and intra-urban freeways that compare well with systems in Europe and elsewhere. The trans-Arabian main route, for example, permits drivers to cross the peninsula, coast-to-coast, within a day. The urban freeways are characterised by complex intersections that ensure the free flow of traffic (Roberts and Fowler, 1995). Such roads also link the city centres with their busy airports providing a good example of inter-modal integration and mutual convenience. Such were the circumstances of economic development in Saudi Arabia, that the country effectively by-passed what in many countries was called the Railway Age, and in some parts the transition was made directly from camel tracks to six-lane high-speed highways.

3.2.4 The development of the international air transport system in Saudi Arabia

Both international and domestic airports in Saudi Arabia are operated by the Presidency of Civil Aviation (PCA) which traces its history back to 1945. The primary mission of the PCA was to assure the safe, orderly and efficient flow of air traffic within the Kingdom and to provide the necessary airport facilities to accommodate domestic and international passengers and cargo. Initially, two organisations, Saudi Airlines and the Civil Aviation Directorate, were joined together until 1959 when Saudi Airlines was given independent status, and the Civil Aviation Directorate became the Presidency of Civil Aviation within the Ministry of Defence and Aviation (Saudia World, 1995).

There has been a tremendous development in the airport sector of the system over the last decades. The number of modern and efficient airports capable of receiving the most modern commercial aircraft is now twenty-six: three world class international facilities and 23 regional and local airports maintained and operated to the highest ICAO standards. "The Saudi international airports at Jeddah, Riyadh or Dhahran (one of the world's most beautiful airports) are monuments to conspicuous wealth, with elaborate entrances and waiting halls for princes and VIPs and marble vistas

undisturbed by passengers-except when the annual pilgrimage to Mecca (Makkah) brings millions of Muslims from three continents into Jeddah, which now claims to be the world's largest airport" (Sampson, 1984: 165).

3.2.4.1 King Abdulaziz International Airport (KAIA), Jeddah

During the second half of the 20th century the Red Sea port of Jeddah has grown from a place of only local importance, being an entry point for pilgrims to Makkah, to the status of a large commercial city and the biggest air traffic hub in the Middle East. The urban population grew from an estimated 30,000 in 1945 (when Saudi Airlines was founded) to about 2,500,000 in 1994.

In the late 1940s Jeddah's first airport was built in the Kandara district, then on the edge of town. But as the city grew, high-rise buildings began to restrict aircraft access, and a larger area was required for new intercontinental jet aircraft. The decision was made to build a new airport that would fulfil all needs for decades to come. Construction of the King Abdulaziz International Airport began in 1974, with two passenger terminals being completed in 1980 in the first phase. A separate terminal is now provided for the Hajj pilgrims and a fourth terminal is for the use of the Government. These four modern terminals are all equipped with every possible amenity, including air conditioning and fire services, a special prayer area and a mosque. A desalinisation plant ensures a consistent supply of pure water. The North Terminal serves more than 40 foreign airlines. The South Terminal is for Saudia domestic and international flights. The airport covers an area of 105 km^2 and each of its three main runways is 3,650 m long. KAIA is considered as the home base for the national-flag air carrier Saudia as well as the Royal Saudi Air Force. The airport is capable of handling 10 million passengers per year, a figure expected to rise after the year 2000. The total number of passengers handled in 1997 reached 9,636,000 in comparison with 1,360,000 passengers in 1975 (Table 3.1).

The outstanding feature of King Abdulaziz International Airport is the Hajj Terminal. Its 210 tent-like roof units made of glass-fibre fabric cover more than 5,000,000 sq. ft. (464,500m^2). The structure dwarfs the B747s that are invariably lined up during the

Hajj and it can accommodate 80,000 pilgrims at a time as they await buses provided by the government to take them to Makkah. Since its opening in 1981, the terminal has won a number of international awards for architecture. A further expansion plan has been prepared for the construction of a new passenger terminal (see chapter 9).

Table 3.1: Passenger traffic at Saudi Arabian international airports 1975-97 ('000)

Year	Airport			Total
	Jeddah	Riyadh	Dhahran	
1975	1,360	749	606	2,715
1976	2,418	1,534	960	4,912
1977	3,890	2,724	1,746	8,360
1978	4,875	3,642	2,279	10,796
1979	6,648	4,415	2,665	13,728
1980	7,505	5,279	3,305	16,089
1981	7,270	5,302	3,684	16,256
1982	7,798	5,959	4,132	17,889
1983	8,102	6,649	4,282	19,033
1984	8,266	6,772	4,041	19,079
1985	7,870	6,454	3,538	17,862
1986	7,197	6,128	3,140	16,465
1987	7,198	6,373	2,787	16,358
1988	7,239	6,209	2,660	16,108
1989	7,326	6,189	2,532	16,047
1990	7,466	6,468	2,539	16,473
1991	6,754	6,077	2,312	15,143
1992	8,353	7,344	2,781	18,478
1993	8,890	7,896	2,999	19,785
1994	9,269	8,125	3,054	20,448
1995	9,001	7,732	2,866	19,599
1996	9,298	7,845	2,878	20,021
1997	9,636	7,949	2,834	20,419

Source: KSA, Ministry of Defence and Aviation, PCA, *Statistical Yearbooks*, different issues

3.2.4.2 King Khaled International Airport (KKIA) Riyadh

Riyadh, the capital city of Saudi Arabia, is strategically located near the centre of the Arabian Peninsula. As well as being the seat of Government, it is also a major

commercial and distribution centre, with air, rail and highway connections to the main areas of Jeddah on the West Coast and Dammam-Dhahran on the Arabian Gulf Coast. Riyadh, which means "The Gardens," is the central city of the Nejd region. It was the traditional capital of the Saud family and it was from Riyadh that King Abdulaziz began the campaign to unify the Kingdom in 1902. Riyadh, therefore, needed a modern airport that did justice to its position as the focal point of the nation. The new airport, 35 km from the city centre, took nine years to build was opened on 5 December 1983: and named after king Khaled in the year following his death. It occupies an area approximately 12 by 20 km in size, incorporating four terminal buildings served by 32 gates, all equipped with air bridges. Additional facilities include airport and airline support buildings, utility buildings and a general aviation and special flight services complex. The project also includes a roadway system and self-contained community housing for over 3,000 people.

There are two domestic and two international terminals, connected by three linked buildings. Each terminal is essentially triangular in shape with a gross floor area of approximately 47,500 m^2. The roof is composed of 72 triangular blocks and spherically arched sections, measuring 24m along each side. The airport was the first in the Kingdom to provide loading bridges for direct passenger access to aircraft. The terminals each have eight loading bridges and the Royal Pavilion has two. The bridges offer passengers immediate access to their flights through fully enclosed and carpeted walkways to aircraft doors. In addition to comfort, visitors to the terminals can enjoy the aesthetic features of the buildings, which include collections of paintings, tapestries, sculptures and mosaics commissioned from all around the country, many of which depict traditional Islamic themes.

Airfield facilities at KKIA include two main taxiways, each 4,200 m long by 60 m wide and 29 other taxiways. The air traffic control tower is centrally located in the passenger terminal complex between the mosque and the royal pavilion. It is 81 m high, one of the tallest such towers in the world. There are 19 separate floor levels in the tower and a total of 1,230 m^2 of floor space. The operations area at the base of the tower houses the radar control centre for the airport as well as conference rooms, offices and a training area. The top of the tower contains the operating positions for

the air traffic controllers and the latest electronic and communications equipment to guide aircraft into and out of the airport.

Parking facilities at the King Khaled International Airport are among the best and most convenient to be found at any international airport in the world. Two large three-level car-parks are located directly in front of the passenger terminals, with a capacity for 11,600 cars. Of these, 8,000 cars will be accommodated on the 2 covered levels and another 3,600 on the roof level. The first phase is completed, with 7,400 spaces available, while the remaining 4,200 spaces will be available as part of phase two of the airport project.

Major new highways have been built to help travellers reach King Khaled International Airport safely and quickly. They are the Takhasussi Road, King Abdulaziz Road and the Outer Ring Road. All lead to the Airport Access Highway, which takes travellers directly to the International and Domestic Terminals. Once they reach the airport, departing passengers and arriving passengers use separate road systems in order to avoid congestion.

The Air Cargo Building at King Khaled International Airport is the most modern cargo handling facility in the Middle East. It has 56,400 m^2 of space on two levels in the main building and is designed to handle over 140,000 metric tons of cargo per year. In addition to its conventional loading and unloading facilities, it has three 747 nose-loading docks for speedy handling of freight coming in on the jumbo jets. During 1997, KKIA handled approximately 8 million passengers and expects to serve about fifteen million passengers annually by the year 2002.

3.2.4.3 Dhahran International Airport

Dhahran International Airport serves the metropolitan area that has grown up around the oil fields in the east of Saudi Arabia and the port city of Dammam. Dhahran is also the base of what was called the Arabian American Oil Company (ARAMCO), now Saudi Aramco, one of the largest producers of petroleum in the world.

According to early records, the first flight to use the airport was in 1923. By the year 1946 TWA was using Dhahran Airport regularly. The Middle East airline was the first

Arab carrier to use Dhahran Airport, in October 1949. Dhahran International Airport was the first airport established in the eastern region to serve both local and international passengers. It was expanded in 1962 to include two terminals, and further projects and development since 1973 have given the airport its modern appearance. Another terminal was constructed for both international and domestic flights. Dhahran International Airport now has three taxiways and can accommodate about 29 aeroplanes. It has a modern air traffic control tower and a terminal for VIPs, as well as areas for cargo and maintenance. The total area of the Dhahran International Airport is now 10 km^2. The airport is not far from the city and serves the towns of Khobar, Dammam, Jubail and AI-Ehsa. Dhahran International registered a total passenger flow of 606,000 passengers in 1975 and 2,834,000 in 1997 (Table 3.1). Excellent though these facilities were at Dhahran, new developments were necessary and the King Fahd International Airport at Dammam.

3.2.4.4 King Fahd International Airport (KFIA)

The construction of a new international airport is in line with the importance of the eastern region as an oil producer and as a site for large industrial centres of Saudi Arabia such as Jubail Industrial City. It is also at the hub of the Gulf Cooperation Council (GCC) states, which help to consolidate the economies of all the member countries. King Fahd International Airport (KFIA) was officially opened on 27 October 1999. The new airport is the third of a trio of magnificent airports that serve international and domestic networks. It is the latest and most modern international airport whose strategic location links the Far East and Europe, as well as serving all the cities and towns in the region. It is expected to handle 4 million passengers in the first stage, eventually increasing to 14 million in the future.

KFIA is located 50km northwest of Dammam and covers an area of 525 km^2, nearly 75 percent of the size of Bahrain state. The airport has two parallel runways each 4000m long and can accommodate the largest B747 aircraft currently in use and even the larger planes that may be used in the future. KFIA, Eastern Province, is an example of sophisticated design. The project is being developed in two phases: phase 1

should meet minimum operating requirements in the first decade of the new century, and phase 2 will be implemented according to demand.

A multi-level terminal complex located at the centre of the airport with two commercial passenger terminals. It includes 31 fixed boarding bridges to meet future demand with 11 fixed bridges already built in the first stage. The terminal is characterised by a vertical separation of international and domestic passengers. A separate terminal is for the use of the King, high government officials and other VIP travellers.

3.2.5 The development of the domestic air transport system in Saudi Arabia

Saudi Arabia had the unusual experience of witnessing the birth of its air transport system in 1945 at a time when it had no railways and perhaps only 400 km of surfaced roads. With the discovery of vast oil resources in its eastern coastal areas, the Kingdom soon had the means to enter the world of air transport, establishing links between the capital city Riyadh, 420km from the Arabian Gulf, and Jeddah, 1,000 km away on the Red Sea coast, as well as other major centres.

Air transport soon changed the lifestyle of the entire nation. Journeys that took 40 days by camel were now to take only an hour by air. Even so the ground facilities were at first austere, often just a cleared level strip in the desert. But progress came, with air services expanded first to towns and communities in the Nejd, then in the Southwest and later in the Northern region. By the late 1970s, Saudi Arabia had undergone a complete social and demographic transformation. Only a quarter century before, apart from the Holy Cities of Makkah and Madinah, the Kingdom had but two small cities, Riyadh and Jeddah. The port of Dammam, or provincial centres like Hail, Tabuk, Taif, Abha, or Gizan could only be considered as small towns. These places have since grown enormously. Riyadh and Jeddah each have more than two million inhabitants. The towns have grown to the status of small cities and small desert settlements have become towns. The character of the Kingdom's population has changed from being predominantly rural to being predominantly urban. Such a pattern of population distribution demanded an air transport system of comparable stature. The dominant need was to maintain an efficient link between Jeddah and Riyadh, with an onward

connection to Dhahran, the airport that served the conurbation of cities that had grown up around the oil industry and the port city of Dammam on the Arabian Gulf coast.

No other country in the world has witnessed such a dramatic revolution in national prosperity, living conditions and lifestyle as a whole as has Saudi Arabia in the second half of the 20th century. Most industrial nations experienced centuries of continuous evolution and progress. Good transport was and is an essential element in expanding industry and wealth. Without good railways and roads the importance of air travel in the Kingdom's rise to an industrialised urban nation has no precedent. Saudi Airlines played a massive role in this achievement (Davies, 1995).

Travellers now are served by one of the world's most modern systems of domestic airports, involving 23 high-tech facilities. From Gurayat near the Jordanian border, the northernmost of the Kingdom's airports, to Sharawrah near the Yemen Arab Republic in the south, Saudi Arabian airports serve every district of the Kingdom no matter how remote (see Fig 1.1). Under the supervision of the Presidency of Civil Aviation the airports of the Kingdom have been equipped with the latest technology in order to assure maximum safety and operational efficiency.

Of the domestic airports, Madinah is the largest, handling approximately 1.25 million passengers in 1997. Some details of these four most important domestic airports are given below. Abha ranks second with close to 1 million passengers in 1997. Gizan and Tabuk each handle approximately 500,000 passengers per year. Taif and Gassim are also important in the domestic network, handling more than 320,000 passengers in 1997. Of the remaining domestic airports, three others handle over 200,000 passengers annually: Hail, Nejran and Yanbu. Baha, Bisha and Jouf handled less than 200,000 passengers in 1997. Arar, Wadi Dawaser, Gurayat, Al-Qaisumah, and Sharawrah handled less than 100,000. Rafha, Wedjh, Turaif, Ahsa-Hofuf and Hafr Al-Batin all handle less than 40,000 each year. Table 3.2 gives detailed information on passenger numbers for the period 1975-97.

Table 3.2: Passenger traffic at Saudi Arabian domestic airports 1975-1997 ('000)

Year / Airport	1975	1980	1985	1990	1995	1997
Abha	104.1	688.8	810.0	771.6	977.7	1,050.1
Arar	-	-	75.8	80.3	84.5	84.7
Baha	-	-	84.6	145.9	177.2	181.5
Bisha	17.3	90.3	108.1	132.8	138.1	154.4
Al-Gassim	16.9	477.0	518.1	325.2	326.3	325.8
Gizan	107.7	483.5	491.4	455.9	482.5	502.7
Gurayat	6.0	11.7	40.9	56.2	64.9	73.1
Hafr Al-Batin	-	-	-	26.3	0.5	7.2
Hail	19.2	156.8	238.5	233.0	274.3	287.3
Ahsa-Hofuf	-	47.1	64.1	40.1	28.4	25.5
Al-Jouf	14.6	60.7	88.6	96.9	121.9	141.0
Madinah	89.6	982.8	919.5	943.6	1,223.3	1,253.9
Nejran	18.0	109.3	145.5	159.0	212.4	243.7
Al-Qaisumah	9.3	15.6	22.9	55.4	74.9	65.3
Rafha	3.0	3.2	7.8	18.2	31.0	30.9
Sharawrah	12.2	49.4	44.0	49.3	53.3	52.8
Tabuk	41.9	365.2	418.1	374.0	441.1	468.7
Taif	66.2	474.0	406.8	279.9	327.8	328.6
Turaif	2.7	5.4	11.6	-	16.4	17.7
Wadi Al Dawaser	-	-	-	17.1	64.8	73.2
Wedjh	12.4	31.6	26.6	23.9	24.9	26.5
Yanbu	-	-	176.1	180.7	199.9	214.3
Total	541.1	4,052.4	4,699	4,465.3	5,346.1	5,608.9

Source: KSA, Ministry of Defence and Aviation, PCA, *Statistical Yearbooks*, different issues

3.2.5.1 Prince Mohammed Bin Abdulaziz Airport in Madinah

An airport was established shortly after World War II 4 km from Madinah City near the Gwarat Mountains, but could not expand in this location and was moved north west of the city. The new airport, 12 km from Madinah, was opened in 1974 and was named Prince Mohammed Bin Abdulaziz Airport (after the first Saudi Governor of Madinah). It covers on an area of 12 km^2 and serves the towns and villages around Madinah City. It was expanded in stages between 1987 and 1992.

The airport is considered to be an important gateway to the city of the Prophet Mohammed. It has received important government backing in order to be able to handle an increasing numbers of arriving and departing passengers. The departure terminal was expanded to handle five flights at one time and the arrival terminal can receive three or four B747 or Airbus 300 aeroplanes. The arrival terminal area was expanded from 500 m^2 to 1120 m^2 and accommodates offices for Saudi Airlines.

3.2.5.2 Abha Regional Airport

Abha Airport is considered an important regional airport because it serves one of the most important tourist areas in the Kingdom and the Middle East. Abha airport, opened in 1977, is situated in the Aseer region in the south of Saudi Arabia. Its area is about 5.5 km^2 with one runway to receive Lockheed L-1011 TriStar aircraft. It can also be used for receiving B747 planes. The airport serves a very wide area from Dhahran in the south-east to Namas and its surroundings in the west, to Bisha in the north and to the Tihamah region in the south. In addition to these regions it also serves King Faisal Military City and the King Khaled Aircraft Base. In the past Abha airport was unsuitable for large aeroplanes. The airport was expanded twice, the last time in 1991. Abha Regional Airport contains a department for security, customs, police, traffic and immigration. There is also a department for meteorology which gives continuous broadcasts about weather conditions.

3.2.5.3 Taif Regional Airport

Taif is one of the most beautiful cities in the Kingdom which tourists from inside and outside the country come to visit and because of this importance Taif Regional Airport was originally constructed in 1946. It is situated 20 km north of the city and 80 km from Makkah. The newly expanded Taif Regional Airport is now capable of dealing with B747s, TriStar and Airbus aircraft. There are two terminals, for arrivals and departures, that can be hold 300 passengers altogether. Traffic handling areas can hold 12 aeroplanes at the same time. The total number of flights landing and departing is about 7,570 yearly. The numbers are higher in the summer because of tourists who come to visit the region. Taif Regional Airport serves many nearby towns and villages.

3.2.5.4 Al-Gassim Regional Airport

The Gassim region is distinguished by its long history and traditions. The total area of the Gassim region is about 8 km^2. Due to the importance that the Saudi government gives to the region, many small airports were constructed before the central main Gassim airport was opened. Flights began towards the end of 1940s when King Abdulaziz ordered the building of a small airport in the region. After that other small airports were constructed in the area, and later the Central Gassim airport. In 1964 the airport and its road links were widened and modernised because of development in the region. The development of the airport was made in phases to run parallel with the stages of development. At the end of 1984, further runway expansion was begun to allow the airport to receive TriStar, Airbus and even B747 aircraft. The name of the airport changed to Gassim Regional Airport in 1984. The airport became an important station on the domestic network system. The airport serves a very big area and is used occasionally for international flights such as to Cairo, Damascus and Khartoum directly.

3.3 Bahrain

The island state of Bahrain is made up of an archipelago of islands. Its history dates back to the ancient Dilmun civilisation, making it an interesting tourist destination. Before the discovery of oil, pearl diving was the main source of income, and a certain romantic charm still lingers (Issawi, 1966). However, nowadays oil production and refining are the major earners, while decisions taken to diversify the industrial base have produced an active financial services and banking sector, flourishing aluminium production and fishing industries, petrochemical developments and dry dock ship repairing. Bahrain is of considerable interest in the context of aviation history, locally and internationally.

3.3.1 Development of civil aviation in Bahrain

The first recorded flight to Bahrain and the indeed very birth of long-distance pioneer aviation took place as far back as 1918. A Vickers Vimy bomber of the British Royal

Air Force landed at Bahrain on a survey flight from London to Calcutta. It was trying to establish whether long-haul flights were possible through hot countries. The flight proved to be just bearable, although it took no less than 27 days to accomplish. It was, however, the start of a regular airmail service on the route.

Imperial Airways, the forerunner of what was to become the British Overseas Airways Corporation (BOAC) and then British Airways (BA), operated several proving flights through the Gulf in the second decade of the 20th century, before starting scheduled services. The first Imperial Airways flight to Bahrain was in August 1927 when a local pearl merchant chartered a De Havilland aircraft from Baghdad to Bahrain. Even for this relatively short sector an overnight stop in Basra was required. The De Havilland bi-plane was to become the standard long-haul aircraft for Imperial Airways and was used on the route between the UK and India after the airline began scheduled services via Bahrain in October 1932. The route through the Gulf was via Basra, Bahrain and Sharjah, with Kuwait added soon after as an optional calling point. By 1936 the operation had been stepped up to a twice-weekly frequency.

In 1937 the limelight in commercial aviation was stolen by the flying-boats and Bahrain was to see the start of regular services by famous Short's Empire sea-planes. The "landing strip" for these lumbering giants was a stretch of water located between the present day Marina Club and the Mina Sulman port facilities. A passenger terminal, known as "Bahrin Marine Airport" (the spelling of Bahrain had yet to be standardised) was located nearby on dry land from where passengers were ferried to and from the aircraft.

Flying-boat services to Bahrain continued into the early 1950s. At their height, what by then had become BOAC was operating several services a week through Bahrain. These included weekly services to Karachi, Singapore, Hong Kong and three times a week to Sydney. By 1950 BOAC was already looking to return to more traditional forms of air transport, offering a greater passenger payload. This saw the return of commercial passenger flights to Bahrain, using Argonauts (four-engined aircraft which could carry up to 60 passengers). Services were steadily built up to the point where there were three Argonaut services a week from Europe terminating in Bahrain. However 1950 was a significant year not only for Muharraq as an international airport,

but also for Bahrain's own commercial aviation history. This was the year in which a new local airline, the Gulf Aviation Company, was formed - the forerunner of Gulf Air. By that time Bahrain was firmly established as an international staging post. It was easily the most modern and advanced airport in the Gulf, with a good runway, control tower, lighting, communication facilities and even a restaurant. It began to attract other carriers such as Middle East Airlines, Air India, Air Ceylon and Iran Airways - all mostly operating Dakotas.

In 1954 Bahrain's position as the major airport in the region was further enhanced with the establishment of a new Flight Information Region based in Bahrain to cover the navigation of aircraft in transit through Gulf airspace. This saw the installation of modern navigational and communications equipment. Soon after Bahrain entered the jet age with the arrival first of the Comet and then the B707. These aircraft reduced the number of stops the airlines had to make on long-haul routes. With many intermediary stops withdrawn, the advent of the jet age again focused attention on Bahrain as a major stop-over point between Europe and the Far East. To cater for this growing transit traffic a new passenger terminal was opened at the airport in December 1961. But the decade witnessed an explosion in aviation growth, brought about largely by the advent of the B747 jumbo jet which could carry 400 passengers.

It became obvious that if Bahrain was to retain its position as a leading regional airport and transit hub it would have to expand yet again. In December 1971 new passenger facilities were opened with an apron area which could accommodate four B747 aircraft. Together with other capital costs the whole project amounted to BD 4 million at a time when the annual revenue of the whole of the State of Bahrain was BD 13 million. Qantas, BA, Air India and Singapore Airlines all began to use Bahrain International Airport as a major transit stop with their B747 aircraft. Unfortunately for Bahrain, all the carriers wanted to make their transit stops at about the same time. Even with the newly expanded airport facilities, it quickly became obvious that further expansion would be needed to accommodate these "jumbo peaks." A further expansion phase of the airport was completed in 1976, just five years after the opening of the new passenger terminal. The year 1976 also marked another significant event for Bahrain International Airport with the inauguration of supersonic flights which

saw the start of a regular BA Concorde service between London and Bahrain. By that time, what was now Gulf Air had been progressively expanding its network of services and in 1976 it took delivery of its first Lockheed TriStar aircraft. This heralded Gulf Air's transformation from a local regional carrier into a major international airline with all the significance that this implied for its home hub of Bahrain International Airport.

Further expansion of the airport's facilities took place in the early 1980s as a prelude to the major expansion and refurbishment programme that was set for completion in two stages. The Engineering and Maintenance directorate of Civil Aviation Affairs was responsible for the planning and implementation of what was a two-phase programme to provide the airport with a newly enlarged passenger terminal, whilst causing minimal disruption to normal day-to-day passenger and aircraft handling operations. This was achieved by constructing a new terminal building alongside the existing terminal. The first phase was completed on schedule by a local contractor at the end of 1991. It provides the airport with a brand new stand-alone passenger terminal capable of handling five million passengers a year and allowed the old terminal building to be closed. It underwent a complete refurbishment, with the entire building being reduced to its skeletal girder frame. From there it has been rebuilt effectively to mirror its new terminal counterpart (Roberts and Fowler, 1995).

Importantly, the design of the new integrated terminal provides for the separation of arriving and departing passengers with the provision of two different concourse levels. A mezzanine level allows arriving passengers to move directly from the aircraft to immigration, before going down to baggage claim in the arrival hall at ground level. This provides a terminal building with a handling capacity of five million passengers a year. It also achieved the object of separating arriving and departing passengers on two different concourse levels. As part of the overall project all five existing airbridges at the airport have been replaced with new telescopic retractable bridges. At the same time two more airbridges have been added to provide a total of seven, of which three are capable of handling stretched B747s. With the segregation of arriving and departing passengers, each of the airbridges has two corridors connecting them to the terminal building. Apart from improving passenger flows, the new terminal has

also been designed to create more space for departure and arrival facilities. There are 24 check-in desks in the new terminal, as opposed to 17 desks in the old terminal. Immigration booths have also been increased in the arrival area.

Meanwhile, additional space has been created to provide a dedicated duty-free sales area on a separate level above the main departure concourse. Less obvious to the passenger, but vital to the handling efficiency of the airport, a new baggage-handling system has been incorporated into the new terminal. Additional expenditure has also been used on a new Flight Information Display system in the terminal. Thus the completion of a US$100 million development programme carried the airport through into the 21st century and provides one of the most modern and efficient gateways in the region.

3.4 Kuwait: The development of Kuwait International Airport

Kuwait's first airport was built in 1927-28 in a gravel-filled, sandy area called "Dasma" on the outskirts of the then walled, old Kuwait City. It was a small airport with a mud building that was used as a fuel depot and equipped with a lone fuel pump for landing aircraft. There was no control tower or any of the modern day facilities. Dasma Airport was mainly used as a fuelling station by several airlines. Imperial Airways, the ancestor of today's British Airways, was the first airline to use this small airport as an intermediate point for the Britain-India-Britain air route.

The airport remained operating, without change, until 1938. That year brought the beginning of a new era in the modern world when oil was discovered and the Kuwait Oil Company Limited (KOC) was founded. The prospects of an influx of a large number of foreign recruits to work in the oil sector prompted officials to consider building a larger airport, one that would have the capacity to handle the expected increase in air traffic. Dasma Airport was obviously not suitably equipped to handle the scores of aircraft that would land carrying KOC foreign recruits, nor was it suitable for expansion work. It was not long before the authorities ordered preliminary plans for a new airport.

A new and larger airport was developed in 1947-48. It was located in Nuzha, now a modern suburban residential area. The Nuzha Airport had one main earth landing strip surrounded by empty barrels to mark its location. The airport closed at night because of the lack of necessary equipment for night operations. A tent was erected nearby to serve as a "control centre" where a KOC officer worked as an air traffic controller, operating the communications equipment. Soon other tents were erected nearby to serve as customs, immigration and health offices where passengers could complete entry and exit procedures. A few years later the tents were removed to make way for concrete buildings. During that period many Arab airlines opened offices in Kuwait City to handle ticketing and cargo operations for the steadily increasing Arab expatriate community. Nuzha Airport continued operating until late 1961. During this period the Civil Aviation Department operated as a section within the Public Security Directorate, which was later to become the Ministry of the Interior.

A new era dawned for Kuwait in late 1960 when the State of Kuwait achieved its independence from the British protectorate established over the sheikhdom in 1914. Kuwait City was growing rapidly, the social, health and other services took a leap forward and there was an impressive construction boom in the country. The Nuzha Airport authorities soon found themselves surrounded by an expanded city with several residential projects occupying the area around the airport. There was an increase in the number of aircraft and passenger movements and this meant that services and facilities at the airport had to be upgraded to match the new requirements.

It was not difficult to see that Nuzha Airport was becoming obsolete, less than a decade after it began operations. So the government undertook to build a larger airport at Mugwa, the same location where Kuwait International Airport stands today. The Mugwa airport was constructed in two phases. The first phase included a temporary terminal building for passengers (Terminal No 1), a 2,200-m asphalt runway, a parking area for aircraft, and a control tower that was fully equipped to handle around-the-clock air traffic. This was all operational at the end of 1961 when the first phase was completed. It was at this time that a first group of Kuwaiti nationals qualified to assume the responsibilities of rendering airport services. Some of the first airlines to use the then Kuwait International Airport were British Overseas Airways Corporation

(BOAC), United Arab Airlines, Saudi Airlines, Syrian Arab Airlines, Lufthansa, KLM and Air India.

In 1963 an Amiri Decree was issued, forming the Supreme Council of Civil Aviation, which included high-level representatives from all the concerned authorities to handle all policy matters related to this sector. Kuwait also joined the International Civil Aviation Organisation (ICAO) as a full member in the same year. A year later the Interior Minister issued a decree making the Civil Aviation Department an independent ministry with a separate annual budget. In 1965, the young Kuwaitis sent abroad for training in civil aviation specialisation returned home to take over all the air navigation controls within Kuwaiti airspace. In July 1965 Mugwa Airport saw further expansion with the addition of a new 3,400 m western concrete runway and a new control tower.

In 1975, the Civil Aviation Department assumed a new title - the Directorate General of Civil Aviation (DGCA) - headed by a Director General on the level of an Under-secretary. Mugwa Airport smoothly absorbed the increased air traffic. Minor development additions continued until the end of 1979. However, the beginning of the 1980s saw the launching of the second of the western passenger terminals - Terminal No 2 - (the current terminal) with its associated aprons and aircraft parking stands which now total 38. In addition, the Cargo Terminal was established in 1980 to serve all freight flights 24 hours a day. A new car parking area was also completed and put into service.

The DGCA steered the civil aviation sector in Kuwait through more progress during the 1980s. The early days of the decade saw further expansion and development at Mugwa Airport with modern air navigation facilities such as radar, Instrument Landing System (ILS) stations, meteorological services and satellite communications. The decade's last major development work at the airport took place in 1986 with the renovation of Terminal No 1, inauguration of the eastern runway (some 3,700 m in length) and a new 60 m high control tower equipped with the latest in air traffic control technology. The Airport Transit Hotel was opened in 1987, offering all recreational facilities to passengers stopping at Kuwait, being accessible through the

restricted area of the airport. The International Airport, therefore, was ready to handle nearly five million passengers every year.

Until 1990 Kuwait International Airport operated as one of the region's major international airports. At the end of that year however, Iraqi forces invading the country bombarded the airport, dealing catastrophic blows to its facilities. The airport was a prime target. The infrastructure damage alone exceeded 100 million K.D, equivalent to US$330 million. The invaders plundered and looted the airport facilities throughout the seven months of occupation. After liberation in February 1991, the DGCA undertook a huge rebuilding operation at the airport, completing it in record time according to the plans of the Kuwaiti government, which had re-formed in Taif (Saudi Arabia) during the occupation. Kuwait International Airport stands today even greater and more sophisticated than it was nine years ago. The masterplan of the airport was re-evaluated recently to incorporate more enhancements and additional development works, ensuring that the country's only international airport keeps pace with the changing times.

3.5 The United Arab Emirates

The UAE remains the most dynamic and perhaps the only expanding economy in the Gulf region, despite the continued low in world oil prices. The UAE has a total of 6 international airports with runways over 3,700 m long. Four of them are located in Dubai (the largest), Fujairah, Ras Al Khaimah and Sharjah. The Emirate of Abu Dhabi has two airports, one airport in Al Ain and the second in the capital city Abu Dhabi. The Emirates of Umm Al Quwain and Ajman do not have any airports (World Market Research Centre, 1996). The federal government operates an open-skies policy, which was the main reason for the Emirates' quick success. However, this study gives more attention to Dubai International Airport as the home base for the national flag air carrier Emirates Airline.

3.5.1 Dubai International Airport

Dubai first appeared on the aviation map in 1937 as the flying-boat base of British Imperial Airways. The flight frequency was once a week and the flying boats flew

from Southampton to Karachi using Dubai as a stop point. The fee for each landing and take- off was just five rupees (Indian currency was the legal tender in Dubai in those days). In 1959, the government of Dubai decided to build a proper airport, which was officially opened on September 1960. It had a 1,829 m compact sand runway, a large terminal building and a fire station. The largest aircraft that could use it at that time was the DC-3.

In 1985, the number of passengers using Dubai International Airport reached 3.85 million compared with 242,300 passengers recorded in 1970. An expansion plan was made for a new terminal, which allowed the airport to handle up to 5.2 million passengers per year. In 1990, a record 5 million passengers used the airport, representing a huge increase over the past years. At the end of 1995, Dubai International Airport had more than 62 airlines operating from it to more than 100 destinations, carrying more than 7 million travellers. In the same year, the Dubai government announced that it would expand the airport to handle 15 million passengers per year. Historically, Dubai International Airport has risen from being a small Gulf airport to an international hub handling millions of passengers per year. It is now considered the Middle East's premier and busiest airport, ranking among the top 100 international airports in the world. The airport is now going ahead with a US$540 million expansion to cope with the growing demand that is expected over the next ten years (see Chapter 9).

3.6 Oman

Although Oman is the second largest GCC country in geographical area, its airports handle the least traffic within the region, due to the fact that the population density is so low. Oman's international airport is, however, considered to be one of the four originating points of Gulf Air. With its strategic position on the world aviation map, Oman has seen civil aviation activity since the 1930s when the first transcontinental routes were being charted. Then in the 1950s and 1960s, there were limited air activities in support of oil exploration. The early aircraft used an old airport known as Bait Al Falaj Airport, which was situated in a dangerous area for civil aviation operations with limited facilities. This old airport was used until 1973 when the era of

modern aviation in Oman began with the creation of a new international airport, Al Seeb International Airport, which was to play a significant role in the economic development in Oman.

3.6.1 Al Seeb International Airport

The establishment of Al Seeb International Airport close to the capital, Muscat, began in 1970. The first phase covered construction of the runway, taxiways, apron and some of the airport terminal buildings. On 23 December 1973, Al Seeb International Airport was officially opened for civil aviation with features that enabled the airport to receive the widest and fastest types of aircraft such as Concorde and B747. At that time its international passenger lounge was designed for the simultaneous handling of about 700 incoming and outgoing passengers while the domestic lounge was capable of handling around 300 passengers. The transit lounge could cater for almost 350 passengers. All these lounges were centrally air-conditioned.

In October 1983, construction began on new arrival hall over twice the area of the old one, and featuring 12 immigration control counters, eight customs counters and an air-conditioned welcome hall. The transit lounge was also expanded to feature large walk-in duty free shops, a first floor restaurant and a cocktail lounge. The departure check-in area almost doubled with 14 check-in positions fitted with modern check-in counters and conveyor scales. Eight new immigration control desks were provided leading to the departure/transit hall. Above the new arrival hall, there is a large block of offices, which serve the needs of all airlines. Above the departure hall, the existing public restaurant was expanded with a complete renovation of kitchen facilities and equipment. The terminal expansion programme also incorporated the installation of a new Flight Information Display System (FIDS), which combines large flap boards and video displays providing instantaneous updates on aircraft arrivals and departures. The FIDS also provides operational data for the check-in areas and for the baggage claim systems. A new Flight Information Centre was created where public address announcements, telephones enquiries and FIDS updates are handled by Oman Aviation Services. The expanded international terminal building is capable of

simultaneously handling 500 departing passengers, 500 arriving passengers and 300 transit passengers in a period of one hour.

By January 1985, the second expansion of the Al Seeb terminal facilities began to provide the airport with a new domestic terminal east of the oldest terminal, expansion of terminal car park areas and the creation of bus and taxi parking areas. Traffic over the years increased and the government had to expand its facilities in all areas. The modern Al Seeb International Airport terminal expansion was completed in 1994, creating a major hub in the Gulf region with over 220 scheduled and 30 non-scheduled flights handled every week.

Cargo operations at the Al Seeb International Airport commenced in 1972, since when there has been a steady growth in air cargo movements. Operations were initially carried out in a small out-building and a lot of cargo had to be left outside in the yard. A new Air Cargo Complex was built in 1992, with a storage space of 21,000 m^2 and a capacity to handle 40,000 tonnes of cargo per annum. The all-purpose complex is equipped to deal with any type of cargo including fresh fruit, vegetables and flowers as well as some live animals storage of valuable goods, radioactive materials and other dangerous goods. Both imports and exports have shown a proportionately steady growth. A total of 36,600 tonnes of cargo was handled at Al Seeb International Airport in 1995. Of this, imports accounted for 20,200 tonnes and exports 16,400 tonnes. International postal mail totalled around 1000 tonnes per annum through Al Seeb International Airport.

Oman Aviation Flight Operations Department carries the major responsibility for ensuring that flights are operated safely and economically. It is the heart of the business and a lot of planning and preparation is required to ensure the day-to-day smooth running of the flights. To achieve this, a fast and efficient communications system is employed locally and internationally to facilitate continuous monitoring of all flights 24 hours a day. Many changes have been implemented to improve services to ensure that flight safety standards are maintained. Flight Operations has expanded from a small domestic control centre to an International Flight Control Unit.

3.7 Qatar: Doha International Airport

Doha International Airport is the principal airport of Qatar, located 3 km from the city centre. It has a 4,572-m runway and is supplied with advanced air navigational equipment. Doha Airport completed a new passenger terminal in 1982. A number of expansion works have been undertaken in the transit areas, VIP departure lounges, the immigration section of the arrival lounge and duty free shops, and a new cargo terminal was completed in February 1992. The total number of passengers using the airport was about 2.2 million in 1995. The airport is undergoing major redevelopment, including the projected completion of a new terminal in 2001. Earlier plans to proceed with the building of a completely new airport were written off in 1979, but will be re-examined at a later date if the international oil market improves and leads to an increase in air traffic.

3.8 Summary and conclusion

By the end of the Second World War the vast potential for oil wealth in the Gulf was recognised. The oil industry opened the way for all the countries in the region to establish important air bases at or near their major urban centres (Azzam, 1988). During the second part of the 20th century the system saw dramatic changes, and the Gulf air transport system enjoyed successful growth, achieving a strong position in the Middle East (Held, 2000). In parallel with the extraordinary growth of both domestic and international air traffic, programmes of airport construction have been undertaken. Desert airstrips have been replaced by modern airports with concrete runways and modern terminal buildings for passengers and freight. The international gateways to Saudi Arabia, Bahrain, Kuwait, Dubai, Oman and Qatar have been upgraded to accommodate the largest and most advanced aircraft. The Gulf governments set in motion plans to establish a Gulf-wide airport system to bring air service to many communities throughout the region. Table 3.3 shows comparisons between major GCC airports and a number of leading airports in other world areas in terms of passenger throughput.

Table 3.3: Passenger throughput at major GCC airports, 1999-2000, in comparison with other world airports

Rank	Airport	Total Passengers handled in 2000	% Change 1999-2000
1	Atlanta, GA (ATL)	80,171,036	2.8
4	London, GB (LHR)	64,607,185	3.8
6	Tokyo, JP (HND)	56,402,206	3.8
22	Hong Kong, CN (HKG)	32,746,737	10.2
23	London, GB (LGW)	32,056,942	4.9
36	Sydney, AU (SYD)	23,553,878	9.4
75	Dubai, AE (DXB)	12,320,660	14.6
85	Jeddah, SA (JED)	10,603,060	3.0
105	Riyadh, SA (RUH)	8,702,358	2.3
167	Bahrain, BH (BAH)	3,930,585	15.0
170	Kuwait, KW (KWI)	3,870,016	2.0
207	Dammam, SA (DMM)	2,937,445	-4.9
222	Muscat, OM (MCT)	2,720,621	-2.5

Source: Airports Council International (ACI) Web Page, at www.airports.org/traffic/passengers.html

Whenever we remember the traditional airstrips of the early days and compare them to the present high standards and great efficiency, we can recognise the efforts that have been made in creating the modern international and domestic air transport system. Within this system, the airports at Jeddah, Bahrain, Kuwait, Dubai, Muscat and Doha are the home bases for the national flags that have been created to serve the Gulf region. The next chapter charts the historical development of these national carriers. It also addresses the evolution of the airline networks that link the region with the rest of the world.

Chapter 4

The development of the air transport industry in the GCC countries

4.1 Introduction

From the time of its early foundation, the civil aviation industry has played a significant role in enhancing political, economic and social development in the Arabian Gulf, its importance being evident through the increasing demand for travel by the oil companies operating in the area. The establishment of many airline companies has met the need for air transport in a region which was very poor in terms of land transport and was lacking in infrastructure. However, the Arabian Gulf has now improved its infrastructure in accordance with its political and economic role in the world (Findlay, 1994).

"It is salutary to recall that the history of powered flight is still encompassed within a single century. In that time, aircraft technology has evolved from the first tentative 12-second flight of the Wright Flyer at Kitty Hawk, North Carolina, in December 1903, to the B747-400 or A340, capable of flying full passenger loads, non-stop, half-way round the globe " (Graham, 1995: 9). Less than half a century is a short time for airline companies such as the Gulf carriers to develop. The national carriers for the Gulf countries of Saudi Arabia, Kuwait, Bahrain, Qatar, Oman and the UAE have grown from the smallest possible beginnings to become full international airlines. The main part of that growth has taken place in the very short period since 1973, the year in which the Gulf became the greatest exporter of energy in the world.

This chapter is concerned with the main events that have underpinned the development of the air transport industry in the GCC countries. It gives a brief background to the development of the airline industry in the region and explains the

historical development of the air transport international and domestic networks in each country. Much of the information provided in this chapter is drawn from official documents published by the airlines. Annual yearbooks, reports and other miscellaneous information sources are used to gain better understanding of the airline industry in this part of the world; very little is reported in academic papers.

4.2 The early days of civil aviation in the Gulf region

Aviation gained success in the First World War. By the end of the war serious efforts were made to employ this technology to carry mail and to connect European powers with overseas possessions. At that time carrying passengers was of secondary interest. However, civil aviation was a golden opportunity for economic development worldwide. As a result small passenger carriers emerged in both the USA and Europe.

The first aviation service recorded in the Arabian world was provided by a French mail line known as Latécoère, which began a service in September 1919, flying to Morocco along a route that took in Toulouse, Barcelona, Alicante, Tangier, Rabat and Casablanca. Frequent stops were necessary because range and payload at the time were very limited. A year later, a new route opened to Oran and Algiers via Alicante. The development of route networks accelerated in the 1920s, and by the mid-1930s, considerable efforts had been made to establish links between the metropolitan centres of London, Paris, Brussels, Rome, Amsterdam and their colonies. The Arab countries grew in importance as stop-over points. The first Arab capital to benefit in this way was Cairo, which became a gateway to the Middle East and Africa.

In October 1932, the permission for Imperial Airways to cross Persian territory expired, and the service was diverted to the Arabian Gulf coast and re-routed via Basra, Bahrain and Sharjah, and then on to Gwadar. As noted in Chapter 3, the first Imperial Airways flight to land in Bahrain was one chartered by a pearl merchant to fly from Baghdad to Bahrain with a night-stop in Basra in 1927. However, the first scheduled aircraft ever to land in Bahrain on a commercial service, in October 1932, was an Imperial Airways Handley Page HP42. This first plane marked a glorious moment in Bahrain aviation history.

Civil aviation also came early to the lower Gulf area. An Imperial Airways service to India began in June 1932 using the military landing strip at Sharjah. In 1937, Imperial Airways began using Shorts S23 Empire Flying boats on one of the company's thrice-weekly services. These were the first civil aircraft to operate scheduled services through Dubai.

The first airline founded in the Arab world was Misr Airwork. Its inaugural flight on 7 June 1932 was an internal service from Cairo to Mersa Matruh via Alexandria. The first airline in the GCC region was Saudi Airlines, created in 1945. Others soon followed. Those were the early beginnings. Air transportation in the Arab world has come a long way since those early days, when most of the fleets consisted of 24-passenger DC-3 aircraft, which remained the main type in use until the mid-1950s, when Vickers Viscount turboprop aircraft and Convair 340s and DC-4s were introduced, to be followed a few years later by DC-6s. Starting from the early 1960s, De Havilland Comet 4Cs, Boeing 720Bs and 707s and Douglas DC-9 aircraft brought the Arab carriers into the jet age. B747s and Lockheed L-1011 TriStar aircraft were added to the fleets of some of the Arab carriers from 1974 onwards, and by the early 1980s Airbus aircraft had started to be acquired by some of the Arab carriers, followed by B777s in the 1990s.

4.3 Saudi Arabia and the birth of Saudi Airlines

As discussed in the previous chapter the camel was still the main form of transport until well into the 1930s. Although it was recognised from the later 1920s that the modernisation of Saudi Arabia could not be achieved without swift and efficient transportation, and that air transport was the obvious choice for linking the Kingdom's remotest regions, helping the movement of human resources and ensuring their participation in the process of development, it was not until the end of World War II that a formalised system of air transport services came into being.

Saudi Arabia is the largest country in the Middle East, being a third of the size of the United States. Riyadh, the capital is a long way from the Holy Cities, 420 km from the Arabian Gulf, and three times that distance from Jeddah (see Fig 1.1). The coast-to-

coast journey is about the same as going between London and Stockholm, Warsaw, or Budapest; or between New York and Chicago. The sandy and stony deserts did not allow for easy road-building and the finance required for either the rebuilding of the old Hijaz Railway or the construction of new lines was not available as economic resources were slender. Paved roads were not built until after the end of the Second World War, except in the coastal area of the Arabian Gulf, where the Arabian American Oil Company (ARAMCO) was beginning to establish itself. Such circumstances opened the way for air transport.

The date of 27 May 1945 is still remembered as the birth of Saudi Arabian Airlines, the day President Franklin D. Roosevelt's his gift to King Abdulaziz of a twin-engined Douglas DC-3 landed on Saudi soil. This gesture of appreciation was a symbol of the friendship between the two leaders, crowned by their meeting aboard an American cruiser in the Red Sea (Sampson, 1984). President Roosevelt's gift was not received until after his death, but the American people, represented in the US Congress, were determined to honour their late President's will by delivering his gift to King Abdulaziz (Fig 4.1). Later in 1945 King Abdulaziz was en route from Riyadh to Taif, his summer residence in the mountains east of Makkah, in preparation for a pilgrimage to the Holy City. He ordered the DC-3 to meet him on the Riyadh-Taif road in order to complete his journey by air, and thus began the history of commercial aviation in Saudi Arabia (Davies, 1995).

The development of the national flag carrier, Saudi Arabian Airline, can be divided into three main periods: the beginning, rapid expansion and consolidation. These periods were of varying length, depending on economic, political and social factors.

4.3.1 The development of Saudi Airlines (1945-1970)

King Abdulaziz's DC-3 was at first reserved for government use, but within months was being used for passenger transport between Jeddah, Riyadh and Dhahran. In the same year, 1945, the Saudi Government purchased two more 24-seater DC-3s with a view to setting up a regular airline (Saudi Airlines, 1981). On 14 March 1947, scheduled flights began on the trunk route across Saudi Arabia, and Jeddah was

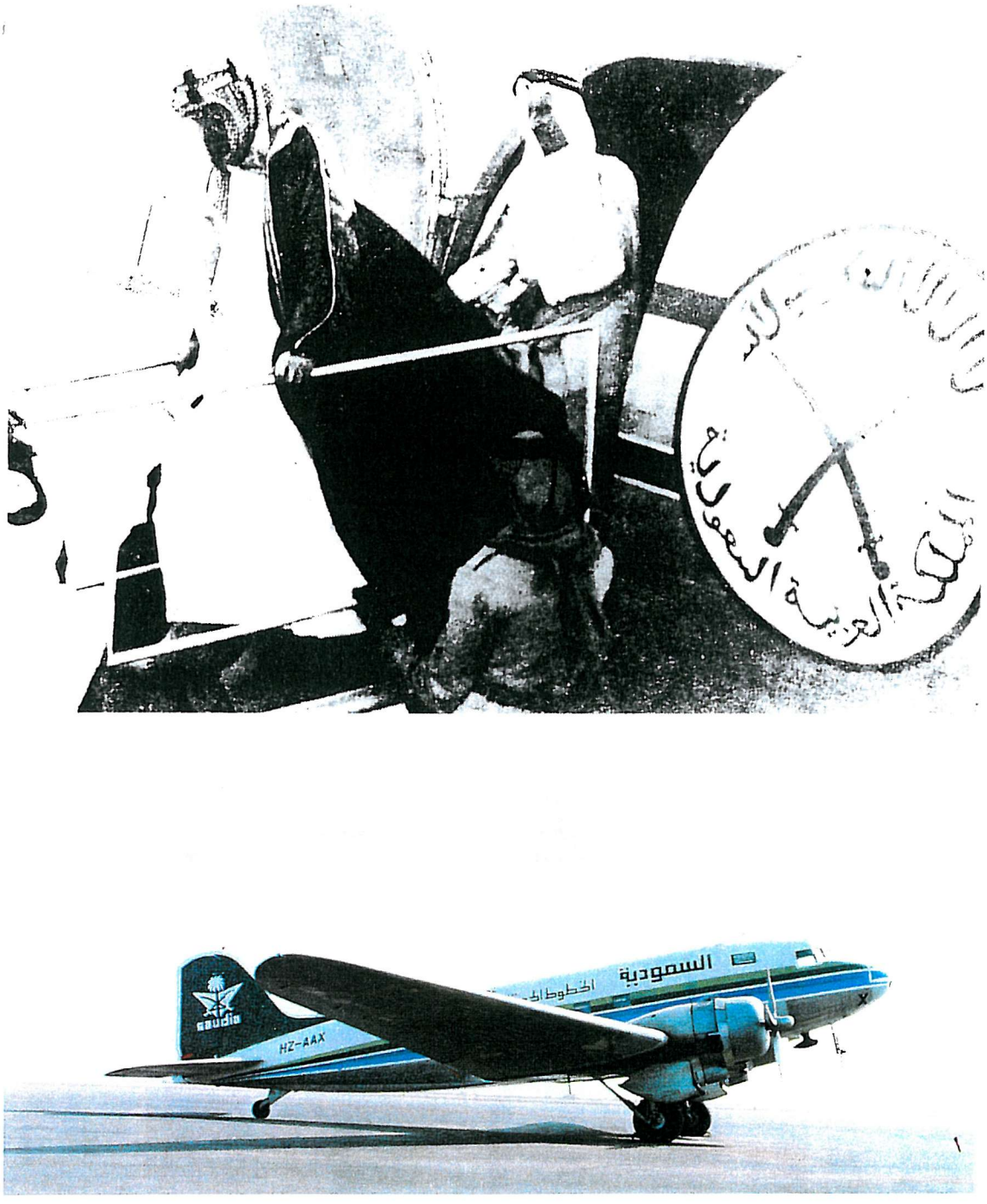


Figure 4.1: Saudi Arabia's first aircraft: the 1945 DC-3. This DC3 aircraft was given by US President Roosevelt in 1945 to King Abdulaziz of Saudi Arabia, a first step in the development of modern air transport systems in the region. The upper photograph shows the King disembarking from the aeroplane. The lower photograph shows the aeroplane in 1975, still in service but with later markings.

chosen as the main base for Saudi Arabian Airlines first known as SAA, later changing to SDI because of South African Airways' prior claim. The aviation authority operated under the sponsorship of the Ministry of Defence, and then a regular air service was launched for the transport of passengers, mail and cargo between Saudi Arabia, Egypt, Syria and Lebanon. On 16 March 1947, Jeddah was linked with Cairo via Madinah and later, in 1948, a second trans-border route opened from Jeddah to Damascus and Beirut. More DC-3s were added to increase the number in the fleet to ten by the end of 1947.

In a country where cities, towns, villages, oases and camps were scattered many days' journey apart, the usefulness of the aeroplane was quickly recognised. The time taken to go across the heart of Arabia from Jeddah to Riyadh, and then to Dhahran, was instantly cut from many days to a few hours. Soon it became necessary to acquire more aircraft to meet the rising demands from passengers and the postal service. Eventually SDI purchased five Bristol Freighters, which could take larger loads through its nose-doors, for use on cargo routes. In 1952, two four-engine Douglas DC-4s joined the fleet. They had a longer range and allowed a direct service between Dhahran and Beirut. In order to manage the new air fleet, maintenance shops were built at Jeddah and the national airline was able to provide good working conditions for its staff. In those days, the airline's infrastructure was in its early stages of development. At first, aircraft maintenance was carried out in the open air and support equipment was nowhere comparable to that of today.

In 1953, SDI expanded its activity, launching new air connections to five Middle East destinations, Aden, Basra, Bahrain, Kuwait, Amman and Istanbul. In the same year, services began to Karachi, the first international destination outside the Middle East. By the mid-1950s, Saudi Arabia had an airline network which brought all outlying communities to within a few hours' journey from Jeddah, which was the focal transport hub for the annual Hajj, and from the capital Riyadh (Fig 4.2). SDI's fleet numbered 20 aircraft of the types well known in that period. The aircraft were, however, un-pressurised and the fleet had to be upgraded to provide better comfort levels for passengers especially during the severe heat of the summer months. Twin-engined Convair CV-340s were selected. They were much faster than the DC-3s and

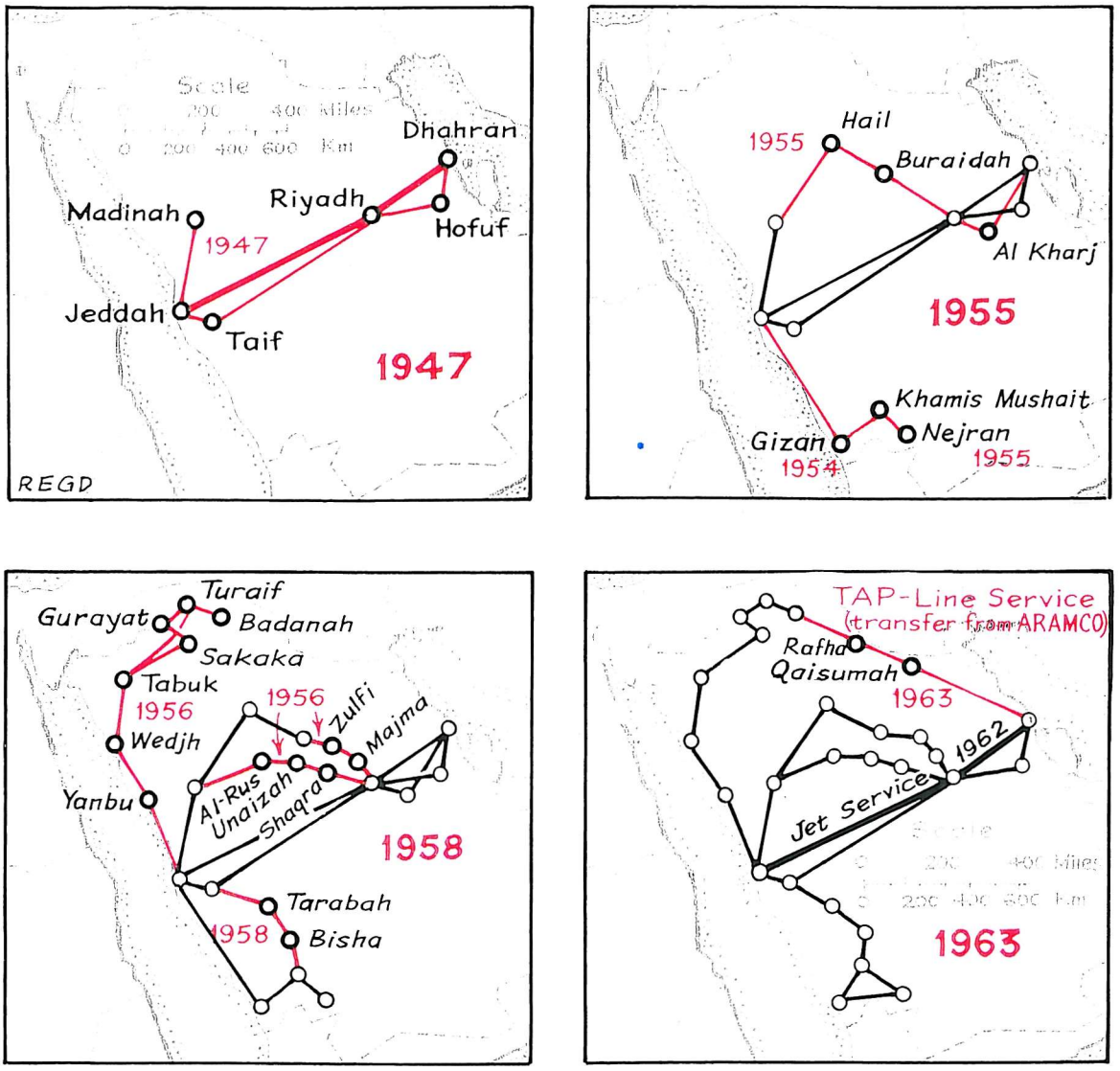


Figure 4.2: Early development of air transport in Saudi Arabia, 1947-63.
The Jeddah - Riyadh - Dhahran axis was established soon after the end of World War II, and an airport construction programme brought air services to all populated parts of the country by the 1960s.

(Source:Davies 1995)

could fly between Riyadh and Jeddah in 2 hours 20 minutes. Ten aircraft of this type were ordered.

By the end of the 1950s, Riyadh had developed into a modern capital and Jeddah into a major port of entry. Consequently, in 1962 B720 four-engine jets entered service and expanded the horizons of the national carrier into the Jet age. The corporate structure of SDI also underwent a significant change. On 19 February 1963, in accordance with Royal Decree No. 45, SDI became a commercial corporation with a staff of 2,500, replacing the arrangement by which the airline had operated almost as the transport division of the Saudi Arabian Air Force. In 1965 it became a member of the Arab Air Carriers Organisation (AACO) and two years later joined the International Air Transport Association (IATA) (Saudia, 1980; Saudia World, 1995).

The international route network was expanding beyond the limits of neighbouring countries, and in 1967, SDI started flying to Frankfurt and London via Geneva, important business and diplomatic centres with growing relationships with the Kingdom. In May 1968, a twice weekly non-stop service from Jeddah to London began after the purchase of two 147-seat B707s. Services were also begun to Casablanca, via Beirut, Tripoli and Tunis (Algiers was added in 1969). This was the first direct link between the eastern half of the Arab world and the western half (Saudi Airlines, annual reports, 1969 and 1975).

The need for a domestic jet service was also recognised and a programme of airport construction was undertaken to make this possible. In addition to Riyadh, Jeddah and Dhahran, which were already well equipped, concrete runways were built at other important cities; Madinah, Abha, Taif, Tabuk, and Gizan (see Chapter 3). A small fleet of three DC-9 twinjets entered service on 8 February 1967 and two B707-368 aircraft were received and promptly introduced into service in 1968. The following year more aircraft were acquired and the airline began to change its image.

4.3.2 Saudi Airlines' rapid expansion (1971-84)

The growth of air traffic in Saudi Arabia during the period 1971-84 and the requirement for a huge expansion were very significant. Passenger traffic was growing

by leaps and bounds (Table 4.1). For the Kingdom of Saudi Arabia as a whole, the period was one of sustained economic growth matched by dramatic urban and industrial development. The Kingdom's economic growth was particularly rapid during the 1970s. Indeed, the pace of development resulting from the economic boom of the seventies and early eighties has probably been unequalled by any other developing nation (Davies1995). The government invested a huge amount of oil revenue in modernising all aspects of economic and social development. Thousands of schools were established and qualified teachers were brought from Egypt and other Arabian countries. Millions of Arab and non-Arab workers came to the country to help in development programmes that were set up by the government (Shihab-Eldin, 1986). The challenges were not easy for the national carrier.

SDI played a vital role in that development and proudly responded to the challenges. The airline's passenger total passed the million mark in 1972 and continued to grow at an unprecedented pace. The government then adopted an expansion plan for airport infrastructure with a philosophy of rapid growth paralleling commercial expansion (see Chapter 3). In order to meet the dramatic increase in passenger traffic, SDI ordered new jet aircraft. B737s began to arrive in 1972, and a short-haul fleet was used on domestic routes. On 1 April, SDI adopted a new livery for its aircraft and modified its corporate identity to become known as Saudia. On 6 May 1974, Saudia signed a contract for two 214-seat wide-bodied Lockheed TriStar jets L-1011, the beginning of a fleet that was to grow to a total of 20 (Saudi Airlines, annual report, 1975).

As well as speeding up international connections, Saudia also cut the cost of domestic fares by 25 percent, as a gesture to the public. This emphasised the fact, still true today, that Saudia was formed not merely and simply to make money, but chiefly to serve the people by providing internal fares at the lowest possible cost. To this end, the Government subsidised the cost of internal air travel. Saudia obtained most of its capital from the Public Investment Fund. The fact that Saudia registered annual losses during that period is solely and simply due to the fact that the domestic flights accounted for 70 percent of flight capacity, but only 30 percent of income. The 25 percent decrease in domestic fares decreed by the government in July 1975 was frozen

Table 4.1: The development of Saudi Airlines during the period 1971-84

Year	Passengers (Millions)	Freight kgs (Millions)	Employees	ASK (Millions)	RPK (Millions)	ATK (Millions)	RTK (Millions)	ATK per employee
1971	0.7	6	4,107	1,333	633	162	74	39,394
1972	0.9	8	4,265	1,971	971	228	94	53,343
1973	1.1	12	4,555	2,273	1,165	293	133	64,264
1974	1.3	17	5,269	2,684	1,500	389	183	73,792
1975	1.8	21	6,536	3,369	1,999	525	242	80,362
1976	3.1	29	8,702	5,323	3,359	846	392	97,268
1977	4.5	38	10,766	8,510	5,189	1,365	589	126,769
1978	6.5	49	12,657	11,034	7,088	1,816	793	143,512
1979	8.0	61	16,000	14,655	8,908	2,620	1,001	163,774
1980	9.5	72	18,775	17,373	10,202	2,652	1,140	141,230
1981	6.4	100	22,446	19,161	10,837	2,969	1,302	132,282
1982	10.3	139	23,730	20,037	12,552	3,294	1,555	138,812
1983	11.4	171	23,356	22,894	14,950	3,747	1,830	160,430
1984	11.6	172	24,732	25,172	15,845	4,097	1,952	165,655

Source: Saudi Airlines Annual Report, different issues

Available seat kilometres (ASK) The number of seats available for sale multiplied by the distance flown.
Revenue passenger kilometres (RPK) The number of revenue passengers carried multiplied by the distance flown.
Available tonne kilometres (ATK) The number of tonnes (2,204 lb) of capacity available for the carriage of revenue load (passenger and cargo) multiplied by the distance flown.
Revenue tonne kilometres (RTK) The revenue load in tonnes multiplied by the distance flown

and Saudia continued to offer domestic fares as low as, or lower than, those of any other nation (see Chapter 8).

As a result of low fares, business traffic boomed and in 1976 traffic on the well-travelled trans-Arabian route from Jeddah to Riyadh and Dhahran was such that a no-reservation Arabian Express shuttle service operated using the TriStars. At its 1976 peak, the trans-Arabian air route became one of the busiest in the Middle East (Saudia, 1981). The Riyadh-Jeddah trunk route alone accounted for 250,000 passengers and even relatively minor local airports such as Abha and Gizan had more than 100,000. Saudi businessmen flew everywhere as the airline intensified its European route structure and opened new routes to the main cities of the Arabian Gulf.

With even the 214-seat TriStar unable to cope with the booming traffic demand, Saudia leased two 377-seat Boeing 747-200Bs, which went into service on 1 June 1977. Further points were added to the list of European destinations (Saudia, 1980). The most important new line on the Saudia map was drawn on 1 February 1979, when a joint service was started from Dhahran to New York, in co-operation with Pan American Airways, using the airline's long-range B747SPs to achieve non-stop capability. Then on 2 July 1981, the first non-stop service was inaugurated from Jeddah to New York with its own B747SP aircraft. As a matter of interest, this route (along with the Riyadh-New York service) was the only non-stop one in the world that involved four continents, linking Asia and America, and over-flying Africa and Europe. In addition to the trans-Atlantic route, services started to East Asia, first to Bangkok, then to Manila and Singapore and in April 1983 from Jeddah to Seoul non-stop with Boeing 747SPs. Another route opened to Nairobi in East Africa.

By the early 1980s, Saudia joined the ranks of the world's leading airlines and became the largest airline in the Middle East. The achievement of such stature in such a short time brought with it many problems, to both Saudia and the authorities responsible for providing airline infrastructure (airports, traffic control, and navigation aids). For Saudia, the provision of adequate capacity was complicated by such special events as Hajj and by the need to provide for the large number of temporary immigrant workers, whose skills and labour were needed to cope with vast construction projects, ranging

from building new cities to establishing main highways and the provision of essential utilities throughout the country. To cope with growing demand, Saudia strengthened its fleet by leasing large numbers of aircraft including a dozen 163-seat Douglas DC-8s plus an even larger number of freighters, a dozen Douglas "stretched" DC-8-63Fs, able to carry 52 tons, and 14 Boeing 747-200 freighters, able to carry 100 tons. Additionally 14 Lockheed C-130 freighters were acquired. These versatile transports, which were able to use unprepared landing strips, were employed as mobile hospital ships bringing the advantages of modern medicine to all corners of Saudi Arabia and also providing logistical support for the armed forces. From 1983, the commendable pattern of growth continued. A combination of heavy domestic traffic, intensified travel on existing international routes, and the opening of new routes, resulted in a further increase in passengers. More passengers travelled on Saudia in 1983 than ever before and more goods were carried. In addition, the international route network was expanded, while passenger and freight revenues increased. Saudia's fleet comprised 79 aircraft, of which, 63 were used on scheduled services.

In all, 11.4 million passengers were carried by Saudia on its domestic and international routes in 1983, representing an 11 percent increase on the previous year. Of these, 8.3 million were carried on Saudia's domestic network, accounting for 73 percent of total traffic. On Saudia's domestic route network, the mainline and northern regions were the busiest. The mainline sectors, Jeddah-Taif-Riyadh-Dhahran, accounted for 48.9 percent of all domestic traffic, with the Jeddah-Riyadh sector carrying the most. North Arabia continues to be Saudia's second largest sector, carrying 29 percent of total domestic traffic. During 1983, 3.1 million passengers were carried on international routes, representing 27 percent of all traffic, a slight increase on 1982. Of Saudia's international markets, the African sector was the largest carrying 36.7 percent of total international traffic, an increase of 12 percent on 1982. Cairo remains Saudia's strongest international route, with Khartoum, Kano and Nairobi all recording significant increases.

By the early 1980s, Saudia had a substantial fleet of wide-bodied jet aircraft for international routes and domestic trunk services. It consisted of 20 Lockheed TriStars, 12 Boeing 747-100s and -SPs and 11 Airbus A300B4-600s. These were supported by

20 Boeing 737-200s, which provided services on all secondary and feeder domestic routes. In the summer of 1985, Saudia began to take delivery of a further batch of big Boeings (the B747-300s often referred to as the SUD - Stretched Upper Deck - version). The upper section of the Boeing's voluminous fuselage was added to accommodate more passengers without increasing the total length of the aircraft. Powered by Rolls-Royce R8211-524D4 engines, these aircraft could carry 393 passengers, compared to 377 in the earlier 747 versions. Saudia purchased 11 of them, making a total of 33 Boeing 747s altogether, not including a number of various other series that were leased from time to time to cope with peak traffic demands. At that time, Saudia's fleet of Big Jumbos ranked among the largest in the world.

4.3.3 The consolidation period (1984 -)

Recently, Saudia has combined rapid expansion with a steadily increasing degree of economic efficiency in its operations. In the period of consolidation it has been essential for the carrier to focus its attention on quality rather than quantity. With competition intensifying both in the domestic and international markets, quality of service in terms of efficiency, reliability and passenger comfort has become the key to commercial success. Saudia should make significant advances to gain competitive advantage in the market.

However, in 1985, there was a marked decline in the domestic market with passenger traffic falling by 7.4 percent. This decline could be attributed to various factors, among them was the completion of basic infrastructure, which resulted slowdown in the amount of foreign labour requirement and movement. This was coupled with a more general slowdown resulting from reduced oil revenues, which led to the repatriation of large numbers of foreign workers and a general reduction in business-related travel. Another significant factor has been the expansion of the Kingdom's road network, which has greatly increased the popularity of road transport. Saudia lost a significant amount of its passengers due to the completion of the modern highway network, which competes with air transport.

As a result of economic factors, Saudia's passenger traffic on its combined scheduled and unscheduled services declined from a peak of 11.6 million passengers in 1984 to

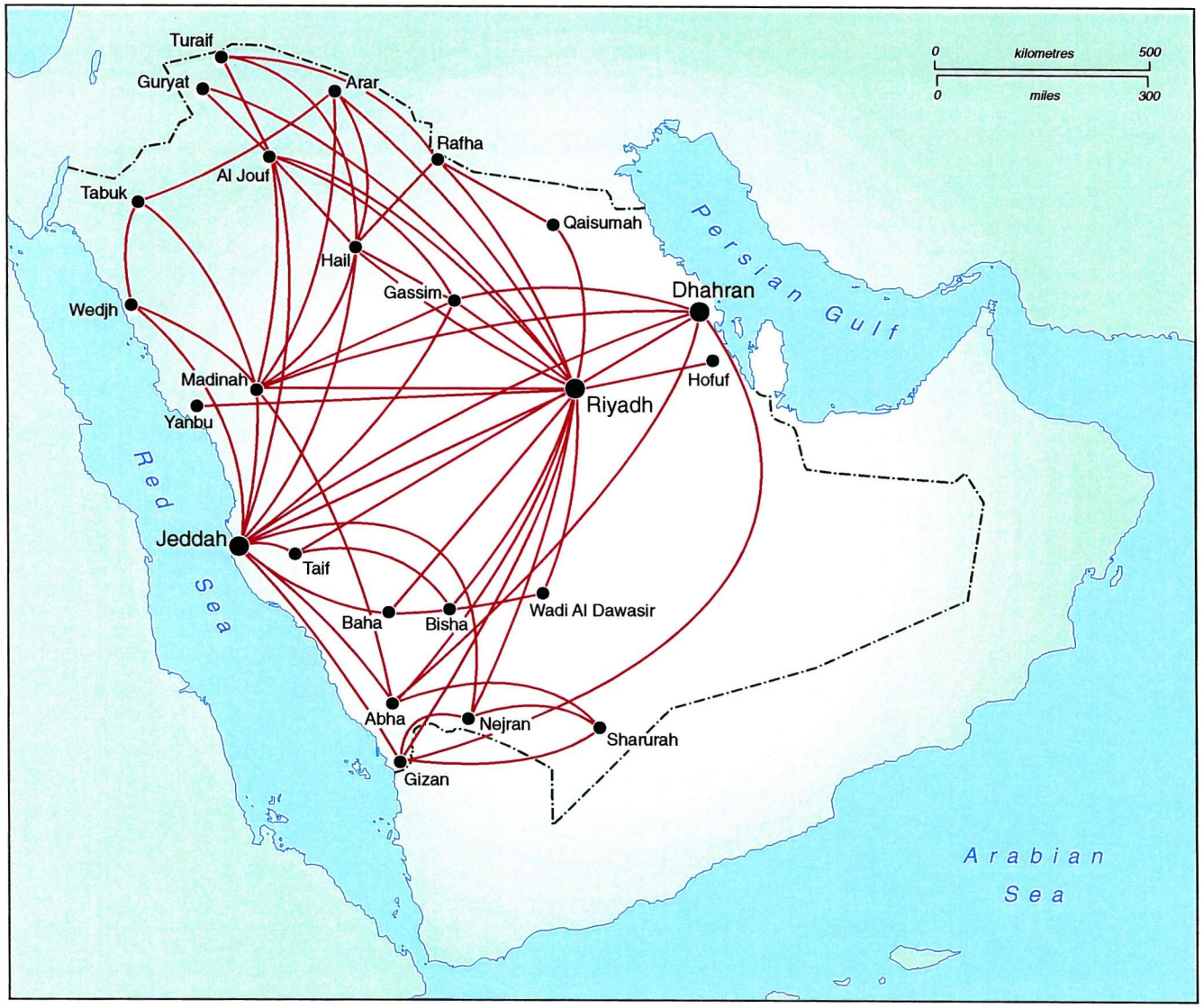


Fig. 4.3: Saudi Airlines' domestic network

(Source: Based on data supplied by Saudi Airlines, Jeddah)

10.8 million in 1985. Most of this reduction occurred on domestic routes where the total number of passengers in 1985 amounted to 7.36 million as against 7.95 million in 1984, a reduction of 7.4 percent. The passenger load factor for this division also declined, registering 63 percent for 1985 as against 69 percent in the previous year. The reduction in traffic was most noticeable on Saudia's mainline routes, with the Riyadh-Jeddah and Riyadh-Dhahran sectors declining by 10.9 percent and 15.7 percent respectively.

Saudia started to focus on freight traffic to maximise revenue. It established an important air cargo hub in Brussels, strategically located at the heart of Western Europe's industrial region, and within easy reach of major capitals such as London and Paris. A similar hub was created in 1988 in Taipei, which is geographically well located in relation to such commercial centres as Hong Kong, Korea and Japan. In fact, in 1990, a regular all-cargo route was opened to Tokyo as an extension to the service to Taipei.

In 1987, Saudia installed its own modern reservation system known as Saudia Automated Reservation System (SARS) at Jeddah, to move into line with the world's leading airlines. In the same year, and with other Arabian Gulf states, Saudia established the Gulf Cooperation Council Aviation Services (GASCO), an organisation which in October 1988 installed an in-flight catering service to London in co-operation with the Marriott International Corporation.

In 1995, Saudi Airlines, the largest carrier in the Middle East, ordered 61 new state-of-the-art aircraft from American manufacturers Boeing and McDonnell-Douglas at a cost of US$6 billion (see Chapter 9). The airline currently uses modern fleets to carry more than 12 million passengers a year to 25 domestic cities and 53 destinations across its worldwide network (Figs 4.3 and 4.4).

4.4 Gulf Air

Gulf Air has played a fundamental role in the air transport industry in the GCC area, following the growth in commercial and business activity and the consequent need for transport between main points within the region. The company was established in

Fig. 4.4: Saudi Airlines' international network

(Source: Based on data supplied by Saudi Airlines, Jeddah)

Bahrain in 1950, through the efforts of a Mr Bosworth who purchased an old seven-seater Anson Mark 1 aircraft from Iraq. He generated interest among local residents in the concept of flying and started leasing it out on short flights between Bahrain, Doha, Dhahran and Sharjah. The local residents began to rely on his aircraft as a commuter service.

The period was suited to such private enterprise, and governments in the area also came to require a quick service for mail and other affairs. An opportunity arose for a small carrier. On 24 March 1950, several local businessmen formed a partnership with Bosworth and registered the Gulf Aviation Company in Bahrain which was (and still is) the headquarters. Charter contracts with oil companies helped the early company to grow. The first aircraft purchases included a De Havilland Dove and an Auster. A pilot from Cyprus was employed to assist Mr Bosworth. The progress of the company encouraged Bosworth to bring in larger aircraft, but his participation ended in a plane crash. His shares were purchased by the British Overseas Aircraft Corporation (BOAC). The company gained momentum and shareholders started to invest more in the company (Gulf Air, annual report, 1997).

BOAC was the major shareholder. It increased further the number of aircraft. With an injection of capital from BOAC, four more De Havilland and four Douglas DC-3 aircraft were added in 1951. A new expansion in 1960 connected Bahrain with Dubai, Karachi and Bombay, which required more aircraft. Three Fokker F27 turbo-prop aircraft were ordered, the first received in 1967, the second in 1968 and the third in 1971.

Growth and progress continued into the jet age. In January 1970, the Gulf Aviation Company purchased its first BAC 1-11 jet aircraft and in April the same year services between London, Bahrain, Abu Dhabi, Doha, Dubai and Muscat were introduced with leased VC10s entering service. BOAC remained until 1974, when all of its shares were acquired by the four owner states of Bahrain, the United Arab Emirates, Qatar and the Sultanate of Oman. A Foundation Treaty was signed on 1 January 1974 and the Gulf Aviation Company became Gulf Air, the national carrier of the four sharers. The aircraft carried a new livery in the colours of the flags of the owners.

For economic and political reasons efforts continued to match standards with those of other major international airlines. It was necessary to add further, modern aircraft to the fleet and to expand the network. In terms of fleet modernisation, Gulf Air was among the first carriers in the Middle East to use the wide-bodied Lockheed L-1011 TriStar. The company purchased four specially fitted jets in 1976, equipped with the latest technological innovations. In addition Boeing 737 jet aircraft have been used by the company since 1977, most of them operating within the Gulf and on routes to India, Pakistan and Egypt. The network was gradually extended to cover Amman, Amsterdam, Athens, Baghdad, Bangkok, Beirut, Cairo, Colombo, Delhi, Dhaka, Hong Kong, Jeddah, Khartoum, Larnaca, Manila, Paris, Ras Al Khaimah, Riyadh and Sanaa. The company used Lockheed TriStars on its other long routes to Europe and the Far East.

Gulf Air became a member of IATA in 1981. Its staffing levels rose to 4,994 comprising 41 nationalities by the end of 1985. In the same year Gulf Air had a total of 20 aircraft in service (11 TriStar, 8 Boeing 737 and 1 B747) carrying more than 3 million passengers. These aircraft need high-technology maintenance and for this reason the Gulf Aircraft Maintenance Company (GAMCO) was established in Abu Dhabi in 1987. In 1988, the network expanded to include Frankfurt, Istanbul, Damascus, Dar es Salaam, Fujairah and Nairobi. Some unprofitable destinations were closed such as Shiraz and Baghdad.

4.5 Kuwait Airways

4.5.1 Historical development

In February 1953, Kuwaiti businessmen realised the need for an airline to serve the country. In 1954, a private air carrier was established under the name of Kuwait National Airways Company Limited. It started with three DC-3 aircraft to provide services between Kuwait and Beirut, Jerusalem, Damascus, Abadan, Basra and Baghdad. In 1955, the Kuwait Government encouraged the young company by purchasing 50 percent of its shares, doubling its capital and changing its name to Kuwait Airways Corporation (KAC). Five years later, some local business magnates

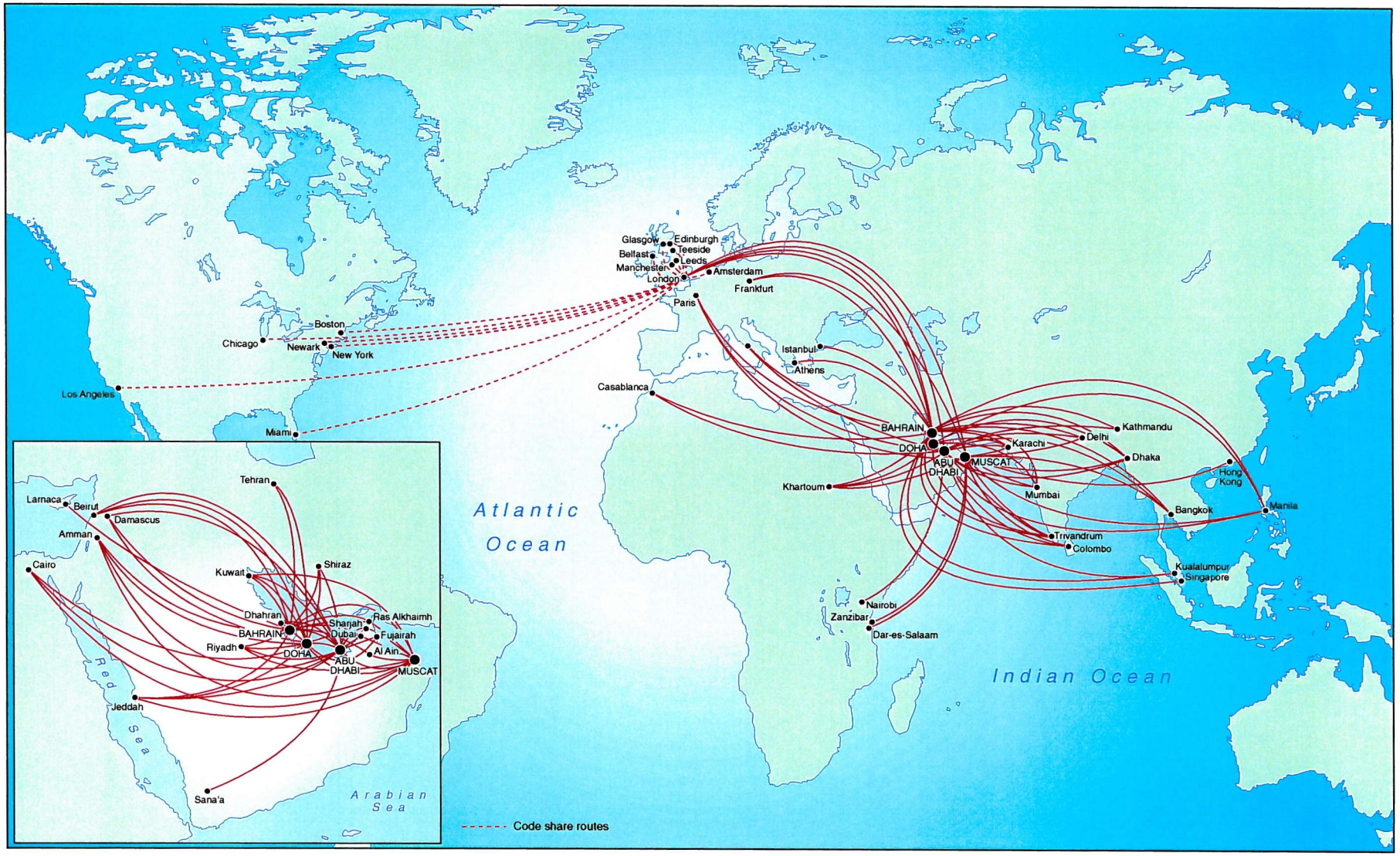


Figure 4.5: Gulf Air's network

(Source: Based on data supplied by Gulf Air, Bahrain)

established a private sector holding called Trans Arabia Airways in an attempt to compete on the Kuwaiti market. However, in May 1962, the shareholders in KAC sold their shares to the Kuwaiti Government, transferring full ownership to the government. Then, in 1964, the Kuwaiti Government acquired ownership of Trans Arabia Airways and added its fleet to the Kuwait Airways Corporation.

KAC entered the jet age in 1962, with the lease of a Comet 4-C, the world's first jet-engined airliner. The KAC route map was quickly expanded and scheduled services to London were commenced, three times a week. But the Comets could not cope with increased traffic demands and it became obvious that bigger jets were needed. Comets and Tridents were gradually phased out of service and three Boeing 707s were delivered in late 1968. By the beginning of 1978, KAC had an all-Boeing 707 fleet of eight aircraft.

In August 1978, KAC entered the wide-body age by taking delivery of its first two B747-200s, adding a third in 1979. This allowed KAC to expand its route network as far as New York in the west and Manila in the east. Modernisation of the fleet continued, and four B727-200s were delivered in 1980-81. By that time, the 707s were no longer economically viable, due to a massive increase in fuel prices, and they were replaced by a new generation of twin-engined aircraft, quieter and more efficient. Eight Airbus A310s and A300-600s were delivered during 1983-84, and in 1986 three Boeing 767-200ER aircraft joined the wide-body fleet.

Until 2 August 1990, KAC was operating a fleet of 21 aircraft flying to 42 destinations in 35 countries in Asia, Africa, Europe and North America. These aircraft carried more than 1.5 million passengers a year and in excess of 50,000 tons freight. The Corporation's worldwide services were supported by a fully integrated infrastructure base, which included comprehensive engineering, training, reservation and catering facilities. However, on 2 August 1990, Iraq invaded Kuwait and the invading Iraqi army looted and destroyed most of the existing infrastructure. Modern weapons have an extremely high destructive power, and all KAC premises and 15 of its aircraft were damaged or stolen.

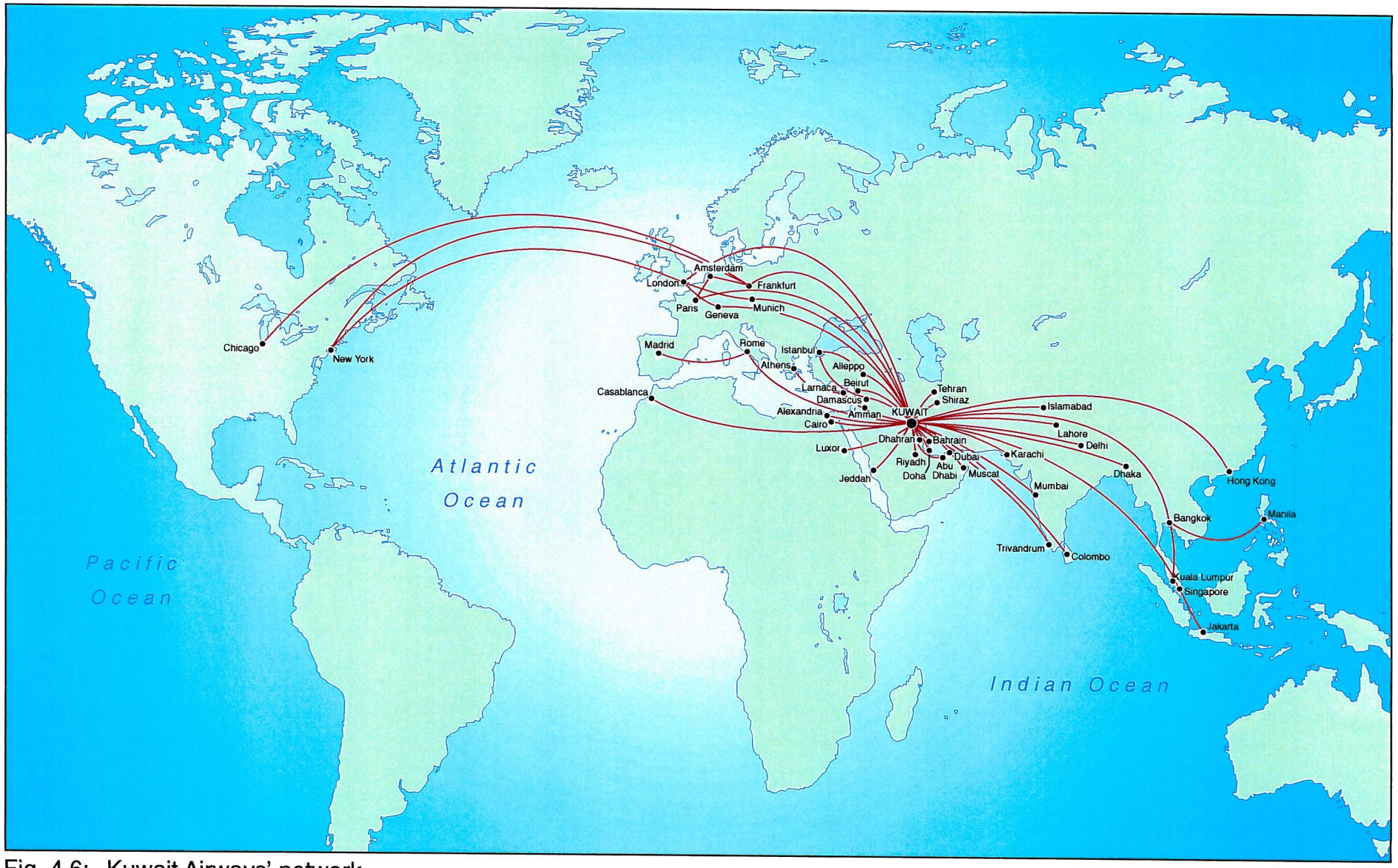


Fig. 4.6: Kuwait Airways' network

(Source: Based on data supplied by Kuwait Airways, Kuwait)

4.5.2 Kuwait Airways after liberation

Few airlines could survive the loss of 75 percent of their entire aircraft fleet, plus most of their equipment and facilities, and still remain in business, but Kuwait Airways succeeded. Following the liberation of Kuwait on 26 February 1991 Kuwait Airways was relaunched. An expansion programme was adopted within the rebuilding of the destroyed airline. KAC was refurbished, facilities destroyed by the Iraqis were replaced, and 15 brand new Airbus aircraft were joined, in 1998, by two Boeing B-777s (for more details see Table 9.3). In addition, KAC opened brand new headquarters in a complex close to the airport. The airline also successfully rebuilt its two main aircraft hangars at the International Airport, replacing hundreds of items of ground handling equipment and installing a new upgraded mainframe computer to replace the one stolen by the Iraqi army.

The huge rebuilding programme allowed the airline to re-launch services to most of its former destinations and even add several new routes across Asia, Africa, Europe and North America. The airline operates daily flights to Cairo, Bahrain, London and Bombay. It also offers frequent departures to destinations as diverse as Abu Dhabi and Amsterdam, Bangkok, Istanbul and the US cities of Chicago and New York. In order to maximise its revenues, KAC serves the large community of expatriate workers living in the country by operating frequent departures to Trivandrum, Delhi and other cities on the Indian Subcontinent and in the Far East. Tunis is the latest destination to be re-instated. Today the airline handles 2.2 million passengers and 94,000 tonnes of freight a year on scheduled flights to 47 destinations in 31 countries around the world (Fig 4.6).

4.6 Emirates

Like other air transport issues in the region, the background to the Emirates' creation was politically sensitive. Although the government of Abu Dhabi (the largest of the seven emirates that form the UAE) owns 25 percent of Gulf Air (Based in Bahrain), Dubai was served by the regional carrier Gulf Air like other cities in the region. During the 1970s, the Dubai government persuaded Gulf Air, in which it had no

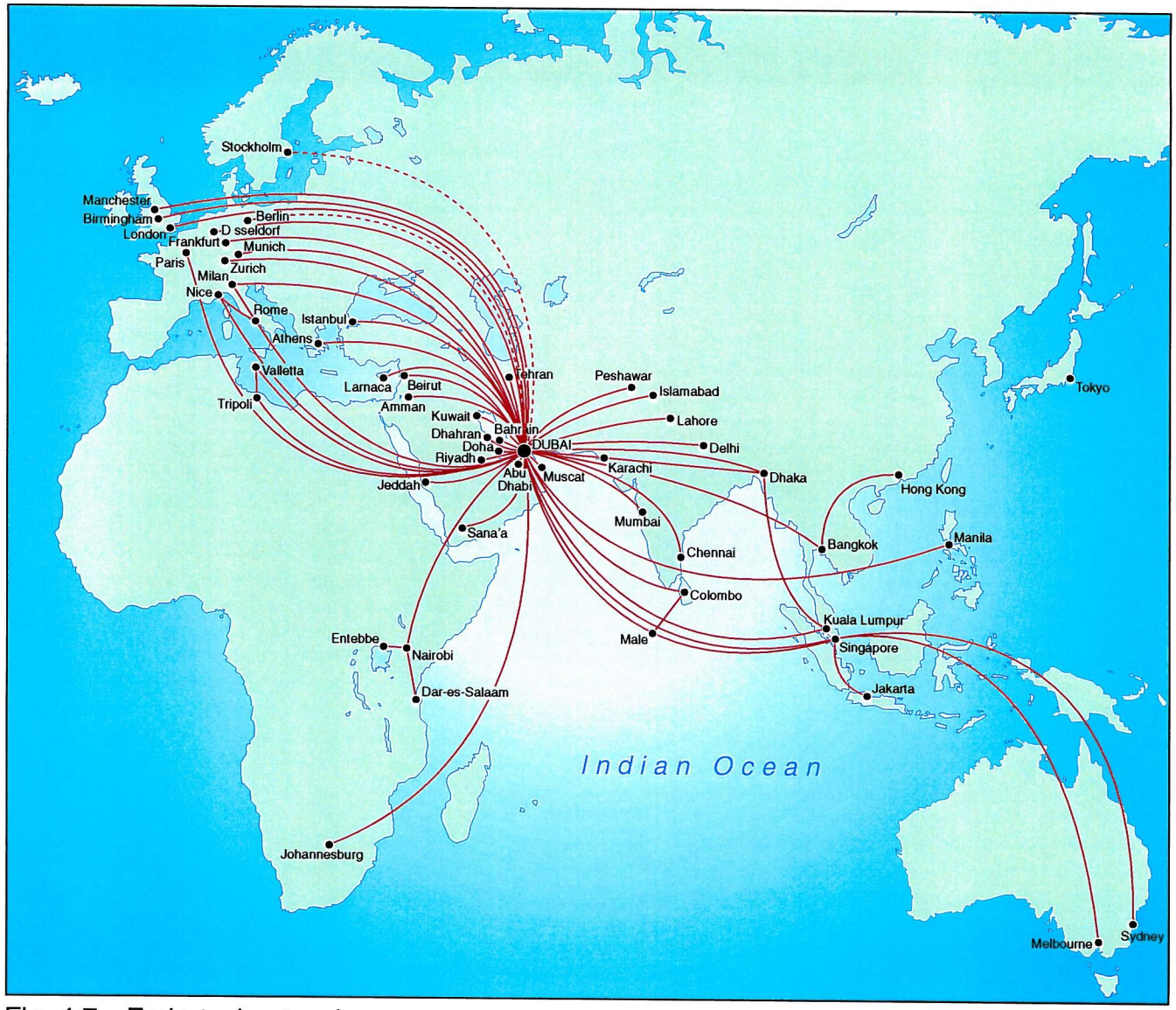


Fig. 4.7: Emirates' network

(Source: Based on data provided by Emirates, Dubai)

financial involvement, to serve Dubai. In the early 1980s, however, Dubai became an important tourist destination in the Gulf region, resulting in international airlines being attracted to operate regular flights directly to the emirate of Dubai. Gulf Air responded by reducing its services to Dubai, claiming that it was serving only as a regional feeder for those foreign carriers (Newitt, 1995; Vandyk, 1986). However, Dubai was continuing to outpace the rest of the region in terms of economic development, and efficient services were required. After studying the available solutions, the Dubai government decided to establish its state-owned airline and ordered its local airport operator, Dubai National Air Travel Agency (DNATA), to be the agency for the new airline's launch. By leasing 2 aircraft, a B737-300 and an Airbus A300 from Pakistan International Airlines, one of the most successful airlines came into existence.

The regional airlines were very concerned about over-capacity. This was not surprising, given the fact that the GCC market had been regulated since the early days of development of the airline industry. Therefore, Emirates was not allowed to operate within the region at the request of flag air carriers, particularly Gulf Air, which was the hardest hit by the creation of Emirates (Nelms, 1994). The government of Dubai expected such a reaction before the creation of its airline. Thus, Emirates' first destinations were across the GCC region. In 25 October 1985, the airline was serving few international points and all its operations were to the Indian subcontinent: Karachi, Delhi and Bombay (Azzam, 1988). Colombo and Dhaka were added in 1986, as well as Cairo and Amman in the Middle East. In 1987, the airline introduced the first of its own aircraft, two Airbus A310-300s, and the European market was entered on 31 July 1987 with operations to Frankfurt. Jeddah and Kuwait were the first points in the GCC region to be added in 1989 followed by Riyadh on 10 February 1990. More aircraft were needed to cope with expansion plans, so the Airbus wide-body fleet, A310s and some larger A300-600Rs, were added. In spite of the negative impact of the Second Gulf War on the airline industry worldwide, Emirates reported a 38 percent increase in traffic in its financial year 1991/92. This made Emirates one of the fastest growing airlines among IATA carriers (Newitt, 1995). By the end of 1992, Emirates was serving more than 30 destinations including London, Paris, Rome,

Zurich, Hong Kong, Manila, Bangkok and Singapore. In the same year, the young carrier managed to carry over a million passengers.

The airline implemented an important long-term growth plan when it placed orders and options for up to 14 Rolls-Royce Trent-powered Boeing 777s (Phelan, 1996). Deliveries of these 300-seat twinjets began in 1996, with the airliners spearheading the carrier's network growth, providing greater capacity for existing routes and longer ranges for new destinations in Asia-Pacific and Australia (Fig 4.7). The next phase of expansion began with the delivery of the first of 17 Airbus A330-200s (see Chapter 9).

Emirates' development has been heavily influenced by a philosophy of rapid growth paralleling the commercial expansion of Dubai. Indeed, while all GCC carriers have their financial problems created by unsuccessful planning, Emirates continued to operate and expand. Moreover, Emirates has reported profits in every year except its second. Even more impressively, net profits have been steadily increasing. The financial year 1995 produced record net profits of US$25.9 million, an increase of 6.1 percent on the previous year's figures (Kingsley-Jones, 1999).

With its short history, Emirates has grown from a regional player with three routes and two aircraft to a major force, flying 33 aircraft to nearly 50 destinations, and is continuing to expand its fleet and route network to match Dubai's economic evolution (Fig 4.7). In its brief history, the success that the Dubai-based Emirates airline has achieved has been impressive. The airline, now one of the top four carriers in the Gulf, was voted Airline of the Year 1998 by readers of the UK's Executive Travel magazine. Emirates also won the Best Airline to the Middle East category for the 10th year running plus Airline with the Best Economy Class, Airline with the Best In-flight Food and Wine and Airline with the Best Cabin Staff.

4.7 Qatar Airways

The Qatari government, one of the four owners of Gulf Air, still supports Gulf Air as the national shared flag carrier. Doha Airport is one of the four hubs used by this airline since its early operations. However, the country's economy has been growing, while Doha, the capital, has not featured as highly in its network as other places in the

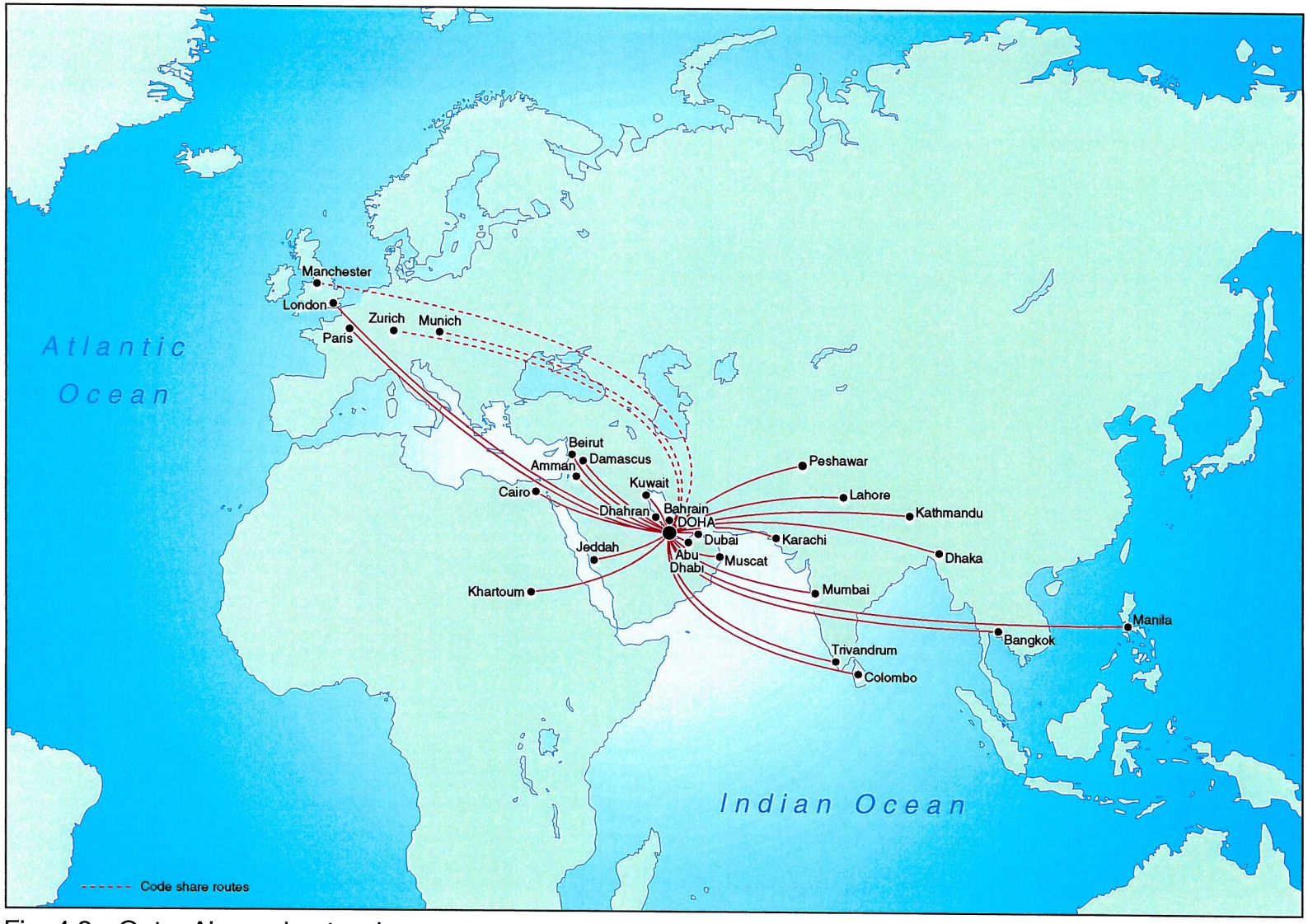


Fig. 4.8: Qatar Airways' network

(Source: Based on data supplied by Qatar Airways, Doha)

GCC region. Serious action, therefore, was needed to ensure that Qatar would not be isolated and would improve its position as one of the Gulf States. So it was in 1993 that a decision was made for the creation of a local airline to enhance the airline industry in the country.

Early 1994 brought the establishment of a small private low-cost airline to be known as Qatar Airways. The new airline began regional services from Doha to three points, Dubai, Abu Dhabi and Sharjah, in the GCC region, operating two ex-Kuwait Airbus A310-200s. Later, the airline expanded its activities to establish new air connections including Kuwait, Jeddah and Dhahran in the GCC region with destinations in Asia and Europe such as Bombay and London and other centres in the Middle East. Fleet replacement was undertaken within a period of less than two years from the airline's launch when the A310s were replaced by two wide-bodied B747-100Rs in addition to 4 B727-200S for short-haul sectors. Until 1997, Qatar Airways was operating a fleet of 9 aircraft flying to 30 destinations in Asia, Africa and Europe carrying more than 650,000 passengers. In the same year the youngest carrier in the region managed to become a member of IATA, having revised its strategy to become an international airline rather than just a regional carrier (Kingsley-Jones, 1999). The second replacement of the fleet was in 1997. Three more 231-seat Airbus A300-600Rs were leased to replace the old B747s. An important financial agreement was reached between Airbus and Qatar Airways in July 1998 for up to 11 144-seater A320s to be delivered from 2001 (see Chapter 9). Qatar Airways now (2001) provides services to 25 destinations, concentrating on the most profitable routes (Fig 4.8).

4.8 Oman

4.8.1 Civil aviation development before Oman Air

Civil aviation in Oman actually pre-dates Oman Air by more than two decades. In the 1970s Oman International Services Ltd (OIS) was the first private handling company to deal with operations, which included engineering activities, passengers and cargo handling. OIS provided ground handling services and light maintenance to the Light Aircraft Division of Gulf Air, which ran domestic flights to airstrips throughout the

country for Petroleum Development Oman (PDO). These flights were operated by Fokker F27s and a De Havilland Canada Twin Otter.

Oman was undergoing dramatic growth in the 1980s. Throughput of passengers and cargo was on the increase and it became apparent that operations in the airport would need to be improved. Oman Aviation services (OAS), founded by Royal Decree in 1981, took over from OIS, and were granted a franchise as sole ground handling agent for all airlines operating through Al Seeb International Airport, Muscat. At this time, there were 690 members of staff: 350 Omani nationals and 325 expatriates. The company's activities included an engineering hangar, ground handling equipment to handle any type of aircraft, highly mechanised and modern cargo handling and an in-flight catering unit. Oman Aviation handles both domestic and international traffic through Al Seeb International Airport. Its Ground Services department, comprising two sections, Passenger Service and Ramp Service, provide travellers with smooth traffic flows through arrivals, departures and transfers.

4.8.2 Oman Air

Oman is one of four partners sharing Gulf Air, which provides Oman with air services. The country's capital, Muscat, has always figured in that airline's network, but perhaps not as importantly as the Omanis would like (Kingsley-Jones, 1999). Oman also has made some effort to create a domestic airline network in order to be able to improve its regional development and attract more tourists to the county. OAS, therefore, has worked to raise the nation's profile in the air transport market by creating at least one small carrier to achieve the country's goals.

Oman Aviation achieved a major step on 20 March 1993, when Oman Air came into existence. Oman Air began its operation with a few domestic routes and then became an international operator. Its first flight was from Muscat to Salalah using a wet-leased B737-300 with crew from Ansett Australian. Then on 1 July 1993, Oman Air began international services with a flight to Dubai. Leasing a second B737-300 aircraft, the carrier expanded its routes and the next international destination was Trivandrum, followed by Kuwait and Karachi. Though it is the smallest airline in the region it has established a strong market presence on all routes operated.

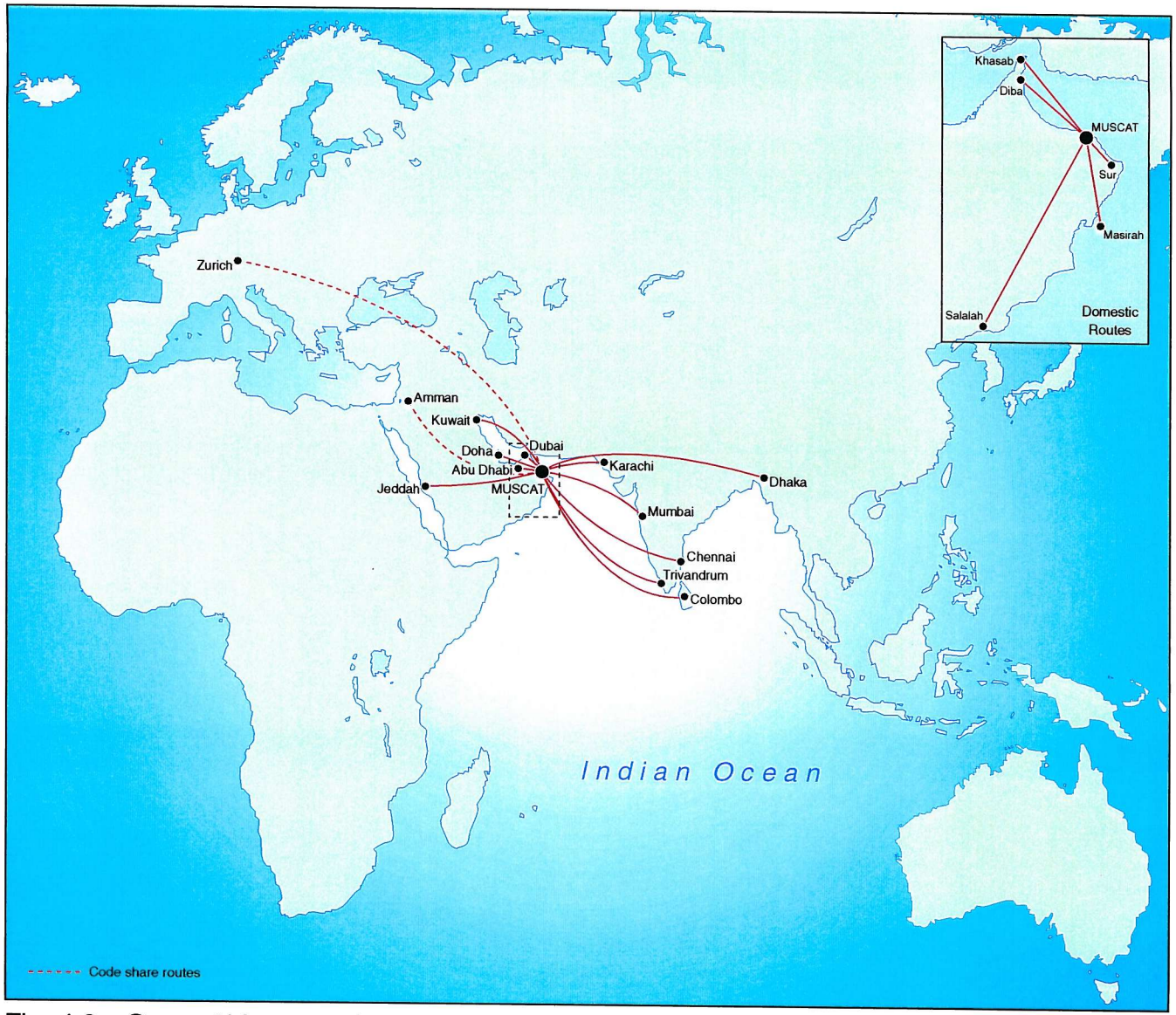


Fig. 4.9: Oman Air's network

(Source: Based on data supplied by Oman Air, Muscat)

The airline found an immediate market for its services, and new destinations and aircraft have been added. Two years after scheduled services began, the B737s were replaced by two Airbus A320s (the third was added later), again on wet lease, this time from Region Air of Singapore. The network has gradually expanded to include destinations in the GCC region and the Indian subcontinent. In 1997 Oman Air operated to eight countries: Bangladesh, Egypt, India, Kuwait, Pakistan, Qatar, Sri Lanka and the UAE. Zurich and Amman are destinations under code-sharing arrangements with Swissair and Royal Jordanian respectively. However, Oman Air flies three Airbus A320s on international routes. These aircraft carry 141 passengers (16 in Business Class, 125 in Economy). Two ATR 42-500 aircraft, carrying 42 passengers, are specially configured for international business commuter flights. The four Fokker F27-500s are designed for rough-field operations, and are used on domestic routes and charter flights. The scope of Oman Air's network in 2001 is still very limited, which reflects the small size of its role in the GCC region (Fig 4.9)

4.9 Summary and conclusion

In any study covering a large region it is impossible to go into great depth and detail about developments over a long period. However, this chapter shows that the international and domestic airline industry in the GCC region has developed at a spectacular rate since World War II and is now one of the fastest growing and most technologically advanced in the world.

A wide-ranging historical background helps to understand the current situation in the industry. The network of air services has expanded dramatically so that it is possible to reach virtually any major city in the world in a few hours. Reductions in both travel time and costs have been large. The results include increased economic, social and diplomatic contact among all nations, the creation and facilitation of investment and trade opportunities and the stimulation of tourist travel.

The role played by the local carriers in activating air transport and developing it in the area from its early stages is very clear. Saudi Arabia is a good example of this development. Founded as a Kingdom only in 1932 with no transport infrastructure

except for the ubiquitous camel, not a single kilometre of railway and only a few hundred miles of paved roads, the country was ill prepared for the advent of air transport. It did not have a single airfield and its resources were extremely limited until the late 1930s when oil was discovered near Dammam. The foundation of Saudi Airlines, therefore, was a key event for the kingdom. At that time the area was in considerable need of an efficient transport system to connect the urban centres that have been growing dramatically. It is also very important to connect this young kingdom with the outside world.

In terms of both frequencies and the number of destinations served, the international networks developed by the GCC airlines discussed and illustrated in this chapter are more comprehensive than those provided by other airlines in the region and are complemented by an unrivalled regional network. Today, the GCC airlines provide unique and particular airline networks in which the central and strategic location of the region plays a fundamental role in shaping these networks. The GCC region has long been a link between east and west, utilising the Gulf hubs of Bahrain, Kuwait, Dhahran, Dubai and Jeddah and other small hubs in the region such as Doha and Muscat. In spite of the fact that the GCC market currently served by the six national carriers and a large number of other international airlines, they all provide travellers with similar network services which connect Europe with the Far East and the Indian subcontinent via GCC international airports. Such airline networks increase competition, especially on the most heavily travelled routes. Destinations such as London, Paris, Singapore, Delhi and Bombay are served by all the regional and international carriers providing plenty of alternative airlines to choose from, whereas specific destinations such as Sydney and Melbourne in Australia and Johannesburg in South Africa are served by only one GCC carrier. Emirates is the only GCC carrier that connects the region with Australia via Singapore while Saudi Airlines and Kuwait Airways are the only GCC carriers that provide air services from the region to North America, but air services to South America are not provided by any GCC carriers. Taking economic, social and political aspects into account, it should be mentioned here that increasing connectivity is likely to increase air travel. With more cities connected to more places more conveniently, more people will travel and this is likely to increase the role of the GCC region in the future of the global

airline industry. However, a detailed discussion of how GCC airlines actually attempt to improve and enhance their network coverage can be found in section 9.5.1 in Chapter 9.

The establishment of other carriers in the Gulf was designed to meet the need for air transport in the area due to political, economic and social development. The growth and progress of these companies continued and the success of their services led them to enter the jet age and to increase their fleet to maintain the standard of services for the people of the area. The companies will be discussed further in the next part of this study in the light of analysis of different market forces, changes in the structure of the market and the performance of individual firms. These factors are critical in the case of the international airline industry, owing to rapidly growing demand and frequent changes in aircraft technology and in the quality of services on the competitive global market.

PART II: SCALES, FACTORS AND PROBLEMS

Chapter 5

Global Market Forces

5.1 Introduction

Many regions and countries have been influenced by the experience of airline deregulation and, in the light of developments in the USA since 1978, have begun to consider the reform of their own governmental regulations. Western Europe has been under challenges to relax its regulations and introduce a liberalisation process (Button and Swann, 1991). This pressure came from both the outside, following the US experience and the challenge from low-cost Asian carriers, and from the inside particularly from the European Commission and consumer organisations (Gialloreto, 1992). However, the end of the 20th century also saw a number of legal and regulatory developments that push the industry further towards liberalisation in Europe.

Airline deregulation, privatisation and alliances can now clearly be recognised as the driving forces of a global market wherein market forces could increase both domestic and international competition (Hanlon, 1996). The combined effect of these changes is likely to have a bigger impact on the civil aviation industry in the GCC market, which involves six carriers, all publicly owned, and operating under strong governmental controls.

Productivity has become a significant concern in the airline industry due to the combined effects of foreign competition, deregulation, consumerism, and rising production costs, which have forced many firms to redefine their corporate philosophies and reflect this commitment to productivity. Since changes might be the key to long-term profitability and even survival in the increasingly competitive business environment of the new century, the transition from regulated monopolies to

competitive regimes stimulated many debates throughout the 1980s and 1990s, and a variety of studies have been published aiming at understanding market characteristics (Button and Stough, 2000).

This chapter explores, through analytical and numerical investigations, the actual impacts of international market forces on the airline industry, in particular the combinations of patterns of ownership and, of course, the nature of regulation, taking into account the US and European experience in this particular field. It is also an attempt to examine privatisation and alliance policies. To accomplish that objective, the first part of the chapter covers the background and experiences of other nations of deregulation and liberalisation in relation to the development of the US Airline Deregulation Act and the European Liberalisation process, and analyses the impact of such deregulation and liberalisation on the civil aviation market. Such an analysis leads to many policy questions and lessons for the GCC. Also described is the regulatory environment in the GCC market in which the airline industry is currently operating. The actual effects of the different global market forces and their impact on the airline industry in the Gulf will be discussed in more detail in Chapters 8 and 9 of the study.

5.2 US Airline Deregulation Act 1978

Federal regulation of civil aviation in the USA can be traced back to the Air Mail Act of 1925 and the Air Commerce Act of 1926, but economic regulation of commercial aviation began with the Civil Aeronautics Act of 1938 (Miller, 1963; Miller and Sawers, 1968). This act produced the Civil Aeronautics Authority, which later became the Civil Aeronautics Board (CAB). The CAB was given the authority to regulate airline routes, control entry to and exit from the market, and set service rates (Bailey, 1985). It regulated the amount airlines could charge for their fares by setting the price they could charge for each route, and establish the routes that airlines could fly (Meyer and Oster, 1987). The 1938 legislation decided which airlines could serve which cities and in most cases only one or two airlines were allowed to serve a particular route. Prices tended to be high, and to increase over time. Fares were regulated so that passengers travelling short distances from small and medium-sized

communities paid lower fares than long-haul passengers. It did not allow new airlines to form and compete against established carriers. As each airline was told exactly where it could fly and how much it could charge, the result was artificially high prices and little choice for consumers (O'Connor, 1995).

Civil aviation in the USA grew dramatically in the 1950s especially as the country had become more affluent, and demands for travel services were high. Improved technology made air travel faster, safer and more efficient. With the jet-age, the industry experienced dramatic growth (Kaemmerle, 1991; Meyer and Oster, 1984). In 1958 the Federal Aviation Administration (FAA) was created and governed safety regulation. During the 1970s, a steady increase in air travel began placing pressure on the regulators to cope with the increasingly complex nature of air travel (Pickrell, 1991). There was concern that government regulation had raised fares on many heavily travelled routes, making the airline industry inefficient. Furthermore, evidence emerged that in the few markets not controlled by the CAB, especially the Texas, lively competition among airlines was leading to dramatically lower airfares than on routes of comparable distance and elsewhere (Oum et al., 1991).

A series of developments in the mid-1970s intensified the pressure and brought the issue to a head. In the mid-1970s, regulation was seen to be unnecessary, as it raised prices and limited the variety of services available to consumers in the air transport industry. As a result, pressures to liberalise CAB regulations were very strong. The alternative was to look to market forces to become the regulator of commercial aviation (Kaemmerle, 1991). Such a competitive system that relies on market forces to set the price, quantity, and quality of the airline industry in the USA could serve consumers better. Thus, Congress felt that the market, rather than the CAB, would be most effective in disciplining pricing and capacity decisions. Responding to the undesirable situation, Congress passed the Airline Deregulation Act of 1978 which was signed by President Carter (Rakowski and Bejou, 1992). Subsequently the International Air Transportation Competition Act (IATCA) took force in February 1980 to enable US carriers to compete in the international marketplace (Agarwal and Talley, 1985; Ghobrial, 1993). In 1985, the CAB was disbanded, although many of its administrative functions were merely transferred to the Department of Transportation

(DOT). With the new deregulation the monopoly in the industry was ended, and new airlines could freely compete with the large airlines.

5.2.1 The impact of the Airline Deregulation Act

Deregulation of the domestic airline industry in the USA led to an era of competition and gave rise to great expectations of lower airfares and improved services (Doganis, 1991). The Airline Deregulation Act of 1978 phased out government control over fares and routes, but did not change the government's control of air safety (Hong and Harker, 1992). This opened the market up to competition and allowed airlines the right to determine fares and to establish routes. The results for consumers have been dramatic. Air services have been increased to communities of all sizes and passengers have saved money on airfares (Morrison and Winston, 1986). With the freedom gained from the 1978 US Airline Deregulation Act, competition between airlines intensified. Most airlines started restructuring their routes so that flight operations could be more efficient and cost-effective through the control of prices, freedom of entry into and exit from the market and almost complete freedom for mergers and alliances (Aykin, 1995; Bailey, 1985). New airlines have entered the domestic market to challenge the old names in aviation.

5.2.1.1 Hub-and-spoke system

Before the 1978 Airline Deregulation Act, the inefficient system made many passengers either change airlines or suffer long layovers. After deregulation, market competition forced the airlines to compete for customers on the basis of low-cost, convenient and attractive service (Campbell, 1993). To respond to market demands and to improve efficiency, the major airlines began to refocus their systems away from point-to-point to hub-and-spoke networks (Chou, 1993b) (Fig 5.1). Passengers are brought from multiple origins (spokes) to a common point (the hub) and placed on new flights to their ultimate destinations (Hansen, 1990; O'Kelly and Lao, 1991; Shaw, 1993). In other words, the hub-and-spoke system feeds passengers to a major transfer point where they might have to change planes, but not usually airlines. In these networks, small and medium-sized communities are connected to hub airports by

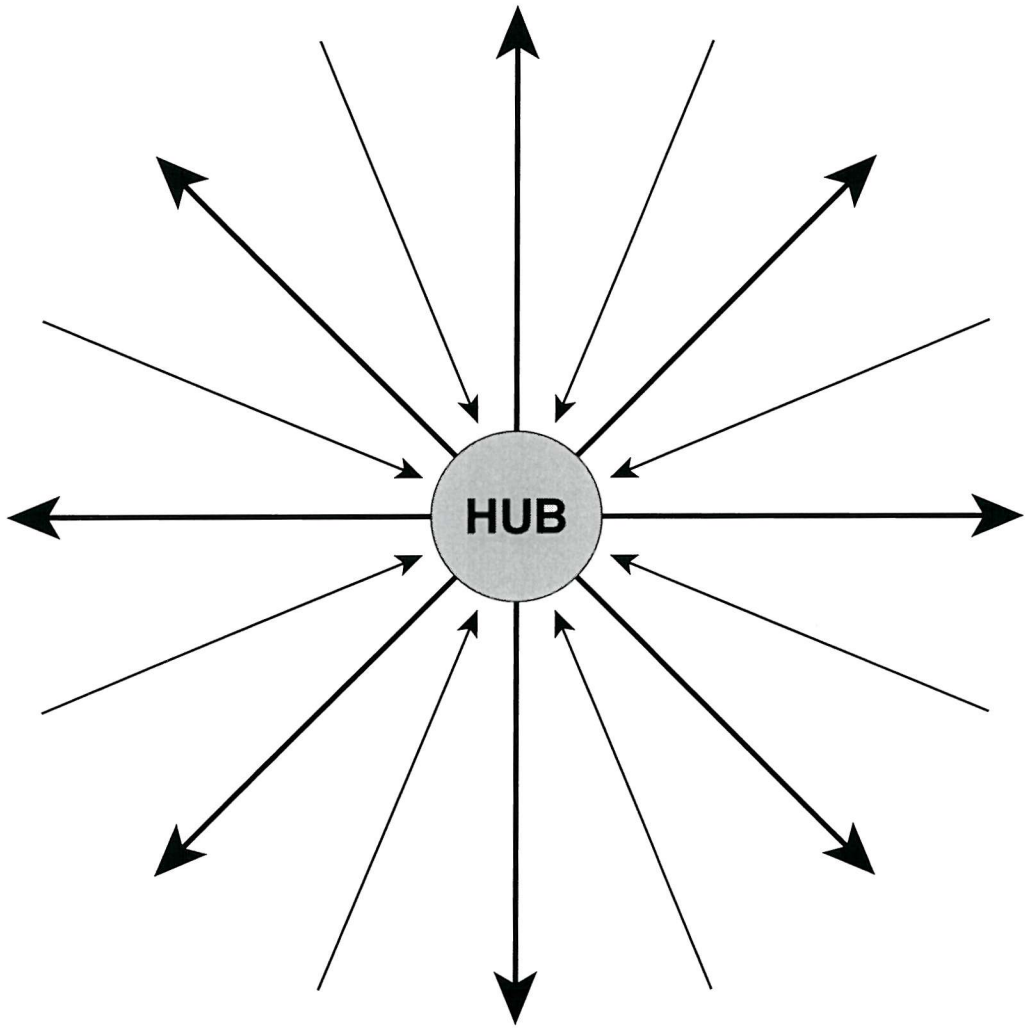


Fig. 5.1: Model of Hub-and-spoke system

(Source: Based on Graham 1995)

frequent services (Aykin, 1995). Geographical location and the size of the local market is the main factor in deciding where to create a hub (Kaemmerle, 1991). Airlines prefer cities where there is already considerable traffic to feed into their flights, so air services improved substantially at large-community airports, largely because of their central role (Lee et al., 1994). When choosing network shape, the interests of the airline carrier and those of the service users must be taken into consideration (O'Kelly and Miller, 1994).

Major airlines have increased hubbing operations in order to be able to improve cost-effectiveness, in the face of increased competition under the new rules (Hansen, 1990; Leigh, 1990; Shaw 1993). The development of hub-and-spoke networks, encouraged by deregulation, has expanded the frequency and availability of services in most parts of the USA (Pickrell, 1991). However, the increase in hub-and-spoke networks has had numerous impacts, both positive and negative, not only on airlines but also on passengers (Graham, 1995).

The obvious advantage of the development of hub-and-spoke networks is efficiency (Oum et al., 1996). Airlines developed hub-and-spoke systems because they enabled them to serve far more markets than they could with the same size fleet if they offered only a direct, point-to-point service (Teodorović et al., 1994). The airlines are interested in maximising the volume of traffic with the least possible number of aircraft. They have also found that with hub-and-spoke systems they can achieve higher load factors on flights to and from small cities, which in turn lowers unit operating costs and enables them to offer lower fares (Morrison and Winston, 1986). Hub networks concentrate flows on a relatively small number of links, allowing higher frequencies of service and lower costs, as compared to a system with no hubs and only direct origin-to-destination transportation (Kuby and Gray, 1993).

The advantages for travellers are more flights and services in markets that would not have enough traffic to sustain non-stop service. There is a greater choice of competitive services than was the case before deregulation. An airline with a hub-and-spoke system has a better chance of taking its passengers all the way to their final destination rather than pass them on to other carriers, and travellers enjoy the advantage of staying with a single airline. Different routes are available to consumers,

and operations are tightly co-ordinated. The system offers more frequent flights and travel options than did the direct point-to-point systems that predominated before deregulation.

The hub-and-spoke system also has disadvantages, which lead some large carriers to reduce their hub operations and increase direct services (Aykin, 1995). To work efficiently, hubs require a large number of ground service staff to transfer baggage, assist passengers with connections and perform other tasks. The additional ground personnel may increase operating expenditure for some airlines that depend on this system. Other disadvantages are high concentrations of operations at already busy airports, and possible anti-competitive effects (Wassenbergh, 1990; Windle and Dresner 1993). While the deregulation of the airline industry has brought lower fares and more choices on the whole, it has left some regions dependent on a single airline. One of the clearest effects of this change has been the domination of one or two hubbing carriers in domestic hub centres, presenting significant challenges to the competitive process (Borenstein, 1989). Hub airports tend to be very concentrated, with some airlines having dominant shares of the traffic, providing most of the non-stop service between the hub-and-spoke cities. Entry by other airlines is difficult, in part because new entrants cannot easily duplicate the hub airline's network without incurring large sunk costs. This difficulty of entry is cause for concern, where airfares are high for passengers travelling between hub-and-spoke cities. In addition, when bad weather occurs at a hub or there is a labour strike, the whole system can be affected, as planes are delayed or re-routed. The huge increases in landings and take-offs at hub airports put enormous stress on the Air Traffic Control (ATC) system (Bandara and Wirasinghe, 1992; Hamzawi, 1992).

The deregulatory policies that opened the way for hubbing are well established, suggesting that this type of route structure will remain widespread in the USA for years to come. Regulatory reform in other countries and in international aviation may encourage hubbing in the rest of the world as well.

5.2.2.2 Fares

The general trend towards lower fares since deregulation is largely due to increased competition, caused in many cases by the entry of new airlines and the hub-and-spoke system (Bailey, 1985; Pickrell, 1991). New entrant airlines have attempted to adopt low-cost and low-fare service policies to attract passengers who are able to choose from a wide variety of operators with various prices. Travellers can enjoy prices on some routes where there is real competition, but on some routes there is still monopoly power and monopoly pricing (Morrison and Winston, 1986). In real terms overall fares have declined, taking into consideration the inflation rate. In nearly every case in which fares have fallen since deregulation, there has been one or more low-cost new entrant airlines serving the route. Major carriers have responded by offering consumers significant discounts in order to compete with smaller carriers or new entrants, creating fare wars that result in significant savings for consumers. Prices have fallen at all airports, but not so much in small and medium-sized airports as in large airports. Safety standards are maintained, and should not be sacrificed for the sake of price reduction.

However, there is a growing concern that large carriers might act in an anti-competitive way by offering prices below-cost for a period to drive new entrants out of the market. A major carrier is willing to accept losses in the short term. Once new entrants have been driven from the market, the major carrier can raise its prices to cover its losses. In practice, fares have been reduced on routes with competition and raised on routes without competition (Meyer and Oster, 1987).

5.3 Airline liberalisation in Europe

It is clear that many benefits to the travelling public in the USA have been brought by the Airline Deregulation Act of 1978. The resulting emergence of low-cost airlines and of global strategic alliances has had a significant impact on the other side of the Atlantic. Despite the huge political and geographical differences between the USA and the European Union (EU) and although the structure of ownership of national carriers, most of which are state-owned, in the EU is different from those in the USA, change

in the regulatory environment in the EU was needed (Nijkamp and Reichman, 1987). It is very important for the EU to liberalise the market in a serious attempt to face the huge threat which has been coming from the US deregulated market which has led to a significantly more competitive marketplace (Shenlon, 1993).

The UK-Netherlands agreement, which was signed in June 1984, could be considered the first major step in EC bilateral liberalisation (Calderon-Jorge, 1996). It introduced free entry of new airlines, while any destination in either country is able to be accessed without controlling capacity, and a flexible regime for fares. However, the UK-Netherlands agreement established the pattern for liberalised bilateral renegotiations. Since then, the UK government has made similar agreements with other countries. Similar agreements were also approved by other European countries. These efforts paved the way towards a fully liberalised EU market (Caves and Higgins, 1993).

Airline liberalisation in the EU has been completed through three significant packages (Graham, 1995). The first package, adopted in December 1987, outlined major steps in European aviation policy and was the first step towards air transport liberalisation within the Community. The package introduced a more liberal fare regime that includes the concept of fare zones. In addition it established an equal sharing of capacity for each member country. The first package also opened up the market for new entry. In June 1990, the Ministers agreed the details of the second package and the longer-term objectives. The third and most important package of air transport measures came into effect in January 1993. This package allows for free entry on intra-European routes and gave the carriers more freedom to charge passenger fares and cargo rates (Graham, 1998b; Reed and Crumley, 1995).

Liberalisation measures in Europe have created an open market for intra-EU air services, including on domestic routes (Oum et al., 1993). The various packages of regulations have replaced bilateral air service agreements between EU countries. Airlines have gained freedom in serving markets in terms of new routes, capacity and pricing. In addition, there are now common licensing regulations and freedom for EU carriers operating within Europe to undertake cross-border investments for majority shareholding in other EU airlines (Button, 1996). These changes have afforded the opportunity for established airlines to compete more aggressively, and in particular

have encouraged new entrants modelled on the United States' low-cost airline sector (Gialloreto, 1992).

The pace of liberalisation has also increased liberal bilateral air service agreements with countries in Europe which, in turn, have created more freedom for airlines to compete globally. Thus, the pace and pressure for liberalisation of air services by the US and the EU authorities will be a significant feature affecting the airline industry worldwide (Button and Stough, 2000).

5.4 Privatisation

A further aspect of the contemporary restructuring of air transport industry involves privatisation policy, concerning the transfer of public ownership of assets to the private sector (Humphreys, 1999). Privatisation refers to ownership, but it is a term which might be used to cover a range of different policy proposals. One possible strand of privatisation is deregulation/liberalisation and is associated with the improvement of competition or competitive behaviour in the marketplace. The policy of deregulation/ liberalisation was discussed in the previous section, and this part of the chapter is concerned with privatisation.

There is a wider question of whether private sector companies are generally more efficient than their counterparts in the public sector, and whether public companies may not satisfy consumer needs as well as private companies. It should however be acknowledged that while privatisation does provide great benefits to companies, it might have some consequences for consumers (Jones, 1995). In other words, the potential impacts of privatisation involve disadvantages as well as advantages. In general, the key factor concerning privatisation in the developed world has been to reduce public budgets through cutting subsidies and forcing customers to pay full fares. It is a common belief that in reality consumers are being supplied with services by public companies at less than their market value, implying that the goods or services are being subsidised by taxes or government borrowings (Banister et al., 1995).

Service prices may rise in the short term by transferring from the public sector to the private sector, but in the long term consumers can gain great benefits from privatisation that improves the nature of the service in different ways. First, public companies have suffered from political involvement, while privatised companies have been able to respond to consumer needs, being less subject to political interference (Ayubi, 1995). It is argued that private ownership could only achieve efficiency if it were free from political interference and subject to the forces of competition which forces companies to achieve efficiency (Andersen, 1992). Secondly, private companies operate under the real possibility that if the performance is found inefficient, management can adopt immediate strategies without waiting for government approval or funding. Moreover, private companies have full flexibility to respond quickly to market forces in comparison with slow-moving public service systems. Thus, companies managed by the private sector can employ any appropriate policy such as purchasing new technology and investing in research and highly skilled manpower in order to increase their revenue in ways that the public sector is not able to match. Thirdly, private companies, for competitive reasons, tend to place strong emphasis on customer service because they are acutely sensitive to their reputations in the market that they serve. They also bring a level of expertise to improving customer service that may not be as well developed in the public sector (Ferguson, 1997). Finally, staff productivity tends to be higher in the private sector compared to the public sector. Employees could face wage cuts or even redundancy if they do not contribute to enhancing company performance. They also realise that private companies cannot pay salaries for staff if expenditures are higher than revenue, and so employees make more efforts to increase efficiency (Harik, 1992).

As governments in Europe have sought ways to reduce their involvement in the airline industry through full liberalisation, they have also moved towards privatisation (Ashworth and Forsyth, 1984). For example, some key operators such as British Airways and Lufthansa were privatised during the 1980s and 1990s. In 1997, the government of Germany sold its remaining shareholding in Lufthansa and the United Arab Emirates, one of the GCC countries, became a shareholder in the company (2.2 per cent). Since then it has been operating as a commercial carrier. In the same year

the company reported more than 140 percent increase in its revenue, expressing that it was the best earnings result in Lufthansa's history. Thus, there is evidence to support a process of privatisation. In a different case, Prodromidis and Frangos (1995) consider private and public airlines in the context of the domestic airline industry in Australia, where the publicly owned Trans Australian Airlines competes with the private Ansett Australian National Airways. They argue that all circumstances for the two carriers being equal, and that they are very similar. The result is that Trans Australian Airlines is less efficient than Ansett Australian National Airways. They consequently support privatisation programmes in the airline industry. In the GCC countries all large airlines are publicly owned and face strong competition from European carriers that have recently been privatised. Problems arising from this situation, which lie close to the heart of this thesis, are discussed in later chapters. Chapters 6 and 7 outline regional and local market forces respectively, while Chapters 8 and 9 discuss problems created by market forces (including privatisation) and review possible solutions to these problems.

5.5 Airline Alliances

The growth of various forms of alliances among airlines of different countries has become one of the most recognisable features of the global airline industry (Youssef and Hansen, 1994). In order to operate in a competitive environment, both large and small airlines have improved their strategies by planning marketing alliances. The term alliance includes a wide variety of agreements from relatively low levels of co-operation between small airlines to a complete integration of operations that could be seen as a merger (Balfour, 1995; Lewis, 1995).

In the years before domestic deregulation in the USA and before the liberalisation of bilateral agreements and open sky polices, airlines had a relatively limited form of alliance known as an interline agreement. In these years, interline agreements were

common and were needed for convenient air travel. Under interline agreements, airlines agreed to accept one another's tickets, allowing passengers to have a single ticket rather than using one for each operator. Airlines may also transfer baggage for each other, enabling passengers to check luggage at the beginning of the trip and collect it at the end of their journey, even if the trip required more than one flight on more than one airline (El-Sherbini, 1995).

As the airline industry has become more competitive, alliances have begun to acquire more advanced features and have extended to include a wide range of characteristics with the aim of achieving route network extension, competition reduction and operational cost reduction (Morrison and Winston, 1995). In the 1990s, airlines developed new methods for transferring their services by developing international alliance strategies (Vowles, 2000). The expansion of international alliances has been part of the larger process of globalisation. The airline industry has responded to this increasing globalisation by providing more frequent services to more points. This explains the growth in international alliances, as airlines around the world link their networks to capture the great benefits of global networks (Oum and Taylor, 1995). Therefore, airlines have been able to expand their networks in the face of limitations on airport and air traffic management infrastructures (Oum et al, 1993).

At many of the airports where airlines are planning to expand services, there are not enough landing slots or gates to achieve that expansion. Establishing an alliance with an airline which already has those slots and gate space and which already has a feed network may provide a solution to this problem. Airlines also wish to expand their networks without adding additional aircraft and employees or adding more capacities on some routes. Alliances also provide a way to minimise some of the effects of foreign ownership restrictions imposed by bilateral agreements (Balfour, 1995). An alliance allowing airlines to co-ordinate their operations so as to feed traffic to one another can achieve many of the same benefits that were sought from mergers or acquisitions. Thus, there is a common desire among alliances to achieve cost savings through sharing certain operational elements. However, there is growing concern that such agreements could lessen competition and hurt consumers. If an alliance

agreement limits capacity on routes between two or more operators, it might be considered as anti-competitive (McMullan, 1996).

5.5.1 Code sharing

Code sharing is an increasingly common development in airline alliances. It means that one airline allows another airline to use its computer reservation system codes to sell seats on its planes on routes in which the second airline cannot operate for any reason (Balfour, 1995). The flight of an alliance partner is shown in the computer reservations system with the same two-letter designator code as the other airline. Thus, on the computer reservation system, the connecting flights between two alliance partners appear as an online connection operated entirely by one airline (Feldman, 1995). Code sharing can also be used as comprehensive integration of operations and marketing that might involve joint decisions on price, schedules, capacity, and other matters depending on the nature of the agreement between airlines (Goldman, 1995).

5.5.2 The impacts of international airline alliances on the consumer

Alliances among airlines of different countries have significant benefits to consumers. To the extent that schedules are co-ordinated and connecting gates are closer together, consumers could find improved and more convenient connections to a wider variety of cities with time and cost savings resulting. Alliance partners may also be able to achieve cost savings through joint use of facilities. These lower costs could result in lower fares to consumers. For passengers wishing to travel around the world, alliances provide greater choice, flexibility and better value than ever before (Youssef and Hansen, 1994).

On the other hand, code sharing arrangements can be anti-competitive (Lewis, 1995). They can result in market allocation, capacity limitations, higher fares, or blocking rivals from markets, to the disadvantage of consumers. The ability to distinguish the latter from the former is crucial for aviation policy makers and antitrust enforcement authorities. The principal concerns about international airline alliances are their impacts on market power and industry concentration. To the extent that these alliances result in co-operation among carriers who might otherwise have competed, then

competition will be reduced (Oum and Taylor, 1995). To the extent that these alliances offer airlines a competitive advantage over airlines that are not in alliances, then the industry will eventually become more concentrated. An alliance that seems to be a merger is therefore anti-competitive in an already very highly concentrated industry. A number of markets have become monopolies of code share partnerships since the alliances were created (Balfour, 1995).

5.5.3 Examples of major global alliances

Global alliance strategy is widespread and there is now a large number of alliances varying in size and power. The aim here is not to discuss these alliances in detail. Two significant major global airline alliances can provide sufficient illustration of the power of alliance strategy.

Star Alliance was established in May 1997. It brings together some of the world's leading airlines in a partnership designed to provide customers with the benefits of a connected worldwide travel system (Jeziorski, 1997). Star Alliance, led by United Airlines and Lufthansa German Airlines, includes Air Canada, Air New Zealand, Ansett Australia Airlines, Scandinavian Airlines System, Thai Airways International, All Nippon Airways, and Varig Brazilian Airlines. Mexicana Airlines, British Midland, Singapore Airlines and Austrian Airlines have also joined Star Alliance. This arrangement represents the first true global airline alliance. Today, the Star Alliance airline network carries over 200 million customers every year to more than 110 countries around the world. Together, they own a modern fleet of over 1,600 aircraft and service more than 720 destinations worldwide.

The five founding members of the Oneworld Alliance are American Airlines, British Airways, Canadian Airlines, Cathay Pacific Airways and Qantas. Finnair and Iberia joined these members on 1 September 1999. Together, the alliance members serve 632 destinations in 138 countries. This means passengers now have a vastly expanded range of destinations when they book their tickets with the airlines. However, Oneworld offers far more than just a bigger choice of destinations. A wide range of additional benefits has also been jointly developed to improve air travel and take it into the 21st century. Both Aer Lingus and LanChile, whose ratification as a member

of the alliance was announced in May 1999, began to offer Oneworld services and benefits from the middle of the year 2000. These new additions mean that the Oneworld alliance covers some 665 destinations in 138 countries and territories, with a total of 303 airport lounges. Its members together employ 280,100 people and operate fleets of 1,959 aircraft, carrying almost 225 million passengers yearly. Not just any airline will be allowed into Oneworld. All the partners have to meet strict quality standards and like the rest of the members must believe firmly in providing excellent customer services.

5.6 Air transport and the GCC market

Having addressed the issue of global market forces, this section concentrates on existing regulations in the GCC market in order to make comparisons between the global airline system and the GCC system.

The ultimate aim of establishing the Gulf Cooperation Council in 1981 was to create a confederation uniting the six member countries. It is recognised that one way to achieve this aim is economic integration which means the establishment of a Gulf Common Market, including the right of nationals to move freely to other member states with the same duties and privileges as those provided to nationals of the receiving member state. Economic integration also means the removal of barriers, custom tariffs and the emergence of one unified tariff on imported commodities. However, the framework for the regulation of the air transport system varies from one member country to another, depending on many contributing factors such as political ideology, economic strategy and commercial philosophy. The six members countries have not yet reached an agreement between them to liberalise their aviation market.

As mentioned before, the US 1978 Airline Deregulation Act has changed airline strategies and has had an impact on efficiency, structure and services. This initial movement towards airline reform has encouraged many countries and regions including the European Community, Canada and Australia to adopt new philosophies. In this context, the Air Transport Section of the GCC Department of Transportation should co-ordinate changes to GCC institutions and infrastructures and should propose further changes to regulation as the liberalisation process moves ahead. The Air

Transport Section should use the liberalisation process in the GCC market to evaluate additional changes to the framework of regulation, taking into account the US and European experiences and expectations in this specific field. By adopting these policies, GCC countries will avoid highly regulated and monopolistic air transport, which has few advantages for consumers. In addition, uncompetitive markets have resulted in some airlines having high operating costs and low efficiency and productivity. On the other hand, the GCC airlines own some of the most advanced fleets in the world. However, some of the GCC carriers are not utilising their aircraft very efficiently. Generally, all the GCC carriers, which are public owned, have high operating costs, and as a result some of the carriers are making large operating net losses and receive large government subsidies. The GCC countries have also very advanced international airports with high capacities, some of which could at the present time double the annual number of passengers. Privatisation of the carriers and airline infrastructures, therefore, may help these governments to reduce subsidies and to improve the airline system in the GCC market.

The airline system in the GCC countries is at present highly protected. For example, Gulf Air was, until the mid-1980s, the only carrier which provides air services between four states (namely Qatar, Bahrain, Oman and UAE, but not Dubai). Saudi Arabia has the biggest market, not just in the GCC region but also in the Middle East as a whole and has very strong control of its domestic airline system (Fig 5.2). Saudi Airlines is the flag carrier for international air services in addition to being the biggest domestic airline in the region. It has been charged with the sole responsibility of providing domestic air services in Saudi Arabia since 1945, without any competition over that period. It should be emphasised at this point that although there is room for greater expansion of the industry in the domestic market in Saudi Arabia, since the industry originally came under the Presidency of Civil Aviation (PCA) regulation, not even a single new interstate airline has been given entry permission. The entry to the industry is completely regulated, and so competition is very limited on some routes and non-existent on others.

Governments generally are all too willing to develop and adopt solutions to problems that would be better left to the wisdom of free markets, and it is widely anticipated that

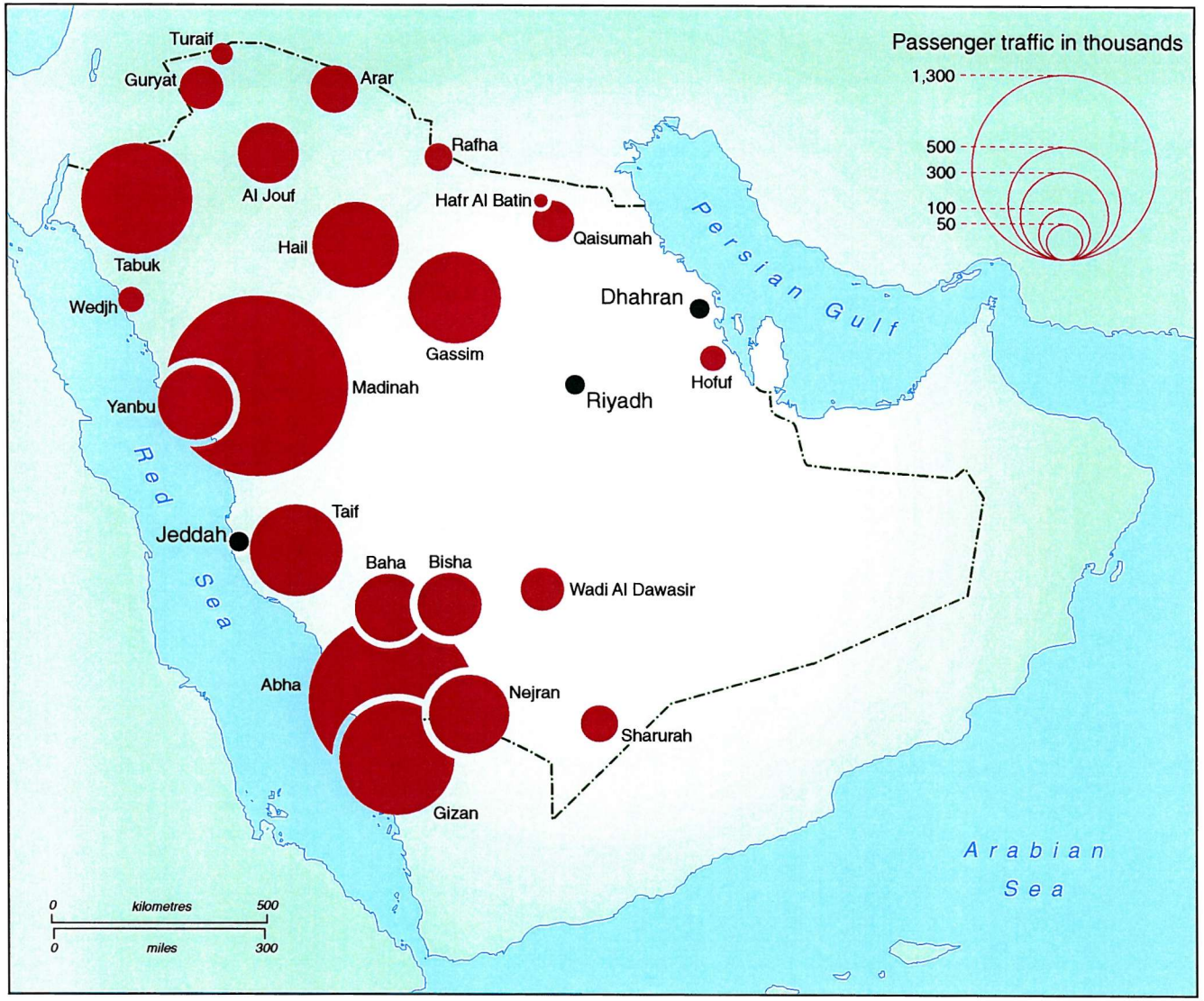


Fig. 5.2: Saudi Airlines' domestic traffic in 1997

(Source: The KSA, Ministry of Defence and Aviation, PCA, Jeddah)

deregulation must take place soon in the GCC market. As deregulation has removed the protected position of national airlines elsewhere, GCC airlines are watching events unfold with interest. Many companies are now seeking to become major players on the world stage and the combined forces of deregulation/liberalisation, privatisation and alliances could present a serious threat to GCC airlines. In order, therefore, to improve the competitive environment for regional carriers in the GCC market, local governments should afford airlines greater freedom to charge fares of their choosing. Such a provision reflects the GCC's intention to open up to competition many routes within the region previously monopolised by the national carriers. It is predicted that airline deregulation would lower prices for the travelling public through increased competition, improve service levels and flight schedules and enable greater fuel efficiency. Therefore, full deregulation or at least a re-thinking of the current highly regulated environment may create competition in the Gulf market to ensure a truly competitive airline industry to better serve the needs of the travelling public.

5.6.1 Regulatory environment

The regulatory system for air transport in the GCC countries is based on the international rules and laws which regulate civil aviation and air transportation services. Therefore, airline operations between the GCC states are basically through bilateral agreements which are mainly negotiated by the civil aviation authorities of each state. One of the main objectives of civil aviation authorities when negotiating a bilateral agreement is the protection of national carriers. The GCC national airlines are well protected by the bilateral agreements, especially in their domestic markets. The rules and laws which regulate the movement of passengers and cargo in GCC airports are as follows:

1. Rules and laws of air navigation which are international regulations for air safety and meteorology which have been accepted by the international organisations and agencies.
2. Rules and laws for air transport which regulate GCC national airlines and foreign carriers. This is accomplished through bilateral

agreements between the GCC governments themselves and foreign governments.

3. Rules, regulations and procedures for passenger and cargo movements. These are regulated through administrative regulation which is mostly through customs, immigration and health.

5.6.2 Air transport and the GCC Secretariat General

Air transport activities in the GCC are co-ordinated through permanent committees, subcommittees and the Department of Transportation, Air Transport Section. The permanent committees include the Ministers Committee, which involve ministers responsible for civil aviation matters. The responsibility of this committee is to make recommendations on issues involving:

- Reviewing air transport rights currently given for the protection of the national carriers;
- The necessity of establishing bilateral agreements to organise air transport services between GCC members;
- Flight co-ordination between GCC capitals; and
- Studying the possibility of establishing an airline that would serve the GCC domestic market.

The Operational Committee consists of GCC airline chairmen and the directors of civil aviation departments. The following are some examples of the work and recommendations of this committee:

- Discussion of air transport rights given to foreign airlines;
- Discussion of bilateral agreements to organise air transport services between GCC countries;
- Studying the proposals from GCC carriers which exclude them from overlying charges within the GCC countries, and reduces fuel prices for them at GCC airports.

The subcommittees are specialists in studying subjects which are related to civil air transport. The subcommittees have taken many decisions, such as the following:

- The decision to co-ordinate flights between GCC capitals.
- The decision not to establish a cargo airline between the GCC countries.
- Reduction by 35% in cargo fares for national products.

The Air Transport Section in the Department of Transportation is responsible for monitoring the decisions and recommendations of the committees. However, the monitoring is only done through operational practices without interfering with field practices or related matters.

5.7 Summary and conclusion

Commercial aviation was one of the first industries affected by the controversial regulatory reforms that began to develop in various countries, notably the USA, in the 1970s. Beginning in 1975, administrative reforms of the CAB gave carriers greater freedom in discounting prices and serving new markets. The US Airline Deregulation Act of 1978 removed restrictions on entry, pricing, and routes. The number of new carriers entering the industry and increased competition during the early years of deregulation seemed to confirm the expectations of some that the deregulated airline industry would approximate the classical model of multiple-firm competition.

In the 1990s, following a number of mergers in the mid-1980s, the global industry increasingly became dominated by a few large companies, organisations and alliances. To date, however, competition has generated many benefits for consumers. The freedom given to managers by deregulation to realign their routes and costs has resulted in a more efficient industry. Average fares have increased more slowly than costs, although most bargains occur in markets in which three or more carriers compete for service, especially when one of those competitors is a low-cost, new-entrant airline. The development of hub-and-spoke networks brought on by deregulation has expanded the frequency and availability of services in most parts of the United States. Several trends suggest that the industry will continue to concentrate, which at some point might threaten the benefits achieved during deregulation. Additional industry concentration may occur because of the nature of current competition among the largest carriers offering nation-wide services.

The experience of the US has shown that preserving or creating sufficient conditions for entry and competition to ensure that the evolving industry remains competitive is fundamental to preserving the benefits of deregulation. At the outset of deregulation, easy entry into city-pair markets was expected to discipline pricing because it was thought that any carrier that charged monopoly fares would quickly be opposed by other carriers. During that period the shortage of airport terminal capacity, partly caused by the rapid expansion of hubs, reduced the ease of entry in many markets, and contestability was further diminished by innovative marketing strategies, including computer reservation systems (CRSs), that were developed and applied by some carriers, to establish and build on the competitive advantage that they had at their hubs.

A major aim of privatisation, in Europe and elsewhere, as for example in the GCC countries, is to increase efficiency in the economy while bringing economic growth and development through the removal of unprofitable enterprises and functions from a government's budget. Privatisation, deregulation, and the liberalisation of highly protective regimes should be stepped up to reduce governments' economic role and increase domestic and international competitiveness in the GCC market. Therefore, Gulf countries need to accelerate privatisation and provide a fair and competitive legal environment to improve their airline system. One of the ways to achieve the GCC goal of confederation is by economic integration, which means establishing a Gulf Common Market which would involve inter alia the removal of monopoly protection and the creation of greater competition in the airline industry.

Airline alliances typically include code-sharing arrangements (whereby the partners may sell seats on each other's flights using their own two-letter designator codes in the computer reservations system) and co-ordinated passenger and baggage check-in and handling. They frequently include co-ordinated scheduling, uniform standards of service and shared frequent-flier programmes. The two powerful global airline groups are Star alliance and the Oneworld alliance. These groups have dominated the international airline network in recent years. It is believed that further global aviation will be dominated by mega-carriers who will dictate the pace in world transportation.

One major problem is that all six carriers in the GCC market still operate individually, while alliance strategies have expanded to encompass other regions of the world.

Global forces rooted in the US economy have thus transformed many fundamental aspects of the world air transport industry in the late 20th century. As these trends have gathered momentum, world areas such as the GCC region cannot permanently stand outside the new industrial frameworks, unaffected by global market forces. To do so would be increasingly to distance an increasingly outmoded regional system from the global networks with which it is connected and from the global economy of which it forms a critical component. However, regional and local market forces also play a significant role in the structure and operation of the airline industries of the GCC countries. Operating alongside global forces, these regional and local forces can have negative, neutral or positive consequences. An appreciation of forces at all three levels is essential to an understanding of the character, problems and prospects of the changing airline industry of this dynamic region. The next two chapters therefore outline some of these regional and local forces and attempt to explain their relevance to the patterns and systems under investigation in this thesis.

Chapter 6

Regional market forces

6.1 Introduction

Having discussed in detail the global market forces that affect the airline industry around the world in the previous chapter, the next step is to investigate and address the regional forces. These forces are very important not only as essential contextual elements but also in terms of their effects in the airline industry in the GCC region. This chapter attempts to bring into focus some fundamental environmental factors, together with economic and political forces. Social issues, however, are discussed in Chapter 7 which deals specifically with local market forces.

Travel today in the Arabian Desert is easy and rapid. Replacing the slow camel caravans, automobiles now roar across desert terrain. Jet planes fly overhead and the railways from Dammam on the Arabian Gulf to Riyadh covers the distance in a few hours. Paved, multilane highways cross the desert and link the main Saudi cities, while narrower roads connect almost all towns and villages to the national network. A Saudi Arabian government-owned airline schedules flights between towns in different regions of the desert. Therefore, a new world has been created by oil, which pumps big money into the GCC countries (Al-Farsy, 1994). A great number of oil fields and refineries have been brought into operation throughout the region; their production potential is measured in millions of barrels per day, and reserves are enormous. Reserves of natural gas have also been exploited on a large scale. So it can be argued that the airline industry in the region has benefited more from the oil revenues which enable the governments in the area to employ the most advanced technology in the air transport sector (Held, 2000). The new technology has reduced the negative effects of

the environmental factors that were playing a significant role in shaping all human activities in Arabian Desert.

Political forces have played and will continue to play a fundamental role in the airline industry in the GCC countries not just because security and stability can enhance economic and political development but because the airline industry and tourism are very sensitive to stability or instability. Although the stability of the Arabian Gulf region has been of rising global importance since World War II, it was during the 1980s and 1990s that the Iran-Iraq War and the Gulf War threatened to upset the balance of power in the region. By re-evaluating the environmental, economic and political landscapes of the Gulf, this chapter produces a gauge for better assessing those interdependent factors and forces that affected the conflicts' outcome and that will continue to influence future political and security developments in the region including the air transport industry.

6.2 Environmental factors

Environmental factors have profound effects on all human activity. From a geographical perspective it is important to remember that the GCC region is quite large and diversified, so that different areas and places experience contrasted environmental conditions and influences. Some of these conditions and influences are positive, while others are neutral or negative, as far as the air transport industry is concerned. A critical question concerns climate. Despite the modern technology that has been applied to the airline industry, such as autopilot systems, take-off and landing still depend heavily on the weather conditions. This is because safety is considered the most important element in air transport systems in any country. Therefore, if there is a sandstorm or fog and visibility is not quite good enough in any airport, the operations may be stopped.

In fact climate and the earth's shape have both positive and negative effects on the airline industry in the Arabian Desert. In general, the climate in the GCC region is arid, with less than 100 mm of rain falling annually, nearly all in the winter months (December to March). The average annual temperature is about 25° C, and the

Arabian Peninsula is one of the few places in the world where summer temperatures above 48° C are common, while in winter, frost or snow can occur in the interior and the higher mountains. Extreme heat and aridity are characteristic of most of Saudi Arabia and other Gulf countries (Al-Farsy, 1994). Because of the general aridity, the region has no permanent rivers or lakes. Most drainage channels in the Arabian Desert are either dry or else are intermittent, flowing only when rains are heavy. In the interior the heat is dry and tolerable. Coastal regions and some highlands, however, are subject to high summer humidity, with dews and fogs at night or in the early morning. Interior skies are usually clear except for intermittent winter rains, spring hazes, or dust storms (Held, 2000).

The prevailing winds blow from the Mediterranean, swinging to the east, south-east, south and south-west in a great arc. Two semi-annual windy seasons occur from December to January and from May to June. Called locally Shamals (from the Arabic Shamal: "north"), these periods last from 30 to 50 days and have wind velocities averaging 30 miles per hour. Shamals, which try the patience of those caught in them, are dry winds that transport huge loads of sand and dust and alter the shapes of sand dunes. Blown sand does not rise more than a few feet above the surface, except when picked up by whirlwinds, dust devils or regional sandstorms. Strong south-east gales sweep the big sand desert for several days at a time, reversing the effect of Shamals on dune formation. The sudden appearance on the horizon of the "brown roller" in spring or autumn can be frightening. This is a frontal storm up to 60 miles wide carrying sand, dust, and debris high into the air; it is followed by a sharp drop in temperature and often by rain (El-Mallakh, 1982).

Kuwait, Bahrain, Qatar and some parts of the UAE form a coastal plain. The entire region is barren desert, with narrow ranges of mountains and hills. A considerable part of the Arabian Desert lies within Saudi Arabia. The two largest sand bodies in Arabia are the Rub' al Khali, known in English as the Great Sandy Desert and as the Empty Quarter, in the south-east and An-Nafod in the north-west (Fig 6.1). The Rub' al-Khali has an estimated area of about 600,000 km^2 while An-Nafod is an upland desert of red sand, covering an area of about 116,550 km^2. Between them there are almost parallel arcs of more or less continuous dunes (Held, 2000). The sand cover of the Arabian

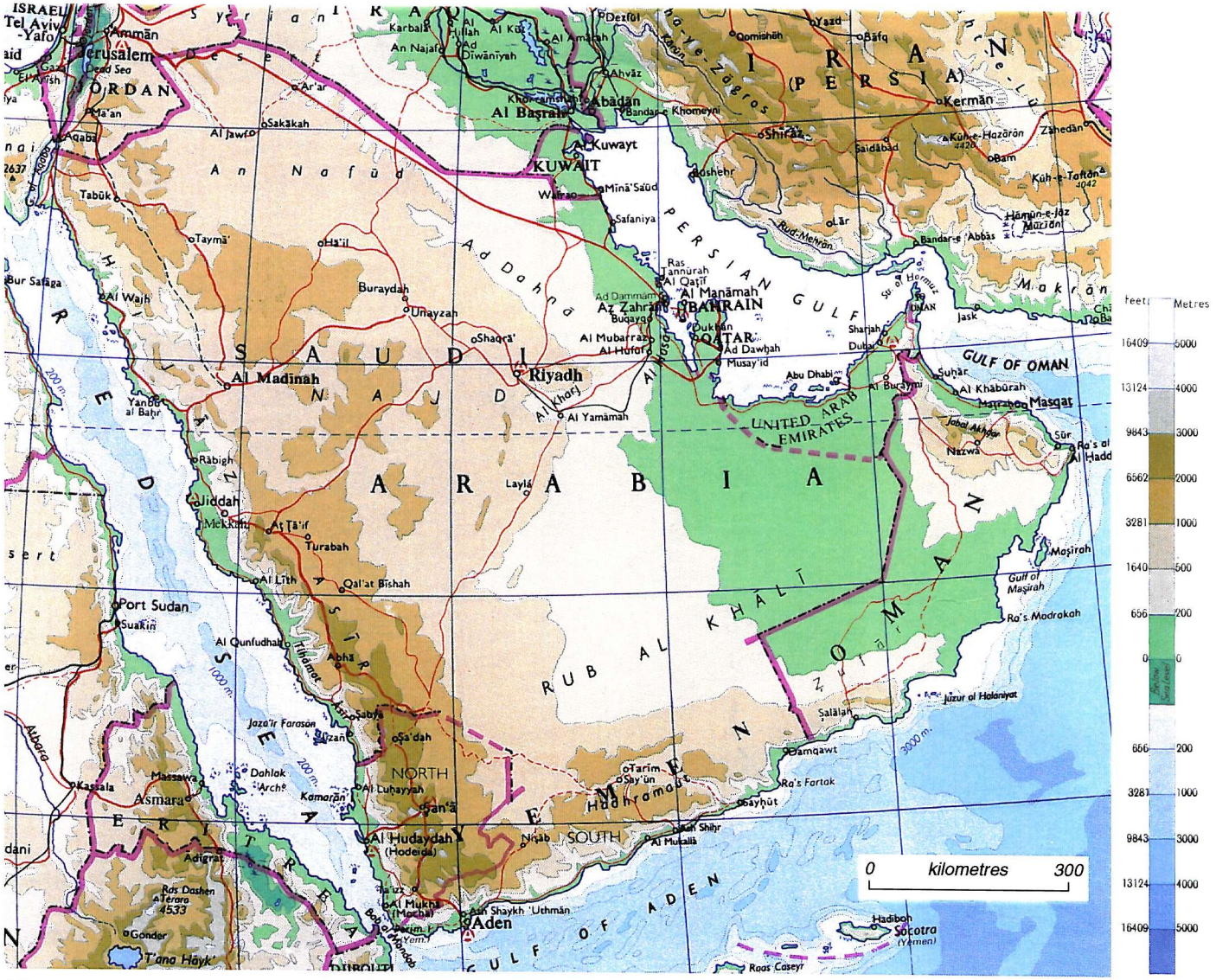


Fig. 6.1: Gulf Cooperation Council - Physical

Desert occurs as dunes of varying size and complexity or as a thin film on surfaces of lower relief. With few exceptions, sand does not accumulate in flat sheets but in dunes, ridges, or giant complexes. The evolution of dune forms can be traced from simple dunes into more complex types.

Nowadays, modern and very advanced techniques have been used by the governments of Arab countries to develop water sources and to irrigate soils for farming. Desalinisation plants built along the coasts produce great quantities of fresh water from seawater, making the Arabian Peninsula one of the leading regions of the world to employ this technology. However, the strong effect of the harsh environment is not easy to deal with. Most of the inhabitants of the GCC countries live in either coastal cities and towns or inland oases. More than 70 percent of Saudi Arabia's total population live in cities, and almost all of the rest live in government-supported agricultural enterprises. The rest of the area is sandy and unproductive. Urban centres are isolated in a sea of sand and the overall population density is very low. So, the desert represents a big challenge to political, economic and social development. The airline industry could take advantage of flat land, and especially of the presence of strategically located centres. Groundwork and infrastructure, therefore, for civil aviation benefits from such flat land. In general, the sun and moon are bright in clear skies in the region, although dust and humidity may cut visibility with little warning. So the airline industry can operate most of the year without any threat to safety from environmental factors.

Throughout Saudi Arabia, aviation tends to be the preferred mode of travel, due primarily to environmental factors which limit other modes. In addition to the sand dunes there are extensive areas of rugged, mountainous terrain and rocky plains. Many of the cities and towns are separated by hundreds of kilometres of rough terrain. In order to develop business and to provide swifter transport to isolated communities, regional airports link the entire nation with an excellent domestic network, also with international connections civil aviation now provides a faster alternative to the camel caravans that were once the only means of transport in the Arabian Desert.

6.3 Economic forces

6.3.1 Oil

The present importance of the GCC region stems from its massive energy deposits. Forty-five percent of the world's known oil reserves are located in the GCC countries, which produce over a fifth of the world's daily output. (By comparison, North America holds 8.5 percent of the world's Known reserves.) Saudi Arabia ranks first in reserves, with 261.5 billion barrels, followed by the UAE (98.1 billion), Kuwait (96.5 billion), and other states (9.15 billion) (Table 6.1). The Gulf is also rich in natural gas; for example Qatar holds the world's third-largest reserves. The GCC region, therefore, is considered the fundamental leading producer and the largest crude oil exporter in the world, putting the Arabian Gulf into the international limelight (Findlay, 1994). The region has had and will continue to have a tremendous impact on global oil trade (Al-Mubark, 1990) and the economic development of the region will continue to depend largely on oil-derived revenues (Auty, 1988).

Table 6.1: Oil production and reserves in the GCC countries 1986-97

Year	Production (1000 B./day)	Reserves (Billion B.)
1986	8,446.2	305.1
1987	7,923.5	369.9
1988	9,175.5	452.4
1989	9,762.5	456.4
1990	10,776.1	464.0
1991	11,838.0	463.8
1992	12,858.7	463.5
1993	13,288.6	464.3
1994	13,493.0	465.5
1995	13,501.1	465.9
1996	13,810.0	465.2
1997	14,288.8	465.2

Source: Secretariat General of the GCC, *Economic Bulletin*, 1999.

Agriculture, camel breeding, pearl diving and fishing have historically been the basic economic activities of Saudi Arabia and other Gulf countries in past times. However, the oil industry has become a major source of employment and national income (Azzam, 1988; Findlay, 1994). Since the development of the oil industry, the governments have sought to diversify their industrial base and improve the basic economic structure, developing roads, the air transport system, seaports, and the power industry. Through a sharp increase in oil prices begun in 1973, Arab Gulf countries began to amass tremendous cash reserves (Maachou, 1982). The governments used their new-found wealth to transform their economies and infrastructures (including air transport) at a rate almost without precedent in modern history. A lack of trained and skilled labour was partially offset by millions of guest workers. Since the early 1970s, increased oil production and regional instability have dominated events in the Arabian Gulf. Revenues from the oil industry grew dramatically after oil producers raised their prices unilaterally in 1973 (Roberts and Fowler, 1995). As a result, funds available to Gulf rulers increased. Governments began massive development projects that brought rapid material and social change.

After the Arab-Israeli war, rising oil prices gave added revenues to oil exporting countries, thus ushering in a new era of great construction achievements and development in these countries. But other events such as the Iraq-Iran war and the occupation of Kuwait created numerous problems whose effects are visible even today in Arab countries where oil is the main source of income (Gould, 1993).

Subsequent objectives for all the GCC countries have been to modernise the economy, including the development of basic industry, of agriculture to increase domestic food production together with improvement in education, vocational training, health services and in linking this region with the rest of the world by enhancing the air transport system. Oil revenues have helped the region to achieve most of the above goals. It has become an attractive region for foreign labour as well as businessmen (Azzam, 1988). Oil has also improved and created new relationships with Western Europe, Asian countries and North America. The increased calls for technology by Arabian Gulf countries could mean increased investment opportunities for foreign businesses. The United Kingdom and the United States, among other countries have

already established a strong presence in the region's technology trade. British and American companies active in the region have proved the quality of their technologies to the Arabian Gulf.

Increased demands for oil and gas have also helped develop the home economies of the Arabian Gulf nations. As more oil is consumed, more revenues will be collected. This will provide jobs in construction fields, opportunities for financial investment, and more training in the management of large-scale industrial complexes. So oil has created an ideal situation to enhance the airline industry in this part of the world.

6.3.1.2 The impact of oil prices on the airline industry

Undeniably, oil is a fundamental component in Gulf economies. Most Gulf countries rely greatly upon the export of this natural resource for their revenues and to support the achievement of key economic and social goals of the governments of the region. Therefore, fluctuations in the oil market directly impact upon yearly revenues in these oil-countries, so that an unexpected change in oil prices may result in budget booms or shortfalls. Most GCC governments get 70 to 90 percent of their revenues from the sale of oil, gas and refined products. For Kuwait and Oman, oil accounts for 89 percent and 80 percent of total revenues, respectively, while it accounts for 78 percent in Saudi Arabia (Table 6.2). At the same time, there is a growing discrepancy between oil revenues and state expenditures. A decline in oil markets would cause severe declines in oil revenues and concerns have been raised about oil prices in relation to Gulf State budgets.

By the mid-1980s, however, oil prices were in decline as the system of production quotas created by oil-exporting nations began to break down, and high prices encouraged exploration and development of oil reserves elsewhere (Table 6.3). Saudi Arabia began to spend more than it took in, drawing down its cash reserves (Hunter, 1986). By the mid-1990s continuing declines in oil sales forced the Saudi government to reduce expenditures. The public anticipated a reduction in government subsidies on telephone calls and public services, and consideration was given to privatisation of some government assets.

Table 6.2: Total GCC governments revenues and expenditure in 1997 (US$ millions)

Country	Oil revenues		Non-oil revenues		Total revenues	expenditure	Surplus/ (Deficit)
		%		%			
KSA	42,666.7	77.86	12,133.3	22.14	54,800.0	58,986.6	(41,866.0)
Oman	4,696.0	79.64	1,200.5	20.36	5,896.5	6,000.8	(104.3)
Kuwait	10,705.7	88.93	1,332.7	11.07	12,038.4	13,273.1	(1,234.7)
UAE	11,206.7	69.33	4,956.9	30.67	16,163.6	18,037.9	(1,874.3)
Bahrain	1,124.2	59.88	753.2	40.12	1,877.4	1,871.3	6.1
Qatar	NA	NA	NA	NA	3,942.6	4,868.7	(926.1)

Source: GCC Secretariat General, *Economic Bulletin*, 199

Table 6.3: Total GCC government revenues 1988-98 (US$ millions)

year	KSA	Oman	Kuwait	The UAE	Bahrain	Qatar	GCC
1988	26,294.0	3,201.0	6,719.0	5,663.3	1,067.3	1,947.0	44,891.6
1989	30,601.0	3,854.0	7,587.0	7,455.1	1,161.8	2,109.0	52,767.9
1990	42,314.0	4,905.0	8,257.8	11,244.3	1,323.6	2,554.9	71,599.6
1991	42,314.0	4,048.3	3,008.4	13,000.0	1,357.6	3,298.9	67,027.2
1992	40,266.7	5,018.2	5,264.3	12,912.0	1,361.2	2,842.0	67,664.4
1993	45,106.7	4,558.4	9,363.7	10,492.0	1,493.4	3,365.4	68,979.6
1994	34,397.6	4,705.2	8,863.1	10,361.0	1,400.5	2,984.9	62,712.3
1995	39,066.7	4,821.9	11,813.2	11,924.6	1,491.5	2,659.3	71,777.2
1996	47,760.0	5,176.1	14,712.2	15,350.0	1,684.3	3,697.5	88,380.1
1997	54,800.5	5,896.5	12,038.4	16,163.6	1,877.4	3,942.6	94,719.0
1998	47,466.7	4,801.9	8,040.5	NA	NA	3,356.9	NA

Source: GCC Secretariat General, *Economic Bulletin*, 1999.

The relation between the airline industry and oil prices in the GCC countries is very clear because these countries depend heavily in their economies on oil production and other related industries. Oil price increases enable them to continue financing development projects including airports and airline facilities while maintaining the current standard of living. Another important point is that when oil prices are at their

highest level, the income per capita will increase and the inverse is also true. Therefore, oil prices may increase or decrease the demand for both regional and international airline transport (Feiler and Goodovitch, 1994).

Oil prices were very low in 1997/98. Several circumstances caused the price depression. The extreme drop in demand was brought about by an unfortunate combination of circumstances, several individual events unexpectedly coinciding to create this ultimately harmful result. The oil prices may have dropped to their lowest real levels since 1973 as result of the economic downturn in Asia. Shortly thereafter, prices were dealt another blow when the United Nations raised Iraq's production limit under the oil-for-food deal, which inopportunely coincided with the winter of 1997/98 - the warmest winter in recorded history - and the bad decision of OPEC to raise its production levels. Although none of these events alone could have caused the economic fallout that is now being felt throughout the world's oil-producing states, combined they have caused a price breakdown of surprising proportions. With oil prices down by a third or more in 1997, GCC governments were having to scramble to raise revenues, cut expenditures, and borrow funds to finance their soaring deficits.

These countries, which depend only on oil for their budgets, have been hit hard by the decline in world oil prices due to the financial crisis which started in South East Asian countries. It has caused turbulence in international markets leading in turn to an adverse effect on the growth of the world economy, international trade, and the price of primary commodities, including oil. A decline in the region's oil income would affect the amount of demand for air travel and force regional airlines to provide discounted fares in order to be competitive. This also has a significant consequence on a number of infrastructure improvement programmes, including air services and airports expanding in the GCC countries. Furthermore, the sharp decline in oil prices may force GCC governments to reduce or cut subsidies that help publicly owned carriers to provide air transportation to their nation. Cuts or reductions in subsidies may affect the quantity and quality of services dramatically, and airfares may increase to cover operational costs. Another important aspect associated with oil prices is that the number of workers from outside the region is directly affected, and this can be a fundamental cause of reductions or increases in the demand for airline services.

In 1999 and 2000, Gulf Arab states benefited from higher than expected oil prices, as cash windfalls resulted in current account surpluses. Many experts wondered if oil rich states would benefit from market conditions in the coming year. The price of oil will continue to be the driving force behind economic performance. GCC's economy in 2000 achieved one of its best performances since the 1990-91 Gulf War. As always the future of the budget and the general health of the economy will depend on the oil price, and this of course has direct repercussions for infrastructures and the service sector including the air transport industry which is particularly sensitive to economic change.

6.4 Political forces

6.4.1 Political fragmentation

The Arabian Gulf is an excellent example of political fragmentation. The region was under British colonial rule for many years. Great Britain played a significant role in drawing the geopolitical map of the region by breaking up much of the area into tiny states. In spite of the fact that Saudi Arabia has been the only country in the region which has not been controlled by any Western country, its political boundaries were affected by Great Britain's attempts to protect its colonies. So, the main trend in regional politics in the second half of the twentieth century in the Gulf was fragmentation involving the breaking-up of Arab nations whereas political integration is necessary to survive under the new trend toward globalisation. Fragmentation increases the complexity of regional relations because the interests of one country are not necessarily the same as those of other countries. It also provides a specific, problematic basis for the development of the air transport sector.

6.4.1.1 Boundary problems

The drawing of boundaries between Arab Gulf countries has created some major problems. Border disputes in the Gulf are potentially the most dangerous in the world, having led to two major wars in the last two decades. Iraq resorted in 1990 to the use of force to try to settle the longstanding border dispute with the state of Kuwait,

Fig. 6.2: Hawar Island

causing one of the most destructive wars in the last century. Clashes have often taken place on the borders of Saudi Arabia and Yemen, Oman and the United Arab Emirates, Saudi Arabia and Qatar and between Qatar and Bahrain (Starkey, 1996). A prime example of these boundary problems is the island known as Hawar one of a cluster of potentially oil-rich islands and reefs between Bahrain and Qatar (Fig 6.2). Each country claims that Hawar is a part of its territory (Robins, 1989). In 1990 Qatar raised the issue during the GCC meeting in Doha. The GCC referred the matter to Saudi Arabia for arbitration, and, if the arbitration is not successful, the case can be taken to the International Court. The two antagonists gave the Saudi initiative six months, after which they agreed to take the case jointly to the International Court of Justice (Faour, 1993).

Although much despised, resorting to the international court is the least of evils in a situation where war is the only real alternative. The prospect of war between two small states such as Qatar and Bahrain has always been daunting since the 1986 armed attack by Qatari forces on a Bahraini border post at Fasht al Dibel. That incident raised the temperature in the Gulf, since it took place at a time of rising tension at the peak of the Iraq-Iran war. The Qataris maintain that taking the case to the international court was a less drastic course of action than the military option. But the Bahrainis disagree with the Qatari initiative, maintaining that Doha's unilateral action is contrary to the 1990 Doha agreement between the two countries.

However, the government of Bahrain has continued to modify the character of the disputed island by building a palace for the crown prince, a hotel and many other tourist facilities, and this has invited various reactions from the Qataris. A Qatari statement called on the Bahraini government to stop beating the drums of war and to prevent creation of a "human shield" by inviting settlers to the island. This potentially damaging local dispute remains unresolved.

6.4.1.2 Effects of political fragmentation on the air transport industry

The airline industry has been affected dramatically by political fragmentation in the GCC countries. Each country established its national flag carrier for political purposes rather than for economic considerations. As a result, six carriers compete in a small

market. Most of them operate under political and economic regulations. Thus, governmental control of the airline industry has led to efficiency issues. These regional carriers, except Emirates, report huge losses and operate under a heavy subsidy system. Their governments provide them with considerable political and economic support in order to survive in this situation.

However, the ultimate and unambiguous goal of all of the GCC countries has been to further the process of economic and political integration. The partner states hope to accelerate economic co-operation, expanded trade relations, and economic and political integration, in order to improve the quality of economic development and inter alia to provide their nations with an advanced air transport system. They also want to co-operate in complex issues and to find appropriate solutions to their economic difficulties among which the airline industry is considered near the top of the agenda. In order to reach to economic integration and to improve the quality of the airline transport system in the GCC countries, the regional governments should do more to open their countries and move towards adopting an open sky policy. Such a move would lead to gain from better political and economic relationships. Basically, when inter-state relations are as tense and problematic as they have been for long they undermine the spirit of co-operation which is needed to improve the airline industry as well as to create a competitive environment in civil aviation throughout the Gulf region.

6.4.2 Instability and security in the GCC region

Throughout history, the Arabian Gulf has been involved in political turmoil; it is a point of friction among various international powers keen to dominate, control, and exploit the region's natural resources and strategic geopolitical position (Maoz 1997; Skeet, 1993). Indeed, geopolitically, it represents a vital mid-point between East and West. The region is an area of prime economic interest to governments and businesses all over the developed world. The industrial countries are heavily dependent on Gulf oil. They are, therefore, constantly worried about the possibility of those supplies being cut off. However, the GCC region is not and never really was an island unto

itself; each day its security and stability depend more on the security and stability of the wider region of which it is a part (Conant, 1993).

The Arabian Gulf remains an uncertain and dangerous place, and the GCC countries may face a number of significant challenges to their security (Karp, 1996). Some regional powers are hostile to, or at least not friendly towards, the GCC countries. Some of them may not be equipped with the very latest technology, but they compensate with quantity for what they lack in quality. These powers possess nuclear weapons (Israel) and chemical and biological weapons (Iran and Iraq) (Picquet, 1996). Since 1980 the GCC countries have confronted aggressive regimes in Iran and Iraq which seek hegemony and may destroy political stability in the Gulf region (Moberly, 1993).

What threats do the GCC countries face today? One challenge is very clear, and that is the threat of instability in the Gulf. Iraq's refusal to comply with the UN Security Council resolutions and its arsenal of weapons of mass destruction show that Saddam Hussein remains a threat to peace and stability. Iran continues to sponsor terrorism and in addition is developing weapons of mass destruction, improving missiles that can strike neighbouring nations, and boasting of its ability to close the Strait of Hormuz. Over the last few years Iran has concentrated on developing a more robust anti-ship missile capability (Picquet, 1996). It has deployed anti-ship cruise missiles on the shore. It has also sharply increased training launches of sea-launched cruise missiles, and in 1997 it successfully tested an air-launched anti-ship cruise missile.

It is assumed that there can be no balance between the three poles of power in the Arabian Gulf: Iran, Iraq and the GCC. This assumption is based on a judgement that no matter what they do, the GCC states will not be able to defend themselves in the short-term (Charles and Buck, 1991). This pessimistic view appears to be based on three assumptions. The first is that Iraq and Iran's populations, 22 million and 68 million, together so outweigh the GCC's 28.9 million, that the latter can never hope to match its neighbours in terms of mobilised manpower. The second is that the populations of the GCC states are less aggressive in war than the Iraqis or Iranians. The third is that the technological and organisational limitations of the GCC military make them unable effectively to use their costly imported equipment.

As a result of this inherent instability, the region witnessed a most severe war which lasted 8 years from 1980-1988 and resulted in economic, social and humanitarian losses. It also had a negative impact on Iran's ties with Arab states. The Gulf war between Iraq and Kuwait in August 1990 added to the consequences of the first Arabian Gulf war. All this shows to what extent the region is exposed to dangerous local and international politics. No external player really wants to promote peace and tranquillity in the region unless it totally and unconditionally serves their interest.

Furthermore, violence and terrorism will continue to pose a strong threat and a challenge to the airline industry and other economic activities in the Gulf region and the Middle East and will remain difficult to combat, so perpetuating political and economic instability. It is important to note that any clash between regional powers or even local powers would of course threaten GCC interests, and have significant influence on all aspects of political and economic development, including the airlines.

6.4.2.1 Iran and the 1979 Islamic Revolution

Iran is a land bridge between two centres of the world's most important energy zones, and the only power among the Gulf countries that has the capability to undertake military operations beyond its own frontiers. Iran is in the heart of the Eurasian Corridor. Because of its geo-strategic location, population, resources and cultural identity it can play a decisive role in the security of the Arabian Gulf. Iran was once a moderating regional force and it could, once again, become so.

Iran was perhaps more threatening to Gulf stability because of its strong anti-Western stance in world and regional politics. The new Iranian position stood in stark contrast to the Gulf amirs' long history of involvement with the British and the close ties to the West that the oil industry entailed (Ahari, 1989). Thus, the Iranian political world view was one to which rulers in the Gulf countries could not subscribe.

The Iranian Islamic Revolution of 1979 was created by the father and founder of the Islamic Republic of Iran, the late Imam Komeini who introduced a new threat to stability in the Gulf region. In spite of the fact that many Gulf leaders agreed with some of the social goals of the revolution and its efforts to tie Iran more firmly to its

Islamic roots, the Iranian Revolution challenged Gulf stability with Iran's desire to spread the movement beyond its borders. This movement clearly threatened Gulf leaders. Furthermore, several Gulf States have significant Shia or Iranian minorities (Bahrain has a Shia majority, although the ruling family is Sunni), and Gulf rulers feared that Iran would use ethnic or sectarian loyalties to stir up such minorities. Shia form a majority of the population of Bahrain and an important part of the foreign labour force in Kuwait, and are considered potential dissidents in any future hostilities. Numerous terrorist actions in Kuwait during the 1980s were attributed to the domestic Shia instigated by Iran (Ahari, 1989).

One of the earliest focuses of Iran's interest in exporting the revolution was the Arabian Gulf region. The revolutionary leaders viewed the Arab countries of the Gulf, along with Iraq, as having tyrannical regimes subservient to one or other of the superpowers (Charles and Buck, 1991). Thus, one of the reasons that prompted Iraqi President Saddam Hussein to launch the invasion of Iran in the early autumn of 1980 was to silence propaganda about the Islamic Revolution. Baghdad believed that the post-revolutionary turmoil in Iran would permit a relatively quick victory and lead to a new regime in Tehran, more willing to accommodate the interests of Iran's Arab neighbours.

Leaders of the Islamic Revolution underlined the need for unity among Muslims as a prime necessity which would enable them to overcome their numerous difficulties. In fact Muslims cannot put aside their fundamental differences and they cannot consolidate and unite as Iran wanted. Of course it is argued that an Islamic community cannot find its path towards perfection without differences and clashes of opinions. However Iran has failed to export or even expand its Islamic Revolution beyond its local borders.

On the other hand, fears of military confrontation subsided after the Iran-Iraq War ended. The influence of the more extremist elements within the Iranian government appears to have declined; Iran also had opposed Iraq's invasion of Kuwait. Moreover, there are some positive signs about future co-operation between Tehran and the GCC countries, in particular Saudi Arabia. However, there are certain issues such as three

disputed islands in the Arabian Gulf between Iran and the UAE, occupied by Iran, that are hard to resolve.

The question now is what has specifically changed the GCC's attitude towards Iran. First, It is obvious that Iran has a very important role to play not only in the region but also at an international level. Therefore, it is important for the GCC countries to develop fruitful dialogue with Iran. Secondly there is a development towards openness inside Iran and towards the outside which was highly appreciated by the politicians in the GCC countries. So it is about time that Arab Gulf states and Iran left their old problems behind and concentrated on identifying common ground between them in order to respect each other's basic values. Finally, if Iran seeks political and economic co-operation with the Arab countries of the Arabian Gulf region, they should consider making a serious effort to solve the issue of the three disputed islands. There is a very strong feeling that without solving the island problem, political and economic relations can not be improved in the short term.

As mentioned earlier, the GCC countries seem to have speeded up the process of expanding their relations with Iran as a major player against instability in the Gulf region. The common belief in the region is that it is good to normalise relations between GCC countries and Iran in order to achieve political and economic development in the whole region. The implications of intra-regional air transport systems and services are reasonably self-evident.

6.4.2.2 Iraq and the Iran-Iraq War 1980-88

For more than two decades, the Iraqi regime has brutally caused unlimited damage to its people, its neighbours and the entire Middle East. Almost all the people in the region have been affected by Iraqi politics. It is clear that Saddam Hussein has threatened the region for almost two decades and is still in power. With Saddam Hussein still in power, the world has no guarantee that more aggression will not occur some time in the future. That seems to make it necessary for GCC countries to maintain a close watch over the wider region by creating stable strategic relationships to protect both the interests of their won interests and those of their allies.

During the past two decades, two wars have occurred in the Arabian Gulf, involving more than ten years of US containment policy towards Iraq. No doubt Saddam Hussein was the major, if not the only, element inside the region that provided sufficient motives to start wars (Charles and Buck, 1991). In fact these wars could have been avoided if he had not been in power. But there is not enough evidence as to what other forms the hostilities could have taken place in the region.

The first major threat to the security of the Arabian Gulf states followed the outbreak of war between Iran and Iraq in 1980. The war began after a period of deteriorating relations between these two historic rivals, dating from the fall of Mohammad Reza Shah in 1979 and his replacement as Iranian leader by Ayatollah Komeini. Full-scale warfare erupted in September 1980 as Iraqi military units swept across the Shatt al Arab waterway, which forms the confluence of the Tigris and Euphrates rivers, into the province of Khuzestan, Iran's richest oil-producing area (Rashid and Shaheen, 1992). Iraqi president Saddam Hussein hoped to overthrow Komeini, who had been overtly attempting to spread his Islamic Revolution into Iraq, where the minority regime is Sunni. Iraq also claimed that the international border should be along the low water of the Iranian shore, as it had been prior to 1975.

6.4.2.3. Impacts of the Iran-Iraq War

The outbreak of the Iran-Iraq War made the Iranian threat more concrete. Initially, the fighting between Iran and Iraq affected the Arabian Gulf states. So in May 1981, Saudi Arabia, Bahrain, Kuwait, Oman, Qatar and the UAE banded together in the GCC to protect their interests and, if necessary, to defend themselves and share security guarantees. GCC leaders pressed the alliance for security guarantees that would help them to face any threat to their security, which has become a central issue within the alliance (Charles and Buck, 1991).

For the first period of the conflict, the GCC states sought to mediate between the two countries and to remain neutral. Their position changed, however, when the Gulf countries decided to take Iraq's side in the war, realising that Iran could threaten them. Iran responded by opening up a limited secret campaign against the Gulf countries. A

number of explosions occurred in Kuwait and Bahrain, for which many believed Iran was responsible, and Iranian inspired violence in Makkah underscored the conviction of the Arab states of the Gulf that Iran was the primary threat to their security (Starkey, 1996). Such attacks made all the states in the region more concerned about external threats.

The war created economic dislocation, decreased industrial and petroleum development, and caused further deterioration of the air transport sector. The damage of infrastructure in the war zone was estimated in billions of dollars. The heavy damage to refineries and pipelines, factories, and industrial sites hurt oil production. The combined effects of decreased oil production and falling oil prices, however, created an economic crisis in the region (Azzam, 1988; Hiro, 1990). This crisis did huge damage to economic development in the GCC countries. As a consequence of the early 1984 bombings, insurance rates for tankers in the Gulf increased. The increase prompted Iran to extend special incentives to tankers to compensate for the risk involved (Robins, 1989).

Moreover, the flow of arms, money and other supplies into Iraq from GCC countries had continued during the eight years of the war. There were large amounts of military supplies, including tanks, trucks and other equipment, which had been purchased outside the region and delivered to the Iraqi government. This support helped Saddam Hussein to continue his war against Iran as well as to build a strong military force in the region which was used later against Kuwait (Al-Yahya, 1993). There is, therefore, no doubt that the Iraqi regime continued to enjoy free supplies from the GCC states throughout the period of the Iran-Iraq War. GCC countries have suffered more than Iraq from this war because of the huge amount of expenditure that paid against the latest development programmes including the airline industry in the 1980s. Iraq was able to obtain substantial financial aid from Saudi Arabia and other Gulf States (Rashid and Shaheen, 1992). It is also noteworthy that most Gulf states cut their diplomatic relations with Iran because of their support for Iraq. The airline industry and tourism suffered from this political action, causing further deterioration to socio-economic conditions. While the region was still recovering from the damage caused

by the Iran-Iraq War, a more powerful war happened when Iraq attacked Kuwait in 1990.

6.4.2.4 The Gulf War, 1990-91, and its repercussions on the airline industry

"On 2 August 1990, the Iraqi invasion of Kuwait started by a massive and cruel violation of the sovereign airspace of the State of Kuwait by Iraqi military aircraft and by a military attack against the Kuwait International Airport, destruction of Kuwaiti aeronautical communications and air traffic control centres. Complete closure of the Kuwait airspace to international civil aviation, total disruption of the aeronautical services provided by Kuwait under approved Regional Air Navigation Plans, disruption of established international ATS routes, plunder of the airport facilities and seizure and removal to Iraq of fifteen aircraft of Kuwait Airways were the immediate aftermath of the Iraqi aggression against Kuwait. International civil aviation has become one of the first victims of this act of aggression" (Milde, 1991: 63).

The impacts of the crisis on the airline industry were recognisable not only in the Middle East but also worldwide (Feiler and Goodovitch, 1994). Huge changes in international airlines' operations occurred such as reroutings or reduction of services to the Middle East. Aircraft were not allowed to stay in the region overnight. After few days of the crisis airlines began to raise their airfares to cover the increased operating costs combined with decrease in demand for air travel. The main reasons for the increased costs were the high fuel prices which reached US$1.25 per gallon compared to US$0.85 per gallon before the crisis and the dramatic increase in insurance rates. The later were given as a reason for cancellation Pan Am its flights to Saudi Arabia. However GCC carriers are still facing increased insurance rates because the security in the region is still under questions (Thomchick, 1993).

Although the history of recent conflicts in the Middle East may seem somewhat detatched from the subject of this thesis, and to be only indirectly related to the essential focus of our investigation, these dramatic events are an expression of continuing political instability in the Middle East which is in turn essential information for those wishing to understand the regional forces and factors affecting air transport development (and indeed any other form of infrastructural, social,

political or economic development) in the region. No major aspect of the present-day development condition of the GCC countries or of the wider Middle East region can possibly be understood without reference to the events comprising the 1990-91 Gulf War. Although these events are well known and of recent memory, the inclusion of a short summary is thus justified on these grounds.

Despite its huge losses in the Iran-Iraq War, Iraq was unchallenged as one of the most powerful military presence in the Middle East. Reviving Iraq's old territorial claims against Kuwait, Saddam Hussein called for the annexation of Bubiyan and Warbah islands at the mouth of the Shatt al Arab to give Iraq a clear passage to the Gulf. He also accused Kuwait of illegally siphoning off oil from the Rumaila oilfield, which the two countries shared. Saddam Hussein threatened to use force against Arab oil producers, including Kuwait and the UAE, who had exceeded their oil quotas and charged them with colluding with the United States to strangle the Iraqi economy by flooding the market with low-priced oil.

Although Iraq had followed its threats by moving troops to the border area, the world was largely taken by surprise when on 2 August 1990, the Iraqi army invaded and occupied Kuwait with little resistance (Al-Yahya, 1993). Having completed the occupation of Kuwait, the Iraqi armoured and mechanised divisions and the elite Republican Guard advanced south towards Kuwait's border with Saudi Arabia.

Resorting to military action was not in the interests of any party in the crisis. Saudi Arabia and Egypt hoped that the crisis could be solved without any military action. So they did their best to avoid such action by asking Saddam Hussein to leave Kuwait in peace. They went on to say that such military action would be a retrograde step for the region, and not in the interests of any party. It would also have an adverse effect upon current and future relations between Arab countries, and would destroy the many positive achievements of trust and co-operation that had been built up over the past years, which everyone in the region should seek to avoid. They all knew that war would also directly harm and destroy the economic infrastructure in the region, in addition to having an indirect impact on the future for peace and security in the Arab world. They asked the leadership of Iraq to do everything possible in order to remove any justification for war and the destruction that would inevitably result. However, the

Iraqi government refused to go back to their border. Further, Saddam Hussein insisted on claiming that Kuwait is a part of Iraq (Roberts and Fowler, 1995; Skeet, 1993).

In the first of a series of resolutions condemning Iraq, the United Nations (UN) Security Council on 2 August 1990 called for Iraq's unconditional and immediate withdrawal from Kuwait. In the ensuing months, a coalition force of more than 600,000 ground, sea and air force personnel deployed to drive the Iraqis out of Kuwait. Co-operation and co-ordination between the major powers aimed at enhancing their efforts to achieve international peace and security in this important part of the world.

In spite of the fact that Kuwait regained its sovereignty over its territory, the symptoms of war and feelings of insecurity remained. At the same time an inspection regime was created to control Iraq's weapons of mass destruction (WMD) programme and related delivery system. To fulfil this task the United Nations Special Commission (UNESCOM) was created and was present in Iraq almost until the US and UK operation "Desert Fox" against Iraq which started in December 1998. Perhaps the most important concern for the UN has been Iraq's production of biological weapons. When UNESCOM started working in Iraq, shortly after the end of the war in 1991, Iraq claimed that it had no biological weapons programme.

UNESCOM has been to a great extent successful in finding and destroying Iraqi WMD sources, though one may, and for good reasons, argue that what UNESCOM achieved was less than enough to guarantee peace and security in the region. But this does not mean that to reach peace and security we should go through war and bombing. In other words the US-UK bombing cannot be taken as an action to bring peace and security to the region. Moreover, the United States pledged US$97 million in military support to seven Iraqi opposition groups working to topple Saddam Hussein from power. As the GCC countries and the world know only too well, political instability remains endemic within the region and is, together with the harsh environment and the oil economy, the greatest regional force affecting present development and future prospects.

6.5 Summary and conclusion

This chapter has attempted to summarise environmental factors, economic and political forces that together provide the essential regional framework within which the air transport system of the GCC countries has developed and continues to evolve. It can be concluded that the environmental context, although generally harsh, offers certain clear advantages for air transport infrastructural and network development, and that such difficulties as arise from environmental conditions can often, perhaps normally, be resolved through advanced technological systems for which funding is readily available. Broadly speaking, therefore, the diverse natural environments of the GCC countries, which in past times were clearly inimical to transport network development of any kind other than the most basic, do not nowadays pose serious problems that cannot generally be overcome. It might even be argued that, whereas in the past the environment was a negative factor as far as transport was concerned, today the environment is at least a neutral factor and, for the air transport industry, even a positive enabling factor.

In economic terms, the change brought about by oil revenues can be seen everywhere. In the desert, the influx of oil revenues ended the trading caravans of thousands of camels. In this wealthy region the simple and traditional life disappeared. Until the 1950s, donkeys were used to haul up water from wells; it now is pumped from desalination plants. Today, most homes are air-conditioned and people are more educated and earn much better salaries than in the past. The isolated urban centres are linked with each other by modern air transport networks and motorways.

The strategic and geopolitical importance of the Arabian Gulf has had serious consequences for the region. The Arabian Gulf has always been regarded as a centre of political and economic crisis and a flash-point of tension. Thus any crisis that unfolds in the region would have immediate global repercussions, with a host of consequences transcending regional borders. The last two decades of the 20th century witnessed some very important events among the Arabian Gulf Countries. The Iranian Revolution of February 1979, the Iran-Iraq War of 1980-88 and the Gulf War of 190-91 have helped degrade regional security and the environment, while at the same time

causing huge consequences on economic development throughout the region a large economic burden for the countries involved in the war. It can be argued, however, that although Iran is one of the strongest military powers of the region and has historically sought to extend its influence to the Arab shore of the Gulf, Iraq was the main power involved in pushing the wars further while hoping to become the dominant power in the Middle East (Charles and Buck, 1991). Clearly, the stability of the Arabian Gulf has become and will remain an important focus of Western strategy for many years to come. As Operation Desert Storm demonstrated, any threat to the long-term supply of oil from the Gulf is likely to trigger a major intervention by the USA and other outside powers.

Having discussed a number of regional forces that affect the airline industry in this chapter, the next step is to discuss the local forces that are identifiable individual countries. The next chapter is concerned with these local forces. The impacts of global, regional and local forces on the airline industry in the GCC countries are then reviewed together in Chapter 8.

Chapter 7

Local market forces

7.1 Introduction

This chapter sets out to throw some light on local market forces that have powerful impacts on the airline industry in some of the GCC countries. In Chapter 6 we discussed environmental factors and regional market forces in an attempt to study and analyse the common similarities and features that characterise the GCC region as a whole and have important effects on the airline industry. This chapter addresses some of the differences between the countries in the GCC region. The approach here is to focus on the differences rather than emphasise the similarities that were investigated in the previous chapter. In many respects Chapter 6 revealed little variation between the six member countries. They do not vary significantly in their basic political systems or general economic conditions. They are also very similar in terms of environmental factors.

The major aim now is to identify those local forces that can exist in individual countries and cannot be found in the others. Care is taken in order to recognise those forces or aspects thereof that were not addressed regionally in the previous chapter. Thus the chapter examines the importance of local market forces relative to the airline industry in the countries under investigation. However, some factors and forces relevant at the regional level resurface in new forms at the local level. Political fragmentation, for example, as has been discussed in Chapter 6, is a major issue raised in the regional context. It is also an important issue in the local context in the UAE, so it is appropriate to analyse it in this chapter. Six contrasted and specific types of local forces are analysed here. They involve Hajj and Umra; local regulation in Saudi Arabia; political fragmentation in the UAE; the trade and tourist industry in Dubai;

and economic development and transport infrastructure in Oman. These forces are considered as far as they influence the airline industry in individual countries rather than the whole region.

7.2 Saudi Arabia

7.2.1 Hajj and Umra

Makkah in the west of Saudi Arabia is the birthplace of Islam. Muslims from every corner of the globe face Makkah five times a day to pray. Those who can afford it have a duty to make a pilgrimage (called Hajj) to Makkah at least once in their lifetime, a sacred journey whose origins date back to the time of the Prophet Ibrahim. It has the unifying effect of bringing together Muslims of all races and tongues for one of life's most moving spiritual experiences. In carrying out this obligation, they fulfil one of the five pillars of Islam, central religious duties of the believer which constitute a set of acts of worship to be performed in and around Makkah (Al-Farsy, 1986).

Until the middle of the 20th century, pilgrims to Islam's two holiest sites, Makkah and Madinah provided a major source of Saudi Arabian revenues. That changed dramatically with Saudi Arabia's emergence as the world's largest oil producer. Now the Islamic holy sites have evolved from being the government's greatest economic asset to its greatest responsibility. Much of the modern resources of Saudi Arabia have been invested in improving conditions for the annual pilgrims. The government of King Fahd bin Abdulaziz takes great pride in serving and caring for the two Holy Mosques. Accordingly, His Majesty King Fahd has even changed his title to that of Custodian of the Two Holy Mosques. The King, his government and the people of Saudi Arabia are proud to serve the guests of Allah. They deploy all available resources to improve services and amenities in order to make the journey of the pilgrims an easy one. The government of Saudi Arabia has embarked upon the biggest expansion project of the sanctuary (Harem) to accommodate the increasing number of pilgrims and those Muslims who visit to perform Umra, a minor pilgrimage, each year. In terms of infrastructure, roads, tunnels and bridges have been built, and a network of hostels with provision of clean water and adequate sanitary and hospital

facilities has been provided. Moreover, all government agencies have been mobilised to provide administrative, security, safety, health, transportation and communication services.

Hajj occurs during less than a week-long period in the twelfth month (Dhul Hijjah) of the lunar year, which is about 10 days shorter than the solar year. This year's Hajj 1421 H (2001) took place in early March. During that period a record of more than 2 million Muslims were crowded into too small a space. This puts enormous, some might say unbearable, pressure on all the existing facilities, in spite of the improvements that have been made, and especially on the air transport system in Saudi Arabia.

The obvious result of Hajj traffic is severe congestion at King Abdulaziz International Airport (KAIA), Jeddah. The Hajj traffic peak, which only lasts for a short period of the year, has a significant impact inside the terminal building where the influx of passengers chokes the immigration, customs and security control facilities as well as overloading baggage handling and other terminal services. Increased passenger volumes could lead to further overcrowding of the airport and public parking facilities. As flight delays are likely to arise during the Hajj period, other airports with flights connecting to KAIA could be affected, which means that the entire air transport network could be in difficulty in this period. There is also a problem of imbalance between available capacity at KAIA and the traffic demand in the Hajj season. It could be argued that increasing the capacity through building a new airport in Jeddah would be pointless because Hajj is such a short annual event. It would be impossible to spread the traffic peak to make the demand fit within the available capacity. In practice there are two methods to deal with such a situation. The first is to optimise the usage and operation of existing airport facilities. The second is to expand the available facilities in order to deal with congestion and other difficulties that arise every year (Hamzawi, 1992).

Although an expansion programme had been devised from the early 1990s to cater for projected future capacity requirements at KAIA, the plan was delayed for financial reasons. By the mid 1990s it was obvious that the airport was rapidly reaching its capacity because of sharply increasing passenger movements as a result of Hajj and

Umra traffic and its major role as the first hub of Saudi Airlines. With rapid growth and the need for increased capacity, KAIA and Dubai International Airport emerged as the two busiest airports in the Middle East. KAIA handled as many as 9.64 million total passengers in 1997 as compared to a mere 1.36 million in 1975.

Most Islamic carriers respond to the Hajj traffic, but Saudi Airlines is the major carrier which transports a large percentage of the Hajj travellers (Fig 7.1). The flag carriers of Islamic countries on the one hand and Saudi Airlines on the other are chosen to transport pilgrims to and from Saudi Arabia provided that they comply with the prescribed arrival and departure schedules fixed by the Ministry of Hajj. Saudi Airlines' achievement was remarkable during the 1420H (2000) Hajj season. It operated 1,048 scheduled and extra flights during the season to carry about 557,000 pilgrims, a 21 percent increase over the 1419H (1999) season. The Airline also increased its market share, especially in the markets with high density.

Umra is a minor pilgrimage, completely different from Hajj. Firstly, it is a kind of worship, but it is not a duty like Hajj. Secondly, and perhaps most importantly in terms of the airline industry, Umra can be made at any time of the year although some people prefer the month of Ramadan. Thirdly, it is more flexible than Hajj and does not need extra flights. Moreover, the government of Saudi Arabia amended and improved the rules concerning Umra in September 2000. According to the new regulations, Muslims who intend to perform Umra are allowed to apply for a one-month entry visa that gives them the opportunity to travel across the country rather than being confined to the holy cities of Makkah and Madinah. In the past, visas were issued for a maximum period of 15 days, and visitors on Umra visas were confined to Makkah and Madinah. It is believed that Saudi Arabia's economy would benefit from Umra traffic and Saudi Airlines would generate more revenue under the new rules (see Chapter 9).

7.2.2 Local regulations

Unlike many countries, and although the country is very large, the Saudi Arabian domestic aviation market has not been entered by any airline other than the national flag carrier which was created in 1945 (see Chapter 4). For more than half a century

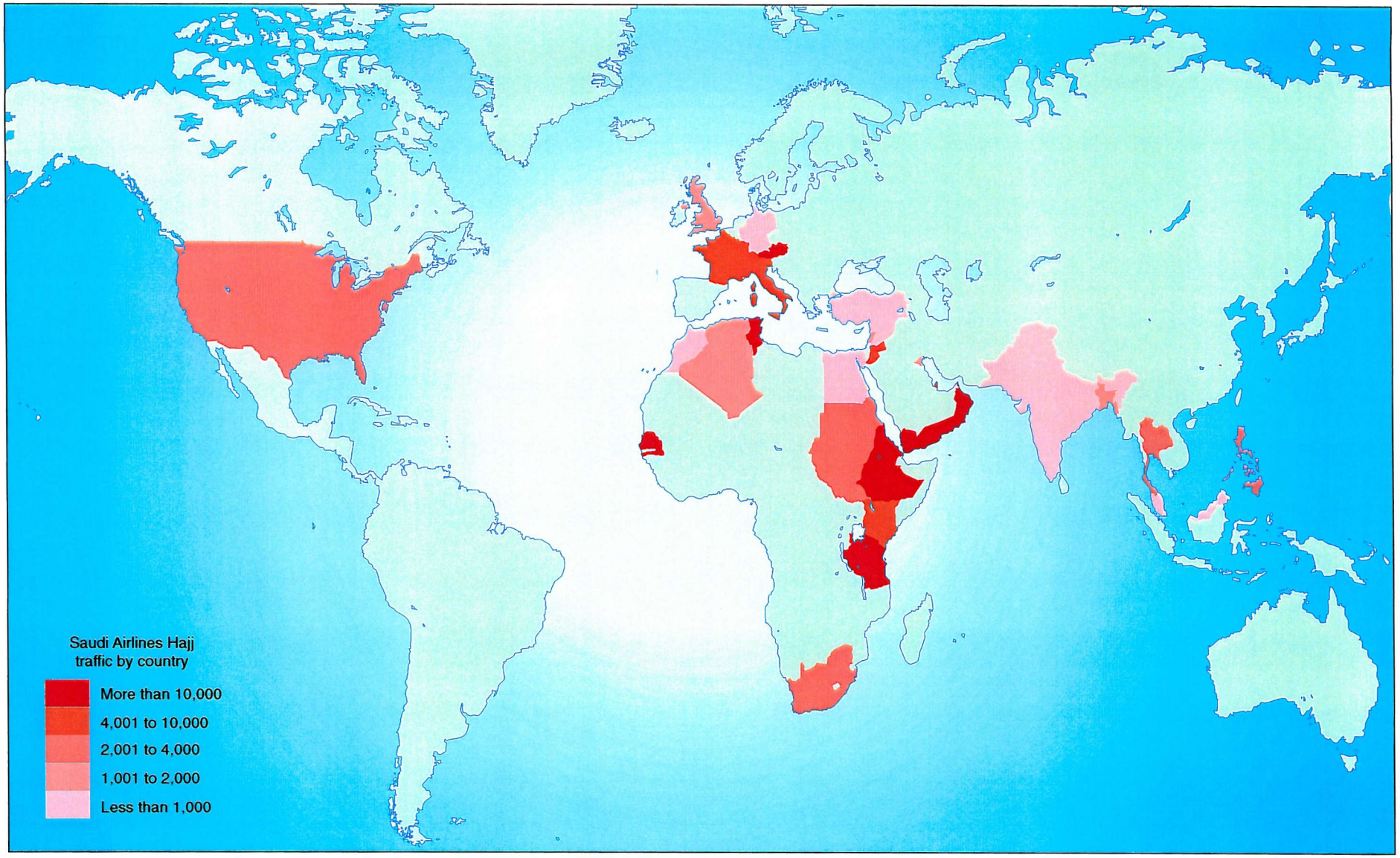
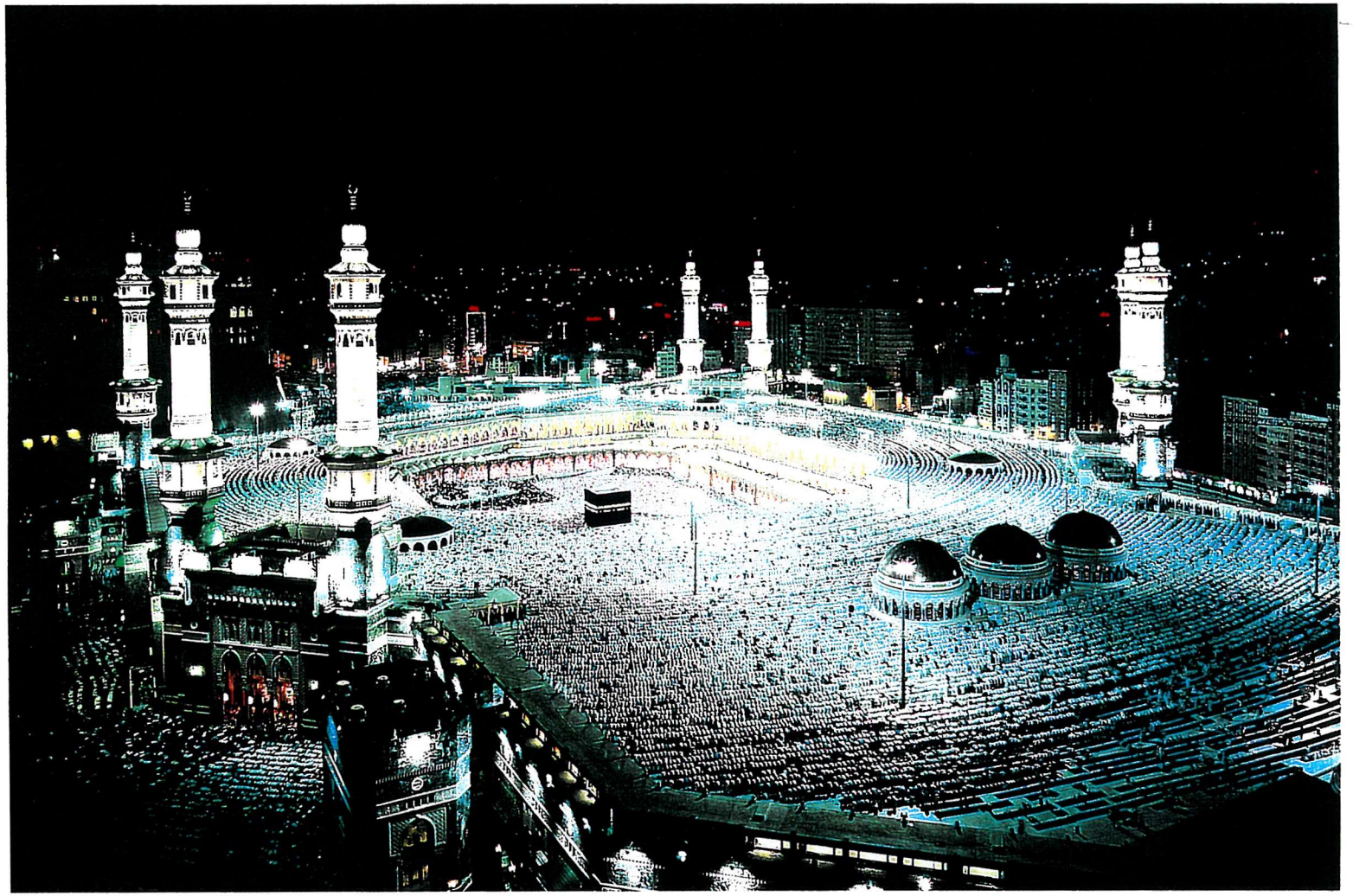


Fig. 7.1: Geographic distribution of the 1999 Hajj travelers carried by Saudi Airlines

(Source: Based on data supplied by Saudi Airlines, Jeddah)



This breathtaking night-time view of the scene at the Holy Mosque in Makkah during the annual pilgrimage emphasizes the magnitude of this unique gathering of people from all over the world. In this picture are upwards of a million pilgrims, an assembly made possible only by an unprecedented feat of logistics and organization.

Figure 7.2: The Holy Mosque at Makkah, Saudi Arabia. Travel to and from King Abdulaziz International Airport, Jeddah, around the time of the annual Hajj involves over a million passengers during just a few weeks and is the most important single factor affecting Saudi Arabian Airlines annual passenger throughput levels.

Saudi Airlines has been serving domestic routes without any competitor. Saudi Airlines has full monopoly rights with no competition. It is clear that competition on domestic routes could yield price reductions and enhance the performance of the network. While consumers gain from a deregulated market in the USA, Canada, the UK, India etc. the local market in Saudi Arabia is still very regulated.

It can be argued that a country with a single large carrier must have general concerns about the monopolistic behaviour of the carrier, particularly in the domestic market. To check this behaviour, such a country usually encourages the growth of smaller domestic carriers to provide a competitive check on the large airline's activities (Ludvigsen, 1993). However, in Saudi Arabia licenses have not yet been given even to charter operators that could feed Saudi Airlines and support the domestic system. Undoubtedly, the government of Saudi Arabia regulates domestic routes and provides its people with bargain airfares through a subsidy system which has resulted in operating losses on the domestic market (see Chapter 8). But frequencies and services are poor compared with international routes where competition is significantly higher. In other words, Saudi Airlines provides high-quality services on international routes and low-quality services on domestic routes.

In fact, there is a growing concern, expressed by heavy users of the domestic network in Saudi Arabia, that once the publicly owned national flag Saudi Airlines is privatised, airfares will be deregulated. Theoretically, without free and fair competition within the domestic market airfares will experience a sharp increase under a privatisation programme. It is believed that a new fare system will by introduced if Saudi Airlines becomes a private carrier. As a result many restrictions on domestic fares will be lifted. The new management and shareholders will be basically free to set their own fares which will be higher than the existing subsidised fares.

The Saudi government should, therefore, take this serious concern into consideration by allowing new carriers to operate on the domestic market. Liberalising the domestic aviation market in Saudi Arabia will undoubtedly lead to fare and frequency competition which can improve the airline system in the country. Thus, the granting of domestic route rights to small competitors may seem necessary for competition.

7.3 The UAE

7.3.1 Political fragmentation

The UAE is a federation of seven emirates located on the Arabian Peninsula. These emirates are Abu Dhabi, Dubai, Sharjah, Ajman, Umm Al Qaiwain, Fujairah, and Ras Al Khaimah. Until the 1960s there was relatively little development in the area, but the discovery of oil in Abu Dhabi fundamentally changed both economic and political circumstances (World Market Research Centre, 1996). The idea of a federation between these small emirates was born and the UAE was created on 2 December 1971 as a result of an agreement between the rulers of six of the emirates. The seventh emirate, Ras Al Khaimah, formally joined the federation on 10 February 1972.

The Supreme Council of the UAE, comprising the hereditary rulers of the seven emirates, is the highest federal authority. It is responsible for general policy matters involving communications, education, defence, foreign affairs and development, and for ratifying federal laws. In addition to the Supreme Council, the federal structure includes a Council of Ministers, a Federal Judiciary and the Federal National Council (FNC) which consists of 40 members representing the seven emirates. The FNC does not have the power to legislate, but it can summon ministers.

The seven emirates are not equal in terms of wealth, power, or level of economic development. Abu Dhabi, the largest oil producer, is the wealthiest and most powerful, followed by Dubai, the federation's commercial centre and second largest oil producer. So, the President and the Prime Minister are drawn from the emirates of Abu Dhabi and Dubai respectively. While Abu Dhabi is the centre of federal government activities, most ministerial departments also maintain offices in Dubai.

However, most economic activities are regulated by the individual emirates. Each emirate is ruled by a shaikh. A high degree of political and economic power resides in the individual emirates. Each shaikh retains control over natural resources, including oil, within his emirate, and regulates commercial activity. Each Emirate has its own local government involved with municipal affairs, and in some cases major public utilities like power and water. The local laws are not consistent across the emirates.

Alcohol, for instance, is allowed in Dubai and Ajman while it is forbidden in the other emirates.

Although the total area of the UAE is about 83,600 km^2, equal to 3.1 percent of the GCC region, the country accommodates no less than six international airports. Abu Dhabi has two international airports. The others are in Dubai, Sharjah, Fujairah, and Ras Al Khaimah. Only the two smallest emirates, Ajman and Umm Al Qaiwain have no international airport. Although these airports are in a single bordered country, there has been no effective co-operation between them at all. So, the impact of such a number of international airports on the airline industry in the UAE is very strong. Each airport makes an effort to attract international airlines by providing them with facilities in order to maximise the number of passengers that visit the emirate. Moreover, despite the fact that the country has six modern international airports and no rail system, the country is not served by any domestic air transportation network. This is the result of local political fragmentation. For example, a private commuter airline operating between Abu Dhabi and Dubai was shut down only a month after its start up by the Abu Dhabi authorities who were fearful that it would drain international travel away from Abu Dhabi International Airport to Dubai International Airport. It is clear that the government of Abu Dhabi, which owns 25 percent of Gulf Air, would support its national flag against the Emirates Airlines which is 100 percent owned by Dubai's government.

7.3.2 Tourism and trade in Dubai

As a result of the continued low in world oil prices, economic diversification through tourism has become a central focus for the government of Dubai. The government realised that the emirate's proven oil reserves are limited and thus they have begun a process of economic diversification. Dubai already controls 60 percent of the tourist industry in the UAE, and nearly 70 percent of the UAE's hotels. Dubai's new eco-tourism plan appears to be an attempt further to consolidate its share of the market. There are many factors that have made Dubai not only a considerable tourist centre but also a trade hub in the Middle East.

Table 7.1: International airlines that provided air services from and to Dubai (in 1999)

Airlines	Airlines	Airlines	Airlines
Aeroflot	Bhoja Air	Kenya Airways	Royal Air Maroc
Air France	Biman Bangladesh Airlines	Kish Air	Royal Brunei Airlines
Air Gabon	Bon Air	KLM-Royal Duch Airlines	Royal Jordanian
Air-India Limited	British Airways	Kras Air	Royal Nepal Airlines Corporation
Air Lanka Ltd.	Caspian Airlines	Kuwait Airways Corporation	Samara Airlines
Air Malawi Ltd.	Cathay Pacific Airways Ltd.	Lanka	Saudi Airlines
Air Maldives Ltd.	City Vietnam Airlines	Lithianian Airlines	Shaheen Air International
Air Malta p.l.c.	Georgian Airlines	Lufthansa German Airlines	Singapore Airlines Ltd.
Air Seychelles Ltd.	CSA Czech Airlines	Mahan Air	South African Airways
Air Tanzania	Cyprus Airways Ltd.	Malaysia Airlines	State Transport Co. Russia
Air Ukraine	Daallo Airlines	Middle East Airlines	Sudan Airways Co.Ltd.
Alititalia	Egyptair	Nigeria Airways Ltd.	Swissair
Ariana Afghan Airlines	Emirates	Olympic Airways	Syrian Arab Airlines
Armenian Airlines	Ethiopian Airlines Enterprise	Oman Air	Tarom Romanian Airlines
Austrian Airlines	Eva Airways Corporation	On-Don Don Airlines	Thai Airways
Austrian Air	Gulf Air	Pakistan International Airlines	Turkish Airlines Inc.
Azerbaijan Airlines	Iran Air	Qantas Airways Ltd.	Ugandan Airlines Corp.
Balkan Bulgarian Airlines	Iran Aseman Airlines	Qatar Airways	Vietnam Airlines
Begawan Royal Brunei	Islands Kish Air	Qeshm Air	Yemenia

Source: Emirate of Dubai

Figure 7.3: Waterfront hotels at Dubai, United Arab Emirates.
Economic diversification in Dubai, including tourism and a variety of technology-based industries, is dependent on one of the most sophisticated airport gateways in the world. A major airport expansion programme underlines Dubai's role as an international business and leisure centre.

Due to its strategic location, Dubai has become an important connecting link between Europe and the Indian Subcontinent. It has also been able to act as a link between the Far East and Africa (Azzam, 1988). It has been playing and will continue to play a critical role of intermediary between these vastly different cultures. Thus, Dubai's location makes for easy accessibility. London is seven hours away; Frankfurt six; Hong Kong eight and Nairobi four. As a result Dubai is now one of the world's leading intercontinental transit centres with a wide choice of more than 80 airlines which provide direct services to over 102 international destinations (Table 7.1).

Secondly, in order to create an ideal atmosphere for the development of tourism, visas are easily obtainable for all visitors except travellers whose passports bear Israeli stamps. All visitors except British Passport holders or GCC nationals require a visa sponsored by a local entity. There are two types: transit visas for 14 days and renewable visit visas for 30 days. Moreover travellers can process visas by e-mail or fax. They just need to fill the Application Form and send it by pressing the Submit button. After submitting their visa requests, travellers will be sent a copy of their visas as soon as obtained. Upon arrival at Dubai International Airport the passenger goes to the visa counter and presents the copy of his visa and the original visa will be given to him. Furthermore, Emirates Airlines has been given the opportunity to help travellers using the airlines to have their visas given out by the airlines' offices.

A third factor is that Dubai lies on the sparkling blue waters of the Arabian Gulf, an ideal holiday destination for water-sports enthusiasts from around the world. Visitors can relax in the sunshine and enjoy comfortable water temperatures all year round. Dubai offers a choice of well-established clubs and leisure centres specialising in scuba diving, deep-sea fishing, water-skiing, sailing and windsurfing. The UAE is also endowed with an extensive coastline, sandy beaches and varied landscape, where a wide variety of activities can be enjoyed, ranging from powerboat racing to sand-skiing. There are manicured golf courses and, for the less active, shopping opportunities abound. In addition, the country has a deep-rooted cultural heritage, accessible in the many cultural centres, and traditional sports such as falconry, camel-racing and horse-racing, a powerful attraction for tourists. Dubai has also become a much sought after venue for conferences, regional and international exhibitions and

major sports events such as the Dubai World Cup, the Dubai Desert Classic Golf Tournament, and polo and cricket competitions.

A fourth consideration is that hospitality and courtesy are among the features that characterise the Arabian people, in part as a result of Islamic traditions. The visitor is sure to be charmed by the genuine warmth and friendliness of the Emirates people. Unlike Saudi Arabia or Kuwait, foreigners are free to celebrate and practise their own religion. Alcohol is allowed in Dubai for non-Muslims and is served in hotels and night-clubs. Despite this the UAE maintains traditions. For example, during Ramadan, which is a month when Muslims abstain from food and drinks from dawn to dusk, visitors are required to refrain from consuming food in public places as a sign of respect.

Table 7.2: The development of traffic movement at Dubai International Airport (1970-97) ('000)

Year	Passengers			
	Departures	Arrivals	Transit	Total
1970	84.1	83.7	74.5	242.3
1975	295.4	352.2	340.1	987.7
1980	717.3	767.8	1,302.7	2,787.8
1985	1,104.0	1,125.3	1,618.2	3,847.5
1990	1,610.4	1,656.5	1,749.8	5,016.7
1991	1,656.3	1,676.3	1,063.7	4,396.3
1992	1,988.0	2,077.7	1,378.3	5,444.0
1993	2,215.3	2,325.9	1,134.1	5,675.3
1994	2,583.2	2,616.6	1,099.4	6,299.2
1995	2,923.1	2,967.0	1,212.9	7,103.0
1996	3,479.8	3,434.7	1,094.1	8,008.6
1997	3,874.0	4,015.2	1,129.7	9,018.9

Source: Government of Dubai, Department of Economic Development, 1998

Dubai is also a regional business and trading centre. The role of the greater Dubai economic zone can enhance both tourism and the airline industry. Since UAE tariffs are low and are not levied against most imports, the chief attraction of the free zones is

the waiving of the requirement for majority local ownership. In the free zones, foreigners may own up to 100 percent of the equity in an enterprise. The largest and most successful of the free zones is the Jebel Ali Free Zone (JAFZ) in Dubai which offers special incentives to attract tenants, such as no taxation for many years, subsidised energy rates, and full repatriation of capital and profits. In addition, for a nominal fee the zone authorities provide significant support services, such as sponsorship, worker housing, dining facilities, recruitment, and security. Today, Dubai acts as a conduit for goods from large manufacturers to South Asia, the Gulf region, Africa, the rest of the Middle East and the newly independent states of Central Asia. In fact, JAFZ falls in line with the Dubai government's aim of economic diversification.

Dubai specialises in deluxe group travel packages focusing on interest groups, award programs, alumni groups, and sports groups. They take them on trips with a difference. The sports packages focus on golf tours, car races, horse races and camel races. The golf package is a major attraction. Dubai has three of the best golf courses in the world and the Desert Classic is held there. The annual air show is seen as another potential draw. Dubai is luxury resort with top American and European hotels with top of the range facilities and first rate services. They cater for the upper echelon of business and holiday tourists; that means big spenders.

It can be argued that the publicly owned Emirates Airlines was created in 1985 to achieve the goals expected by the government of Dubai. Dubai has attracted other international airlines to use Dubai International Airport by adopting an open sky policy. Thus major airlines have chosen Dubai as a centre in the Middle East. The policy has forced the government to expand Dubai International Airport in order to meet increasing demand. Thus, Dubai International Airport managed to handle more than 9 million passengers in 1997 in comparison with 242,300 passengers in 1970 (Table 7.2). It became the number one airport in the Middle East although its total population was only about 772,500 persons in 1997.

With a wide choice of luxury modern accommodation at competitive prices, Dubai is attracting increasing numbers of tourists from Europe and Asia. The number of hotel guests recorded in Dubai during 1997 totalled 1,791,994; an increase of 424 percent compared with the 422,383 in 1985, an annual increase of 53 percent. This is a

satisfactory rate of increase. There was an especially encouraging growth in business travellers from both East and West Europe. The number of European visitors soared by 29.8 percent to 534,299 during 1997, and the biggest group of Europeans were British and Germans. Dubai has also experienced a steady influx of tourists from Asia and Africa, hosting 558,307 in 1997. The GCC and other Arabian nationalities increased from 112,151 in 1985 to 511,259 in 1997 (Fig 7.4). In the same year, the number of hotels reached 246, providing 14,233 rooms and Dubai collected US$535,306 million in hotel revenue in 1997 compared to US$106,153 million in 1985. With new hotel projects and resorts planned for the future, Dubai will have more than enough facilities to meet the increasing number of tourists (Table 7.3).

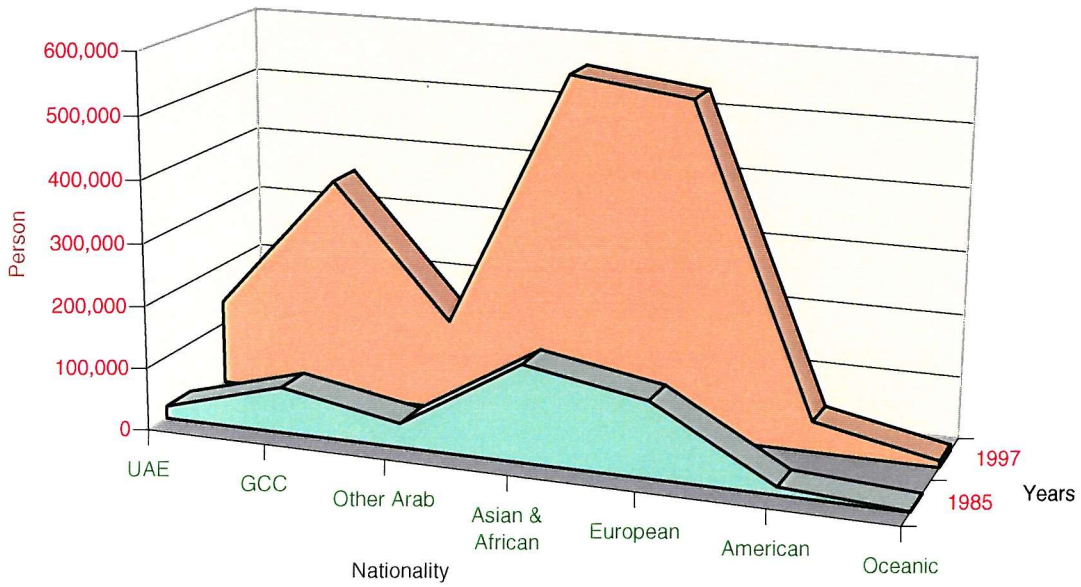
Table 7.3: Hotel development in Dubai by class (1985-97)

Year	Hotels				
	Deluxe	First Class	Second Class	Others	Total
1985	11	15	12	4	42
1990	11	12	13	34	70
1991	11	12	15	97	135
1992	12	14	23	108	157
1993	14	20	29	104	167
1994	15	21	28	127	191
1995	22	22	44	135	223
1996	25	27	44	137	233
1997	29	30	50	137	246

Source: Government of Dubai, Department of Economic Development, 1998

Regional and international airlines have both benefited from Dubai's open sky policy. Competition on some heavily used routes has increased dramatically. Customers can choose between the different carriers which provide good quality services at reasonable airfares. The Dubai-London sector, for example, is operated by seven airlines namely Emirates, British Airways, Air Seychelles, Biman Bangladesh, Pakistan International, Royal Brunei and Royal Nepal, while Emirates, Lufthansa, Royal Brunei and Royal Nepal Airlines operate the Dubai-Frankfurt sector. Four

Fig. 7.4 Dubai: hotel guests by nationality (region) in 1997



Source of data: Government of Dubai, Department of Economic Development, 1998

carriers, namely Emirates, Pakistan International, Singapore Airlines and Turkish Airlines, provide airline services on the route between Dubai and Istanbul. Similarly, there are three competitive routes connecting Dubai with Asia. The first is the Dubai-Karachi route which is operated by Bhoja Air, Emirates, Kenya Airways, Lufthansa, Pakistan International, Royal Jordanian and Swissair. The Dubai–Bangkok route is the second, operated by Cathay Pacific, Emirates, Olympic Airways, Royal Brunei and Thai Airways. The third busiest route connects Dubai with Singapore. Travellers on this route can chose between Emirates, Singapore Airlines, Aeroflot, and Royal Brunei. The Dubai open sky policy has also increased competition within the GCC region. Seven carriers operate in the Dubai-Bahrain sector. These carriers are Gulf Air, Air Malta, Balkan Bulgarian Airlines, Cathay Pacific, Cyprus Airways and Emirates. The Dubai-Kuwait sector is served by Air Lanka, Emirates, Ethiopian Airlines, Kuwait Airways, Lufthansa and Oman Air. On the other hand, routes between Dubai and Jeddah, Riyadh and Dammam in Saudi Arabia are still regulated. Only the two national flag Saudi Airlines and Emirates have been allowed to operate on these routes (see Chapter 8).

7.4 Economic development and transport infrastructure in Oman

7.4.1 Economic development

Oil revenue is a critical factor determining economic development in all the GCC countries. As discussed in Chapter 6, the discovery of oil in the Arabian Gulf has become a source of great wealth for the Arabian countries. Oil revenues have driven the regional economy significantly, and the production of oil in substantial quantities has considerably facilitated the modernisation of the regional economy (Held, 2000). Oil has, therefore, been the main factor in the political, economic and social developments that have occurred in all six member states of the GCC. However, the GCC countries vary considerably in terms of power and wealth accrued.

Due to political and economic forces, Oman was a late starter in the region in terms of benefiting from the oil industry. The first discovery of oil in the region was in Bahrain in 1932 in an area known as Jebel ad-Dukhan. Thus, Bahrain became the first country to exploit its oil-related resources, followed by Saudi Arabia and Kuwait (1938), Qatar

(1939) and the UAE (1958) (Ramahi, 1973). Since then, the governments of these countries have planned the development of their economies by applying massive infrastructure programmes and building sufficient air transport systems, while Oman provided these countries with unskilled manpower.

Under the long reign of Sultan Said bin Taimur during the period 1932-1970, Oman became relatively isolated from the rest of the world, primarily due to the Sultan's determination to ensure the financial independence of the country (Roberts and Fowler, 1995). As a result, oil resources were not utilised to their maximum. In July 1970 a palace coup brought Qaboos bin Said to power. In an attempt to develop the country, one of the new Sultan's first moves was to educate and qualify Omanis abroad to help him in building a modern state (Held, 2000). Sultan Qaboos also encouraged ways of attracting international oil companies to work on Omani soil. Intensive exploration by companies has resulted in an increase in the number of oil fields from 3 in 1967 to nearly 80 in 1997. Oil production rose from 63,000 barrels per day (bpd) in 1967 to 900,000 bpd in 1997. Although, proven oil reserves increased from 2 billion barrels in 1967 to reach 5.24 billion barrels at the end of 1997, that represents only 6.3 percent of total GCC oil reserves. Similarly, natural gas reserves totalled 30 trillion cubic units in 1997, equal to 4.1 percent of total GCC gas reserves, while Qatar controls more than 34.2 percent. Agriculture and fisheries still play a vital role in the Omani economy. It was estimated that more than 50 percent of the Omani workforce worked in agriculture in 1994 (World Market Research Centre, 1996).

As a result, in terms of economic development, the gap between Oman and the other GCC countries is wide. In an attempt to bridge this gap the Omani government is trying to develop its light manufacturing industries by the creation of several industrial estates. Other efforts include infrastructure development to modernise Oman's interior in an attempt to attract tourists and increase Oman's hard currency flows. To achieve the required goals, Oman has opened up its market to foreign investors especially in the industrial sector. The Omani government is also embarking on an aggressive plan to increase technology transfer and create jobs for its population. This could be achieved through carefully co-ordinated education opportunities and training programmes for Omani citizens. To support its economic development programmes,

Oman offers several economic incentives, including no restrictions on the flow of capital, plus a five year renewable tax holiday in addition to interest free loans from the Ministry of Commerce and Industry and low interest loans from the Oman Development Bank. Furthermore, the government has embarked upon a modest privatisation programme with new investment laws allowing foreigners to own 65 percent of joint industrial ventures.

7.4.2 Transport infrastructure

In spite of the fact that Oman is the second largest of the GCC countries (309,500 km^2), there were only two graded roads in the country linking Muscat (the capital) with Sohar and Fahad in 1970. Vehicles had otherwise to travel along tracks and only trucks were capable of withstanding these difficult conditions. Road construction became a priority as part of the development of the infrastructure programme in the early 1970s, and in the past two decades a network of asphalt roads has been constructed to cover the entire length and breadth of the country. By the end of 1998, more than 7,680 km of paved roads were completed. Significant road construction has been carried out in the mountainous areas of the country, connecting isolated communities with the principal centres of population. These include roads through the rugged mountains of the Musandam peninsula at the northern tip of Oman. More road building is also being undertaken under a current road programme.

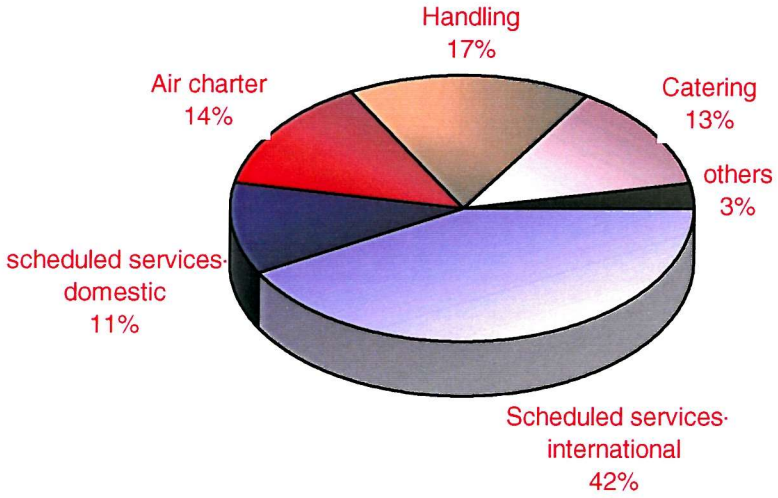
The franchise for the operation of public services throughout Oman is held by the Oman National Transport Company (ONTC), the state-owned bus company which also provides a wide variety of long-term contracts, short-term charters and tourist coach services. It operates 28 routes, which provide both urban and suburban services in the Muscat region. It also links the major cities throughout the country. The ONTC operates six air-conditioned luxury coaches between Muscat and Salalah and between Muscat and Dubai. Plans are well advanced and include expansion of the public bus service network as well as the replacement of older buses with new modern vehicles.

Turning now to the airport infrastructures, it is clear from the above argument that the Omani government focuses its attention on ground transportation rather than creating an effective domestic network to connect its urban centres with each other. The result

is a few small local airports that lack modern aviation equipment. The ability of these airports to receive modern aircraft is very limited. Oman now has two international and five regional civil airports. The principal international airport is located in Muscat, which is the main gateway for the country. The second is located in Salalah which has become a tourist destination in the country. There are four small local airports in Sur, Masirah, Khasab and Diba. Those at Sur and Diba are for light aircraft only. They cannot accommodate wide-bodied aircraft. This has important effects on the domestic network in Oman. The infrastructure failure has resulted in a poor domestic network. It means that the internal connections between urban settlements are unimproved and regional development can suffer dramatically, as does the Omani government's aim to develop its tourist industry. Some argue that airport projects result in greatly stimulated economic growth (Goetz and Szyliowicz, 1997). If this is so, the government should expand these local airports to enable them to accommodate more aircraft.

The Oman Aviation Services (OAS) was established in 1981 to provide some domestic air services, charter aircraft and to offer other international airline-related services. While Gulf Air links the country with worldwide services. OAS achieved a significant step in 1993 when Oman Air came into existence. Despite the fact that the main purpose of Oman Air is to operate domestic routes, it expands its operation to include some international destinations especially in the Middle East and India in order to cover its operating expenditures (Fig 7.5). Although the scope of its influence and its commercial strength are still much smaller than those of the many foreign airlines that provided air services to Oman, the carrier will be able to improve its services depending on the local demand for air service. The problem is that Omani travellers depend largely on ground transportation because the economy in the country still quite simple and there is no need to travel by air. However, a domestic network is undoubtedly very important in order to promote the economic development in Oman. In addition, the enhancement of a domestic network can attract more tourists to Oman and lead to enhance economic development.

Fig. 7.5: Oman Aviation Services (OAS) operating revenue in 1997



Source of data: OAC, Annual Report, 1998

7.5 Summary and conclusion

Obviously, local market forces, which have been discussed in this chapter, are not independent, but hang together in some way or other. For example, beautiful sandy beaches and suitable weather alone would never have resulted in the large number of tourists now present in Dubai, nor will Hajj and Umra traffic increase on airline services within Saudi Arabia unless more flexible legislation is adopted to allow travellers to move freely between Saudi Arabian cities. An increase in tourist movements into Dubai is a net result of the increasing role which Dubai plays, not only in the GCC region but also in the Middle East, as an important trade and tourist centre enhanced by favourable policies rather than environmental factors. Dubai has also been chosen by foreign international airlines as a transfer point because of the nature of the competitive situation created by an open sky policy.

While Dubai is a great tourist and trade centre, Saudi Arabia is the centre of Islam where more than two million travellers come to Makkah yearly to perform the fifth of the their Islamic religious duties. Large flows of traffic towards the holy cities in Saudi Arabia create two peaks. The first occurs at the beginning of the Hajj season and there is an equally large peak at the end of the season. In response to Hajj traffic the Saudi Arabian government has invested heavily in huge infrastructure programmes in Makkah and Madinah as well as improving KAIA in Jeddah to cope with the two peaks of Hajj movements.

In Saudi Arabia, where the operating costs of domestic air transport have been rising compared with net revenue, the government finally reached the level of subsidies that will force them to privatise the sole carrier (see Chapter 8). The movement towards privatisation without allowing other competitors in the Saudi market may affect the whole domestic system in the near future.

Air transport infrastructure in the UAE has been determined by political rather than economic considerations. Political fragmentation has been responsible for establishing six international airports in the country. It is believed that not all these airports, apart from Dubai International Airport, the home base of Emirates, would be needed if the country were not politically fragmented.

Oil revenue and low petrol prices inside the region have significantly improved the economic situation in all the GCC countries. Oman is less developed than the other countries in the region due to political and economic challenges. In addition, people in Oman have been slow to profit from the domestic aviation system because the government policy focuses its attention on improving land transport infrastructure. So people make their trips by land modes rather than use the domestic air transport system. Thus, modern roads link almost every urban centre, whereas the domestic aviation network is poor in Oman.

Finally, the fundamental question is what are the impacts of all these market forces on the airline industry in the GCC region. The next chapter is designed to provide a comprehensive answer. It should be recalled that global and regional market forces, which were discussed in the two previous chapters, pose significant problems to the airline industry in the region; these problems will also be analysed. Thus, potential challenges associated with market forces are important as the approach of the thesis is to identify the challenges that have been created by three groups of market forces.

Chapter 8

Problems for GCC airlines

8 .1 Introduction

The three previous chapters -5, 6 and 7- investigated three groups of market forces - Global, regional and local- which have great effects on the performance of the airline industry in the GCC region, and this chapter will attempt to assess the strength of these impacts on the airline industry in the GCC countries and their implications. The chapter is divided into three main parts. The first and perhaps the most important part deals with the problems created by global market forces. The regulated market, publicly owned carriers and the exclusion of all GCC airlines from global alliances are all discussed. The second part analyses those problems that are created by regional forces. Four major problems are discussed, which derive respectively from environmental, economic and political issues. Competition with other modes is also addressed in this part. The third and final part sets out to examine the impact of local market forces on the airline industry in some individual countries.

It should be acknowledged that such an approach is not easy. In practice, all these market forces combine to create the environment within which the airline industry in the region is operating, and can be seen as causes and effects at one and the same time. However, for academic purposes a serious effort has been made to separate out the impacts of each of these market forces depending on the available statistics to support the arguments that are used.

8.2 Problems created by global market forces

8.2.1 The regulated market

The experiences of the airline industry in both the USA and Europe provide evidence of the benefits of a free and open marketplace for consumers. Competition in airfares allows passengers to choose those carriers that offer the lowest prices and superior customer service. In this competitive environment, companies either respond to their customers or they will not be able to survive in the marketplace. Unfortunately, this does not occur in regulated monopolies like the airline industry in the GCC countries, and passengers in these countries gain no benefit from airline regulation, which has a negative impact on the quality of services.

Airline deregulation has brought significant change to the airline industry. It has forced the industry's mainstream to follow the same course at least to a considerable extent. Chapter 5 summarised the effects of airline deregulation/liberalisation on passenger welfare and found that the public has benefited from liberalising the airline industry in most of the regions that adopted this strategy. Given the historical success of deregulation, it is reasonable to suggest that liberalisation in the airline industry in the GCC countries might provide similar benefits to both consumers and carriers in the region. However, despite the popularity and economic significance of airline deregulation in global terms, no attempt has been made as yet to liberalise the airline industry in the GCC countries.

Studies consistently demonstrate that regulation goes hand in hand with high prices to consumers and a substantial decrease in quality and service (Bailey, 1985). Unfortunately, many transitioning and developing countries continue to be highly regulated, with large state-owned sectors and inefficient firms or oligopolies operating in markets insulated by various types of barriers. The airline industry in the GCC region has been under strict economic regulation for many years. Airline regulation does not allow competitive market forces to determine the quality, frequency, variety and price of air services available to the public (Meyer and Oster, 1987). The GCC governments have control over passenger fares and airline routes so that the industry

has not benefited from new legislation as applied to the industry in the USA and Europe.

The evidence is clear: regulated monopolies lead only to higher prices while limiting customer choice. Thus airline transportation within the GCC region is highly regulated by individual member states, except for Dubai which has adopted an open sky policy. Under regulation, carriers have not been able to increase their services within the region. Government regulation has made the airline industry in these countries inefficient, and affected its growth. The government's control over fares and services can be a significant cause of the decrease in airline competition between the six member states.

Although the six GCC members are often considered to be a group of relatively similar countries, they have not yet forged a single agreement that might become an important factor in determining how effective and competitive in the airline industry they will be. There are, from an economic point of view, significant differences between the countries which make it very difficult to go ahead in liberalising the civil aviation industry in the short term. Perhaps the fundamental factor that can play a major role in this context is the huge difference between the countries in their local markets. The gap between the Saudi Arabian market and those of other Gulf countries is very wide. It is obvious that Qatar Airways, Kuwait Airways, Emirates and Gulf Air have very limited home markets and would be dependent on the sixth freedom (the right of an airline to carry passengers from a foreign country and transfer them to another country using its hub in this movement), through their hubs. Therefore, these carriers have requested more access to the Saudi Arabian market which is served only under diplomatic agreements between governments, in an attempt to divide up the pie between the carriers of all member states. The challenge is how to ensure an equitable balance of opportunities between the carriers of these countries. Given the imbalance between the populations, economies and airline industries of the six member states, this will be a very difficult task.

Whatever the degree of liberalisation that may be adopted, other GCC carriers in general stand to benefit more than Saudi Airlines. Such a view, of course, fails to consider the generalised economic benefits to all countries of improved air services.

Long years of government ownership of Saudi Airlines have traditionally put carrier interests first in determining Saudi Arabian aviation policy, placing airline interests above consumer and economic benefits. In theory, it can be said that the airline industry can be seen as a major instrument of economic growth. In this view, it is believed that increased service by carriers of any country in the region can be of considerable benefit.

It is a fact, however, that Saudi Airlines should take care of its market. Saudi Airlines on intra-GCC routes have a small percentage share of traffic. On 9 July 1973 an agreement between Saudi Arabia and Kuwait was signed. According to this agreement each national carrier had the right to operate 3 flights weekly, two flights from Kuwait to Dhahran and one flight to Jeddah. Saudi Airlines was given the right to operate from any international point in Saudi Arabia to Kuwait. In 1983, the agreements between the two countries gave Kuwait Airways permission to serve Riyadh by two weekly flights. Comparing scheduled flights between Saudi Airlines and Kuwait Airways for the winter of 1997/98, Saudi Airlines operated 11 flights per week from its international airports to Kuwait with a maximum capacity of 2916 seats, while Kuwait Airways operated 14 flights with a capacity of 6146 seats, 3240 seats more than Saudi Airlines.

Thus, Kuwait Airways transported 91,535 passengers in winter 1997/98 on routes between Saudi Arabia and Kuwait while Saudi Airlines carried 37,735 passengers. The Saudi Airlines market share decreased from 33.6 percent in winter 1995/96 to 29.2 percent in winter 1997/98. In the same year its load factor was 48 percent. Kuwait Airways recorded about 67 percent as its load factor. Its market share was very high compared with Saudi Airlines (Table 8.1).

Table 8.2 shows total passengers and market share between Saudi Arabia and Bahrain during the period 1994-97. It is clear that the Saudi Arabian market has been a target not only for Kuwait Airways but also for other GCC carriers. In spite of the fact that the figures did not include the air bridge between Dhahran and Bahrain, operated by Gulf Air, it can be recognised that Saudi Airlines' market share fell from 39.5 percent in 1994 to 27.1 in 1997. Gulf Air managed to carry 173,000 travellers from the Saudi Arabian market. Most of these travellers were collected from Eastern Saudi Arabia.

Table 8.1: Total passengers and market share between Saudi Arabia and Kuwait (1995/96-1997/98)

Period	Total passengers	Saudi Airlines			Kuwait Airways		
		passengers	%	Load factor	passengers	%	Load factor
Summer 96	199,193	53,585	26.9	62.4	145,554	73.1	72.2
Winter 96/97	167,049	55,607	33.3	64.1	111,442	66.7	73.0
Summer 97	195,409	52,919	27.1	87.0	142,490	72.9	88.0
Winter 97/98	129,270	37,735	29.2	48.0	91,535	70.8	67.0

Source: Saudi Airlines, unpublished figures (in Arabic).

Table 8.2: Total passengers and market share between Saudi Arabia and Bahrain (1994-97)

Years	Total passengers	Saudi Airlines		Gulf Air*	
		passengers	%	passengers	%
1994	169,753	67,081	39.5	102,672	60.5
1995	160,362	59,778	37.3	100,584	62.7
1996	156,692	45,561	29.1	111,131	90.7
1997	173,478	47,322	27.3	126,156	72.1

Source: Saudi Airlines, unpublished figures (in Arabic).
*The Air bridge by Gulf Air between Bahrain and Dhahran is not included.

Table 8.3: Total passengers and market share between Saudi Arabia and Qatar (1994-97)

Years	Total passengers	Saudi Airlines		Gulf Air		Qatar Airways	
		passengers	%	passengers	%	passengers	%
1994	105,171	12,806	12.2	92,391	87.8	----------	00.0
1995	100,673	15,769	15.7	84,904	84.3	----------	00.0
1996	100,329	15,400	15.3	84,929	84.7	----------	00.0
1997*	134,437	13,250	9.9	93,152	69.3	28,035	20.8

Source: Saudi Airlines, unpublished figures (in Arabic).
* Qatar Airways started its operation from Doha to Saudi Arabia in April 1997.

Table 8.4: Total passengers and market share between Saudi Arabia and Dubai (1994-97)

Years	Total passengers	Saudi Airlines			Emirates		
		passengers	%	Load factor	passengers	%	Load factor
1995	322,331	153,776	47.7	62.2	168,555	52.3	77.8
1996	342,157	167,421	48.9	66.3	174,736	51.1	79.6
1997	409,140	177,996	43.5	63.6	232,144	56.5	82.0

Source: Saudi Airlines, unpublished figures (in Arabic).

Furthermore, in 1997 Saudi Airlines' market share was 10 percent on routes between Saudi Arabia and Doha (Qatar). The Gulf Air market share was 69 percent and the Qatar Airways market share was 21 percent. In that year Qatar Airways started operating to Dhahran and Jeddah in Saudi Arabia (Table 8.3).

The Emirates can be considered to be the only carrier in the region with a different strategy which relies on collecting passengers from different markets worldwide. It may be observed from Table 8.4 that the Emirates' market share in comparison with Saudi Airlines was reasonable. However there was no balance between the load factors that were recorded by the two carriers. Saudi Airlines' load factor was 63.6 percent but that for the Emirates was 82 percent. According to the latest negotiations between Saudi Arabia and the UAE on 2 January 1995, the Emirates should operate 9 flights weekly from and to Dubai only as a national flag for the UAE. Four flights in the Dubai-Jeddah sector, three flights in the Dubai-Riyadh sector and two flights in the Dubai-Dhahran sector.

Gulf Air is the biggest loser in such a regulated market. It was until 1984 the sole carrier serving four countries and monopolised the routes between Bahrain, UAE, Qatar and Oman. The challenge came in 1985 with the creation of Emirates, followed by the foundation of two other national carriers, Qatar Airways in 1993 and Oman Air in 1993. These new carriers have become national flags as well as Gulf Air. The competition between them has been very strong. These new carriers receive more support from their governments, which can have a significant impact on Gulf Air's financial situation.

Gulf Air was operating 15 weekly flights from Doha to Saudi Arabia until 1997, but these have been reduced to 9 flights. The other 6 flights have been given to Qatar Airways as a second national flag for Qatar. Thus, Qatar Airways shares Gulf Air in the Doha-Dhahran and Jeddah sector. Similarly, Gulf Air was operating 4 weekly flights from Muscat to Saudi Arabia. In 1997 these flights were divided between Gulf Air and Oman Air while Saudi Airlines operates just one flight per week to Muscat. In addition to the reduction in Gulf Air flights, Gulf Air was forced to reduce in the Dhahran-Bahrain sector from 28 flights to 22 flights as a first step, and in a second step Saudi Airlines reduced Gulf Air flights in this sector to 7 weekly flights. As a

result of these regulations, Gulf Air sank deeper and deeper into the red, piling up losses of US$136 million in 1996, with long-term debts amounting to US$1,457 million. In an attempt to solve it financial problems, Gulf Air introduced new procedures and practices to boost productivity in order to be able to survive in the market (see Chapter 9).

8.2.2 Publicly owned carriers

Since one primary goal of this thesis is to investigate the problems that are facing the airline industry in the study area, the main objective of this part is to discuss the effects of public ownership on airline performance in the GCC countries. Employees, productivity and load factors are the effective tools used in order to measure GCC airline productivity.

As mentioned in previous chapters, historically the airline industry in the GCC region has improved dramatically in a short period compared with other countries. Government provision of an infrastructure to the civil aviation industry since the mid-20th century has been very important in bringing western technology to this relatively isolated part of the world. Oil revenue has provided GCC governments with a golden opportunity to improve their economies. As a result modern international and domestic airports have been established and six international airlines have been created (Sampson, 1984).

In oil countries such as in the Arabian Gulf, where governments are the primary actors in and motors for the economy, economic issues are particularly central to the political agenda. The GCC governments over the last few decades have taken upon themselves the responsibility of providing their citizens with services, jobs and a relatively high standard of living, as part of the social contract that ensures economic and political stability. GCC governments have provided their national flag carriers with funds and subsidies. Such support is believed to be necessary to help them to survive and to provide GCC people with airline services at very cheap fares. The government of Saudi Arabia, for example, provides air services to both large and small urban centres with bargain fixed prices below the cost of operation (Table 8.5).

Table 8.5: Comparison between Saudi Arabian domestic and international airfares by sector in 1998

Saudi Airlines domestic routes				International routes			
Sectors	Distance km	Airfare US$	Price per km US$	Sectors	Distance km	Airfare US$	Price per km US$
Jeddah-Taif	138	24	0.17	Dhahran-Bahrain	47	65	1.38
Jeddah-Dhahran	1,229	91	0.07	Riyadh-Muscat	1200	290	0.24
Hail-Arar	392	32	0.08	Dhahran-Kuwait	392	113	0.29
Riyadh-Arar	839	75	0.09	Riyadh-Dubai	868	189	0.22
Turaif-Qaisumah	799	77	0.10	Riyadh- Abu Dhabi	783	171	0.22
Abha-Sharawrah	495	43	0.09	Riyadh-Doha	492	113	0.23
Taif-Abha	418	32	0.08	Kuwait-Bahrain	420	94	0.22
Madinah-Wedjh	375	29	0.08	Dubai-Muscat	370	166	0.45

Source of Data: Saudi Airlines

Table 8.7: GCC carriers operational statistics 1999

categories	GCC carriers				
	Saudi Airlines	Emirates	Gulf Air	Kuwait Airways	Qatar Airways
Revenue passengers carried	12,328,471	4,540,595	5,227,918	2,130,000	1,018,258
Available seat kilometres (ASK) (thousands)	31,037,206	21,257,178	16,364,551	8,717,363	3,447,340
Revenue passenger kilometres (RPK) (thousands)	19,617,598	15,318,106	11,343,476	6,158,092	2,207,971
Passenger load factor (%)	63.2	72.1	69.3	70.6	64.0
Available tonne kilometres (ATK) (thousands)	5,646,080	3,616,895	2,464,762	1,348,480	NA
Revenue tonne kilometres (RTK) (thousands)	2,783,143	2,562,366	1,549,795	828,958	304,301
Weight load factor (%)	49.3	70.8	62.9	61.5	NA
Employees	24,550	7,157	5,101	4,606	1,034
ATK per employee	229,983	505,365	483,192	292766	NA
Revenue passengers carried per employee	502	634	1025	462	985

Source of data: IATA (2000)

Table 8.8: Selected international carriers operational statistics 1999

category	Cathay Pacific Airways	British Airways	KLM
Revenue passengers carried	10,493,312	36,609,182	15,452,645
Available seat kilometres (ASK) (thousand)	58,035,857	168,259,676	75,143,375
Revenue passenger kilometres (RPK) (thousands)	41,434,943	118,015,617	58,112,368
Passenger load factor (%)	71.4	70.1	77.3
Available tonne kilometres (ATK) (thousands)	10,855,340	24,242,828	12,975,138
Revenue tonne kilometres (RTK) (thousands)	7,761,809	15,018,322	9,887,016
Weight load factor (%)	71.5	61.9	76.2
Employees	13,159	55,905	28,358
Available tonne kilometres (ATK) per employee	824,937	433,643	457,548
Revenue passengers carried per employee	797	655	545

Source of data: IATA (2000)

Table 8.7 provides a comparison of the load factor and ATK per employee as recorded in 1999 by four key GCC carriers. For comparison purposes table 8.8 shows the same measures as reported by three selected international carriers.

From Tables 8.7 and 8.8 it can be noted that there is a wide gap between GCC carriers' load factors, apart from Emirates, and international airlines' load factors. Saudi Airlines recorded the lowest load factor (less than 50 percent) while the KLM load factor was nearly 76 percent in 1999. Cathay Pacific Airways, which is an Asian carrier, had a load factor of 70.5 percent. British Airways, which was privatised in the 1980s, recorded a similar load factor compared with Kuwait Airways and Gulf Air. Emirates was the only GCC carrier with a relatively high load factor (70.8) in 1999.

The weakness of GCC carriers has generally resulted in extremely poor load factors. This is not surprising, given the fact that GCC carriers are publicly owned and productivity is not their first goal. The creation of six carriers in such a small market has been a result of political fragmentation. Every small country in the region has its own flag carrier without considering the air travel demand. Until the mid-1980s, Gulf Air was the sole carrier providing an air service to Bahrain, UAE, Qatar and Oman. In the 1990s, the number of airlines doubled. Thus, Gulf Air has been forced to reduce both numbers of employees and capacity in its efforts to survive.

ATK per employee tends to exaggerate productivity differences between carriers. Cathay Pacific Airways appear to be more than three times as productive as Saudi Airlines and Kuwait Airways. ATK per employee was especially poor for Saudi Airlines and Kuwait Airways in 1999, which both appear to be badly overstaffed. When it comes to cost levels, Saudi Airlines has more than its requirement of employees. They have long been accustomed to generous employer relations and comfortable working conditions. Labour costs are a major challenge because it is believed that profitability is not really the top priority in Saudi Airlines, and historically that is part of the institutional character of Saudi Airlines. So, many people are convinced that Saudi Airlines has the right to be there by definition and by the fact that it is fully publicly owned. The most significant problem facing Saudi Airlines is its high operating costs. Employing a larger number of workers than actually needed

has created such costs. The average staffing costs are normally about 25 percent of total operating expenditures, but in Saudi Airlines the figure is 33 percent. Furthermore, the employees of Saudi Airlines have a high salary compared with other employees in other industries in the country.

It can be argued that a public enterprise tends to open the company to those powerful employees who might introduce their relatives and friends to the publicly owned company. It is believed that most GCC carriers are open to this kind of operation. One of the problems is over-employment. Productivity is very low compared to European competitors.

For Saudi Airlines to be competitive, employee numbers must be reduced in order to control operating costs. It should be acknowledged that this might be easy in theory but it is very difficult in practice with 80 percent of the employees (in 1997) being Saudi nationals. Redundancy is not a solution to this problem, as the government is seeking to reduce unemployment rates. Early retirement and reducing numbers of non-Saudi workers can solve the problem, with a focus on training and creating well-skilled Saudi manpower.

Table 8.9: Saudi Airlines manpower 1997

IATA categories	Saudi		Non-Saudi		Total
	number	%	number	%	
Pilots & co-pilots	857	82.3	184	17.7	1,041
Other cockpit personnel	172	65.2	92	34.8	264
Cabin attendants	1,093	36.8	1,876	63.2	2,969
Maintenance & overhaul	4,629	73.3	1,688	26.7	6,317
Ticketing, sales & promotion	1,861	75.5	604	24.5	2,465
Airport handling	4,477	79.3	1,168	20.7	5,645
All other personnel	4,787	78.6	1,301	21.4	6,088
Total	17,876	72.1	6,913	27.9	24,789

Source: Saudi Airlines, unpublished data.

It might be argued that the airline industry in the GCC countries is not able to raise funds from the capital market on commercial terms, but depends on government subsidies. There is little encouragement to push workers to do their best in order to achieve the required goals such as raising revenue and reducing operating costs. Operating costs must be controlled and any increases can impact heavily on the financial performance of the regional carriers in the area. This is understandable since corporations operate in an increasingly global competitive environment and must pay close attention to their bottom lines.

8.2.3 Exclusion of all GCC airlines from global alliances

From the early 1990s global alliances have gained increasing popularity, particularly in North America and Europe where industry regulations were liberalised. In Chapter 5, alliance strategies were discussed as a major tool of co-operation for international airlines to reduce unnecessary competition between them. It is important in this chapter to discuss two issues related to alliance strategies and their consequences in the airline industry in the GCC market in order to gain a better understanding of the new challenges that can affect the industry in the region.

The first issue which is associated with impacts on the GCC aviation market can be evaluated by analysing the benefits that alliances offer to customers in the GCC region itself and how the influences of global alliances can reach every country in the region. The second issue is to determine why no GCC airlines have yet become members of one or more powerful alliance.

In spite of the fact that international alliance strategy is in the early stages of development, it will without doubt continually evolve in response to competitive pressure and market growth. However, one may wonder why the airlines felt that now was the right time to create such alliances. Life is now more global, with people travelling a great deal more than they used to. As a result, international carriers have been forced to work with other airlines to raise standards of service across the world in order to make global travel easier and more rewarding for their customers. Such alliances can offer fundamental benefits that are beyond the reach of any individual network.

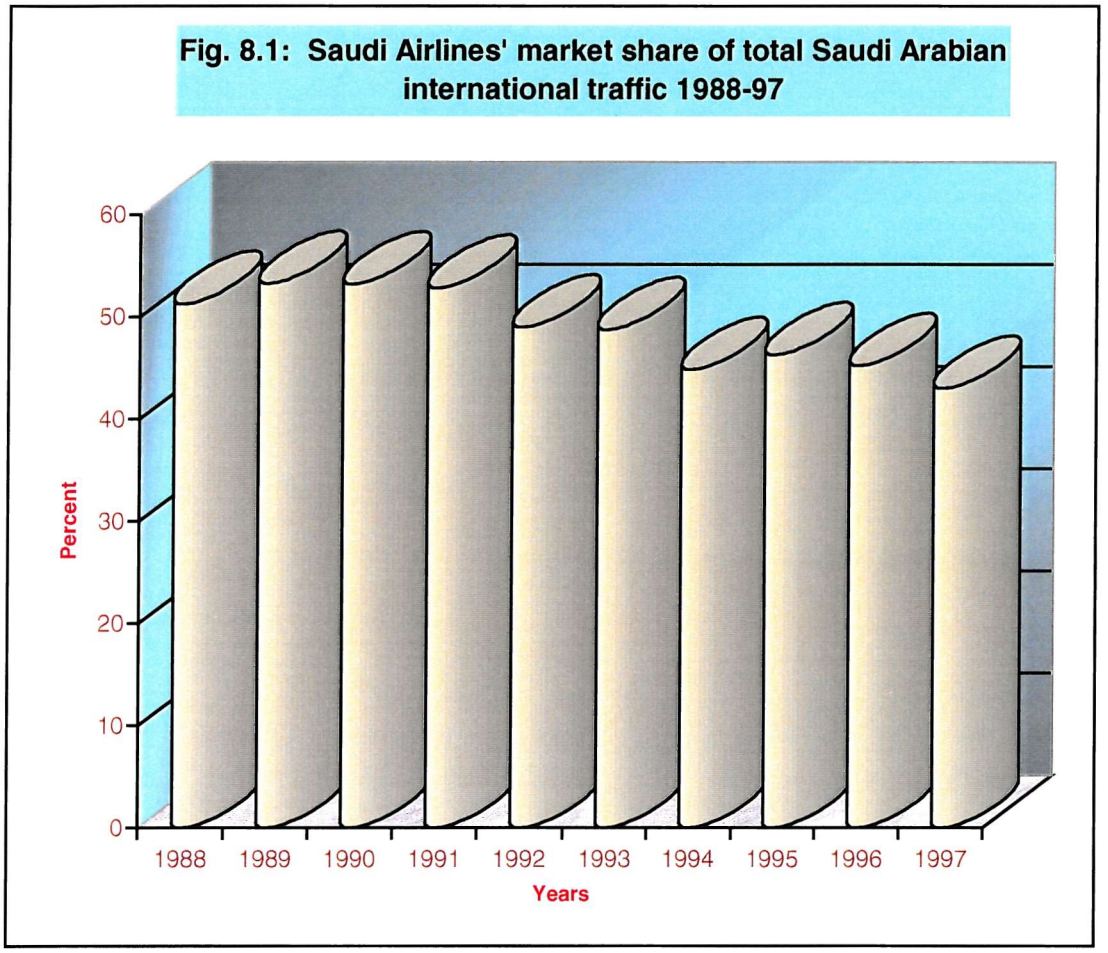
Whether GCC carriers choose to isolate themselves from international alliances or whether they have been forced by strong regulation to operate individually, they could face strong competition from European carriers. Travellers in the GCC region or worldwide know that a large alliance can get them to just about anywhere around the globe. Thus, most consumers prefer to fly with a large alliance which has an extensive international network. This globalisation is inevitable and it is simply a matter of time before further global networks are formed. Linking one or more gateway hubs on each continent will contribute to forming global networks. Regional carriers, on the other hand, operate independently and serve only a limited number of destinations, sometimes with one refuelling stop; they could face a significant threat in the short term. Indeed, once a destination is beyond the non-stop capability of an aircraft, all the advantage lies with a service having a code-sharing partner.

A second reason consumers prefer large alliances is the higher quality of service these alliances offer. If connections must be made, less of the traveller's time will be required with a single alliance. The third factor causing consumers to favour larger alliances over smaller carriers is frequent flyer programmes. These programmes provide their customers with significant benefits and it is much easier to accumulate points with an alliance that flies to a large number of destinations.

The obvious concern for GCC carriers seems to be that global alliances have attracted and will continue to attract more passengers in the increasingly competitive world environment. Saudi Airlines' market share, for example, dropped from 53 percent in 1990 to about 43 percent in 1997 (Fig 8.1). The serious threat comes from some key carriers with powerful partners in major alliances such as Swiss Air, Lufthansa, Singapore Airlines, and British Airways (Table 8.10).

The question now is whether the protective regime in the GCC countries, in particular Saudi Arabia, can face the new challenge. Globalisation may provide the best answer. It makes it very difficult for any carrier to be protected forever. So it is possible that protectionism will be forced down and the whole market will be opened up to increased competition. Moreover, it is clear that since most consumers prefer to stay on a single airline rather than make interline connections, code-sharing between two

Fig. 8.1: Saudi Airlines' market share of total Saudi Arabian international traffic 1988-97



Source of data: PCA, Statistical Yearbook (1997)

airlines with a hub on each end of a transatlantic flight would, at least in smaller markets, make it impossible for independent carriers to compete. Therefore, international aviation alliances are an inevitable outcome of the globalisation of the aviation industry.

Table 8.10: Saudi Airlines' market share 1998

Rank	country	%	Rank	country	%	Rank	country	%
1	USA	93	12	Indonesia	48	23	Lebanon	37
2	Eritrea	88	13	Turkey	48	24	Kuwait	32
3	South Africa	85	14	Egypt	47	25	Ethiopia	30
4	Philippines	80	15	Malaysia	46	26	Singapore	29
5	Bangladesh	61	16	UK	45	27	Algeria	27
6	Sri Lanka	59	17	Pakistan	44	28	Germany	21
7	Syria	53	18	UAE	42	29	Switzerland	19
8	Italy	52	19	Morocco	41	30	Yemen	18
9	France	52	20	Jordan	40	31	Bahrain	13
10	Sudan	50	21	Tunisia	39	32	Qatar	11
11	India	50	22	Senegal	39	33	Oman	5

Source: Saudi Airlines, unpublished data.

Furthermore, airlines that have joined an alliance aim to increase profits by reducing operating costs. They work together in order to cut operating costs by sharing ground facilities, maintenance and purchasing. By doing this in such an increasingly competitive global market, alliances offer airlines significant competitive advantages. Thus airlines will be able to provide their customers with reasonable fares and with high standards of services. The airlines established global alliances as a means of circumventing remaining national controls, and expanding their market share, without incurring the costs of purchasing more planes, marketing or hiring more workers.

In practice, international strategic alliances now play a significant role in the development of the global airline industry. Competition in air transport is between major international alliances. This new strategy has a fundamental impact on the airline industry in the GCC region. Regional carriers in this part of the Middle East still operate individually for at least four reasons. One reason is that the GCC market

is very small in comparison with other international markets, for example the European market. Therefore, it is not very attractive to most international large alliances. Moreover, the GCC market is very close to Africa which will not be able support the development of international networks in the near future. Secondly, all the powerful carriers in the GCC region are publicly owned and operate under government control. Thus it is not possible for their management to enter an alliance without approval from government. Thirdly, the GCC countries are not ready for such a strategy because their infrastructures in particular international airports have not been prepared to meet the requirements of these alliances. There are expansion plans, but they cannot support the huge movement that can be created by being involved in such a strategy. One final reason is that it is very difficult to obtain a tourist or even a 72-hour visa to enter Saudi Arabia, so travellers may have to stay at an international airport in Saudi Arabia for a long time if there is a delay or cancellation of flights. Travellers are not allowed to enter Saudi Arabia for any reason if they do not have permission. So all these problems should be solved before planning to enter alliance strategies. If GCC countries manage to liberalise their market and privatise their carriers, these national carriers may have the chance to become members in one or more international alliances. To become a partner in a powerful alliance will give the operator more presence in the market and its customers will gain more flexibility. The GCC carriers could benefit significantly from allying with Oneworld or Star alliances. At this point GCC airlines might look again at the benefits of alliances with European partners.

8.3 Problems created by regional market forces

8.3.1 Environmental problems

The Arabian Peninsula is considered as one of the driest places in the world. As a result, it cannot accommodate a large population. Most urban centres are quite small and separated by gravel plains, with salt flats, and a large number of sand dunes. Droughts can last for several years, with temperatures exceeding 45°C in the interior during summer months. Apart from the inland city of Riyadh, most large urban centres in Saudi Arabia are on or near the coast.

Small communities in the Arabian Desert cannot support commercial operations which result in high operating costs. The Saudi government provides air services to these communities for social and political purposes rather than for economic profit. As mentioned previously, the domestic network has been characterised by thin and unprofitable routes (Table 3.2). It is believed that regional development is the first priority for the government.

The second important challenge which has been recognised in the GCC region is the high level of environment-derived damage that produces increasing maintenance costs. Aircraft operate in an extremely harsh environment, subject to heavy sandstorms, mica dust, excessive ambient temperatures and humidity in the coastal areas. As a result, many problems both in operation and maintenance have occurred. The conditions can accelerate the rate of deterioration of components and increase overhaul costs. In most cases no effective solutions can be found.

Two problems in particular have been and will remain a great challenge to both regional operators and manufacturers. The first is loss of aircraft performance. In the GCC region, aircraft operate at temperatures in excess of 45°C, and occasionally temperatures exceed 50°C in some desert locations. When operating the aircraft at these temperatures, performance is considerably reduced. The maximum take- off weight is reduced significantly when temperatures exceeds 40°C. For example the payload for B737-200 aircraft can be reduced from 33000 pounds to 22800 when the temperature reaches 49°C, reducing the ability of the aircraft by 31 percent (Snobar, 1995). Saudi Airlines and Gulf Air are likely to be affected more than other regional carriers because a large part of their operations is inside the region.

The second problem is corrosion. The combination of high ambient temperatures, high humidity, mica dust, sulphur and salty air, especially in coastal areas, creates an ideal environment for corrosion to occur in engines, airframes, and aircraft components. As a result, the aircraft down time and maintenance costs are excessive in comparison with those in countries / areas where environmental conditions are more favourable.

8.3.2. Economic problems

The airline industry responds sharply to economic conditions. One fundamental result of a strong economy must be a sharp increase in air transport demand, while a weak economy can affect all economic activities including the airline industry. It reduces the number of travellers that air carriers depend on to cover the costs of operations. A strong economy, on the other hand, encourages air carriers to raise fares and reduce discounted tickets. Business travellers regularly flying first class are found in countries that have efficient economies. So it is clear that if the economy remains strong, business travel enables airfares to remain high. Hence the correlation between the industry and the economic circumstances under which GCC carriers are operating is clear. The aim here is to analyse the kind of severe economic crisis prevailing in the Arabian Gulf region.

In spite of the fact that all GCC governments have realised for a long time that the oil market is not stable and its net revenue is not reliable, they have not yet succeeded in adequately diversifying their economies (Azzam, 1988). If oil price history were used as a guide, the GCC governments would not depend mainly on oil as a main source of national income, as they have been doing. During the period 1986-97 government spending continued to exceed revenues. All six Arab Gulf countries recorded enormous budget deficits during the period under investigation. In 1986, Saudi Arabia recorded a deficit of US$16.5 billion, Kuwait and UAE US$3.9 billion each, Oman US$2 billion, Qatar US$1 billion and Bahrain US$53 million.

Deficit spending continued for more than a decade. The trend shows no signs of ending, as these countries all reported deficits in 1997. Saudi Arabia decreased its deficit to US$4.2 billion while its highest deficit was recorded in 1987 at about US$18.4 billion and reached more than US$13 billion in 1988, 1990 and 1991 (Table 8.11). The UAE decreased its deficit in 1997 to nearly US$1.9 billion, whereas it was more than US$4.3 billion during the period 1993-1996. Kuwait, which is a small country, reported a deficit of US$18.5 billion in 1991 as a result of the destruction of its oil industry by the Iraqi regime. Bahrain is the only country to report a US$6.1 million surplus in 1997.

Table 8.11: Total KSA government revenues and expenditures 1986-1997 (US$ millions)

Years	Oil revenue		Non-oil revenue		Total revenue	Total expenditure	Surplus/ (Deficit)
	Number	%	Number	%			
1986	11,466.5	55.5	9,190.2	44.5	20,656.7	37,108.0	(16,451.3)
1987	17,975.0	64.5	9,708.0	35.5	27,863.0	46,274.0	(18,411.0)
1988	16,640.0	63.3	9,654.0	36.7	26,294.0	39,694.0	(13,400.0)
1989	17,509.0	57.2	13,157.0	42.8	30,601.0	37,455.0	(6,854.0)
1990	31,547.0	74.6	9,767.0	25.4	42,314.0	56,190.0	(13,876.0)
1991	31,547.0	81.6	9,767.0	18.4	42,314.0	56,190.0	(13,876.0)
1992	NA	NA	NA	NA	40,266.7	48,266.7	(8,000.0)
1993	NA	NA	NA	NA	45,106.7	52,520.0	(7,431.3)
1994	25,468.0	74.0	8,929.6	26.0	34,397.6	43,673.6	(9,276.0)
1995	28,186.7	72.2	10,880.0	27.8	39,066.7	46,373.3	(7,306.6)
1996	36,266.7	75.9	11,493.3	24.1	47,760.0	52,826.7	(5,066.7)
1997	42,666.7	77.9	12,133.3	22.1	54,800.0	58,986.6	(4,186.6)

Source: GCC Secretariat General, *Economic Bulletin*, 1999.

Table 8.12: Total UAE government revenues and expenditures 1986-1997 (US$ millions)

Years	Oil revenue		Non-oil revenue		Total revenue	Total expenditure	Surplus/ (Deficit)
	Number	%	Number	%			
1986	4,863.8	87.5	692.7	12.5	5,556.5	9,505.9	(3,949.4)
1987	4,313.4	76.6	1,320.9	23.4	5,634 3	10,912.8	(4,585.5)
1988	4,201.9	74.2	1,462.4	25.8	5,663.3	9,854.7	(4,191.4)
1989	6,247.3	83.8	1,207.7	16.2	7,455.1	10,380.2	(2,925.0)
1990	9,706.6	86.3	1,537.7	13.7	11,244.3	14,563.3	(3,319.0)
1991	10,700.0	82.3	2,300.0	17.7	13,000.0	16,300.0	(3,300.0)
1992	9,944.0	77.0	2,968.0	23.0	12,912.0	12,458.0	(454.0)
1993	8,247.0	78.6	2,245.0	21.4	10,492.0	14,878.0	(4,386.0)
1994	7,904.0	76.6	2,457.0	23.4	10,361.0	15,220.0	(4,859.0)
1995	8,726.0	73.2	3,198.6	26.8	11,924.6	17,344.9	(5,420.3)
1996	10,080.9	65.7	5,269.1	34.3	15,350.0	20,885.0	(5,535.0)
1997	11,206.7	69.3	4,956.9	30.7	16,163.6	18,037.9	(1,874.3)

Source: GCC Secretariat General, *Economic Bulletin*, 1999.

Table 8.13: Total Kuwait government revenues and expenditures 1986-1998 (US$ millions)

Years	Oil revenue		Non-oil revenue		Total revenue	Total expenditure	Surplus/ (Deficit)
	Number	%	Number	%			
1986	5,700.0	87.7	802.0	12.3	6,502.0	10,427.0	(3,925.0)
1987	6,191.0	87.2	907.0	12.8	7,098.0	11,325.0	(4,227.0)
1988	5,584.0	83.1	1,135.0	16.9	6,719.0	8,951.0	(2,232.0)
1989	6,605.0	87.1	981.0	12.9	7,587.0	10,538.9	(2,951.9)
1990	7,241.5	87.7	1,016.3	12.3	8,257.8	12,477.7	(4,219.9)
1991	2,420.9	80.5	587.5	19.5	3,008.4	21,504.9	(18,496.5)
1992	4,603.5	87.5	660.8	12.5	5,264.3	17,420.8	(1,256.2)
1993	8,217.2	87.8	1,146.5	12.2	9,363.7	13,877.0	(4,513.3)
1994	7,511.0	84.7	1,352.1	15.3	8,863. 1	14,695.7	(5,832.6)
1995	10,590.1	89.6	1,223.1	10.4	11,813.2	14,035.7	(2,222.5)
1996	13,187.4	89.6	1,524.8	10.4	14,712.2	13,028.9	(1,683.3)
1997	10,705.7	88.9	1 ,332.7	11.1	12,038.4	13,273.1	(1,234.7)

Source: GCC Secretariat General, *Economic Bulletin*, 1999.

Table 8.14: Total Omani government revenues and expenditures 1986-1997 (US$ millions)

Years	Oil revenue		Non-oil revenue		Total revenue	Total expenditure	Surplus/ (Deficit)
	Number	%	Number	%			
1986	2,594.0	74.6	882.0	25.4	3,476.0	5,503.0	(2,027.0)
1987	3,107.7	79.0	824.9	21.0	3,932.6	4,184.9	(252.3)
1988	2,581.0	80.6	620.0	19.4	3,201.0	3,819.0	(618.0)
1989	3,114.0	80.8	740.0	19.2	3,854.0	4,276.0	(422.0)
1990	4,032.0	82.2	873.0	17.8	4,905.0	4,812.0	93.0
1991	3,226.8	79.7	857.5	20.3	4,048.3	4,820.3	(772.0)
1992	3,966.4	79.0	1,051.8	21.0	5,018.2	5,746.2	(728.0)
1993	3,463.2	76.0	1,095.2	24.0	4,558.4	5,832.0	(1,273.6)
1994	3,680.7	78.2	1,024.5	21.8	4,705.2	5,814.8	(1,109.6)
1995	3,574.7	74.1	1,247.2	25.9	4,821.9	6,070.3	(1,248.4)
1996	3,830.1	75.9	1,346.0	24.1	5,176.1	5,861.3	(685.2)
1997	4,696.0	79.6	1,200.5	20.4	5,896.5	6,000.8	(104.3)

Source: GCC Secretariat General, *Economic Bulletin*, 1999.

Table 8.15: Total Bahrain government revenues and expenditures 1986-1997 (US$ millions)

Years	Oil revenue		Non-oil revenue		Total revenue	Total expenditure	Surplus/ (Deficit)
	Number	%	Number	%			
1986	657.0	52.6	586.0	47.4	1,243.0	1,296.0	(53.0)
1987	657.2	57.9	478.7	42.1	1,135.9	1,208.5	(72.6)
1988	558.2	52.3	509.1	47.7	1,067.3	1,282.5	(215.2)
1989	656.2	56.5	505.6	43.5	1,161.8	1,315.3	(153.5)
1990	815.7	61.6	507.9	38.4	1,323.6	1,427.1	(103.5)
1991	815.5	60.1	545.1	39.9	1,357.6	1,417.2	(59.6)
1992	768.6	56.6	592.6	43.4	1,361.2	1,552.4	(191.2)
1993	923.7	61.9	569.7	38.1	1,493.4	1,666.2	(172.8)
1994	758.2	54.1	642.3	45.9	1,400.5	1,746.8	(346.3)
1995	847.3	56.8	644.2	43.2	1,491.5	1,665.2	(173.7)
1996	1,046.3	62.1	638.0	37.9	1,684.3	1,668.3	(16.0)
1997	1,124.2	59.9	753.2	40.1	1,877.4	1,871.3	6.1

Source: GCC Secretariat General, *Economic Bulletin*, 1999.

Table 8.16: Total Qatar government revenues and expenditures 1986-1997 (US$ millions)

Years	Oil revenue	Non-oil revenue	Total revenue	Total expenditure	Surplus/ (Deficit)
1986	NA	NA	1,904.0	2,945.0	(1,041.0)
1987	NA	NA	1,953.0	2,940.0	(987.0)
1988	NA	NA	1,947.0	2,850.0	(903.0)
1989	NA	NA	2,109.0	3,946.0	(1,837.0)
1990	NA	NA	2,554.9	2,891.5	(336.6)
1991	NA	NA	3,298.9	3,128.6	170.3
1992	NA	NA	2,842.0	3,223.0	(381.0)
1993	NA	NA	3,365.4	3,534.6	(169.2)
1994	NA	NA	2,984.9	3,651.4	(666.5)
1995	NA	NA	2,659.3	3,237.9	(578.6)
1996	NA	NA	3,697.5	4,381.0	(683.5)
1997	NA	NA	3,942.6	4,868.7	(926.1)

Source: GCC Secretariat General, *Economic Bulletin*, 1999.

Oil revenues obviously influence governmental budgets in the GCC countries. In Kuwait, 87.7 percent of total revenue in 1986 and 88.9 percent in 1996 came from oil. Saudi Arabian government oil revenue increased from 55.5 percent of total revenue in 1986 to 76.6 percent in 1997. The UAE government managed to reduce its oil revenue from 87.5 percent of total revenue in 1986 to 69.3 percent in 1997.

None of the governments has demonstrated the will to cut back significantly on either social services or military spending. Given growing populations that will make continued demands on state budgets, the Gulf states face hard economic and political choices ahead about their priorities. The challenges that the GCC countries face are substantial, but none now threatens the economic stability of the region, despite the shocks of the last fifteen years. The regional environment is comparatively benign. There are economic problems, but not nearly as many as when oil prices plunged below US$10 a barrel in 1998. If current spending and revenue patterns continue, particularly in Kuwait, the GCC governments could still face serious economic and fiscal crises, but they have the time to make the political decisions necessary to avoid that outcome.

Such gloomy financial figures do not necessarily mean that these countries are poor. The governments still have valuable natural resources, good credit ratings, and in some cases substantial international reserves. In fact, Saudi Arabia since the end of the Gulf War has enjoyed something of an economic boom, with a large amount of capital coming back into the country, the local stock market surging and an increase in private sector investment. The Saudi Arabian boom is not region-wide, however, as neither Bahrain nor Kuwait has seen much of the capital that left during the War return. This probably marks the end of the Bahrain off-shore banking industry that drove economic growth there in the 1980s. The GCC countries are not in the midst of an immediate fiscal crisis. Some may face such a crisis in the coming years if they cannot discipline their spending, find some ways to increase oil prices or increase oil production. What the financial picture does indicate is that the Arab Gulf countries are not in a position to absorb another economic blow like the collapse of oil prices in the mid-1980s or the Iraqi invasion of Kuwait.

As mentioned previously, the airline industry has the ability to respond quickly to market forces. Thus the oil market can have both negative and positive impacts on the airline industry in the region. If a significant decline in oil prices occurs, a similar decline in the demand for air travel will follow. Moreover, a sharp decrease in the oil market can represent a big advantage to competitors outside the region. However, the steady decrease in oil prices began to place a serious threat on the GCC economy, resulting in low economic growth. The air carriers in the region must take a long view with regard to oil prices.

It is very difficult for airline management, airport authorities and policy makers to build their future plans on an unstable oil market. Stable oil prices could allow planners to predict air travel demand in both the long and short terms. A sharp decrease or even an increase in the oil market can dramatically affect future estimates. On other words, income per capita in any country in the GCC region is variable and unpredictable, so any study of future demand is far from being accurate. Difference in GDP should appear as difference in demand. There appears therefore to be significant correlation between oil prices and the airline industry in the GCC countries.

Table 8.17: Gross Domestic Product (GDP) per capita in GCC countries, 1985-97, in US$

Years	UAE	Bahrain	KSA	Oman	Qatar	Kuwait	GCC
1985	20,735.8	8,385.4	6,747.3	4,999.7	17,939.7	11,721.8	8,240.7
1986	16,529.8	4,321.3	5,537.3	6,285.0	13,775.1	10,017.1	7,011.3
1987	18,130.4	7,094.4	5,403.5	5,827.7	14,146.5	11,928.2	7,170.6
1988	14,254.7	7,287.7	5,425.1	5,474.5	14,107.9	10,441.5	6,880.5
1989	16,383.9	7,570.3	5,749.7	5,794.6	14,227.9	11,838.2	7,485.3
1990	18,317.9	8,016.7	6,761.5	7,023.3	15,144.9	8,485.1	8,171.5
1991	17,721.3	8,235.5	7,324.7	6,562.1	13,239.7	8,082.1	7,418.3
1992	17,405.8	8,387.3	7,144.1	5,741.7	14,333.1	18,275.2	8,674.0
1993	16,893.9	8,424.7	7,162.6	5,696.1	12,832.6	13,572.1	8,268.7
1994	16,251.6	7,509.7	6,593.3	5,506.9	12,091.7	15,148.2	8,122.2
1995	17,754.8	10,120.2	6,778.0	6,464.9	12,999.8	15,383.1	8,603.4
1996	19,360.0	10,187.0	7,295.6	7,030.7	14,068.6	16,438.5	9,250.9
1997	18,808.7	10,240.6	7,314.6	7,020.2	21,643.3	15,264.2	9,261.9

Source: GCC Secretariat General, *Economic Bulletin*, 1999.

8.3.3 Problems created by wars and regional instability

Since the Iraq-Iran War (1980-88), the GCC region has been facing significant threats to its security (Starkey, 1996). Regional instability has influenced the airline industry dramatically. The impact on the regional economy has been great. A wide variety of direct and indirect consequences of wars and instability are here discussed briefly to identify major problems that have a strong impact on civil aviation in the region. The approach is to analyse, first, the impact of instability on the economy of the countries. Such an approach is necessary because the airline industry responds immediately to economic circumstances that can characterise one or more countries under investigation. Secondly, the direct harmful effects of wars and instability on the airline industry in the GCC countries are examined. The aim is to gain a better understanding of the problems that have been created by wars and regional instability as outlined in Chapter 6.

8.3.3.1 The impact of wars and regional instability on the economy

The GCC countries have for a long time been facing a number of significant challenges to their security. Several powers, including Iraq, Iran and Israel, have potentially a significant impact on GCC security. The GCC governments, therefore, have responded to the threat by deploying military forces. Some conventional forces have advanced weapons and equipment. They tend to use expensive high-technology weapons systems for air defence. Most military units are for defence, and to keep a balance between GCC countries and other regional powers. Moreover a large proportion of the workforce in the region is engaged in military service instead of being employed in economically productive activity. Such a situation has forced the GCC governments to invest heavily on military force and related activities rather than focusing on the economic activities that can increase their GDP.

With major regional powers posing a threat to GCC national security, potentially dangerous and frequent crises have brought considerable economic pressure. The most noteworthy economic consequence of the past twenty years has been the drawing down of the enormous financial reserves built up by GCC countries during the oil

boom years of 1970-1982. The precipitous decline in world oil prices in the mid-1980s led rather to failure spending than belt tightening in the GCC countries. Governments preferred not to cut their budgets for military expenditures and social services. Then, as oil prices were beginning to rise again, the invasion and liberation of Kuwait involved countries like Kuwait itself and Saudi Arabia, with enormous costs that could only be borne by further spending from the countries' reserves.

Kuwait and Saudi Arabia have been the countries most affected by these financial pressures. The expenses of war and rebuilding have substantially drawn down Kuwait's foreign reserves, believed to be over US$100 billion before the invasion. Some estimates put Kuwaiti expenditure since the invasion at US$65 billion. Similarly, Saudi Arabian government reserves, which totalled more than US$100 billion in the early 1980s, have fallen by at least 75 percent. Saudi Arabia has been meeting deficits by drawing on its reserves and by borrowing on the domestic market since the mid-1980s. The oil windfall brought by increased prices and the near doubling of Saudi production during the 1980s Gulf crisis was more than absorbed by the expenses the Saudis incurred and the arms purchases they negotiated during the war and afterwards. The direct cost of the 1990s Gulf War for Saudi Arabia was estimated at US$55 billion. These expenditures, however, could obviously have been avoided if Iraq had not invaded Kuwait and the money could have been spent in economic development programmes including the airline industry.

8.3.3.2 The direct impact of wars and regional instability on the airline industry

Although terrorist groups have not become powerful enough to create actual challenges to the security of the airline industry in the region, some travellers may choose to avoid using a GCC carrier. If there is war or political clashes between two countries, their airlines are likely to be a target for hijackers. So travellers could become the civilian victims of terrorists wishing to put more pressure on governments. Kuwait Airways is an example of a carrier which travellers avoid because the bad relations between Iraq and Kuwait make the national flag a target for terrorists. Most passengers want a safe flight without trouble, and will choose other carriers operating on the same routes. However, all GCC countries use very safe systems in all their

airports and it is impossible in most cases to by-pass these security systems. The threat may come from some African and Asian airports that have a lack in both human and technological resources. However, in 2000 there were two actions within one month against Qatar Airways and Saudi Airlines.

On 14 September 2000 an Iraqi man hijacked a Qatar Airways plane and ordered it to be flown to Saudi Arabia. The 144 passengers and the crew escaped unharmed when the man surrendered to Saudi authorities at the city of Hail. Similarly, on 14 October 2000, Saudi Arabian Airlines Flight no. 115 had taken off from Jeddah en route to London when it was hijacked. The pilot reported that the hijackers wanted to go to Iraq. The Boeing 777-200, which had 90 passengers and 15 crew, was seized over the Mediterranean Sea and forced to fly around for several hours. Two Saudi officers were carrying their government-issued pistols, and at one point threatened to blow up the plane unless it was allowed to fly to Baghdad. So the crew was forced to change destination to Saddam International Airport in Baghdad. Later it was discovered that there were not any explosives on board. The hijackers surrendered after talks with Iraqi officials. Saudi Interior Minister Prince Nayef bin Abdulaziz confirmed that one of the hijackers had worked as head of the security unit at Jeddah airport, enabling him to avoid normal search procedures, and the other was an officer in the border guard of the southern Saudi border town of Nejran. The Saudi government asked Iraq to hand over the hijackers under Arab and international treaties stipulating that hijackers and those practising terrorism be handed over to their own countries. Although it was unclear whether the hijacking was related to the Israeli-Palestinian conflict, the hijacking came during a feverish period in the Middle East following more than two weeks of clashes between Israelis and Palestinians, in which at least 99 people, almost all Arabs, were killed.

Secondly, tourism is considered to be one of the main factors determining demand for airline services. Leisure travellers seek a relaxing time. They spend their holidays in countries that provide tourist facilities as well as safety. Unfortunately, some western passengers, especially those from the USA, believe that the GCC countries are not safe and this has resulted in lower demand since 1990.

Thirdly, travellers and aeroplanes must be covered by financial insurance. Normally international insurance companies have to consider a wide variety of factors that could affect safety in any country or region. As the GCC region has been facing the threat of war and regional instability, insurance companies have increased insurance premiums for airlines registered and operating in the Middle East. Such a policy raises the operational costs for GCC carriers and affects their competitive situation.

Fourthly, since the liberation of Kuwait in 1991 an inspection regime has been established to control Iraq's weapons of mass destruction. In order to achieve inspection goals, the UN has imposed economic sanctions against Iraq. As a result, GCC carriers have cancelled their flights to Iraq which is considered an important market in the Middle East. The GCC carriers were forced to discontinue operations to Baghdad and other Iraqi cities.

8.3.4 Competition between airlines and other modes

Competition between airlines and other modes occurs in all parts of the world. The problem is particularly acute in the GCC region. There are three main factors which are peculiar to the GCC region. The first is that low fuel prices in all six countries make travel by car extremely cheap compared to air travel. Secondly, there are no road taxes, drivers are not required by law to have car insurance and above all prices for different ranges of cars are reasonable. Therefore, a large number of people, among them students, have their own cars. Thirdly, the average family size is about six, and it is uneconomical to consider buying, for example, six air tickets from Riyadh to Abu Dhabi costing about US$1,000, whereas the total cost is only US$80 if they travel by car.

Intermodal competition, notably between airlines and road transport, is not only a fact of life throughout the GCC region but is capable of rapid change resulting from the introduction of new road transport facilities. An example of a short sector where the introduction of a new road transport facility has significantly altered traffic patterns to the detriment of airlines is provided by the King Fahd Causeway, a dual-carriageway toll road opened in 1986 to motor vehicle traffic between Saudi Arabia and Bahrain

Figure 8.2: The King Fahd Causeway links Dammam/Dhahran/Al Khobar with the island state of Bahrain

(Aljarad and Black, 1995). Traditionally, passage to Bahrain from Saudi Arabia was by sea or by air, with the air mode dominant having captured 70 percent of the market by 1985. On the Dhahran-Bahrain sector there were 97 flights per week in 1985 but by 1992 there were only 28 flights per week, a 70 per cent decline in air service. Clearly the Causeway has significantly altered spatial interaction between the two countries at this point (Table 8.18). Inter-city travel behaviour, using this example, has been modelled by Aljarad and Black (1995).

Table 8.18: Passenger traffic volume entering Bahrain by travel mode, 1985-91

Years	Sea[1]	Air[2]	Land[3] Public transit	Land Others	Total
1985	43,220	116,688	NA	NA	159,908
1986	37,982	112,892	528	190,298	341,700
1987	4,414	47,486	30,868	2,005,382	2,088,150
1988	NA	40,194	26,051	1,513,556	1,579,801
1989	NA	43,551	23,129	1,511,557	1,578,237
1990	NA	40,688	17,408	1,504,744	1,562,840
1991	NA	33,894	22,500	1,799,195	1,855,589

Notes: 1 Sea transport mostly from Alkhobar, no longer available.
2 From all Saudi Arabian airports
3 Land modes were not available before 29 November 1986

Source: Based on Aljarad and Black, 1995, 259.

Vehicle and passenger movements across the Causeway in 1990 and 1996 are shown in Table 8.19. From these more recent data it is clear that more than 4.6 million travellers crossed the causeway between the two countries in 1996. The total number of passengers carried in the same year between Dhahran and Bahrain by Gulf Air and Saudi Airlines was less than 170,000. (Table 8.18 is based on Bahraini sources, and Table 8.19 on Saudi Arabian sources; this may explain the slight discrepancy between the two Tables regarding 1990 Saudi Arabia-Bahrain land passenger movements).

Table 8.19: Traffic on the King Fahd Causeway between Saudi Arabia and Bahrain in 1990 and 1996.

Category	1990	1996
Cars travelling from Bahrain to Saudi Arabia	406,375	695,734
Cars travelling from Saudi Arabia to Bahrain	447,326	731,912
Total cars travelling, both directions	853,701	1,409,346
Passengers travelling from Bahrain to Saudi Arabia	1,354,287	2,319,549
Passengers travelling from Saudi Arabia to Bahrain	1,304,293	2,316,705
Total passengers travelling, both direction	2,388,580	4,636,254

Source: Saudi Arabia, Ministry of Finance and National Economy (1990) and Ministry of Planning (1996a).

Another example of intermodal competition favouring non-air transport modes is provided by total passenger movements to and from Kuwait by air, land and sea in 1985 compared with 1994 (Table 8.20). In 1985, 64.8 per cent of these movements were by air, 32.6 per cent by land and 2.6 percent by sea. In 1994 movements by sea remained much the same, but land movements had risen to over 40 per cent while air movements had declined to 56.5 percent.

Unfortunately, there are insufficient published figures to give a more precise measure of such competition. However, road traffic between Saudi Arabia and Bahrain over the King Fahd Bridge and the number of travellers that entered Kuwait by car provide some evidence.

Table 8.20: Total passenger movement to and from Kuwait (1985 and 1994) by air, land and sea

Year	By air		By land		By sea		Total	
1985	2,939,150	64.8	1,478,682	32.6	117,796	2.6	4,535,628	100
1994	1,859,920	56.5	1,342,335	40.8	90,883	2.7	3,293,138	100

Source: Kuwait, Ministry of Planning (1991) and (1995).

8.4 Problems created by local market forces

8.4.1 Hajj problems

Hajj is a unique religious occasion to which Saudi Airlines as a national flag carrier for Saudi Arabia must respond without considering economic profit. It provides the Islamic World with air services as one of its main responsibilities. One can argue that in theory Hajj is a good commercial opportunity for Saudi Airlines, because Hajj travellers normally pay the full airfare. In fact the obvious problem related to Hajj is that a large number of flights are Hajj flights and charters, which means that many aircraft take off empty from King Abdulaziz International Airport to collect passengers from different parts of the Islamic World. When the Hajj ends, travellers have to be carried back to their countries and then the aircraft return empty. Thus the passenger seat factor during the Hajj cannot exceed about 50 percent. Thus, Hajj charters represent in reality a very small percentage of Saudi Airlines' operating revenue (Table 8.21).

Table 8.21: Saudi Airlines operating revenue 1987, 1990 and 1994
(US$ Million)

Operating revenue	1987		1990		1994	
	Number	%	Number	%	Number	%
Passenger	1,303.8	72.6	1,425.6	69.6	1,751.5	70.7
Freight	135.2	7.5	163.7	8.0	206.4	8.3
Mail	24.8	1.4	25.3	1.2	25.6	1.0
Hajj charters	22.9	1.3	27.0	1.3	73.9	3.0
Special flights	41.3	2.3	39.2	1.9	56.5	2.3
Hajj royalties	18.1	1.0	14.1	0.7	21.6	0.9
Other	249.6	13.9	353.1	17.3	339.7	13.7
Total	1795.7	100.0	2,048.0	100.0	2,475.2	100.0

Source of data: Saudi Airlines, 1996.

Secondly, many Hajj travellers come from poor countries such as Bangladesh, Pakistan and Indonesia, and they buy a wide variety of electrical goods which are very cheap in Saudi Arabia compared to their own countries. There are very low taxes and

customers are not subject to VAT. A large number of returning Hajj travellers go to the airport with heavy loads and without extra money to pay for excess weight. Saudi Airlines employees have been ordered by the government to be very kind to Hajj travellers and to make their travel easy, so they normally do not ask them to pay for excess baggage weight. Thirdly, such occasions require more aircraft and employees, which affects the performance of scheduled flights and has a negative impact on the services to business travellers. Business travellers are of key importance to the success of air carriers, and are significant to any airline's revenue.

8.4.2 Saudi Arabia and tourism

Despite the fact that Saudi Arabia is a land rich in culture and history (not only for Arabs) and although tourism can play a key role in enhancing the performance of the economy, the tourist industry has not yet been substantially developed in this country. The performance of the tourist industry in this part of the globe is generally poor. The region as a whole has not claimed its share of the booming modern international tourist trade for many reasons, although some GCC locations (notably Dubai) have gone much further in this sector.

First of all, Saudi Arabia is reluctant. The attraction of Western tourists is not a Saudi priority. Saudi Arabia is already well known throughout the world for the number of Muslim visitors that come during the time of Hajj. The attraction of pilgrims is a major factor in Saudi Arabia's tourist agenda. Gulf nationals are also welcome to stay and spend their tourist dollars in Saudi Arabia. The government hopes that increasing the number of regional Gulf-national tourists helps to increase revenue while maintaining Islamic standards. Some argue that social restrictions stand in the way of attracting tourists to this country. Saudi Arabia has distinct restrictions which are rooted in culture, and the country is reluctant as regards other Muslim tourists, and protective of its culture and civilisation. Tourists interested in visiting the country's historical sites and enjoying its cultural heritage are aware that they will not find some of the pleasures which many countries of the world offer, such as casinos, discos and alcohol.

The second significant factor is the issue of visas to foreigners. Visas are required for entry and are issued for business and work, to visit close relatives, and for religious visits. Airport and seaport visas are otherwise not available. All visas require a sponsor, can take several months to process, and must be obtained prior to arrival. Moreover, foreign residents travelling within Saudi Arabia, even between towns in the same province, have to carry travel permits issued by employers. The strict terms and conditions set for issuing visas do not encourage travellers to use Saudi Airlines even if their final destinations are outside the boundaries of Saudi Arabia.

Finally, the tourism industry has not been given the same support as other industries in the country, and there is a lack of facilities such as hotels, transport, professional guides and internal tour arrangements. However, the government should pay more attention to the promotion of cultural tourism in order to meet the goal of increasing revenue. To achieve this, measures should be adopted to facilitate the issuance of visas as the country is now seeking new ways to increase and diversify its tourism industry (see Chapter 9).

8.4.3 Lack of airport capacities

Accelerated growth in airline technology along with the creation of new airlines in the GCC region since the 1980s has begun to test capacity limits at some international airports. The worst shortages in capacity occur at four international airports, namely Dubai, Doha, Muscat and Jeddah, which serve home carriers. These airports need to enhance their capacities. The first phase of the King Abdulaziz International Airport (KAIA) in Jeddah was completed in 1980. It was planned to expand the airport in the 1990s. The expansion was delayed as a result of the Gulf War and the steady decline in oil prices. KAIA is the first airport in Saudi Arabia in importance because it handles the Hajj traffic by Saudi Airlines and other carriers. The total number of passengers handled in 1997 reached 9,636,000 in comparison with its full capacity handling of 10 million passengers per year.

Dubai, Doha and Muscat airports were designed and established accordingly to meet the requirements of Gulf Air and some foreigner carriers. The major hub of Gulf Air is

Bahrain and other regional airports can be considered as nodes. The circumstances have changed dramatically. Dubai International Airport has become a great hub, not only in the GCC region, but also in the Middle East generally and could be one of the busiest airports in the world in the future. It is the home base of Emirates, which has become a brand name in the airline industry. So the airport must be developed to accommodate the increasing number of passengers that use Dubai as a transfer point. Similarly, Doha International Airport and Al Seeb International Airport in Muscat have been used as home bases for Qatar Airways and Oman Air respectively. All these airports are subject to expansion plans. In fact the first for Dubai International Airport is completed (see Chapter 9).

8.4 Summary and Conclusion

Through careful examination of the key issues affecting the airline industry in the GCC region, this chapter pays attention to the impact of global, local and regional market forces with empirical analyses of a variety of difficulties and challenges that have been examined. From an economic point of view, GCC governments have not yet learnt from the collapse of oil prices in the 1980s and still heavily depend on oil revenue. The sharp decline in oil prices, accompanied by the economic shocks of the 1990-91 Arabian Gulf War have been significant challenges that could threaten the economic performance of the GCC countries. Governments own and operate both airports and air flag carriers. Thus, these publicly owned carriers could face another collapse in the oil market. Such a decline could be a reason for privatisation. Moving from the public sector to the private sector generally means a huge reduction in employee numbers. This could raise governments' concerns and keep governments from moving quickly into a privatisation programme, although employment arrangements are often part of the privatisation package. Being publicly owned, and as a result of the nature of regulations, GCC carriers are not involved in partnerships with any major international alliances. So they could face considerable competition in the market.

This chapter has revealed that some countries in the region have extensive experience in the tourist industry while others have not. Saudi Arabia is an obvious example of a

country which is not open to commercial tourism. The nature of regulation makes it very difficult even to obtain an airport visa, which affects the ability of Saudi Airlines to increase its profits. Operating costs in the domestic aviation system, where government support is most likely to have an effect are very high compared with net revenue, partly because of the impact of environmental forces which can be recognised in the Arabian Desert.

In examining the effects of global, regional and local forces on competition and services, it can be observed that three new entrance airlines (Emirates, Qatar Airways and Oman Air) have increased the existing capacity in the GCC aviation market. Thin routes and over capacity are significant consequences. With a lack of financial control and an inefficient regulation system, GCC governments have to choose between supporting their national flag, cutting services or accelerating privatisation programmes. Therefore, the next chapter sets out to examine the ability of GCC governments to discharge their responsibilities in these areas. Each airline in the region has a plan to deal with such problems, but all of them must obtain approval from their governments which own and operate them. Chapter 9 analyses a variety of strategies and solutions which are used or are planned to be used by both governments and airlines.

PART III: STRATEGIES FOR FUTURE DEVELOPMENT

Chapter 9

Governmental and airline strategies

9.1 Introduction

In spite of the fact that the GCC airline market is very small, it has been targeted by both global and regional competitors. The rapidly growing tendency towards privatisation and broader partnerships among leading airlines will change significantly the future of the aviation industry and will increase substantially competition between major key players. The effects of globalisation of this important sector will reach every region around the world. In an effort to meet increasing challenges, several airlines in the Gulf region frequently announce new measures to improve services both within and outside the region. Each of the major airlines in the area has released strategic plans that will have substantial effects on the future of air travel in the region.

The previous chapter dealt with and discussed the economic, political and social problems that have great impacts on airline transportation in the region. This chapter examines a wide variety of strategies and plans that have been adopted to improve the industry. It also discusses in brief some key strategic plans which may improve the performance of the economy in the region, because of the strong link between the performance of the airline industry and the general economy. The chapter focuses on the strategies one by one rather than providing a country by country analysis as some strategies apply to every country. Such an approach also helps to make the huge amount of information in the chapter more manageable.

There are three key points which should be emphasised at the outset relating to the information that particularly concerns GCC airline strategies, or to their future plans to increase their competitiveness. Firstly, an airline operating in a competitive market normally tries to keep its plans confidential in an attempt to surprise its competitors

and not give them the chance to counter its strategy. Secondly, when a plan is officially announced it might not be the real plan and information is usually provided about past plans. Thirdly, no academic sources dealing with such plans could be found as regards the GCC airline market. Therefore, most of the discussion in this chapter relies on the field study. Other facts have been collected from official news and announcements found on the internet. The GCC airlines have their own web-sites providing important information as well as updates about their fleets and networks. By organising and comparing all this information, this chapter attempts to determine at least the short and medium-term strategies which have been adopted by the airline industry in the GCC countries. It also discusses in brief some key strategic plans that could improve the performance of the aviation system in the region.

9.2 Privatisation programmes

One of the most important issues facing the governments of the Gulf countries is how to manage their evolving economies. Privatisation of certain public sector enterprises is one of the general objectives and strategic principles in the development plans of various Gulf countries. Circumstances have dictated changes in the way the governments of the Gulf countries conduct business. Revenues have declined as a result of reduced oil earnings. The finances of the Gulf countries have therefore been hard hit by years of budget deficits due to the sharp decline in the oil market as well as the effects of the two Gulf wars. As a result, there have been calls in the GCC countries to expand private sector participation and reduce the financial burdens on governments. Privatised firms are desirable because they are more efficient and privatisation can help ease pressure on governments by generating revenues from sales of assets as well as reducing transfers from treasuries to state owned enterprises.

As a result of rising public debt loads, declining capital expenditures by the GCC governments, and generally stagnant real growth rates, the private sector must be allowed the freedom and opportunity to take a more active role in economic development and prosperity. One of the best tools to restructure the economy would be broad and deep privatisation, which would both spur and complement greater foreign direct investment. Privatisation would allow for a sharp reduction of a

considerable portion of existing public debt, and the inflow of private equity capital to meet rising demand for services would prevent the accumulation of new public debt. In addition, privatisation would encourage the return of a considerable portion of private Saudi Arabian capital now invested overseas. The breaking up of state monopolies would also create more competition and efficiency, leading to the introduction of new management and technology, reducing pressures for state subsidies and resulting in stronger marketing.

Gulf governments seem interested in having the private sector increase its share and play a leadership role in the overall development process. The hope is that privatisation efforts will open new channels of investment for private sector capital. The privatisation of public or mixed companies in the region will serve to improve efficiency, foster entrepreneurial dynamism, and reduce the need for subsidies and transfers from the government. The new emphasis is on reorienting the Gulf economies from a growth strategy based on public sector initiatives to one where the private sector takes the lead. Along with changes come concerns, such as regarding increased unemployment in the short- to medium-term, the loss of future government revenues, less government control, the fear of private sector monopolies, higher prices and devaluation of stock prices. These may be surmounted, however, through careful planning, proper management and timely implementation of the privatisation measures.

In each of the Gulf countries there have been efforts towards privatisation, but to date there has not yet been any clear evidence of when privatisation will occur. Of course, some progress has been achieved, particularly in Saudi Arabia. The Saudi government's experience in general privatisation offers some guidelines in this direction. The objectives of the Saudi Arabian Government clearly involved drawing the private sector into the management of public utilities and other basic industries. Privatisation and efforts towards economic diversification are strategic choices, and clearly part of the government's overall plan to open up the economy. The development policies aim at finding more jobs for Saudis, boosting investment in the economy and supporting the government's privatisation drive. Saudi Arabia's government has accepted the need to reduce the state's involvement and to increase

that of the private sector, but it has moved very slowly in this direction largely due to fears of job losses for Saudi citizens. As a result, a Supreme Economic Council was created in August 1999, charged with promoting the private sector. The new council was welcomed by economists, planners, politicians and businessmen in the GCC region as a serious step towards vital economic reform, as Saudi Arabia copes with a financial squeeze after decades of oil-boom wealth.

The first significant step in the privatisation programme was on 15 December 1997, when the Saudi Arabian Council of Ministers issued a landmark resolution directing the privatisation of all the telecommunications services currently provided by the Kingdom's Ministry of Posts, Telephones and Telegraphs (PTT). The resolution specifically identified the following services as among those to be privatised: telephone services, information systems, paging, mobile telephones, public telephones and the public network. The announcement created potentially significant opportunities for telephone system companies, investors and possibly lenders.

The privatisation of the telecommunications sector took a giant leap forward with the creation of the Saudi Telecommunications Company (STC). Following its establishment, the next step in the daunting privatisation process involves commercial operations. While still in the development stage, many supporters of privatisation would like to see an international telecommunications company utilised as an operational consultant. Some would even like to see an international firm used as a contracted operator or possibly an equity holder. Many questions remain, however, and much work needs to be completed in order for privatisation to be completed.

The telecommunications sector seems to have forged ahead of other industries in the drive toward privatisation. One reason for its surge forward is that the Saudi government sees it as a prime opportunity to attract private sector funds to develop further the country's infrastructure. Another reason why PTT may be moving ahead of other sectors in terms of privatisation is Saudi Arabia's pending accession to the World Trade Organisation (WTO). Under one of the WTO's ancillary agreements, member countries in the organisation are supposed to open their markets to competition in telecommunications services. There is no similar agreement directly

affecting the airline industry, although it may be covered indirectly under the General Agreement on Trade in Services (Gillen et al., 1999).

The successful privatisation of Saudi Telecom, conducted in a fair and transparent manner, would serve as an important model for future privatisation, both in Saudi Arabia and in the entire region. Ideally, this would create the momentum for transferring ownership of the power and transportation sectors into private hands as well. Reform in these sectors would not only help to improve efficiency and provide critical services, but would also support the government's fiscal consolidation efforts.

Saudi Arabia has also moved towards creating a competitive electricity sector open to private investment. Privatisation of the electricity sector is under consideration, and may involve division into three parts: generation, transmission, and distribution. On 16 February 2000, the Electricity Minister signed a merger agreement between Saudi Arabia's 10 existing power companies, and on 5 April 2000, the long-anticipated Saudi Electric Company (SEC), a joint-stock company 50 percent owned by the Saudi government, was established. SEC was formed from the country's 10 regional power companies including the East, West, Central, and South, which controlled 85 percent of the country's power supplies.

As in all privatisation programmes, certain problems arise that must be overcome to smooth the transition process. Each of the GCC countries has its own specific obstacles depending on the state of the economy. Another impediment to privatisation is one that faces many developing countries: employment redundancy and the social implications of further unemployment caused by the sell off of state-owned enterprises. GCC governments are seriously working to overcome these problems and other difficulties with the privatisation process, but rushing into privatisation without careful planning could disrupt private sector activities.

9.2.1 Airline privatisation

In spite of the fact that GCC governments have accepted the need to reduce state and increase private sector involvement as a considerable step in liberalising their economies, they have moved very slowly in the processes of privatising airlines. To

date, there has not been a single transfer of any of the national flag carriers into private control. However, planners have recognised the huge movement in this direction in both the developed and developing world. Therefore, most GCC countries are working to privatise their airline industry. Three major flag carriers in the region are scheduled to be privatised. Saudi Airlines, Gulf Air and Kuwait Airways Corporation are expected to follow the path of privatisation in the first decade of the new century.

Efforts to privatise Saudi Arabian Airlines are underway. On 8 October 2000, Defence Minister and Chairman of the Board of Saudi Arabian Airlines, Prince Sultan bin Abdulaziz signed an agreement with a consortium led by Simat, Helliesen & Eichner, Inc (SH&E). The agreement states that SH&E has been selected as consultants on privatising the sole airline in the country. The Gulf and Saudi Investment Banking Group is also participating in the consortium. SH&E has been selected for this important project because of its experience in advising more than 120 airline companies and conducting privatisation projects for more than 20 world airlines.

The proposed steps towards executing the privatisation project are designed to occur in three phases: the first phase is the preparation of the initial assessment and will take 13 months; the second is the submission of studies for review and final approval; the final step is the actual implementation of the project.

The government is still seeking counsel from advisors who are considering all options. Though privatisation of the airline industry is an important undertaking, and a new trend, it raises many questions concerning government implementation, and how the Saudi Arabian airline industry might be structured and liberalised after privatisation. Unfortunately there is no information available, apart from an announcement that Saudi Airlines will be considered as one of the objectives of a privatisation programme. There is no mention of the anticipated degree of government ownership in the new company. The announcement does not state how shares will be made available to private investors, nor does it indicate who will be allowed to purchase shares. It is not yet clear to what extent, if any, foreigners will be allowed to participate in the process. Prince Sultan bin Abdulaziz has stated, however, that the planned privatisation of Saudi Airlines would make it possible for all Saudi citizens to own shares in the airline under specific terms.

The industry is supervised by the Ministry of Defence and Aviation, but it is believed that the government should have no further role once Saudi Airlines is privatised. The ultimate goal remains to make the airlines profitable. This in itself could prove quite challenging, as the airline transportation sector is widely assumed to have operated on substantial governmental subsidies. The new management may raise airfares on some unprofitable domestic routes, though that is not likely to happen in the immediate future.

The four owners of Gulf Air - Bahrain, Oman, Qatar and Abu Dhabi - planned to privatise the airline in the early 1990s. They selected the Gulf Invest Bank and the Chase Manhattan Bank to make a study on privatisation and report results to the board. The study was supposed to define the carrier's objective and recommend an optimal capital structure as well as a percentage of equity to be offered to investors. Initial indications were that 40 percent of the airline would be offered to companies and the citizens of the countries whose governments jointly own Gulf Air. Since then, nothing has been publicly reported and the airline is still operated as a national carrier, with no information about any future plan of going further in a privatisation programme.

The privatisation of the national airline of Kuwait does not appear to have made much progress either, although the government would like to find a way for the private sector to fund future improvements in the airline transport sector. In looking to the future, the Kuwait government emphasises that it is studying measures to reduce government expenditures. A plan to change the state-owned Kuwait Airways into a shareholder company is under consideration. The move will signal the country's first step towards privatising its national flag carrier. Kuwait has announced that it has set up a bill that the government would submit to parliament to turn Kuwait Airways into a Kuwaiti shareholder company in preparation for privatisation.

The document establishes the capital of the new company, Kuwait Airways Company, at approximately US$1.16 billion divided into 3.5 billion shares which the state has the right to sell to Kuwaiti investors only. The bill requires approval by parliament before submitting it to the Emir for ratification. However, it was reported on 6 June

2000 that plans to privatise the airline are likely to be delayed when Kuwait Airways reported losses of about US$30.12 million.

Qatar Airways has had a completely different experience. It was actually formed in November 1993 and began operations in 1994. At that time it was a private company, owned by Qatar's Royal Family, local businessmen and the Qatar Insurance Company and it remained so until August 1999, when the government of Qatar purchased a 50 percent equity in the airline. Qatar Airways is now flying the flag of Qatar as well as that of Gulf Air.

9.2.2. Airport privatisation

The pace of possible privatisation on the ground in airports is slower than for air travel operators, and there are no clear signals in this direction. Oman is the only country in the region that is going a step further in airport privatisation programmes. Oman is the first country to decide to privatise airports in the GCC region. This is in a planning stage, but no final decision has yet been made. It was started in 1998, when the Omani Tender Board named Credit Suisse First Boston (CSFB) as consultants on privatising Al Seeb International Airport in the capital Muscat. CSFB, as financial advisor, was selected to advise the government on how to maximise revenues from privatising the airport, as well as drawing up a feasibility study, tender documents and a list of firms qualified to bid. A full study of the privatisation of Al Seeb International Airport was made. A Ministry of Transport and Housing spokesman is reported to have said that the study has now been completed after a six-month delay. It is heading to the government for final approval. The government expects to award the tender to an international firm with experience in airport privatisation, expansion and operation. The government hopes to proceed with expansion of the existing terminal with a targeted completion date of 2003.

A number of leading companies have reportedly signed representation agreements with international firms interested in the airport privatisation opportunity, including the British Airport Authority (BAA) and Airport Group International (AGI). The government of Oman hopes to attract more USA bidders to this project which represents a great opportunity for firms specialised in airport operations.

The Omani government appears committed to pushing airport privatisation forward. However, if the Omani government benefits from such a privatisation in airport sector, it can be assumed that the privatisation of Al Seeb International Airport could be tied to the expansion and possible privatisation of other international airports in the GCC region.

9.2 New foreign investment laws

In order to take their rightful place in the new world economic order, the Gulf Arab countries are accelerating their efforts to open their economy in an attempt to attract new technology and create a large number of jobs for their people. The governments understand the need for greater private sector participation and in particular the need to attract foreign investment capital, and have begun to create a framework to achieve this by adopting more attractive and flexible policies such as opening the market to foreigners.

Traditionally, these countries have attracted only limited foreign direct investment, relying heavily on oil exports. This is partly attributable to differences in culture but has more to do with the lack of a developed legal infrastructure. Recent moves by the governments signal that things are changing. Uncertainty in the oil market has led to a determined effort to diversify the economy. Saudi Arabia in particular, as the most important country in the region, was hit hard by the fall in oil prices in the 1990s which sent shock waves through its economy. Forced with the demographic pressure of an increasingly young population, the government has had to embrace a policy of rapid modernisation in order to revive its economy.

The countries in the GCC region offer an institutional framework that ensures stability and progress. Saudi Arabia, the UAE and Kuwait have excellent infrastructures, and Saudi Arabia has a skilled young work force, highly qualified business communities, lower taxes and new laws to settle disputes as important incentives to foreign investors. A business environment is available to Americans which is comparable to that which they enjoy at home. Particular efforts have been made to enhance technological infrastructures. The GCC governments hope that such efforts will be

rewarded with strengthened economic ties with developed countries through increased investment and trade. Therefore, they are currently seeking partners to help them to diversify their economies away from oil. They know they have to upgrade their industries and have taken steps to make their countries even more attractive than before to foreign investors. In this context, the airline industry will benefit from all economic enhancements, both directly and indirectly. Demand will be increased as a result of professional and labour mobility and above all the expected increase in the GDP.

Saudi Arabia and Kuwait provide examples of new foreign investment laws. These two countries are moving to diversify their economy by adopting flexible laws to attract as many investors as possible. Saudi Arabia, like most OPEC countries, has had to redraft its budgets by making some efforts to diversify its economy. Perhaps the best available means for Saudi Arabia to diversify its economy and attract foreign investment is through the further liberalisation of its trade and tax laws. Providing a level playing field to foreign investors, both in the investment and ownership opportunities available to them and in the way they are treated under the tax code, will ultimately benefit the Saudi economy. Saudi Arabia has made a significant effort to liberalise its tax codes and foreign investment laws, with the goal of building strong and efficient capital markets. It is believed that Saudi Arabia will gain advantages by opening its market and allowing greater private sector competition to improve the productivity and capacity of its economy.

The two key priorities of the Saudi government are to attract foreign investment and to create a larger private sector. For a long period, Saudi Arabia has been a closed market. There is still a nagging concern that its legal infrastructure is insufficiently developed to cope with an influx of foreign investment. So, the most important new initiative is the Foreign Direct Investment (FDI) Code which was approved by Saudi Arabia's Council of Ministers in 10 April 2000. The Code establishes a framework for future legislative and regulatory activities, meant to enhance the country's foreign investment climate. The code calls for the establishment of a new regulatory framework that would permit foreign investment in all sectors and would relax rules restricting foreign ownership of local businesses. Key provisions allow foreign

investors freely to transfer money from their enterprises outside of the country, allow joint venture companies to sponsor their foreign investors as well as their foreign employees and permit foreign investors to own real property for company activities. The government also undertakes to provide increased transparency regarding the procedures for resolving commercial disputes, to provide clear guarantees for the protection of intellectual property rights, to provide clear guidance to potential investors regarding projects in which they cannot participate, and to guarantee that expropriation of foreign investors' properties will only take place with the support of a judicial decision, and where such confiscation is in the public interest and accompanied by just compensation.

In 2000 The Council of Ministers also approved the establishment of a General Investment Commission, headed by a minister, to provide information and assistance to foreign investors. The Commission will operate under the umbrella of the Supreme Economic Council. The Commission's duties will include formulating government policies regarding investment activities, proposing plans and regulations to enhance the investment climate in the country and evaluating investment proposals.

The benefits of the new FDI Code may be complemented by a new mining code under study that could boost the present low levels of foreign investment in non-hydrocarbon minerals. Following the recent approval of tourist visas, tourism expansion could also raise foreign investment.

The state-controlled Saudi Aramco has traditionally monopolised the oil market but foreign investors are hoping that this significant sector would be available in the future. This hope derives from early January 2000, when Saudi Arabia announced that it had established an 11-member Supreme Petroleum Council (SPC). The SPC could help to push foreign involvement in the country's oil sector, although there is opposition by conservatives, but the government has insisted that it will continue to be responsible for the oil parts of new investment projects. Companies are eager to exploit the opportunities within Saudi Arabian's lucrative energy sector and are looking for a foothold in the market.

The provisions of the FDI Code offer 100 percent foreign ownership where, previously, joint ventures with a Saudi company were necessary. This represents a dramatic shift in attitude towards foreigners and is part and parcel of the government's drive to attract new industries into the Kingdom. It is significant that the government has gone ahead with the law despite the recovery of oil prices, showing that it is committed to change rather than simply reacting to necessity. By adopting the new law, it is expected that US$200 billion will be invested by foreigners in the next 20 years.

The law, which is designed to direct foreign investment into Saudi Arabia, is more flexible than neighbouring countries' investment laws. The new law which took effect in early 1999 will help alleviate much of the bureaucratic red tape, and thus make it easier to do business in Saudi Arabia. A substantial increase in FDI Code inflows would help attract overseas private Saudi capital back to the country. Foreign investment also boosts organisational, managerial, and technological competence. The degree to which the country can attract outside capital will greatly affect employment and wage levels.

As regards Kuwait, its diversification efforts have been structured through a new law aimed at attracting foreign investment as part of ambitious plans to liberalise the economy and open its market. Several projects in Kuwait's energy and non-energy sectors are likely to be opened up to foreign and local private investors, in order to upgrade and expand existing facilities and support infrastructure within the energy sector. The government is seeking foreign support to fund expansion plans for its oil sector. In July 1997, Kuwait's Supreme Petroleum Council (SPC) agreed in principle to allow foreign companies to assist in boosting crude oil production. International oil companies will be offered 20-year operating service agreements in an attempt to boost production by 600,000 bpd from fields other than Burgan, Kuwait's largest field, which will be kept as a strategic reserve for the future. British Petroleum, the United States' Chevron Corporation, and France's TOTAL all have technical service agreements with the Kuwait Oil Company (KOC), the organisation under the KOC responsible for all oil and gas production. The Royal Dutch/Shell Group and the United States' Exxon have technical study agreements with KOC.

9.3 Code-sharing partnerships

A code-sharing agreement allows an agent of one airline to issue a passenger one ticket for a trip, even though some legs of the trip will be with another airline. Code-sharing has become a major strategy of airline carriers in an attempt to raise their total revenues and expand their networks without extra expenditures. From the later 1990s, GCC carriers have been pushing for increases in numbers of intercontinental routes to help expand their networks. However, they have limited code-sharing agreements with international airlines, or key partnerships with major American and European airlines. They hope to develop their involvement in a new way, beyond the existing code-sharing strategy. Each carrier is looking to become a full member in one of the major alliances that characterise the aviation industry nowadays.

In spite of the fact that Saudi Airlines is a key player in the Middle East, its involvement in code-sharing agreements is very limited. It has negotiated just one deal with United Airlines, whereas Emirates and Gulf Air obtain benefits by code-sharing with a number of international carriers. However, none of the airlines in the GCC market has achieved either the major or minor alliances that have characterised the global airline industry in general from the mid-1990s. Therefore, on 15 May 1999 the six GCC airlines met in Kuwait to find a solution that would enable them to compete with the most powerful alliances such as Star and Oneworld. The chairman advocated fuller co-operation between the GCC regional airlines by creating a regional alliance which would allow them to provide more competitive services. The six carriers have agreed to meet again every three months to discuss future co-operation and co-ordination.

It can be argued that such an alliance between regional airlines is not very powerful, and neither travellers nor airlines obtain many benefits, as the airlines in the Gulf cover the same region and fly to nearly all the same destinations. This means that the airlines will not be able to expand their existing networks and cannot offer more choices to their customers. It can be argued that each of them should seek different alliances to avail travellers of a huge network covering the globe. If they do so, their

regional airports will become hubs linking other international hubs in both the West and the East.

Individually, Emirates has been trying to expand its customer-base through code-share agreements with different partners. It managed to sign code-share agreements with United Airlines, British Airways, KLM, Philippine Airlines, Qantas and Air Lanka. Now, Emirates code-shares with British Airways on direct flights between Manchester and Dubai. Another agreement between Emirates and Qantas has taken effect since 1997, providing the foundation for both carriers to expand the market between Australia and the Middle East. Emirates also provides flights between Dubai and Manila through a code-share agreement between Emirates and Philippine Airlines. Emirates added its services to Scandinavia, with three weekly flights between Colombo and Stockholm via Dubai using Air Lanka.

Gulf Air has also linked up with its five international airline partners to offer more destinations, thus expanding its network without operating more aircraft. In this way, Gulf Air offers flights to New York, Boston and Los Angeles using London as a transfer point through a code-share agreement with American Airlines. British Midland is another partner offering flights within the UK, to Ireland and to Amsterdam. All code-share services between Gulf Air and British Midland connect at Heathrow Airport. Gulf Air has similar agreements with Royal Air Maroc, Cyprus Airways and Air Malta, offering travellers joint services to Casablanca, Larnaca and Malta respectively.

Saudi Airlines has signed an agreement with United Airlines, which offers benefits for travellers between Jeddah in Saudi Arabia and Los Angeles. Under this deal customers benefit from a single check-in process and frequent flyer mileage. Both airlines co-ordinate on reservations, ground handling and technical issues. Such a deal gives Saudi Airlines good access to the US market as well as enhancing United's presence in the Middle East. Since 18 February 1997, both airlines have been committed to setting a number of passenger seats on each other's flights to create a seamless service for passengers travelling between Los Angeles International Airport and Jeddah, via New York.

A similar partnership agreement was signed between Kuwait Airways and Trans World Airlines (TWA). Flights to New York and Chicago will be on board Kuwaiti planes whereas the connecting flights within the USA will be on board TWA. From 1 June 2000, the two partners expanded their code-share agreement to include flights between New York and Frankfurt, Frankfurt and Kuwait, Chicago and Amsterdam and between Amsterdam and Kuwait City. A similar partnership has been undertaken with Olympic Airways. Similarly, Qatar Airways has a code-share agreement with Lufthansa signed in 1998. Since November 1999, the agreement between Lufthansa and Qatar Airways on Doha-Munich services, operated by Qatar Airways, has been extended with Lufthansa covering Munich to Vienna, Zurich and Manchester.

This is just the start and there is nothing wrong with GCC carriers choosing to code-share or interline with international airlines. The mistake would be to enter into an agreement which cannot improve the efficiency of a service or reduce the competition. GCC carriers should improve their services to be able to cope with new strategies. For this reason, Saudi Airlines is not in a hurry to become a full partner in one of the major alliances, but the management of Saudi Airlines has created a new department, headed by a qualified manager to deal particularly with alliance strategies.

9.4 Airport expansions

Some GCC airports have increased the number of passengers they handle largely because of their central role in hub-and-spoke networks, as well as the growing importance of the region as a trade and tourist centre. Competition has also forced GCC governments to develop their airports attempting to encourage international carriers to record high degrees of presence in these airports, and to use them as stop points. For these reasons, airport expansions in Dubai, Qatar and Jeddah have seen massive improvements in order to achieve the required goals and gain resulting benefits in terms of route development.

An airport is largely dependent on the operating strategy of the home airline to bring in transfer passengers. However, successful airports have demonstrated that they can compete for passengers choosing routes and carriers by exercising their control over

key factors such as minimum connect times, transfer systems, baggage systems and passenger services. Their competitive edge is also sharpened through reliability of services, uncongested runways and taxiways, efficient security and services, professional ground-handling and efficient and high quality terminal transfer facilities. The development of all of these features depends overwhelmingly on good long range planning. Such planning is a core competence in airport management.

9.4.1 Dubai International Airport

Dubai has become one of the world's most dynamic and exciting commercial and tourist centres. Dubai International Airport is perhaps one of the very few airports in the world that recorded an 800 percent increase in traffic during the period between 1971 and 1975. The airport with a handling capacity between 0.8 and 1.2 million passengers, has grown from an airfield into an international aviation hub in a very short span of time. The first expansion in 1986 catered for 6.1 million passengers. The sharp increase was due to the strategic location of Dubai as a connection point between Europe and the Far East.

Recognising the fact that Dubai has been developing as an aviation and business hub in the region, the Dubai Department of Civil Aviation commenced a US$540 million expansion programme in 1997. Such a large expansion in the airport's history reflects the reality of Dubai's rapid progress into the 21st century. The new projection is for 12 million while the airport should eventually be able to handle up to 17 million passengers.

The expansion programme will occur in two phases. The first was ready for operation on 15 April 2000. In keeping with the expected dramatic growth in the air transportation sector, the Department of Civil Aviation might start the second phase of expansion by 2003. This expansion programme was devised to meet the needs of travellers and airlines as far ahead as the year 2030, with a passenger throughput of 12 million in the year 2000 reaching 30 million by the year 2010. The airport is expected to handle around 45 million by the year 2030.

Due to the limited land available for further expansion, the government of Dubai has realised that, at some time in the future, Dubai will need a second airport, and has already earmarked land for it. A second airport is still quite a long way off yet, as some industry experts predict that the present location of the airport could itself handle up to 30 million passengers.

As regards current ground facilities, the Sheikh Rashid Terminal comprises a blue-green steel and glass concourse covering an area of 118,000 sq.m, oval in shape, 800m long, 80m wide and 28m high, comprising five levels. The concourse accommodates 28 aircraft boarding gates, with air bridges and 42 loading bridges designed for 747 aircraft. The concourse also includes a 100-room five-star hotel on its two upper floors, with restaurants, a health spa, swimming pool, and business centre. A total of 160 check-in ticket counters, a new control tower equipped with state-of-the-art landing systems, and 6 automated baggage systems have been added. Car parking was expanded to accommodate more than 3,300 cars. Parking bays capable of handling up to ten B777s are found on the northern side of the airport. A new charter terminal for charter flights, executive flights dedicated for VIPs and businessmen as well as special interest flights such as those for tourists, teachers and the Hajj (pilgrimage) have also been completed. The building also accommodates the Emirates Flying School and the Executive Flying Services. The new terminal is linked with the airport's older buildings by a 300-m underground tunnel. But, perhaps the most exciting development for passengers, after the brand new concourse, is the quadrupling in size of the award-winning Duty Free area.

Besides infrastructure, the Department of Civil Aviation also aims to provide excellent customer relations. Its new customer care programme, "Dubai Airport Cares", was launched in October 2000. This programme has been set up to initiate and maintain the highest standards of service for customers of Dubai International Airport, aiming to improve customer relations and provide better and more efficient services to all airport users. The campaign focuses on providing services which would help reduce queuing time, give better information to customers, reduce the amount of lost and damaged baggage and ensure all staff are polite and courteous to customers.

The second phase will involve the construction of another identical concourse which will be capable of handling over 20 million passengers. A third runway, to be added some time before 2010, will be able to handle the Super Jumbo, when it becomes operational. This latest expansion is expected to provide for operations until 2015, so it can be said that Dubai International Airport has been designed to meet the expanding needs of travellers and airlines well into the new millennium. Today, the airport is not only one of the fastest growing airports in the world it is also recognised as the aviation hub of the Middle East. It now stands at the threshold of being among the top 100 airports in the world.

9.4.2 Doha International Airport

The Qatari government plans to expand its one international airport in the country. The existing terminal, which has a fleet of buses carrying passengers to their aeroplanes, will be replaced by a modern terminal equipped with 14 airbridges to allow direct access for passengers. More than 45 departure and arrival counters will be provided as well as a duty free mall. Therefore, the airport will offer a very different experience, with high quality services.

The first plan to replace the existing airport was in the early 1990s. However, after three years of discussions, the plan was rejected because of its cost, estimated at about US$500 million. The government tried to find a cheaper alternative by using some of the old infrastructure, including the runway, linked with a new terminal. The new three-storey building is four times the size of the existing terminal. It will accommodate arrivals through the ground floor, while the second floor will be for transfer and transit traffic. The top floor will be dedicated to departures. There will be a small hotel and a business centre as well as a duty free market, in addition to new support facilities including storage areas and an air traffic control tower. The existing terminal will remain, although its future use has yet to be decided. One suggestion is to turn it into airline offices.

At the same time, the airport will benefit from the development of the new national carrier, Qatar Airways. The airline aims to increase the number of passengers

benefiting from the facilities that will be provided by the new terminal. Finally, the new terminal will allow the authorities to market Doha as a hub airport, something they have not previously been able to do as the present passenger throughput at Doha is estimated at only 2.2 million passengers a year. With a capacity of 5-7 million passengers a year, the new terminal is forecast to meet Doha's air traffic needs up to 2015 and after that, further expansions are envisaged. The terminal can be expanded gate by gate. The service areas and car parks are also expandable in line with the airport's growth.

The new Doha International Airport project can be viewed in various ways. From the government perspective, it symbolises the new Qatar, a place no longer to be seen as a regional backwater, but progressive and looking to the future. For international contractors, it raises the hope that after years of concentrating on the industrial sector, the government is now starting to spend more on upgrading infrastructure. And, for the travelling public, it holds out the prospect of an end to the long hours of tedium in the Doha departure lounge.

9.4.3 King Abdulaziz International Airport

The government of Saudi Arabia has devoted major attention to setting up the civil aviation infrastructure which is one of the most important prerequisites for economic and social development. King Abdulaziz International Airport has long been the focal point of Jeddah, and the airport authority works hard at creating just the right atmosphere for the millions of passengers that pass through it every year.

Currently, a massive plan to expand the airport is being formulated to develop the services and utilities of the airport. This will create new global concepts for travel as well as enhancing the role of the airport and its position in the world of international competition with the completion of expansion and development operations. The capacity of the airport will be doubled to be able to handle 20 million passengers a year. The Saudi government signed an agreement on 25 February 2000 with an international company to design the new building.

The new facilities which will be added to the airport will provide unparalleled services worldwide. Under the terms of the plan, the new terminal will be built where the original South Terminal is now located. It will include two satellite piers with 22 boarding gates served by airbridges, a grand public concourse, landscaped courts, restaurants, viewing galleries and seating areas. The new terminal will provide the passenger and aircraft capacity needed by Saudia to meet anticipated demands over the next ten to fifteen years. Each of the two new satellite piers will offer direct access via air bridges to nine or more aircraft. The new piers will be linked to the current structure by a grand public concourse where visitors and passengers will be able to enjoy looking outward to the airfield with the Hajj Terminal in the background. The plan also calls for the addition of two four-storey parking garages with direct access to the terminal via landscaped pedestrian malls, and the reorganisation of the existing departures level as a ticketing and check-in hall with additional access. The expansion programme will also include the South Terminal and other existing facilities.

9.5 Yield management

Yield management (or revenue) is a term for a complicated technique which has been used by airlines and some other businesses such as hotels (Botimer, 1996; Lee and Hersh, 1993). Yield management controls three major components of the industry's operation, which are management of traffic through hub cities, overbooking control and allocation of discounted seats (which is called inventory).

9.5.1 Restructuring airline networks

GCC airlines operate in the Middle East and their networks link this region with the rest of the world. As the existing networks are similar, the competition between them is very high. However, Emirates and Qatar Airways are moving to develop their networks in an attempt to become hub operators. These carriers have begun to refocus their systems away from point-to-point and towards hub-and-spoke networks. The network approach created great efficiency for the airlines by enabling them to funnel passengers through their hubs. All have their own plans to strengthen their hub status

and to cater for the growth in air traffic through the provision of appropriate infrastructures and the development of new routes.

The Emirates' success during the 1990s has been partly the result of the development of hub-and-spoke networks, an efficient and cost-effective way to transport people quickly to a large number of destinations. Although Emirates was founded in 1985 it has managed to create a vast global network and become one of the most popular airlines in the world. Emirates has benefited from the good location of its home base, Dubai, in addition to the advanced infrastructures provided by Dubai International Airport.

Emirates home base at Dubai is one of the major hubs for traffic to and from Europe, Africa, the Middle East, the Indian Subcontinent, the Far East and Australia. Dubai wants to establish itself as a stopover destination for travellers to and from Australia. Emirates plans to operate non-stop flights between its hub, Dubai, and Sydney from 2002. It started, on 26 March 2000, to operate four flights to Sydney via Singapore in addition to its daily service to Melbourne, launched in 1997 (see Fig 4.7).

Meanwhile, Emirates announced in 2000 that it is planning to operate non-stop flights between Kathmandu and Dubai. There will probably be a regular schedule of three flights a week. The focus would be on tourism. At present Qatar and Gulf Air operate regular flights to Kathmandu from the Middle East. Emirates is also keen to expand its operations in India, by adding more flights to the existing destinations of New Delhi and Bombay, as well as flying to new destinations in the country. The airline has begun flights to its latest destination in India on the basis of a new code sharing agreement with Air India, after protracted bilateral negotiations with the Indian government.

Before 1997, Qatar Airways was operating to nearly 30 destinations, most of which were in the Middle East, with two Far East destinations and one in Europe. However, Qatar Airways cut 17 percent of the routes and increased the frequency of flights to the remaining destinations. As a young and dynamic operator, the airlines focuses its attention on the Indian Subcontinent population centres of Mumbai (Bombay), Karachi, Trivandrum and Lahore. Of course, there is a huge number of foreigners,

most of them Asian labourers, living in Doha and the surrounding Gulf countries, but perhaps the most important for the new carrier is to connect Asia with Europe. Therefore, India, Bangladesh and Sri Lanka are a target market for Qatar Airways.

Nepal can be considered as an important element in Qatar Airways strategic planning. The airline operated its flights to Kathmandu once a week in 1996, but it gradually increased to three flights a week, then five days a week and finally daily in 2000. Qatar Airways now connects Kathmandu with London seven days a week and Munich three days a week via Doha, making it the only airline to provide a convenient and frequent service from Europe to Nepal. In bringing European tourists into Nepal, Qatar Airways is doing great promotion work in Europe, bringing tourists to this Himalayan kingdom and offering a special packages programme with the purpose of generating further revenues from this sector.

With over 200 connecting flights and 21,000 places provided weekly to passengers, Qatar Airways is adopting a real hub-and-spoke system. The airline plans a schedule to the Maldives, a highly favoured tourist destination in the Indian Ocean. The service is not in place as yet. The airline has put on hold the decision to fly to Male, the Maldivian capital, in view of a feasibility study. Qatar Airways currently flies to 25 destinations worldwide (see Fig 4.8). In a code-sharing arrangement with Lufthansa, it flies to Munich in Germany. It also has a code on onward flights to Manchester, Vienna and Zurich operated by the German carrier.

Gulf Air has streamlined its network and closed some of its less travelled routes. A total of 11 non-profit making routes have been closed. Seven stations were closed in 1996, including Cebu, Manchester, Kilimanjaro, Houston, Zurich, Brussels and Lahore. The year 1997 saw the closure of Johannesburg, Durban, Geneva, and New York. Gulf Air retained a link to the USA through its code-share operated with American Airlines on all Gulf Air flights to London Heathrow, thereby allowing Gulf Air passengers to have access to direct services to the USA on the entire American Airlines network and bringing the number of destinations in the network to 50 (see Fig 4.5). The airline has increased capacity on existing profitable routes. In 1998, Gulf Air operated a new non-stop service to Casablanca which was previously operated via Cairo. Gulf Air is the only airline in the region to offer this non-stop service from the

Gulf to Casablanca. Casablanca is the gateway to Morocco and is an attractive destination for business and leisure travel. The introduction of this service follows extensive research into passenger demands and preferences and comes in line with Gulf Air's strategic marketing plans.

9.5.2 Overbooking strategy

Overbooking is a fundamental component of yield management. It means that an airline books more passengers on a flight than its actual capacity. Airlines adopt this strategy to maximise their load factor in order to achieve more revenues. Airlines do not overbook a particular flight accidentally. In fact, overbooking is a complex task requiring an accurate system dependent on a long history of customer behaviour. Otherwise, small mistakes can destroy the reputation of the airlines that use this strategy.

Recently, the Saudi Airlines' Yield Management Department adopted an overbooking strategy aimed at solving a significant problem which had been created by customers cancelling their travel plans without giving notice. A large number of customers make their bookings early to be sure of having a seat on a required flight. Changes in their own schedules may have made it necessary for them to take a different flight, maybe with a different airline. Switching or even cancellation most often occurs at less than 24 hours notice which is too late to sell on the vacated seats. Of course, all carriers use waiting-lists to solve this problem, but this does not provide as good a solution as overbooking. Saudi Airlines uses both options to achieve full load. Overbooking is used heavily on domestic networks monopolised by the sole national flag, whereas waiting-lists are used more on international and very heavy routes.

However, airlines cannot in some cases avoid the consequences of higher overbooking levels, especially as far as first class is concerned. Normally, a generous offer such as a hotel room, vouchers for free flights and the costs of transportation on another airline can calm a potentially angry situation. Passengers can also be rebooked with the airline on a later flight that day. However, overbooking could cause changes in the booking behaviour of Saudi Arabian passengers, which could impact Saudi Airlines capacity utilisation and revenues.

9.5.3 The inventory strategy

Some airlines adopt an inventory strategy which is a key component on the yield management system. They divide seats on each flight into several price ranges, and set aside a certain number of discounted tickets or open up more discounted seats, depending on how sales are going. Airlines seek to fill as many seats as possible before a flight takes off. Empty seats should be sold before it is too late. However, there are many issues relating to this technique, for example regarding the number of seats on each flight to be sold at reduced fares to produce a full aircraft, and when to allocate them so as to minimise lost opportunities to sell full-fare seats (Popović and Teodorović, 1997). Naturally, the lowest fares attract customers' attention, but airlines may use an inventory to their advantage to achieve a full load.

Emirates is the only carrier in the GCC region to implement a new inventory system which allows better allocation of seats within fare level bands using an inventory management technique in an attempt to achieve profitability and maximise revenues by selling unused seats. Emirates seeks to attract both business and leisure travellers and above all to win the regional and international competition by providing a combination of high quality services and competitive airfares. By using the inventory system, Emirates has achieved the highest passenger load factor in comparison with other GCC carriers, which was 71.9 percent in the financial year 1999-2000 while Saudi Airlines achieved 62 percent in 1999.

9.6 Improving the quality of services

A high standard of competition has forced GCC airlines to improve their general quality of air transportation services as well as enhancing the efficiency of the industry in the Middle East. Keeping existing consumers and attracting new customers is a major aim for all carriers in the region, especially Emirates, Qatar Airways and Gulf Air. These three carriers have a common problem of having a very small local market. Their strategies are to attract business travellers by providing them with the best services. This part of Chapter 9 sets out to examine some important components of

quality services that have been improved by GCC airlines in order to solve some of the problems created by aggressive competition in the industry.

9.6.1 Fleet modernisation

Most GCC carriers have plans to modernise their existing fleets, some of them, such as Saudi Airlines having replaced most of their old aircraft. The government of Saudi Arabia has a fundamental plan to support Saudi Airlines by replacing its old fleet with the most advanced technology aeroplanes, giving the national flag carrier one of the youngest fleets in the Middle East. The Saudi Airlines' fleet modernisation programme started in 1995, when an agreement was signed between the Saudi government and both Boeing and McDonnell Douglas. It was then the largest deal ever made by a Middle Eastern airline, introducing to the fleet four new types of aircraft, 23 twin-engined B777-200s, five B747-400s, twenty-nine 121-passenger MD-90s and four freighters of three-engined MD-11 class, making a total of 61 new aircraft worth an estimated US$6 billion. The contract also provides for spare parts and training (Table 9.1).

Table 9.1: Saudi Airlines fleet in 2000

Aircraft type	Tota 1	On order	Capacity			
			F	J	B	Total
Boeing 747-400	4	1	36	32	290	358
Boeing 747-300	11	-	36	38	319	393
Boeing 747-100	9	-	18	0	369	387
Boeing 747-SP*	3	-	74	16	86	176
Boeing 747-200F (Cargo)	1	-				
Boeing 777-200	20	3	30	31	183	244
Boeing 707	2	-				
Boeing 737	8	-	14	0	88	102
Lockheed L-1011-500	2	-				
McDonnell Douglas MD-11 (Freighter)	4	-				
McDonnell Douglas MD90-30	29	-	18	0	103	121
Airbus A-300-600	11	-	26	0	232	258
Grand total	104					

*One Boeing 747 SP is being used by the Government.
Source: Saudi Airlines

These brand new aeroplanes are now in operation, allowing Saudi Airlines to be a strong competitor in the region and giving the airlines one of the youngest fleets in the Middle East. The domestic network also benefits from Saudi Airlines' modernisation programme. Most domestic routes are served by MD 90-30, which is suitable for short and medium range flights. Long-haul and heavily used routes are flown by both new B747-400s and 777-200s in addition to A300-600's and B747-300s.

To be not only a strong competitor in the GCC region and in the Middle East but also an aggressive competitor alongside established international airlines, Emirates has a far-reaching plan involving the latest technology in the air transport industry. In 1999, it was operating 26 modern aircraft to destinations in Europe, the Middle East, Africa, Asia, the Far East and Australia. To expand its network and to be stronger in these markets, Emirates ordered 21 A330-200s aircraft to replace the existing A310-300s and A300-600Rs. Nine of them have entered service and the tenth Airbus joined the Emirates fleet on 28 October 2000. It was scheduled to make its first flight on 29 October 2000 to Rome and onwards to Nice. The remaining (11) aircraft will be delivered between 2001 and 2002. As of 31 October 2000, the fleet comprised thirty-three aircraft (as shown in Table 9.2) in comparison with twenty-six in 1999

Table 9.2: Emirates fleet in 2000

Aircraft type	Total	Capacity				
		Configuration	F	J	B	Total
Boeing 777-300	2	A	18	42	320	380
		B	0	49	385	434
Boeing 777-200	9		18	49	236	303
Airbus 330-200	10	A	18	42	183	243
		B	0	34	251	285
Airbus 300-600R	4		18	42	320	380
Airbus 310-300	8		18	25	131	174
Grand total	33					

Source: Emirates

It is also planned to add the new ultra-long Airbus 340-500 aircraft to the Emirates fleet. These spacious four-engine planes can travel over 14,000 km without refuelling, allowing Emirates to carry its passengers all the way non-stop from Dubai to Australia, Japan or the West Coast of the USA. Emirates has ordered six Airbus A340-500s for delivery between 2002 and 2003 for this purpose. The airline has also placed firm orders for seven Boeing 777-300s for delivery between 2001 and 2002. Emirates also has three A330-200s, 10 A340-500s and four Boeing 777-200s on option.

Furthermore, Emirates has been planning to start using the Airbus A3XX, having announced on April 2000 that it was ordering 10 super jumbo A3XX jets from Airbus Industries, five of them for delivery in 2006 and 2007, while retaining options for five additional planes, including two freighters, in a deal worth US$2.2 billion. The airline will be one of the first to fly the newest and most advanced aeroplane in the world, which cost about US$12 billion to develop and which accommodates up to 550 passengers. The project has been years in the making, and the European consortium has said it would not develop the plane further without solid demand. The company needed to have at least 30 orders for the project to be viable. The Boeing Company on the other hand expressed doubts that a market exists for such a large aircraft, but soon afterwards they said that the company would develop a stretched version of the B747 to compete with the A3XX. The Super Jumbo, the world's largest commercial airliner, will challenge the highly profitable Boeing 747. It will have a range of 8,750 miles. The aeroplane is expected to include completely new on-board services including shops, sleeping areas and exercise rooms.

However, in June 2000, Emirates welcomed the decision allowing the European consortium to offer the aircraft for sale. Partners in Airbus Industries gave the European consortium the go-ahead to offer its double-decker 555-seats aircraft to airlines, and Emirates' chairman Sheikh Ahmed provided a deposit for the aircraft, signing an agreement with the chief executive of Airbus, Noel Forgeard.

In the same trend, Qatar Airways replaced its four Boeing 727s with new aircraft by leasing Airbus A320-200s. The latest fleet expansion by Qatar Airways follows an order for eleven Airbus A320-200s due for delivery from 2001 to 2005 under a

US$550-million deal signed in 1998. In addition to this order, Qatar Airways is planning to purchase six new wide-bodied aircraft and will be holding talks with Boeing and Airbus Industries. The airline is considering purchasing either wide-bodied Boeing 777s or the Airbus A330-200 models in order to service its expanded schedules and add more destinations. Qatar Airways aimed at expanding the airfleet with around 16 new aircraft, replacing the existing A300-600Rs. The airline currently operates a fleet of nine Airbuses, five of them A300-600Rs used on international and medium-haul routes and four A320-200s in operation on short to medium sectors.

Table 9.3. Kuwait Airways fleet in 2000

aircraft type	Started service	Total	Capacity			
			F	J	B	Total
Airbus 300-600R	May 1993	5	18	18	196	232
Airbus 310-300	May 1993	3	18	18	139	175
Airbus 320-200	October 1992	3	18	24	238	280
Airbus 340-300	March 1995	4	18	24	238	280
Boeing 777-200	March 1998	2	24	24	243	291

Source: Kuwait Airways

Following the destruction of its premises and 15 of its aircraft during the Iraqi invasion of Kuwait, Kuwait Airways has been rebuilt. All its existing fleet started operation after 1992. In October 1992, Kuwait Airways started its operation by using three A320-300s. Soon after, five A300-600Rs and three A310-300s joined the fleet. In March 1995, four A340-300 aircraft were added. The last phase of adding aircraft was in 1998 when two B777-200s entered service, bringing the fleet to 17 aircraft in total (Table 9.3), all equipped with the latest entertainment systems. The airline also operates a number of aircraft for government use - one A310-300, one B727, one MD-83 and three G4s. By completing its multi-million US$ fleet replacement programme, KAC hopes to re-establish its network over more than 46 countries worldwide and it has consolidated its commitment to providing the best service by offering even more comfort to its customers.

It is clear that GCC airlines have entered the new millennium with modern fleets equipped with the latest technology and facilities. However, every carrier has configured its aircraft according to its strategy. When arranging the seating, airlines must balance the needs of business and leisure travellers. The total number of seats aboard an aircraft depends on the operator's marketing strategy. Emirates and Kuwait Airways, for example, aimed at creating a large business class section, with fewer larger seats and substantial legroom, which would attract higher-yield business travellers. Business customers are willing to pay premium prices for the added comfort and workspace. For them service is often a higher priority than price, whereas leisure travellers prioritise discount airfares above other variables. If low prices are what the customer prefers, the company is likely to put as many seats as it can on board, because it needs to sell as many seats as possible in order to cover operating costs and gain revenues. Such a strategy is adopted by Qatar Airways. Saudi Airlines balances between the two strategies, because it serves a large market compared to the other regional carriers.

9.6.2 Frequent Flyer Programmes

A Frequent Flyer Programme (FFP) is currently an important tool used by airline companies around the world. It is one of the benefits deriving from the airline deregulation movement that started in the USA. FFP members enjoy greatly enhanced benefits. The airlines pay special attention to first class and business class customers. Even economy class passengers can benefit from FFPs

Saudi Airlines has created a reward programme known as Alfursan. Alfursan members receive special personalised services, together with the opportunity to earn free flights, free upgrades and free holidays. Personalised luggage tags, priority on flight waiting lists, and a generous excess luggage allowance are among the benefits that have been offered to Alfursan members. Customers can even take exclusive holidays with their families which are completely free, which means that the whole family can benefits from Alfursan membership.

The Alfursan Programme incorporates a network of international partners (called Alfursan partners), involving hotels, car rental companies, and credit card and phone card organisations, providing members with a variety of benefits that add quality to their travelling experience. Alfursan members can now accumulate mileage when flying on board United Airlines to any destination, as United Airlines is among the important partners in this programme.

Emirates and SriLankan have developed an innovative FFP called Skywards. A wide range of benefits can be accumulated by members, from reservation to arrival. A choice of privileges is available. Skywards members earn Skywards Miles every time they fly with Emirates and SriLankan. To make its programme more attractive, Emirates has selected a wide variety of national and international partners offering members great advantages. For example members flying with All Nippon Airways, British Airways, Continental Airlines, South African Airways and United Airlines gain Skywards Miles. An extensive range of private hire vehicles are available from partners spanning over 120 countries and earning extra points. Members choosing a hotel from a list of world-class partners can also earn Skywards Miles.

In May 2000 Qatar Airways introduced a club known as Privilege Club. It is a new loyalty programme designed to encourage passengers to use the airline. It offers extra benefits for members and their families. These benefits cover all aspects of international travel. Qatar Airways has brought together a number of leading companies as partners in the Privilege Club, offering passengers rewards even when they are not on board a Qatar Airways aircraft. Qatar Airways and its partners are able to offer close to 300 destinations, from Glasgow to Los Angeles, and the Caribbean to Rio de Janeiro, in addition to the airline's own network destinations. Privilege Club members can gain and redeem miles on Lufthansa, Virgin Atlantic and British Midland.

A Privilege Club member can also benefit from automatic priority over non-members for access to the first available seat cancellation on flights that are fully booked. Moreover, if all classes of seats are fully booked on a flight, Gold members are guaranteed an Economy seat on the flight concerned, provided their booking is made

at least 48 hours in advance. Among the benefits that can be offered to members are extra baggage allowance, preferred seating and meals, and extra attention to their needs on board. The system provides additional benefits for Silver and Gold members by allowing them to use First or Business Class check-in even when they are travelling Economy.

Gulf Air has been among the first Middle-East airlines to provide its customers with an FFP. Gulf Air's Falcon FFP was founded in December 1994 after work with a team of international aviation consultants for two years to develop its own frequent flyer programme specific to the airline's particular requirements. The programme provides Gulf Air passengers with many membership privileges. It has a three-tier membership system, providing Green, Silver and Gold. Green is the entry level. Members can earn Falcon miles every time they travel on Gulf Air. These miles can later be exchanged for free tickets or free upgrades. Miles awarded will depend on the class of ticket and the number of miles flown, and are listed alongside the loyalty points on the member's quarterly statement.

Membership privileges include an extra baggage allowance, advance seat selection, personalised luggage tags and subscription to the Falcon Link, the magazine for FFP members, which gives regular updates on new benefits and promotions from Gulf Air and programme partners. Silver membership provides additional benefits such as priority waiting lists, automatic seat reconfirmation, first and business class check-in, access to the first or business class airport lounges - even if you are flying economy Class - and priority baggage handling.

9.7 Summary and conclusion

Privatisation and its impacts have become important public concerns in Saudi Arabia and other Arab Gulf countries. It is believed that privatisation can reduce dependency on oil revenues as well as encouraging other economic sectors to increase the trend of economic growth in the GCC countries. The legislative changes which opened the way to the privatisation of public enterprises took place at a time of high levels of both external and internal debt, unemployment, and investment mostly concentrated in the financial sector. These changes were supported by large sections of the population

which felt that the efficiency of the public services would greatly improve if they were transferred to the private sector. The Saudi government also approved recommendations which aimed at privatising the country's flag airline, one of the largest airlines not only in the Arab world but also in the Middle East. Saudi Airlines' privatisation programme aimed to improve its performance as well as increasing its role in the national economy. Similarly, Kuwait Airways and Gulf Air have announced that they are thinking of privatising state-owned carriers.

In addition to the adoption of privatisation as a target strategy, the latest moves address the need for a good investment climate, as defined by the government of Saudi Arabia to encourage foreign and local investment in the territory. The formation of the Supreme Economic Council, the Supreme Oil Council, the General Panel for Investment and the General Panel for Tourism were a steps in this direction, as were the measures allowing foreign investors to establish self-owned businesses in the Kingdom without a Saudi sponsor and those allowing non-Saudis to possess real estate in the Kingdom. Recognising the important role the private sector plays in sustaining a diversified economy, the Saudi government continues to open up new opportunities for private sector involvement in key economic sectors.

Increased competition has forced GCC airlines and governments to take the necessary steps to upgrade their aviation infrastructure. To date, almost every airline in the region has plans for modernising its fleet, reducing operation costs and organising airline's network. Airport facilities have also been improved. The governments of Saudi Arabia, Dubai, and Qatar are now working towards developing their airports to be able to deal with growing demand and to strengthen their hub status.

The growth in code-sharing partnerships, as airlines around the world link networks to benefit from the enormous efficiency of larger networks, has forced GCC airlines to seek appropriate partners to satisfy the millions of their customers by providing entry to global networks. All these strategies will have strong effects on the airline industry in the GCC region and can help these carriers to solve their financial problems.

Chapter 10

Summary and conclusions

This thesis lies within the broad field of transport geography and has investigated and analysed the specific topic of the air transport geography of the six Arabian Gulf countries of the Middle East which have been known since 1981 as the Gulf Cooperation Council (GCC) countries. In the decades following the Second World War the Middle East has become the most powerful geopolitical region in the developing world, and much of its economic and political strength is due to its significance as a major world energy supplier (Al-Farsy, 1984; Held, 2000). The six GCC countries - Saudi Arabia, the United Arab Emirates (UAE), Kuwait, Oman, Bahrain and Qatar - have similar experiences in economic, political and social development but vary widely in terms of both size and power.

Multiple approaches and perspectives have been used in this study in order to achieve the aims, objectives and hypotheses that were set out in the introductory chapter. An historical perspective has been used in an attempt to gain a full understanding of the development of the region's air transport geography, considering relevant environmental, political, economic and social factors during a period of more than half a century. Economic perspectives have been adopted to discuss and analyse the structure of the airline systems in the GCC countries. Political perspectives have been introduced into the discussion of the role of government regulations and other political issues that have impacts on the air transport geography. In general these diverse approaches are believed to be necessary in such a study as this, covering a large region and investigating a wide variety of environmental, political, economic and social factors and issues. It has in fact proved very difficult to include and summarise all these relevant issues in a single study particularly when several countries are involved within the co-operative framework, when the study area lies in the developing world,

and when the investigation lies in a rapidly developing subject area where there is however no closely relevant academic literature. It is argued that the breadth of the study is justified by its position in the development of air transport geography both as a sub-discipline and within the selected region, and that the present work paves the way for more detailed and specific studies in the future in this rapidly changing field.

An historical approach to the development of the present-day air transport system of the GCC countries has underpinned three important principles. First, the generally harsh environmental conditions of the Arabian Desert have played and continue to play a major role in the gradual elaboration and operation of the civil aviation system in which aircraft are the principal vehicles. The system has, however, eventually managed to interconnect and link to external locations virtually all large and small urban centres that were previously isolated in a sea of sand and has thus replaced the only previous travel mode, the Arabian Camel, long known with justification as the ship of the desert. It is also very clear throughout the desert region that airport infrastructures and expansion can be developed without very serious concerns about any negative effects on the environment. Moreover, normally clear skies allow air services to operate in safe conditions without flight cancellations due to adverse weather circumstances.

Secondly, while this harsh environment is very mean in terms of fresh water provision, it has been very generous in supplies of black gold. Discovered in the late 1930s, oil has enabled traditional societies in all six GCC countries to introduce and use the most advanced technologies including modern transportation modes, bringing dramatic consequences for regional development. The growth of the air transport industry clearly played a vital role in the development of the Gulf region during the second half of the twentieth century. In Saudi Arabia, the largest GCC country, for example, before a modern road network was built, Saudi Arabian Airlines made possible access to the most remote areas of the country, providing a network of transport and communication that was essential for the development of commerce and industry, education, health care and other urban amenities. Mobility for people and freight transferred suddenly from the desert ship to the sky ship as the DC-3 replaced the camel. Thus, the development of the airline industry has dramatically changed the

transport geography of the Gulf countries within a relatively short period. Civil aviation has grown in parallel with the GCC countries' diverse development plans. The advantages of air transport over road and rail in terms of speed for users has made it for many purposes the transportation mode of first choice in most parts of these desert areas.

Thirdly, it is evident from the economic expansion programmes that have occurred in all six GCC countries in recent decades that air transport systems have acted as a vital factor facilitating dramatic growth. Air transport gradually developed in the region but it was not until after 1973 that civil aviation in the area began to expand dramatically with huge financial investments allocated by the GCC governments to infrastructure programmes. Such developments required large amounts of skilled and semi-skilled labour which was not available in the regional market where more traditional activities have shaped the economic geography of the region for a long period. Interdependent factors in the rapidly changing economic situation of the later 1970s included rising oil prices, a sharply expanding market, new infrastructures, a significant increase in the demand for skilled manpower, and the need to create an efficient transport system. Fortunately, this all occurred when oil revenues were at their highest level, enabling solutions to be funded. Two courses of action were proposed and put into effect to achieve the required result: first, by creating and operating large civil aviation facilities to meet the market demand for labour from outside the GCC region; and second, by improving seaport facilities on both the Red Sea and the Gulf coasts to deal with economic and social needs. The majority of these goals have been achieved. It is therefore, clear that oil revenue is the most significant single factor that has changed the entire transport system in the GCC region and has enabled and encouraged a modern air transport system to come into being.

Further technical development of commercial aviation, combined with the importance of the GCC region as the largest oil supplier to the international market, has dramatically increased air transport services not only within the region but has also connected it directly or indirectly with all other parts of the world. A modern air transport system, facilitated by oil revenues, has within less than a century helped to transform a generally underdeveloped and introspective region into a rapidly

developing area vitally important on the world stage. It has also changed in detail the livelihoods and lifestyles of many peoples, enabling them to use air services regularly both within the region and internationally. Airlines based within the region, and other international airlines, now connect the GCC region worldwide. The dominance of oil in the economies of the Arabian Gulf is well known; oil and natural gas now shape the Arab economies and have managed within half a century to change the relationships between human activities and the desert environment which had existed for thousands of years. Thus, the airline industry plays a vital role in regional development, allowing for example non-stop services from Riyadh in the heart of the Arabian Desert to New York on the other side of the world. But the traditional introspection, conservatism and political instability inherent in GCC societies continue to constrain a fuller incorporation of the region and its air transport systems within global systems and communities.

Although oil revenues have been the most important factor in these positive changes, oil has also brought fundamental negative effects to the region. Two wars, the Iraq-Iran War (1980-88) and the Gulf War (1990-91), are notable examples. Since the early 1990s the GCC region has continued to face significant threats to its security. Regional instability has influenced the airline industry dramatically with a wide variety of direct and indirect consequences on the economy. In all the GCC countries and states apart from Dubai the later 1980s and 1990s did not see growth in the airline industry comparable with that of the 1970s and the early 1980s. It is widely assumed that that the effects of these two wars on the airline industry in the region have not ended, and a substantial measure of regional instability is still apparent.

Using economic, geographical and sometimes political approaches, special emphasis has been placed in the thesis on the discussion of the most important market forces that play a critical role in the changing air transport geography of the region under consideration. These market forces have been divided and grouped into three main categories according to their particular characteristics, in order to assess the impact of each group of forces on the airline industry in the GCC region. This approach which has first provided a wider context by studying global market forces, then by focusing on regional market forces and by finally narrowing the focus to study local market

forces has elucidated the impacts of each of these three groups of market forces on the airline industry in the GCC region. This discussion has clarified the effects on the GCC airline industry of market forces of different types and scales, but the most important specific outcome of the discussion of global market forces has been to situate the regional air transport geography of the GCC region within the context of global air transport geography, highlighting the similarities and differences that are noticeable at the present time, and drawing attention to the increasing convergence between the regional and global systems.

The analysis has demonstrated that air transportation within the GCC region in general is at present extremely regulated, and that the GCC member states have not yet reached any overall agreement designed to relax the nature of existing airline regulation. However, the extent and character of regulation differs dramatically among the GCC countries. Saudi Arabia's market is the most highly regulated while Dubai's market is fully liberalised. The obvious aim of regulation in Saudi Arabia is to protect the interests of Saudi Airlines, the national flag carrier. The country is closed to international tourism so the policymakers do not see any advantage in opening the air transport market to free competition. Saudi Airlines is inclined to do anything necessary to preserve the highly regulated nature of the Saudi Arabian air transport market in order to continue to enjoy its monopolistic situation. This clearly affects consumer choice, as air travellers have no alternative in the domestic market and only a limited choice on international routes. Consumers are the losers in such regulated market. It can also be argued that without competition the performance of the airline industry in the region is unhealthy. It is, however, widely acknowledged that airline deregulation/liberalisation has offered considerable advantages to customers and airlines in both Europe and the USA (Debbage, 1994; Graham, 1995; Graham 1998a). Their experience could and should be used as a model to promote the liberalisation of the airline industry in the GCC market.

The full-scale deregulation of this highly regulated air transport industry in the GCC region as a whole is generally regarded by individual governments and by the GCC as too radical a step to take in the present sensitive national, regional and global market conditions. However, privatisation within a regulated market is emerging as the main

strategy that could substantially improve the airline industry in the region in the near future while introducing numerous significant changes. A number of regional airlines are scheduled to introduce privatisation programmes in the near future. Saudi Airlines is on its way towards becoming a private airline, a step that would undoubtedly encourage other governments in the region to privatise their national flag carriers. Kuwait Airways is also likely to be privatised if the Kuwaiti government manages to find ways to reduce the airline's considerable debts. Privatisation of these and possibly in due course other regional carriers will involve a loss of current government subsidies that will force them to reduce their operating costs and to increase the level of their services, which might ultimately enable them to compete realistically in the global marketplace.

Globalisation has given a significant reason for the development of important alliance strategies within the global airline industry, involving many of the world's leading airlines in joint marketing arrangements to their mutual advantage and in the interests of customers (Button and Stough, 2000; Oum et al., 1993; Oum and Taylor, 1995). While both passengers and airlines have all benefited significantly from these alliances, the GCC carriers have not yet involved themselves seriously with any powerful alliance. They have, however, introduced limited code-share agreements with non-GCC airlines but these are not yet seen as being very important to the region. In this context we believe that although the advanced technology of the modern world air transport industry has reduced the importance of airports in the GCC region as stopover points on long-haul flights, the central location of the region between the west and the east could ultimately be enhanced in the context of global airline networks and inter-airline alliances. Alliances are likely to continue to develop and to reach all major world regions, increasing aggressive competition and involving most healthy airlines. The privatisation of the GCC airlines within a regulated market is a way of encouraging the regional air transport system to evolve dramatically within the context of the new global strategies, expanding their role in international alliances beyond limited code-sharing agreements. Without such partnerships, the regional airlines will face unfair competition from international carriers that are supported by wide network coverage and competitive advantages created by liberalisation and

privatisation policies. For GCC airlines, expanding their networks by adding more new aircraft alone would be too expensive and a limited range of destinations would not continue to attract larger numbers of travellers. As for attracting new customers the GCC carriers should aim to reduce their operating expenditures and begin to compete in the world of low-fares markets. It is only a matter of time until such changes are introduced, and then most consumers will use just those airlines that can provide them with a global network of services at acceptable prices. So, the GCC airlines need alliance partners to develop global networks and to help them survive in the long term. Such alliances bring carriers together in code-sharing, joint marketing, link-ups between their frequent-flyer programmes and dovetailed flight schedules to enable extensive 'interlining' of passengers to the advantage of customers and airlines within the system and to the considerable and increasing disadvantage of airlines and customers remaining outside these global arrangements.

A number of conclusions regarding the airline industry of the GCC countries also emerge from a consideration of regional economic and political forces. In each of the national economies of the GCC region, the growth rate of non-oil activities drops if the factor of oil revenues is taken out of the calculations. This suggests that the other sectors of the economy would not grow on their own without the continuous flow of oil (Auty, 1988). Oil has not yet succeeded in promoting a state of sustained growth in the non-oil sectors, which are still heavily dependent on oil developments. The weak structures of the non-oil sectors are reflected in the present airline industry in the GCC region – in its character, its dependence upon government subsidy, and its vulnerability in a deregulating world context. Since oil reserves are finite and non-renewable and the demand for oil is not stable and continuous, the regional economies assume critical importance. For the Arab Gulf countries, high ratios of investment in non-oil activities are required.

The high degree of political fragmentation that characterises the GCC region is one of the most important reasons for the creation and survival of some regional carriers may be rendered less significant in the future if economic considerations become stronger than political factors. Political fragmentation in highly regulated regional and national markets have forced airlines to operate within essentially artificial constraints, creating

systems characterised by technical excellence, a degree of inefficiency, substantial subsidisation and widespread endemic over-capacity. Three new national carriers - Emirates, Qatar Airways and Oman Air - have been founded since 1985, adding more capacity to the GCC market. Moreover, the increasing number of international airports, many serving numerous rather 'thin' routes, has made the industry even worse. The best example is provided by the UAE where there are no less than six international airports within one small country. Positive changes are inevitable when airlines gain flexible freedom to operate in a more open market without political pressures and constraints. The achievement of such freedom is no easy task, however, given the diversity of constraints at various levels and scales that affect progress in this context.

The study has also illustrated considerable variety in terms of local factors and forces affecting the air transport industry, within the individual countries of the GCC partnership. Saudi Arabia is still not open for ordinary tourists, although every year the country receives a very large number of Hajj and Umra travellers most of whom come from other Islamic counties. In contrast Dubai, which is one of seven emirates that form the UAE, represents a complete different experience, having emerged as a popular tourist, trade and industrial centre. It has become a widely-advertised and popular world leisure destination, and the local government has expanded Dubai International Airport to cope with growing demand created by Dubai's open-sky policy in a fully liberalised market. The vision presented by Dubai's policies and experience is inevitably regarded with mixed reactions in some of the more conservative Emirates of the UAE and elsewhere within the GCC region.

In Oman, the second largest but least-developed country in the GCC region, ultra-conservative rule for long yielded slow progress towards development and inefficient air transport infrastructures. However the country is now seeking ways to play a fuller part in the GCC region. The Omani Government is making good progress towards privatisation programmes, and it is planned that Oman's key international airport will be among publicly-owned services that will be privatised. It is also intended that an international tourist industry will play a significant role in Oman's economy in the relatively near future. In contrast Kuwait was, prior to the Iraqi invasion of 2 August

1990, among the wealthiest small countries in the world, but political, economic and social developments were all hit hard by the 1990-91 Gulf War. The geographical location of Kuwait in relation to its hostile neighbour Iraq still raises critical questions about its national security. The threats from Iraq are likely to continue and Kuwait must pay heavily for its security. Thus, in this case there is no clear plan for the country to seek to improve its role in the airline industry in the region. The two smallest countries in the GCC region in terms of their size and population, Bahrain and Qatar, similarly but for different reasons cannot yet play a fundamental role in promoting and enhancing a liberalising regional airline system. However, Qatar has emerged as the most important regional supplier of natural gas, and is ruled by a young Emir who might use the Dubai as a model in the future. There is no clear evidence that this will enhance the airline industry in Qatar because its only airport could not cope with substantially increased traffic.

It is appropriate now to turn to the GCC airlines, summarising their characteristics and giving a model of each of them. Saudi Airlines is the oldest carrier in the Gulf region. It started operating with a single DC-3 and has become the largest airline in the Middle East, now ranking 22nd among the top 30 airlines in the world. Since 1945 it has been the sole carrier in Saudi Arabia's aviation market, providing both international and domestic services. The growing home market has not been given a choice of more carriers. The nature of regulation makes it impossible for a private airline to start operating although more than 8.25 million passengers were transported on scheduled domestic services in 1999. The passenger cost in domestic operation is higher than in the international sector. Domestic short-haul profitability is very low and is less than the operating costs. Forcing Saudi Airlines to pay attention to profitability elsewhere in the system has resulted in higher fares on international routes and during the Hajj season. This means higher yields from long-distance operations compared to low yields from short-distance operations. Saudi Airlines' available seat kilometre (ASK) cost is the highest among the GCC airlines, with work-force exceeding 24,000 and about 67 percent of its passengers transported within its domestic network in 1999. Planners in Saudi Arabia have supported a low-fares policy in order to enhance regional development in such a large country. For a high-cost

carrier, with low fares in the domestic market the government has regulated all international routes to generate more revenue. However, they failed in regulating the domestic market because it would generate much better service if it were deregulated. The restricted access to the Saudi Arabian market cannot be appropriate for more than a few more years, after which wider access to the market from foreign international airlines might prove a major test for Saudi Airlines. It can be argued that there is no end to operating losses unless the management of Saudi Airlines pushes through serious cost-reducing plans which may put operating results in a more reasonable light. Until now there are no sings that the management has achieved any reduction in the cost base. The airline needs a restructuring plan aimed at cutting jobs as well as freezing wages. The Saudi Airlines existing system would work very well and be extremely profitable if labour costs could be brought under control.

The story of Gulf Air's creation and growth is similar to that of Saudi Airlines, but the purpose is completely different. While Saudi Airlines primarily serves a large domestic market, Gulf Air connects four countries all them lying on the shores of the Arabian Gulf, and despite the fact that the four partners are very close to each other, political boundaries mean that Gulf Air operations are classified as international services. The multiple-owners carrier Gulf Air represents a co-operative model different from the other GCC carriers, but one that could collapse under the current challenges. With the creation of Emirates, Qatar Airways and Oman Air the governments' support that have hitherto been given to Gulf Air are likely to be reduced or even cut. These three newer carriers may take over Gulf Air's market share in the next future. Gulf Air has been under pressure from its four owners to reduce its dependence on their financial support. Following strong criticism of the management of Gulf Air, Qatar, Oman and Bahrain have refused to invest extra money in the company, ignoring its historical role in the region. The government of Abu Dhabi is the only owner that still gives financial help to the airline, and has appointed its own company chairman. There is no doubt that without provision for Gulf Air's financial needs the airline will collapse. Bahrain has realised this fact and put forward a plan to attract foreign airlines to serve Bahrain International Airport. The idea that Gulf Air can get its costs down to the level of Qatar Airways is a goal that cannot be achieved

because the company has been forced to provide short-distance operations between the four partners without considering other economic factors. Gulf Air, therefore, cannot survive without further development of its fleet, which requires financial support from the four partners to be able to compete with Emirates and Saudi Airlines or even with Qatar Airways. The support is needed to enable the airline to adopt new strategies in an attempt to attract more customers. Gulf Air has not had the financial strength to make competitive advantage necessary in the GCC market where market share is the most important in the airline industry.

Kuwait Airways is promoting itself strongly as a full-service airline particularly on long-haul routes, serving relatively wealthy people. Its provides the highest-cost model which has resulted in its operating losses, increased by corrupt management. Insecurity due to the bad diplomatic relations with Iraq is one of its problems in attracting overseas passengers. In a more fortunate position, although its history is short, is Emirates, the most profitable and perhaps the most competitive airline in the GCC market. The Government of Dubai, in response to its increasing role in the tourism industry has founded its national flag 'Emirates' to achieve this aim. Tourism growth is a policy objective, and indeed depends on growth in air transport capacity that can handle tourist movements. Economic considerations rather than political or social considerations lie behind the establishment of Emirates. This young carrier has not avoided market competition with strong international airlines in their home market, providing a commercial model, acknowledging that Emirates is the only GCC carrier that has not reported losses except in the second year of its history. With the lowest labour costs and greatest freedom of movement, Emirates can do what it wants with its flexibility and a very high level of services which is an important element of its strategy. This study has found Emirates to be the most successful airline in the GCC region, carrying 4.5 million passengers in 1999. It has become a typical hubbing operator, using Dubai International Airport as its hub and its services to some other major international airports worldwide as its spokes. Long-haul routes are the most characteristic of its increasingly global network. Although it is publicly owned, Emirates is managed in a commercial way using highly skilled foreigners to operate and manage it.

Smaller airlines within the GCC system provide different models and illustrate other problems. Oman Air with its very small market share has come to compete in the GCC market, with different fares offered on the international network and increasing over-capacity. As a small modern airline, it represents the early history of Saudi Airlines, but in the 1990s. Its main aim is to provide domestic air services, connecting five small Omani nodes with the capital, Muscat. Domestic airport infrastructures are inefficient and traditional societies poor, and these important factors forced Oman Air to launch international services; but Oman Air is a very low-cost model and has not gained any popularity in the other GCC countries. In contrast, Qatar Airways is the national flag airline of the state of Qatar, providing only international air services as (like most other GCC countries) Qatar is too small to sustain a domestic network. Since its foundation in 1993 Qatar Airways has represented a low-cost, low-fare model based on minimal labour expense, a model that cannot easily be achieved by other regional airlines, especially Saudi Airlines and Gulf Air, because their financial responsibilities as older airlines are different from those of a new-entrant carrier. From Saudi Airlines' point of view, competing on a low-fare basis can be dangerous and may cause price wars in the GCC market. Qatar Airways has a different attitude, that low-fare services linked to high frequency connections between Europe and India can generate much traffic and increase the load factor. In 1997, Qatar Airways tried to shift towards the more up-market Emirates model, operating long-haul hub services, employing an expert chairman and scheduling aircraft and crews more efficiently. The problem for Qatar Airways of moving towards a market comprising a high-quality service product with a greater schedule frequency is that potential customers do not appear to be willing to pay for that higher-quality service simply because Doha is not Dubai. The comparison between Emirates and Qatar Airways illustrates that the character of the hub airport, its location and associated urban facilities, can be a major influence on the comparative success of international hub-and-spoke systems.

This study has attempted to address the development, character and problems of the air transport system of the GCC countries from the perspective of transport geography. In outlining the forces and factors affecting the system and its geography, due attention has been paid to the varying spatial scales involved, as well as to

environmental, economic and political aspects of the contexts within which the regional air transport system is set. An understanding of present-day characteristics has also been assisted by an account of the development of the regional system during the second half of the twentieth century. Analysing this particular case makes it very clear that the air transport system of the GCC region is highly distinctive, its characteristics differing significantly from neighbouring systems in the Middle East and other Arab countries as well as from developed-world systems where deregulation, privatisation and airline alliances now characterise air transport geography. The essential point of this study, however, has been to underpin the critical role and significance of the air transport system in a region undergoing rapid socio-economic and political change at a time when the global air transport industry is experiencing structural transformation. The thesis has attempted to address critical issues involved in the dynamic relationship between a regional system and the global system at a time when both are changing rapidly, but as a result of different sets of factors, on different scales and in different ways.

The approach that has been used to focus on the air transport system of the GCC region, involving the interpretation of a particular transport system in a specific region at a given point in time, is clearly one that could be used in studying the air transport geography of any region or country, varying according to the breadth or narrowness of the required focus. In this case, too narrow a focus – for example, on one specific aspect of air transport in a specific GCC country – would have been inappropriate in the context of the available literature and would have encountered serious problems of data availability, while too broad a focus would have run the risk of over-generalisation and superficiality. Given the nature of the system, the region and the topic, it is argued that the focus adopted in this thesis is one that reflects an appropriate blend of contextual material and issue-focused debate. It should be remembered, however, that the nature of available data in developing countries differs substantially from that in advanced world. While extensive structured and unstructured discussions with many regional and local experts in all six GCC counties, and published and unpublished material from a variety of sources, have provided the principal data sources used in this thesis, it has to be acknowledged that other information remains

hidden behind government claims of secrecy and that airlines themselves are not eager to discuss their activities.

Finally, as private market forces strengthen, and as policy concerns emerging from environmental matters sharpen, the changing character of world transport systems continually presents new challenges for investigation, analysis and action. It is hoped that this contribution to air transport geography will be found useful not only in itself but as an aid to other, perhaps more specialised, studies within the sub-discipline and within the GCC region in the future. Transport geography, concerned with mobility and with inter-relationships of many kinds, has generated a substantial literature; but despite the importance of air transport as an important means of modern transportation, the geography of air transport and airline industries has not yet been given as much attention as other modes of transportation or other patterns and problems of modern transport. There is also a tendency for geographical studies of air transport to be concerned largely with the developed world where networks are more sophisticated and data more comprehensively available. The relative lack of material on the air transport geography of the developing world might add some value to this thesis not only as a contribution to a relatively neglected part of the academic literature but also as a document which might prove useful to regional planners, policymakers, airline and airport authorities and researchers in the GCC region. Geographical interpretations of air transport patterns, problems and policies – not only in this region, but more widely – can provide valuable perspectives for those whose ideas and interpretations are rooted in, for example, economics, environmental studies, or practical politics. In this context, this thesis may interest not only other geographers but may serve as a useful contribution to a wider literature serving the global community.

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