The Rise of the Emerging Middle East Carriers: Outlook and Implications for the Global Airline Industry

by

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Abstract

The development of the aviation industry in the Middle East over the past decade has captivated both industry watchers and passengers alike. The interest in the Middle East aviation industry is due to the fact that it has produced a new type of airline – the Emerging Carrier, specifically Emirates, Etihad Airways, Qatar Airways and Turkish Airlines. These Emerging Carriers have expanded rapidly over the past decade, frequently disrupting the status quo in aviation markets.

This thesis analyzes the growth of the Emerging Carriers over the past 10 years, across major inter-regional travel markets. Airline schedule data is used to determine how these markets have grown during that time, as well as how the Emerging Carriers have contributed to that growth. A forecast of the potential deployable capacity of each of the Emerging Carriers in 2020 is developed, in order to evaluate the implications of their continued rapid growth. This forecast is evaluated against industry forecasts in order to assess the viability of their growth plans through the end of the decade.

By 2013, the four Emerging Carriers collectively accounted for over 50% of the available capacity from the Middle East to Europe, Asia, North America and Africa. They currently have over 600 aircraft on order, the majority of which are widebody aircraft. By the end of the decade their fleets are forecasted to double in size, which would rank all four of them among the world's 20 largest airlines. The forecast developed in the thesis projects that they will account for over 90% of the capacity in several major inter-regional travel markets to and from the Middle East.

Their rapid expansion over the past decade was due to both an increase in demand for air travel, and a diversion of passengers from other carriers. Our projections indicate that their planned growth through the end of this decade may outpace the increase in demand, thereby resulting in an overabundance of capacity.

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Chapter 1 – Introduction

1.1) Introduction

Since its early beginnings in the United States, commercial aviation has grown to become one of the most important global industries. It has been crucial in furthering globalization. The International Air Transportation Association (IATA); the industry's main trade association, estimates that airlines served over 3.1 billion passengers in 2013, which represents nearly half the world's population[1]. At present the industry consists of over 300 airlines with nearly 20,000 commercial aircraft. IATA members currently provide flights between 40,000 distinct city pairs thereby connecting much of the world. Airlines vary in size, scope and service from small airlines such as Blue1 which provides regional service in Scandinavia with a fleet of 9 aircraft, to behemoths such as United Airlines in the United States which serves over 370 destinations, with a fleet of over 700 aircraft.

As commercial aviation has developed, we have witnessed it spread across the globe. This development and advancement is in different stages across the globe, owing to the regulatory environment in each region and nation. Traditionally the North American and European commercial air travel markets have been regarded as the most developed and matured. Indeed the United States has consistently ranked as the largest domestic passenger air travel market. That dynamic is likely to change over the coming decades as other nations' air travel industries develop, most notably China and the Asia Pacific region. Asia is home to more than half the planet's population and is also the largest continent by area. It is almost inevitable that its commercial air travel industry will become the largest by passengers served. Current forecasts and studies confirm that prediction, while at the same time indicating that other regions are also exhibiting rapid growth. One such region is the Middle East, home to approximately 300 million people it is mostly known for its massive hydrocarbon reserves. In recent years, its aviation industry has become increasingly important due largely to its rapid development and growth.

1.2) Background on the Global Commercial Aviation Industry

Over the past 20 years the global aviation industry has generated very slim operating margins. According to IATA, the industry made an aggregate profit of $7.6 billion in 2012 on revenues of $638 billion, resulting in a 1.2% profit margin[2]. By comparison ExxonMobil, the world's largest publicly traded oil and gas company, generated a net profit of $44.8 billion on revenues of $449

[1] IATA "Annual Review 2013" http://www.iata.org/about/Documents/iata-annual-review-2013-en.pdf
[2] IATA "Annual Review 2013" http://www.iata.org/about/Documents/iata-annual-review-2013-en.pdf

billion in 2012; a 10% profit margin[3]. Since the start of the new millennium, airlines across the world have been battered by successive crises such as the 9/11 attacks in the US, the SARS and Bird Flu scares, the 2007-2008 global economic crisis and a drastic increase in fuel prices. All of these events have had noticeable effects on the industry. Many large US carriers declared bankruptcy in the beginning of the millennium owing to a number of different factors. Flag carriers in Europe have also had difficulty in achieving consistent profitability. Elsewhere airlines such as Qantas in Australia have enacted several turnaround plans in hope of reinvigorating their operations with limited success. Others have been unsuccessful in improving their financial standing and have been forced to declare bankruptcy and liquidate their operations, such as Malev in Hungary, Kingfisher in India and Mexicana in Mexico.

The deregulation of the US airline industry in 1978 was the first major step in liberalizing the global airline industry. It allowed US carriers to set their own fares and make changes to their network without government intervention. In later decades other developed nations loosened their own aviation regulations, thereby allowing their respective aviation industries to flourish. Southwest Airlines was among the first airlines to introduce a "low cost" business model, which allowed it to offer significantly lower fares when compared to US legacy carriers. It has since become the largest carrier in the domestic US market and among the largest carriers in the world. The success of Southwest was later replicated in Europe by Easyjet and Ryanair in the 1990's. By the 2000's the low cost carrier business model had spread to Asia, South America and the Middle East.

The increase in low cost carrier activity in these regions was coupled with an increase in demand for commercial aviation. This increase was not sufficient however to shield the incumbent airlines from the low cost carriers. As such, many airlines had to adapt their business models and operations to account for the new entrants. In the US many airlines faced difficulty in matching the low cost carriers' low fares. Legacy carriers had substantially higher cost structures which prevented them from competing on price with the low cost carriers. Since 2000, five of the United States' largest carriers have declared bankruptcy (US Airways, United Airlines, Delta, Northwest Airlines and American Airlines). Many of these carriers emerged from bankruptcy only to face other major crises affecting demand for air travel. What these carriers did is continue a trend which had become prevalent since the deregulation of the industry in 1978; consolidation and mergers. Delta absorbed Northwest in 2008, United Airlines acquired Continental in 2011 and recently US Airways

[3] CNN Money "ExxonMobil" http://money.cnn.com/magazines/fortune/fortune500/2013/snapshots/387.html

and American Airlines received approval for their merger. Other US airlines such as TWA, Pan Am, America West and Braniff all either ceased operations, or were absorbed into the now three legacy airlines in the US.

In Europe, a similar trend has occurred since 2000, though it has not included many full mergers due to ownership requirements in each of the EU nations. Air France and KLM merged in 2004(though both airlines still operate under their own brand), Lufthansa purchased Swiss Air and Austrian Airlines and incorporated them into the Lufthansa Group, British Airways and Iberia formed the International Airline Group (IAG). The Latin American commercial aviation industry has also witnessed a merger on the scale of those in Europe and North America, that of the Chilean Airline LAN and the Brazilian Airline TAM which merged in 2012 to form the LATAM group.

Another important development in the global commercial aviation industry was the ratifying of "Open Skies" agreements between various nations. These agreements along with anti-trust immunity set the groundwork for the eventual formation of the three global airline alliances. In 1989, US-based Northwest Airlines signed a large scale code sharing agreement with Dutch flag carrier KLM[4]. The agreement was unprecedented in its scope as it expanded on several fields such as revenue sharing and route coordination. KLM had at the time acquired a 20% stake in Northwest Airlines as well as a seat on Northwest's board. This was followed up by an "Open Skies" agreement between the Netherlands and the US[5]. Open Skies agreements are treaties between sovereign nations which liberalize air travel between the two nations. In the absence of an open skies agreement, most nations sign treaties which impose limitations on the number of flights as well as possible destinations. The 1992 agreement between the Netherlands and the US was the first between a European nation and the US. The European Union had been hoping to negotiate a continent wide agreement rather than have individual nations sign agreements with the US. What the Dutch-US open skies agreement ultimately resulted in was more slots for US carriers at Amsterdam's Schiphol airport as well as an increase in possible US destinations for KLM. Shortly after the agreement was signed, the US granted anti-trust immunity to the expanding KLM-Northwest Alliance. This allowed the two airlines to coordinate their schedules and fares on a scale that would have previously not been allowed. In the years that followed, many other European

[4] KLM "Cooperation: Agreements with Other Airlines" http://www.klm.com/corporate/en/about-klm/cooperation/index.html

[5] Association of Strategic Alliance Professionals "Managing Alliance Dynamics: The Case of KLM and Northwest Airlines" http://www.strategic-alliances.org/storage%20/pdf/KLM-NWA.pdf

nations signed their own open skies agreements with the US. These agreements were ultimately superseded by the EU-US Open Skies agreement that was signed in 2007 and ratified in 2008[6].

In May 1997 five large global airlines announced their intentions to form the world's first airline alliance – Star Alliance. The stated goal of the newly formed alliance was to "take passengers to every major city on Earth"[7]. While this would certainly be beneficial to passengers the benefit to airlines was increased cooperation. The individual airlines sought to portray the alliance as a conversion of bilateral agreements to multilateral agreements. They sought anti-trust immunity protection which would allow them to collectively coordinate routes, fares, reservations and material purchases. Two years later in 1999 the oneworld alliance was founded with five member airlines. The last of the three global airline alliances – SkyTeam – was formed in 2000. Since then the alliances have dramatically expanded in size. Star Alliance has grown from 5 member airlines to 28. In Figure 1.1 we note that in 2013 alliance operated flights account for 54% of all flights operated. By contrast, in 2004 alliance flights accounted for only 40% of all flights. This was led by Star Alliance and SkyTeam who both saw increases in their share of operated flights. Oneworld, the smallest of the alliances by both members and capacity, maintained its 11% market share of flights despite increasing their operations.

Each of the global alliances in anchored by a large European carrier as well as a large North American carrier. Star Alliance is led by Lufthansa and United, oneworld by British Airways and American Airlines, and SkyTeam by Air France and Delta. These European and North American carriers each founded their respective alliances, and are the largest airlines in those alliances by both flights and capacity. Initially the focus of the alliances was on coordinating operations in the lucrative trans-Atlantic market. The North American and European aviation markets were the two largest markets by both flights and capacity. By 2013 Asia had overtaken both markets in terms of capacity, though it remained second behind North America in regards to flights operated. As the Asian commercial aviation market developed and expanded, the alliances began seeking partners in that region as well as others. Thus while the founding members of the airline alliances increased their operations over the past decade, the inclusion of new member airlines into the alliances accounts for a substantial amount of the increase in market share by the alliances.

[6] Eur-Lex.eu "Official Journal of the European Union L 134/4, 25/05/2007" http://eur-lex.europa.eu/LexUriServ/site/en/oj/2007/l_134/l_13420070525en00040041.pdf

[7] New York Times "5 Airlines extend limits of alliances" http://www.nytimes.com/1997/05/15/business/5-airlines-extend-limits-of-alliances.html

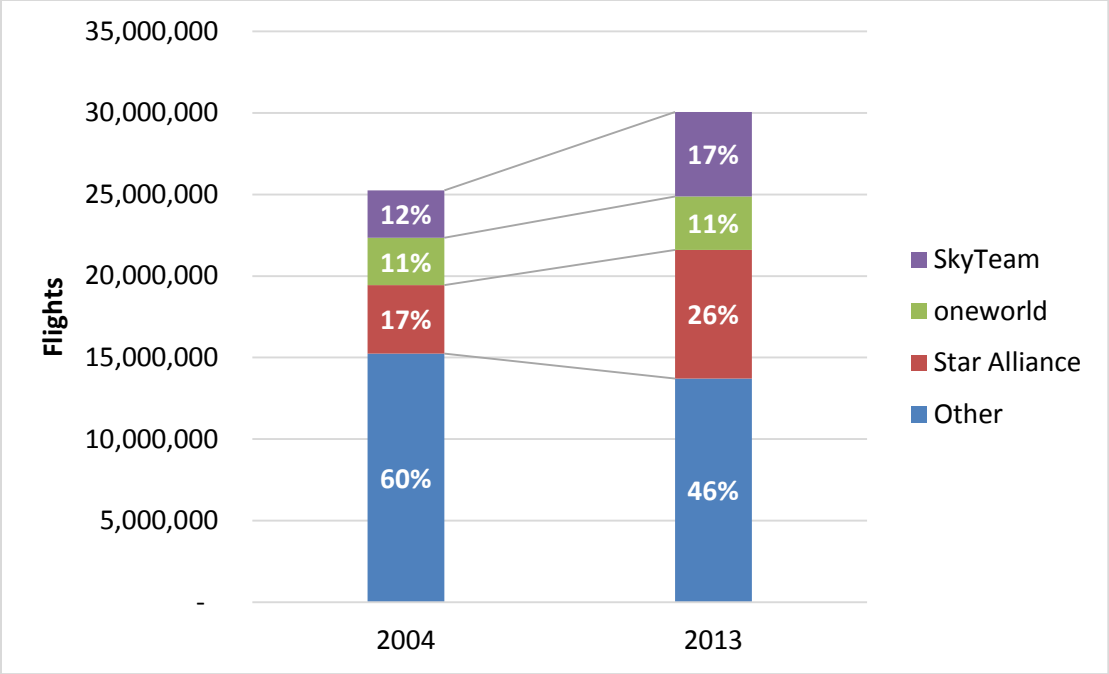


Figure 1.1) 2013 Share of Global Flights by Alliance[8]

Figure 1.2 shows the share of flights operated between Europe and Asia by each of the alliances. In 2004, the flights operated by the alliances collectively accounted for 30% of all flights in this market. Between 2004 and 2013 several major Asian carriers gained membership into an alliance, most notably China Southern, Japan Airlines and Asiana. They helped increase the alliances' total share of operated flights in this market to over 50%. There were also a few European airlines that joined the alliances during this time, such as Swiss International Airlines, Aeroflot and TAROM though their operations in this market are smaller than those of the Asian carriers who joined after 2004. In the Europe to/from North America market, alliances had already claimed a 70% share of all flights operated in 2004. When flights in that market reached their peak in 2008 the alliances were operating 83% of all flights. Since then the number of annual flights between the two regions has settled at roughly 300,000 annual flights with the alliances accounting for 86% of all flights.

What this serves to demonstrate is that the alliances are operating the majority of long haul flights between the world's largest air travel markets. The inclusion of new airlines into these alliances helps them increase their market share alongside growth from the older members. This trend is occurring in other regions such as South America where airlines such as Avianca, Copa and Aerolineas Argentinas recently announced they would be joining airline alliances. Alliances provide

[8] Innovata Schedule Reference Service (SRS) accessed through Diio Mi Portal. Alliance Operated Flights from March 2004 through March 2013. https://mi.diio.net/mi/authentication/index.jsp?rnd=1366997369490

airlines with valuable access to destinations that they would otherwise not serve. They are attractive to smaller airlines as it allows them to provide their passengers with access to many more destinations while also providing the airline with feeder traffic from other airlines in the alliance. The feeder traffic that originates from another airline is not particularly lucrative, but it nonetheless helps the smaller airlines fill seats and generate incremental revenue. For the larger airlines the alliances allowed them to coordinate with other airlines of similar size. Since then, however, the inclusion of smaller airlines has provided them with similar benefits, in that they can offer passengers more travel destinations. It also allows larger airlines to exert some influence over smaller airlines. New routes proposed by alliance members are subject to scrutiny by other alliance members. For passengers the primary benefits are a more streamlined travel experience, larger choice of destinations and the ability to earn frequent flyer miles on other airlines.

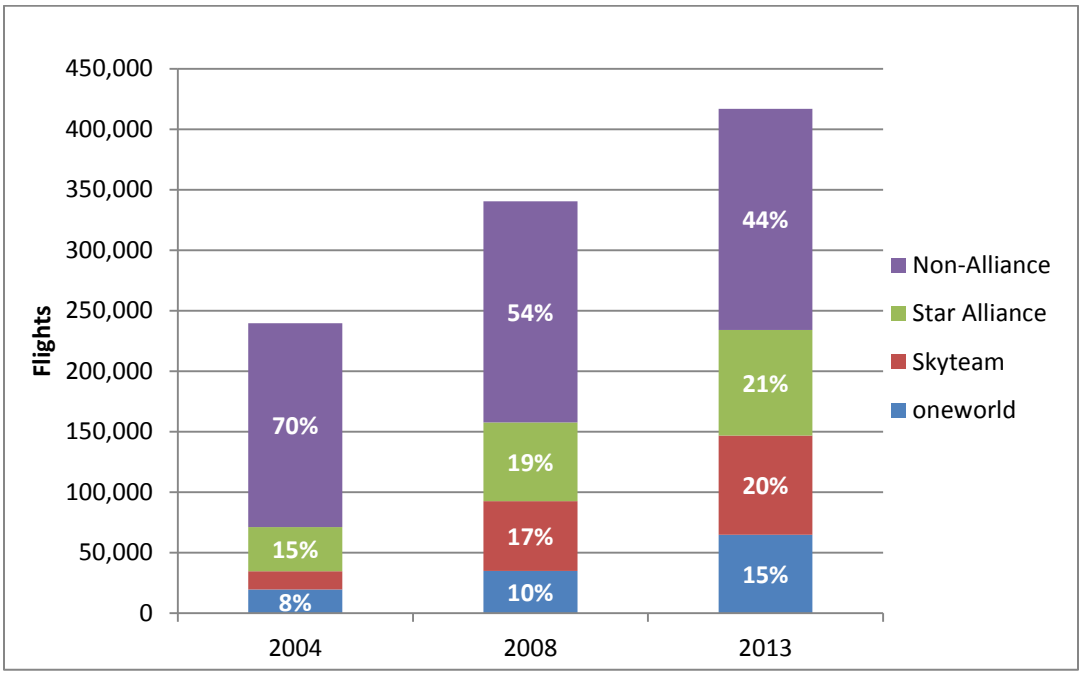


Figure 1.2) Share of flights operated between Europe and Asia by alliance[9]

1.3) Recent developments in the global aviation industry by region

Tables 1.1 and 1.2, show the results of an analysis of scheduled airline data. The data was obtained from the Diio Mi web portal which gathers data from Innovata's Schedule Reference Service (SRS). The flights and ASMs listed in Tables 1.1 and 1.2 are for operated flights that either

[9] Innovata Schedule Reference Service (SRS) accessed through Diio Mi Portal. Alliance Operated Flights from March 2004 through March 2013. https://mi.diio.net/mi/authentication/index.jsp?rnd=1366997369490

originated or terminated in the given region. We note that Asia now accounts for the largest share of ASMs and the second largest share of flights. In both of those categories Asia witnessed a near doubling of its scheduled flights and operated capacity. North America witnessed a 10% decrease in flights operated due partly to the consolidation in that region's industry. In 2004 nearly 50% of all flights operated globally either originated or terminated in North America despite the region accounting for roughly 10% of the worlds' population.

ASMs (billions)					
Region	**2004**	**2013**	**% Change**	**2004 Share**	**2013 Share**
Africa	84	152	81%	3%	3%
Asia	682	1,274	87%	23%	29%
Oceania	103	164	60%	4%	4%
Caribbean	34	43	26%	1%	1%
C. America	9	20	116%	0%	0%
Europe	691	1,035	50%	24%	23%
Middle East	109	323	**196%**	4%	7%
N. America	1,098	1,204	10%	38%	27%
S. America	101	212	109%	3%	5%
Total	**2,913**	**4,426**	**52%**	**100%**	**100%**

Table 1.1) Share of ASMs by global region (2004 – 2013)[10]

Flights (thousands)					
Region	**2004**	**2013**	**% Change**	**2004 Share**	**2013 Share**
Africa	611	934	53%	2%	3%
Asia	3,933	7,776	98%	15%	25%
Oceania	947	1,032	9%	4%	3%
Caribbean	402	376	-6%	2%	1%
C. America	230	292	27%	1%	1%
Europe	6,087	6,879	13%	24%	22%
Middle East	523	1,319	**152%**	2%	4%
N. America	11,942	10,724	-10%	46%	34%
S. America	1,119	1,858	66%	4%	6%
Total	**25,794**	**31,190**	**21%**	**100%**	**100%**

Table 1.2) Share of flights by global region (2004 – 2013)[11]

[10] Innovata Schedule Reference Service (SRS) accessed through Diio Mi Portal. Operated Flights from March 2004 through March 2013. https://mi.diio.net/mi/authentication/index.jsp?rnd=1366997369490

[11] Innovata Schedule Reference Service (SRS) accessed through Diio Mi Portal. Operated Flights from March 2004 through March 2013. https://mi.diio.net/mi/authentication/index.jsp?rnd=1366997369490

The decrease in North America's share of global ASMs and flights has resulted in share increases for many other global regions. The biggest beneficiary is Asia which accommodates over half the worlds' population. There is another region that has outperformed all other regions in growing its aviation industry- the Middle East. Based on the figures for 2013 it has the fourth largest aviation industry after Asia, North America and Europe. The Middle East recorded the highest growth rate in both ASMs and flights since 2004, although in absolute size it is much smaller than the top three. IATA's forecasts frequently mention the Middle East as having the highest forecasted growth rates for both capacity and passengers carried. The Middle East has witnessed several liberalization efforts which in recent years have led to the founding of several new airlines. Many of the newly formed airlines are low cost carriers which while still in their infancy, have been growing rapidly. They however do not account for the large increase in capacity and flights operated. Legacy carriers in the region have been fairly stagnant over the past decade, though there are efforts underway to revive them and improve their performance. As such they do not account for the increases. Rather these increases are due to four airlines whose growth is having an impact across the globe. These airlines are Emirates based in Dubai, Etihad Airways in Abu Dhabi, Qatar Airways in Doha, and Turkish Airlines in Istanbul. They have been collectively referred to as the "emerging carriers", a term which will be defined in the next chapter.

1.4) Background on the aviation industry in the Middle East

For the purposes of this thesis the Middle East is defined as the nations of the Arabian Gulf (Iran, Iraq, Kuwait, Saudi Arabia, Bahrain, Qatar, United Arab Emirates, Oman and Yemen), the Levant (Jordan, Lebanon, Syria, Palestine and Israel) as well as Turkey[12]. Owing to the limited range of early aircraft, the Middle East became a popular stop-over point for flights between Asia and Europe. In the early part of the 20th century the nations of the Middle East were not very well defined. Britain and France maintained colonial presences in many regions of the Middle East. The Sykes Picot agreement as well as other treaties between the two colonial powers established the first formal nations in the aftermath of the collapse of the Ottoman Empire. Significant portions of the Arabian Gulf were ruled by Bedouin tribes. Britain had close relations with many of those tribes in the Arabian Gulf. As such it established the first air fields there in order to provide stop-over service en route to its then current and former colonies in the Indian subcontinent, the Far East and

[12] Turkey is in many instances referred to as being part of Europe. Geographically the majority of Turkey is in Asia and it shares close cultural links with many of the nations in the Middle East, as such it will be considered part of the Middle East.

Australia. France established similar operations in the Middle East in order to reach its colonies in the Far East.

As both colonial powers reduced or ended their presence in the region, many new nations began to form. These newly formed nations further developed the aviation infrastructure built by the former colonial powers. The 1940's witnessed the founding of several airlines in the Levant and Iran. The discovery of massive oil reserves in the Arabian Gulf allowed those nations to quickly expand their aviation sectors. Many of the legacy airlines formed in the middle of the past century still exist to this day. Liberalization efforts undertaken since the start of the millennium, have allowed new airlines to form in the region. Many of the newly founded airlines have adopted the "low cost" business model pioneered by Southwest Airlines. Furthermore as demand for long haul travel between Asia and Europe increase, the Middle East's role as a hub for those flights became increasingly important.

Turkey and Iran share the distinction of both being predominantly Muslim Middle Eastern nations that are not Arab. Unlike their Arab neighbors neither nation was colonized in the 19th century. Their aviation industries did however develop at the same time and in a similar manner to the Arab nations of the Middle East. Turkish Airlines was established in the 1950's and was protected from domestic competition for several decades. Several liberalization efforts were undertaken starting in the 1980's which ultimately led to the formation of several low cost carriers in Turkey. A major reorganization of Turkish Airlines in the 1990's transformed the airline and its operations. Today it serves the most international destinations and nations of any carrier. The Turkish aviation market has developed along with Turkish Airlines and now includes several rapidly growing LCC's. EuroControl forecasts that Turkey will add the most flights of any European nation between 2013 and 2035[13]. Iran's flag carrier Iran Air was formed in the 1940's and was once considered one of the most important carriers in the region. The Islamic Revolution in the 1970s, coupled with the deterioration in relations between Iran and the West have affected its aviation industry, though it does enjoy increasing service with its Middle Eastern neighbors.

Currently long haul travel in the Middle East is dominated by Emirates, Etihad Airways, Qatar Airways and Turkish Airlines. They have established large networks across the globe, which allows them to provide one-stop service between many destinations not served by other Middle Eastern carriers. Many legacy carriers in the Middle East are suffering due to the rapid expansion of these

[13] EuroControl "Challenges of Growth 2013"
https://www.eurocontrol.int/sites/default/files/content/documents/official-documents/reports/201306-challenges-of-growth-2013-task-4.pdf

carriers, most notably Gulf Air. The UAE and Qatar were both member states in Gulf Air, but have ended their membership in order to focus on their home carriers. Further compounding the problems faced by the legacy Middle Eastern carriers is the increase in LCC activity in the Middle East. Liberalization efforts that were undertaken over the past decade have resulted in the formation of several low cost carriers in the Middle East. These LCCs have been steadily increasing their operations across the region. Thus far they have limited their operations to those routes which can be operated using narrowbody aircraft. They have however announced that they intend to acquire widebody aircraft in order to offer service to Europe and the Far East.

Overall the Middle East has a fairly diverse and storied aviation industry. Legacy carriers in the region were first formed in the 1940's and during their first few decades rarely faced domestic competition. The withdrawal of three nations from Gulf Air coupled with the liberalization of the industry has resulted in the establishment of three airlines in the Arabian Gulf with big aspirations, as well as LCCs. Legacy carriers have been undertaking efforts to reorganize themselves in light of these new competitors. Some have been successful in repositioning themselves, though it remains to be seen whether legacy carriers can collectively adapt to the new status quo in the Middle East. For the time being however the headlines emanating from the industry are dominated by the emerging carriers.

1.5) Previous Studies of Commercial Aviation in the Middle East

Many of the studies and analyses of the emerging carriers are still relatively new, owing to the recent recognition of their performance. They first caught the attention of the industry in the early 2000's when they placed large widebody aircraft orders at the various international air shows. The earliest reports focused mostly on the emergence of Dubai as a global financial and commercial center which was partly attributed to its home airline Emirates. During the global financial crisis airlines across the world reported large decreases in income and in many cases annual losses. Emirates bucked this trend and continued a long running streak of consecutive annual profits. When the city of Dubai's investment arm, Dubai World announced that it was facing difficulty in meeting its debt obligations, many expected that Emirates would make a similar announcement owing to its large backlog of aircraft on order. Emirates did not have to make such an announcement and actually announced an increase in both passengers and revenue.

Since then a few studies have been conducted into both the past performance of the emerging carriers as well as forecasts regarding the viability of their growth plans. Most studies mention Qatar Airways and Etihad Airways alongside Emirates but fail to make mention of Turkish Airlines.

Turkish Airlines differs significantly from the other three in that it is much older, its fleet is composed mostly of narrowbody aircraft and it is not backed by a hydrocarbon rich state. The definition of an "emerging carrier" presented in the next chapter differs from the above in that it attempts to define the concept quantitatively as well as qualitatively. Per the definition presented there, Turkish Airlines is an emerging carrier.

Attracting passengers is an essential focus of any airline. Attaining a low cost structure is irrelevant if passengers are not booking passage on an airline. One of the most commonly recurring questions regarding the emerging carriers is how and where they are attracting the necessary demand to fill their capacity. Vespermann et al[14] conclude that they are attracting passengers from three markets. The first market is the local Middle Eastern traffic, which is the demand for travel both within and from the Middle East. The second is the demand for travel to the Middle East from other regions. The third and most important market per the authors is long haul connecting traffic which uses the emerging carrier hubs as a connecting point between Asia and Europe for example. O'Connell's[15] studies also conclude that this is the most important demand segment for the emerging carriers. Both papers cite the fact that local demand for travel to/from/within the Middle East is not sufficient in regards to the capacity deployed. The authors cite the relatively small population in regards to the deployed capacity of the three Arabian Gulf based emerging carriers. This argument is furthered by the fact that according to the authors the emerging carriers deploy over 50% of their seat capacity on inter-regional flights. This is in comparison to other large global carriers such as Lufthansa and Air France who each deploy less than 30% of their seat capacity on extra-regional flights. Large global carriers often have large domestic markets which are not very prevalent in the Middle East.

The aircraft orders placed by the emerging carriers are what first caught the world's attention. In his examination of the Emirates business model O'Connell[16] states that the 22 members of the Arab Air Carriers Organization (AACO), of which Emirates, Etihad and Qatar Airways are members, have 23% of the global widebody aircraft order backlog. The majority of

[14] Vespermann, Jan et al., Journal of Transport Geography, "Aviation Growth in the Middle East – impacts on incumbent players and potential strategic reactions" http://www.sciencedirect.com/science/article/pii/S0966692308000331

[15] O'Connell, John F, Journal of Air Transport Management, "The Rise of the Arabian Gulf Carriers: An insight into the business model of Emirates Airline" http://www.sciencedirect.com/science/article/pii/S0969699711000160

[16] O'Connell, John F & Williams, George, Air Transport in the 21st Century: Key Strategic Developments, http://books.google.com/books?hl=en&lr=&id=aFCC-eCm4XYC&oi=fnd&pg=PA15&dq=etihad+qatar&ots=oLmRnMpK79&sig=E6MdZTOGeOgFhjxSQPWhBD_Wxo4#v=onepage&q=aaco&f=false

these orders stem from the three emerging carriers who are part of the AACO. The emerging carriers are early buyers of next generation widebody aircraft, evidenced by the fact that Emirates was among the first buyers for both the Airbus A350 and A380. Emirates' maintains an all widebody fleet which is not typical in the airline industry. Singapore Airlines and Virgin Atlantic are among the few carriers which also employ all widebody fleets, though Emirates' fleet is larger than both of their fleets combined. The other three emerging carriers are also very active in purchasing new aircraft, though they do rely on narrowbody aircraft as well.

The growth of the emerging carriers has had an effect on many airlines across the world. Both Vespermann and O'Connell state that the most affected airlines are those that operate large long haul widebody fleets in Europe and Asia. The frequently mentioned airlines include Air France, Lufthansa, British Airways, Singapore Airlines and Cathay Pacific. These airlines are all members of airline alliances in which they are among the largest. They have taken notice of the growth of the emerging carriers and are actively trying to limit the potential harm posed by them. Vespermann discusses the case of Lufthansa which lobbied the German authorities in hopes of limiting the access granted to the emerging carriers in Germany. In his study Grimme[17] focuses on the effect that the emerging carriers are having in regards to air transportation from secondary Germany airports to Asia. His analysis concludes that the introduction of service by a Middle East airline to a secondary German hub does not result in a decrease in passengers carried by German airlines. This would suggest that the emerging carriers are not diverting traffic from other airlines.

Grimme does state however that there is a possibility that the incumbent German airlines are reducing their fares in an effort to maintain their market shares. This would in turn negatively affect their yields. Furthermore the flights to Asia offered by Emirates are deemed to be more inconvenient as they generally take longer than those offered by European carriers. As stated by Vespermann this is true for certain Asian destinations, namely those in Northern Asia. The emerging carriers do have a geographic advantage in regards to South Asia and Oceania, where the location of the hubs in the Arabian Gulf allow for flight times equivalent or better than those of European carriers.

The hub and spoke model is arguably the most common airline network model. It allows airlines to serve the same number of origin-destination pairs with far fewer flights than a point to point network. The world's busiest airports are all hubs either for one airline or for an entire

[17] Grimme, Wolfgang , Journal of Air Transport Management, "The growth of Arabian airlines from a German perspective – a study of the impacts of new air service to Asia"
http://www.uclm.es/cr/caminos/publicaciones/Cuaderno_Ing_Territorio/4jornadas/WolfgangGrimme/4.pdf

alliance. Larger airlines such as Delta or Lufthansa have multiple domestic hubs owing to the strong domestic air travel demand they serve. Some airlines have established international hubs to serve their ultra-long haul flights, such as British Airways in Singapore. Similarly the emerging carriers also operate hub and spoke networks. Their home governments have invested heavily in these hub airports in order to support the emerging carriers' expansion.

One clear distinction from a traditional US or European hub and spoke network is the average stage length. Rather than relying on regional destinations to fill medium to long haul flights, the emerging carriers are relying on long haul flights to fill other long haul flights. The majority of their seat capacity is deployed on extra-regional flights whereas airlines such as Air France rely on their short haul flights to fill some of their long haul capacity. The three emerging carriers based in the Arabian Gulf do not have domestic networks, and face a competitive market for air travel within the Middle East. As such they focus primarily on connecting passengers from one long haul flight to another. This version of a hub and spoke network has been implemented previously by other airlines, though not to the scale that the emerging carriers have. Singapore Airlines and Cathay Pacific were among the first carriers to create hub and spoke networks that catered mostly to long haul flights. The geography of their hubs does however limit the extent to which they can apply the long haul to long haul network model. The Middle East is strategically located between East and West thereby allowing the emerging carriers to apply this variation of the hub and spoke model.

The emerging carriers are based in nations which have favorable tax and labor conditions in contrast to European carriers. Furthermore the emerging carriers have relatively new fleets which are cheaper to operate than older aircraft as they require less fuel and maintenance. These new aircraft do however have much higher acquisition costs than used aircraft. To counter that, the emerging carriers take advantage of bulk order pricing that the two major manufacturers are known to offer. By some accounts, Emirates received as much as a 40% discount on its first Airbus A380 order. Table 1.3, as developed by Jan Vespermann shows a comparison of typical costs for the Middle Eastern carriers versus those of a typical European network carrier with a high share of long-distance routes.

Cost	Kerosene	Fees	Personnel	Fleet	Station	Sales	Catering
Share of total cost[1]	23%	12%	32%	15%	10%	5%	3%
Cost difference of Middle Eastern Carriers[2]	-20%	-39%	-48%	-20%	-25%	20%	-5%

[1]Typical allocation for Network-Carriers with high share of long-distance routes
[2]Analysis based on: O'Connell (2006), ADL-Research (2007), own research

Table 1.3) Cost Comparison of European network carrier vs. Middle Eastern carrier[18]

From Table 1.3 we note that in 6 of the 7 categories the Middle Eastern carriers have a cost advantage over similar European carriers. In five of those categories the cost advantage is 20% or greater. The Middle East has large hydrocarbon reserves as well as ample refining capacity which helps reduce the fuel costs there. The biggest cost advantage is however personnel. Middle Eastern carriers are able to rely on a steady supply of cheap labor from the Indian subcontinent. Interestingly the authors point out that the cost to the Middle Eastern carriers of their senior management is significantly higher than that of European carriers. This is due to the fact that they look to attract senior executives away from other airlines, and as such have to provide them with incentives. The only cost category that the Middle Eastern carriers face a disadvantage in is sales, the reason being their reliance on travel agents. Travelers in Europe rely more on the internet and credit cards to make their travel arrangements. Internet and credit card penetration is not as high in the Middle East, and as such the Middle Eastern carriers face higher costs due to commissions paid to travel agents. Fuel and labor costs are typically the biggest costs to an airline constituting approximately 50% of total costs. As such the Middle Eastern carriers enjoy significant cost advantages over their European counterparts. This in turn allows them to offer lower fares to attract market share away from existing competitors.

1.6) Objective of Thesis

There are two major objectives in this thesis. The first is to analyze the growth of the emerging carriers operations. The second is to evaluate their future growth plans and assess their viability and feasibility. Airline schedule data and reports issued by the emerging carriers will be used in analyzing their past growth and performance. The data used lists all flights operated by commercial airlines as well as the capacity associated with those flights. In evaluating their growth plans we

[18] Journal of Transport Geography, Vespermann, Jan et al. "Aviation Growth in the Middle East – impacts on incumbent players and potential strategic reactions"
http://www.sciencedirect.com/science/article/pii/S0966692308000331

will rely mostly on their forecasted aircraft delivery schedules as well as public statements made by the emerging carriers. The implications of this assessment will be discussed in relation to the global airline industry. Ultimately the overall goal of this thesis is to analyze how they have performed thus far, forecast how they will perform and assess the impacts of their operations on the global airline industry.

1.7) Structure of Thesis

Chapter 2 will expand on Section 1.3 of this chapter by defining the types of carriers that operate in the Middle East as well as discuss some of the major airlines in the region. The emerging carriers will also be defined and introduced in Chapter 2. Chapters 3 and 4 relate to the first major objective of analyzing the emerging carriers' past operations. The data mentioned will be analyzed in Chapter 3 by region. The issues and conflicts that have resulted from the expansion of the emerging carriers will then be discussed in Chapter 4. The second main objective of this thesis will be addressed in Chapter 5 where the aircraft orders by the emerging carriers will be compiled and used to create a fleet estimate for 2020. Past operating statistics will be used to estimate their potential deployable capacity given the estimated fleet size. That will then be used to quantify the implications of said capacity on the global airline industry. Finally in Chapter 6 the findings of this thesis will be summarized.

Chapter 2 – Types of Airlines in the Middle East

2.1) Introduction

Legacy Carrier, Regional Carrier, Low Cost Carrier, Charter Airline. When analyzing any commercial passenger air travel market in the world it is likely that every airline operating there can be classified into one of these four categories. In the Middle East however, a fifth category exists; the emerging carrier. Regional carriers do not have a large presence in the Middle East due to the small sizes and populations of many of the nations. Historically air travel in the region was dominated by legacy carriers which had long enjoyed monopolies in their domestic markets. They have been joined in recent years by both low cost carriers and emerging carriers. In this chapter we will discuss these three types of carriers and examine how certain airlines have performed over the past years, with a special focus on the four emerging carriers.

2.2) Background

Before discussing the emerging carriers it is important to note the role that Gulf Air played in their formation. In 1974 the governments of Bahrain, Qatar, the UAE and Oman purchased what would become Gulf Air from the British Overseas Airways Corporation (BOAC). The newly acquired airline based its operations from Bahrain International Airport and served as the national carrier for the four member states. After the formation of Gulf Cooperation Council (GCC) in the early 1980s, there was even mention of integrating both Kuwait Airways and Saudi Arabian Airlines into Gulf Air. Gulf Air expanded rapidly in the early 1980s and was among the most active Middle Eastern carriers in acquiring new aircraft. It provided service from Bahrain to destinations in Europe and the Far East. In order to serve passengers in the three other member states it provided frequent connections from those airports; Abu Dhabi, Doha and Muscat, to Bahrain.

Gulf Air's focus on Abu Dhabi as the gateway to the UAE proved to be problematic for the rulers of neighboring Dubai. Sheikh Mohammed bin Rashid Al Maktoum; the current ruler of Dubai and Prime Minister of the UAE, had a vision for developing Dubai from a sleepy fishing village into a global city rivalling Hong Kong and Singapore. A central tenet of his vision involved connecting Dubai to the rest of the world via air transportation. In the early 1980s Dubai was neglected by Gulf Air at the expense of Abu Dhabi. As such air service to Dubai was fairly limited and Gulf Air continued to focus on expanding service out of its hub in Bahrain. This prompted the government of Dubai to form a new airline based out of Dubai airport. In October 1985 the first Emirates flight departed Dubai destined for Karachi. In the following years Emirates continued to rapidly expand its operations. In the early 1990s many of the neighboring nations took note of Dubai's success and

embarked on ambitious plans to replicate its success. In 1993 both Qatar and Oman formed their own national airlines which allowed them to provide direct air service, as opposed to the one-stop services that were offered by Gulf Air at the time. As these newly formed airlines continued to expand and strengthen, Qatar and Oman became less reliant on Gulf Air. Their new airlines operated in direct competition with Gulf Air and as part of the 1974 agreement they were still funding Gulf Air. Thus, in 2002 Qatar announced that it was withdrawing from Gulf Air to focus on growing Qatar Airways. Oman followed suit in 2007. In 2003 the ruler of the UAE issued a royal decree mandating the creation of a new airline to serve as the national carrier of the UAE. A few months later Etihad Airways was founded, and subsequently the UAE formally withdrew from Gulf Air in 2006, thereby leaving Bahrain as the only remaining nation in the Gulf Air venture. Figure 2.1 shows the major events that have affected Gulf Air in regards to the founding of the emerging carriers.

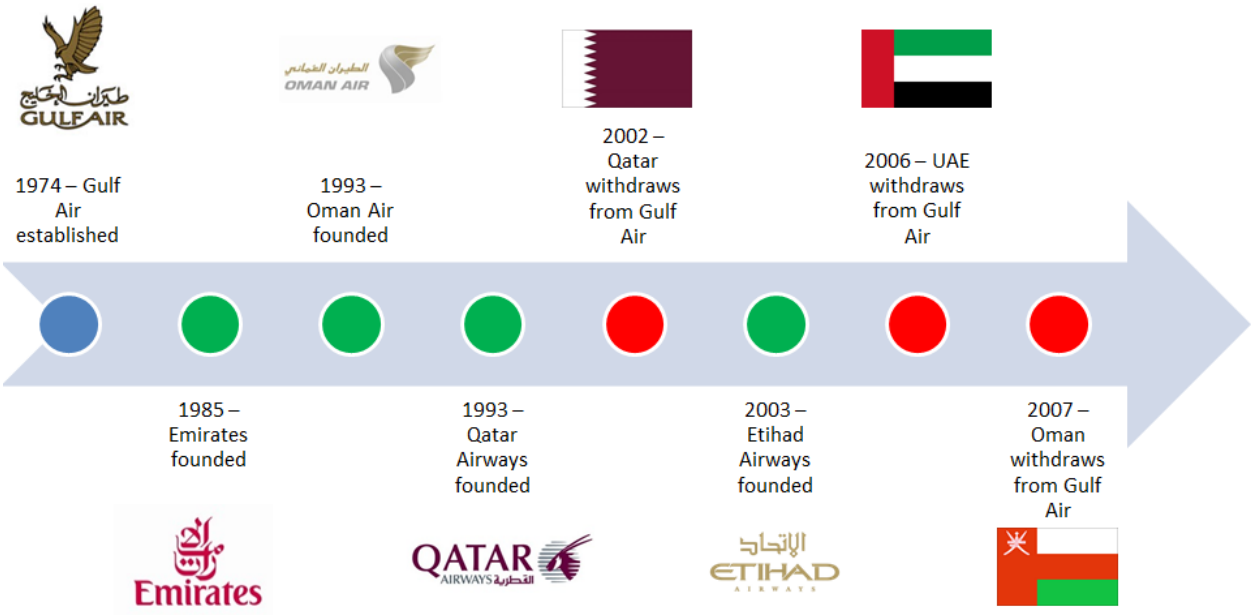


Figure 2.1) Timeline of Selected Arabian Gulf Carriers

The formation of these airlines and the subsequent withdrawal of their governments severely weakened Gulf Air. Bahrain has the smallest population of the four original member states, and as such Gulf Air relied heavily on passengers from its three focus cities to occupy seats on its long haul flights. It was the first Arab airline to provide service to Australia, Hong Kong and parts of

the US[19]. Currently its network is very much focused on the Middle East. It still provides service to the major European hubs as well as Bangkok. The airline has undergone several restructuring plans over the past decade, but has been unable to adapt to a market that now includes three of the largest international airlines. In the early 1990s Gulf Air was one of the largest Arab airlines by capacity. Currently, it is near the bottom of the top 10 and dropping[20]. It has had to scale back some of its expansion plans due to the growth of other carriers in the region. In 2012 it requested a $1.5 billion bailout from the Bahraini government. That request was turned down and the struggling airline was offered a $490 million bailout on the condition that the airline reduces the size of both its network and workforce. In late 2013 the Bahraini parliament moved to veto the bailout decree, though its decisions can be overturned by royal decree[21]. Incidentally the current CEO's of Etihad and Emirates both worked at Gulf Air; James Hogan the current CEO of Etihad also served in that position at Gulf Air.

2.3) The Emerging Middle East Carriers

The term "emerging carriers" was first used in the late 2000s to describe a group of carriers based in the Middle East that were growing rapidly. They first captured the attention of the airline industry in the mid-2000s when they dominated the headlines at the annual air shows in Farnborough and Paris, by placing record breaking orders for wide-body aircraft. They continue to draw attention due to their rapid growth, and the effects they are having on the global air travel industry. Despite the frequent use of the term "Emerging Carriers" there has yet to be an agreed upon definition. For the purposes of this thesis the term "emerging carrier" will refer to a carrier based in the Middle East which has average annual capacity, passenger and fleet growth rates in excess of 10% for at least five years within the recent past. Furthermore, an emerging carrier is a carrier which structures its network in such a way as to provide connecting service. Most media coverage and academic research have identified Emirates, Etihad and Qatar as belonging to this group. By applying the previous definition put forth it becomes immediately apparent that another airline in the Middle East has earned the distinction of being called an emerging carrier: Turkish Airlines.

Each individual emerging carrier has managed to achieve remarkable growth figures over the past several years. As a group the carriers dominate traffic between the Middle East and several

[19] Gulfair.com "History" http://www.gulfair.com/English/aboutgulfair/Pages/History.aspx
[20] DiioMi SRS Monthly Departures from Middle East to All, Retrieved December 2013
[21] Arabian Business "Bahrain MPs move to veto $490m Gulf Air Bailout"
http://www.arabianbusiness.com/bahraini-mps-move-veto-490m-gulf-air-bailout-525104.html

other regions. Their continued growth has come at the expense of legacy carriers both in the Middle East and neighboring regions. The geographic location of their hubs provides them with a strategic advantage that cannot be easily replicated. Figure 2.2 shows the approximated population catchment within 5 hour flight times of the major European hubs as well as those of the three emerging carriers based in the Arabian Gulf. An analysis of the populations living within those catchment areas indicated that the geographic location of the emerging carrier hubs provides them with access to over twice as many potential passengers when compared to the major European carriers. That coupled with the fact they compete with far fewer airlines has allowed them to expand rapidly.

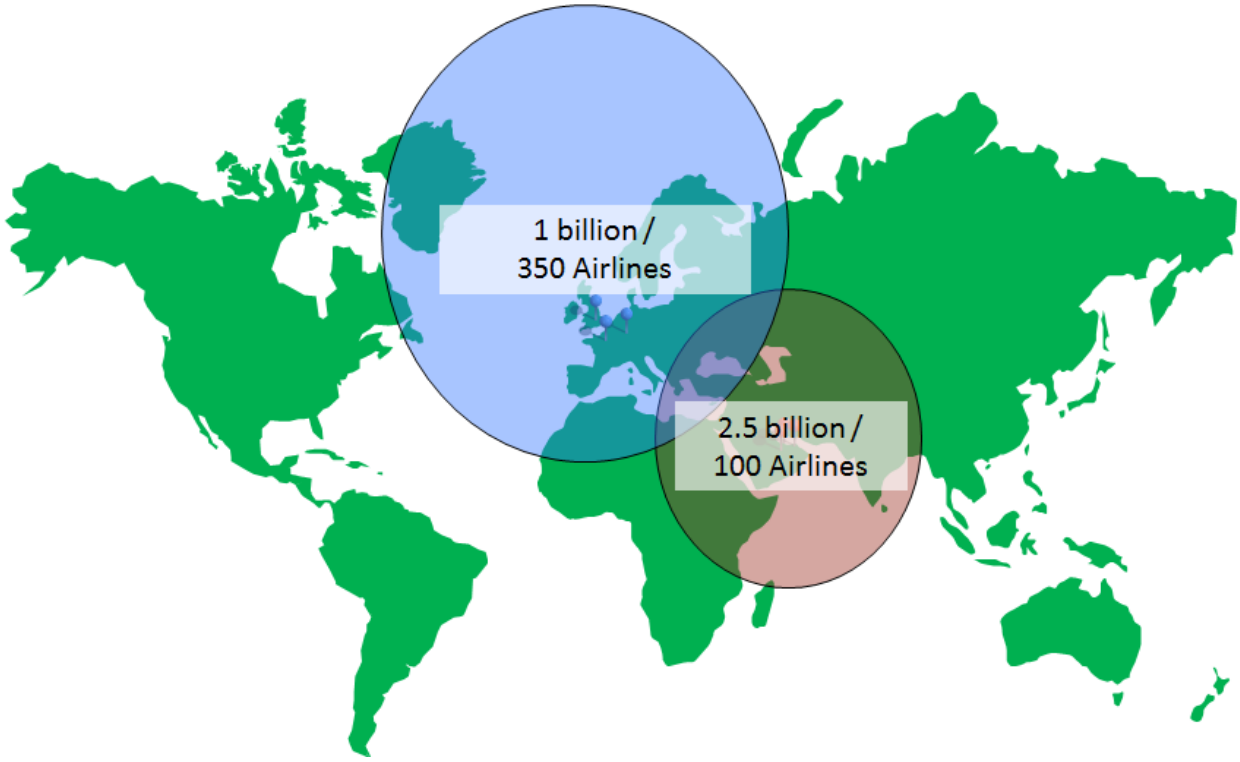


Figure 2.2) Estimated populations within 5 hour flight times of the Middle East and Europe

Table 2.1 displays the growth rates in passenger numbers, capacity, and fleet size for each of the emerging carriers. Even during the global financial crisis each of these airlines was able to achieve the aforementioned 10% annual growth rates. In order to increase both their capacity and passenger numbers, each of the emerging carriers have been increasing the size of their fleets by 10% on average every year. Based on their current aircraft orders, each airline is expected to double their fleet size by 2020. Figure 2.3 shows the current aircraft on order by each of the emerging carriers.

		Emirates	Etihad	Qatar	Turkish	Average
2007 - 2012	Passengers	12.65%	16.26%	15.83%	13.62%	**14.59%**
	ASKs	14.19%	18.66%	20.41%	18.30%	**17.89%**
	RPKs	14.37%	21.84%	19.28%	18.20%	**18.42%**
	Fleet Size	11.68%	11.50%	16.42%	15.30%	**13.73%**

Table 2.1) Emerging Carrier growth rates 2007 - 2012[22]

As shown in Figure 2.3 the emerging carriers currently have 1,029 aircraft on order, of which nearly 75% are for widebody aircraft. Turkish Airlines is the only emerging carrier that has more narrowbody aircraft on order than widebody aircraft. This is due to the difference in Turkish Airlines' network strategy. Whereas the other emerging carriers primarily operate long haul flights, Turkish Airlines deploys the majority of its fleet on shorter haul flights to Europe and Central Asia. The proximity of Turkish Airlines primary hub at Istanbul to Europe, coupled with its large domestic market, allows it to compete in markets that the other three emerging carriers are not able to. The emerging carriers are the largest customers and operators of the Airbus A380, A350, Boeing 777 and 787[23].

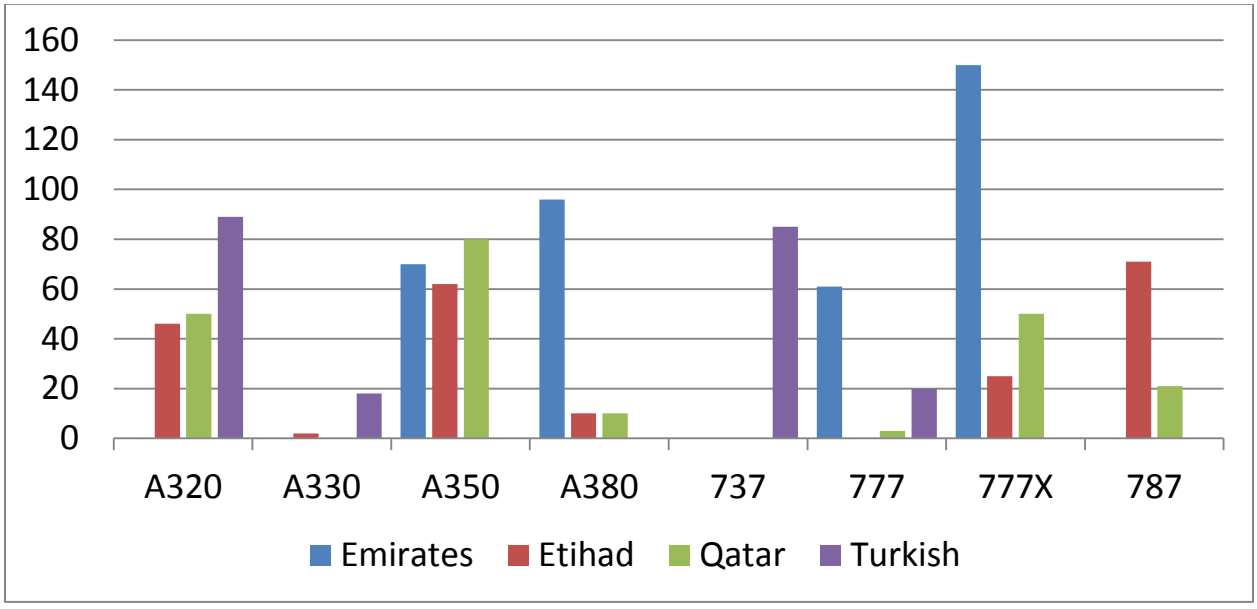


Figure 2.3) Emerging Carrier aircraft orders (Nov 2013)[24]

[22] Compiled from the respective airlines' annual reports
[23] Airbus and Boeing Orders and Deliveries, Retrieved January 2014
[24] Airbus and Boeing Orders and Deliveries, Retrieved January 2014

Table 2.2 displays the 2012 global airline rankings by RPK as published by Flight Global in its Airline Business Report[25]. The four emerging carriers are ranked in the top 30, with Emirates leading the group as the fourth largest airline in the world by RPKs. The average growth rate for the other 26 airlines is 3.8% with only Aeroflot managing to achieve double digit growth. The emerging carriers meanwhile achieved an average RPK growth rate of 20.3% in 2012. If the current trends persist then by the end of the decade Emirates will have displaced Delta as the largest airline in the world by RPKs. The other three emerging carriers will have also made their way up the rankings displacing some of the most well-known and established global airlines.

Rank	Airline	RPK (millions)	Change		Rank	Airline	RPK (millions)	Change
1	Delta Air Lines	310,466	0.1		**16**	Air Canada	89,534	2.6
2	United Airlines	288,680	-1.3		**17**	KLM	86,281	2.5
3	American Airlines	203,299	-0.1		**18**	Qantas	75,935	0.3
4	**Emirates Airline**	**188,618**	**17.6**		**19**	**Turkish Airlines**	**74,638**	**26.6**
5	Southwest	165,753	-1.0		**20**	**Qatar Airways**	**73,608**	**13.7**
6	Lufthansa	149,780	1.3		**21**	Korean Air	68,818	6.1
7	Air France	135,824	2.1		**22**	easyJet	65,227	6.3
8	British Airways	126,436	7.7		**23**	All Nippon Airways	62,514	4.3
9	China Eastern	109,113	8.1		**24**	Thai Airways	60,679	9.8
10	China Southern	107,000	5.3		**25**	TAM Linhas Aereas	59,132	4.3
11	US Airways	100,460	2.7		**26**	JetBlue Airways	54,003	9.3
12	Ryanair	100,000	6.1		**27**	Aeroflot	50,532	20.3
13	Air China	95,940	3.0		**28**	Iberia	49,663	-3.1
14	Cathay Pacific	94,191	2.4		**29**	Air Berlin	48,720	-6.6
15	Singapore Airlines	93,766	6.8		**30**	**Etihad Airways**	**48,000**	**23.1**

Table 2.2) Largest airlines by RPKs in 2012

2.3.1a) Emirates

In 1985, Sheikh Mohammed and his uncle Sheikh Ahmed; the current chairman of Emirates; founded Emirates Airlines. The airline was provided $10 million in start-up capital as well as two Boeing 727-200s which were a gift from Sheikh Mohammed[26]. The newly formed airline had also wet-leased two aircraft – an Airbus A300 and Boeing 737. In its first 12 months the airline focused on building its network in the Middle East and the Indian Subcontinent. In 1987, it began expanding

[25] Flight Global - Airline Business "Top 200 Passenger Operations Ranked by Traffic -2012" http://www.flightglobal.com/features/world-airline-rankings/

[26] Emirates.com " Our History" http://www.theemiratesgroup.com/english/our-company/our-history.aspx

its network into Europe by offering flights to London Gatwick and Frankfurt. 1987 was also the first year in which it received an aircraft it had purchased. Over the next decade it expanded its network throughout the Middle East, Europe, Africa and Asia. By the start of the new millennium it was still a relatively unknown airline. In late 2001 the global airline industry was still adapting to a post 9/11 world when Emirates stunned the aviation world by announcing a $15 billion wide-body aircraft order[27]. It had at that point become the largest Airbus A330 operator in the world, and this new order was poised to make it one of the largest operators of the Airbus A380 and Boeing 777. Emirates continued to increase its global profile by placing increasingly large aircraft orders, as well as sponsoring some of the most popular sporting events globally. Presently it is the largest customer and operator of the Airbus A380 and Boeing 777.

Emirates is now recognized as one of the world's premier international airlines. As of 2012 it is the fourth largest airline by revenue passenger kilometers (RPKs)[28]. Based on its current fleet orders and passenger growth rates, Emirates will surpass the current top 3 (Delta, United and American) by the end of the decade. It currently operates over 1,000 weekly flights from its Dubai Hub to over 130 destinations in more than 60 countries[29]. In the early part of the millennium it considered joining Star Alliance[30]. Some of the Star Alliance members at the time were not receptive to this overture by Emirates, which eventually resulted in the airline ruling out any future bid to join any of the three major alliances. Emirates has extensive codeshare agreements with other large global airlines which allows it to circumvent the alliances. The most notable agreement was concluded in 2012 with Qantas. The agreement between Emirates and Qantas ended a 17 year joint venture agreement between Qantas and British Airways, both of which are oneworld members. The new agreement resulted in Dubai replacing Singapore as the connecting point for Qantas passengers destined for Europe.

2.3.1b) Turkish Airlines

In 1933 the Turkish Ministry of National Defense established what would in later years come to be known as Turkish Airlines[31]. In 1956 the airline was formally established as Turkish

[27] Airbus.com "Emirates triples A380 order, selects A340-600 and adds A330s" http://www.airbus-group.com/airbusgroup/int/en/news/press.en_20011104_aiemirates.html
[28] Flight Global - Airline Business "Top 200 Passenger Operations Ranked by Traffic -2012" http://www.flightglobal.com/features/world-airline-rankings/
[29] Emirates.com "The Emirates Story" http://www.emirates.com/us/english/about/the_emirates_story.aspx
[30] Telegraph.co.uk "Emirates Poised to Join Star Alliance" http://www.telegraph.co.uk/finance/4461750/Emirates-poised-to-join-Star-Alliance.html
[31] Turkish Airlines Website " History" http://www.turkishairlines.com/en-tr/corporate/history

Airlines and joined IATA. For the four decades the airline grew slowly and by 1999 the fleet had grown to 70 aircraft, up from 22 aircraft in 1978. During that time Turkey had transformed quite dramatically. The country moved on from the age of the Ottoman Empire, and was actively modernizing its economy and consequentially its society as well. Turkey has suffered several economic crises during that period which have had dramatic effects on Turkish Airlines. While Turkish Airlines was at times profitable during the 1990s, it had to contend with the massive inflation and instability of the Turkish Lira, which made capital investments in its fleet difficult. In 2001, a Turkish economic crisis coupled with the 9/11 attacks led Turkish airlines to undergo a revitalization. A new management team was brought in which quickly cut wages and eliminated several loss making routes. As the local economy recovered the new management embarked on a fleet expansion and renewal program, which allowed Turkish Airlines to not only replace its older aircraft, but also to expand its network. While Turkish Airlines was implementing its latest turnaround plan, the Turkish government was actively liberalizing the Turkish air travel market. The government then revived a privatization plan which eventually resulted in 50.88% of the airlines' shares being publicly traded[32].

Turkish Airlines is quite different in some respects from the three other emerging carriers. It relies heavily on narrowbody aircraft, is a member of Star Alliance, was founded in the 1930's, has a large domestic market, and is not located in the Arabian Gulf. Nonetheless, Turkish Airlines has successfully leveraged its proximity to Europe, resulting in growth rates which mirror those of the three other emerging carriers. In 2006 Turkish Airlines' fleet grew to 100 aircraft, by the end of 2012 it had grown to over 200 aircraft. During that period it added more aircraft than any of the other emerging carriers. Currently it serves over 230 destinations, which makes it the fourth largest airline by destinations served. It has over 200 aircraft on order through 2020, which will result in it doubling its fleet by the end of the decade[33].

2.3.1c) Qatar Airways

When Qatar Airways was formed in 1993 its primary purpose was to provide direct flights to destinations within the GCC and Middle East. In the aftermath of a 1995 coup, the decision was made to revitalize the airline and transform it into a large international airline[34]. In early 1997 Qatar Airways fleet consisted of three widebody aircraft and one narrowbody. Akbar Al-Baker was

[32] Turkish Airlines Annual Report 2012
[33] Turkish Airlines Annual Report 2012
[34] Huffington Post "Another Coup for the Outgoing Emir of Qatar" http://www.huffingtonpost.com/taufiq-rahim/another-coup-for-the-outg_b_3497895.html

appointed the CEO of Qatar Airway in 1997 and tasked with implementing the vision of the then Emir, which was to create an airline similar to Emirates. The revitalized Qatar Airways embarked on an aggressive expansion plan, which initially involved leasing a wide variety of aircraft in order to dramatically expand the network. In 1999, it took delivery of its first new aircraft from Airbus. By the time the Qatari government withdrew from Gulf Air in 2002, Qatar Airways' fleet had grown to 21 aircraft. At the 2004 Dubai Air Show it signed an agreement with Airbus for 12 widebody aircraft. At the 2007 Paris air show, it placed an order with Airbus for the newly unveiled A350, and is slated to be the launch customer of that aircraft. Later that year, it placed an order with Boeing for nearly 100 widebody aircraft, thereby cementing its status as an important player in the air travel market and as an emerging carrier. In mid-214 the Qatari government announced its intention to acquire all ownership stakes in Qatar Airways currently held by members of the royal family[35]. Qatar Airways will in effect by owned entirely by the Qatari sovereign wealth fund.

As Qatar Airways expanded in the late 2000's, airlines around the world took note of the rise of the emerging carriers. Emirates had made it clear that they no longer sought to join any of the global alliances, relying instead on strategic partnerships with airlines such as Qantas and American Airlines. Qatar Airways did signal interest in pursuing deeper relationships with its partners. That culminated in Qatar Airways joining the oneworld alliance in October 2013, having been designated as a member-elect in early October 2012. Their accession into the oneworld alliance has resulted in the first alliance hub in the Arabian Gulf. The leadership of Qatar Airways has made it clear that they believe the region will be able to support two large international carriers, namely Qatar Airways and Emirates. By joining oneworld, Qatar Airways will be able to dramatically increase the number of destinations it offers its passengers. This was necessary in order to compete with Emirates, which has a significantly greater seat capacity and network size than Qatar Airways.

2.3.1d) Etihad Airways

Having witnessed neighboring Dubai's success in establishing itself as a global city the rulers of Abu Dhabi; the capital of the UAE, sought to close the gap by establishing a flag carrier for the UAE. Following the withdrawal of Qatar from Gulf Air in 2002, the rulers of Abu Dhabi began planning for the establishment of a new airline. A royal decree in July 2003 formally established Etihad Airways. Four months later in November 2003 the first Etihad Airways flight departed Abu

[35] Arabian Business, "Qatar aiming to curb royal ownership of local businesses-source" http://www.arabianbusiness.com/qatar-aiming-curb-royal-ownership-of-local-businesses-source-549211.html

Dhabi International destined for Beirut[36]. Since that first flight the airline has grown to 70 aircraft and over 80 destinations, making it the fastest growing airline in the world. It currently operates flights to all six inhabited continents, and has announced major expansion plans in Asia and Europe.

In late 2011, Etihad Airways announced that it was increasing its ownership stake in Air Berlin; Germany's second largest airline. Since then it has acquired stakes in Aer Lingus (3%), Air Seychelles (40%), Jet Airways (24%) and Virgin Australia (20%)[37]. Furthermore, in early 2014 it announced a 49% stake in the newly re-launched Air Serbia. Etihad's strategy of purchasing stakes in other airlines has allowed it to craft codeshare agreements in its favor. In addition to purchasing minority stakes, it has also enacted over 40 codeshare agreements with other airlines. A 2012 codeshare agreement with Air France-KLM led many to believe that this was the first step in Etihad joining the SkyTeam alliance. In late 2013, an expansion of a previous codeshare agreement with another SkyTeam member; Korean Air, seemed to all but affirm this belief. Etihad however has made it clear that despite these agreements it will not seek admission to any of the alliances. Rather, it plans on continuing to acquire ownership stakes. The stake Etihad purchased in Air Serbia is part of a wide-ranging agreement between the airline and the Serbian Government. In August 2013 the two parties signed the agreement which saw the then Serbian flag carrier Jat Airways rebrand to Air Serbia. Etihad will manage the new airline for a period of 10 years. The goal is for Air Serbia to attain profitability within the first 12 months. The next step in the agreement may involve Air Serbia purchasing stakes in other European carriers on behalf of Etihad Airways. During the 2013 Dubai Air Show Etihad placed large orders with both Boeing and Airbus. Air Serbia has stated that 10 of the Airbus A320 Neo's ordered by Etihad are intended for its fleet[38]. Also during the Dubai Air Show, Etihad announced that it had acquired a 33% stake in Darwin Airlines; a regional airline based in Switzerland. The airline would be rebranded as "Etihad Regional" and would provide regional service in Europe in early 2014[39].

2.4) Low Cost Carriers in the Middle East

Low cost carriers are recent additions to the air travel market in the Middle East. Governments in the Middle East have typically supported and protected their national flag carriers

[36] UAEInteract.com "Etihad operates first flight to Beirut today" http://www.uaeinteract.com/docs/Etihad_operates_first_flight_to_Beirut_today/10001.htm
[37] Etihad Airways Annual Report 2012
[38] Airline Fleet Management "Air Serbia to receive 10 of Etihad's NEOs" http://www.afm.aero/news/item/1123-air-serbia-to-receive-10-of-etihad-s-neos
[39] Centre for Aviation "Etihad Regional joins the Etihad Equity Alliance as Swiss' Darwin Airline helps connect the dots" http://centreforaviation.com/analysis/etihad-airways-connects-the-dots-by-acquiring-swiss-darwin-airlines-first-etihad-regional-carrier-139925

from competition, which prevented new entrants from joining. As the demand for air travel increased over the past two decades, some governments in the region came to recognize that their respective flag carriers would be unable to accommodate the new demand. They therefore undertook efforts to liberalize their air travel sectors. In many cases the nations owned not only the national flag carrier, but the airports, ground services and catering as well. The first steps in liberalizing their markets typically involved privatizing ground services, as well as allowing new airlines to be formed. Many of the nations in the Middle East do not have large domestic networks, especially the smaller countries in the Arabian Gulf such as Bahrain and Qatar. By contrast, Saudi Arabia, Iraq and Turkey are fairly large countries with growing populations. Saudi Arabia is the thirteenth largest nation by size, and Turkey is the 18th largest by population. Both these nations have been liberalizing their respective air travel markets in recent years.

The Turkish airline industry was formally liberalized in 1983. In the years following various government business such as the national catering company and ground handling company were privatized. Turkish Airlines was also gradually privatized. The original legislation did not provide strict guidance concerning the financing of new airlines, and as such many newly formed airlines ceased operations within a year. Furthermore, the government was still actively shielding Turkish Airlines from competition. Domestic routes were re-regulated in 1996, which severely limited the ability of local airlines to compete with Turkish Airlines. A renewed de-regulation effort was undertaken in the early 2000's which saw the domestic market opened up to competition, as well as the government privatizing Turkish Airlines. The renewed efforts were successful in invigorating the local market, and have led to several new successful airlines in Turkey.

In 2007, the Saudi Arabian Government granted two new airline operating certificates which effectively ended Saudia's monopoly on the local market. The two new airlines that were formed were both low cost carriers which aimed to establish a strong presence in the domestic Saudi Arabian market, prior to expanding to neighboring nations. Sama, one of the two new LCCs ceased operations in 2011 after accumulating losses in excess of $250 million[40]. The remaining LCC, Flynas (formerly nasair) has not yet broken even and is facing an increasingly negative financial outlook. Saudia still retains over 90% of the local market and enjoys substantial fuel subsidies. The rigid regulatory structure in the Kingdom has made it difficult for Flynas to gain a substantial foothold in the domestic air travel market. In an effort to further develop their air travel market, the

[40] Bloomberg, "Saudi Low-Cost Airlines Sama to Cease Operations After $266 Million Loss" http://www.bloomberg.com/news/2010-08-22/saudi-low-cost-airline-sama-to-cease-operations-after-266-million-loss.html

Saudi Arabian government has granted two new air operator licenses. A group led by Qatar Airways obtained one of the new licenses, and is proceeding with plans to launch a new Saudi domestic airline called Al Maha Airways in 2014. The other license was granted to a group backed by local investors. That airline, Saudi Gulf Airlines is planning on launching service in early 2015[41].

2.4.1a) Pegasus Airlines

Pegasus Airlines was started in 1990 as a joint venture between two Turkish firms, and Aer Lingus. It was originally a charter airline providing domestic service to tourist destinations in Turkey. In 2005 the airline was bought out by a Turkish Holding company, and transformed into a low cost carrier with a strong focus on the growing domestic Turkish air travel market. At the time its network consisted of 6 domestic destinations. It now serves 31 domestic destinations and over 45 international destinations. Its primary base is at Istanbul's secondary airport; Sabiha Gokcen (SAW) which was built in 2001 to relieve congestion at Istanbul's primary airport; Istanbul Ataturk International (IST). The growth in traffic at SAW overwhelmed the 3.5 million passenger terminal, and in 2009 renovations were completed on the international terminal building raising its capacity to 25 million annual passengers. The growth in traffic at SAW is due in large part to Pegasus Airlines' growth as shown in Figure 2.4.

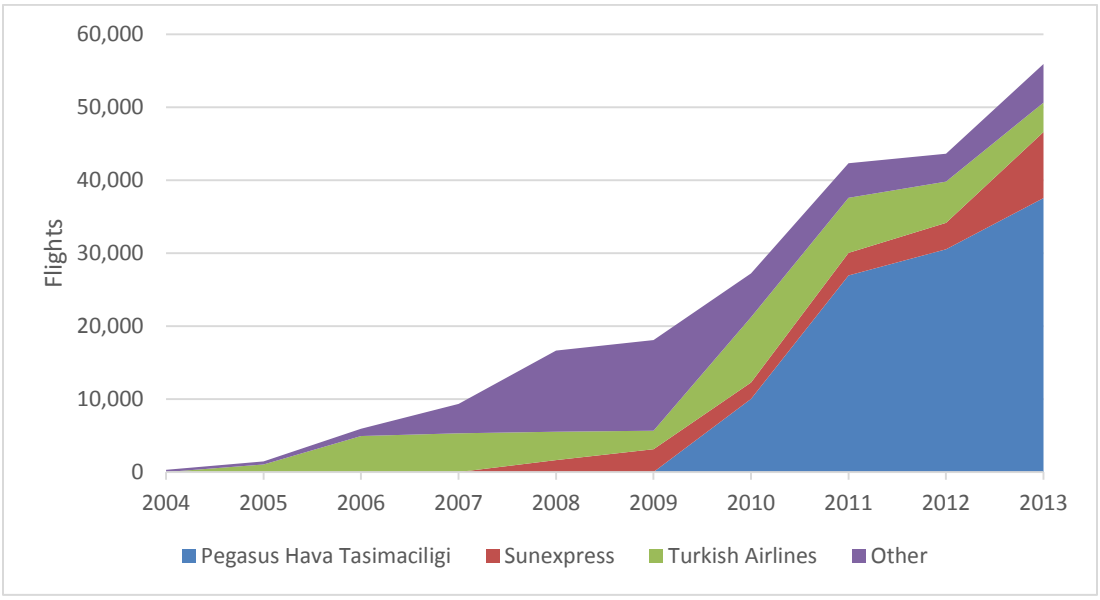


Figure 2.4) Growth in Flights at Sabiha Gokcen (2004 – 2013)

[41] Centre for Aviation, "Profile: Saudi Gulf Airlines" http://centreforaviation.com/profiles/airlines/saudi-gulf-airlines

In late 2012, Pegasus Airlines placed an order for 75 next generation Airbus A320s with options for an additional 25 aircraft. The new aircraft are slated for delivery by 2016, and will be used to bolster the existing fleet of 46 Boeing 737. Pegasus Airlines has established a strong domestic network in Turkey and the expansion of its fleet will allow it to further expand its international network. Currently, nearly two thirds of the weekly seats it offers are for the domestic Turkish market where it has roughly 27% of the market. This makes it the largest LCC in Turkey and the second largest carrier after Turkish Airlines. Pegasus Airlines had an IPO in April 2013, and the prospectus related to that IPO revealed that it had achieved an operating profit of EUR82 million in 2012 on revenues of EUR 833 million, thereby making it the second most profitable airline in Europe by operating margin[42]. Its cost per available seat kilometer (CASK) of roughly 4.0 Euro Cents is comparable to Ryanair's, and significantly lower than some of the other European LCCs such as Norwegian and Easyjet. Furthermore its revenue per available seat kilometer (RASK) is growing faster than its CASK, which indicates that the current fare and costs structures are viable. Pegasus' expansion plans call for increased service to Eastern Europe where Turkish Airlines has established a strong presence. It is likely that Pegasus will eventually expand its service to Western Europe and the Middle East. Given its low cost structure and growing fleet, it should be able to effectively compete with the established European legacy and low cost carriers.

2.4.1b) flynas

Flynas was established in 2007 as Nasair with a fleet of 19 narrowbody aircraft. It, along with the now defunct Sama were established to end Saudia's monopoly of the local market. It established bases in Saudi Arabia's two busiest airports; King Abdulaziz in Jeddah and King Khalid in Riyadh. In its first few years of operations it focused on establishing a strong presence in the domestic Saudi market. Its first international route was to Dubai International which has been operated since the inception of the airline. In later years it expanded its network to include service to nations in the Arabian Gulf, Levant, Africa and the Indian Subcontinent. It attempted to gain a foothold in the lucrative Saudi Arabia – India market but after 3 years was forced to withdraw. It was unable to compete with both Saudi and the emerging carriers who deploy widebody aircraft on those routes. Figure 2.5 depicts how rapidly Flynas has expanded network since its inception. Flights have increased more than fivefold since 2007 but the rate of increase has been fairly

[42] Centre for Aviation, "Pegasus Airlines: a true LCC growing traffic and earnings at a winged gallop" http://centreforaviation.com/analysis/pegasus-airlines-a-true-lcc-growing-traffic-and-earnings-at-a-winged-gallop-108939

inconsistent. Nearly no new flights were added between 2011 and 2012, owing to the events of the Arab Spring.

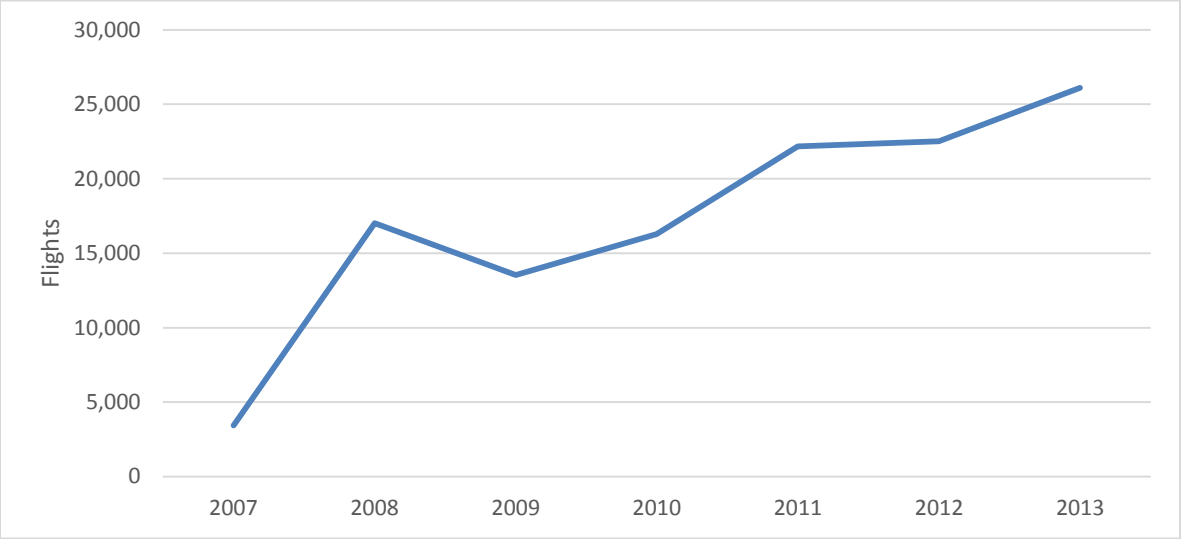


Figure 2.5) Annual flights operated by Flynas (2007 – 2013)

Since its inception, Flynas has yet to report an annual profit though it has been reporting monthly and quarterly profits since late 2012[43]. In 2012 the senior management was reshuffled and a new business plan was approved in 2013. That saw the airline rebrand from Nasair to Flynas. The airline has also announced that it will reconfigure some of its aircraft to include business class service. It is also in the process of retiring its small fleet of Embraer regional jets in favor of larger Airbus narrowbody aircraft. The changes made appear to have improved the airlines' operations, and have emboldened the new management team. An IPO in 2014 remains possible as well as an order for widebody aircraft. Domestic Saudi routes remain difficult for Flynas due to the regulations imposed by Saudi authorities. Subsidies offered to the flag carrier Saudia are not available to Flynas, which substantially affects their ability to compete domestically. The CEO of Nas Holding has even stated that it remains cheaper for Flynas to purchase fuel outside Saudi Arabia[44]. The impending entry of the Qatar Airways backed Al Maha airlines in 2014 will also negatively affect Flynas. Though details are unclear, it does appear that passengers on Al Maha will be able to connect on mainline Qatar Airways flights from Doha. Flynas currently maintains a partnership

[43] Centre for Aviation, " nasair plans ambitious expansion in 2013 ahead of further liberalization in Saudi Arabian Market" http://centreforaviation.com/analysis/nasair-plans-ambitious-expansion-in-2013-ahead-of-further-liberalisation-in-saudi-arabian-market-106398

[44] Centre for Aviation, "Saudia faces new competitive threats in 2013 as Saudi Arabia loosens the regulatory reins" http://centreforaviation.com/analysis/saudia-faces-new-competitive-threats-in-2013-as-saudi-arabia-loosens-the-regulatory-reins-107940

with Etihad Airways, which allows its passengers to connect to a limited number of destinations from Abu Dhabi. If the rumored widebody aircraft order does materialize, it will allow Flynas to launch service to lucrative European and Asian destinations. Saudi Arabia is in the process of investing in new airports and further liberalizing its air travel market which should help strengthen Flynas.

2.4.1c) flydubai

A decree by the Government of Dubai in March 2008 formally established the first low cost carrier in the emirate of Dubai, flydubai. In June of that year, the newly formed airline placed an order for 50 Boeing 737s at the Farnborough air show. The first aircraft was delivered in May 2009 and the airline was officially launched in June 2009 with the first flight to Beirut in Lebanon. Since then, the airline has rapidly grown and now operates a fleet of over 30 aircraft serving 60 international destinations. In November 2013 it placed an order for 100 next generation Boeing 737 Max aircraft. It is now the second largest airline operating from Dubai after Emirates, with 16% of all departures and 11% of available seats[45].

Though flydubai is not part of the Emirates group, it does maintain a strong relationship with Emirates. flydubai is in essence Emirates' regional carrier. They are both owned by the government of Dubai, which has sought to establish Dubai as a global air travel hub. The growth of the other three emerging carriers exposed a weakness in Emirates' operations. Emirates operates the largest all widebody fleet, which limits it from competing on frequency with other carriers in the region. For example, Qatar Airways operates twice as many flights from Dubai to Doha as Emirates does, though they both offer roughly the same number of seats. The majority of Qatar Airways' flights in this market are operated using Airbus A320 aircraft, whereas Emirates deploys a mix of Boeing 777s and Airbus A330s. Having narrowbody aircraft in their fleets affords Qatar Airways a degree of flexibility which Emirates does not have. That is where flydubai enters the equation. Currently flydubai passengers can connect onto Emirates flights in Dubai with little hassle. In fact certain itineraries purchased on Emirates include legs operated by flydubai. No other airline currently enjoys the same benefit, which gives Emirates an advantage as flydubai is the Arabian Gulf's largest LCC. Though flydubai and Emirates operate independently there is a synergy between their networks which facilitates flydubai's role as an independent regional carrier for Emirates.

[45] DiioMi SRS Monthly Departures from Middle East to All, Retrieved December 2013

As flydubai expands its network into Europe and Asia it is now directly competing with its sister airline Emirates. In 2013 it reconfigured some of its aircraft to include business class seating and announced new service to Ukraine concurrently with Emirates' announcement. The growth of both these airlines is rapidly exhausting Dubai International Airport's capacity. The newly constructed Maktoum International Airport located 70 km east of Dubai International is meant to alleviate congestion in the Dubai air traffic system. Emirates and flydubai's current aircraft orders once filled, will lead to significant delays at Dubai International and as such it has been suggested that flydubai may move its base of operations to Maktoum International. In the event of this shift to Dubai's new airport, it is unclear if flydubai will continue to maintain its role as Emirates' regional carrier. Emirates has made it clear that it intends to maintain an all widebody fleet which as discussed, limits their ability to compete on frequency with the other carriers in the region. flydubai meanwhile continues to grow, posting ever increasing passenger numbers. Despite having been founded only five years ago, it is currently the largest LCC in the Arabian Gulf. Its current aircraft orders, passenger growth figures and partnership with Emirates indicate that it will remain the largest LCC in the region for the foreseeable future.

2.5) Legacy Carriers in the Middle East

As with other global regions, legacy carriers in the Middle East had long enjoyed decades of protectionism which shielded them from foreign competition. Legacy carriers in the Middle East are often owned by their respective governments, thereby granting them the title of flag carrier. Air travel markets in the Middle East were also very regulated which helped to protect the legacy carriers. This and other forms of protectionism remained nearly unchanged until the start of the new millennium. Although the emerging carriers attained global recognition and prominence in the late 2000's, they have been a major force in the Middle East since the early 2000's, and none more so than Emirates. The level of comfort and service offered by Emirates as well as their extensive network exposed the limitations of the legacy carriers in the region. Governments in the Middle East were very involved in the management of the flag carriers, and in many cases the ground services operators. Many of these legacy carriers were chronically unprofitable. Kuwait Airways for instance has not been profitable since 1990 Gulf War[46]. As Emirates continued to grow and aid Dubai in establishing itself as a major financial and leisure destination, legacy carriers in the region

[46] Bloomberg, "Kuwait seeks investor to buy 35% of Kuwait Airways, End 20 years of losses" http://www.bloomberg.com/news/2011-08-01/kuwait-seeks-bids-for-35-stake-in-unprofitable-national-carrier.html

began to suffer further. Governments took note and began efforts to liberalize their air travel markets and enable legacy carriers to compete with the emerging carriers.

2.5.1a) Saudia

A Douglas DC-3 presented to the King of Saudi Arabia by US President Franklin Roosevelt in 1945 started the aviation age in Saudi Arabia, the Arabian Gulf's most populated and wealthy nation. In 1946, Saudia was formally established as Saudi Arabian Airlines by the Ministry of Defense. TWA managed the airline in its early years allowing it to develop. Over the next several decades the airline continued to grow eventually becoming the region's largest airline by nearly every conceivable measure; flights, seats, passengers and fleet. Table 2.3 shows how the situation has changed for Saudia. In 2004 it was the largest airline in the region by seats with nearly a fifth of the total market seats. By 2013 it had dropped two positions despite having increased available seats by nearly 50%. The two airlines which displaced it are both emerging carriers who during the 9 year period more than tripled their available seats. Looking at the results in 2004 we note that several other legacy carriers featured prominently in the top 10. By 2013 many of them had dropped out of the top 10 due to both Etihad Airways and newly formed LCCs establishing their presence.

2004				2013		
Airline	Seats (Millions)	Share		Airline	Seats (Millions)	Share
Saudia	**18.6**	**19%**		**Turkish Airlines**	**37.7**	**16%**
Turkish Airlines	**11.3**	**12%**		**Emirates**	**31.2**	**13%**
Emirates	**10.2**	**11%**		**Saudia**	**24.1**	**10%**
Gulf Air	7.8	8%		**Qatar Airways**	**16.1**	**7%**
Iran Air	5.7	6%		Pegasus Airlines	15.6	6%
Qatar Airways	**4.5**	**5%**		**Etihad Airways**	**8.9**	**4%**
Kuwait Airways	2.5	3%		Sunexpress	8.4	3%
Iran Air Tours	2.1	2%		Flydubai	8.3	3%
El Al	1.9	2%		Gulf Air	5.5	2%
Air India	1.7	2%		Air Arabia	5.3	2%

Table 2.3) Largest airlines in the Middle East by available seats in 2004 & 2013[47]

As was previously mentioned, the Saudi Arabian government has been actively liberalizing their air travel market in recent years. In regards to Saudia, the first efforts to modernize it were the result of a strategic study initiated in 2000 by the Minister of Defense and Aviation. The study

[47] DiioMi SRS Monthly Departures from Middle East to All, Retrieved December 2013

ultimately led to the airline being split into several business units such as catering and ground handling. These business units were then to be individually privatized starting with the catering unit. The next step was to actually modernize the airline itself. This involved updating the IT systems, improving the in-flight experience and renewing the fleet. All these efforts were undertaken in order to not only improve the airline, but also to gain membership into one of the three global airline alliances. In May 2012 Saudia became the 16th member of the SkyTeam alliance and the first SkyTeam member in the Middle East (Middle East Airlines joined shortly after)[48].

Saudia still enjoys generous fuel subsidies from the government, which helps improve its financial standing. At the same time however, domestic fares in Saudi Arabia are regulated. The fares are kept fairly low in an effort to stimulate local demand, which has not grown as rapidly as expected. This has helped limit the loss in market share posed by the entry of Flynas, as well as the two new carriers starting operations in 2014/2015. It does however also harm Saudia as they do not have the flexibility to competitively price domestic fares. In regards to the international long haul market, Saudia has been unable to compete with the emerging carriers. The emerging carriers are able to provide service to many more destinations and more frequencies to destinations offered by Saudia. Entry into the SkyTeam alliance has increased the number of destinations on offer to Saudi passengers. The renewal and expansion of Saudia's fleet will also allow the airline to increase its network. It recently announced new service to Toronto and Los Angeles as part of its efforts to compete with the emerging carriers. Saudia has undergone one of the most dramatic transformations of any legacy carrier in the Middle East, and it remains to be seen whether it will be sufficient to counter the threat posed by the emerging carriers. Saudia does not make public any documents relating to its financial performance, but a statement made in the Saudi Consultative Assembly in early 2014 indicated that the airline had lost over $500 million in the last financial year[49].

2.5.1b) Royal Jordanian

Royal Jordanian was founded in 1963; several decades after many of the legacy carriers in the region had already been established. Throughout its fifty years of existence it has been fairly adventurous in experimenting with its network. In 2007 it celebrated 30 continuous years of

[48] Centre for Aviation "Saudia joins SkyTeam as 16th member and first Middle East regional member" http://centreforaviation.com/news/saudia-joins-skyteam-as-16th-member-and-first-middle-east-regional-member-157575

[49] Arabian Business " Saudi Arabian Airlines '$530m in the red'" http://www.arabianbusiness.com/saudi-arabian-airlines-530m-in-red--534939.html

service from Amman to New York, earning it the distinction of having the oldest continually operating service between the Arab world and North America. The location of its hub in the heart of the Levant has exposed it to many of the conflicts in the regions, such as the Palestinian-Israeli conflict, the 1990 and 2003 Gulf Wars and the 2011 Arab Uprising. These conflicts have had dramatic effects on the airline which forced it to rapidly modify its network. Despite these disturbances the airline has managed to achieve several years of profitability, unlike some of the other legacy carriers. The net profits of Royal Jordanian from 2002 to 2012 are shown in Figure 2.6. The Arab Spring in 2011 severely affected the airline's profitability as did the 2003 invasion of neighboring Iraq. It has however managed to achieve profitability in 7 of the past 11 years. The losses accumulated during those years did however take a serious toll resulting in a total net profit of $16 million over the past decade.

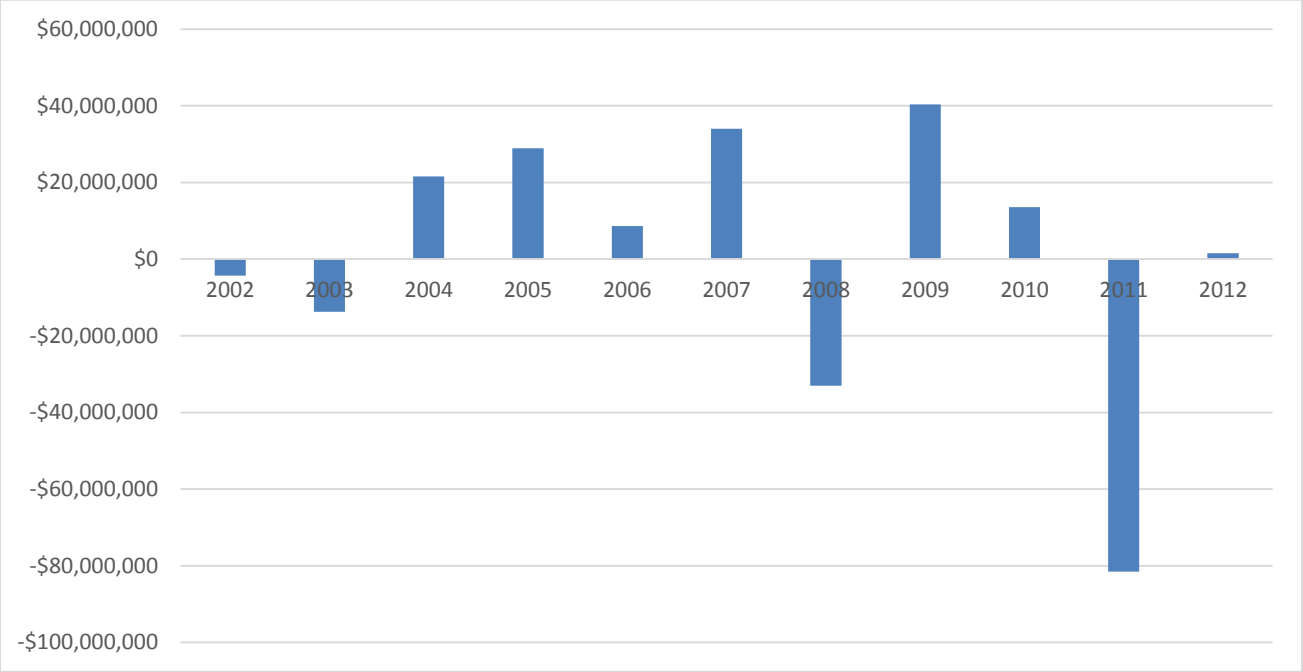


Figure 2.6) Royal Jordanian profitability by year[50]

In recent years the threat posed by the emerging carriers has taken its toll on Royal Jordanian. The airline lacks strong local demand, as do many other carriers in the region. As such it had revamped itself as a small connecting carrier. It previously offered connecting service from the Far East to Europe and North America through its Amman hub. As the emerging carriers began to divert service away from hubs like Amman, Royal Jordanian was forced to respond. In recent years

[50] Royal Jordanian Annual Report 2009 & 2012 http://rj.com/en/reports?cat=1&_=205?learn_more

it has shifted its focus from long haul destinations to new markets in the Middle East and Africa. It recently launched service to Nigeria in an effort to leverage its regional Middle East network and geography, when compared to the emerging carriers. In 2007 it became the first Arab airline to join an alliance when it was formally inducted into the oneworld alliance. Despite that, it has not witnessed an increase in alliance activity at its home airport in Amman. An open skies agreement with the European Union was mean to further increase Amman's attractiveness as a connecting hub, but that too has failed to materialize. Qatar Airway's ascension into oneworld will also weaken Royal Jordanian's role in the alliance, as Qatar Airways is aggressively promoting its new airport in Doha as the region's oneworld hub.

Royal Jordanian does not enjoy many of the generous subsidies that governments in the Arabian Gulf offer their flag carriers. As such it has had to fend for itself. It recognizes the limitations of its operation especially in comparison to those of the emerging carriers. It is currently renewing its long haul fleet by retiring its older less efficient Airbus A310s and A340s in favor of the Boeing 787. It is also focusing on establishing a strong regional network and leveraging its position in the Iraq air travel market. It has had to adapt to the rise of the emerging carriers and will have to be proactive in adapting to their future expansion plans.

2.6) Conclusion

As we saw earlier in the chapter, the emerging carriers have managed to establish themselves as some of the world's most important airlines in a relatively short time period. They each successfully leveraged the locations of their hubs and established them as connecting points between east and west. The aircraft they currently have on order through the end of the decade indicates that they will continue to pose a serious threat to carriers in the Middle East and across the globe. Legacy carriers have been forced to adapt to this new environment, and though some have made positive changes many others remain chronically stagnant. The legacy carriers now also have to contend with low cost carriers in the region. Recently formed low cost carriers have been very successful in not only stimulating local demand, but also diverting traffic away from legacy carriers. We have discussed how each of the emerging carriers has developed since their inception, and in the next chapter we will analyze how they have performed in the global air travel market.

Chapter 3 – Regional Capacity Analysis between the Middle East and Select Regions

3.1) Introduction

In the previous chapter we demonstrated how rapidly the emerging carriers have grown over the past few years. Few airlines have enjoyed as many consecutive years of traffic and network growth as each of the emerging carriers have. They continue to expand their network and add new destinations. We also discussed some of the other major airlines in the Middle East. In this chapter we will discuss how the capacity from and within the Middle East has changed over the past 9 years. There will be a focus on the emerging carriers' role in the growth of capacity, as well as the effects their growth has had on other airlines in those markets. The four markets that will be analyzed are Europe, North America, the Middle East and Asia. All data presented in this chapter was obtained through the Diio Mi portal, which sources its data from the Innovata Schedule Reference Service[51]. Additionally, all data is for the period from September 2004 to September 2013. All figures and tables in this chapter are derived from data sourced from the Diio Mi portal, except where noted.

3.2) Analysis of Commercial Passenger Aviation Services from/within the Middle East (2004 – 2013)

Many reports and forecasts from regulatory agencies and international air travel organizations identify the Middle East as the fastest growing air travel market. A 2005 report by the International Civil Aviation Organization identified the Middle East as having the highest average annual RPK growth of any region over the past 10 years[52]. The region witnessed a 9.7% growth rate, whereas Europe only managed a 5.9% growth rate. Further reports also forecast that demand for air travel in the region will continue to grow dramatically through the end of the decade. Studies issued by the two major aircraft manufacturers, Airbus and Boeing, identify airlines based in the Middle East as major future customers of both narrowbody and widebody aircraft. The industry in the region has managed to achieve average flight and ASM growth rates in excess of 10% over the past decade. This is even more remarkable when considering the region's exposure to the global financial crisis and the Arab Spring. Table 3.1 shows how rapidly the air travel market in the Middle East has developed over the past 9 years.

[51] Diio Mi Portal provided by Diio LLC, https://mi.diio.net/mi/#
[52] ICAO, "Annual Review of Civil Aviation 2005" http://www.icao.int/environmental-protection/Documents/Publications/6105_en.pdf

	2004	2013	Change
Airlines	128	193	65
Origins	126	154	28
Destinations	159	280	121
Flights	528,720	1,347,124	155%
ASMs (Millions)	111,937	329,184	194%
Seats (Thousands)	95,993	243,264	153%
Seats/Aircraft	182	181	-1%
Avg. Stage Length	1166	1353	16%

Table 3.1) Overall trends in Middle East commercial passenger aviation services

Since 2004 the number of flights originating in the Middle East has more than doubled, leading to a similar increase in available seats. ASMs have nearly tripled during that period due in large part to the emerging carriers' growing widebody fleets and long haul flights. The emerging carriers account for over 60% of the increase in ASMs over this period despite only operating 36% of the new flights. Five of the top ten longest flights by distance currently being operated are operated by emerging carriers. While the emerging carriers have been increasing the number of long haul flights from the region, newly formed low costs carriers have been very active in adding short haul routes within the region. Later in this chapter, the development of intra-Middle East commercial passenger aviation services will be discussed. That discussion will address the relatively small increase in average stage lengths.

Figure 3.1 demonstrates that the emerging carriers have been largely responsible for the increase in flights from the Middle East over the past 9 years. They have displaced legacy carriers as the largest airline category in the Middle East, and are currently responsible for one third of all flights departing the region. We also note the emergence of low cost carriers in the region who have obtained a 20% market share in a relatively short period, thus further affecting legacy carriers as well as airlines based outside the Middle East.

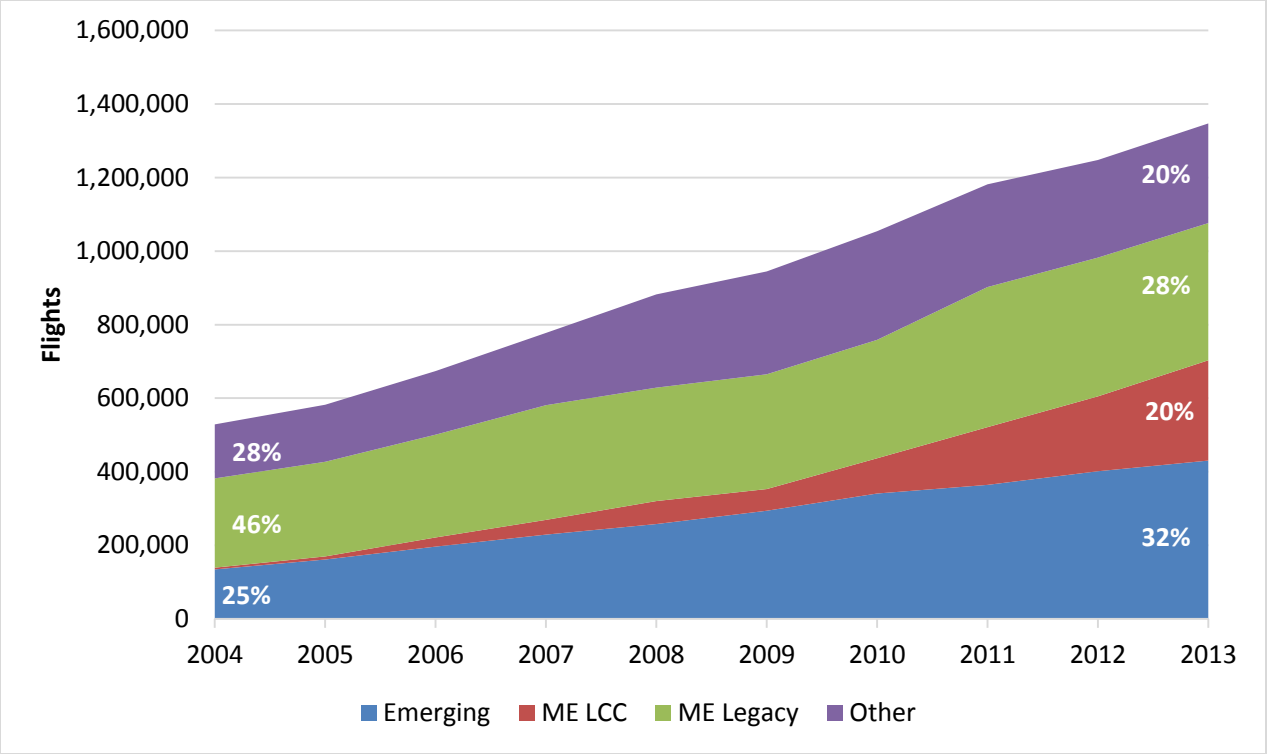


Figure 3.1) Flights from the Middle East by carrier type (2004 – 2013)

Prior to the rapid development of the emerging carriers in the middle of the last decade, commercial passenger aviation in the region was dominated by legacy carriers. Low cost carriers were still in their infancy during that time leaving the legacy carriers as the major players in this market. When considering the rankings presented in Table 3.2 we note that the legacy carriers have been overtaken by both the emerging carriers and the LCCs. Emirates generates nearly a quarter of all the ASMs from the Middle East, and the emerging carriers as a group account for over 50% of all ASMs. The emerging carriers also operate one third of all flights from the Middle East. The largest legacy carrier in the region; Saudia has dropped in both rankings despite increasing its flights and expanding its network. Pegasus and Flydubai; two of the largest low cost carriers in the region, currently rank among the top ten Middle Eastern airlines by both flights and ASMs. The situation for legacy carriers in the Middle East closely mimics that of European legacy carriers, who are competing with both the emerging carriers and the European low cost carriers.

Flights			ASMs	
2004	2013		2004	2013
Saudia	**Turkish Airlines**		**Emirates**	**Emirates**
Turkish Airlines	Saudia		Saudia	**Turkish Airlines**
Gulf Air	**Emirates**		**Turkish Airlines**	**Qatar Airways**
Emirates	Pegasus		Gulf Air	Saudia
Iran Air	**Qatar Airways**		Qatar Airways	**Etihad Airways**
Qatar Airways	Sunexpress		El Al	Pegasus
Iran Aseman	**Etihad Airways**		Iran Air	El Al
Iran Air Tours	Iran Aseman		Kuwait Airways	Flydubai
Kuwait Airways	Flydubai		British Airways	Air Arabia
Oman Air	Gulf Air		Air India	Oman Air

Table 3.2) Largest Middle Eastern airlines by flights and ASMs in 2004&2013

3.2.1) Middle East to Europe (Sept 2004 – Sept 2013)

The aviation age in the Middle East began and developed due in large part to European carriers. The proximity of the two regions has resulted in air travel flourishing between the two regions. As European legacy carriers expanded their networks further to the east, airports in the Middle East began welcoming increasing numbers of European flights. In the 1980s the legacy carriers based in the Middle East started increasing service to Europe resulting in a nearly 50-50 share of operations between European and Middle Eastern carriers. Over the past few years that even split of flights has changed due in large part to the emerging carriers. Figure 3.2 displays the growth in flights over the past 9 years for travel from the Middle East to Europe.

Flights have increased by nearly 140% over the past 9 years. Even during the global financial crisis in 2008-2009 flights increased by over 5%. The lowest growth rates were recorded in 2012 and 2013, due in large part to legacy carriers from both Europe and the Middle East choosing not to grow their operations. Nonetheless, during those years over 10,000 flights were added. The average increase in flights over the period considered is 15,000 flights per year. In 6 of the 9 years analyzed, fewer than 15,000 flights were added. In 2008 and 2010 over 20,000 flights were added. What this serves to show along with the percentage change shown in figure 3.2, is that the annual change in flights in this market has varied significantly. As a whole however the growth in flights has been fairly consistent over the last 9 years. Figure 3.3 depicts how the market share of flights between the two regions has changed over the given period.

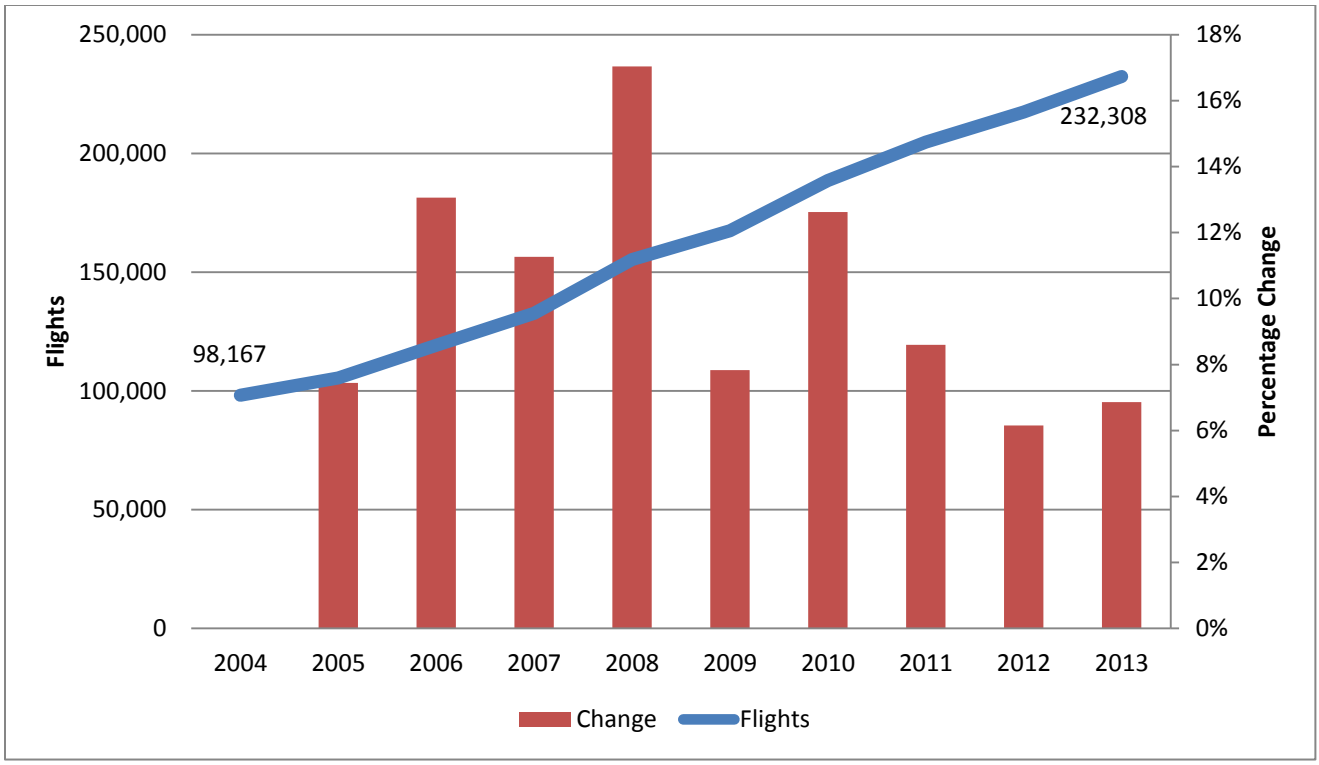


Figure 3.2) Growth in flights from the Middle East to Europe

As shown in Table 3.3, new service was established from the Middle East to nine new European nations and 47 new European airports. Additionally, 32 new airlines have entered the market, many of which are low cost carriers based in either region. Though the net change in origin nations is zero, we have seen flights commence from Iraq while those from Yemen have nearly disappeared. As will be demonstrated later the majority of the new services are from the hubs of the emerging carriers, which account for nearly 50% of the flights from the Middle East to Europe. London Heathrow remains the most popular destination but other European airports have witnessed dramatic increases in flights from the Middle East.

		2004	2013	Abs. Change	% Change
	Airlines	69	101	32	46%
Origins	Nations	13	13	0	0%
	Airports	25	33	8	32%
Destinations	Nations	30	39	9	30%
	Airports	72	119	47	65%

Table 3.3) Change in airline and airports in the Middle East to Europe commercial passenger aviation market

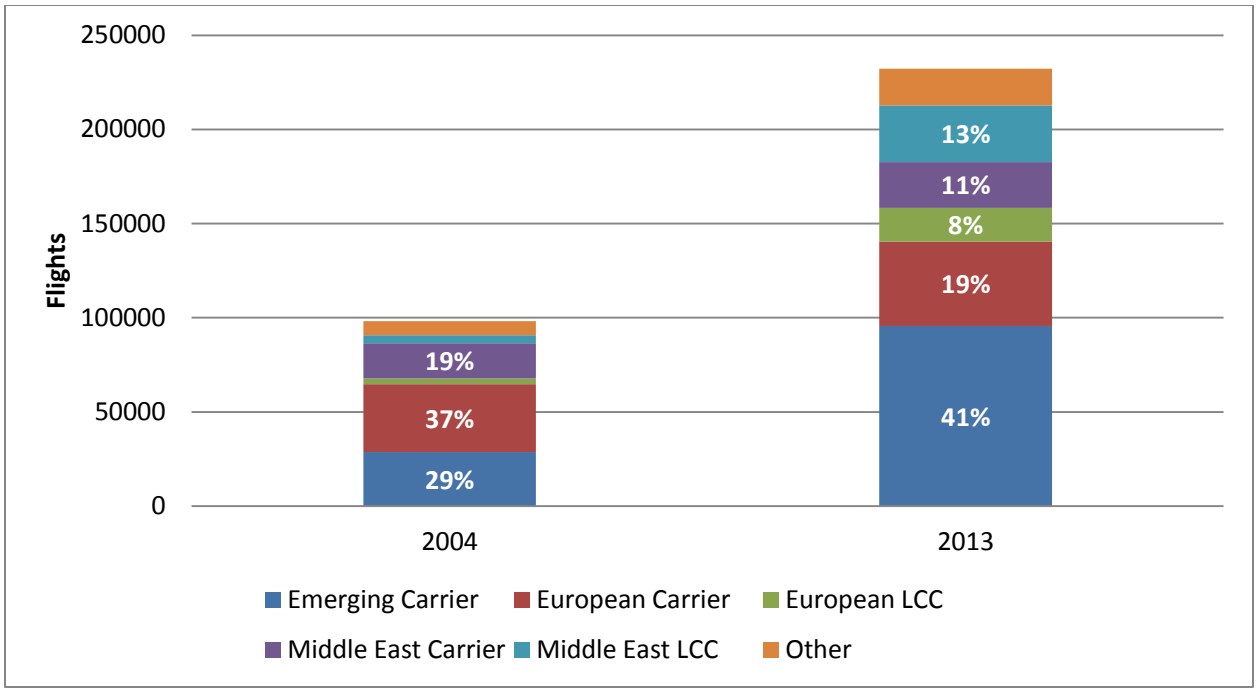


Figure 3.3) Share of Flights from the Middle East to Europe by airline type

In 2004 over one third of flights from the Middle East to Europe were operated by European legacy carriers. In addition to the four large European legacy carriers – Air France, KLM, British Airways and Lufthansa, many smaller European legacy carriers such as Olympic Air and Malev were very active in this market. European Carriers continued to expand their operations throughout the decade with a 25% increase in flights by European legacy carriers. By comparison, the emerging carriers account for half of all the flights added in this market over this 9 year period. The result of this disparity in flight increases is clearly evident in the share of flights shown in Figure 3.3. In 2013 European legacy carriers saw their share of flights decrease to 19% despite having increased the number of flights operated. The emerging carriers by comparison saw their share increase to over 40% from 29%. They added over 66,000 flights since 2004, and could very well account for over 50% of all flights operated by the end of the decade based on their current growth rates.

Middle Eastern legacy carriers have also failed to grow as fast as the emerging carriers during this period. They increased flights by 31% but as with European legacy carriers, saw their share of flights nearly halved. Interestingly LCCs from both regions have increased their share of flights operated in this market. Each LCC group has recorded triple digit growth rates in flights over this period, but they still operate fewer flights than the legacy carriers combined. The growth in LCC flights by Middle Eastern carriers is led by the Turkish based carriers Pegasus and Sunexpress.

Both carriers have successfully leveraged the proximity of their home airports to Europe. Pegasus, which started operations to Europe in 2010, is the third largest carrier in this market behind two of the emerging carriers. Sunexpress; a joint venture between Lufthansa and Turkish Airlines is based in the Turkish capital Ankara. It was formed in 1989 and has doubled its flights to Europe every two years over the past decade. By comparison easyJet, the largest European LCC in this market, operates less than a quarter of the flights that Pegasus currently does.

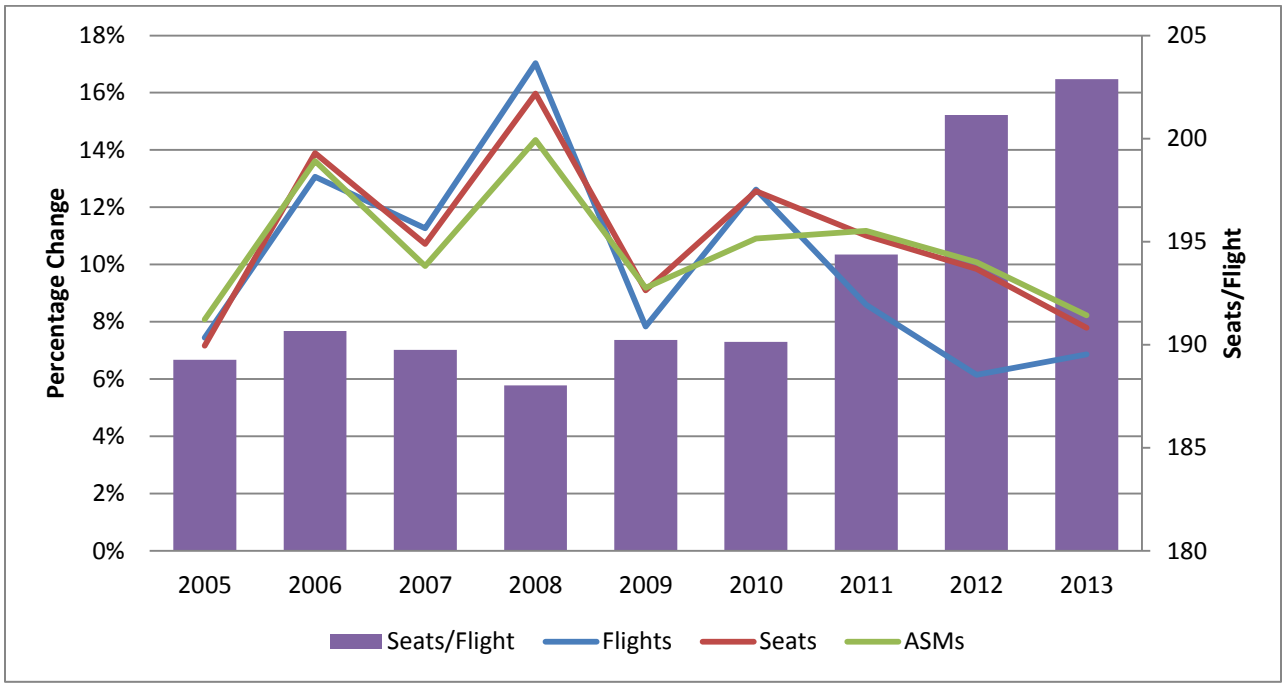


Figure 3.4) Annual changes in capacity from the Middle East to Europe

When considering the annual changes in flights and capacity as shown in Figure 3.4, we note that during the financial crisis there was a noticeable decrease in the annual growth rates. As fuel prices soared and demand for air travel dropped, many carriers from both regions curbed their growth plans. Had it not been for the emerging carriers who continued to grow during this period, it is likely that we would have witnessed an overall decrease in flights and capacity. We also note that the average numbers of seats per flight started increasing dramatically near the end of the period in consideration. This is due largely to the introduction of the Airbus A380 on various routes by Emirates. Presently the average number of seats/aircraft is slightly over 200 which is roughly the seat capacity of the largest Airbus narrowbody aircraft; the A321. Emirates' A380 fleet will more than double by the end of the decade to 140[53]. Qatar Airways and Etihad both have A380s on

[53] Air Insight "Emirates orders 50 additional A380 aircraft" http://airinsight.com/2013/11/17/emirates-orders-50-additional-a380-aircraft/

order as well. These three carriers have stated that they intend to deploy this aircraft as well as other large widebody aircraft on flights to Europe[54]. In doing so they will further increase their ASM market share. Other airlines that have received the A380 have used it to consolidate flights. Air France for example reduced its daily frequency to New York JFK from 6 to 5 when it first deployed the A380 on that route. Emirates by contrast has maintained and in some cases, increased frequency on routes operated by this aircraft. In 2008 it operated 5 daily flights to London Heathrow using Boeing 777 aircraft, thereby offering roughly 2000 daily seats. In 2013 it had upgauged all of its Heathrow service to A380s, and is now offering 2300 daily seats.

	2004	2013	% Change	Share of Flights (2013)	Change in Rank
Turkish Airlines	**17,190**	**56,556**	**229%**	**24%**	**0**
Emirates	**9,165**	**20,025**	**118%**	**9%**	**0**
Pegasus		16,648		7%	N/A
Qatar Airways	**2,104**	**12,250**	**482%**	**5%**	**3**
El Al	6,949	9,866	42%	4%	-2
Lufthansa	5,716	9,182	61%	4%	-2
Sunexpress	1,673	8,615	415%	4%	1
Etihad Airways	**260**	**6,814**	**2521%**	**3%**	**1**
British Airways	3,703	5,581	51%	2%	-4
Air France	2,395	4,001	67%	2%	-4

Table 3.4) Largest airlines by flights from the Middle East to Europe

Table 3.4 demonstrates just how rapidly the emerging carriers have been growing in this market. Each emerging carrier achieved triple digit cumulative flight growth rates, though two of the emerging carriers had very limited operations in 2004. Etihad has the highest growth rate of the group, though that is due to the fact that it started operations in late 2003. Three European legacy carriers are among that top ten and have increased flights by over 50% during the period. Despite that increase, they have dropped in the rankings. Given the growth of other carriers not in the top ten, it is highly likely that both British Airways and Air France will drop out of the top 10, leaving Lufthansa as the only European carrier in the top ten. During this period Lufthansa added roughly 3,000 flights to its Middle Eastern network. Qatar added three times as many as Lufthansa while Turkish added 10 new flights for every new Lufthansa flight. In regards to the Middle Eastern

[54] Qatar Airways "Carrier will take delivery of its first A380 in Spring 2014"
http://www.qatarairways.com/english_global/press-release.page?pr_id=pressrelease_130918-a380-test-flight

legacy carriers only El Al managed to make it into the top ten. It has been surpassed by both Pegasus and Qatar Airways. Considering their current annual growth rates, both Sunexpress and Etihad are likely to surpass El Al in the next few years.

	2004	2013	% Change	Share of ASMs (2013)	Change in Rank
Emirates	**8,491**	**23,676**	**179%**	**24%**	**0**
Turkish Airlines	**2,884**	**10,387**	**260%**	**9%**	**0**
Qatar Airways	**1,741**	**8,240**	**373%**	**7%**	**3**
Etihad Airways	**207**	**5,211**	**2419%**	**5%**	**5**
Lufthansa	2,128	3,588	69%	4%	0
British Airways	2,573	3,300	28%	4%	-3
El Al	2,156	3,032	41%	4%	-3
Pegasus		2,834		3%	2
Sunexpress	374	1,948	420%	2%	-1
Air France	1,022	1,682	65%	2%	-3

Table 3.5) Largest airlines by ASMs (millions) from the Middle East to Europe

When ranking the largest airlines by ASMs in this market (see Table 3.5), we note that the emerging carriers occupy the top 4 positions. Emirates is the clear leader, accounting for nearly a quarter of the ASMs generated in this market. Turkish Airlines operates more than twice as many flights as Emirates, but generates less than half the ASMs. This is due primarily to the location of their hubs. Turkish Airlines' hub in Istanbul is much closer than Emirates' Dubai hub. This allows Turkish to operate more flights per aircraft than Emirates. Also given that Emirates operates an all widebody fleet it can offer more seats per flight than Turkish Airlines. Furthermore, Emirates' operations are concentrated on Western Europe whereas Turkish Airlines operates many flights to Eastern European destinations.

From Table 3.6 we can see that London Heathrow has managed to maintain its position as the most popular destination in Europe for flights from the Middle East. London Heathrow is recognized as one of the busiest and most congested airports in the world, which partly explains why it has the lowest percentage growth in flights over the past 9 years. Paris CDG achieved the largest growth in flights among Europe's top three airports during this period. In doing so it moved ahead of Munich and Amsterdam to become the third most popular destination for flights from the Middle East. Currently fifteen airlines operate flights from the Middle East to Paris CDG, the largest

of which is Turkish Airlines. 23% of the flights added at Paris CDG during this period are due to Turkish Airlines, which shifted its operations from Paris Orly to Paris CDG in 2008. Air France is responsible for 16% of the increase in flights during this period. The emerging carriers account for 36% of all flights currently operated to Paris CDG and 55% of the increase in flights over the past 9 years. The three emerging carriers based in the Gulf operate two daily flights to Paris CDG from their respective hubs. Etihad's recent codeshare agreement with Air France has resulted in increased service by both airlines between Abu Dhabi and Paris CDG.

Airport	2004	2013	Change	% Change	% of Total Increase	% of Total (2013)
London Heathrow (UK)	12,624	16,530	3,906	31%	3%	7%
Frankfurt (DE)	9,477	14,773	5,296	56%	4%	6%
Paris CDG (FR)	4,831	10,927	6,096	126%	5%	5%
Ercan(N. Cyprus)	1,525	9,844	8,319	546%	6%	4%
Munich (DE)	5,828	9,286	3,458	59%	3%	4%
Amsterdam (NL)	5,301	7,896	2,595	49%	2%	3%
Rome (IT)	2,873	7,686	4,813	168%	4%	3%
Dusseldorf (DE)	3,113	7,249	4,136	133%	3%	3%
Vienna (AT)	3,394	7,008	3,614	106%	3%	3%
Zurich (CH)	3,365	6,006	2,641	78%	2%	3%
Other	**45,836**	**135,103**	**89,267**	**195%**	**67%**	**58%**

Table 3.6) Largest Destination Airports in Europe from the Middle East by Flights

Given that Turkish Airlines operates the most flights in this market, it is no surprise that its hub in Istanbul is the largest origin point in the Middle East. Flights from the primary international airport in Istanbul; Istanbul Ataturk (IST), have more than doubled during this period, as shown in Table 3.7. The overall number of flights from Istanbul Ataturk has tripled over the past 9 years, which has constrained growth opportunities at the airport. As such the Turkish government decided to expand passenger facilities at Istanbul's second airport, Sabiha Gokcen (SAW). This allowed many low cost carriers from both Turkey and Europe to avoid the congestion at Istanbul Ataturk. Currently 5 of the top 10 origin airports in this market are in Turkey. This is not entirely surprising given that Turkey is the most populated nation in the Middle East. It is a major destination for both business and leisure travelers, with many airlines offering seasonal or charter service to various Turkish destinations. The other three Turkish airports in the top 10 are either hubs or major destinations for LCCs from both Turkey and Europe. Antalya and Dalaman both serve

the area known as the Turkish Riviera, which is becoming a major destination for European leisure travelers.

Airport	2004	2013	Change	% Change	% of Total Increase	% of Total (2013)
Istanbul IST	28,487	70,046	41,559	146%	31%	30%
Tel Aviv	14,960	28,118	13,158	88%	10%	12%
Dubai	13,819	27,534	13,715	99%	10%	12%
Antalya	8,162	18,731	10,569	129%	8%	8%
Istanbul SAW	302	15,572	15,270	5056%	11%	7%
Doha	2,137	12,879	10,742	503%	8%	6%
Abu Dhabi	1,581	9,457	7,876	498%	6%	4%
Beirut	6,190	6,134	-56	-1%	0%	3%
Izmir	1,302	5,880	4,578	352%	3%	3%
Dalaman	1,037	5,776	4,739	457%	4%	2%
Other	20,190	32,181	11,991	59%	9%	14%

Table 3.7) Largest Origin Airports in the Middle East by Flights to Europe

Qatar Airways and Etihad's respective hubs have both achieved triple digit growth rates over this period. While European based carriers did launch new flights to Doha and Abu Dhabi, the majority of the increase in flights is due to the two emerging carriers. Qatar Airways operates over 95% of the flights originating in Doha. Lufthansa, KLM and British Airways are the only other airlines currently providing service from Doha to Europe. Oneworld member British Airways previously offered connecting service to Doha via Bahrain. It launched direct flights between London Heathrow and Doha in the wake of Qatar Airways accession to the oneworld alliance. Etihad by contrast operates only 70% of the flights from Abu Dhabi. Eight other airlines, seven of which are based in Europe, currently offer service from Abu Dhabi. Air Berlin is the second largest airline by flights at Abu Dhabi. Air Berlin is partly owned by Etihad and many of Air Berlin's flights are operated as part of an extensive codeshare agreement with Etihad. SkyTeam members Air France, KLM and Alitalia all operate out of Abu Dhabi and have all increased service as part of their codeshare agreements with Etihad.

Emirates currently accounts for little over 70% of the flights to Europe from Dubai. FlyDubai started flights to Europe in 2011 and is currently the second largest airline at Dubai International Airport. All of its European destinations are in Eastern Europe and it remains to be seen whether they will launch service to Western Europe in the future. Its present fleet of narrowbody aircraft does not have the range to reach Western Europe. Given that Emirates and

flydubai are both owned by the government of Dubai, it is unclear whether they will allow flydubai to compete with Emirates in lucrative Western European markets. There are 15 other airlines operating flights to Europe from Dubai. Dubai is arguably the premier business and holiday destination in the region, and as such each of the major European carriers currently offer service to Dubai. Emirates does not currently have any substantial codeshare agreements with any of the major European carriers. Its business model is in direct conflict with many of the European carriers. Its recent agreement with Qantas established Dubai as the connecting point between Australia and Europe. This agreement came at the expense of Qantas' 17 year relationship with British Airways at Singapore International. In the first 6 months of the new agreement Qantas witnessed a doubling in its European bookings[55].

Overall, Europe remains the largest market for commercial passenger aviation from the Middle East. The emerging carriers have been successful in replacing legacy carriers from both the Middle East and Europe as the largest airlines by flights and capacity. They continue to grow and expand their networks within Europe year after year. Concurrently, low cost carriers from the Middle East have begun competing with their European counterparts in markets that the emerging carriers are present in, as well as many they are not present in. Emerging carriers now account for 41% of flights between the two regions. As European legacy carriers continue to struggle with high costs it appears that they will not be able to effectively compete with the emerging carriers. This is especially true when considering that aside from British Airways, none of the other major European carriers have a large connecting hub in the Middle East. In regards to low cost carriers from both regions, they do pose a minor risk to the emerging carriers. The emerging carriers are reliant on connecting traffic between east and west, as well as traffic to their hub cities. If European LCCs expand their networks to reach the three hubs in the Arabian Gulf, it may affect the emerging carriers.

3.2.2) Middle East to North America (Sept 2004 – Sept 2013)

Over the past decade flights between the Middle East and North America have increased dramatically. As shown in Figure 3.5 flights more than tripled from 4,000 in 2004 to 14,000 in 2013. Although this market accounts for roughly 2% of all flights originating in the Middle East, it represents 10% of the ASMs generated from the Middle East. In recent months the emerging

[55] Centre for Aviation, "Qantas reports AUD192 million profit as the Emirates deal helps long-haul losses halve" http://centreforaviation.com/analysis/qantas-reports-aud192-million-profit-as-the-emirates-deal-helps-long-haul-losses-halve-125857

carriers have announced new service to several destinations in North America such as Boston, Dallas, Miami and Philadelphia.

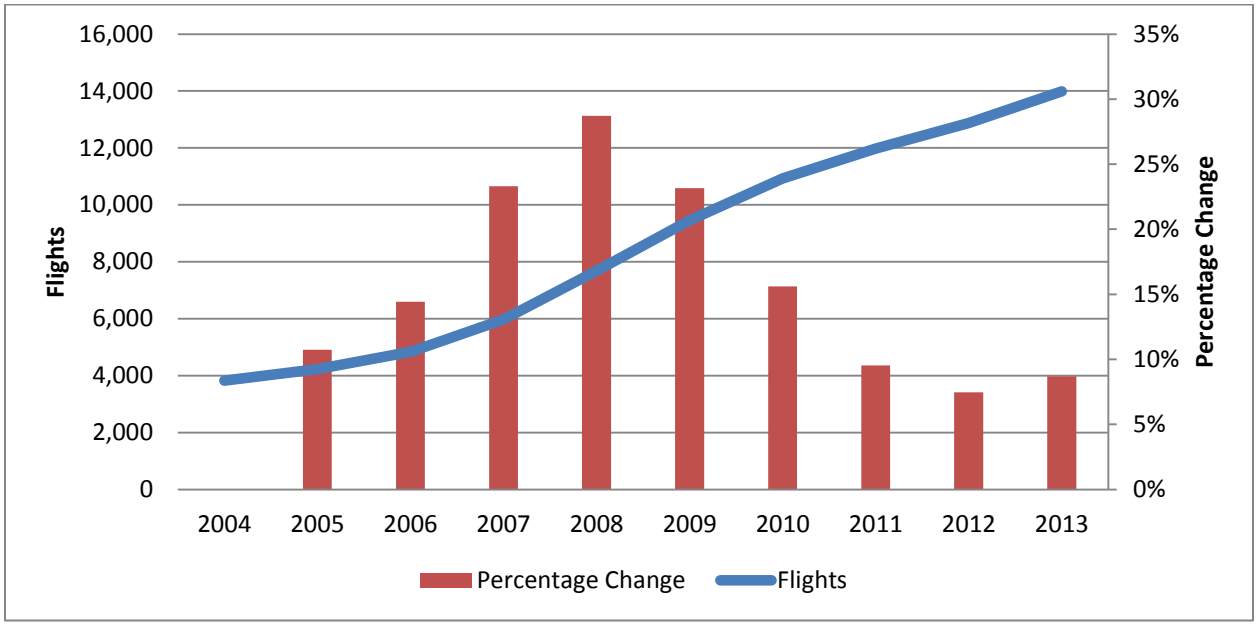


Figure 3.5) Growth in flights from the Middle East to North America

No new Middle Eastern legacy carriers entered the market during the period studied. Of the four Middle Eastern legacy carriers in this market two increased their operations; Saudia and Royal Jordanian, whereas the two others maintained their volume of flights; Kuwait Airways and El Al. From 2004 through 2008 El Al had been steadily increasing flights to North America. It added approximately 300 flights during that period. In the aftermath of the global recession it dramatically decreased flights to pre-2004 levels. Overall it has only added 26 flights over the 9 year period. It currently offers seasonal service to several destinations in the US such as Miami and Los Angeles. It has however faced increased competition on its routes from Israel, due to North American carriers introducing new service. Saudia on the other hand tripled its flights since 2008. It has not added any new destinations but rather has upgraded all its flights from once weekly to 3 or 4 weekly flights. As such it ranks as the eighth largest carrier by flight in this market.

US legacy carriers have acted similarly to their counterparts in the Middle East. In 2004 Air Canada and Continental offered service to Tel Aviv while Delta offered service to Istanbul. During the past 9 years US Airways and United both entered the market. United started service to Kuwait in 2007 and since then has added flights to Istanbul and Dubai from its hubs in Newark and Washington DC. After its merger with Continental in 2011, it inherited and continued service to Tel

Aviv. United also currently uses fifth freedom rights to offer service between Kuwait and Bahrain. US Airways started service from Philadelphia to Tel Aviv in 2009. Delta has been the most active US carrier in this market over the past 9 years. It has offered service to Amman and Kuwait city, both of which were discontinued. It also offered service from Atlanta to Tel Aviv for several years before discontinuing it. Air Canada has maintained its seasonal service to Tel Aviv and recently launched a new flight to Istanbul. One notable absentee from this market is American Airlines. American Airlines has not operated any flights to/from the Middle East in the past 10 years. It will inherit its first Middle East destination as a result of its merger with US Airways. Also Qatar Airways has just joined it in the oneworld alliance and has announced it will commence service from Doha to Dallas in the summer of 2014. It is unclear whether American will reciprocate.

The emerging carriers by contrast have been extremely active in this market. They account for 71% of the increase in flights between the two regions. In fact over the past three years they account for nearly 100% of the increase in flights. The emerging carriers added over 7,000 flights during the past 9 years. As of September 2013, flights operated by the emerging carriers represent approximately 57% of all flights from the Middle East to North America. Their use of large aircraft, most notably Emirates and its fleet of Airbus A380s has resulted in them generating 63% of the ASMs in this market, as shown in Figure 3.6. Emirates currently operates the A380 to two North American destinations; LAX and JFK. Etihad and Qatar Airways both have A380s on order, and have stated that they intend to deploy the aircraft on North American routes.

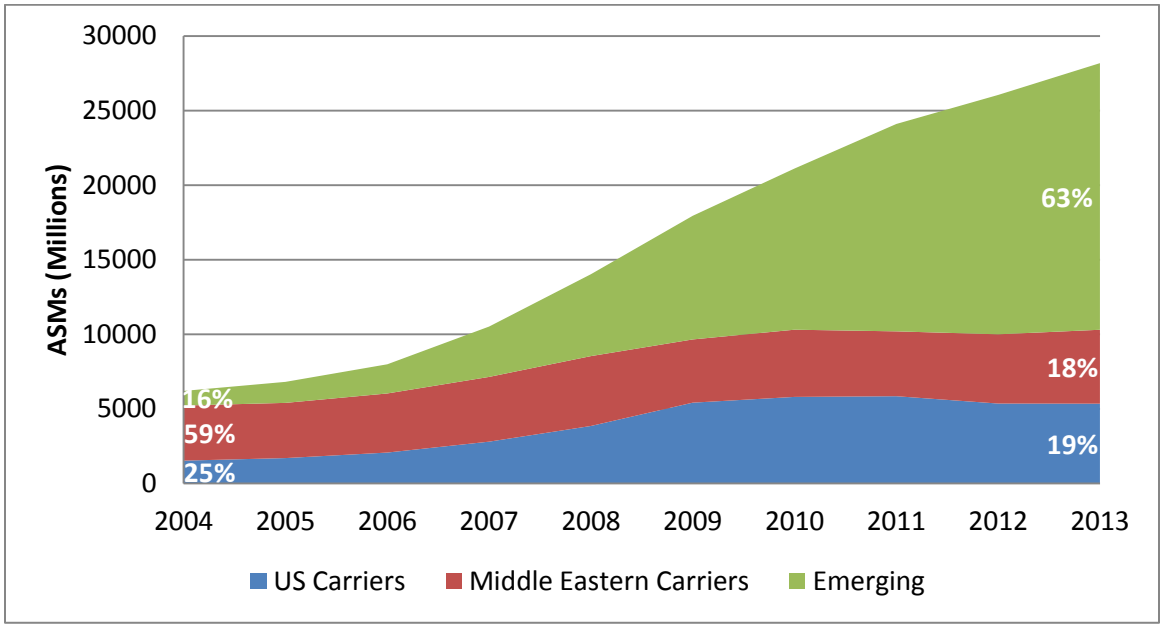


Figure 3.6) Share of ASMs by carrier type in the Middle East to North America market

Figure 3.7 displays the current non-stop destinations served from the Middle East. Seven of the sixteen non-stop North American destinations are currently served exclusively by the emerging carriers. Emirates is the only carrier currently serving Seattle, San Francisco and Dallas. It was the first to offer service to Houston and Los Angeles prior to being joined by Qatar Airways and Turkish Airlines. Only 3 current North American destinations are not served by any of the emerging carriers; Newark, Detroit and Atlanta. All four of the emerging carriers provide at the very least daily service to New York JFK which is in the same metropolitan area as Newark. Detroit and Atlanta are both major Delta/SkyTeam hubs. Qatar Airways is a member of the oneworld alliance of which American Airlines is a member. Turkish Airlines is a member of the Star Alliance which counts United as its primary US carrier. Etihad and Emirates both have codeshare agreements with American Airlines and JetBlue, neither of which maintain hubs at the aforementioned airports. Currently Royal Jordanian is the only carrier providing service to Detroit. It offers very limited service having operated roughly 30 flights each year since 2005, with the exception of 2006 when it operated 90 flights. Delta had provided service from Atlanta to Tel Aviv and Kuwait, but currently it only serves Dubai from Atlanta.

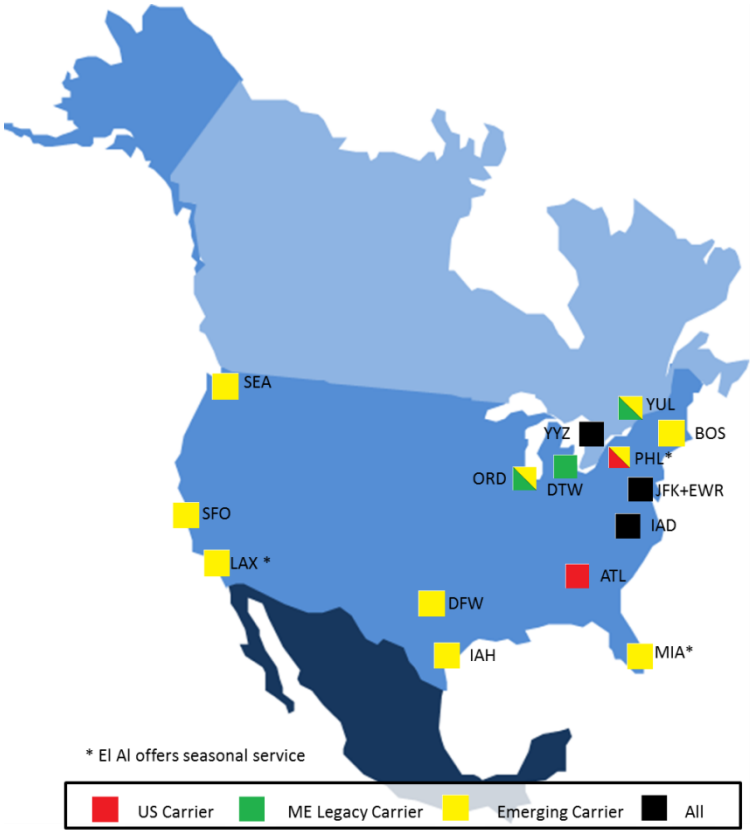


Figure 3.7) North American Destinations by Carrier Type

As shown in Table 3.8 in 2004, only four airports in the US received service from the Middle East, two of which are in the New York City metropolitan area. Since then nine other airports have established service from the Middle East (Detroit and Miami are not listed in Table 3.8 as they do not receive regular service). Of the 13 airports receiving regular service, 2 are in Canada and they collectively account for 9% of the total North American flights. The three current northeastern destinations (JFK, IAD & EWR) account for over 50% of the flights from the Middle East. New York's JFK also has the largest number of airlines serving it, nearly double Washington Dulles. In fact over 20% of the flights added during this period were destined for New York JFK. The emerging carriers have all made statements affirming their intent to expand their networks in the US. Emirates in particular, has stated that it would like to double the number of destinations it currently serves in the US over the next few years[56].

Destination	Flights 2013	Share of Total	Service Started	Airlines
New York (JFK)	4,253	30%	pre-2004	10
Washington (IAD)	2,340	17%	2007	6
New York (EWR)	1,330	10%	pre-2004	2
Chicago (ORD)	1,150	8%	pre-2004	4
Toronto (YYZ)	1,008	7%	pre-2004	5
Los Angeles (LAX)	929	7%	2006	3
Houston (IAH)	861	6%	2008	3
Dallas (DFW)	365	3%	2012	1
Atlanta (ATL)	365	3%	2006	1
San Francisco (SFO)	365	3%	2009	1
Seattle (SEA)	365	3%	2012	1
Philadelphia (PHL)	364	3%	2009	1
Montreal (YUL)	261	2%	2008	2

Table 3.8) Largest North American Destination Airports from the Middle East by Flights in 2013

In September 2013 service was provided from 9 airports in the Middle East to North America. Three of these airports did not have prior service. Two of the newly served airports are emerging carrier hubs; Doha and Abu Dhabi. These two airports currently account for nearly 20% of all flights in this market, having overtaken airports such as Amman and Kuwait City. Despite flights increasing by nearly 50% to 625 annual flights, Amman saw its share of flights drop from 10% to 4%. In 2004 over 50% of the flights from the Middle East originated in Tel Aviv. Flights from Tel Aviv increased by nearly 50% over the past 9 year but despite that, Tel Aviv has dropped to the number two position. Istanbul's airport is currently the third largest airport by flights with

[56] Reuters "Emirates plans to more than double US destinations" http://www.reuters.com/article/2013/08/28/us-emirates-expansion-idUSBRE97R12O20130828

only 60 fewer annual flights than Tel Aviv. Given Turkish's airlines announcement that they would commence operations to Boston in May, as well as their interest in starting service to Miami, Montreal and San Francisco, it is likely that Istanbul will overtake Tel Aviv as the second busiest airport in this market within the next year. Indeed given the growth in flights from all four of the emerging carrier hubs, it is highly likely that they will occupy the top four spots within the next few years. Currently their hubs account for 66% of all flights from the Middle East.

Saudia recently joined the SkyTeam alliance and consequently designated their two hubs in Jeddah and Riyadh as alliance hubs. While this does provide SkyTeam members with an opportunity to establish a presence in the region, it does not seem likely that any members will dramatically increase their presence at those airports. Etihad recently ratified an extensive codeshare agreement with Air France-KLM, a major SkyTeam member and founder, which has increased the alliance's presence in Abu Dhabi. We also note the case of Royal Jordanian and their hub in Amman. In 2005 Royal Jordanian joined the oneworld alliance becoming the first airline in the Middle East to do so. As previously mentioned, traffic from Amman to North America has grown steadily over the past 9 years. However despite the growth in traffic and Royal Jordanian's membership in oneworld, Amman has not witnessed an increase in alliance activity. Delta provided service from Amman to New York JFK for several years before ending the service in 2011. Qatar Airways recently joined oneworld thereby establishing a second oneworld hub in the region. It has announced new service to three major oneworld hubs in North America; Miami, Philadelphia and Dallas. As of yet American Airlines; the major North American oneworld member, has yet to announce a reciprocal service. American Airlines is currently occupied by its ongoing merger with US Airways and it remains to be seen whether they will take advantage of this opportunity.

From Figure 3.8 we note the dramatic increase in flights at two of the top 3 airports in the Middle East. In 2004 Tel Aviv Airport handled seven times as many North American flights when compared to Dubai International. By 2013 Dubai was handling nearly twice as many North American flights than Tel Aviv did in 2004. Flights from Tel Aviv increased by nearly 50% over the past 9 years, and nearly all of these new flights are by carriers other than El Al. By contrast, the gains made in Dubai and Istanbul are mostly attributable to their respective home airlines; Emirates and Turkish. US Airways, United and Delta all launched service to Tel Aviv during the past few years. One reason that Tel Aviv is such an attractive destination for US based airlines is the close relations between the two nations. The other is arguably the fact that three of the emerging carriers do not operate in Israel, due to the lack of official recognition between their respective governments. United and Delta did also launch daily service to Dubai during that period. Delta

which had prior service to Istanbul was joined by United which launched flights from its Newark hub. Emirates launched its first North American service to New York JFK in 2004, and over the past 9 years has added service to seven other US destinations, while also adding a second daily frequency to New York. Turkish Airlines was already operating two North American destinations in 2004 and has added four more during the past 9 years.

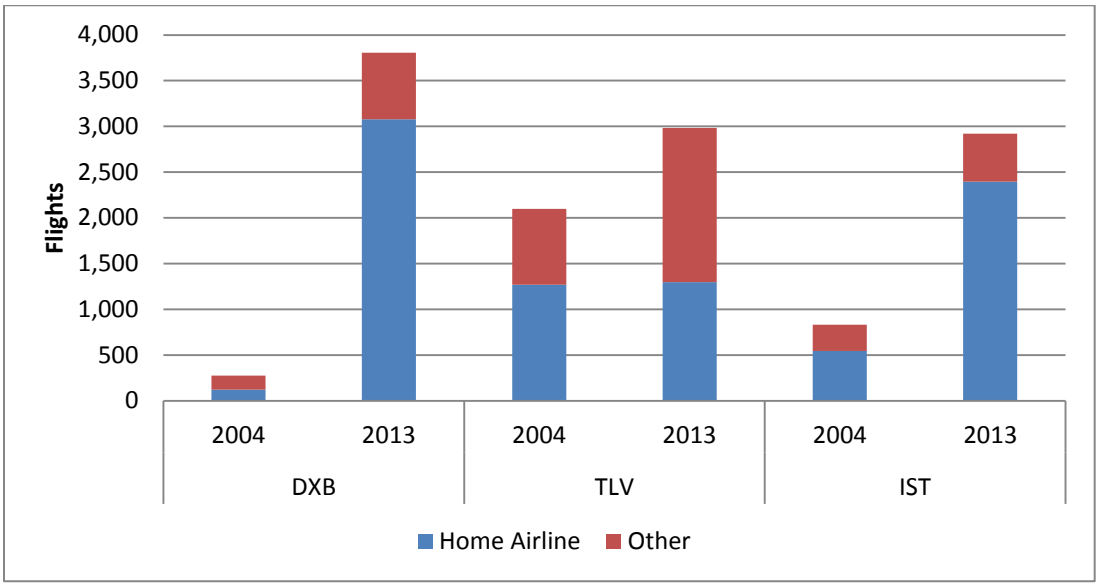


Figure 3.8) Flights added at top 3 origin airports by carrier type

The world's three largest carriers by capacity, fleet and passengers are based in North America. Some of them have chosen to partner with the emerging carriers while others have adopted a less friendly stance in regards to these carriers[57]. American Airlines currently has codeshares with Qatar Airways and Royal Jordanian, both of which are oneworld alliance members. It also has separate codeshares with Etihad Airways, Gulf Air and El Al. Emirates has stated that it would like to partner with American Airlines, but no agreement has materialized yet. By contrast, Delta views the emerging carriers as state sponsored airlines which are being unfairly subsidized by their respective governments. United ended both its partnership agreements with Emirates and Qatar Airways. Its alliance partner Lufthansa has been one of the most vocal critics of the emerging carriers. Lufthansa has been affected by the growth of these carriers, and it is actively trying to protect its lucrative long haul markets from the emerging carriers. Lufthansa even went as far as ending its codeshare agreements with Turkish Airlines, one of its Star Alliance partners.

[57] Centre for Aviation "Delta Airlines remains dismissive of Gulf carriers' importance as its protectionist stance deepens" http://centreforaviation.com/analysis/delta-airlines-remains-dismissive-of-gulf-carriers-importance-as-its-protectionist-stance-deepens-146518

Some North American legacy have chosen to adopt protectionist measures in response to the growth of the emerging carriers. They have done so in hopes of limiting their future growth and protecting their business interests, namely their respective alliances. Despite these efforts, we have already witnessed Emirates successfully create a chasm between two alliance members; Qantas and British Airways. North American carriers cannot take comfort in the fact that they are located halfway across the world from the emerging carriers. As the emerging carriers continue to expand their networks they will be able to offer passengers increasingly convenient one-stop service between long haul destinations. If North American carriers continue to not cooperate with the emerging carriers, they may find that they are handing some of the lucrative long haul traffic to these carriers without a struggle. JetBlue, the US's fifth largest airline by flights, currently has partnership agreements with all four emerging carriers. These partnerships allow it to gain incremental revenues from connecting passengers, who would have otherwise continued their journeys with the major US legacy carriers. These are customers who may have in the past relied on legacy carriers and their respective alliances, to provide them with service from small and medium sized hubs in the United States to Asia. They can now circumvent the North American legacy carriers by flying JetBlue to an international North American gateway and connect onto one of the emerging carriers' flights.

In summary, commercial passenger aviation services between the Middle East and North America have increased dramatically over this period. Middle Eastern and North American legacy carriers were actively increasing service prior to the financial crisis. Since then however, they have maintained their overall capacity by adding new destinations and terminating other destinations. North American legacy carriers seem unwilling to commit more aircraft and capacity to the Middle East. This may be due to weak demand but it is more likely due to the emerging carriers competing with them in nearly every single market they operate in in the Middle East. Middle Eastern legacy carriers have been unable to match the emerging carriers' network size and level of service. Saudia has attempted to expand in this market but has been overtaken by both Etihad and Qatar Airways, both of whom entered this market in 2007. The emerging carriers are largely responsible for the overall increase in capacity since 2004. They are also partnering with carriers in North America in order to provide connecting service to smaller airports. Two of the Middle Eastern legacy carriers are part of the global airline alliances, thereby affording them a close relationship with major North American legacy carriers. Unlike the emerging carriers, North American carriers do not have large networks in the eastern hemisphere which limits their ability to provide connecting service.

3.2.3) Intra-Middle East (Sept 2004 – Sept 2013)

As the economies of the Middle East began to diversify and expand in the 1990's, the demand for air travel began to increase. Various governments in the region have reformed or liberalized their air travel market in recent years. As was mentioned in chapter 2 Saudi Arabia, the largest nation in the Arabian Gulf, began reforming its air travel market and ended Saudia's monopoly of the local market. Bilateral air travel agreements between various nations in the Middle East have also helped further develop air travel links between nations. Figure 3.9 shows that flights within the Middle East have more than doubled over the past 9 years. Prior to the global financial crisis (2008 – 2009) flights were increasing by over 10% annually. The global financial crisis' initial effect on the Middle East was fairly muted, due to the reliance of many of the nations in the Middle East on oil and gas revenues. The collapse of oil prices in late 2008 followed by reports of Dubai's impending credit default brought the global financial crisis to the Middle East. Despite the negative economic outlook in the region, flights continued to increase during that crisis. As the region recovered from the global financial crisis it then witnessed the events of the Arab Spring. Having started in Tunis, the Arab Spring eventually spread eastward to Egypt, Syria and Bahrain. The events of the Arab Spring forced many airlines to suspend operations to the affected nations. As with the global financial crisis however, flights within the region still increased during that period.

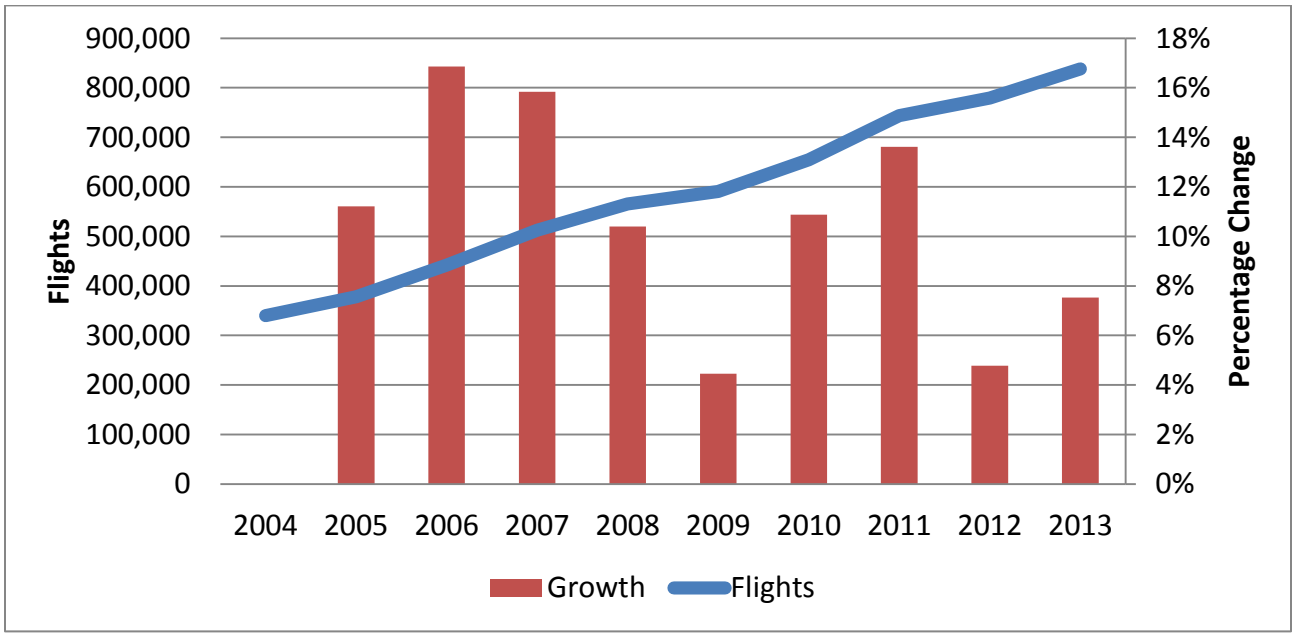


Figure 3.9) Growth in flights within the Middle East (2004 – 2013)

In Figure 3.10 we note that the majority of flights operated within the Middle East are domestic flights. Saudi Arabia and Iran are among the world's 20 largest nations by geographical

size, Iran and Turkey are among the 20 most populated nations[58], Saudi Arabia and Turkey are also among the worlds' 20 largest economies[59]. Highway and railroad links within and between nations in the Middle East are limited or non-existent in some cases. This is especially true for the nations in the Arabian Gulf where small dispersed populations negated the need for national highway systems. This has changed in recent years with many nations investing in land based transportation infrastructure such as highways and railroads. Air travel however remains a critical component of domestic travel in many Middle Eastern nations. Other nations however, are too small to accommodate domestic air travel operations. Bahrain, Qatar, the UAE and Lebanon for example do not have any regularly scheduled domestic flights. What this serves to show is that over 50% of travel in the Middle East is domestic travel in nations such as Turkey, Saudi Arabia and Iran. These are markets in which the three emerging carriers based in the Arabian Gulf do not operate in for many reasons. Firstly they do not have 8th or 9th freedom rights[60] in these nations. Secondly and most importantly these types of flights do not fit with their business model of providing connecting service for long haul flights.

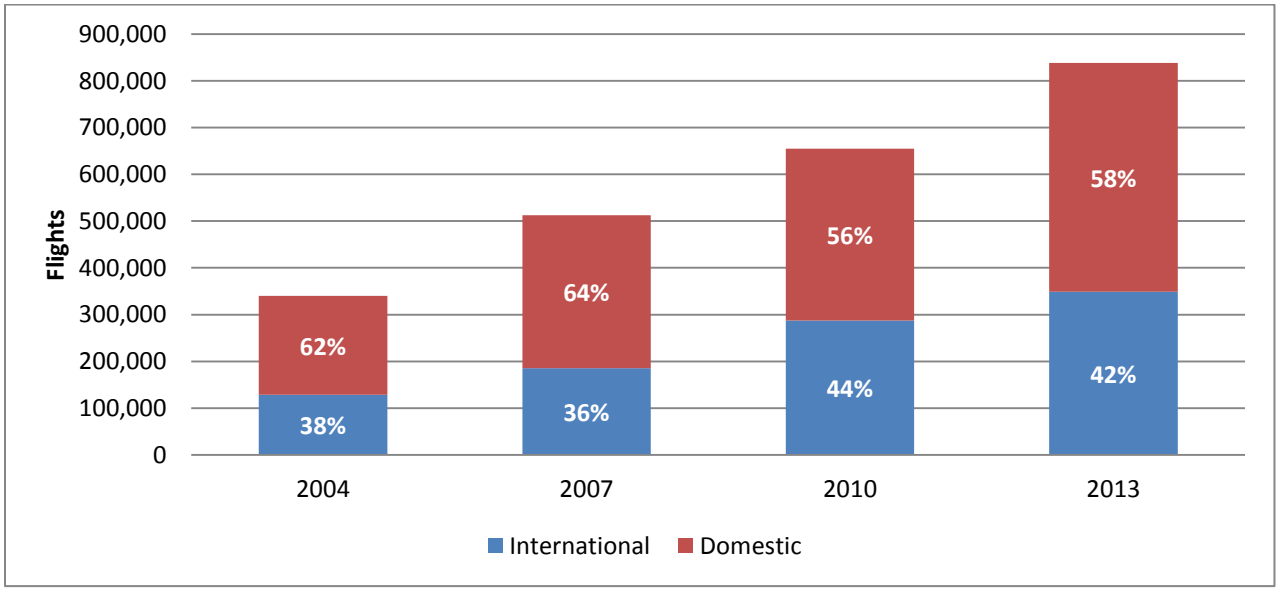


Figure 3.10) Flights by type of market in the Middle East

[58] Nationmaster.com "Largest nations by size and population" http://www.nationmaster.com/graph/geo_are_lan-geography-area-land

[59] International Monetary Fund "World Economic Outlook Database" http://www.imf.org/external/pubs/ft/weo/2013/02/weodata/index.aspx

[60] 8th Freedom: The right of a carrier based in country A to operate service within country B with continuing service to country A

9th Freedom: The right of a carrier based in country A to operate service within country B without continuing to country A

Turkish airlines by contrast does benefit from a strong and growing demand for domestic passenger air travel services. 80% of Turkish Airlines' flights within the Middle East are domestic Turkish flights. In 2002 there were approximately 8 million passengers flying on domestic routes in Turkey, by 2013 that number had increased nearly ten-fold to over 76 million passengers[61]. As was previously mentioned Turkish Airlines is the only emerging carrier whose fleet is composed mostly of narrowbody aircraft. This allows it to effectively operate a domestic network where it competes with several Turkish LCCs as well as charter airlines. Turkish Airlines has in fact decreased the number of domestic flights it operates in recent years due in large part to the growth of LCCs in Turkey. In 2013, it operated 108,000 domestic flights whereas in the three years prior it operated over 110,000 domestic flights. Over the past few years LCCs such as Pegasus and AnadolouJet have expanded rapidly to meet the rise in demand for domestic Turkish travel. Some of these carriers such as Sunexpress and AnadolouJet are partly owned by Turkish Airlines.

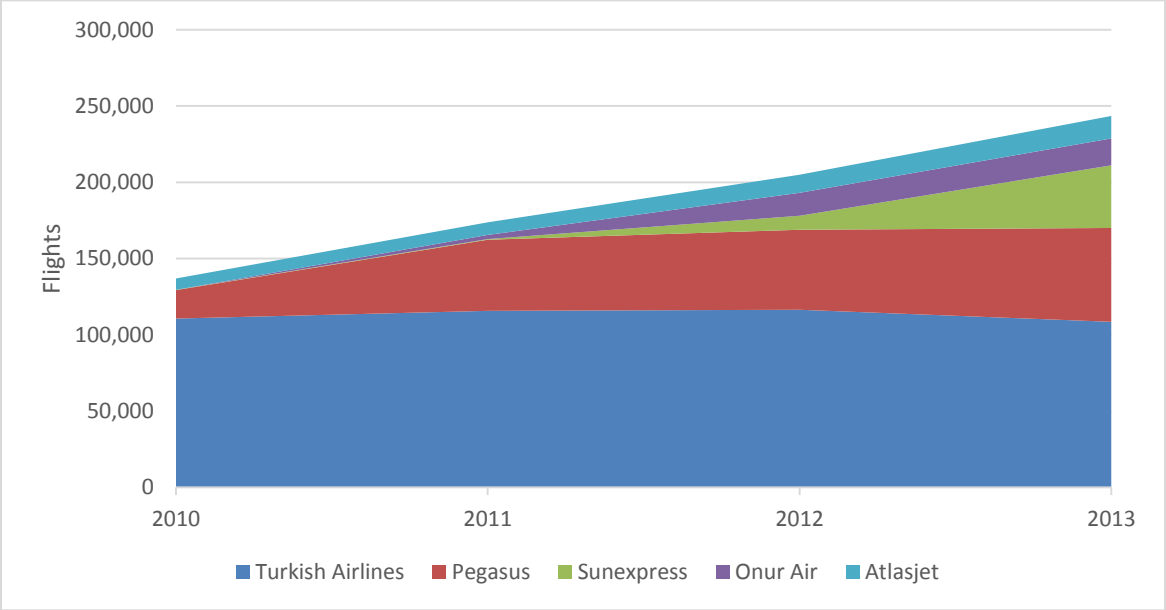


Figure 3.11) Flights by carrier in domestic Turkish market (2010 – 2013)

Figure 3.11 shows how the Turkish domestic market has changed over the past four years. In 2010 Turkish Airlines accounted for over 80% of the domestic flights operated by Turkish based airlines. By 2013 it accounted for less than 45% of flights. Newly formed Turkish LCCs such as Pegasus were able to rapidly establish a presence in the domestic Turkish market, thereby ending

[61] Hurriyet Daily News, "Turkish aviation exceeds 150 million passengers in 2013" http://www.hurriyetdailynews.com/turkish-aviation-exceeds-150-million-passengers-in-2013.aspx?pageID=238&nID=60989&NewsCatID=349

Turkish Airlines' monopoly there. What Figure 3.11 effectively demonstrates is the successful liberalization of the domestic Turkish market. The various legislations enacted in the 2000s allowed several other airlines to form thereby creating a competitive domestic aviation market. This liberalization prompted Turkish Airlines to expand its network outside of Turkey, which eventually earned it the distinction of operating in more nations than any other airline. It also serves the fourth largest number of destinations after the three US legacy carriers (United, Delta, American Airlines Group)[62]. Though other nations in the Middle East have undertaken liberalization efforts in regards to their aviation sectors, few have yielded the results witnessed in Turkey. Iran's domestic aviation sector was never dominated by a single carriers whereas Saudi Arabia's was dominated by Saudia. As was mentioned in chapter 2, the Saudi Arabian government is actively liberalizing its domestic aviation market. By 2015 there will be two new airlines operating in the domestic Saudi Arabian market, alongside Saudia and flynas.

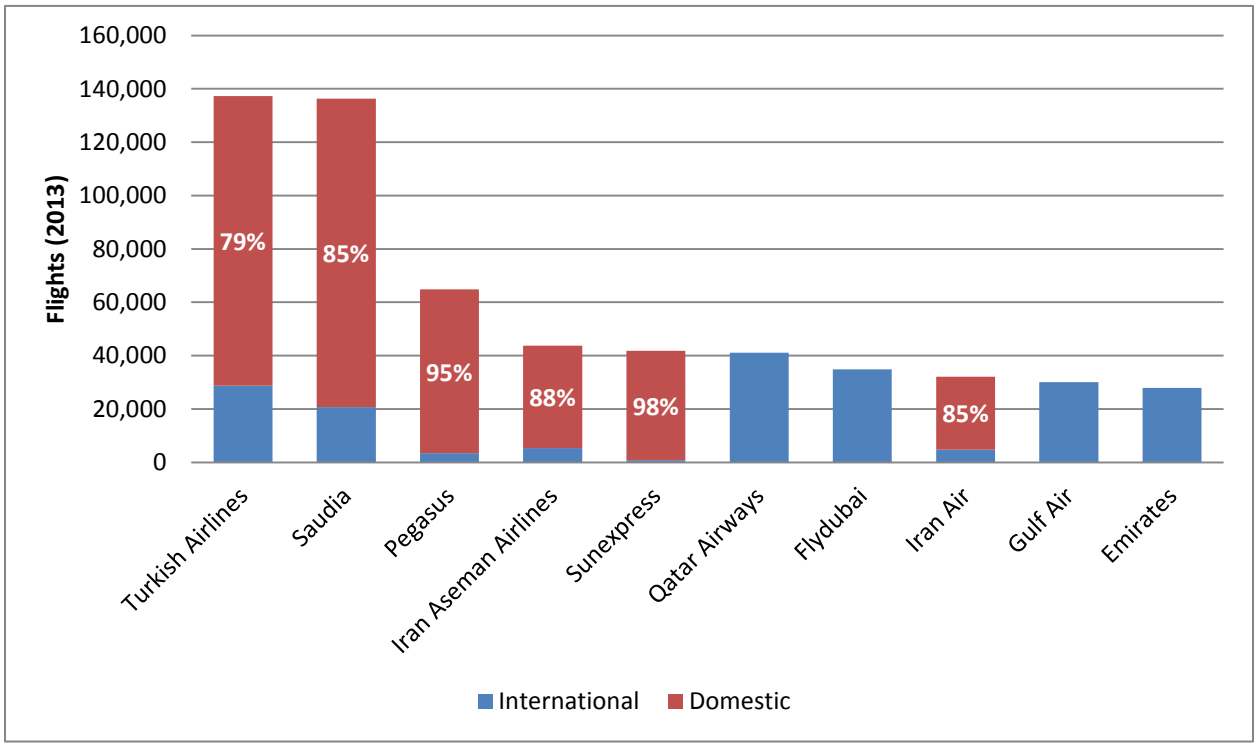


Figure 3.12) The ten largest carriers in the Middle East by flights (2013)

[62] Turkish Airlines Website, "Fact Sheet" http://investor.turkishairlines.com/documents/ThyInvestorRelations/download/icerikler/turkish_airlines_fact_sheet_eng_ver1.pdf

From Figure 3.12 we note that the five largest airlines in the Middle East aviation market are all heavily reliant on domestic markets, specifically the Turkish, Saudi Arabian and Iranian domestic aviation markets. In regards to international operations within the Middle East, Qatar Airways operates the largest number of flights followed by Flydubai. As was previously mentioned Flydubai is owned by the government of Dubai as is Emirates. They are both based in Dubai International Airport and an agreement between the two airlines allows passengers to seamlessly transfer between the two carriers. Flydubai is thus indirectly operating in some capacity as Emirates' regional airline. This relationship helps explain why Emirates is not among the five largest airlines by flights in the Middle East, a distinction it holds in the other regions analyzed in this thesis.

International						
Airline	**2004**	**% of Total**		**Airline**	**2013**	**% of Total**
Gulf Air	27,868	22%		**Qatar Airways**	**41,063**	**12%**
Emirates	**13,966**	**11%**		Flydubai	34,839	10%
Qatar Airways	**13,646**	**11%**		Gulf Air	30,093	9%
Kuwait Airways	8,805	7%		**Turkish Airlines**	**28,690**	**8%**
Saudia	8,758	7%		**Emirates**	**27,877**	**8%**
Oman Air	7,246	6%		**Etihad Airways**	**21,657**	**6%**
Iran Aseman Airlines	5,457	4%		Saudia	20,718	6%
Turkish Airlines	**5,282**	**4%**		Air Arabia	19,867	6%
Royal Jordanian	5,066	4%		Oman Air	18,897	5%
Middle East Airlines	4,902	4%		Royal Jordanian	18,341	5%

Table 3.9) Largest Airlines by International Flights in the Internal Middle Eastern Commercial Passenger Aviation Market (2004 vs. 2013)

International flights within the Middle East increased from 128,000 in 2004 to 350,000 in 2013. Though these figures only represent the capacity within the region, it does correlate with an increase in passenger demand for air travel within the Middle East. In 2004 Gulf Air was the largest international airline by flights in the Middle East with more than twice as many as Emirates; the second largest carrier. By 2013 Qatar Airways had assumed the top spot followed by Flydubai. Gulf Air had dropped to third place as it only increased flights by 10% whereas Emirates, the previous second largest airline, had doubled its flights. Despite this doubling Emirates actually dropped to fifth place. This drop is partly due to the all-widebody fleet that Emirates operates. The three other emerging carriers have narrowbody aircraft in their fleets which they deploy to short haul destinations within the Middle East. This allows them to operate multiple frequencies to destinations in the Middle East. Though Emirates certainly has the ability to do so, it appears

reluctant to do so as it would flood these markets with excess capacity. This is reflected in Table 3.10.

International			
Airline	2013	% of Total	% Increase from 2004
Emirates	**6,486**	**16%**	**153%**
Turkish Airlines	**6,235**	**15%**	**580%**
Flydubai	4,044	10%	N/A
Saudia	3,272	8%	153%
Qatar Airways	**3,070**	**7%**	**192%**
Etihad Airways	**2,341**	**6%**	**1087%**
Air Arabia	2,242	5%	688%
Royal Jordanian	1,727	4%	172%
Gulf Air	1,635	4%	-24%
Middle East Airlines	1,448	4%	104%

Table 3.10) Largest Airlines by International ASMs in the Internal Middle Eastern Commercial Passenger Aviation Market (2013)

Despite operating only two thirds the number of flights that Qatar Airways does, Emirates is the largest airline in the international intra-Middle East passenger aviation market. It operates only 8% of the flights in this market but accounts for 16% of the ASMs generated. When comparing it to the other two emerging carriers based in the Arabian Gulf, we note that Qatar Airways accounts for 7% of the ASMs generated, while Etihad generates 6%. The hubs of the three emerging carriers are all within a 1-hour flight time of each other and their networks in this market are nearly identical, in the sense that they all operate flights to the same destinations. Turkish Airlines by contrast generates nearly as many ASMs as Emirates and operates slightly more flights than Emirates. Turkish Airlines also relies on narrowbody aircraft in this market as do Qatar Airways and Etihad. The reason Turkish generates nearly as many ASMs as Emirates is due to location of its hub. Flights from Istanbul to the Arabian Gulf require 3+ hours of flight time. As such its average stage length is the longest of any of the emerging carriers as shown in Table 3.11.

Airline	Avg. Stage Length (miles)	Seats/Flight	Departures/Day
Emirates	706	330	76
Turkish Airlines	1191	182	79
Qatar Airways	440	170	113
Etihad Airways	671	161	59

Table 3.11) Emerging Carrier Operating Statistics in the International Internal-Middle East Commercial Passenger Aviation Market (2013)

From Table 3.11 we note that the number of seats per flight operated by Emirates is significantly higher than any of the other emerging carriers, more than double that of Etihad. This clearly demonstrates one of the issues that Emirates' all widebody fleets presents for them in this market. Emirates' business model focuses entirely on providing connecting long haul service through Dubai, which in turn limits their ability to compete with other carriers on a flight frequency basis. The s-curve model show in Figure 3.13 demonstrates part of the issue. The model proposes than an airline which offers more than 50% of the flights (frequencies) in a market will attain a disproportionately higher percentage of the market share (measured by passengers or RPMs). Thus the incentive is for airlines to operate more flights in order to gain disproportionately larger market shares and consequently greater revenues. Emirates has stated that it has no intentions to acquire any narrowbody aircraft, which is why we must consider the role that Flydubai plays in Emirates' operations.

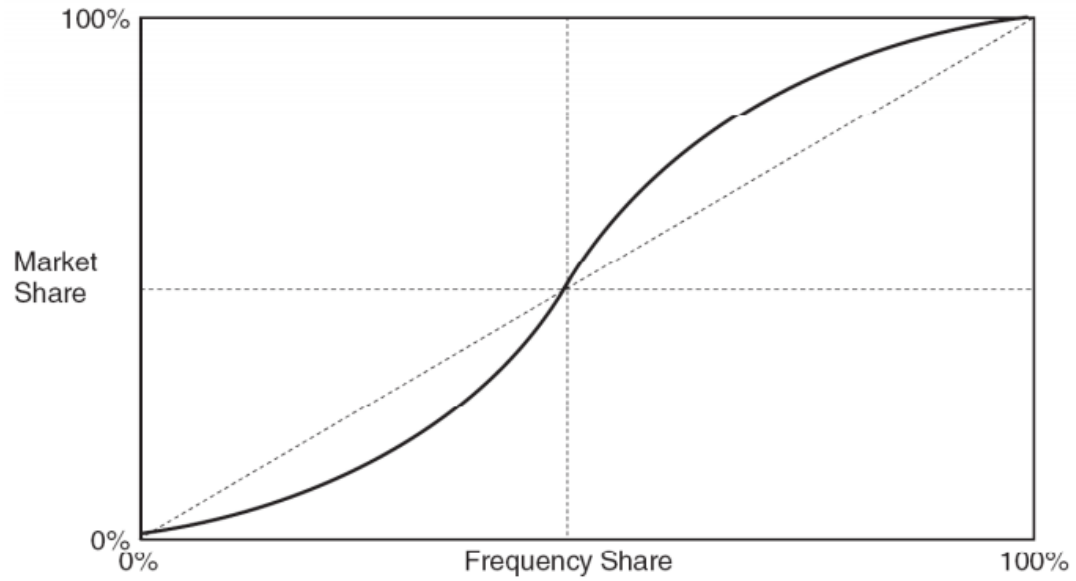


Figure 3.13) S-Curve Model (Market Share vs. Frequency Share)[63]

[63] Belobaba, Peter et al. "The Global Airline Industry" pg. 69, John Wiley & Sons, 2009, Chichester, United Kingdom

The business models of the emerging carriers are based on them providing one-stop connecting service between long haul destinations. In order for them to continue growing they must expand their networks to offer convenient service between East and West. Though there is growing demand for travel to/from the Middle East, especially by lucrative business passengers, it is not sufficient to sustain four carriers of this size. They therefore cannot focus solely on the traffic emanating from the Middle East. This coupled with the fact that they face competitive pressure from both legacy and low cost carriers in the region.

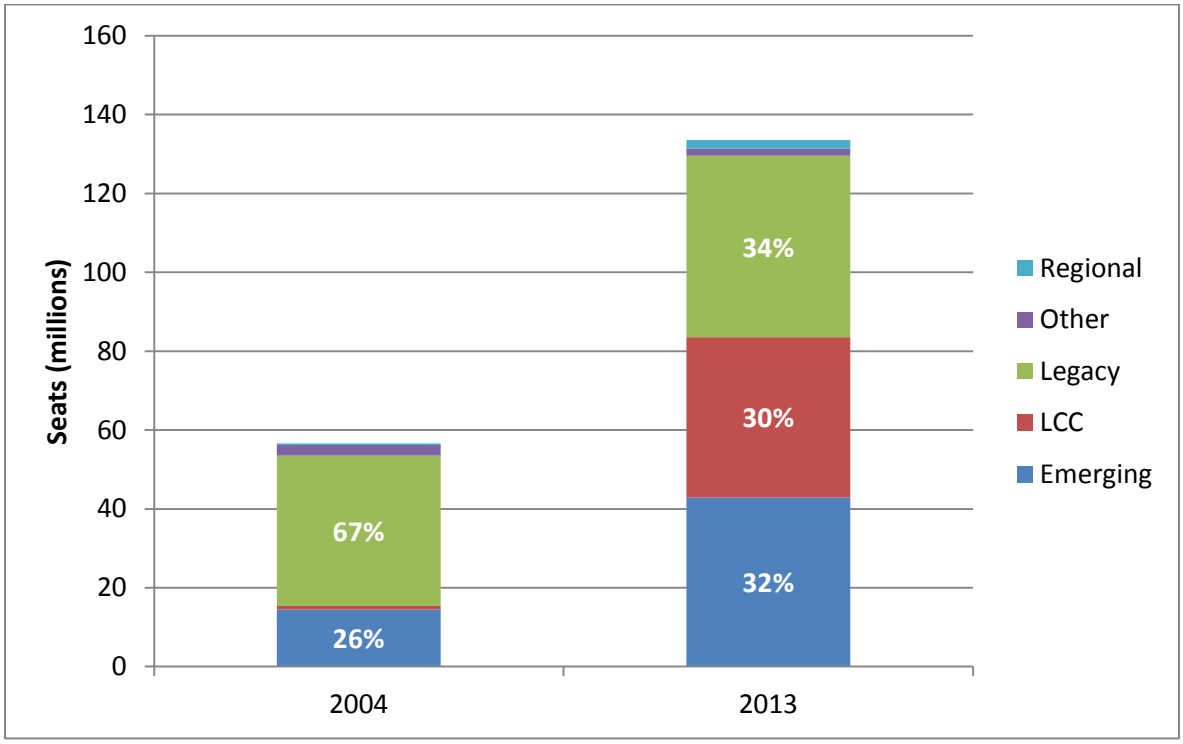


Figure 3.14) Seats by carrier type in the internal Middle East commercial passenger aviation market

In Figure 3.14 we note that the number of seats on offer in this market has more than doubled since 2004. Though the emerging carriers are responsible for a large percentage of the increase, the more remarkable trend is the 30% market share that LCCs have established in a relatively short period. In 2004 LCCs barely had any presence in this market but within a decade were able to offer over 40 million annual seats. The market is now split evenly between the emerging carriers, legacy carriers and LCCs. LCCs account for over 50% of the increase in seats during this period. Legacy carriers increased their available seats by 20% and account for 10% of the overall increase.

When considering the future growth prospects of this market, it is difficult to argue against the LCCs increasing their market share at the expense of the other two carrier types. Legacy carriers in the Middle East are facing pressure from both LCCs and emerging carriers. They are also being scrutinized by their respective governments, who are becoming increasingly reluctant to continue covering their losses. The emerging carriers are more focused on their long haul operations which are not threatened by the growth of Middle Eastern LCCs. The emerging carriers choose to distinguish themselves from other airlines by offering award winning service in premium cabins. Emirates for instance deploys some of its Airbus A380s on routes within this market, some of which do not exceed 3.5 hours of flight time (e.g. Dubai – Jeddah). This distinction matters much less in a short haul market such as this, which is why when compared to the LCCs and legacy carriers the convenience of the flight schedule becomes more important. Dubai International witnesses a peak in aircraft movements in the early hours of the morning (1 a.m. – 4 a.m.) when many of Emirates' long haul Asian flights arrive and others depart headed west to Europe and North America. A traveler looking to depart Dubai for another destination in the Middle East is arguably more likely to consider a mid-morning flight, rather than one scheduled to provide convenient service to travelers arriving from the Far East. All this is to say that though the Middle East is an important market for the emerging carriers, the increase in LCC activity is likely to dissuade emerging carriers from expanding as aggressively in this market as they have done elsewhere.

3.2.4) Middle East to Asia (Sept 2004 – Sept 2013)

Asia has historically been one of the most important markets for Middle Eastern Carriers. Asia is home to more than half the world's population, and many Asian nations have been rapidly developing in the past decade. Many airports in the Arabian Gulf were first developed in order to provide stop-over service from Europe to Asia. The economies of the oil-rich Arabian Gulf nations are also heavily reliant on workers from the Indian subcontinent. Over 50% of the UAE's inhabitants are from the Indian Subcontinent, whereas Emiratis account for only 12% of the population[64]. The same is true for many of the other nations in the Arabian Gulf. This has helped foster closer ties between the two regions as well as substantial air travel connectivity. India, the world's second most populated nation, currently has four airlines which provide international service after the merger of the two state owned carriers, Air India and Indian Airlines in 2011.

[64] UAE National Bureau of Statistics "Population Estimates 2006 – 2010" http://www.uaestatistics.gov.ae/EnglishHome/ReportDetailsEnglish/tabid/121/Default.aspx?ItemId=1914&PTID=104&MenuId=1

These four carriers were unable to cope with the dramatic increase in demand for air travel which created an attractive opportunity for foreign carriers, most notably the emerging carriers, to increase service to and from India.

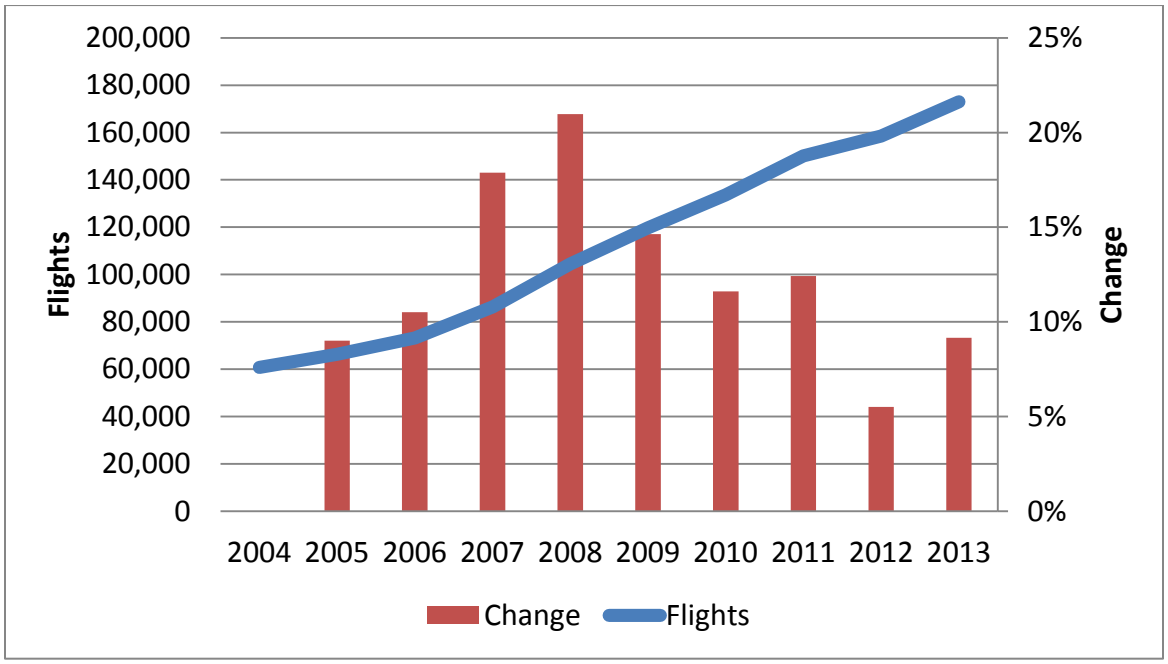


Figure 3.15) Growth in flights from the Middle East to Asia

As shown in Figure 3.15, flights from the Middle East to Asia have nearly tripled over the past 9 years. The percentage increase in flights has slowed considerably in the last 2 years to less than 10%. Asia is the second most popular international destination for flights from the Middle East after Europe. The average growth rate for flights to Asia over the last 9 years was 12% which is second to the 16% witnessed by flights to North America. Flights to North America however are less than a tenth of those to Asia. The global financial crisis in the end of the last decade had a significant effect on the growth of this market. The annual increase in flights dropped from 22% in 2008 to just under 15% in 2009. The growth rate decreased further and has settled at below 10% in the past two years. This however does not necessarily imply that the market is nearing saturation. Rather, as with Europe, it reflects on how large the market between the two regions has become. Flights to Europe also witnessed double digit growth rates prior to the global financial crisis, and have settled in the 5%-7% range over the past few years. There are currently over 173,000 flights to Asia provided by 73 airlines operating in the Middle East. The next largest market after Asia is Africa with 83,000 flights offered by 48 airlines. That is less than half the total number of flights offered to Asia. The Middle East to Africa passenger air travel market has witnessed more

rapid growth rates than Asia or Europe, but that is due to the fact that it is a much less mature market. The same is true for regions such as Australia/Oceania and South America.

Many of the legacy carriers in both Asia and the Middle East have scaled back their growth plans and even reduced flights due to the emerging carriers and LCCs. In February 2014, Cathay Pacific announced that they would cease flights from Hong Kong to both Abu Dhabi and Jeddah due to "commercial reasons"[65]. This is particularly interesting given that they were the only airline operating on these routes. Etihad does provide non-stop codeshare service between Abu Dhabi and Hong Kong through its equity partner Air Seychelles. While it is difficult to determine what particular "commercial reasons" caused Cathay Pacific to cease these routes, it is highly probable that the expansion of the emerging carriers in Far East Asia is a primary contributing factor.

		2004	2013	Change
	Airlines	53	72	19
Origins	Airports	24	28	4
	Nations	12	13	1
Destinations	Airports	49	80	31
	Nations	25	28	3
	Seats/AC	237	227	-4%

Table 3.12) Change in Airline and Airports in the Middle East to Asia Commercial Passenger Aviation Market

Table 3.12 shows some of the changes in this market during this period. 31 new destinations and 19 new airlines were incorporated into this market over the past 9 years. Flights from Iraq to Asia recommenced after they had been cancelled due to sanctions and the 2003 war. Overall, 14 airlines left the market and 35 new airlines entered the market. 16 of the 35 new airlines are low cost carriers based both in the Middle East and Asia. This partially accounts for the decrease in seats per aircraft. Most of the low cost carriers operate small narrowbody aircraft in this market whereas legacy carriers typically deploy widebody aircraft. Many of the airlines that exited the market were exercising fifth freedom rights by stopping in the Middle East from Europe or Africa. This trend is most visible in this particular market but also applies to some other markets most notably North America, where carriers such as Biman Bangladesh ceased operating flights with stopovers in the Middle East.

The number of destinations added during this period is greater than the total number of origins in 2013. This is not unexpected given that Asia is significantly larger than the Middle East.

[65]Gulf Business, "Cathay Pacific to drop Jeddah and Abu Dhabi" http://gulfbusiness.com/2014/02/cathay-pacific-drop-jeddah-abu-dhabi/

What is interesting is that the number of destinations currently being served in Asia is less than those that were served in Europe in 2004. Europe's aviation infrastructure is undoubtedly more developed than Asia as a whole. Germany for instance has 19 international airports that each service over 1 million passengers annually. India with a population more than 15 times that of Germany's, currently has 24 international airports. In 2012 Germany's second largest international airport, Munich International, handled over 38 million passengers[66]. By comparison India's largest airport, Indira Gandhi International (New Delhi) handled over 35 million in 2012, a slight decline over the previous year[67]. In China, the world's most populated nation, the situation is quite different from India. The Chinese government has been heavily investing in upgrading its aviation infrastructure. There are currently 58 airports in China that serve over 1 million passenger annually, 38 of which are international airports[68]. What this serves to show is that the current state of aviation in Asia's two largest nations is vastly different, a situation which the emerging carriers have been leveraging to their benefit.

There are several types of airlines that operate in this market. Legacy carriers based in the Middle East and Asia were the first entrants in this market having started operations as early as the 1960s. Low cost carriers from both regions entered this market within the past decade and have made progress in establishing a presence. Some carriers based outside both regions (mainly from Europe) continue to use fifth freedom rights to operate flights between Asia and the Middle East, these are classified as "other" in Figure 3.16. This category also includes charter airlines based in both regions. Finally we have the emerging carriers who are responsible for a large percentage of the growth in this market. Figure 3.16 depicts the change in available seats offered in this market over the past decade.

[66] Munich Airport, Fact and Figures 2012/2013 http://www.munich-airport.de/media/download/general/publikationen/en/facts_and_figures.pdf
[67] Airports Authority of India, Traffic News March 2013, http://www.aai.aero/traffic_news/mar2k13annex3.pdf
[68] Civil Aviation Administration of China "Aviation Airport Traffic" http://www.caac.gov.cn/I1/K3/201303/P020130327299233850801.pdf

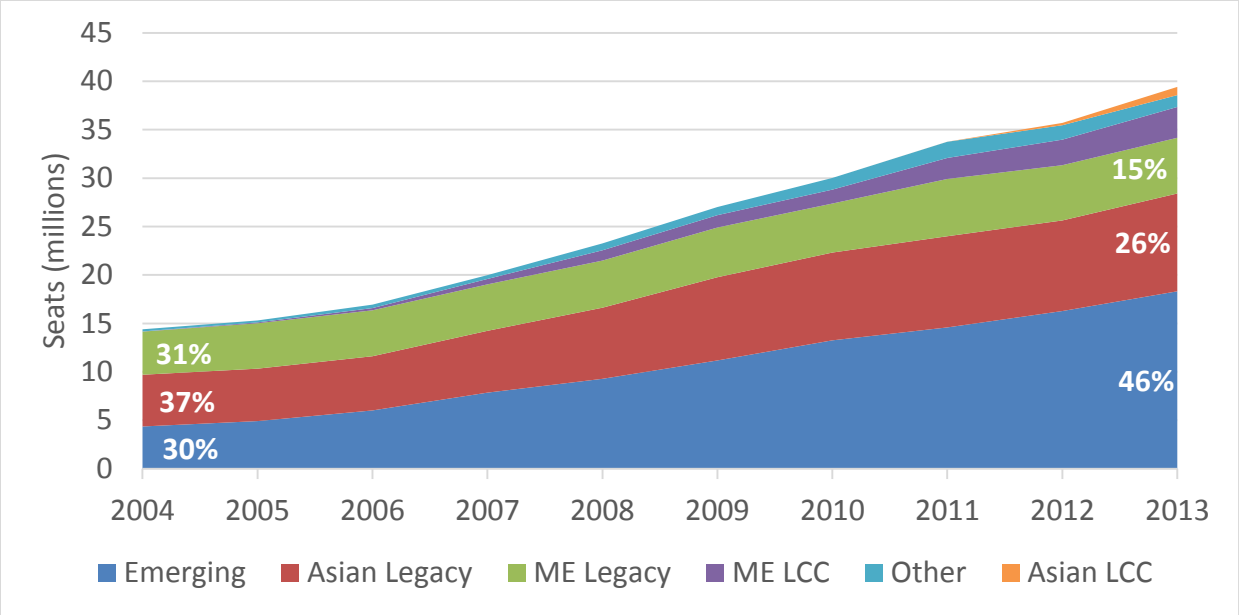


Figure 3.16) Available seats in the Middle East to Asia commercial passenger aviation market by type of carrier (2004 – 2013)

Available seats have more than doubled since 2004 to nearly 40 million in 2013. In 2004 the market was split nearly evenly between legacy carriers based in both regions and the emerging carriers. Since then however, legacy carriers in both regions have lost market share, mostly to the legacy carriers, but also to the LCCs. Asian legacy carriers doubled their available seats from 5 million to 10 million during this period but lost over 10% of their market share. Middle Eastern legacy carriers increased available seats by 30% but lost half their market share. Emerging carriers meanwhile quadrupled their available seats from 4 million to over 18 million, thereby increasing their market share to nearly 50%. In regards to the low cost carriers, those based in the Middle East have been more active in this market than their Asian counterparts. LCCs based in the Middle East account for 8% of the available seats whereas Asian LCCs account for only 2%. The "other" airlines have also increased their share from 2% to 3%. Though many airlines employing fifth freedom rights did exit the market, those that remained increased their operations. Also there has been an increase in charter airline operations between the two regions.

	Flights		% Change	% of Increase	% of Total (2013)
	2004	2013			
India	21,859	65,870	201%	39%	38%
Pakistan	12,043	23,010	91%	10%	13%
Bangladesh	3,396	8,046	137%	4%	5%
Thailand	3,608	7,912	119%	4%	5%
Sri Lanka	4,190	7,190	72%	3%	4%
China	845	6,584	679%	5%	4%
Azerbaijan	1,111	5,565	401%	4%	3%
Malaysia	1,330	4,860	265%	3%	3%
Afghanistan	319	4,464	1299%	4%	3%
Nepal	1,060	4,292	305%	3%	2%
Indonesia	955	3,687	286%	2%	2%
Singapore	1,963	3,486	78%	1%	2%
Philippines	2,336	3,459	48%	1%	2%
Hong Kong	668	3,195	378%	2%	2%
Georgia	218	2,901	1231%	2%	2%

Table 3.13) Largest Destination Nations in the Middle East to Asia Commercial Passenger Aviation Market by Flights (2004 – 2013)

Table 3.13 lists the largest destination nations in this market by flights. In 2013 60% of all flights were destined for the Indian Subcontinent (India, Pakistan, Bangladesh and Sri Lanka). Of the top 10 destination airports nine are in the Indian Subcontinent as well. The only destination airport in the top 10 that is not located in the Indian Subcontinent is Bangkok Suvarnabhumi. Bangkok is a major connecting airport for many legacy Middle Eastern carriers such as Royal Jordanian and Saudia. In 2004 flights to the four nations in the Indian Subcontinent represented over 68% of all flights in this market, thereby indicating that the market is diversifying. China's commercial passenger aviation market has been growing rapidly over the past decade yet despite that, only 4% of the flights in this market are destined for Chinese airports (excluding Hong Kong). Traffic between the Middle East and China is currently dominated by the emerging carriers as they account for over 75% of all flights and 80% of seats. The emerging carriers have stated that they would like to expand their operations in China but are facing resistance by the Chinese government[69]. The Chinese government is limiting the expansion of foreign carriers in order to aid its local airlines in establishing themselves. Etihad and Qatar Airways are both younger than many

[69] Centre for Aviation (CAPA), "Gulf Carriers and Turkish Airlines ready to expand in China, if only air rights were available" http://centreforaviation.com/analysis/gulf-carriers-and-turkish-airlines-ready-to-expand-in-china-if-only-air-rights-were-available-136090

of the Chinese carriers and furthermore four of Chinese largest carriers are members of the three global airline alliances. It stands to reason that the major Chinese airlines are in fact well established and able to compete in the global aviation market. China has been less reluctant in allowing other foreign carriers to expand their operations in China. It seems that China is well aware that the emerging carriers are likely to aggressively expand their operations in China if given the opportunity. That would most likely negatively affect its local carriers. As such it seems that China will continue to limit the opportunities provided to the emerging carriers.

Two notable absentees from Table 3.13 are Japan and South Korea. Both those nations are among Asia's largest and most developed economies. Both nations rank among the top 20 by international tourism departures[70]. Also both their primary international airports are among the 30 busiest globally by passenger movements[71]. We would therefore expect to see a lot of activity by the emerging carriers in both these nations. Currently all four of the emerging carriers provide daily service to Seoul. Korean Air also provides non-daily service to four destinations in the Middle East including two of the emerging carrier hubs. In regards to Japan all four emerging carriers currently provide daily service to Tokyo, Emirates also provides additional daily service to Osaka. None of the Japanese carriers currently provide service to the Middle East. Since inaugurating their daily flights to both these nations several years ago, the emerging carriers have not further expanded their operations, with the exception of Emirates and its flight to Osaka. The reasons for this are due to the business models of the emerging carriers. They aim to provide convenient connecting service between East and West. The major carriers in Japan and South Korea (ANA, Japan Airlines, Korean Air, Asiana) are very well established in both Europe and North America. They are each members of one of the three global airline alliances and have strong partnerships with other airlines. Additionally their flights to North America go east over the Pacific thereby bypassing the emerging carrier hubs. Though their European networks are not as extensive as some of the emerging carriers, these Asian carriers are nonetheless able to provide service to nearly all of Europe through their alliance and codeshare partners. As such the emerging carrier business model is not as successful in these nations as it is elsewhere.

[70] World Bank "Data: International Tourism, number of departures" http://data.worldbank.org/indicator/ST.INT.DPRT?order=wbapi_data_value_2011+wbapi_data_value+wbapi_data_value-last&sort=desc

[71] Airports Council International "Year to Date Passenger Traffic Oct 2013" http://www.aci.aero/Data-Centre/Monthly-Traffic-Data/Passenger-Summary/Year-to-date

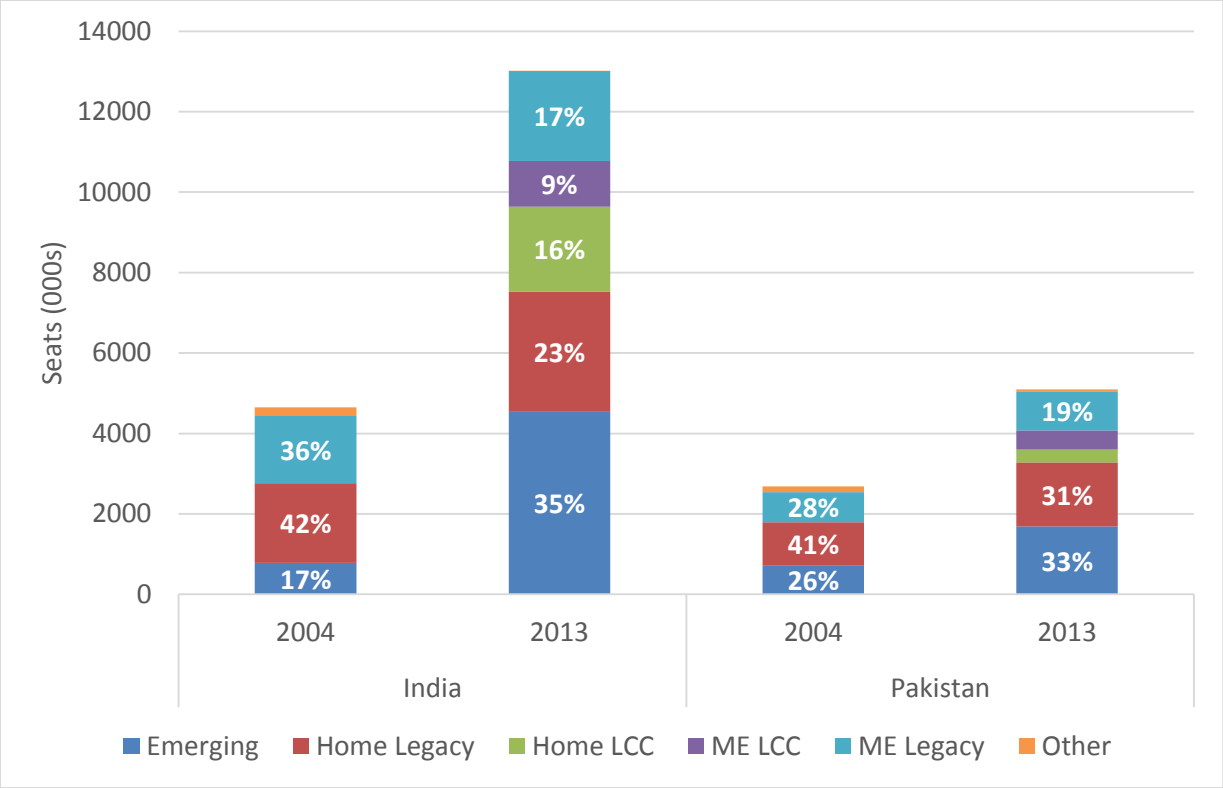


Figure 3.17) Seats by carrier type in the India & Pakistan to Middle East commercial passenger aviation market (2004 – 2013)

India and Pakistan are the two biggest destination nations in this particular market. From Table 3.13 we note that flights to India increased by 201% and to Pakistan by 91%. Available seats to both these nations increase by roughly the same proportions. In Figure 3.17 we can see how the market share by seats has changed in both those markets. Both Indian and Pakistani legacy carriers increased their available seats by 50% during this period. Despite that they both lost significant market share. Legacy carriers from the Middle East suffered similarly. They increased their available seats by 30% in both markets but saw their market share half in India. Both LCCs and the emerging carriers are responsible for the legacy carriers' loss of market share. In 2004 Emirates was the third largest carrier in India by seats and the fourth largest by flights. By 2013 it had displaced Air India as the largest carrier operating between the Middle East and India. The two other emerging carriers based in the Arabian Gulf have overtaken the Middle Eastern legacy carriers but are still smaller than the Indian and Pakistani legacy carriers. Turkish Airlines remains a small player in this market for several reasons. The Indian Subcontinent is to the Arabian Gulf emerging carriers what Europe is to Turkish Airlines. It is a neighboring region with a high demand for traffic and less competitive local carriers. Turkish Airlines is not able to compete with the three

other emerging carriers in this market due to the distance between its hub and the Indian subcontinent. The Arabian Gulf emerging carriers are able to offer more frequencies per aircraft than Turkish Airlines. As such Turkish Airlines has a limited presence in the Indian subcontinent. It offers two daily flights while Emirates offers 25 daily flights.

Low cost carriers from both regions have established strong presences in this market. Air India Express is the largest LCC in this market having started operations in 2007. It is currently the fourth largest airlines by flights and seats in this market. It has scaled back its operations since reaching a high of 7400 annual flights in 2011. This is partly due to the entry of several other LCCs into this market. Three of the LCCs started operations in 2009 and began rapidly expanding them in 2011. The largest of the Middle Eastern LCCs is Air Arabia which started operations in 2005. Since then it has grown to become the fourth largest airline by flights ahead of all the Middle Eastern legacy carriers as well as three of the emerging carriers.

During this period Air India merged with Indian Airlines, which should have helped it consolidate its position as the largest airline in this market. That was not the case however as it currently operates fewer flights and offers fewer seats than the sum of both airlines in 2004. Mergers in the airline industry frequently lead to route consolidation which ultimately leads to the merged airline having fewer available seats and flights than the sum of the two merged airlines. This merger however was completed over 6 years ago in 2007. During that time demand for travel between the two regions has increased as evidenced by the growth of the emerging carriers and LCCs. Air India however did not take advantage of this situation. As such it is now the second largest Indian legacy carrier in this market after Jet Airways. Jet Airways is a privately owned airline that was founded in the early 1990's. As was mentioned in the previous chapter, it is partly owned by Etihad. It currently operates over 1000 more flights than Air India but offers fewer seats due to the type of aircraft it uses on these routes.

In the previous chapter we discussed the role that Gulf Air played in the founding of three of the emerging carriers, and how their formation had negatively affected Gulf Air. In Table 3.14 we can see how dramatic that effect has been on the airline. In 2004 Gulf Air was the second largest airline by both available seats and flights behind Emirates. Since then it has reduced its flights by a third and is now one of the smallest Middle Eastern carriers in this market. The emerging carriers occupy the top 4 positions, when considering only the Middle Eastern based carriers in this market. They have all at the very least doubled their flights during this period. Etihad had only been founded a year prior and was awaiting new aircraft in order to expand into Asia. Since then

however it has grown dramatically and will likely displace Turkish Airlines as the third largest Middle Eastern airline in this market within the next 12 months. Flydubai which commenced operations in 2009 has already grown larger than three of the legacy carriers and will likely overtake Saudia sometime in the next few years. Oman was also a member of Gulf Air that withdrew to found its own airline, Oman Air. Though the airline does bear some resemblance to Qatar Airways and Etihad, it is not an emerging carrier per the definition presented in chapter 2. So far its focus has been on establishing a strong network out of Oman but not to provide extensive connecting service between East and West.

	2004		2013		Change
	Flights	% of Total	Flights	% of Total	
Emirates	**9059**	**15%**	**25609**	**15%**	**183%**
Qatar Airways	**5140**	**8%**	**18181**	**11%**	**254%**
Turkish Airlines	**2458**	**4%**	**11087**	**6%**	**351%**
Etihad Airways	**183**	**0%**	**10752**	**6%**	**5775%**
Air Arabia	117	0%	9942	6%	8397%
Oman Air	1662	3%	8156	5%	391%
Saudia	3937	6%	6691	4%	70%
Flydubai	0	0%	5910	3%	N/A
Gulf Air	7132	12%	4555	3%	-36%
Kuwait Airways	2565	4%	2636	2%	3%
Royal Jordanian	832	1%	940	1%	13%

Table 3.14) Largest Carriers Based in the Middle East by Flights in the Middle East to Asia Commercial Passenger Aviation Market (2004 – 2013)

As the second largest market for the emerging carriers after Europe, Asia is a vital component of their networks. The three emerging carriers based in the Arabian Gulf have established a dominant presence in India, especially when one considers the relationship between Etihad and Jet Airways. Japan and South Korea demonstrate the limitations of their business model and how they benefit from competing with stagnant legacy carriers. In the coming years the emerging carriers are all but certain to focus their efforts on expanding their presence in China. They will likely leverage their close relationships with their home governments in order to do so.

3.3) Conclusion

Reviewing what has been presented in this chapter, it is remarkable that a group of four unaffiliated airlines have managed to dominate the capacity between their home region and three other global regions. Though we did not discuss South America, Africa or Australia in this chapter, the same pattern does hold between the Middle East and these regions. The emerging carriers are the only carriers providing direct air services between South America and the Middle East. In each

region they operate in, they are competing with some of the world's most established global airlines. In Europe they have spread out across the continent, thereby further strengthening their hub networks. The expansion of their European networks has irked the three large European legacy carriers who have been unable to respond effectively. The emerging carriers have established a dominant presence in India, and if given the opportunity are likely to do so in China as well. Thus far the United States government has not curtailed their expansion in the US. At least two major US airlines have adopted less than favorable views of the emerging carriers similar to Lufthansa. Canada is one of the few nations to actively limit the expansion of the emerging carriers as a result of Air Canada's lobbying. These are issues that the emerging carriers will face as they expand further and we will discuss the details of such disputes in the next chapter.

There are limitations to the emerging carrier business model. As was mentioned earlier they face increased competition from newly formed LCCs in the internal Middle East aviation market. In the Far East they face the limitations of their geographic advantage as well as established airlines with extensive international networks. Furthermore the 700+ widebody aircraft they have on order through the end of the decade are creating congestion problems both in their hub airports and at their destinations. These limitations while indeed daunting are less intimidating when we consider the advantages the emerging carriers currently enjoy. They have young fleets, low cost structures and geographically strategic hubs. The advantage of their hub locations cannot be overstated. It may be the single most important contributing factor to their success. Other wealthy nations such as Singapore have previously created airlines similar to the emerging carriers, but the weakness of their hub locations was exposed in the past decade by the emerging carriers. In the next couple of chapters we will discuss some of the challenges of the emerging carriers' continued growth, as well as their future growth prospects.

Chapter 4 – Global Impact of the Emerging Carriers' Growth

4.1) Introduction

The growth in flights and capacity from the Middle East over the past decade has been remarkable. As shown in the previous chapter flights have increased to three of the world's most populated and economically important continents. Flights within the Middle East have also increased dramatically. We have discussed how in many of these regions the growth in flights and capacity has been due largely to the emerging carriers, and to a lesser extent the Middle Eastern low cost carriers. The emerging carriers are the largest airlines by both flights and capacity in each of the regions they operate in. In attaining the top spots they have overtaken some of the worlds' largest and most recognizable airlines such as Air France, Delta and Singapore Airlines. The effect of this rapid expansion has reverberated across the globe. South America, which rarely received direct service to the Middle East, is now being served exclusively by the emerging carriers, all of whom have launched service to Brazil. The same is true for Australia and Sub-Saharan Africa. Customers across the globe have experienced an increase in connectivity offered by the emerging carriers.

This expansion has however resulted in several conflicts, some of which have escalated to protectionist and retaliatory measures by national governments. The rise of the emerging carriers has been problematic for some airlines across the world. Stagnant legacy carriers in the Middle East found themselves having to compete with four new and revitalized airlines, which enjoyed considerable cost and marketing advantages. European carriers, who have been struggling with high cost structures and increased competition from low cost carriers, are also affected by the growth of the emerging carriers. Even airlines in North America and Australia, which believed that they were insulated from the emerging carriers, have had to adapt in the wake of the emerging carriers' growth. In this chapter we will discuss some of those conflicts as well as their implications and outcomes.

4.2) UAE-Canada dispute

In mid-1999 an agreement was signed between the UAE and Canada allowing air service between the two nations[72]. The agreement was enacted in 2002 and the first flight between the two nations was started in 2007 by Etihad Airways between Abu Dhabi and Toronto. The agreement allowed 6 weekly flights by carriers from each nation. Emirates entered the market a year later and as with Etihad, it offered service to Toronto three times a week. Almost immediately after Emirates

[72] Canadian Transportation Agency "United Arab Emirates" https://www.otc-cta.gc.ca/eng/united-arab-emirates

introduced its service, the UAE began lobbying Canada to allow increased flights by its carriers. Negotiations took place for several years without any resolution. The UAE publicly criticized the Canadian government for protecting the troubled Canadian flag carrier Air Canada. Air Canada responded by accusing the UAE carriers of dumping capacity, and cited the example of Australia which had witnessed a decrease in direct European service, which they attributed to Emirates[73]. The dispute eventually escalated with the UAE declining to renew an agreement allowing the Canadian military to operate a base in the UAE. The UAE then imposed new visa requirements on Canadian visitors to the UAE. Several other squabbles occurred over the next several years including the closure of UAE airspace to a Canadian ministerial flight, and the UAE lobbying against Canada's membership in the UN Security Council.

Relations between the two nations deteriorated dramatically in the aftermath of the landing rights dispute. The UAE is Canada's largest trading partner in the Middle East and there are an estimated 27,000 Canadians living in the UAE[74]. They along with Canadian visitors were affected by new stringent visa requirements. The dispute has cooled since then with the announcement that the UAE would revert to the previous visa regime. The announcement coincided with the signing of a major nuclear cooperation agreement between the two nations[75]. A few months later Etihad announced that it had signed a codesharing agreement with Air Canada, thereby allowing it to connect passengers to select destinations in Canada.

Though the dispute had escalated to the governmental level, it was done at the behest of the domestic airlines[76]. In 2010 Emirates began directly lobbying Canadian MP's and other governmental officials. A study coauthored by InterVISTAS; a consulting firm, laid out Emirates' case for increasing air service between the two nations[77]. The study concluded that daily service by Emirates from Dubai to Toronto would have a minimal effect on Air Canada. Furthermore, it argued in favor of allowing new service to other Canadian destinations such as Calgary. The report stated that Emirates was serving 100,000 annual passengers on its Dubai-Toronto route. Using the data

[73] Air Canada "The Impact of Emirates on the Industry"
http://www.aircanada.com/en/about/media/facts/industry/emirates.html
[74] Bloomberg "UAE requires Canadian citizens to apply for visas on aviation dispute"
http://www.bloomberg.com/news/2010-11-09/u-a-e-requires-canadian-citizens-to-apply-for-visas-on-aviation-dispute.html
[75] The Globe and Mail "Ottawa ends UAE spat with nuclear deal"
http://www.theglobeandmail.com/news/politics/ottawa-ends-uae-spat-with-nuclear-deal/article4552179/
[76] CBC News, "UAE landing rights in Canada still at issue" http://www.cbc.ca/news/politics/u-a-e-landing-rights-in-canada-still-at-issue-1.1293502
[77] Emirates.com "Economic Impact Study for Emirates Airline: Additional Flights between Dubai and Canada"
http://content.emirates.com/downloads/ek/pdfs/int_gov_affairs/Executive-Summary.pdf

source described in the previous chapter we find that Emirates had roughly 135,000 seats on this route, thereby inferring a load factor of 74%. Emirates had originally served this route with a 400 seat Boeing 777, but within a year up-gauged to a 490 seat Airbus A380. The report argues that increasing the service to daily one would not significantly harm Air Canada, because according to Emirates there is no network overlap between the two airlines in Southeast Asia, the Middle East or Africa[78]. Emirates further argues that the majority of the passengers it serves on this route are passengers originating or terminating in either the UAE or Canada, they however do not provide any figures to support this claim. They do state that 98% of passengers originating in Toronto continue to destinations not currently served by Air Canada but give no further clarification as to where these passengers are traveling.

Though Emirates' claims that its network did not overlap with that of Air Canada's are accurate, they do not discuss the importance of Air Canada's partnerships. Air Canada is a member of Star Alliance, which allows it to provide customers with service to many destinations it does not serve. Star Alliance does not have a major partner in the Arabian Gulf and Air Canada lacks strong code-sharing agreements with the carriers based there. If Air Canada were to offer service to the UAE, it would have to rely solely on traffic originating and terminating in either Canada or the UAE (i.e. no connecting traffic). Given the relatively small population of the UAE, it appears unlikely that Air Canada would have sufficient demand to justify service to the UAE. Its current partnerships with Star Alliance members, most important Lufthansa, allow it provide passengers with service to Dubai through Star Alliance's major European hubs. Interestingly, reports indicate that in 2006 Air Canada had proposed a joint venture with Emirates, which would have resulted in both airlines sharing revenue on flights between the UAE and Canada[79]. That agreement allegedly failed to materialize because Emirates was not satisfied with the profit sharing scheme.

Emirates directly accuses Lufthansa of working behind the scenes to prevent an expanded air services agreement between the UAE and Canada[80]. Lufthansa has been one of the most vocal critics of the emerging carriers. It is possible that they intervened and almost certain that they addressed their concerns to fellow Star Alliance member Air Canada. Lufthansa's primary concern

[78] Emirates "Would Air Canada be Impacted?" http://www.emirates.com/us/english/about/int-and-gov-affairs/government-affairs/emirates-and-canada/would-air-canada-be-impacted.aspx
[79] The Globe and Mail , "Air Canada proposed Emirates deal in 2006: documents" http://www.theglobeandmail.com/news/politics/air-canada-proposed-emirates-deal-in-2006-documents/article561788/
[80] Emirates "Canada and Emirates Airlines Busting Myths: A reasonable request" http://content.emirates.com/downloads/ek/pdfs/int_gov_affairs/Emirates-Canada-MythsFacts.pdf

is that allowing the UAE carriers to increase service would negatively affect its flights to Canada from its German hubs. As one of the world's largest international airlines, Lufthansa relies on connecting passengers as well as domestic passengers to fills its long haul flights. The emerging carriers are competing with Lufthansa for those connecting passengers destined for Canada from Southeast Asia and the Middle East. Lufthansa is actively trying to protect its Canadian operations from increased competition. This is a common occurrence in the airline industry, but what makes this situation somewhat unique is that Lufthansa is not based in either of the two countries involved in the dispute.

The dispute with Canada was the first major effort by a government to limit the expansion of the emerging carriers. Air Canada argued that the emerging carriers were unfairly subsidized by their governments, and that allowing them to increase service in Canada would harm Air Canada and not provide significant benefits to its citizens[81]. Currently no carrier provides daily service between Canada and the Middle East. Airlines such as El Al, Royal Jordanian and Star Alliance member Turkish Airlines all appear to be limited to providing three times weekly service. Air Canada for its part offers non-daily service to Tel Aviv and has recently inaugurated a weekly flight to Istanbul. Air Canada also recently signed a code-sharing agreement with its fellow Star Alliance member Turkish Airlines. However despite having rights to operate flights to Qatar and the UAE for several years, it has chosen not to operate any.

What this dispute serves to show is that as the emerging carriers continue to grow, they are likely to encounter unfriendly governments looking to protect their national carriers. China for instance, has also limited the number of flights that the emerging carriers are allowed to operate there. The retaliatory efforts undertaken by the UAE government appear to have had little effect on the Canadian government. Trade between the UAE and Canada amounted to $1.5 billion in 2008, which is miniscule when considering that the GDP of Canada that year was nearly $1.5 trillion. In other instances the UAE has more bargaining power with nations, which helps it establish more lucrative air service agreements. The United States still remains the most important and accessible North American destination for the emerging carriers, despite similar efforts by US-based legacy carriers to limit their operations there. Major legacy airlines in the US have lobbed similar accusations at the emerging carriers, in regards to state subsidies and capacity dumping. Delta Airlines, along with the lobbying group Airlines for America and the Air Line Pilots Association, successfully lobbied the US government to deny the proposed Air Serbia – Etihad Airways

[81] Air Canda "The Impact of Emirates on the Industry"
http://www.aircanada.com/en/about/media/facts/industry/emirates.html

codeshare agreement[82]. The ratification of an open skies agreement between the US and the UAE does however limit the actions that the US government can take in protecting the domestic US airline industry. The open skies agreement allows both Emirates and Etihad to operated fifth freedom flights to the US. It remains to be seen whether Canada will allow the emerging carriers to increase their Canadian operations. This experience however should be taken into consideration by the emerging carriers when considering the feasibility of their aggressive plans for future expansion.

4.3) Diversion of passengers from other carriers

Given the global networks of the emerging carriers, it is plausible that most large international airlines have been affected by their growth. The emerging carriers actively add new service or increase service to existing destinations on a near monthly basis. These new flights often pit them against established carriers like Lufthansa and Singapore Airlines. While new service does stimulate new demand, it can also result in a diversion of passenger traffic from one airline to another. If total demand does not increase to match the increase in capacity, it can negatively all airlines in that market. Airlines actively evaluate and analyze their existing networks in order to optimize their revenues. These decisions can result in changes to schedule, frequency and capacity. In some cases destinations are dropped entirely. When conducting the analysis of regional traffic in the previous chapter, we found that many of the non-Middle Eastern airlines that were providing stop-over service in the Middle East had ceased those services. Furthermore we have also witnessed other more established airlines scaling down their services in the Middle East.

Cathay Pacific for instance recently ceased its non-stop services to both Jeddah and Abu Dhabi due to "commercial reasons"[83]. Demand for air travel to/from the Middle East has been growing very rapidly over the past decade and as such we expect an increase in service. We cannot directly link decisions such as Cathay Pacific's directly to the emerging carriers, but as evidenced in the previous chapter they are leading the growth in capacity from the region. Though the emerging carriers' primary focus is not on increasing service to the Middle East, their continued expansion is adding capacity to the Middle East air travel market. Decisions such as that taken by Cathay Pacific may be an unintended result of the emerging carriers' expansion. It also has implications for

[82] Centre for Aviation " US DoT rubber-stamps arguments from A4A and Delta in denying Air Serbia-Etihad codeshare" http://centreforaviation.com/analysis/us-dot-rubber-stamps-arguments-from-a4a-and-delta-in-denying-air-serbia-etihad-codeshare-149118

[83] Cathay Pacific "Cathay Pacific adjusts Middle East network effective from 2014 summer schedule" http://www.cathaypacific.com/cx/en_PH/about-us/press-room/press-release/2014/Cathay_Pacific_adjusts_Middle_East_network_effective_from_2014_summer_schedule.html

airlines based in the Middle East that are focused on providing direct service to and from their home airports. As shown in the previous chapter the emerging carriers are generating most of the capacity to and from the Middle East. Their global marketing campaigns combined with their competitive fares may be diverting traffic away from smaller carriers such as Kuwait Airways and Gulf Air. Those smaller airlines do not have large connecting networks and are very vulnerable to emerging carrier capacity increases on overlapping routes.

The emerging carriers collectively operate in over 100 nations and compete with an even larger number of airlines. As such it is difficult to directly relate a decision by a given airline as a response to the actions of the emerging carriers. It is even more difficult to track passenger traffic across this vast network especially given the difficulty in obtaining passenger numbers from national authorities. One instance where we are able to analyze the effect of the emerging carriers' growth in regards to passenger traffic is the United States. The US Department of Transportation requires that carriers report passenger numbers on a monthly basis. Those figures are obtainable through the Research and Innovative Technology Administration's (RITA) Bureau of Transportation Statistics (BTS)[84]. The figures provided allow us to determine the number of passengers carried by foreign carriers to/from the United States. For the purposes of this study we will consider the emerging carriers, Middle Eastern legacy carriers, European legacy carriers and Indian legacy carriers.

In analyzing the data used in Figure 4.1 we only considered three of the European legacy carriers (listed in footnote 85). Though other European legacy carriers operate flights to the United States, none have extensive networks in Asia or the Middle East for connecting traffic. Airlines such as Swiss and Iberia do not have connecting networks on the scale of Lufthansa or Air France and as such we have not considered them. In Figure 4.1 we have displayed the annual change in on-board passenger numbers by carrier type over the period studied. The European legacy carriers listed collectively serve well over 13 million passengers which is significantly more than any of the other groups considered. As such though the changes in cumulative passengers carried by the European legacy carriers shown in Figure 4.1 are more dramatic than the other carriers, this is due to the much larger passenger numbers they are handling. For instance in 2011 the 1 million+ increase in passengers represented a less than 10% growth in passenger numbers for the three European legacy carriers considered.

[84] Bureau of Transport Statistics, "Flights – All Carrier – All Airports"
http://www.transtats.bts.gov/Data_Elements.aspx?Data=2

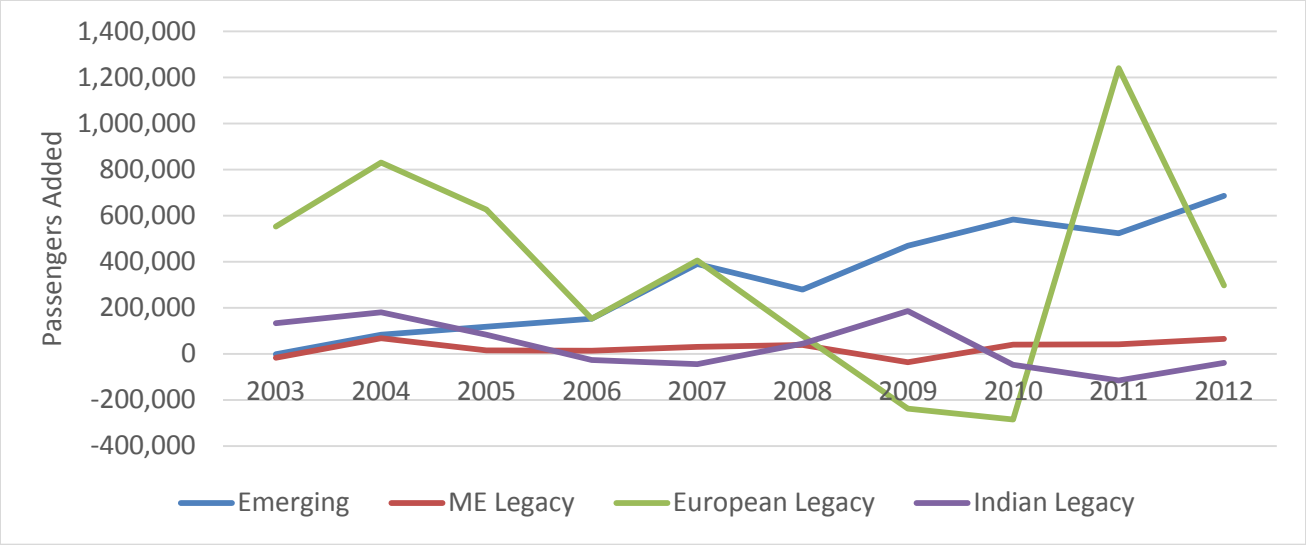


Figure 4.1) Annual Cumulative passengers added to/from the United States by carrier type[85]

Of the three European legacy carriers considered, Air France carries the fewest number of passengers. In 2010 it transported 3.5 million passengers to/from the United States. The emerging carriers collectively carried 2.25 million passengers in 2010; 1.25 million fewer than Air France. By 2012 they were collectively serving more passengers than Air France. From Figure 4.1 we can see that the emerging carriers are the only group to not witness a decrease in total passenger numbers during any given year. In fact since 2003 Qatar Airways is the only emerging carrier to have witnessed a decrease in passenger numbers in a given year. The large increase witnessed by the European legacy carriers in 2011 is due largely to the recovery from the global financial crisis and the continent wide Euro crisis. In 2012 they added less than half the number of passengers added by the emerging carriers, who attracted nearly 700,000 new passenger trips. It is important to note that the decreases in passenger numbers witnessed by the European legacy carriers is associated with a decrease in flights. In 2009 the three European legacy carriers operated 3%-7% fewer flights than they did in 2007-2008. By 2012 British Airways had returned to pre-crisis flight levels whereas Lufthansa and Air France were still operating fewer flights.

The data obtained allows us to determine how the overall volumes of on-board passenger traffic per airline are changing. We still however cannot make any definite conclusions regarding passenger diversion. What we can conclude is that the emerging carriers are consistently adding

[85] Emerging = Emirates, Etihad, Qatar Airways, Turkish Airlines
ME Legacy = Royal Jordanian, Saudia, Kuwait Airways
European Legacy = Air France, British Airways, Lufthansa
Indian Legacy = Air India, Jet Airways

passengers on an annual basis, whereas the other carrier groups have witnessed decreases in passenger numbers. European legacy carriers appear to not have been heavily affected by the emerging carriers in this market. Demand for travel from passengers based in Europe looking to travel to North America, is insulated from the emerging carriers due to the location of the emerging carrier hubs. The same cannot be said for the Middle Eastern and Indian carriers as shown in Figure 4.2.

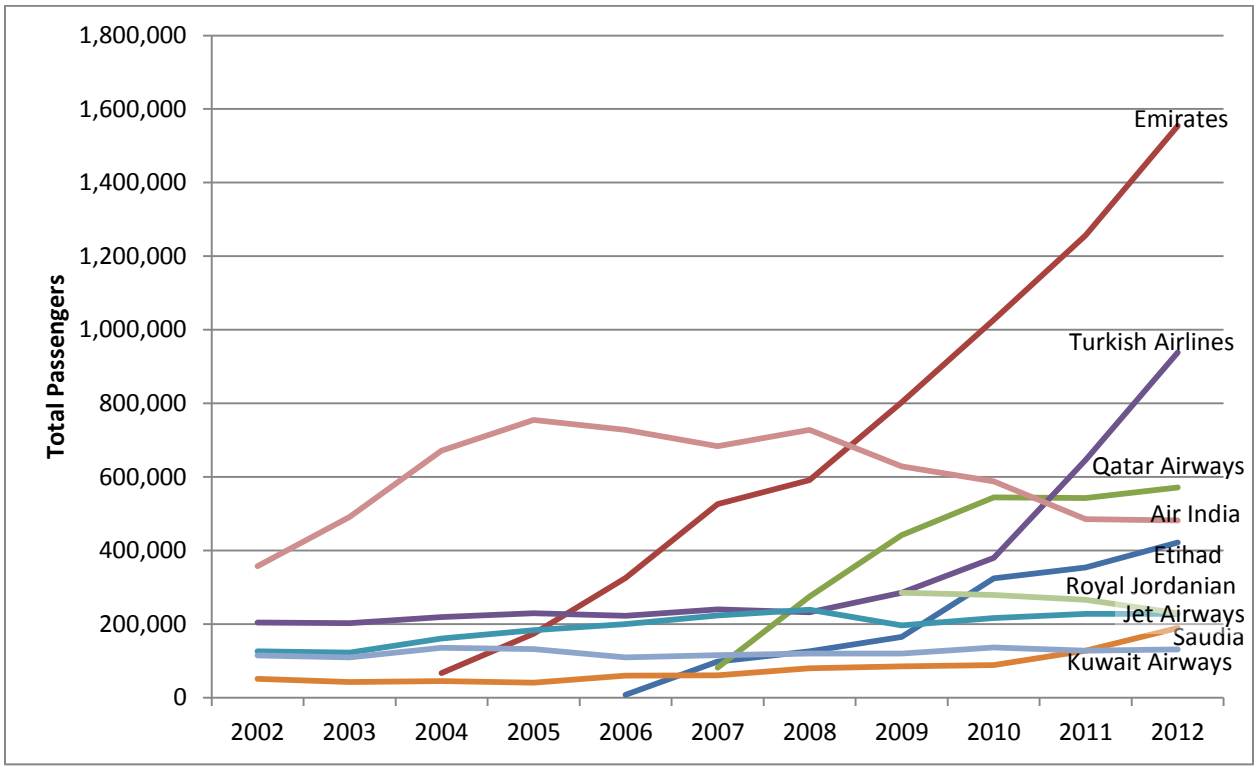


Figure 4.2) Annual cumulative passengers carried to/from North America by carrier

The most striking feature in figure 4.2, which shows the cumulative number of passengers carried by each carrier, is the consistent increase in passengers carried by Emirates over the past 8 years. Turkish Airlines' consistent increase from 2008 is also notable though it is not as dramatic as Emirates' performance. These two trends however overshadow the performance of the other airlines, the most notable of which is the number of passengers served by Air India. India is one of the worlds' fastest growing economies. That growth has resulted in a rapid increase in demand for air travel. A report by the United States Department of Commerce's Office of Travel and Tourism Industries (OTTI) states that the number of Indian citizens arriving in the United States has more

than doubled from 345,000 in 2005 to 724,000 in 2012[86]. Despite that increase Air India has witnessed passenger numbers to/from the United States decrease annually since 2008. Jet Airways, which launched service in 2009, has not witnessed a single annual increase in passenger numbers. The emerging carriers meanwhile have all witnessed a rapid increase in passengers to/from the United States. They have also been very active in increasing service to India. Therefore we can reasonably conclude that the emerging carriers have likely diverted passenger traffic away from the Indian carriers.

To further evidence the notion that the emerging carriers are diverting traffic from other carriers we refer to Emirates' assessment of its Indian operations. In 2012 Emirates retained the services of India's National Council of Applied Economic Research in order to issue a report entitled "Emirates in India: Assessment of Economic Impact and Regional Benefits"[87]. The report provides many figures related to Emirates' activities in India. It states that in 2011 Emirates carried 4.65 million passengers from India, representing 12% of all international passengers originating in India. This was an increase from the 3.11 million carried in 2009. Of the 4.65 million passengers carried in 2011, 55% were connecting in Dubai to other destinations. 43% of those connecting onwards were doing so to destinations outside the Middle East North Africa region. That represents over 1 million passengers connecting onwards on long haul flights. The report gives no further details as to the destination of these passengers. In order to further evaluate this data we conducted an analysis of Emirates' seat allocation by region, for all flights from Dubai International in 2011. We excluded all operations to the Indian subcontinent and the Middle East/North Africa to match the data provided by Emirates in their report.

The figures in Table 4.1 assume that Emirates' passengers originating in India, will be distributed across the Emirates network based on seat allocation. It therefore overlooks any destination preferences or travel behavior that Emirates' Indian passengers may exhibit. For the purposes of this study we will however assume that these allocations are representative of the final destinations of Emirates' passengers originating in India. Our assumptions suggest that Emirates carried 22 thousand additional passengers, from India to the United States between 2009 and 2011. The report issued by the OTTI states that arrivals from India increased by 114 thousand between 2009 and 2011. Our calculations indicate that Emirates carried 19% of the new demand from India

[86] US Department of Commerce Office of Travel and Tourism Industries "2012 Market Profile: India" http://travel.trade.gov/outreachpages/download_data_table/2012_India_Market_Profile.pdf
[87] Emirates "Emirates in India: Assessment of Economic Impact and Regional Benefits" http://content.emirates.com/downloads/ek/pdfs/int_gov_affairs/Emirates-India-Assesment-2012.pdf

to the United States. During this two year period, the number of travelers arriving in the United States onboard Indian carriers decreased by a total of 160 thousand. When considering both these numbers we note that during the period 2009 – 2011 passenger traffic between India and the United States increased, yet the number of passengers carried by Indian carriers decreased while those of the emerging carriers increased.

Region	Emirates' 2011 Seat Allocation[88]	Total Passengers from India (thousands)		Difference in Passengers
		2011	2009	
Europe	**44%**	**482**	**323**	**159**
North America	**7%**	**73**	**49**	**24**
United States	90%	66	44	22
Canada	10%	7	5	2
Africa	**16%**	**177**	**119**	**58**
South America	**1%**	**10**	**7**	**3**
East Asia	**27%**	**293**	**196**	**97**
Australia	**6%**	**64**	**43**	**21**

Table 4.1) Emirates' Share of International Passengers Carried Originating in India by Destination Region

Etihad and Qatar both serve at least as many destinations as Emirates does in India, though they offer fewer weekly seats to their respective hubs. Turkish Airlines offers two destinations in India, whereas the other emerging carriers operate in at least 10 Indian destinations. It stands to reason however, that since all four of the emerging carriers increased their operations to India over the past few years, that they collectively account for a significant percentage of the increase in passengers arriving in the United States from India.

4.4) The Emerging Carriers and the European Big Three

The analysis presented in the previous section suggests that in at least one nation, India, one of the emerging carriers has diverted passengers away from local carriers. This issue is likely to occur in many of the nations that the emerging carriers are expanding in. The emerging carriers

[88] Diio Mi Portal, All Emirates flights from Dubai International, January 2010 – January 2011 https://mi.diio.net/mi/

often defend their expansion by stating that they are providing connecting service to destinations not served by local carriers. In the Emirates commissioned report cited in the previous section, Emirates states that 67% of passengers are connecting on sixth freedom flights to destinations not currently served by any other carrier. That percentage is aided by the fact that Air India serves fewer than 40 international destinations, with only 4 in Europe and 3 in North America. In Europe however, the emerging carriers face several large airlines with extensive international networks. The largest of these airlines, commonly referred to as the European Big Three (Air France, British Airways and Lufthansa), compete directly with the emerging carriers for traffic between Europe and Asia. As Europe's largest global carriers they have been affected by the expansion of the emerging carriers. In this section we will discuss some of the issues that have arisen between the European Big Three and the emerging carriers.

In 2006 the board of Star Alliance announced that they accepted Turkish Airlines' bid for entry, which had been sponsored by Lufthansa. Turkish Airlines was growing rapidly at the time and it was well poised to help augment the Star Alliance network. Lufthansa and Turkish Airlines had both been involved in a joint venture since 1990, Sunexpress. Sunexpress is an airline based in Turkey which offers scheduled and charter service between Europe and Turkey. Turkey had long been a popular tourist destination for Europeans, and the developing Turkish economy was making it increasingly attractive for investors. Turkish Airlines integration into Star Alliance was completed in 2008, and as previously mentioned it continued to grow at a remarkable pace during that time. Its steady growth eventually caught the attention of Lufthansa. By 2013 Turkish Airlines had established the largest international network by number of international destinations of any airline[89]. It had focused on expanding its medium haul network, especially in Europe, which affected Lufthansa' operations. The Lufthansa group includes other European based carriers such as Swiss and Austrian which were also being affected by Turkish Airlines' growth.

In an unexpected move, Lufthansa decided to unilaterally end its codeshare agreement with Turkish Airlines in late 2013[90]. Lufthansa stated that the arrangement no longer made "commercial

[89] Turkish Airlines "Annual Report 2012"
http://investor.turkishairlines.com/documents/ThyInvestorRelations/download/yillik_raporlar/2012_Faaliyet_Raporu_en.pdf

[90] Wall Street Journal "Lufthansa to end code-sharing with Turkish carrier"
http://online.wsj.com/news/articles/SB10001424052702304011304579222084128189024

sense"[91] for them, and that they would be downgrading the ability of its frequent fliers to earn miles on Turkish Airlines flights. Turkish Airlines has since made it known that they would like Lufthansa to reconsider their decision, especially in light of the fact that they are both members of the same alliance. Lufthansa's citing of "commercial sense" to justify its decision is open to interpretation, but it appears that the reason they ended the agreement was due to the changes in the relationship between the two carriers.

When Turkish Airlines joined Star Alliance it was substantially smaller than Lufthansa in terms of capacity and was likely relying on connecting Lufthansa passengers to occupy some of its seats. By 2012 Turkish Airlines was operating more than twice as many flights as Lufthansa between Germany and Turkey. Its cost advantages when compared to the German carrier were significant, and this allowed it to offer lower fares on lucrative long haul flights connecting through its primary hub in Istanbul. As such Turkish Airlines was no longer reliant on Lufthansa as it had established its own network within Germany, which allowed it to attract increasing numbers of European passengers. Turkish's network in Germany allows it to offer one-stop long haul service between secondary Germany cities and destinations in Asia and Africa. By contrast, Lufthansa directs most of the traffic from these secondary cities via its major hubs in Munich and Frankfurt.

Turkish and Qatar Airways are the only two emerging carriers to join an alliance. Qatar Airways only recently joined oneworld and it remains to be seen how it affects the dynamic of that alliance. Lufthansa has long been one of the most vocal critics of the Gulf carriers, citing government support and uneconomic fares as unfair practices. It is however very rare to witness two fellow alliance members cease cooperating, especially two large members. Lufthansa is undoubtedly one of the leaders of the Star Alliance alongside United Airlines. This unilateral decision clearly indicates that Lufthansa has chosen to adopt a protectionist stance in regards to at least one emerging carrier. We have seen Lufthansa do the same with Emirates and Qatar Airways. This stance was previously echoed by the other two large European legacy carriers, Air France and British Airways. Over the past few years those airlines have changed their position in regards to the emerging carriers, owing to the realities of the global airline industry. European legacy carriers that rely on long haul operations are among the most vulnerable to the growth of the emerging carriers. They are competing with them for highly desirable long haul traffic. These European carriers realistically have three options in dealing with the emerging carriers.

[91] Hurriyet Daily News "Lufthansa ends codeshare deal with Turkish Airlines" http://www.hurriyetdailynews.com/lufthansa-ends-code-share-deal-with-turkish-airlines.aspx?pageID=238&nID=58578&NewsCatID=345

The first possible response is to do what Lufthansa has been doing and adopt a protectionist stance. Lufthansa has been successful in lobbying the German government to curtail Emirates' operations there. Emirates was ordered by the German government to raise its fares on several routes from Germany to match those of Star Alliance[92]. Emirates did so despite the fact that according to them, several other competitors on those routes offered lower fares. Qatar Airways was apparently dissuaded from joining the Star Alliance due to what it perceived as hostility on the part of Lufthansa. Lufthansa has also played a part in limiting the emerging carriers' expansion in Canada. This stance has earned Lufthansa some respite from the relentless growth of the emerging carriers. Secondary airports in Germany are unlikely to witness any new service from the emerging carriers in the immediate future. In addition, it is unlikely that the Arabian Gulf based emerging carriers will be able to increase service to their existing German destinations.

What Lufthansa has been unsuccessful in doing is limiting the growth of the emerging carriers elsewhere in the world. Over 50% of Lufthansa's total passenger traffic revenues come from its operations outside Europe[93]. The emerging carriers' growth threatens that revenue stream. Turkish Airlines is also not subject to the same restrictions as the Arabian Gulf emerging carriers. Lufthansa's severing of the partnership with Turkish Airlines may aid it in recovering some of its lost traffic. Ending the agreement with Turkish Airlines will not however end that airlines' expansion in Europe. Turkish Airlines has a cost advantage over Lufthansa and now that is has matured, it is no longer in need of a close relationship as it was when it joined in 2008. In addition to competing with Lufthansa for long haul traffic, Turkish Airlines also threatens the 46.3% of total revenues that Lufthansa generates in Europe.

The second option is to cooperate with the emerging carriers. In the early part of the millennium when the emerging carriers were still establishing themselves, the big three European carriers had each chosen to compete with them. The European carriers had significantly larger networks and did not appear troubled by the emerging carriers. As the emerging carriers grew the big three European carriers were all unified in alleging that these new airlines were being unfairly subsidized. By the early 2010's British Airways began warming to the idea of cooperating with these airlines. Each of the emerging carriers had established a large presence in the United Kingdom, and were in turn threatening British Airways' connecting network in Asia, the Middle

[92] Emirates, "Increasing Fares to match Star Alliance carriers"
http://www.emirates.com/ca/english/about/international-and-government-affairs/emirates_and_germany/fares_to_match_star_alliance.aspx
[93] Centre for Aviation " Lufthansa: Why being the best of the big three is not good enough"
http://centreforaviation.com/analysis/lufthansa-why-being-the-best-of-the-big-three-is-not-good-enough-101279

East and Australia. This ultimately led to British Airways sponsoring Qatar Airways' entry into the oneworld alliance. Air France-KLM then decided to sign a code-sharing agreement with Etihad Airways. Both of these agreements are still relatively new so it remains to be seen whether they are beneficial to both parties. This left Lufthansa as the sole major European legacy carrier not cooperating with any of the three Arabian Gulf emerging carriers. Reports from the 2013 Dubai Air Show appeared to indicate that Lufthansa was willing to discuss some form of cooperation with Emirates, though ultimately no agreement materialized[94]. Nonetheless it does show that the major European carriers are willing to cooperate on some level with the emerging carriers. These agreements may be help the European carriers in limiting the threat posed to their revenue streams by the emerging carriers.

The final option available to the European carriers is to compete directly with the emerging carriers. They can compete with the emerging carriers in three different manners: pricing, service, and network quality. Fares are one of the most important considerations for passengers. The results of a Centre for Aviation (CAPA) study shown in Figure 4.3 demonstrate why it is difficult for the big three European carriers to compete with the emerging carriers.

Figure 4.3 shows the average stage length and average cost per available seat kilometer (CASK) for selected airlines, including the big three European carriers and two of the emerging carriers. All three of the European legacy carriers being considered have CASKs in excess of 8 euro cents. Emirates, whose network consists mostly of medium to long haul flights, has a CASK of 6 euro cents, while Turkish's long haul operations have a CASK of approximately 5.5 euro cents. This cost difference effectively limits the European carriers' ability to compete on price with the emerging carriers. Each of the European carriers has in recent years undertaken wide ranging programs intended to reduce their costs and achieve profitability. These programs typically involve renegotiating labor agreements, layoffs, fleet renewals, the sale of business units, and in some cases the closing of subsidiaries. It remains to be seen whether these efforts will enable them to compete with the emerging carriers on the basis of fares.

[94] Arabian Business "Lufthansa mulls Emirates talks in Dubai" http://www.arabianbusiness.com/lufthansa-mulls-emirates-talks-in-dubai-526691.html

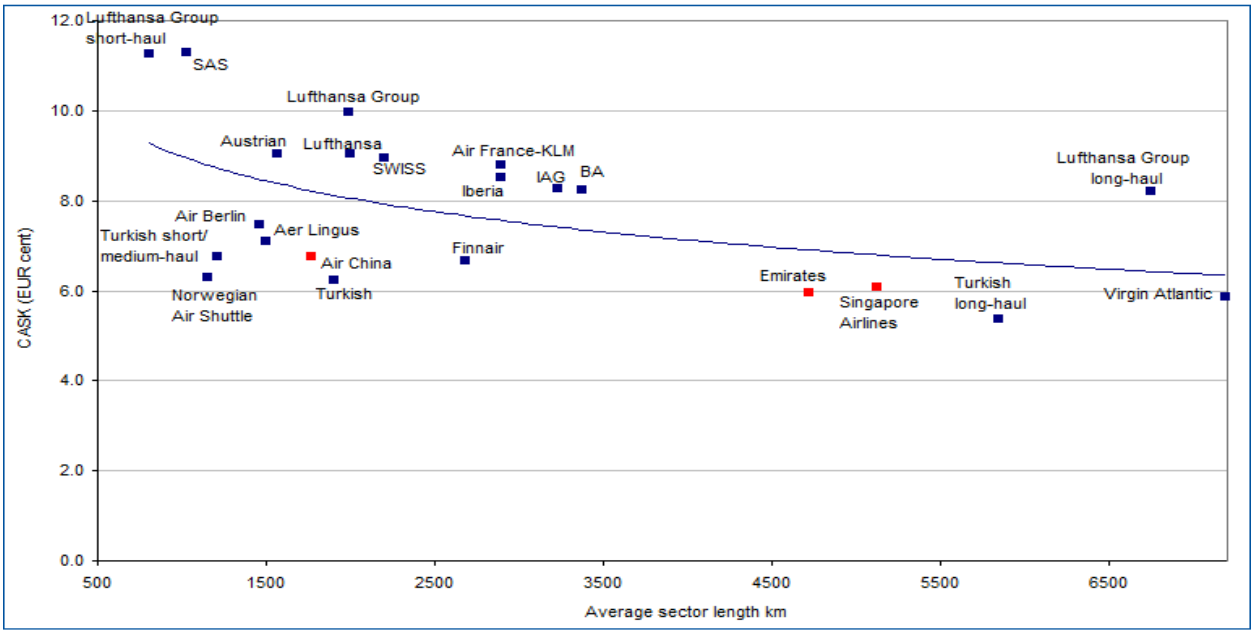


Figure 4.3) Average cost per available seat kilometer for selected airlines[95]

In regards to service the emerging carriers are all ranked among the top 10 airlines in the world by SkyTrax; an aviation consultancy firm which runs an airline and airport review/ranking website[96]. None of the European carriers feature in the top 10. Furthermore the emerging carriers' premium cabins are all ranked in the top 10 globally by SkyTrax. Competing with the emerging carriers on the basis of service would require a significant transformation for the European carriers. Recently Air France announced that it would be revamping its business class service in order to offer premium flyers a similar experience to that of the emerging carriers[97]. Lufthansa recently opened a dedicated terminal at its Frankfurt hub for First Class passengers. It is possible for the European carriers to compete with the emerging carriers in regards to service, and it seems that they are undertaking efforts to do so. Premium passengers are less sensitive to fare prices when compared to leisure passengers, as such efforts by the European carriers to appeal to premium passengers are likely to help them compete with the emerging carriers.

[95] Centre for Aviation "Lufthansa's long-haul low cost Asian operation. A Range of Partner options. Part 1" http://centreforaviation.com/analysis/lufthansas-long-haul-low-cost-asian-operation-a-range-of-partner-options-part-1-102605

[96] SkyTrax "Emirates is announced as the World's best Airline in the 2013 World Airline Awards" http://www.airlinequality.com/news/awards2013.htm

[97] Bloomberg "Air France-KLM seeks makeover after brush with bankruptcy" http://www.bloomberg.com/news/2014-03-04/air-france-klm-seeks-makeover-after-brush-with-bankruptcy.html

Network quality refers to the overall connectivity that the carriers can provide to a passenger. It can include considerations such as the number of destinations offered, frequency of flights, overall travel time, and other considerations related to the network structure. For the emerging carriers, network quality is based primarily on the fact that they can provide one-stop service between destinations in Asia and Europe. European carriers are also able to do this though in many cases they would only be able to offer 2-stop itineraries. This is especially true for secondary destinations in both Europe and Asia. In the United Kingdom for instance, the emerging carriers offer direct service from secondary British airports such as Birmingham to their respective hubs. A passenger commencing his journey in Birmingham could purchase a one-stop flight from the UK to Australia with one of the emerging carriers. A trip with British Airways would require a stop in both London and Singapore. The geographical location of the emerging carrier hubs provides them with an advantage over the European carriers in certain instances. In others such as the local Europe to North America air travel market, the European carriers are well positioned to serve passengers. The emerging carriers do have certain sixth and seventh freedom rights which allow them to serve this market directly, as evidenced by Emirates' introduction of a Milan to New York service. These services are however rare and it remains to be seen whether the emerging carriers will offer more of them.

As the co-anchors of the three global airline alliances, the European big three have long been used to competing for long-haul connecting traffic. The rise of the emerging carriers has in certain cases disturbed the competitive environment of the long haul air travel market. The European big three were among the first airlines to notice this, and have taken different measures over the past few years in dealing with the emerging carriers. While they initially chose to adopt uncooperative measures, their behavior over the past three years indicate that they are changing their stance. This is in recognition of the effect that the emerging carriers are having on the global airline industry. In the next section we will discuss how the growth of one of the emerging carriers, has changed the competitive landscape for British Airways and its oneworld alliance in Australia.

4.5) Emirates and Qantas

In early 2000, Emirates made public its ambitions to join the Star Alliance[98]. It was still a fairly small airline at the time, but had attracted the attention of some industry executives with its ambitious plans. As the first and largest airline alliance to be founded, Star Alliance was clearly a

[98] The Telegraph, " Emirates poised to join Star Alliance" http://www.telegraph.co.uk/finance/4461750/Emirates-poised-to-join-Star-Alliance.html

very attractive opportunity for Emirates. It would allow it to nearly immediately connect its passengers to destinations across the globe. Those plans however never materialized and eventually Emirates adopted an anti-alliance stance. Emirates' current president, Tim Clark, has stated the three global alliances have created "a fairly difficult, vicious structure internationally" and that their behavior can be likened to "gang warfare"[99]. At the time, it was unclear what had ended Emirates' alliance aspirations. Over a decade later when Qatar Airways decided to join oneworld, its CEO Akbar Al-Baker stated that Lufthansa's hostility towards it and the other emerging carriers had dissuaded him from attempting to join the Star Alliance.

After a decade of rapid growth and expansion, Emirates is no longer in need of alliance membership to fill its planes. Since their negative experience at the start of the millennium they have focused on expanding their own network and partnering with other airlines when needed. They have codeshare agreements with a small number of airlines in certain strategic markets such as Japan and the US. In September 2012 they announced a new codeshare and partnership with Qantas. The agreement with Qantas saw the Australian carrier end a 17 year relationship with fellow alliance member British Airways[100]. Europe is one of the most popular destinations for Australian travelers. The previous agreement with British Airways relied on using Singapore as a connecting point for travelers. Typically European bound Australian passengers connected onto a British Airways flights in Singapore destined for the United Kingdom. The new agreement with Emirates affords Australian passengers the convenience of one-stop service to 60 new destinations in Europe via Dubai.

Qantas and British Airways are both founding members of the oneworld alliance. They had a very close and involved relationship which had been developed over nearly two decades. Qantas did not take the decision to end the agreement lightly, but partnering with Emirates allowed it to market one-stop service to nearly all major European destinations while bypassing both Singapore and London's congested airports. Qantas has been facing financial difficulties over the past few years, especially with its international network. Qantas is competing with two other international carriers based in Australia, who both enjoy cost advantages when compared to Qantas. Partnering with Emirates afforded Qantas a large one-stop European network. In the nine weeks preceding the formal start of the partnership, Qantas witnessed a six-fold increase in European bookings when

[99] FlightGlobal, "Tim Clark, Emirates Airline" http://www.flightglobal.com/page/interviews/tim-clark/the-interview/

[100] Bloomberg Businessweek "Qantas teams with Emirates, Ends British Airways Alliance" http://www.businessweek.com/news/2012-09-05/qantas-emirates-said-to-ready-partnership-announcement

compared to the previous year[101]. Bookings by Emirates passengers on connecting domestic Australian routes also increased seven fold during the same time frame.

Qantas clearly benefited from this new arrangement despite another dismal financial performance in 2013. Emirates benefited by being able to incorporate Qantas' 65 domestic destinations into its network. In regards to the global airline industry, this new agreement solidified Emirates' position as one of the world's largest airlines. British Airways was left without an Australian partner after the termination of the agreement. It sought to limit the damage by partnering with fellow alliance member Cathay Pacific. The new agreement resulted in British Airways code-sharing on Cathay Pacific flights from Hong Kong to Australia. As a result, Singapore has lost its role as the connecting hub between Australia and Europe. Singapore Airlines is similar to the three Arabian Gulf emerging carriers in that it does not have a domestic network, and relies on long haul connecting traffic. As a member of Star Alliance it is not directly affected by the new partnership between Emirates and Qantas, but its home airport certainly is. The loss of its status as a connecting hub for oneworld will result in lower revenues for Singapore Changi International Airport. The Singaporean airport authorities had announced plans to further expand the airport, but it is unclear whether they will go forward with those plans in light of the new partnership and the pressures Singapore Airlines faces from the emerging carriers.

Alliance member airlines are free to pursue partnerships as they see fit in many cases. However, in some instances fellow alliance members can veto proposed plans through a variety of means. In this case Emirates was able to convince a major alliance airline to end its agreement with a fellow alliance member. Alliances have been regarded as a temporary solution to the consolidation and merger issues. Some in the industry believe that the loosening of ownership and consolidation agreements will eventually lead to the decline of the alliances[102][103]. What Emirates has demonstrated is that it is possible to create a codeshare and partnership regime without having to compromise, as one would in an alliance. A notion that its fellow-Emirati airline, Etihad has embraced full on.

[101] Sydney Morning Herald "Qantas booking boost thanks to Emirates" http://www.smh.com.au/travel/travel-news/qantas-booking-boost-thanks-to-emirates-20130403-2h645.html
[102] The Economist "SkyTeam and the World of Tomorrow" http://www.economist.com/blogs/gulliver/2013/07/airline-alliances
[103] Centre for Aviation " Airlines in Transition: Willie Walsh's view of the world of global airline alliances" http://centreforaviation.com/analysis/airlines-in-transition-willie-walshs-view-of-the-world-of-global-airline-alliances-106577

4.6) Etihad's codeshare and partial ownership model

As the youngest of the four emerging carriers, there were doubts that Etihad would be able to achieve success, let alone rival its larger neighbor Emirates. When it was first founded it was unclear how it would differentiate itself from its rivals. Codeshares are a common tool in the airline industry; they form the basis of the three airline alliances. From its founding Etihad sought to partner with airlines in order to bolster the passenger traffic it was handling. In 2009 it announced its first codesharing partnership with American Airlines, which was expanded in 2011 to include earning frequent flyer miles on codeshared flights[104]. Since then it has ratified over 40 codeshare agreements with some of the worlds' largest airlines such as Air France, Air Canada and Turkish Airlines. Having multiple codeshare agreements is not unusual for an airline, but with 42 codeshare agreements as of 2014, Etihad is one of the most enthusiastic users of such agreements. Turkish Airlines by comparison, has 35 codeshare agreements including its alliance members.

It is common practice for an alliance member to codeshare with a non-aligned airline. Etihad has taken full advantage of this and gone one step further; it has been actively acquiring equity stakes in other airlines. In late 2011 Etihad disclosed that it had acquired a 2.99% equity stake in Air Berlin, Germany's second largest carrier, and would be further increasing that stake to 29.21%[105]. This made it the largest stakeholder in the discount carrier. Over the next two years it would go on to acquire major stakes in several other airlines across the globe as shown in Figure 4.4.

Etihad has now acquired equity stakes in seven airlines ranging from just under 3% to 49%. The equity stakes have afforded it a say in how these airlines are run. In the case of Air Serbia, Etihad acquired a 49% stake in its bankrupt predecessor, JAT Airways, and then entered into an agreement with the Serbian government. That agreement resulted in Etihad taking over the management of the newly revamped airline for a period of 10 years. Etihad has also ordered aircraft on behalf of Air Serbia. After acquiring a stake in Air Berlin, Etihad convinced the airline to shift their Middle Eastern hub from Dubai to Abu Dhabi. The stake in Virgin Australia afforded Etihad access to the lucrative long haul Australian market, and reduced its competitive exposure to Qantas, which is particularly important given the previous section regarding its partnership with

[104] M2.com "Etihad Airways and American Airlines announce codeshare agreement"
http://www.m2.com/m2/web/story.php/200999D2C392643F9798802575EE0031CC15
[105] Wall Street Journal "Etihad to increase Air Berlin stake"
http://online.wsj.com/news/articles/SB10001424052970204791104577107880526873836

Emirates. That partnership is likely to affect Qatar Airways since it is now an oneworld member and Qantas has chosen not to use Doha as a hub in the Middle East.

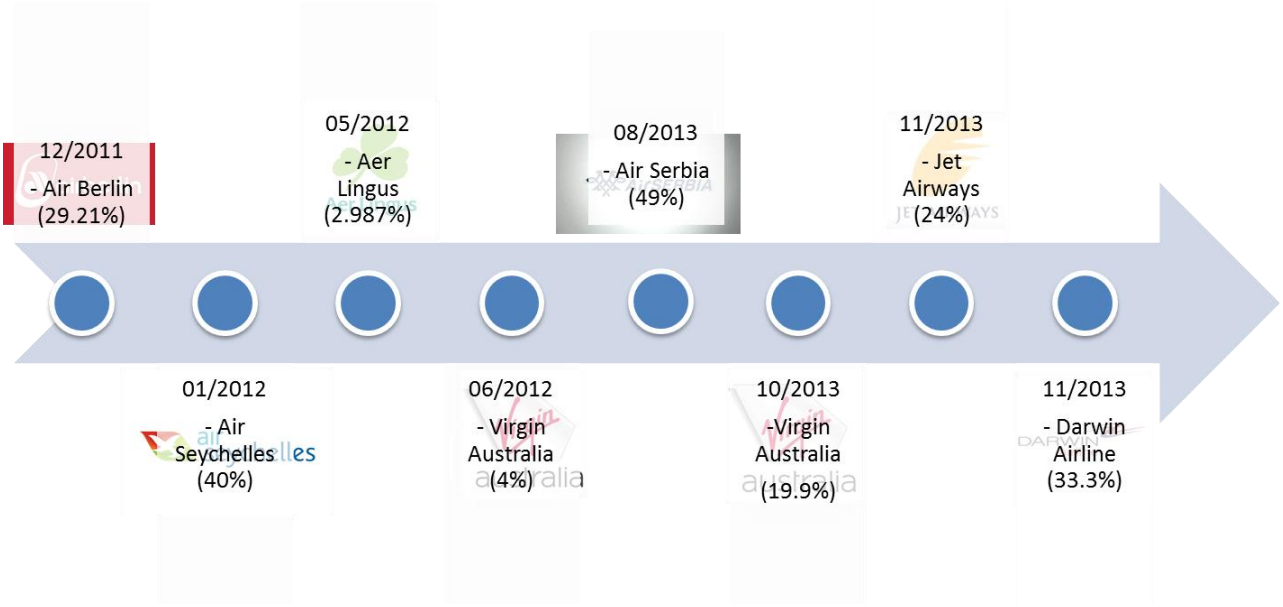


Figure 4.4) Timeline of Etihad's equity stakes acquisitions[106]

During the Dubai air show in November 2013, Etihad announced that they had acquired a 33.3% stake in a small regional Swiss airline; Darwin Airlines. Etihad then announced that they planned to rebrand the airline as Etihad Regional and offer regional connecting service within Europe. Many European airlines were surprised at the news, and none more so than Lufthansa. Lufthansa was already unhappy with the Air Berlin-Etihad arrangement which saw the struggling German carrier receive a cash infusion from the cash rich UAE carrier. The new Etihad Regional would further compound Lufthansa's problem, by further intensifying the competitive environment in Germany. The new route network announced in late 2013 called for service to many secondary Germany cities, where Lufthansa was already competing with Turkish Airlines and the myriad of European low cost carriers. Etihad Regional is based out of Geneva airport and provides service from there to two other Swiss airports, thereby pitting it against Swiss International Airlines, a subsidiary of the Lufthansa Group. Etihad Regional's largest nation by destinations is however Italy, where local flag carrier Alitalia has been suffering for decades.

In early 2014 it was announced that Etihad was in negotiations with Alitalia regarding an equity stake. The deal would give Etihad a foothold in one of Europe's largest economies and

[106] Etihad, "Fast Facts and Figure Q4 2013"
http://www.etihad.com/Documents/PDFs/Corporate%20profile/Fast%20facts/Q4-2013-en.pdf

biggest vacation destinations. Its new subsidiary Etihad Regional has established a hub in Rome's primary airport. With this in mind it becomes apparent what Etihad may be planning. By basing a regional carrier at Rome and acquiring a stake in the flag carrier, Etihad could potentially establish a secondary hub in Rome for its mainline operations. Emirates has already commenced a fifth freedom flight between Milan and New York, thereby indicating that the air services agreement between the UAE and Italy allows for fifth freedom flights. That flight was subject to a lawsuit filed by an Italian airline association, which resulted in a ruling ordering Emirates to cease the flight[107]. Emirates will appeal the ruling, but this does raise concerns regarding future fifth and sixth freedom flights by Emirates and the other emerging carriers.

Were all the pieces to fall in place, Etihad would be able to compete for not only domestic European travel, but also the Europe-North America travel market. Alitalia is however one of the most troubled airlines in Europe. After its alliance partner Air France-KLM acquired a 25% stake in 2009, the airline was re-launched as the "new" Alitalia[108]. The re-launch was meant to allow Alitalia to reorganize itself and eventually achieve profitability. Since the re-launch it has accumulated close to 1 billion euros of debt[109]. Alitalia's issue stem from a bloated workforce, ageing fleet, and increased LCC activity in Italy. Etihad's appeal to Alitalia is most likely its financial resources, which would provide the ailing Italian carrier with a much need capital injection. It is difficult however to evaluate what Etihad would benefit from investing in Alitalia, aside from increased access to its hubs in Italy. By late 2013 Air France-KLM had written off its stake in Alitalia and stated that they were unlikely to provide a capital injection. As of April 2014, a deal between Etihad and Alitalia had yet to materialize; initial reports indicated that Etihad's stance had hardened[110].

SkyTeam is the most vulnerable and exposed alliance to this issue. Alitalia is a SkyTeam member and Delta operates regular service from its hubs to Milan and Rome. Etihad however partnered with Air France and KLM in 2012 thereby limiting the potential criticism from SkyTeam in regards to its Italian plans. The Air France-KLM group is a shareholder in Alitalia but declined to invest further in the airline, thereby presenting an opportunity for Etihad. The Italian government

[107] Wall Street Journal, "Italian Court Rules Against Emirates' Milan-New York Route" http://online.wsj.com/news/articles/SB10001424052702303873604579493643517437548

[108] Financial Times "Air France-KLM buys 25% of Alitalia" http://www.ft.com/intl/cms/s/0/776c5c2c-e0ce-11dd-b0e8-000077b07658.html

[109] ANSA.IT "Air France-KLM writes off its stake in Alitalia" http://www.ansa.it/web/notizie/rubriche/english/2013/10/31/Air-France-KLM-writes-off-its-stake-Alitalia_9551665.html

[110] Reuters, "Etihad toughens stance on Alitalia deal but talks continue: sources" http://www.reuters.com/article/2014/04/17/us-italy-alitalia-idUSBREA3G0J820140417

is said to be keen on Etihad acquiring a stake in Alitalia. Etihad has however made several statements indicating it will not be pressured into acquiring a stake in the ailing airline. They have also made it clear that they expect major concessions from several of the invested parties. Alitalia has been cited as a recurring case of government intervention in the airline industry. Some European airline executives, most notably Willie Walsh of IAG, have stated that Alitalia should be allowed to fail[111]. Others have pointed out that the government backed rescues of Alitalia violate European competition laws.

Airline equity alliances were a popular means of coordination between airlines prior to the forming of the three global airline alliances. Swissair, the predecessor to the current Swiss flag carrier, was one of the most active airlines in acquiring equity stakes. The so called "Hunter Strategy" resulted in Swissair acquiring stakes in multiple European carriers and a few foreign ones. After the September 11th attacks the entire airline industry suffered a severe downturn. Swissair was particularly vulnerable due to its stakes in various other airlines. Swissair eventually encountered cash flow problems which eventually led to the grounding of its fleet and the airline being dissolved. Etihad initially appeared to have been more careful with its investments and is more active in running these airlines. Recently however it has become more ambitious and aggressive. An increased stake in Air Berlin coupled with a potential stake in Alitalia will make its equity alliance heavily reliant on the European air travel market. It should note the case of Swiss Air which also had a supportive government but was ultimately unable to cope with the losses its equity partners generated.

4.7) Relationship with Aircraft Manufacturers

Thus far we have discussed some of the issues that have arisen between the emerging carriers and other airlines across the globe. European carriers have been among the most vocal critics of the emerging carriers, though that appears to be changing. Airlines based in the Middle East have also been affected, though they have not made their grievances as public as some other carriers. Governments in North America and Europe have also made statements regarding the emerging carriers, sometimes on behalf of their home carriers. These governments in many cases are also considering the relationship between the emerging carriers and their local industries, most notably the aerospace industry.

[111] Dallas News "IAG's Walsh says it's time to stop propping up Alitalia"
http://aviationblog.dallasnews.com/2013/11/iags-walsh-says-its-time-to-stop-propping-up-alitalia.html/

At the 2003 Paris Air Show a relatively unknown airline placed what was then the worlds' largest widebody aircraft order[112]. Emirates burst onto the scene with an order for 21 Airbus A380s at a time when the industry was still recovering from the downturn following the September 11th attacks and the SARS epidemic. Since then Emirates and the three other emerging carriers have become a staple at the annual air shows. They have consistently placed record breaking orders for widebody aircraft. With the exception of Turkish Airlines, all of the emerging carriers operate predominantly widebody fleets. Few other large airlines do so, the exceptions being the Far East Asian carriers such as Singapore Airlines and Japan Airlines. Emirates' all widebody fleet size is double that of many global carriers' widebody fleets including Lufthansa and Singapore Airlines. Their reliance on widebody aircraft has resulted in them being among the most important customers for the world's two largest aircraft manufacturers; Airbus and Boeing.

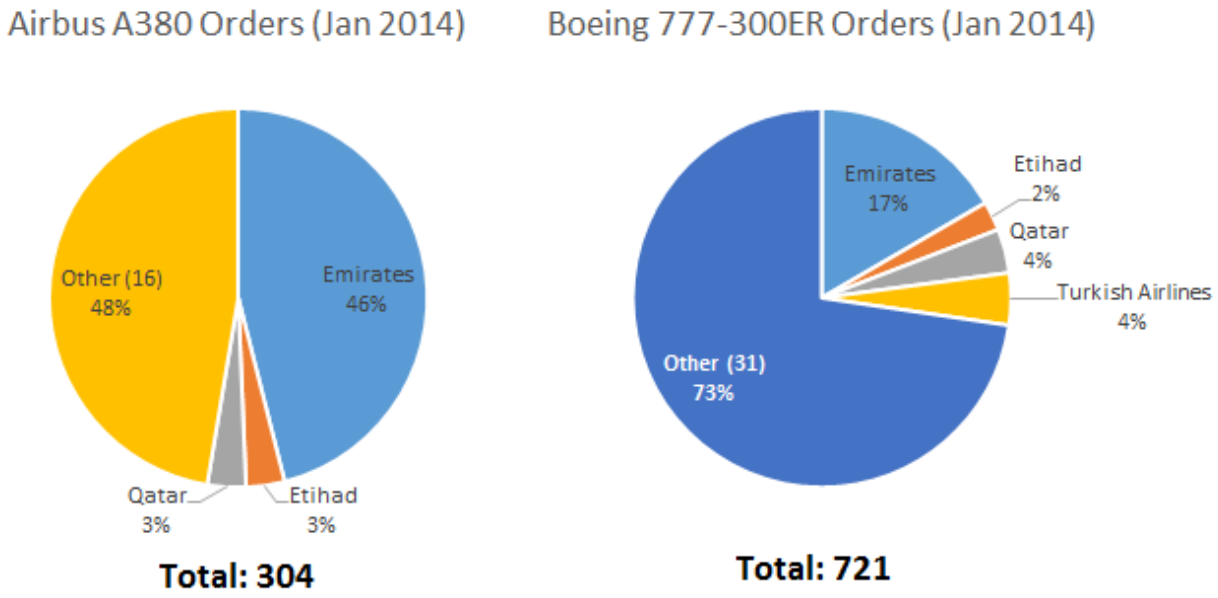


Figure 4.5) Emerging carrier current generation widebody aircraft orders

From Figure 4.5 we see that more than half the orders for the Airbus A380; the worlds' largest and most expensive commercial passenger jet, are by the emerging carriers. Over a quarter of the orders for Boeing's successful 777-300ER are by the emerging carriers. Traditionally airlines such as United, Air France and Singapore Airlines were the biggest customers for widebody aircraft. Over the past decade it has been the emerging carriers that have been the biggest customers. In

[112] CNN.com "Emirates' spending extravaganza"
http://edition.cnn.com/2003/WORLD/europe/06/17/paris.airshow.emirates.quest/index.html?iref=mpstoryview

recent years order announcements from the emerging carriers typically set records, whereas those by older legacy carriers generate fewer headlines.

Aircraft manufacturers are becoming ever more reliant on emerging carrier aircraft orders to ensure the financial success of these programs. When developing next generation aircraft they are also consulting airlines to ensure they meet the expectations and needs of those airlines. This is necessary to ensure that they develop desirable aircraft that will generate sufficient orders. Boeing for instance developed the 747SP in response to a request by both Pan Am and Iran Air. Nowadays these discussions typically involve at least one of the emerging carriers. In the months leading up to the 2013 Dubai Air Show, Emirates had stated that it was in talks with Boeing regarding an improved variant of the 777. The development of the Boeing 777X was announced on the first day of the air show, and it generated significant interest as shown in Figure 4.6.

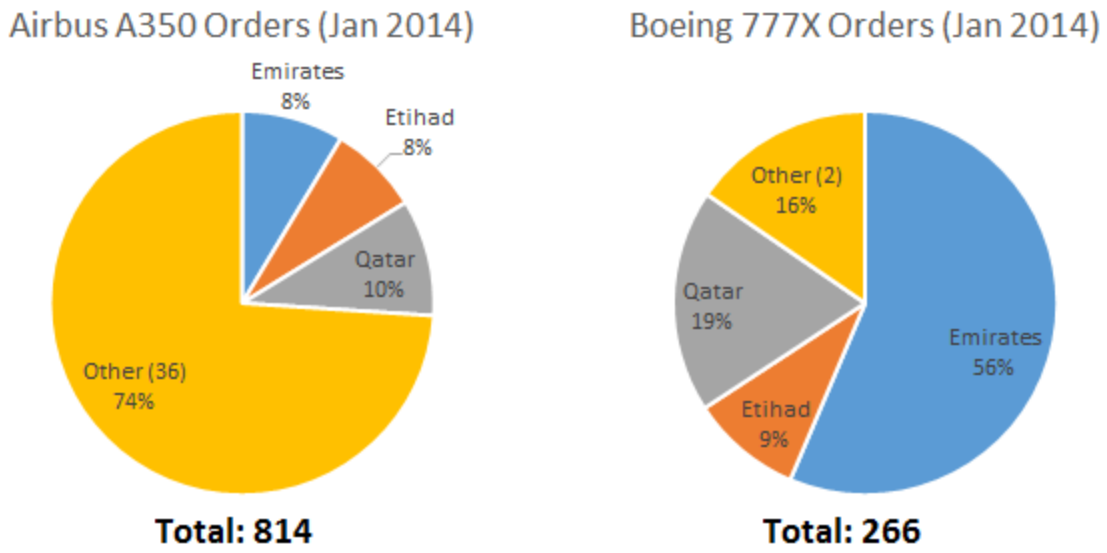


Figure 4.6) Emerging carrier next generation widebody aircraft orders

The Airbus A350 family was formally launched in 2006 and since then it has amassed over 800 orders across all three variants. The emerging carriers were among the first customers and currently account for 26% of all orders. Turkish Airlines has expressed interest in the aircraft and may place an order within the next year, though its widebody orders are typically much smaller than those of the other three emerging carriers. The launch of the Boeing 777X was the most successful aircraft launch in history according to the manufacturer. Boeing sold 245 777X's on the first day of the Dubai Air Show. By contrast it took the original 777 family six years to accumulate

that many orders[113]. Though some other airlines have expressed interest in the 777X, only Cathay Pacific and Lufthansa have placed firm orders. The aircraft was launched only three months ago, but as of January 2014 the emerging carriers account for over 80% of the orders.

Each of the emerging carriers has a target average fleet age they seek to maintain. In the case of Qatar Airways it is 5 years whereas Emirates has a target of 10 years. If they intend to maintain these targets, Airbus and Boeing can rest assured that the emerging carriers will be placing new orders on a fairly consistent basis. This does the raise the issue of how dependent the manufacturers are on these four carriers. Airbus' A380 has struggled to achieve its target sales and were it not for Emirates the program would likely be viewed as a white elephant. Qatar Airways was one of the most vocal critics of Boeing during the grounding of the 787 fleet, of which it is a major customer. When the wing failures prompted the grounding of Qantas' A380 fleet, Airbus was quick to ensure its other customers, most notably Emirates that it would investigate the issue and aid in rectifying it. The cost of these widebody aircraft also means that the manufacturers are very dependent on the emerging carriers for their own financial success.

This dependence by the manufacturers on the emerging carriers also affects airlines in the US and Europe. Delta Airlines has adopted a stance similar to Lufthansa's in regards to the emerging carriers. In 2013 Delta filed a lawsuit against the Export-Import bank of the United States[114]. The lawsuit alleged that loan guarantees issued by the bank to facilitate foreign carrier's purchase of Boeing aircraft adversely affected the airline industry in the US. The Export Import bank is the primary US government agency in charge of assisting in the export of US manufactured goods. Delta along with many other US airline industry participants also lobbied the US government to stop the opening of a US Customs and Border Patrol station in Abu Dhabi. The facility which was largely paid for by the government of the UAE, allows passengers to clear US customs in Abu Dhabi, thereby avoiding the long wait time which have become customary at major US entry ports. Soon after it opened in early 2014, Dubai and Qatar both stated that they would enter into negotiations with the US government for similar facilities[115][116]. The emerging carriers have not faced any of the expansion issues in the US as they did in Canada. They have significantly expanded their operations

[113] Boeing.com Randy's Journal "One for the books"
http://www.boeingblogs.com/randy/archives/2013/11/one_for_the_books.html
[114] Reuters "Delta sues Ex-Im bank over loan guarantees for foreign airlines"
http://www.reuters.com/article/2013/04/04/us-delta-eximbank-lawsuit-idUSBRE93305B20130404
[115] Gulf New "Coming soon: Clear US customs at Dubai International"
http://gulfnews.com/business/aviation/coming-soon-clear-us-customs-at-dubai-international-1.1283050
[116] Wall Street Journal "Qatar in talks over U.S. 'preclearance' customs facility"
http://online.wsj.com/news/articles/SB10001424052702304071004579412630867401564

in the US and currently serve nearly every major city in the US. It seems then that the US airline industry has thus far been unsuccessful in lobbying the US government to curtail the expansion of the emerging carriers.

Returning to the issue of the orders the emerging carriers placed with Boeing, it is not difficult to identify at least one possible reason the US government has not acted. The value of the outstanding Boeing widebody aircraft orders at list prices placed by the emerging carriers stands at over $130 billion. Were the US government to antagonize the emerging carriers it is possible that they may favor Airbus when placing their next orders. Furthermore the manufacture of these aircraft employs many people throughout the US. The same is true for Airbus. Airbus is partly owned by various European governments as it was formed through the merger of several national aerospace companies. The German government has limited Emirates' expansion in Germany, though not to the same extent as Canada. Turkish Airlines however benefits from a much more liberal air services agreement and continues to expand in Germany. Lufthansa and other European carriers face the same problems as the US legacy carriers. Their concerns regarding the expansion of the emerging carriers are outweighed by the value of the contracts these carriers have signed with Airbus. Airbus is headquartered in France but maintains significant manufacturing facilities across the EU, most notably in Germany, Spain, France and the United Kingdom. All of which are important destinations for the emerging carriers.

4.8) Conclusion

The expansion of the emerging carriers has drawn the attention of both airlines and governments. In some cases that attention has resulted in retaliatory protectionist measures and accusations of unfair practices. Some carriers such as Air France and Qantas have changed their positions, and are actively cooperating with the emerging carriers. Others such as Lufthansa and Delta have maintained their protectionist stances in hopes of limiting the potential expansion opportunities available to the emerging carriers. These carriers face a difficult battle in convincing their governments to do so, as their governments must also consider the relationships between the emerging carriers and aircraft manufacturers. They have had some success in lobbying their governments, though these efforts do not appear to have had a significant effect on the emerging carriers' growth. Canada has no such conflict of interest as Bombardier; its primary aircraft manufacturer assembles smaller aircraft which are of little interest to the emerging carriers. This in turn may have made it more sympathetic to Air Canada's appeal to limit the expansion of the UAE carriers. Therefore while there are opportunities for the emerging carriers to expand, they must

consider the possibility of encountering unfriendly governments seeking to protect domestic carriers. Etihad's plan of acquiring small equity stakes may help protect it from such situations, but it is unlikely that the other three will adopt a similar policy.

Chapter 5 – Outlook for the Emerging Carriers through 2020

5.1) Introduction

As demonstrated in the previous two chapters, the emerging carriers have grown very rapidly over the past decade. If the emerging carriers continue to grow their operations and fleets by 10% or more annually, then they will have doubled in size by 2020. They are already among the largest airlines globally and continuing this rapid growth would have important ramifications for the global airline industry, most notably for large international airlines.

In this chapter a forecast of the possible capacity generated by the emerging carriers in 2020 will be developed. This forecast will rely on the aircraft orders placed by the emerging carriers, as well as reports suggesting their future plans. The implications of this forecast will be assessed with respect to the possible state of the industry in 2020. Furthermore, this forecast will be weighed against the passenger travel forecast made by Boeing. Boeing's forecast, formally known as the Boeing Current Market Outlook, presents a forecast of passenger traffic by region, whereas other forecasts focus on airport traffic, or traffic by airlines based in a certain region. These types of forecasts while useful, do not allow us to directly evaluate our own forecast.

5.2) Emerging Carrier Capacity Forecast 2020

The purpose of this forecast is to estimate the possible deployable capacity of the emerging carriers in 2020, as well as the required number of passengers or RPKs necessary to maintain reasonable system wide load factors. The forecast presented in this chapter involves the six steps listed below:

1. Current emerging carrier fleet size and composition
2. Current fleet operating statistics
3. Aircraft orders and delivery dates
4. Assess likely aircraft retirements
5. Create 6 year fleet plan (2014-2020)
6. Calculate deployable capacity in 2020

Steps 1 and 2 are calculated for a given month as we require an accurate aircraft count in order to calculate the operating statistics per aircraft family, for each emerging carrier. Similarly the order assessment in step 3 must be considered against the fleet assessment in step 1 to ensure that aircraft are not counted twice. Step 4 is necessary to ensure that older aircraft that are not likely to remain in the emerging carrier fleets in 2020 are not considered. Step 5 compiles the results of

steps 1, 3 and 4 to present an annual snapshot of the size of each emerging carriers' fleet between 2014 and 2020. Finally, in step 6 the results of steps 2 and 5 are used to project the operating statistics of each emerging carrier's forecasted fleet in 2020. This methodology has been applied to all four of the emerging carriers. In the next sections we will apply the methodology to one of the emerging carriers, Etihad Airways in order to demonstrate the process.

5.2.1) Current emerging carrier fleet size and composition

The first step is to determine the fleet size of each of the emerging carriers for a given month. Each of the emerging carriers receives new aircraft on a near monthly basis, and for the purposes of this forecast it is important to capture the fleet composition for a given month. The first resource we rely upon are the annual business reports issued by the emerging carriers. With the exception of Qatar Airways, each emerging carrier issues an annual business report that includes a breakdown of their current fleet. These fleet compositions are usually as of March or April as the reports are issued in May. As of the publication of this thesis, none of the carriers had yet issued their 2013 annual business report. We therefore rely on quarterly reports or press releases made by each of the emerging carriers.

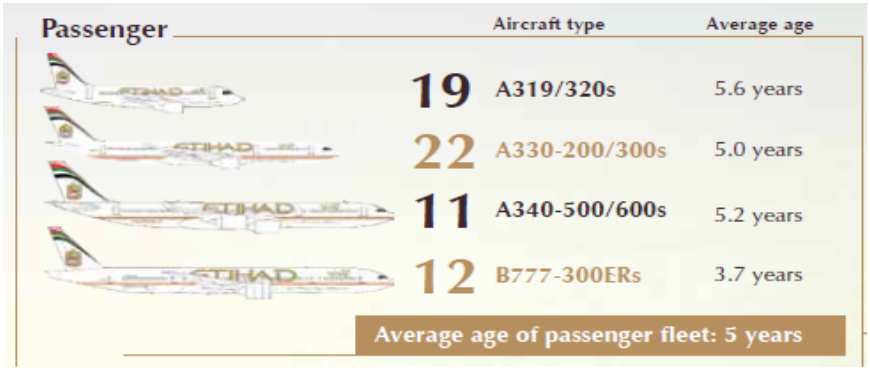


Figure 5.1) Etihad Airways Fleet Composition[117]

Figure 5.1 is an excerpt from Etihad Airways' 2012 report. It lists the type of aircraft and count for its passenger fleet. Etihad's 2012 annual report was made public in May 2013 and the fleet count shown in Figure 5.1 lists a total of 64 aircraft. A fourth quarter report from Etihad listed the passenger fleet count at 80 aircraft[118]. That is the latest available data from Etihad and will be

[117] Etihad Airways, "Annual Report 2012"
http://www.etihad.com/Documents/PDFs/Corporate%20profile/Corporate%20reports%20and%20CSR/annual-2012-en.pdf
[118] Etihad Airways, "Facts and Figures Q4 2013"
http://www.etihad.com/Documents/PDFs/Corporate%20profile/Fast%20facts/Q4-2013-en.pdf

used for this forecast. One issue with Etihad's reports is that groups together aircraft by family type. Their website gives no further details as to the exact composition within each aircraft family. As such we rely on crowd-sourced websites, such as planespotters.com, to determine the exact fleet composition by aircraft model. The planespotters database provides delivery dates as well as aircraft age. The delivery dates are used to ensure that aircraft delivered after the specified date are not included in the analysis. In this case, any aircraft delivered in 2014 are not considered when analyzing Etihad's fleet. The results are shown in Table 5.1.

Model	Count
Narrowbody	
Airbus A319	2
Airbus A320	21
Airbus A321	1
Widebody	
Airbus A330-200	21
Airbus A330-300	6
Airbus A340-500	4
Airbus A340-600	7
Boeing 777-300ER	18

Table 5.1) Etihad Fleet composition as of December 2013

5.2.2) Current Fleet Operating Statistics

Now that we have established Etihad's fleet composition at a given point in time, we must determine how each aircraft model is operated and utilized. We aim to determine an average stage length, daily departures and seats/aircraft for each aircraft model, as we will be using these in forecasting future capacity. The emerging carriers operate continuous service throughout the year, i.e. they rarely operate seasonal flights. As such aircraft utilization is not expected to vary significantly throughout the year.

Etihad's fleet composition shown in Table 5.1 is as of December 2013. The planespotters database indicates that Etihad received delivery of three aircraft in December 2013; 1 Airbus A320 and 2 Airbus A330-200. These aircraft were received in the middle of the month and it is unclear when they were put into service. This is an important consideration in this step of the forecast as we require an accurate fleet count.

In order to determine the desired operating statistics, we will rely once again on the data available from the Diio Mi portal. We queried the portal for all flights operated by Etihad in December 2013. The portal provides us with ASMs, available seats and flights for each route

operated. It also lists what type of aircraft was used on each route. The fleet composition determined in step 1 is then used to calculate the average operating statistics for each type of aircraft. The results of this step are presented in Table 5.2 for Etihad.

Aircraft Type	Total (Diio-Mi December 2013)			Count	Average (Calculated)		
	Flights	Seats	ASMS		Daily Deps.	Seats	Stage Length
A319	508	57,458	59,859,984	2	8.2	113	1,042
A320	2795	381,112	433,416,328	20	4.5	136	1,137
A321	123	21,402	27,103,980	1	4.0	174	1,266
A330-200	1420	369,480	1,144,125,422	19	2.4	260	3,097
A330-300	368	85,008	265,154,736	6	2.0	231	3,119
A340-500	126	30,240	173,172,000	4	1.0	240	5,727
A340-600	409	119,428	412,805,072	7	1.9	292	3,457
B777-300ER	1100	420,164	1,682,849,984	18	2.0	382	4,005

Table 5.2) Actual and Calculated Operating Statistics for Etihad Airways (December 2013)

Table 5.2 shows the actual operating statistics for Etihad Airways' operations in December 2013, along with the aircraft count determined in step 1. That data is then used to calculate the average daily departures, average number of seats per aircraft and the average stage length for each aircraft model. The average daily departures are calculated by dividing the total number of operated flights by the aircraft count and the number of days in December (31). The average number of seats is calculated by dividing the total number of seats by the total number of flights operated. Finally, the stage length is calculated by dividing the total ASMs by both the total number of flights and the average number of seats per aircraft. Thus we have the operating statistics for each aircraft model based on Etihad's operations in December 2013.

We previously noted that Etihad received three new aircraft in December 2013. We adjusted the aircraft counts in Table 5.2 to account for those changes. The Airbus A320 count was reduced from 21 to 20, and the Airbus A330-200 count was reduced by two to 19. These deductions only affect the average daily departures. These deductions have a minor effect on the daily departures. In both cases, the daily departures increase by 0.2.

In this step we have determined how each aircraft model is utilized in the Etihad network. The three operating statistics we have determined will be used in forecasting the future operations of Etihad's, as will be demonstrated in step 6.

5.2.3) Aircraft Orders and Delivery Dates

Next we assemble the aircraft orders made by Etihad Airways, and determine when these aircraft are to be delivered. The emerging carriers detail their aircraft orders in their annual reports, and in some cases provide anticipated delivery dates. Figure 5.2 is an excerpt from a quarterly report released by Etihad, which details their anticipated aircraft deliveries through 2020.

Aircraft type	Current Fleet	Aircraft arrivals 2014-2020
Airbus A320 family	24	23
Airbus A330 family	27	2
Airbus A340 family	11	-
Airbus A350	-	18
Airbus A380	-	10
Boeing 787	-	57
Boeing 777-300ER	18	10
Airbus 330-200F (Freighter)	3	2
Boeing 777-200F (Freighter)	3	1
Boeing 747-F (Freighter)	3	-
Total	89	123

Figure 5.2) Etihad Airways' partial fleet plan

The primary source of data for this part of the forecast are the aircraft manufacturers; Airbus and Boeing. They both provide aircraft order and delivery logs through their websites. Their logs only list firm orders and not options or commitments. This is an important distinction as in some cases the emerging carriers include options in their aircraft order figures. In the case of Etihad Airways, we must also consider that they are purchasing aircraft for some of their equity partners. In November 2013 Etihad placed an order with Airbus for both A350 and A320neo aircraft. It later emerged that some of the A32neo's ordered were destined for Air Serbia[119]. A month earlier, Etihad had signed an agreement with Air India to purchase 5 Boeing 777-200LRs,

[119] Gulf News, "Air Serbia behind Etihad A320neo deal", http://gulfnews.com/in-focus/dubai-airshow/air-serbia-behind-etihad-a320neo-deal-1.1257017

which are scheduled for delivery to Etihad in the first quarter of 2014[120]. Developments such as these are unpredictable and are difficult to forecast. This forecast will take known developments such as these into consideration, but will not make any predictions regarding any similar events occurring in the future.

Type	Orders
Airbus	
A320	4
A321	32
A330-200	2
A350-900	40
A350-1000	22
A380	10
Boeing	
~~*777X*~~	~~*25*~~
777-200LR	5
787-9	41
787-10	30

Table 5.3) Etihad Airways' aircraft on order by model[121][122]

The outstanding aircraft orders placed by Etihad with Airbus and Boeing are listed in Table 5.3. The Boeing 777X is not scheduled for delivery until after 2020 and as such will not be considered. The orders listed for the Airbus A320 deducts the 10 aircraft that will be delivered to Air Serbia. At present, there are no indications that any of the remaining aircraft orders were made on behalf of any other airlines. In order to determine the delivery dates we rely primarily on the press releases made by both Etihad and the two aircraft manufacturers.

5.2.4) Assess likely aircraft retirements

The next step in the analysis is to determine which aircraft each of the emerging carriers are likely to retire by the end of the decade. The three emerging carriers based in the Arabian Gulf often publicize the fact that the average age of their fleets is fairly low. Qatar Airways' leadership has stated that it intends to keep the average age of its fleet very low, even as it continues to expand

[120] Times of India, "Etihad buys 5 Boeing 777-200LR from Air India", http://timesofindia.indiatimes.com/business/india-business/Etihad-buys-5-Boeing-777-200-LR-from-Air-India/articleshow/23828075.cms
[121] Airbus, "Orders and Deliveries" http://www.airbus.com/presscentre/corporate-information/orders-deliveries/
[122] Boeing, "Orders and Deliveries" http://active.boeing.com/commercial/orders/index.cfm

it[123]. In order to do so the emerging carriers are likely to retire some of their current aircraft. Another important consideration is the costs associated with operating older, less fuel efficient aircraft. Newer aircraft have higher acquisition costs but generally cost less to operate, as they are more fuel efficient and require less maintenance. The size of the aircraft orders placed by emerging carriers also helps in lowering the acquisition cost of each aircraft. Emirates' is by far the single largest customer of the Airbus A380, which is the most expensive passenger aircraft currently offered. The size of their multiple A380 orders most likely afforded Emirates a great discount from Airbus.

The emerging carriers frequently make announcements regarding the expansion of their fleets, but rarely make statements as to possible aircraft retirements. Evaluating what aircraft they are likely to retire is therefore an uncertain exercise. In predicting which aircraft the emerging carriers are likely to retire we will rely primarily on the average age of each aircraft family in their fleets. We will also consider the possible individual retirement of older, less efficient aircraft.

The one exception to these guidelines is the Airbus A340. The Airbus A340 is the only quad-engine, single deck widebody aircraft currently operated by major airlines around the world. When it was first conceived in the late 1990's, jet fuel was in the $25-$35 price range. Its four engines allowed it to operate ultra-long haul routes that were previously unfeasible. As fuel prices rose, the aircraft became increasingly expensive to operate. More fuel efficient long range aircraft offered by both Boeing and Airbus, made the A340 increasingly unappealing. Many airlines around the world have begun replacing the aircraft. The emerging carriers all have A340s in their fleets, and it is likely that they will retire them as they receive newer widebody aircraft. Emirates has already started doing so, having retired two in late 2013[124].

Table 5.4 lists the average age of Etihad's fleet by aircraft model. The data was obtained from the planespotters database[125], and summarized by aircraft model. We note that Etihad's two Airbus A319s are the oldest on average. Averaging the individual ages of the aircraft does however hide outliers. For instance, one of Etihad's A320s is over 20 years old. Etihad has leased several aircraft from CIT Aerospace, an aircraft leasing firm. Those aircraft are all over 10 years old. As

[123] Gulf Times, "Qatar Airways looks to keep its average fleet age 'very low'" http://www.gulf-times.com/business/191/details/380960/qatar-airways-looks-to-keep-its-average-fleet-age-%E2%80%98very-low%E2%80%99

[124] Arabian Aerospace, "Emirates to phase out its A340-500 fleet" http://www.arabianaerospace.aero/emirates-to-phase-out-a340-500-fleet.html

[125] Planespotters.com "Etihad Airways Fleet History and Details" http://www.planespotters.net/Airline/Etihad-Airways

Etihad receives new aircraft, it is possible that they will return the older leased aircraft. Etihad has not publicly stated what its target average fleet age is. All the emerging carriers currently have average fleet ages in the 5-7 year range. Maintaining this average fleet age will require constant retirements and deliveries, even as their fleet expands. Though the average fleet age in 2020 is not a primary directive in this forecast, we will assume that the emerging carriers will try and maintain an average fleet age of less than 10 years.

Aircraft Model	Count	Average Age
Airbus A319	2	11.1
Airbus A320	21	5.4
Airbus A321	1	0.4
Airbus A330-200	21	7.2
Airbus A330-300	6	3.5
Airbus A340-500	4	7.8
Airbus A340-600	7	5.8
Boeing 777-300ER	18	3.6
TOTAL	**80**	**5.6**

Table 5.4) Etihad Airways' average fleet age by aircraft model

Table 5.5 details our prediction regarding Etihad's retirements through the end of the decade, based on available reports and the current fleet age. The narrowbody aircraft we foresee being retired are older aircraft, two of which are currently being leased from CIT. The Airbus A330s being retired will be 15 years old by the end of the decade. The A340s are previously mentioned are expensive to operate and it is likely that Etihad will follow Emirates in retiring them. We predict that Etihad will also retire 10 Boeing 777s. The five 777-200LRs that Etihad is purchasing from Air India are currently 6-8 years old; by the end of the decade they will be over 12-14 years old. In general we believe that Etihad will retire its older widebody aircraft to accommodate the influx of widebody aircraft. Of the 211 aircraft it currently has on order, over 80% are widebody aircraft. Looking past 2020, it is likely that the incoming Boeing 777X will be used to replace Etihad's 777-300ER fleet. Similarly Airbus A350s will likely replace the remaining A330s in Etihad's fleet.

Model	Count
Narrowbody	
Airbus A319	-2
Airbus A320	-1
Widebody	
Airbus A330-200	-5
Airbus A330-300	-1
Airbus A340-500	-4
Airbus A340-600	-7
Boeing 777-200LR	-5
Boeing 777-300ER	-5

Table 5.5) Forecast aircraft retirements by Etihad

5.2.5) Create 6 year fleet plan (2014-2020)

Now that we have compiled Etihad's current outstanding orders and made predictions regarding the aircraft it is likely to retire, we can combine both sets of data to create a six year fleet plan. The press releases announcing the new aircraft orders occasionally state when the airline is expected to receive the new aircraft. In the absence of such statements, we typically consider when the aircraft is being launched, as well as the backlog destined for other operators. In the case of Etihad, we also relied on the data it presented in its quarterly report (shown in Figure 5.2 of this section). The resulting six year fleet plan is presented in Table 5.6.

Table 5.6 combines the results of steps 1, 3 and 4 to create an annual estimate of Etihad's fleet between 2014 and 2020. The aircraft arrivals data provided by Etihad in Figure 5.2 is one of the primary data sources for this step of the forecast. The Etihad report indicates that it plans on acquiring 10 new Boeing 777-300ER by 2020. Currently, no such agreement exists with Boeing. Etihad may plan on acquiring the aircraft elsewhere. Since we cannot verify this statement, we have opted not to include it. As was previously stated, we predict that Etihad will retire some of its older widebody aircraft once it begins receiving newer widebody aircraft.

Etihad Airways

		In Service	On Order	2014	2015	2016	2017	2018	2019	2020	Total	Notes
Airbus												
A320												
	A319	2								-2	0	
	A320	21	4	4	-1						24	Single 21 year old A320 being retired
	A321	1	32	3	3			4	4	5	20	Includes A321Neo
A330												
	200	21	2	2					-2	-3	18	
	300	6								-1	5	
A340												
	500	4							-2	-2	0	
	600	7						-2	-2	-3	0	
A350												Likely to replace A340 and A330 fleet
	900		40					4	4	4	12	
	1000		22						3	3	6	
A380												
	800		10	3	3	4					10	
Boeing												
777												
	200LR		5	5					-2	-3	0	
	300ER	18							-2	-3	13	
	777X		25								0	Delivery in next decade
787												
	9		41	1	8	8	8	8	8		41	
	10		30					4	6	6	16	First delivery in 2018 to 5 launch customers
Total		**80**	**211**	**18**	**13**	**12**	**8**	**18**	**15**	**1**	**165**	

Table 5.6) Etihad Airways' six year fleet plan

For the purposes of this forecast it is not essential that we determine Etihad's exact fleet count for each year between 2014 and 2020. Our primary goal is to use available data and reports to make an accurate forecast of their 2020 fleet. Table 5.6 is an intermediate step as it allows us to process and analyze the various press releases, periodic reports and public statements. Having done so, we can now move on to the final step of this forecast.

5.2.6) Calculate deployable capacity in 2020

Now that we have created a forecast of Etihad's fleet in 2020, we can combine that data with the fleet operating statistics calculated in step 2. The first issue we facing in doing so is that Etihad's operations may change dramatically in the next 6 years. It may start deploying large widebody aircraft on short or medium haul routes. Furthermore we do not have any operational data for the incoming aircraft, some of which are not currently in operation. In order to address these issues we will make assumptions regarding Etihad's future operations.

The first assumption is that the aircraft currently in Etihad's fleet will be operated in a similar manner in 2020. That is to say that Etihad will not change the number of seats per aircraft, and keep operating the aircraft on their assigned routes and at the same frequency. Thus we will not make any adjustments to the three operating statistics calculated in step 2.

The second assumption we make is regarding aircraft that are currently available, but not yet operated by Etihad. This assumption affects the operating statistics that we will use for Etihad's future Airbus A380 and Boeing 777-200LR aircraft. We will assume that Etihad will operate these aircraft in a manner similar to current operators. Etihad has already stated it intends to deploy its A380s to four destinations; London Heathrow, New York JFK, Sydney and Melbourne[126]. These are routes currently operated by Etihad, and as such we can use the data used in step 2 to determine the average stage length and number of departures for these routes. In regards to seats, we will assume that Etihad will configure its A380s in a manner similar to other operators, most notably Emirates. As for the Boeing 777-200LR, Etihad has stated it intends to deploy the aircraft on a new route to Los Angeles International[127]. Etihad does not currently operate this route, but Emirates does with an Airbus A380. Given the proximity of the two airlines' hubs, we can safely assume that Etihad's 777-200LR will have an average stage length and daily departures similar to that of

[126] ch-aviation, "Etihad pencils in London, New York, Sydney, Melbourne for A380 ops" http://www.ch-aviation.com/portal/news/19579-etihad-pencils-in-london-new-york-sydney-melbourne-for-a380-ops

[127] Trade Arabia, "Etihad to buy 5 Boeing 777-200LRs from Air India" http://www.routesonline.com/news/29/breaking-news/221424/world-routes-etihad-to-launch-flights-to-los-angeles-using-777-200lr/

Emirates' A380 on that route. The 777-200LR is a specialized long haul version of the 777. It is likely that Etihad's other routes using this aircraft will be similar to its Los Angeles operation.

The final assumption concerns future Etihad aircraft that have not been launched yet. This concerns the Airbus A350s and Boeing 787s ordered by Etihad. The Airbus A320neos are likely to be operated in a manner similar to Etihad's existing A320 fleet. In step 4 we stated that the incoming widebody aircraft are likely to replace older widebody aircraft, most notably the Airbus A340. From Table 5.2, we note that Etihad's widebody aircraft have an average stage length ranging from 3,000 to 5,800 miles. Daily departures vary from 1.0 to 2.4. The outlier in this data is the Airbus A340-500 which operates ultra-long haul routes. As part of Etihad's fleet, it is averaging 1 daily departure and an average stage length of 5,800 miles. Etihad's Boeing 777-300ER fleet has the second longest average stage length at 4,000 miles; over 30% less than the Airbus A340-500. We will therefore exclude the Airbus A340-500's operational statistics from consideration in this step, especially since they represent only 7% of Etihad's current fleet. Given their similar passenger capacity, we will assume that the A350-1000 and 787-10 will be operated in a manner similar to the Boeing 777-300ER. We will also assume that the A350-900 and 787-9 will be operated similarly to the A330-200. In regards to seat capacity, Etihad's calculated seat capacity for the A330-200 and 777-300ER is similar to the capacity stated by the respective manufacturers for a 3-cabin configuration. Therefore we will use the manufacturer stated 3-cabin capacity for the 787s and A350s. The results of this step are presented in Table 5.7.

Based on our assessment of Etihad Airways' future fleet plans, we forecast that in 2020 they will have doubled their available capacity (ASMs). Their fleet is forecasted to increase from 77 aircraft in late 2013 to 165 in 2020. Their fleet mix will remain at roughly 30% narrowbody and 70% widebody. This concludes the analysis required for forecasting Etihad's future deployable capacity. The steps taken in doing so have been repeated for each of the other three emerging carriers. Their respective six year fleet plans and 2020 forecasted capacity tables are included in the Appendix. Table 5.8 summarizes the results of the capacity forecast for the emerging carriers.

Etihad Airways

Aircraft	Operating Statistics			2013			2020			Change	
	Seats	Deps/Day	Avg. Stage Length	Fleet	Departures	ASMs	Fleet	Departures	ASMs	Departures	ASMs
Airbus											
A319	113	8.2	1,042	2	5,986	704,827,556	0	0	0	-100%	
A320	136	4.5	1,137	20	32,850	5,079,661,200	24	39,420	6,095,593,440	20%	
A321	174	4.0	1,266	1	1,460	321,614,640	20	29,200	6,432,292,800	1900%	
A330-200	260	2.4	3,097	19	16,644	13,402,081,680	18	15,768	12,696,708,960	-5%	
A330-300	231	2.0	3,119	6	4,380	3,155,741,820	5	3,650	2,629,784,850	-17%	
A340-500	240	1.0	5,727	4	1,460	2,006,740,800	0	0	0	-100%	
A340-600	292	1.9	3,457	7	4,855	4,900,345,898	0	0	0	-100%	
A350-900	*314*	*2.4*	*3,097*				*12*	*10,512*	*10,222,478,496*		
A350-1000	*350*	*2.0*	*4,000*				*6*	*4,380*	*6,132,000,000*		
A380-800	*490*	*1.2*	*5,547*				*10*	*4,380*	*11,904,971,400*		
Boeing											
777-200LR	*237*	*1.0*	*8,330*				0	0	0		
777-300ER	382	2.0	4,005	18	13,140	20,103,017,400	13	9,490	14,518,845,900	-28%	
787-9	*270*	*2.4*	*3,097*				*41*	*35,916*	*30,032,600,040*		
787-10	*310*	*2.0*	*4,000*				*16*	*11,680*	*14,483,200,000*		
Total				**77**	**80,775**	**49,674,030,994**	**165**	**152,716**	**100,665,275,886**	**89.1%**	**102.7%**

Table 5.7) Etihad Airways forecasted capacity in 2020

		Airline				Total
		Emirates	Etihad	Qatar	Turkish	
2013	Fleet	199	77	124	201	**601**
	Departures	169,908	80,775	133,006	311,528	**695,216**
	ASMs (millions)	181,915	49,674	68,72	78,323	**378,694**
2020	Fleet	355	165	248	366	**1,134**
	Departures	279,298	152,716	272,181	563,268	**1,267,463**
	ASMs (millions)	352,172	100,665	144,344	153,139	**750,320**
Change	Fleet	78%	114%	100%	82%	**89%**
	Departures	64%	89%	105%	81%	**82%**
	ASMs (millions)	94%	103%	110%	96%	**98%**

Table 5.8) Forecasted deployable capacity in 2020 by emerging carrier

The results presented in Table 5.8 suggest that the emerging carriers will double their deployable capacity by the end of the decade, based on their current aircraft orders. The two smallest emerging carriers, Etihad and Qatar will both double in size during that time. Emirates will have grown the least, which is not surprising given that in 2013 it was nearly as big as the other three emerging carriers combined. The emerging carriers' annual departures are forecasted to increase at a slower rate than their fleets, due largely to the fact that most of the incoming aircraft are widebody aircraft, which have lower daily departure rates. The contrast between Turkish Airlines' operations and those of the other three emerging carriers, is quite apparent in Table 5.8. Despite having over 100 aircraft more than Qatar Airways in 2020, Turkish Airlines is forecasted to generate only 6% more ASMs than Qatar Airways. Turkish Airlines will however have significantly more departures than any of the other emerging carriers in 2020. Overall the forecast suggests that each of the emerging carriers will maintain their rapid growth rates through the end of the decade. The implications of such forecasted growth should be considered alongside the outlook for the industry as a whole. In the next section, we will weigh this forecast against those made for the global airline industry.

5.3) Assessing the 2020 emerging carrier deployable capacity forecast against airline industry forecasts

Many stakeholders in the airline industry create forecasts of the air travel demand, based on their assessment of its growth prospects over a given time period. International regulatory agencies such as IATA and ICAO, as well as financial institutions and aircraft manufacturers produce such forecasts on a regular basis. These forecasts project future parameters such as capacity generated, passengers carried, airport arrivals and fleet sizes. While these are all relevant parameters, we are

most interested in passenger traffic carried by the emerging carriers. As such we will evaluate our forecast from a passenger traffic perspective, and as such we will select an industry forecast which assesses that parameter.

The results of the previous section yielded a forecast of the emerging carriers' deployable capacity in 2020. To convert that capacity into data indicative of passenger traffic, we multiply the ASMs generated in 2020 by a load factor, in order to obtain a RPM forecast. The load factors that will be used are an average of the emerging carriers' system wide load factor from 2008 to 2012. Table 5.9 displays the results of those calculations. The change in RPMs is identical to the change in ASMs calculated in Table 5.8. We once again note that Etihad and Qatar are forecasted to grow the fastest, while Emirates accounts for nearly 50% of the total RPMs generated by the emerging carriers.

Airline	ALF	RPMs		Change
		2013	2020	
Emirates	79%	143,713	278,216	94%
Etihad	75%	37,256	75,499	103%
Qatar	74%	50,899	106,815	110%
Turkish	74%	57,959	113,323	96%
Total	**77%**	**291,594**	**577,746**	**98%**

Table 5.9) Emerging Carriers' forecasted RPMs in 2020

Having reviewed many forecasts put forth by various industry participants, we chose to compare our forecast against that made by Boeing in 2013[128]. Boeing's report forecasts the change in RPKs from 2013 to 2032 by global region. This suits our forecast, as well as permitting us to consider the analysis presented in chapter 3. It also allows us to assess the emerging carriers' growth by inter-regional market (i.e. Middle East to Europe), whereas other reports lack similar detail. ICAO's forecast assesses the potential changes in passenger movements by region. While this is useful in assessing the growth in passenger traffic, it does not provide any further detail regarding passenger movements. In other words, ICAO's forecast does not allow us to determine how inter-regional passenger flows are changing. Airbus' forecast is similar to Boeing in that it assess traffic by region. The primary difference is that Airbus groups airlines by origin region, rather than assessing the traffic on all airlines to or from a region. Thus the data presented in Airbus' report for inter-regional travel between Europe and the Middle East for example, would only include flights operated by carriers based in either region.

[128] Boeing, "Current Market Outlook 2013 – 2032" http://www.boeing.com/boeing/commercial/cmo/

Throughout this study we have defined the Middle East as a region which includes Turkey. Boeing, like many other industry participants, considers Turkey to be part of Europe. As such its forecast does not include Turkey as part of the Middle East. We will thus have to assess our forecast twice, once for the three emerging carriers based in the Middle East, and separately for Turkish Airlines in Europe. Furthermore, Boeing includes Egypt as part of the Middle East. The region definitions used in the Diio Mi portal include Egypt as part of Africa. As such we will have to include the operated flights data for Egypt, in our Middle East traffic analysis for this section.

5.3.1) Assessing Boeing's Middle East Traffic Projections

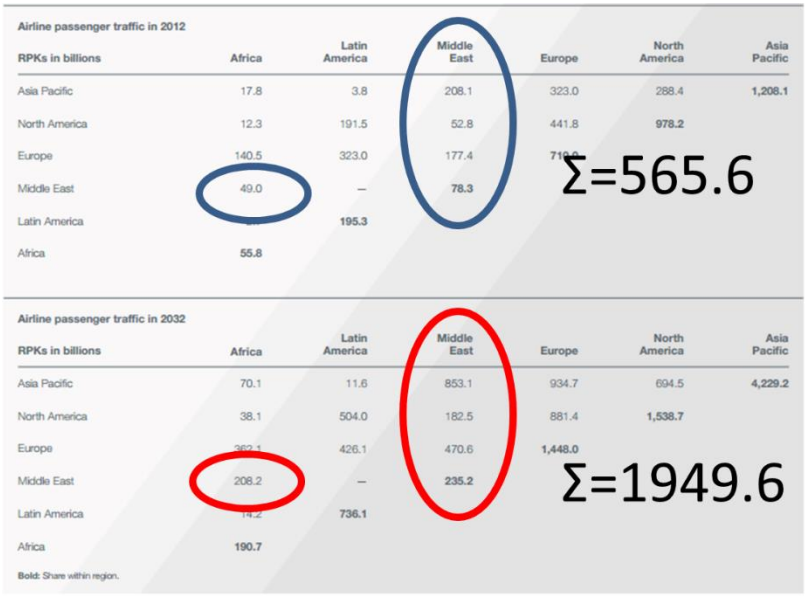


Figure 5.3) Boeing Airline Passenger Traffic Flows in 2012 and 2032 by region[129]

We will first assess our emerging carrier deployable capacity forecast against Boeing's Middle East projections. The same steps will then be used to assess our forecast of Turkish Airlines' future operations. Figure 5.3 is an excerpt from Boeing's forecast report, which lists the projected volume of inter-regional passenger traffic in both 2012 and 2032 for the various regions considered by Boeing. The figures relevant to the Middle East have been circled in Figure 5.3.

Figure 5.3 provides us with passenger traffic flows from the Middle East for 2012 and 2032. By summing up all the traffic flows, we can calculate the share of traffic by regional market. These shares can then be compared against the data we obtain from Diio Mi in order to verify that the two sources of data are similar. That comparison is detailed in Table 5.10.

[129] Boeing, "Current Market Outlook 2013-2032" http://www.boeing.com/boeing/commercial/cmo/

Region	Diio Mi Data (YE 02/2013)		Boeing Data	Difference
	ASKs	ASK Share	RPK Share (2012)	
Africa	63,641	8%	9%	1%
Asia-Pacific	292,224	38%	37%	1%
Europe	227,869	30%	31%	1%
North America	75,743	10%	9%	1%
Middle East	106,810	14%	14%	0%
Total	**766,287**	**100%**	**100%**	

Table 5.10) Comparison of Diio Mi and Boeing Forecast regional traffic share for the Middle East

The Diio Mi data presented in Table 5.10 is for all airlines operating in the Middle East in the year ending February 2013. The data includes Egypt as part of the Middle East, and excludes Turkey. We note that for all regions, the difference between the Diio Mi data and Boeing forecast data is 1% or less. The Diio Mi data is for ASKs whereas Boeing's data is for RPKs. RPKs can be calculated by multiplying ASKs by a load factor. In the case of the Boeing forecast, it appears that Boeing used a different load factor for each inter-regional travel market. These load factors are however not relevant to our analysis, and as such will not be considered.

5.3.1.1) Determining Boeing's Projected Middle East Airline Traffic Flows in 2020

The passenger traffic figures provided by Boeing in Figure 5.3 are for 2032, which is beyond the scope of our forecast. In its report Boeing provides the compound annual growth rates (CAGR) for each inter-regional travel market. Those CAGRs will be used in extrapolating the 2012 data to 2020, which allows us to compare our emerging carrier deployable capacity forecast with Boeing's passenger traffic forecast. These extrapolated figures are presented in Table 5.11.

Region	2012 (Stated)		CAGR	2020 (Calculated)	
	RPKs (billions)	Share		RPKs (billions)	Share
Africa	49.0	9%	7.5%	87.4	9%
Asia Pacific	208.1	37%	7.3%	365.7	40%
Europe	177.4	31%	5.0%	262.1	28%
Middle East	78.3	14%	5.7%	122.0	13%
North America	52.8	9%	6.4%	86.7	9%
Total	**565.6**	**100%**	***6.4%***	**923.9**	**100%**

Table 5.11) Extrapolation of Boeing's Middle East passenger traffic forecast to 2020

The results presented in Table 5.11 now allow us to compare the results of our forecast, as presented in Table 5.9, with Boeing's projections. The results in Table 5.9 are presented as RPMs, whereas those in Table 5.11 are in RPKs. In order to continue with the comparison we will convert the RPMs in Table 5.9 to RPKs. Both RPKs and RPMs are calculated in the following manner:

$$RPM\ or\ RPK = Load\ Factor * Available\ Seats * Stage\ Length\ (mi\ or\ km)$$

Converting between RPMs and RPKs is possible by converting from miles to kilometers (or vice versa). The results of this conversion are presented in Table 5.12 below for the three emerging carriers based in Boeing's definition of the Middle East.

Airline	ALF	RPKs		Change
		2013	2020	
Emirates	79%	231,284	447,745	94%
Etihad	75%	59,957	121,504	103%
Qatar	74%	81,914	171,902	110%
Total	**77%**	**373,154**	**741,150**	**99%**

Table 5.12) Middle East Based Emerging Carrier RPK forecast 2020

Comparing the results of Table 5.12 with those of Table 5.11, we observe that our interpolation of the Boeing forecast indicates that the three Middle Eastern based emerging carriers will increase their share of total RPKs in the Middle East, from 65% in 2012 to over 80% in 2020. It also indicates that they will grow faster than the region as a whole, and this brief analysis supports that claim. It is important however to further analyze both forecasts, by analyzing each inter-regional travel market. The reason is that it will allow us to evaluate the feasibility of the emerging carriers' capacity growth plans, given passenger traffic forecasts made by industry stakeholders.

5.3.1.2) Determining Middle East RPK Share by Carrier Type in 2020

In order to further compare the two forecasts, we must determine the market share by carrier types in each inter-regional market. Once again we will rely on the data obtained from the Diio Mi portal. We obtained data for all flights operated from and to the Middle East for the year ending in February 2012. This data allows us to determine the share of flights operated and capacity offered by each type of carrier. Furthermore, we were able to determine how the emerging carriers distributed their capacity across these inter-regional travel markets. Table 5.13 lists the emerging carriers' capacity distribution for the period considered.

Region	ASKs (millions)	Share of Total
Africa	38,252	10%
Asia-Pacific	157,044	42%
Europe	113,618	31%
Middle East	20,738	6%
North America	42,610	11%
Total	372,261	100%

Table 5.13) Emerging Carrier Capacity Distribution by Region in 2012

From Table 5.13 we note that in 2012 Europe and Asia-Pacific account for over 70% of the emerging carriers' deployable capacity. It is difficult to accurately predict where the emerging carriers will deploy their capacity in the future; as such we will assume that these shares will remain the same in 2020.

The results in Table 5.14 will allow us to assess the growth of the emerging carriers in each inter-regional market, as well as evaluate the implications for other airlines in those markets. In the four inter-regional travel markets, the emerging carriers currently account for over 50% of the available capacity. In the intra-Middle East market they account for less than 20% of available capacity. The next step in our assessment of the forecasts is to distribute the projected RPK figures among the emerging carriers (Table 5.12), per the calculated distributions (Table 5.13).

Region	Carrier Type	ASKs	Share
Africa	African Legacy	9,243	15%
	ME LCC	1,885	3%
	ME Legacy	12,171	19%
	Emerging	**38,252**	**60%**
	Other	2,091	3%
	Total	**63,641**	**100%**
Asia-Pacific	Asian Legacy	56,114	19%
	Asian LCC	7,071	2%
	ME Legacy	52,174	18%
	ME LCC	15,338	5%
	Emerging	**157,044**	**54%**
	Other	4,484	2%
	Total	**292,224**	**100%**
Europe	European Legacy	46,553	20%
	European LCC	19,960	9%
	ME Legacy	36,018	16%
	ME LCC	3,555	2%
	Emerging	**113,618**	**50%**
	Other	8,167	4%
	Total	**227,869**	**100%**
Middle East	ME Legacy	54,205	51%
	ME LCC	18,329	17%
	Emerging	**20,738**	**19%**
	Other	13,538	13%
	Total	**106,810**	**100%**
North America	ME Legacy	17,445	23%
	NA Legacy	15,647	21%
	Emerging	**42,610**	**56%**
	Other	40	0%
	Total	**75,743**	**100%**

Table 5.14) Inter-regional capacity share for travel to/from Middle East in 2012

Region	2012		2020		% Total Increase in RPK
	RPK	Market Share	RPK	Market Share	
Africa	38,252	60%	76,157	87%	99%
Asia Pacific	157,044	54%	311,283	85%	98%
Europe	113,618	50%	226,206	86%	99%
Middle East	20,738	19%	41,288	34%	99%
North America	42,610	56%	84,833	98%	99%

Table 5.15) Emerging Carrier Forecasted Market Share by Region in 2020 (Middle East)

Table 5.15 presents the result of our comparison of the two forecasts. The emerging carriers' regional capacity distribution from Table 5.13 was used to distribute their forecasted RPKs in 2020. From Table 5.15 we note that the emerging carriers are forecasted to double their RPKs in all 4 inter-regional markets, as well as within the Middle East. With the exception of the intra-Middle East market, the emerging carriers are forecasted to increase their total market shares to over 80%. Boeing's forecast indicates that each of these inter-regional markets will increase in size. These increases are not, however, large enough to accommodate growth by both the emerging carriers and their competitors. Table 5.16 displays the projected growth and resulting market shares for all other competitors, assuming the emerging carriers attaining their growth projections.

Region	2012		2020		% Total Increase in RPK
	RPK	Market Share	RPK	Market Share	
Africa	10,748	40%	11,233	13%	5%
Asia Pacific	51,056	46%	54,371	15%	6%
Europe	63,782	50%	35,895	14%	-44%
Middle East	57,562	81%	80,712	66%	40%
North America	10,190	44%	1,896	2%	-81%

Table 5.16) Other Carriers' Forecasted Market Share by Region in 2020 (Middle East)

From Table 5.16 we note that the growth of the emerging carriers would leave little opportunity for other carriers to grow, and in two cases would actually require them to shrink in order to accommodate the emerging carriers. Europe is the second largest inter-regional market for travel to and from the Middle East. If the emerging carriers' maintain their current capacity distributions, all other carriers operating between the Middle East and Europe will collectively have to reduce their operations in order to achieve a 44% decrease in RPKs. In regards to North America, all non-emerging carriers will have to reduce their operations to reflect an 81% decrease in RPKs.

Tables 5.15 and 5.16 present a very aggressive growth forecast for the emerging carriers. It is highly unlikely that carriers operating between Europe and the Middle East will in fact experience such a significant decrease in RPKs. This is especially true given that the fourth emerging carrier, Turkish Airlines, is part of the "other carriers" group in this analysis. In the case of Asia Pacific it is also highly unlikely that all other carriers will only witness a 6% increase in RPKs. The other category in Asia Pacific includes many rapidly growing low cost carriers as well as large global airlines. What these figures indicate is that there is a divergence between our deployable capacity forecast and the Boeing market outlook. Either our forecast is too optimistic, or the Boeing forecast is too conservative.

We thus have to consider which of the forecasts is more likely to be incorrect. Our own forecast is based solely on the aircraft orders placed by the emerging carriers. We made several assumptions regarding their fleet plans which may prove to be incorrect. The emerging carriers' load factors may decrease as well as their average stage length and daily departures. They already have high utilization rates for their fleets, which may not continue as their fleets dramatically increase. Furthermore they may elect to retire older aircraft at a faster rate than we have projected. They may ultimately decide that they have simply ordered too many aircraft, and decide to cancel some orders. Also, our forecast does not take into account any competitive responses or possible changes in the airline industry, which could affect the continued growth of the emerging carriers. Therefore it is likely that our forecast is too optimistic regarding the future growth of the three Arabian Gulf based emerging carriers, though it does not include future orders or cancellations.

Boeing's forecast or "Current Market Outlook" as it is formally known, is based primarily on passenger traffic projections within and between individual nations[130]. Boeing bases its traffic forecasts on economic outlooks, historical patterns and government provided travel statistics among others. They state that 60 to 80% of air travel growth is attributable to economic growth. The remaining 20 to 40% of growth is attributable to a time varying function, f(t), that accounts for the value travelers' place on convenience. The resulting equation as per Boeing is as follows:

$$RPK(growth) = GDP\ (growth) + f(t)$$[131]

The purpose of Boeings' forecast is to provide a basis for the development of their strategic and business plans. Given that Boeing's commercial division is primarily reliant on selling new aircraft,

[130] Boeing, "Current Market Outlook 2013 – 2032" http://www.boeing.com/boeing/commercial/cmo/
[131] Boeing, "Current Market Outlook 2013 – 2032: Methodology, Pg 13" http://www.boeing.com/boeing/commercial/cmo/

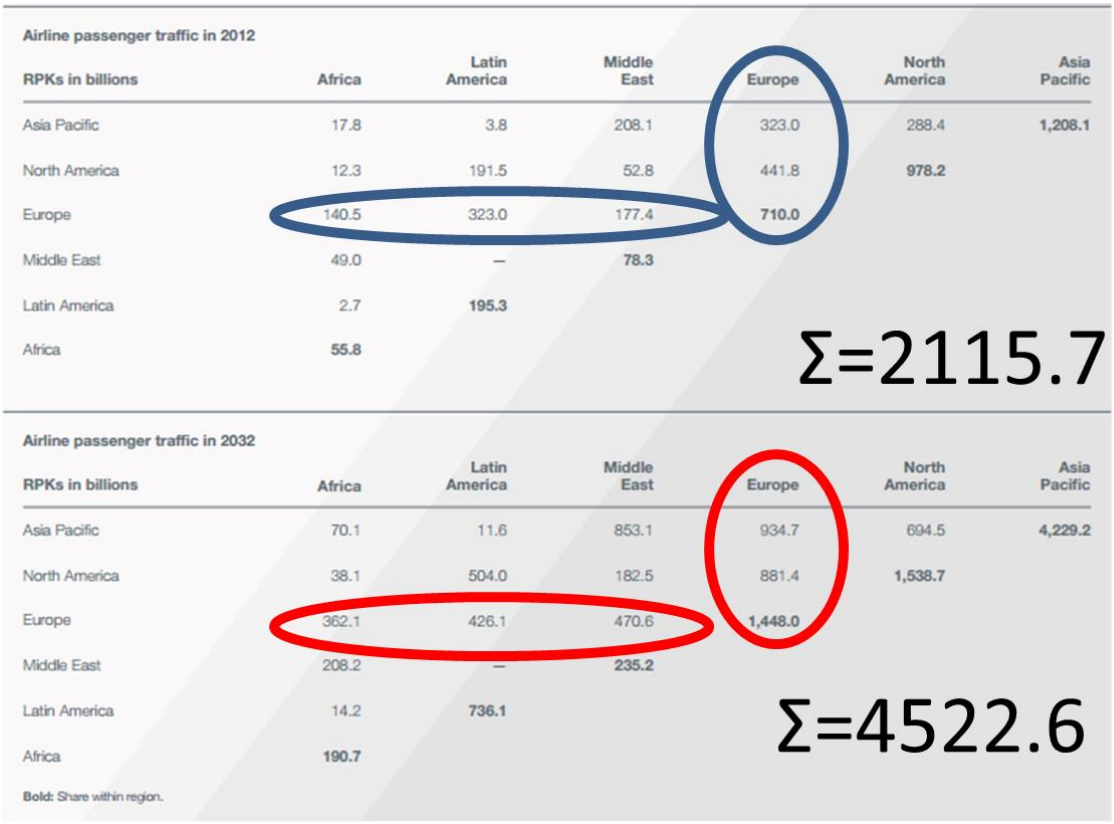
they are inclined to present an optimistic outlook of the industry. Boeing's current market outlook projects the delivery of 24,670 single aisle jets over the next 20 years. Since its introduction in 1968, nearly 8,000 of Boeing's popular 737 narrowbody have been delivered, with a further 4,000 on order. Airbus has sold nearly 6,000 A320s since its introduction in 1988, and has over 4,000 on order. Boeing's projection thereby indicates that narrowbody deliveries in the next 20 years will be nearly double those of the past 40+ years. In regards to widebody aircraft, Boeing projects deliveries over the next 20 years to be in excess of 8,500 aircraft. The Boeing 777 and Airbus A330 are among the most popular widebody aircraft in service today. Since their introduction in the early 1990s, over 1,000 examples of each model have been delivered to customers across the world. Each of these aircraft currently have fewer than 500 outstanding orders. It seems once again that Boeing is quite optimistic in its assessment of the widebody aircraft market. Their forecast of aircraft deliveries is linked to their passenger traffic forecasts, which are used to support their optimistic outlook on future aircraft orders. We can therefore surmise that Boeing's forecast is not too conservative as previously postulated, but is rather optimistic.

Having compared both of these forecasts, it appears highly likely that the emerging carriers will suffer from overcapacity in their networks, if they continue their aggressive fleet expansion. Boeing's forecast is likely to be optimistic in its outlook, though not optimistic enough to accommodate the growth of three of the emerging carriers. Both forecasts could be wrong, which is not unusual in the airline industry. Major global events frequently affect the airline industry, though they tend to decrease passenger traffic rather than increase it. Many agencies such as IATA and ICAO frequently mention the Middle East as having the highest passenger traffic and capacity growth rates in the world, frequently exceeding their own projections. A forecast of passenger traffic in 2025 made by ICAO in 2005 stated that intra-Middle East travel was to reach 44 billion RPKS in 2025[132]. The Boeing outlook used in this comparison indicates that in 2012, passenger traffic within the Middle East had reached 49 billion RPKs; 13 years sooner than ICAO had forecasted. At this point in time, we cannot determine which of the forecasts is correct. What we can determine thus far is that current projections do not support the emerging carrier's fleet plans over the next 6 years.

[132] ICAO, "Outlook for Air Transport to the Year 2025", http://www.filtcgilfoggia.it/notiziari_filt/2008/19/All19UI3.pdf

5.3.2) Assessing Boeing's Europe Traffic Projections

The results of the previous section clearly indicated that the growth projections for the Arabian Gulf based emerging carriers were very optimistic. Turkish Airlines is the second largest emerging carriers, and is also poised to dramatically expand its fleet. As such we must repeat the steps taken in the previous section in order to evaluate Turkish Airlines' fleet growth plan. Returning to Table 5.9, we first convert Turkish Airlines projected RPMs in 2020 to RPKs, which results in a projection of 182,375 million RPKs in 2020. Next we will consider Boeing's projections for passenger traffic growth in Europe.



Airline passenger traffic in 2012

RPKs in billions	Africa	Latin America	Middle East	Europe	North America	Asia Pacific
Asia Pacific	17.8	3.8	208.1	323.0	288.4	**1,208.1**
North America	12.3	191.5	52.8	441.8	**978.2**	
Europe	140.5	323.0	177.4	**710.0**		
Middle East	49.0	–	**78.3**			
Latin America	2.7	**195.3**				
Africa	**55.8**					

Σ=2115.7

Airline passenger traffic in 2032

RPKs in billions	Africa	Latin America	Middle East	Europe	North America	Asia Pacific
Asia Pacific	70.1	11.6	853.1	934.7	694.5	**4,229.2**
North America	38.1	504.0	182.5	881.4	**1,538.7**	
Europe	362.1	426.1	470.6	**1,448.0**		
Middle East	208.2	–	**235.2**			
Latin America	14.2	**736.1**				
Africa	**190.7**					

Σ=4522.6

Bold: Share within region.

Figure 5.4) Boeing Airline Passenger Traffic Flows in 2012 and 2032 by region[133]

5.3.2.1) Determining Boeing's Projected Europe Traffic Flows in 2020

Figure 5.4 is identical to Figure 5.3, except that the data concerning passenger traffic from and to Europe has been highlighted. From Figure 5.4 we notice that in 2012, traffic between Europe and Asia Pacific is identical to passenger traffic between Europe and Latin America. This appears unlikely given the close proximity of Asia-Pacific to Europe, as well as the significantly larger

[133] Boeing, "Current Market Outlook 2013-2032" http://www.boeing.com/boeing/commercial/cmo/

population in Asia-Pacific. Further investigations lead us to believe that there is an error in Boeing's table regarding the passenger traffic between Europe and these two regions. Despite having identical passenger traffic volumes, Boeing states that traffic between Europe and Asia Pacific accounts for 16% of the total European passenger traffic, while Latin America accounts for only 9%. Furthermore the projections for 2020 vary significantly, with Asia-Pacific accounting for more than double the RPKs that Latin America does. Thus in order to correct these figures we shall use the CAGRs provided by Boeing, as well as the 2032 project passenger traffic data.

Travel between Europe and	2032 RPKs (billions)	CAGR	2012 RPKS (billions)
Asia Pacific	934.7	5.50%	301.5
Latin America	426.1	4.70%	162.7

Table 5.17) Correction of Boeing Passenger Traffic Data in 2012

Table 5.17 presents the corrected 2012 passenger traffic data for the two concerned inter-regional travel markets. It appears that the Europe-Latin America travel market is significantly smaller then what was presented in Figure 5.4. The next step is to once again compare the Boeing data for 2012 with that obtained from Diio Mi. In order to do so, we once again queried the Diio Mi online portal for all travel within Europe and between Europe and all other global regions, for the year ending February 2013. These results are presented in Table 5.18.

	Diio Mi Data (YE 02/2013)		Boeing Data	Difference
Region	**ASKs**	**ASK Share**	**RPK Share (2012)**	
Africa	167	6%	7%	-1%
Asia-Pacific	558	21%	16%	5%
Latin America	202	8%	9%	-1%
Europe	886	34%	36%	-2%
Middle East	245	9%	9%	0%
North America	547	21%	23%	-2%
Total	2,605	100%	100%	

Table 5.18) Comparison of Diio Mi and Boeing Forecast regional traffic share for Europe

Though the data are comparable, they differ more than that of the Middle East data, as presented in Table 5.10. The biggest difference between the Diio Mi data and Boeing's data concerns the Asia-Pacific region. The ASK share calculated from the Diio Mi data suggests a 21% share of all European ASKs, whereas the Boeing data states a 16% market share. The reason for this discrepancy may be due to the definition of these regions. Throughout its report, Boeing considers

the Commonwealth of Independent States (CIS) as an individual region in regards to aircraft purchases. In its traffic forecast it does not mention the CIS as a separate region, and it is unclear how Boeing incorporated them into its regional traffic forecast. Some of the nations such as Kazakhstan and Uzbekistan are considered part of Asia, whereas Belarus is considered a European nation. Russia is also spread across both Europe and Asia. It is therefore likely that this discrepancy is due to differences in categorization for these nations between Diio Mi and Boeing.

Having corrected the error in Figure 5.4, we can now once again extrapolate the data provided to calculate the projected passenger traffic flows in 2020 for Europe. Those results are presented in Table 5.19.

Region	2012 (Stated)		CAGR	2020 (Calculated)	
	RPKs (billions)	Share		RPKs (billions)	Share
Africa	140.5	7%	4.80%	204.4	8%
Asia-Pacific	301.5	16%	5.50%	462.7	17%
Latin America	162.7	9%	4.70%	234.9	9%
Europe	710	36%	3.60%	942.2	35%
Middle East	177.4	9%	5.00%	262.1	10%
North America	441.8	23%	3.50%	581.8	22%
Total	**1933.9**	**100%**	**4.52%**	**2688.1**	**100%**

Table 5.19) Extrapolation of Boeing's Europe passenger traffic forecast to 2020

We note from Table 5.19 that the projected annual growth rates for Europe are lower than those of the Middle East, owing to the maturity of the European air travel market. The total RPKs generated from Europe in 2012 are nearly four times as much as those of the Middle East's in 2012. By 2020 passenger traffic from the Middle East will have grown faster than Europe, as evidenced by the fact that European traffic in 2020 is less than three times as large as Middle Eastern traffic in 2020.

5.3.2.2) Determining Europe RPK Share by Carrier Type in 2020

The next step in our analysis of Turkish Airlines' fleet growth plans is to determine their current network capacity distribution. The Diio Mi data obtained for this section allows us to isolate Turkish Airlines' operated flights and calculate the distribution. Those results are presented in Table 5.20.

Region	ASKs	Share
Africa	8,377	9%
Asia-Pacific	23,849	24%
Latin America	1,420	1%
Europe	42,911	44%
Middle East	10,086	10%
North America	11,190	11%
Total	**97,833**	**100%**

Table 5.20) Turkish Airlines Capacity Distribution by Region in 2012

The next step in the evaluation of Turkish Airlines' fleet growth plans is to calculate its capacity distribution by region in 2020, based on the results of Table 5.20 and its forecasted RPKs in 2020.

Region	2012		2020		% Total Increase in RPK
	RPK	Market Share	RPK	Market Share	
Africa	6,534	4.7%	16,414	8.0%	151%
Asia-Pacific	18,602	6.2%	43,770	9.5%	135%
Latin America	1,108	0.7%	1,824	0.8%	65%
Europe	33,471	4.7%	80,245	8.5%	140%
Middle East	7,867	4.4%	18,238	7.0%	132%
North America	8,728	2.0%	20,061	3.4%	130%

Table 5.21) Turkish Airlines Forecasted Market Share by Region 2020

The results presented in Table 5.21 indicate that Turkish Airlines will need to increase its RPK market share across all the regions it operates in. In at least three cases its market share will approach 10%. These are markets in which several large European carriers, such as Lufthansa, Air France and British Airways operate. In the previous chapter, we stated that Turkish Airlines has a significant cost advantage over these airlines. This advantage allows Turkish Airlines to offer competitive fares which other carriers may not be able to match. Given however that many carriers rely on long haul routes for a significant share of their revenues, it is likely that they will try and limit Turkish Airlines' expansion in these markets. Our forecasts does not consider the implications of such actions, but rather it attempts to quantify the repercussions of Turkish Airlines' fleet growth plan.

Region	2012		2020		% Total Increase in RPK
	RPK	Market Share	RPK	Market Share	
Africa	133,966	95.3%	188,026	92.0%	40%
Asia-Pacific	282,898	93.8%	418,938	90.5%	48%
Latin America	161,592	99.3%	233,118	99.2%	44%
Europe	676,529	95.3%	861,940	91.5%	27%
Middle East	169,533	95.6%	243,863	93.0%	44%
North America	433,072	98.0%	561,705	96.6%	30%

Table 5.22) Other Carriers' Forecasted Market Share by Region in 2020 (Europe)

The implications of Turkish Airlines' forecasted growth is evident in Table 5.22. We note that the collective market share for all other carriers would have to decrease to the low and mid 90% range. This decrease in market share will not however be a result of their low growth opportunities. The projections indicate that other carriers will be able to increase their RPKs in four regions by 40% or more. The intra-Europe travel market is already the largest and possibly the most saturated for this group of carriers. As such, it is not unexpected that intra-European travel would have the lowest percentage increase in RPKs. The Europe to North America travel market is one of the most developed inter-regional travel markets, and despite Turkish Airlines' own RPKs more than doubling, other carriers will still maintain a market share in excess of 95%.

In regards to the other emerging carriers, we note that for travel between Europe and the Middle East other carriers are forecasted to increase their RPKs by 44%. Table 5.15 forecasts the three Arabian Gulf based emerging carriers will account for 226 billion RPKs, which is 86% of all RPKs between the two markets. Table 5.21 states that Turkish Airlines will account for a further 18 billion RPKs in that market, which leaves all other carriers with 18 billion RPKs; the same as Turkish Airlines. That 7% market share in 2020 is down from 31% in 2012. Once again it appears unlikely that the other carriers will in fact lose that much market share, given that the other category includes rapidly growing Middle Eastern LCCs as well as legacy carriers from both regions.

5.3.3) Summary of Forecast Assessment

Overall, it appears that forecasting the future passenger traffic market share of the emerging carriers based solely on their fleet plans is too optimistic. The comparison of the two forecasts indicates that the emerging carriers, especially the three based in the Arabian Gulf have fleet and capacity expansion plans that exceed industry traffic forecasts. If they do follow through and accept delivery of all these aircraft, the airline industry in the Middle East will most likely suffer from overcapacity. When evaluating Turkish Airlines against Boeing's market outlook for Europe,

the situation seems less extreme. This is mainly due to the fact that despite increasing their market share by nearly 100% in several markets, Turkish Airlines will still account for less than 10% of RPKs in most regions. In 2012, Turkish Airlines accounted for 4% of all RPKs from and within Europe. If our forecast proves correct, then by 2020 they will account for just under 7%. While this may seem like a small increase, it is an increase that will likely result from large airlines such as Lufthansa and Ryanair losing market share.

Ultimately the only conclusion we can definitively make is that the emerging carriers will continue to grow over the next few years, though perhaps not as rapidly as their fleet plans suggest. They have been able to do so over the past decade, and seem determined to continue doing so. The industry forecasts may be proven wrong once again if Middle Eastern passenger traffic growth continues to exceed projections. The emerging carriers are well poised to further benefit from this growth in traffic, given their cost advantages, geographical locations and fleets. There are however other external factors that may slow their growth, such as competitive responses and governmental intervention.

5.4) Impact of the emerging carriers projected growth on their hub airports

The forecast in the previous section demonstrated that the emerging carriers' fleet orders will dramatically increase their deployable capacity by the end of the decade. Whether or not there is sufficient demand to justify that increase remains to be seen however. Another issue arising from the required increase in passenger number, is whether the necessary infrastructure is available.

Given that all of the emerging carriers, with the possible exception of Turkish Airlines, operate all of their flights either to or from their hubs, it is important to consider the implications of their fleet orders. All the emerging carriers have large numbers of widebody aircraft on order through the end of the decade. These aircraft are more demanding on airport infrastructure. The introduction of the Airbus A380 was coupled with a flurry of construction activity at major airports across the globe. Airport operators were compelled to build new facilities to accommodate the supersized aircraft. Prior to announcing their order for a further 50 A380s in later 2013, Emirates management stated that the issues they were facing were curfews at destinations airports, as well as a lack of space at their own hub[134]. The two other Arabian Gulf based emerging carriers will also operate the A380, and as such will have to improve the infrastructure at their home airports to

[134] Bloomberg, "Emirates chief says 30 more A380s needed for new routes" http://www.bloomberg.com/news/2013-01-07/emirates-may-need-30-more-a380-superjumbos-for-network-expansion.html

accommodate it. In this section we will investigate the proposed improvements at the emerging carrier hubs.

Table 5.23 compiles the reported passenger numbers from each of the emerging carrier hubs. We note that both Doha International (DOH) and Abu Dhabi International (AUH) have witnessed a doubling in the number of passengers handled between 2007 and 2012. Dubai International (DXB) handles more passengers than any of the other airport, but has witnessed the smallest growth rate among the emerging carrier hubs.

	Passengers (thousands)						
	2007	2008	2009	2010	2011	2012	Overall Change
IST[135]	23,000	29,000	30,000	32,000	37,000	45,000	96%
DOH[136]	9,459	12,272	13,113	15,724	18,108	21,163	124%
DXB[137]	35,000	38,000,	41,000	47,260	50,977	57,684	65%
AUH[138]	6,926	9,017	9,672	10,855	12,400	14,700	112%

Table 5.23) Passengers handled at emerging carrier hubs (2007 – 2012)

The increases in passengers handled most directly affect the terminal buildings. As passenger traffic increases, terminals become increasingly congested. This is especially true for airlines such as the emerging carriers, whose passengers frequently connect at their hubs. Thus, their passenger handling infrastructure must be robust enough to handle the increasing volume of travelers. These increases in passenger numbers are the result of increases in flight volumes at these four hubs. Figure 5.5 displays how flight volumes at these hubs have increased over the same period.

[135] TAV Airports " Facts& Figures- Istanbul Ataturk Airport", http://www.ataturkairport.com/en-EN/abouttav/Pages/iaaterminal.aspx
[136] Doha International Airport "Passenger Statistics" http://www.dohaairport.com/english/statistics.html?
[137] Dubai International Airport, "Fact Sheet, Reports & Statistics" http://www.dubaiairport.com/en/media-centre/facts-figures/pages/factsheets-reports-statistics.aspx?id=9
[138] Abu Dhabi Airports Company "Abu Dhabi International Airport Fact Sheet" http://www.adac.ae/english/media/4%20Abu%20Dhabi%20International%20Airport%20Factsheet_tcm8-8351.pdf

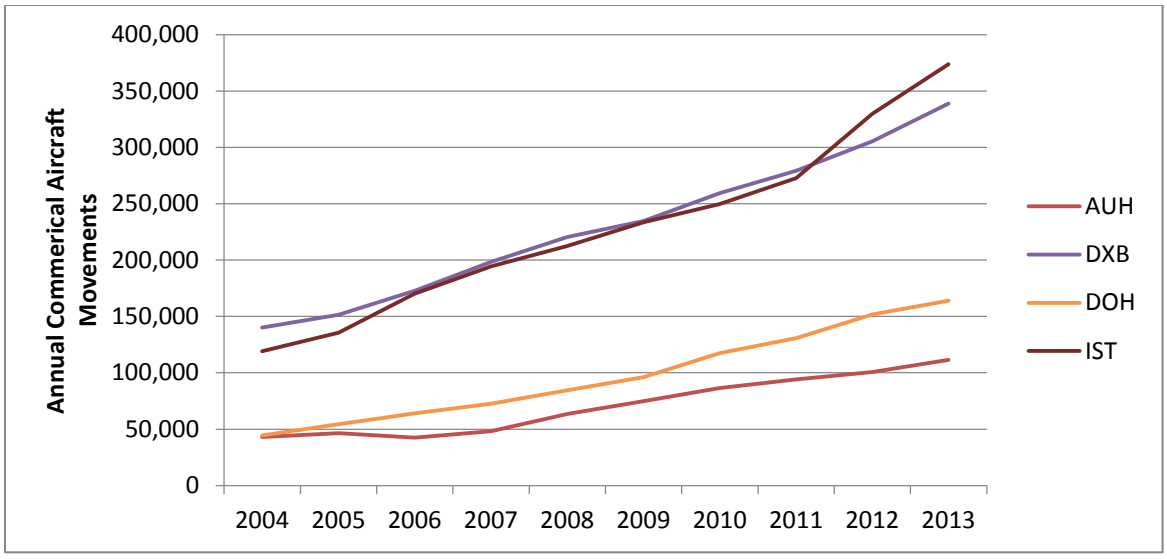


Figure 5.5) Annual Commercial Aircraft Movements at Emerging Carrier Hubs

The data used in creating Figure 5.5 was obtained from the Diio Mi portal. The query selected all flights operated to and from the respective airports from September 2003 through September 2013. It also includes cargo and charter flights. Though many airports around the world operate below capacity, and have the ability to accommodate sudden surges in traffic, there are few that are able to handle a tripling of aircraft movements over the course of a decade.

The final step before discussing each of the airports is to determine the projected number of passengers the emerging carriers will handle in 2020. Relying once again on the forecast presented earlier, we shall calculate the theoretical number of passengers carried with the following equation:

$$Passengers\ Carried\ Per\ Year_{ij} = Seats_{ij} * Annual\ Departures_{ij} * System\ Load\ Factor_j$$

$$Total\ Passengers\ Carried\ Per\ Year = \sum_j \sum_i Passengers\ Carried\ \ Per\ Year$$

where i = aircraft type and j = airline

Airline	2013	2020	Change
Emirates	49,963,632	88,023,780	76%
Etihad	13,505,634	27,907,404	107%
Qatar	21,581,064	47,401,579	120%
Turkish	42,530,440	79,059,463	86%

Table 5.24) Forecasted Passengers Carried by the Emerging Carriers

The results of those calculations are presented in Table 5.24. We once again note that Qatar Airways and Etihad are forecasted to double the number of passengers carried. Emirates remains

the largest airline in the group, though Turkish Airlines has a faster growth rate. Next we shall briefly discuss their respective hub airports, as well as the future expansion plans of those airports.

5.4.1) Abu Dhabi International (AUH) – Etihad Hub

Abu Dhabi International Airport was opened in 1982. The first passenger terminal built at the Abu Dhabi International Airport was the semi-circular terminal 1, seen in Figure 5.6. Terminal 1's semi-circular shape limited expansion options and as a result, terminal 2 was built in the early 2000s to increase the airports' capacity. When Etihad was formed in 2003, it initially operated out of Terminal 1. By 2007 it was serving over 5 million passengers annually, which exceeded the capacity of Terminal 1. In 2009 Terminal 3 was opened, and is currently used exclusively by Etihad. The completion of Terminal 3 increased the airports' capacity to over 12.5 million passengers annually. Improvements are currently underway to further increase the airports' capacity to 17 million passengers by 2017[139].

In 2013, Abu Dhabi International handled over 16 million passengers and serviced over 120,000 aircraft movements. As previously stated, the current capacity of the passenger terminals is 12.5 million passengers which indicates that the airport is operating above capacity. The renovation and expansion of the existing passenger terminal buildings will bring the declared capacity up to 17 million passengers within the next few years. Given the rate at which passenger traffic is increasing, those renovations are not sufficient. The government of Abu Dhabi recognized that, and in the early 2010's announced the construction of a new midfield terminal at Abu Dhabi International.

Construction started on the new midfield terminal in 2013, and is slated for completion in 2017. Initially, the new terminal will increase capacity by 30 million passengers annually. The current plans allow for the new terminal building to eventually accommodate 40 million passengers, thereby bringing the airports' overall capacity to roughly 55 million passengers per year[140]. Etihad Airways will be the primary occupant of the new terminal. It is unclear which of the existing terminals at Abu Dhabi will remain operational. Additionally the master plan also makes provisions for the construction of a third runway located 2 km away from the existing runways.

[139] Abu Dhabi Airports " Factsheet"
http://www.adac.ae/english/media/Factsheet_Abu%20Dhabi%20Airports_Eng_tcm8-10074.pdf
[140] Kohn Pedersen Fox, "Abu Dhabi International Airport Midfield Complex"
http://www.kpf.com/project.asp?T=12&ID=128

Returning to our forecast, we note that based on its current orders, Etihad will serve over 25 million passengers by 2020. If Etihad maintains its current share of passengers served at Abu Dhabi, then the forecast suggests that 42 million passengers may pass through the airport in 2020. Given the current expansion plans it seems that the airport will be able to handle the increase in passenger numbers. In regards to aircraft movement, the forecast projects 210,000 movements by 2020. London Heathrow; the world's busiest two-runway airport, currently handles over 400,000 annual movements with a similar mix of aircraft as Abu Dhabi. Therefore, it is reasonable to state that Abu Dhabi will not be constrained by its current runways or future terminals.

5.4.2) Doha International Airport (DOH) – Qatar Airways Hub

Doha International Airport in Doha, Qatar is the sole commercial airport in Qatar, and as such serves as Qatar Airways' sole hub. Currently Doha Airport consists of two passenger terminal buildings and a single runway. The passenger terminals were upgraded in the 2000s to handle the influx of Qatar Airways passengers. At present the declared capacity of the two terminals is 12 million annual passengers[141]. That threshold was first exceeded in 2008. By 2012, Doha International was servicing more than 21 million annual passengers; nearly double its stated capacity.

Passenger numbers have more than doubled and aircraft movements have nearly tripled at Doha International since 2007. Qatar Airways currently accounts for 75% of annual movements there. If the forecasted figures are to be considered, then by 2020 Doha International will witness annual aircraft movements in excess of 320,000, and over 61 million passengers. Given the limitations of its current infrastructure, it is evident that the airport will not be able to cope with the influx of flights and passengers.

In 2006 ground was broken on what will eventually become Qatar's primary international airport; Hamad International Airport. The new airport is being built south of the existing airport on land reclaimed from the Arabian Gulf. The airport was originally set to open in 2009, but a series of construction delays pushed the opening date back to 2014.

The new airport consists of two parallel runways coupled with a midfield terminal. The new passenger terminals will accommodate 28 million passengers a year, and provide 41 contact gates, as well as 22 remote gates. Construction activities will continue after the opening of the new airport

[141] Arabian Business, "The troubles with Doha's new airport" http://www.arabianbusiness.com/the-troubles-with-doha-s-new-airport-517957.html

in April 2014. Those activities will expand the new terminal buildings to eventually handle 50 million passengers annually.

By the time it is fully completed in 2015, the airport will be able to accommodate 50 million passengers and approximately 320,000 annual aircraft movements[142]. When considering the forecast presented earlier we note that based on current growth trends, Qatar Airways alone will serve 45 million passengers and operate over 240,000 flights from Hamad International Airport. If its current share of 76% of all aircraft movements remains, that would translate into over 320,000 annual aircraft movement by 2020 at the new airport. This would mean that demand would exceed capacity at the new airport only 5 years after its completion. The airport was first planned in 2003, and construction commenced in 2006. Some modifications have been made to the design during that time, though it appears that they are not sufficient to accommodate Qatar Airways' growth. The location of the new airport on reclaimed land, as well as the positioning of support facilities directly across from the new passenger terminals, limits the expansion possibilities for this airport. Designers claim that future expansion plans will increase the capacity to 93 million passengers[143]. At present, it appears that the airport will need to continue expansion efforts, in order to accommodate its largest tenant.

5.4.3) Dubai International (DXB) – Emirates Hub

At the start of the 1980s Dubai International was a stopping point for many airlines traveling between Asia and Europe. Since then however the growth in traffic at Dubai International has been due largely to Emirates. In 1998 Terminal 2 was opened, followed by an additional concourse in 2000. Terminal 3 was completed in late 2008 thereby surpassing Beijing Capital Airport's own terminal 3 as the largest terminal building in the world. In 2013 the worlds' first A380 dedicated concourse was opened at Dubai International, to serve Emirates' eventual 120 strong fleet. This brought the overall passenger capacity to 75 million per year[144]. Terminal 2 was also upgraded during this period to handle 5 million passengers, and will continue to be upgraded

[142] Qatar Airways, "Factsheet – Hamad International Airport, Doha, State of Qatar" http://www.qatarairways.com/iwov-resources/temp-docs/press-kit/Hamad%20International%20Airport%20-%20English.pdf

[143] Avio News, "Aircraft and Transport. New Doha Airport: opening in late May for all the airlines" http://www.avionews.com/index.php?corpo=see_news_home.php&news_id=1159751&pagina_chiamante=index.php

[144] Dubai Airports, "Factsheets , reports and statistics" http://www.dubaiairport.com/en/media-centre/facts-figures/pages/factsheets-reports-statistics.aspx?id=9

in order to increase capacity. Terminal 2 is currently used by low cost carriers at Dubai International.

In 2012, approximately 58 million passengers were served at Dubai International. That is well below the airport's current stated capacity of 75 million passengers. Referring to the fleet forecast we note that Emirates alone could be handling over 75 million passengers by 2020. When considering the other airlines present at Dubai International, namely flydubai, there could be as many 125 million. That would clearly exceed the capacity of the current terminal buildings. The airport is already surrounded by developed areas, and there is not sufficient space within the grounds to build a 50 million plus passenger terminal there.

The possibility of building a second airport was first mentioned in the early 2000s. The master plan for the airport called for a five runway, three terminal airport to be completed by 2017. Due to the economic crisis the project has been scaled back and the completion date pushed to 2027. Nevertheless, construction commenced in 2007 and in 2010 the partially completed airport opened with one runway. By 2013 the first passenger terminal was completed and the first commercial aircraft arrived. The new airport was named Maktoum International Airport (DWC).

Initial reports suggested that with the exception of Emirates most airlines, including flydubai, would move to DWC within the next few years. Some regional airlines such as Qatar Airways and Gulf Air already offer service to the new airport. Since then however, Emirates has stated that it intends to move all of its operations to DWC after 2020[145]. DWC's capacity upon completion is roughly 160 million passengers. With five runways it is highly unlikely that DWC will face any capacity issues related to aircraft movements. Proposed upgrades to Dubai International will bring its overall capacity up to 100 million passengers. These renovations should be sufficient to service Emirates' traffic, given that some current tenants at Dubai International will be moving to DWC. By the time DWC is fully completed, the Dubai metropolitan area will have the ability to handle 260 million passengers annually. This is far greater than any metropolitan area currently handles. Given the prime location of Dubai International, it may ultimately be shut down and redeveloped. Dubai International is located in the center of Dubai and is easily accessible by public and private transportation. Maktoum International by contrast is 50 km away. The area surrounding it is currently undeveloped, but will eventually include residential and commercial developments as part of the Dubai World Central project.

[145] Gulf Business, "Emirates to move to new Dubai Airport after 2020", http://gulfbusiness.com/2014/01/emirates-move-new-dubai-airport-2020/

5.4.4) Istanbul Ataturk Airport (IST) – Turkish Airlines Hub

Turkish Airlines current primary hub at Istanbul Ataturk Airport is located in the European side of Istanbul, 24 km away from the center of Istanbul. It was first built in the 1920s and has since then undergone many renovations and upgrades. Currently the airport consists of 2 passenger terminals (1 domestic, 1 international), a general aviation facility and a cargo terminal. There are two closely spaced parallel runways and a third which runs nearly perpendicular to the parallel pair. Among the emerging carrier hubs it is the busiest in terms of aircraft movements and second busiest in regards to passenger numbers.

Istanbul Ataturk is currently the sixth busiest airport in Europe in terms of annual passengers. In 2012 it recorded a 20.6% growth in the number of passengers it served[146]. The growth in traffic at Istanbul Ataturk over the past two decades has outpaced efforts to expand the airport, and limited Turkish Airlines' growth plans. In 2001, a new single runway airport in Istanbul was inaugurated. The new airport, Sabiha Gokcen was built on the Asian side of Istanbul 35 km from the center of the city. It was originally intended to serve as a domestic airport but due to the rapid growth of air travel in Istanbul, the decision was made to allow it to serve international flights. The first two terminal buildings that were built there were designed to handle 3.5 million passengers combined. The renovation of the international terminal increased its capacity to 25 million annual passengers. Istanbul Ataturk's declared capacity currently stands at 50 million passengers annually and 50 movements per hour. By 2012 it was reported that movements at Ataturk were at peak capacity for 90% of the day indicating that the airport was nearing its practical capacity[147].

The Turkish aviation authorities have stated that they plan on building a fourth runway at Istanbul Ataturk. The new runway would run parallel to the third runway at Istanbul Ataturk. Analysts have stated that this will still not be sufficient to meet demand. Based on current growth rates and Turkish's aircraft orders, we project that Turkish airlines will be serving 79 million passengers in 2020. Total movements will be in excess of 110,000 which will not be feasible given that the runways are already operating near capacity for most of the day. The growth of the Turkish low costs carriers Pegasus and Sunexpress will also exacerbate these capacity issues.

[146] Chipshol, "2012 Statistics" http://www.chipshol.com/facts-figures.html
[147] Journal of Case Research in Business and Economics, Saldiraner, Yildrum, " The new airport in Istanbul; expectations and opportunities" http://www.aabri.com/manuscripts/131548.pdf

A study concluded that all current proposals to expand and reconfigure the two airports in Istanbul would result in a 100 million passenger annual capacity. Demand is forecasted to exceed that by 2017 creating a dilemma for the government and Turkish Airlines. They would like to continue growing the Turkish aviation sector, but it is becoming increasingly difficult to squeeze extra capacity out of the existing infrastructure.

After reviewing their options, the government decided to build a third airport in Istanbul to address these capacity issues. The proposal calls for a new 6 runway, multi terminal airport to be built 35 km to the northwest of the city on the coast of the black sea. The airport is to be built in several stages, and will eventually become one of the world's largest airports. It will be able to accommodate 150 million passengers once it is completed[148]. The first stage will involve the construction of three independent runways and a 90 million passenger terminal, along with the required support structures such as maintenance hangars and air traffic control tower. The second stage of the project will involve constructing a fourth runway and associated taxiways. The third and fourth stages each include the construction of a 30 million passenger terminal and a runway. Construction is slated to start in 2017. There are few details available as to when the project will be completed, but given the scope it may be well into the next decade before it is completed. Istanbul Ataturk's future remains unclear at the moment. The new airport should however alleviate the issues faced by Turkish Airlines, and provide it with the ability to continue expanding.

5.5) Conclusion

In this chapter we have created a forecast of the emerging carriers' fleet size and possible deployable capacity for 2020. The deployable capacity projection is based solely on the aircraft orders placed by the emerging carriers. That capacity projection was evaluated against the regional passenger traffic forecast made by Boeing. The comparison suggests that the emerging carriers will suffer from overcapacity by the end of the decade. They may enjoy several advantages over their competitors, but these advantages are not sufficient to justify the results of our comparison. Our comparison suggested that in two inter-regional travel markets, all other airlines would witness a substantial decrease in RPKs, if the emerging carriers achieve the growth rates we calculated in our capacity projection. Other airlines will surely undertake efforts to ensure that they do not lose substantial market share to the emerging carriers. They will also attempt to capture some of the new demand.

[148] Oxford Business Group, "Third's a charm: ambitious plans for a new Istanbul airport are gaining traction" http://www.oxfordbusinessgroup.com/news/third%E2%80%99s-charm-ambitious-plans-new-istanbul-airport-are-gaining-traction

It seems therefore that there are two possible outcomes. The first possibility is that passenger traffic increases faster than Boeing projected, thereby ensuring that all carriers are able to grow, though the emerging carriers will likely grow faster than others. The second possibility is that the emerging carriers will suffer from overcapacity, and have to scale back their fleet plans. The second possibility appears more likely given the staggering orders placed by the emerging carriers. Emirates in particular seems to have an unrealistic fleet plan. A fleet consisting of 120 A380s, 160 777s and 70 A350s would certainly be impressive, but it remains to be seen whether the required traffic flows will materialize. Turkish Airlines' fleet plans appear to be the most reasonable of the group. Its proximity to Europe allows it to serve attractive markets, which are not feasible for the other emerging carriers.

The issue of their hub airports and whether they would be able to cope with the influx of new aircraft was also briefly discussed. Three of the emerging carriers are expected to move to new airports that are either currently under construction or in the pre-construction phase. Qatar Airways' new hub in Doha appears to be too small to serve Qatar Airways needs, especially if oneworld members establish it as their hub for the region. The proposed future expansions to the new Doha airport may have to come sooner rather than later in order to avoid capacity constraints.

Ultimately what this chapter serves to demonstrate is that the emerging carriers are still planning for future growth, despite industry forecasts which do not support the scale of their proposed growth. They will face issues in deploying their fleets, both in accommodating them at their hubs and in finding destinations able to serve large widebody aircrafts. As with all forecasts, it remains to be seen how accurate our projections are.

Chapter 6 – Conclusion

The first objective of this thesis was to define the term "emerging carrier" and then introduce the four carriers in the Middle East who fit this definition. The second objective was to analyze how they have performed across several global regions over the past decade. The third and final objective was to analyze their future growth plans and assess the feasibility of these plans. In doing so we hope to have demonstrated why these carriers warrant further research.

We first defined the term "emerging carrier" as those carriers which had managed to attain 10% average growth rates across several operating statistics, for at least 5 consecutive recent years. We further refined this definition by stating that these carriers had to be focused on expanding international connecting service. Carriers in China and Russia have managed remarkable growth rates over the past decade, yet most of their growth has come from their respective domestic markets. Both those nations are rapidly developing, and as such are witnessing increasing demand for domestic air travel. Carriers in those nations do have extensive international networks, but the majority of their expansion is in their domestic markets. As such their effect on the global airline industry has been less noticeable than that of the emerging carriers. Having analyzed the growth of airlines across the globe, we identified four airlines which matched the description: Etihad Airways, Emirates, Qatar Airways and Turkish Airlines, all of whom are based in the Middle East.

After having defined the term emerging carrier, and identifying the four Middle Eastern airlines that satisfied the description, we then analyzed how they as a group performed. Scheduled commercial passenger air services between the Middle East and several other global regions were analyzed in order to do so. The results of those analyses indicated that the emerging carriers had collectively grown their capacity faster than any other type of airline. They are the largest carriers in each inter-regional travel market they operate in, by both flights and capacity. The one inter-regional air travel market they do not dominate as convincingly is the intra-Middle East market. There they face fast-growing low cost carriers and entrenched legacy carriers. This may, however, be the least important market for the emerging carriers, as it does not fit their model of providing long-haul connecting service between East and West. Table 6.1 lists the flight and ASM market shares of the emerging carriers, in each of the previously discussed travel markets the emerging carriers operate in from the Middle East.

Middle East to	Emerging Carrier Market Share					
	2004		2013		Growth	
	Flights	ASMs	Flights	ASMs	Flights	ASMs
Asia	28%	33%	38%	53%	290%	366%
Europe	29%	36%	41%	52%	233%	257%
Middle East	24%	26%	27%	35%	175%	248%
North America	17%	16%	57%	63%	1090%	1722%
Total	**26%**	**31%**	**32%**	**50%**	**208%**	**336%**

Table 6.1) Emerging Carrier Flight and ASM Market Share by Region from the Middle East

Over the past decade the emerging carriers have collectively grown their ASM market share from roughly 33% to over 50%, in almost every inter-regional travel market from the Middle East. In many of these inter-regional air travel markets the emerging carriers have a smaller flight market share, when compared to their ASM market share. This is due to their use of widebody aircraft. This is further evidenced by the fact that their ASM growth rates are consistently higher than their flight growth rates. They have however, managed to achieve triple digit growth rates in both flights and ASMs in every market they operate in. In markets such as Europe, North America and Asia, they now account for over 50% of the capacity, despite competing with some of the worlds' largest global airlines. In many of these markets, the largest carrier by either flights or capacity is one of the emerging carriers, usually Turkish Airlines or Emirates.

In becoming the largest airlines in these markets, they have displaced some of the world's largest and most recognizable airlines. The competition between them and other carriers across the globe has in some cases escalated to the governmental level. The big three European carriers have been competing with the emerging carriers since the early part of the millennium. While they each initially chose not to cooperate with them, recent agreements indicate that at least two of them have decided to adopt more cooperative relationships with the emerging carriers. Similarly, in North America they initially faced opposition from the big three American carriers. One of those carriers, American Airlines, now counts Qatar Airways as a fellow alliance member. The other two large American carriers may eventually adopt similar stances in regards to the emerging carriers. The relationship between the emerging carriers and the two largest aircraft manufacturers was briefly discussed. It served to show how reliant Airbus and Boeing are on the emerging carriers for the success of their next generation widebody aircraft.

In order to compare the projected RPKs of the emerging carriers in 2020 with the global airline industry, we referred to the Airline Business Rankings. Flight Global provides a rankings of

airlines through its publication, Airline Business. The report used in this comparison was issued for 2012[149]. In order to make our projection, we assumed a growth rate for each listed carrier based on their previous performance, and the outlook for their particular market. The final results and rankings are presented in Table 6.2.

Rank 2012	Airline	Growth Rate	2020 RPK (millions)	Change in Rank
1	**Emirates**	**-**	**447,475**	**3**
2	Delta Air Lines	1.0%	336,190	-1
3	American Airlines Group[150]	1.0%	328,927	0
4	United Airlines	1.0%	312,599	-2
5	Southwest Airlines	2.0%	194,206	0
6	**Turkish Airlines**	**-**	**182,375**	**12**
7	**Qatar Airways**	**-**	**171,902**	**12**
8	Lufthansa	1.0%	162,190	-2
9	China Eastern Airlines	5.0%	161,210	0
10	China Southern Airlines	5.0%	158,088	0
12	Air France	1.0%	147,078	-5
13	Air China	5.0%	141,747	-1
14	British Airways	1.0%	136,912	-6
15	Ryanair	2.5%	121,840	-4
16	**Etihad Airways**	**-**	**121,504**	**13**
17	Cathay Pacific	3.0%	119,318	-4
18	Singapore Airlines	2.0%	109,862	-4
19	Air Canada	1.5%	100,859	-4
20	KLM Royal Dutch Airlines	1.0%	93,430	-4

Table 6.2) Forecasted Ranking of Airlines by RPKs in 2020

In the United States we assumed an annual growth rate of 1% for the three legacy carriers. Capacity discipline has been the prevalent trend in the United States for these carriers. Southwest meanwhile is starting international operations, which we expect will result in it growing faster than the other US based carriers. In regards to Europe, we expect the big three to grow at 1% annually, as they are competing with both the emerging carriers and European low costs, both of whom enjoy a cost advantage over the European big three. We predict that Asian carriers, in particular those in China will grow significantly through 2020. Singapore Airlines, which does not have a domestic market and competes directly with the emerging carriers, is forecasted to have a lower growth rate. These assumed growth rates are listed in Table 6.2. We applied the growth rates to the 2012 RPK

[149] Flight Global, "Airline Business Rankings", http://www.flightglobal.com/features/world-airline-rankings/
[150] Include US Airways

figures listed by Airline Business in order to calculate the 2020 RPKs of the carriers considered. For the emerging carriers we used the figures calculated in chapter 5.

US carriers have long been the largest in the world, owing to the popularity and maturity of air travel in the US. Their reign at the top of the global airline rankings appears to be coming to an end. Similarly, London Heathrow's long reign as the world's busiest airport by international passenger traffic appears to be coming to an end[151]. In 2014 it will likely lose that title to Dubai International, which has overtaken Paris CDG, Hong Kong International and Frankfurt International in recent years. The only airlines to improve their ranking in 2020 are the emerging carriers, though the Chinese airlines appear poised to overtake Lufthansa. Etihad is the only new entrant to the top 20. The most noticeable feature is Emirates' lead at the top. It is nearly 50% larger than the second largest airline. This once again begs the question of whether their fleet plan is realistic. However if Emirates were to continue its current trend of growing RPKs by 10% annually, it would still obtain the top ranking.

Our final objective of assessing the emerging carriers' future growth plans yielded warnings concerning the viability of such plans. By compiling their aircraft orders and analyzing their past performance, we were able to create a forecast of their deployable capacity in 2020. When that forecast was compared alongside a forecast of air travel demand created by Boeing, we found that the emerging carriers' future growth plans were too optimistic. It remains possible that the forecasts concerning the growth of passenger traffic are too conservative. The more likely possibility is that the emerging carriers are too ambitious in their future capacity and fleet growth plans. They have exceeded many projections and overcome many negative outlooks in the past, but eventually they must reach a stable fleet size. The term emerging carriers implies that at some point these carriers will have fully emerged, and thus stop growing as rapidly. For the largest of the group this time may already be fast approaching. Emirates' large 777X order is intended to replace its fleet of current generation 777s, starting in 2020. The fact that the new order is equivalent in size to Emirates' planned 777-300ER fleet indicates that they intend to replace the aircraft on a one-to-one basis, and not further expand their fleet. Regardless of whether they continue expanding their fleet, Emirates is projected to become the largest airline in the world by RPKs by 2020.

Overall, the achievements and performance of the emerging carriers over the past decade are impressive. Emirates and Turkish Airlines have managed to remain profitable, despite several

[151] Airports Council International, "International Passenger Traffic for past 12 months, 12 Months ending Dec 2013" http://www.aci.aero/Data-Centre/Monthly-Traffic-Data/International-Passenger-Rankings/12-months

downturns in demand for air travel. Etihad achieved profitability within its intended time frame of 8 years, despite placing large aircraft orders and acquiring sizeable stakes in other airlines. Qatar Airways has gained entry to the oneworld alliance, and its premium cabin service is regularly ranked among the best in the world. As a group they are increasing their dominance of air travel between the Middle East and other global regions. Their aircraft orders send a clear message that they intend to continue growing. Whether they will be able to do so remains to be seen, but their record in exceeding projections and overcoming negative outlooks suggest they will have a tremendous impact on global airline competition.

Appendix

Emirates												
		In Service	On Order	2014	2015	2016	2017	2018	2019	2020	Total	Seats	Notes
Airbus													
A330													Replaced by A350
	200	**21**					**-4**	**-5**	**-6**	**-6**	**0**	246	
A340													Fleet Retirement
	300	**4**		**-2**	**-2**						**0**	267	
	500	**9**		**-4**	**-4**	**-1**					**0**	258	
A350													Orders may shift to larger A350-1000
	900		**50**	**6**	**10**	**10**	**10**	**7**	**7**		**50**	*314*	
	1000		**20**					**5**	**7**	**8**	**20**	*350*	
A380													Emirates plans for 120 strong A380 fleet across variants
	800	**44**	**96**	**12**	**12**	**12**	**11**	**11**	**11**	**11**	**124**	506	
Boeing													
777													
	200/200ER	**9**		**-3**	**-3**	**-3**					**0**	346	Retirement
	200LR	**10**									**10**	266	
	300	**12**			**-4**	**-4**	**-4**				**0**	364	Replaced by A350 or 777X
	300ER	**90**	**61**	**12**	**12**	**12**	**13**	**12**			**151**	374	
	777X		**150**								**0**	*400*	Expected delivery in 2020
Total		**199**	**377**	**21**	**21**	**26**	**26**	**30**	**19**	**13**	**355**		

Table A-1) Emirates' Six Year Fleet Plan

Qatar Airways

		In Service	On Order	2014	2015	2016	2017	2018	2019	2020	Total	Seats	Notes
Airbus													
A320													
	A319	**2**						**-2**			**0**	110	
	A320	**32**									**32**	144	
	A321	**12**									**12**	177	
	neo		**50**			**10**	**10**	**10**	**10**	**10**	**50**	*180*	
A330													Replaced by A350, most will be converted to freighters
	200	**16**					**-3**	**-3**	**-3**	**-3**	**4**	259	
	300	**13**						**-3**	**-3**	**-4**	**3**	294	
A340													Fleet retirement
	600	**4**				**-2**	**-2**				**0**	266	
A350													Launch Customer
	900		**43**	**1**	**7**	**7**	**7**	**7**	**7**	**7**	**43**	*300*	
	1000		**37**					**6**	**10**	**10**	**26**	*350*	
A380													
	800		**10**	**4**	**4**	**2**					**10**	*500*	
Boeing													
777													
	200LR	**9**									**9**	259	
	300ER	**26**	**3**	**3**							**29**	341	
	777X		**50**								**0**	341	
787													
	8	**10**	**20**	**7**	**7**	**6**					**30**	254	
Total		**124**	**213**	**15**	**18**	**23**	**12**	**15**	**21**	**20**	**248**		

Table A-2) Qatar Airways' Six Year Fleet Plan

Turkish Airlines

		In Service	On Order	2014	2015	2016	2017	2018	2019	2020	Total	Seats	Notes
Airbus													
A320													
	A319	**14**									**14**	132	
	A320	**31**	**4**		**2**	**2**					**35**	164	
	A321	**41**	**25**	**8**	**8**	**9**					**66**	185	
	neo	**0**	**57**		**7**	**10**	**10**	**10**	**10**	**10**	**57**	185	
A330													
	200	**10**									**10**	262	
	300	**12**	**18**	**4**	**4**	**5**	**5**				**30**	289	
A340													
	300	**7**					**-2**	**-2**	**-2**	**-1**	**0**	270	
Boeing													
737													
	700	**3**			**-2**	**-1**					**0**	124	
	800	**58**	**31**	**7**	**8**	**8**	**8**				**89**	161	
	900	**10**	**5**		**2**	**3**					**15**	151	
	MAX		**50**					**5**	**5**	**5**	**15**	*170*	
777													
	300ER	**15**	**20**	**4**	**4**	**4**	**4**	**4**			**35**	332	
Total		**201**	**106**	**23**	**33**	**40**	**25**	**17**	**13**	**14**	**366**		

Table A-3) Turkish Airlines' Six Year Fleet Plan

Emirates

Aircraft	Operating Performance			2013			2020			Change	
	Seats	Deps/Day	Avg. Stage Length	Fleet	Departures	ASMs	Fleet	Departures	ASMs	Departures	ASMs
Airbus											
A330-200	257	3.8	1298	21	29,127	9,716,359,422	0			-100%	
A340-300	267	2.3	2603	4	3,358	2,333,813,358	0			-100%	
A340-500	258	2.7	1467	9	8,870	3,356,981,577	0			-100%	
A350-900	*314*	*3.4*	*1700*				*50*	*62,050*	*33,122,290,000*		
A350-1000	*350*	*2.8*	*2700*				*20*	*20,440*	*19,315,800,000*		
A380-800	490	1.5	3891	44	24,090	45,929,753,100	124	67,890	129,438,395,100	182%	
Boeing											
777-200/200ER	303	3.2	1726	9	10,512	5,497,544,736	0			-100%	
777-200LR	266	2.1	3667	10	7,665	7,476,609,630	10	7,665	7,476,609,630	0%	
777-300	434	3.2	1736	12	14,016	10,559,990,784	0			-100%	
777-300ER	400	2.2	3357	90	72,270	97,044,156,000	151	121,253	162,818,528,400	68%	
Total				**199**	**169,908**	**181,915,208,607**	**355**	**279,298**	**352,171,623,130**	**64.4%**	**93.6%**

Table B-1) Emirates' Forecasted Capacity in 2020

Qatar Airways

Aircraft	Operating Performance			2013			2020			Change	
	Seats	Deps/Day	Avg. Stage Length	Fleet	Departures	ASMs	Fleet	Departures	ASMs	Departures	ASMs
Airbus											
A319	110	4.5	1210	2	3,285	437,233,500	0	0	0	-100%	
A320	144	4.1	1126	32	47,888	7,764,751,872	32	47,888	7,764,751,872	0%	
A321	184	4.2	1116	12	18,396	3,777,508,224	12	18,396	3,777,508,224	0%	
A320Neo	*180*	*4.1*	*1110*				*50*	*74,825*	*14,950,035,000*		
A330-200	263	2.5	2604	16	14,600	9,998,839,200	4	3,650	2,499,709,800	-75%	
A330-300	301	2.5	2459	13	11,863	8,780,136,138	3	2,738	2,026,185,263	-77%	
A340-600	306	2.4	2803	4	3,504	3,005,443,872	0	0	0	-100%	
A350-900	*314*	*2.5*	*2500*				*43*	*39,238*	*30,801,437,500*		
A350-1000	*350*	*2.5*	*2600*				*26*	*23,725*	*21,589,750,000*		
A380-800	*490*	*2.0*	*3500*				*10*	*7,300*	*12,519,500,000*		
Boeing											
777-200LR	259	2.1	4195	9	6,899	7,495,254,743	9	6,899	7,495,254,743	0%	
777-300ER	363	1.8	3564	26	17,082	22,099,530,024	29	19,053	24,649,475,796	12%	
787-9	254	2.6	2250	10	9,490	5,423,535,000	30	28,470	16,270,605,000	200%	
Total				**124**	**133,006**	**68,782,232,572**	**248**	**272,181**	**144,344,213,197**	**104.6%**	**109.9%**

Table B-2) Qatar Airways' Forecasted Capacity in 2020

Turkish Airlines

Aircraft	Operating Performance			2013			2020			Change	
	Seats	Deps/Day	Avg. Stage Length	Fleet	Departures	ASMs	Fleet	Departures	ASMs	Departures	ASMs
Airbus											
A319	132	6.4	870	14	32,704	3,755,727,360	14	32,704	3,755,727,360	0%	
A320	164	5.3	859	31	59,970	8,448,263,282	35	67,708	9,538,361,770	13%	
A321	185	4.7	1068	41	70,336	13,896,888,090	66	113,223	22,370,600,340	61%	
A320Neo	*180*	*5.0*	*1000*				*57*	*104,025*	*18,724,500,000*		
A330-200	262	2.3	2925	10	8,395	6,433,508,250	10	8,395	6,433,508,250	0%	
A330-300	289	2.3	3026	12	10,074	8,809,854,036	30	25,185	22,024,635,090	150%	
A340-300	270	1.9	3502	7	4,855	4,590,123,930	0	0	0	-100%	
Boeing											
737-700	124	3.4	719	3	3,723	331,927,788	0	0	0	-100%	
737-800	161	4.6	905	58	97,382	14,189,044,310	89	149,431	21,772,843,855	53%	
737-900	151	4.2	1899	10	15,330	4,395,862,170	15	22,995	6,593,793,255	50%	
737-MAX	*170*	*3.5*	*1500*				*15*	*19,163*	*10,491,468,750*		
777-300ER	332	1.6	4632	15	8,760	13,471,338,240	35	20,440	31,433,122,560	133%	
Total				**201**	**311,528**	**78,322,537,456**	**366**	**563,268**	**153,138,561,230**	**80.8%**	**95.5%**

Table B-3) Turkish Airlines' Forecasted Capacity in 2020

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