



Master thesis

Low-cost in for long-haul

New low-cost business model: the feasibility of
long-haul low-cost

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Abstract

Since the deregulation of the air transport industry, first in the US and later in Europe, the industry underwent a major competitive shake-up. A wide array of new carrier start-ups emerged competing on fares with established legacy carriers. These low-cost carriers offer generally low fares in exchange for eliminating many traditional passenger services (frills) and simplification and streamlining of operational processes. The low-cost carrier business model has, until now, been primarily focused on the short-haul routes and point-to-point operations. Looking at developments in the current air transport industry, the objective of this thesis is to explain the opportunity of transferring the low-cost model to long-haul operations. The results show that long-haul low-cost is not expected to revolutionise the industry as it once did on short-haul, since opportunities for further reduction of costs on the long-haul are limited. Yet, opportunities for long-haul low-cost carriers do exist but only if the carriers identify the right market, operate on high demand routes and have a low-cost philosophy.

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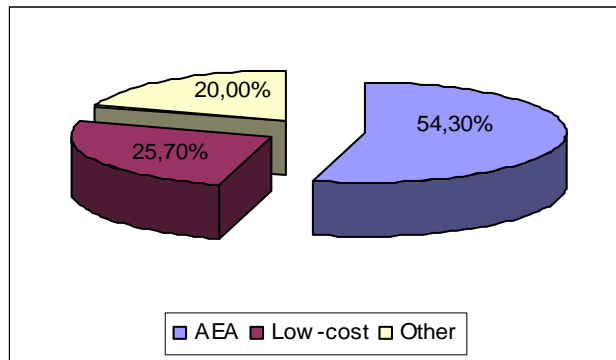
1 Introduction

The air transport industry is a continuously changing and very dynamic industry. On the carrier side some dramatic changes have evolved and led to a very different industry. Besides the legacy and charter carriers a new type of carrier appeared: the low-cost carrier. A low-cost carrier is a carrier that offers generally low fares in exchange for eliminating many traditional passenger services (frills) and simplification and streamlining of operational processes. On continental routes, low-cost carriers are able to deliver 80% of the service quality at less than 50% of the costs of legacy carriers (Franke, 2004). The concept was originated in the United States before spreading to Europe in the early 1990s and subsequently to much of the rest of the world.

The EU's successful deregulation of the air transport industry happened in a period of unlimited growth in air transport and introduced many new entrants and business models into the market. Following the success of Southwest Airlines in the US, the low-cost model has been the major driver of the successful outcomes of the deregulation process in Europe (ELFAA, 2004). Examples of low-cost carriers in Europe include Air Berlin, Ryanair and easyJet. Deregulation and the arrival of low fares air travel have forced the traditional legacy carriers (i.e. British Airways, Air France-KLM, Lufthansa) to compete vigorously on the denser European and intercontinental city pairs. Competition has led to lower air fares and other kind of services. As a result air traffic has exploded, having been slowed for years due to the lack of competition and high fares (Lawton, 2002).

The presence of low-cost carriers is significant today. In 2007, the share of low-cost carriers within intra-European traffic has increased to 25.7%, as can be seen in figure 1.1.

Figure 1.1: Share of seats in Europe July '06 – June '07



Source: AEA (2007)¹

The low-cost carrier business model has, until now, been primarily focused on short-haul routes and point-to-point operations. A constant source of speculation around the industry is the prospect of translating the low-cost model to long-haul routes (AEA, 2007). This thesis will try to answer this question:

To what extent can the low-cost model be adapted to the long-haul?

To answer this question I have developed thirteen sub-questions which form the basis of my research. The sub-questions are:

- How did the low-cost carriers enter the market and to what kind of impact did they have on the air transport industry?
- What impact did deregulation have on the air transport industry?
- What are the conditions and how does the cost-structure look like for low-cost carriers to be sustainable?
- Is there only one successful low-cost model or are there more alternatives possible?
- What are the fundamental differences between the low-cost model and the legacy model, and between the low-cost model and charter-operations?
- What kind of impact did the entrance of low-cost carriers have on airports?
- Is it operationally, commercially and cost technically possible for low-cost carriers to start a long-haul operation?

¹ Association of European Airlines that brings together 31 major carriers, including British Airways, Lufthansa and Air France-KLM.

- Is there a market from a consumer point of view?
- Which type of airports will be used and what kind of markets will be served?
- What are the consequences for legacy carriers and charter carriers?
- Are there any long-haul low-cost operations already?
- What kind of fare structures do long-haul low-cost carriers have in relation to their legacy- and charter counterparts?
- Do the (new) long-haul low-cost carriers offer lower fares than their competitors?

1.1 Method

This thesis will be a feasibility study. The question *To what extent the low-cost model can be adapted to the long-haul* will be answered. Because this is a new kind of model and not (yet) been widely adapted in the industry, this thesis will be an outcome of theoretical and practical research based on a numerical assumptions. Theory will be found in the different kind of sources; highly academic journals, (annual) reports from carriers and reports from independent research institutions. Data and other empirical information will be gathered from the Official Airline Guide (OAG) database². The OAG database contains for example for each flight route information about the departure and arrival airport, the carrier, the type of aircraft, the flight frequency, the number of seats, the duration and the travel distance.

1.2 Outline of the thesis

This thesis will be organised as follows. After this introduction, some historic facts will be mentioned. I will look at the development of the low-cost phenomenon. The formation of Southwest Airlines, the rise and fall of People Express and the reaction by legacy carriers with the help of the yield management tool are described. Chapter 3 describes the impact of deregulation of the air transport industry. In that chapter I describe both deregulation processes first in the US and later in Europe. I will also bring up the new ‘Open Skies’ agreement between the US and EU, that will be active from March 30,

² The OAG-data will be obtained with help of G. Burghouwt, SEO Economic Research

2008. In the next section I will give an extended description of the original low-cost model, introduced by Southwest Airlines. What kind of characteristics does that model have to be sustainable on the long-term? I will also go in detail on the most important low-cost carriers in Europe, Ryanair and easyJet, which have changed the travel behaviour of Europeans and the network structure completely. At the end of the section I will point out some differences between the low-cost business models of Ryanair and easyJet. Chapter 5 reviews the responses of other stakeholders, in particular the competing models legacy and charter carriers are using and I will look at what impact the entrance of low-cost carriers has had on airports. In Chapter 6 I will give an overview of the current long-haul low-cost market. First elements from each business model are discussed and if they or in what way they can be use- and transferable to the long-haul low-cost model. I will continue to look at five recent start ups of long-haul low-cost carriers, namely Oasis Hong Kong Airlines, Zoom Airlines, Jetstar, Viva Macau and AirAsia X. I will try to answer the following questions:

- What kind of service do they offer?
- How does each network look like and how will it change in the near future?
- Have they been successful so far or what can be done better?

In addition, I have done a fare-analysis in chapter 7 to find out if these long-haul low-cost carriers are seriously cheaper than their legacy counterparts. Data has been gathered from the OAG database and carriers' websites are used to check the fares. Chapter 8 concludes and summarises the thesis. The thesis will be reviewed if all the questions are answered adequately. It also provides a summary of findings and results including final thoughts.

2 Low-cost development; the story so far

The development of the low-cost phenomenon started already decades ago. In the first section of this chapter a short historic overview is given of the development and the impact of the low-cost phenomenon on the air transport industry, first in the US and later in Europe. The formation of Southwest Airlines, the rise and fall of People Express and the creation of yield management and other strategic innovations are described in this chapter.

2.1 In the beginning

The first experience with low-cost carriers began with the formation of Southwest Airlines in Texas. On June 18, 1971, the carrier operated its first flight. Their operation consisted of short intrastate flights from Dallas Love Field to Houston and San Antonio and was characterised by a no-frills service and a simple fare structure. The existence of this carrier provided the necessary support that stimulated the move to deregulate the US domestic market (Gillen & Taweelertkunthon, 2006).

The US Congress finally deregulated the air transport market 1978. This encouraged a number of new carriers to enter the air transport business; most of them offering a low fare, low frills or no-frills service. Though some were successful at first, they were not capable to become a decent player in the market. One of the most notable failures was that of People Express (1981-1987). This efficient, no-frills carrier stepped into this until then almost completely ignored market for low-cost air transportation, pulling people out of buses and cars (Cross, 1997) and expanded on routes that were abandoned or little served by the legacy carriers (Barkin et. al, 1995). In that way, the carrier posed little threat to the existing carriers. The carrier used a simplified fare structure whereby all seats on a given route were offered at the same price, with slight differences between peak and off-peak fares. All seats were in economy class, with the exception of a premium class on overseas flights.

Competing carriers got concerned when the average daily load factor of People Express was 74.6% compared with the high-50 percentiles of other carriers. People Express became the number one or two carrier within a month or two of serving a new market. But the growth escalation caused major problems in the company's system of operation. The no-show rate was a lot higher than at other carriers, travellers did not get tickets in hand, they did not work with travel agents (although they did that later) and the birth of yield (revenue) management of other carriers led to the demise of People Express (Cross, 1997). It was finally acquired by Texas International in 1987.

2.2 Yield management and other strategic innovations

The yield management structure enabled legacy carriers to compete better with People Express on fares. Those carriers began to lose market share and their higher costs meant that they were less able to match the new entrants' low fares without incurring substantial losses. The purpose of yield management is to optimise total revenues at the site where a service is provided (Daudel & Vialle, 1994). Yield management allowed carriers to sell seats at an optimum price and therefore maximizing a company's revenues. It recognises the customer as an individual having specific needs and constraints.

This new strategy was founded by American Airlines and it segmented passengers in a new way. Two factors were discovered: first, the cost of each unit was not the same and second, the market value of seats varied from passenger to passenger. By studying the characteristics of each flight, they realised that every flight had to be viewed differently in terms of how many discount seats should be allocated (Cross, 1997). The idea was to find a way to forecast passenger demand and then allocate the right number of seats of each class in order to optimise the revenue. In this way, the best combination of fares and conditions for each passenger category (quality product) was chosen (Alderighi, 2004).

Besides yield management legacy carriers came up with four other strategic innovations: hub & spoke systems, exploitation of advanced computer reservation systems, reducing average costs (for example by introducing two-tier labour contracts under which new employees were paid less than current staff) and frequent flyer programmes. Tretheway & Oum (1992) argue that since deregulation, a hub & spoke system has been for a long

time the most effective logistical system for passenger moving. By creating hubs, dominant carriers (mostly national) at hubs can channel traffic from a large number of cities (spokes) to another hub in another country, which in turn is connected to a large number of other cities. This allows dominant carriers to increase schedule frequency which will lead to reduced passengers' schedule wait and add many origin and destination pairs to the network. Legacy carriers also successfully implemented frequent flyer programmes to create brand loyalty. The size of the network and the power of hub & spoke systems encouraged passengers to fly with a legacy carrier rather than another carrier, because many destinations could be reached.

2.3 Second wave

Most of new low-cost carriers did not succeed in establishing a niche market in the first place and dropped out of competition after operating a very short period. The demise of People Express and the bankruptcies and acquisitions that occurred in the air transport industry in the second half of the 1980s seemed to lead to the death of the low-cost challenge (Barkin et. al, 1995). Gudmundsson (1998) stated that from 1978 to 1989 approximately 88 operating carriers were formed in the US, of which 83 failed. One of the few survivors was Southwest Airlines and it seemed that they found the keys to success in the low-cost business. This success inspired low-cost carriers to re-emerge and they took advantage of surplus capacity produced by fleet expansion in the late 1980s and lower demand for air travel in the early 1990s. With some carriers driven out of business and others cutting jobs, newcomers were able to purchase bargain aircraft and cheap staff (Barkin et. al, 1995). One of the new successful carriers was Dublin-based Ryanair. They almost completely copied the business model of Southwest Airlines and became rapidly the low-cost leader in Europe. The "Southwest-model" was adapted further by AirTran (combining hub & spoke system with a point-to-point service) and JetBlue³ (aircrafts luxuriously equipped with satellite TV and leather seats, operating to primary airports mainly) in the US and easyJet (flying from secondary airports to primary airports and completely abandoning the travel agent) in Europe.

³ An extended description of AirTran and JetBlue can be found in Appendix B.

3 Impact of deregulation on air transport

In the late 1970s and during the 1980s the air transport industry was deregulated in the US and later in Europe. The industry evolved from a system of long established legacy carriers operating in a regulated market to a dynamic and free-market industry. Before the deregulation, only one or two carriers operated on routes, with fares being regulated by state bilateral agreements (Alderighi et. al, 2004). In this chapter the process and impact of deregulation, first in the US and later in Europe, are described. The new Open Skies agreement between the US and the EU will also be explained.

3.1 Deregulation in the US

The economic and political arguments for deregulation of the air transport industry gained support in the US in the late 1970s. It was argued that an overload of national and international controls on market access, frequencies, capacity offered and pricing freedom prevented travelling public from enjoying the benefits of a more competitive market (Doganis, 1994). The US domestic air transport industry was finally deregulated in 1978 as part of a regulatory reform movement, where government involvement in economic affairs had to be reduced. The banking, telecommunications, energy and transportation sectors were already transformed. The idea was that deregulation had to improve economic efficiency and consumer choice in industries with a strong public-interest (Goetz & Sutton, 1997). In particular, the air transport industry showed some old, inefficient carriers, which had grown hugely in a protected environment, and they should be challenged by smaller, more efficient and demand-responsive carriers (Doganis, 1994).

If these regulations would be removed, the resulting six conditions would follow, according to Doganis (1994): (1) ease of market entry; (2) no economies of scale favouring legacy carriers; (3) a homogeneous product, difficult to differentiate; (4) no economic barriers to output or capacity growth; (5) consumers with perfect market knowledge of supply, fares etc.; (6) ease of market exit. The removal of this regulatory environment had serious consequences for the structure of the US air transport industry.

Several carriers (regional, charter as well as low-cost and new large carriers) challenged the dominance of the state-aided major legacy carriers. Those legacy carriers saw their domestic market share in terms of revenue decrease from 87 to 75% between 1978 and 1983. But in the next five years, the US air transport industry experienced a massive wave of bankruptcies, mergers and acquisitions (for example the earlier mentioned story of People Express). Industry-wide concentration increased (Goetz & Sutton, 1997). In the form of economies of scope, network density, control of computerised reservation systems, airport capacity, yield management and introducing and implementing the frequent-flyer programme, the long-established legacy carriers seemed to hold significant advantages. Only a few new start-ups survived and stayed in the industry (for example Southwest Airlines).

3.2 Deregulation in Europe

This regulation-trend was transferred across the Atlantic as the decade progressed (Lawton, 2002). The European air transport industry was highly regulated and inflexible, with no real competition between national carriers and fares that were set through bilateral agreements between states (ELFAA, 2004). The move towards a more liberal European policy for carriers began with the 1984 British and Dutch renegotiation of their bilateral agreements. It was quickly followed by similar agreements between the UK and Germany, Luxemburg, Belgium and Ireland (Lawton, 2002).

The process of deregulation of European air transport was achieved in four stages (packages) (ELFAA, 2004):

1. In 1987, fare restrictions were reduced. Further, additional flexibility for carriers for cooperation within the limits of existing air service agreements.
2. In 1990, all European carriers were allowed to carry passengers to and from their home countries to other EU member states (3rd and 4th freedoms⁴). Also the intra-European flights with stop-over in a third country and the right to pick-up and drop-off passengers during the stopover (5th freedom) were allowed to a greater extent.

⁴ The Freedoms of the Air can be found in Appendix A

3. In 1993, all carriers holding a community license were allowed to serve any international route within the EU. Carriers were given almost full freedom to set fares.
4. In 1997, all carriers holding a community license were given the right to operate domestic routes within the whole of the EU (8th freedom and cabotage right).

With these packages a single market for air transport was created within the EU. European carriers obtained practically unlimited freedom to choose their routes, capacity, schedules and fares. No serious competitor emerged and challenged the dominance of the legacy carriers for a long time. The entry of low-cost carriers had little impact in the first place, i.e. the low-cost carriers were not dangerous in terms of competition. The vast majority of low-cost passengers were new passengers, but legacy carriers were still forced to reduce their fares and improve service due to competition (ELFAA, 2004). The deregulation of the European air transport industry resulted in a low-cost revolution and it has been a great benefit for consumers in terms of lower fares and greater choice (more carriers and more (secondary) airports). Because of this, new entrants were able to challenge the traditional way of running a carrier and pursued new models which offered strong competition for the legacy carriers.

3.3 New agreement

Also the market between the US and Europe has been opened up. After years of negotiations, the US and the EU agreed in March 2007 to end all the bilateral agreements that has limited transatlantic air service since World War II. The idea is to move away of exchanging bilateral rights towards the creation of a single aviation market extending across the Atlantic market, jointly managed by the EU and the US (Lawton, 2002). This multilateral agreement, called Open Skies, is supposed to open up Europe's airports to greater competition and takes effect on March 30, 2008. It enables European carriers to fly from any EU airport to any US airport and vice versa. Carriers on both sides are positioning for their share of what is expected to be a large increase in lucrative transatlantic air travel (The Economist, 2007).

Although, this agreement may open up some more incremental flights to European and US destinations, it can also create larger hubs. For example, London is a high-demanded market, big enough for lots of competition (Wall Street Journal, 2007). It will trigger a marketing battle on large business routes and small operators will launch new services between various US and EU cities and push fares down. There are many opportunities for brand differentiation (Marketing Week, 2007)

The Open Skies agreement is only a start. It does not allow EU carriers to own more than 25% of the voting rights of US carriers, while an EU carrier may be owned 49% by non-EU interests (Wall Street Journal, 2007). Another inequality is that EU carriers are not allowed to fly domestically in the US whereas US carriers can fly freely on cross-border routes within the EU (AEA, 2007). The ultimate aim is to create a single air transport market in which investment can flow freely and in which European and US carriers can provide air services without any restriction, including access to the domestic markets of both parties.

4 The low-cost business model

In this chapter the entrance of the low-cost phenomenon to the air transport industry is described. The key conditions and the cost-structure that have proven to gain profitability on the long term will be mentioned in section 4.2. After that, an extended description of the original low-cost business model originated by Southwest Airlines is given. I continue to show the difference between leisure- and business passengers and what kind of factors are influencing their decision to fly with a particular type of airline. Section 4.5 describes the models of Ryanair and easyJet which have had an enormous impact on the travel behaviour and network structures in Europe. The chapter is concluded by showing differences between the low-cost models described in section 4.5.

4.1 Low-cost entrance

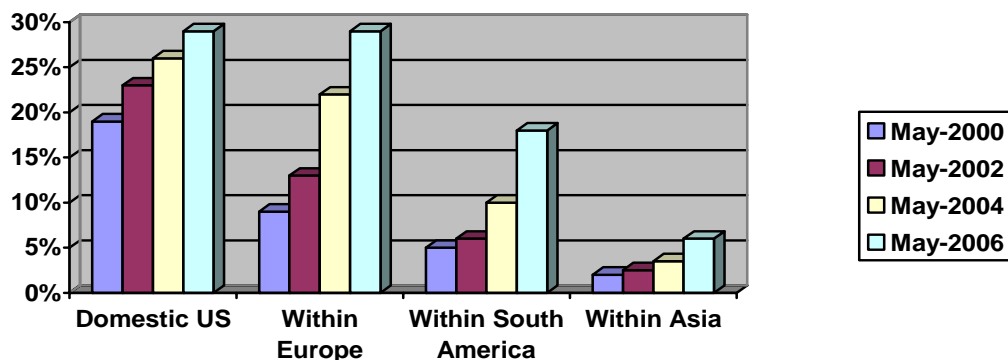
There is no standard business model or definition for a low-cost carrier. Definitions that are used in the literature are discount airlines, no-frills airlines, low fare airlines/carriers, price fighters, new generation airlines. To keep it simple, I will only use low-cost carriers. This name describes the same phenomenon: carriers that offer generally low fares in exchange for eliminating many traditional passenger services (frills) and simplification and streamlining of operational processes. They offer tickets against a lower fare than competitors.

The low-cost model does not exist. The model itself includes a wide range of carriers with significant differences in the type of routes and the level of passenger services offered. All models mentioned by De Wit (2005) below are operating on a basis where reducing costs is most important. By reducing these costs, it becomes possible to offer the same ticket for a much lower price. De Wit (2005) makes a distinction to five categories:

- Lowest cost-carriers – Southwest, Ryanair
- New start-up low-cost carriers – easyJet, SkyEurope
- Low-cost carriers launched by tour-operators – Thomsonfly, MyTravelLite
- Low-cost carriers transformed from charters – Air Berlin, Transavia
- ‘Airlines within airlines’ – Germanwings (Lufthansa), Go (British Airways)

The growth in market share of low-cost carriers has been dramatic during the last decade. First the low-cost carriers captured passengers from other transportation modes, but the last few years they took passengers from legacy carriers as well. According to figure 4.1 the conclusion can be made that the low-cost phenomenon is becoming increasingly important to all continents around the world. Low-cost carriers have thus increased competition within the industry and have already a market share of more than a quarter in US- and European air travel markets and with rising market shares on other continents.

Figure 4.1: Low-cost growth worldwide

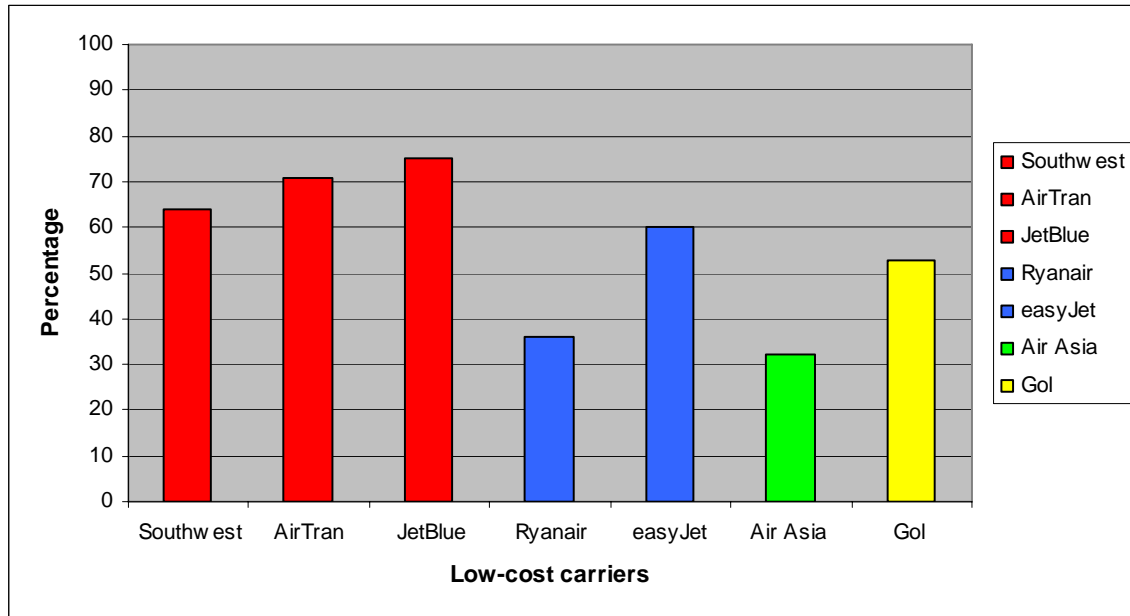


Source: IATA (2006)

Low-cost carriers were able to increase their market shares because of the cost-efficient operational processes. The lower cost bases were reached by different operational methods (point-to-point routes from secondary airports), offering less service (charges for in-flight meals and drinks) and distribution efficiencies (internet-booking). Legacy carriers were forced to reduce costs in order to stay competitive, but they have not (yet) closed the cost cap.

Low-cost carriers were thus able to reduce their operating costs significantly compared to legacy carriers as can be seen in figure 4.2. The average of legacy carriers is set on 100%. From the figure can be seen that Ryanair operates against 36% of the average unit cost of legacy carriers (100%). AirAsia has even lower unit costs (32%), but they have lower infrastructure and distribution costs than the low-cost carriers in Europe and the US. As can be seen in the same figure, there are significant unit cost differences between low-cost carriers too.

Figure 4.2: Average unit costs low-cost carriers compared to legacy carriers in 2004



Source: IATA (2006)

4.2 Key conditions and characteristics of the low-cost business model to gain sustainable profitability

Strategy is creating fit among a company's activities (Porter, 1996). Porter (1985) suggests there are three strategies a company or organization can adopt to achieve competitive advantage. The low-cost carrier business model is in essence an attempt to achieve cost leadership. Cost leadership is one of the three generic strategic approaches to outperform competing firms in an industry. The other two are differentiation and focus. Following one of these strategies, a company creates a stable position in the market against the five competitive forces; suppliers, new entrants, customers, substitutes and competitors (Klaas & Klein, 2005).

Cost leadership is achieved when a firm sets out to become the low cost producer in the industry (Porter, 1985). This strategy perfectly reflects the low-cost business model as these carriers offer a no-frills product at a very low price. Streamlining and simplification of the operational processes with regard to low costs relative to competitors becomes the primary company focus, though quality and service must not be ignored due to common

standards in the market. If a firm can achieve and sustain overall cost leadership, then it will be above an average performer in its industry (Porter, 1985).

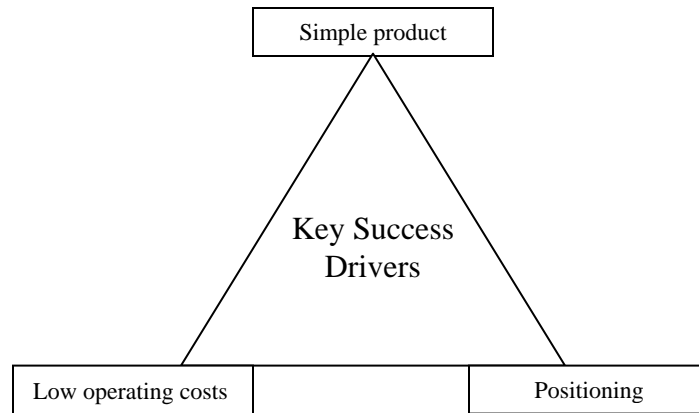
With a differentiation strategy a company seeks to be unique in its industry. A firm chooses attributes in which to differentiate itself from its rival (Porter, 1985). This strategy is often not used by low-cost carriers, although some low-cost carriers have uncommon frills like a frequent flyer programme, offer complementary food and drink, offering in-flight entertainment or have introduced two cabins (Alamdari & Fagan, 2005). It describes more the strategic orientation of legacy carriers, since they offer a broad network of destinations combined with a great variety of service options.

A focus strategy is based upon the choice of a narrow competitive scope within an industry. It involves adding value to the product or service and targeting it carefully at a niche segment of the market (Porter, 1985). Following a focus strategy narrows the company's strategic focus to a specific market niche in which it expects to achieve above average returns. For example, regional carriers can show this kind of strategy by focusing on a feeder function for a specific regional niche of the air transport market (Klaas & Klein, 2005) and also corporate jet service providers could fall into this category (Alamdari & Fagan, 2005).

The most obvious characteristic of the low-cost business to the consumer is the simplifying of the product and thereby offering a no frill-service compared to the legacy carriers. This characteristic can be divided in several actions, according to (Klaas & Klein, 2005): reducing on board service (refreshments and snacks for charge only), free choice of seats instead of seat reservations, abandonment of frequent flyer programmes as well as airport lounges (although some low-cost carriers are keeping this opportunity), clear price structures, simple (mostly online) booking procedures and a point-to-point route network to attractive destinations. On the other hand, offering the lowest prices does only work when the operational processes are optimised and streamlined. To achieve low operating costs, actions to be taken can be: the usage of secondary airports (lower airport charges), standardisation of the aircraft types employed, high aircraft utilisation combined with quick turnaround times (25 minutes), increasing seat density,

implementation of online and direct booking systems, acceleration of boarding times by ticket-less check-in procedures and operating mainly on short-haul point-to-point routes with high frequency. These success elements are shown graphically in figure 4.3.

Figure 4.3: The key success drivers of the LCC business model in a strategic triangle



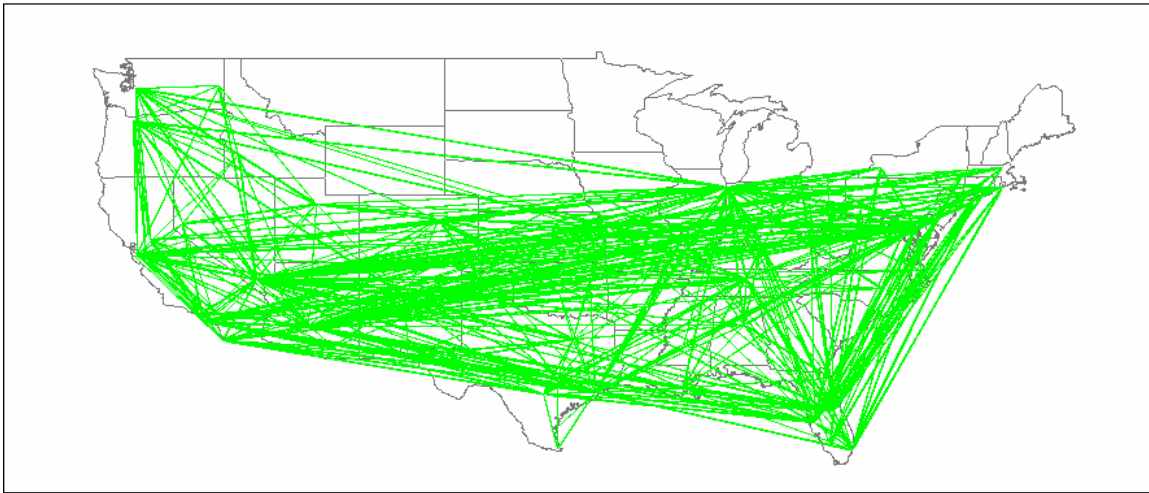
Source: Klaas & Klein (2005)

4.3 The original low-cost business model: Southwest Airlines

As mentioned before Southwest Airlines can be regarded as the pioneer of the low-cost phenomenon. Started in June, 1971, with three Boeing 737-200 aircrafts, operation consisted of short intrastate flights from Love Field in Dallas to Houston and San Antonio and was characterised by a no-frills service and a simple fare structure. Southwest limited their product to what is absolutely necessary for transportation. These product and service features became the basis for the Southwest popularity. Southwest Airlines is famous for inventing and successfully implementing the original low-cost model (Alamdari and Fagan, 2005). The carrier has been profitable every year since 1973 and the company was the only major US carrier to make net and operating profits during the early 1990s, when the US air transport industry experienced a significant downturn in growth and sales revenue (Lawton, 2002).

Southwest's remarkable growth was achieved through low costs and high efficiency in every aspect of its business (ELFAA, 2004). For that reason they were able to build up an impressive network in the US as can be seen in figure 4.4.

Figure 4.4: Route network Southwest in September 2007



Source: Own creation with Flowmap created with OAG-data (2007)

The essence of its strategy was to offer short-haul, low-cost, point-to-point service between midsize cities and secondary airports in large cities (Porter, 1996). Short-haul service implies that there are more take-offs and landings, so minimising aircraft on the ground and keeping it in the sky, was a way to outperform their competitors (Gillen & Lall, 2004). Southwest operates from uncongested airports because airport charges are lower, delays rare, taxi-out times fast, and turnaround of the aircraft can be achieved much more quickly than at a congested hub airport (ELFAA, 2004). In other words, they were able to realise a cost-advantage on airport charges and handling costs by executing its operations at secondary airports (De Wit, 2005). It does not fly great distances either. Because of this, Southwest is able to keep aircraft flying longer hours than rivals and provide frequent departures with fewer aircraft (Porter, 1996). This is also achieved by the gate and ground crews, whose productivity is enhanced by flexible union rules. Moreover, the introduction of a profit-sharing plan for employees increased employee morale and loyalty and perhaps also productivity (Lawton, 2002).

Its product features are simple too; it does not offer meals or free alcoholic drinks (however it provides passengers with snacks and soft drinks), pre-assigned seating, interline baggage checking, in-flight entertainment or premium classes of service (Porter, 1996 and Lawton, 2002). In this way it avoids having to perform activities that slow down other carriers (Lawton, 2002). Automated ticketing at the gate encourages

customers to bypass travel agents, allowing Southwest to avoid their commissions (Porter, 1996).

Southwest operates only a single type of aircraft, the Boeing 737. This uniform fleet creates the carrier economies of scale and increases the efficiency of maintenance. Klingenberg (2004) assumes that a uniform fleet raises employee productivity in four ways:

- Less expense for training and retraining
- Simpler planning and control (rotation and crew)
- Higher technical productivity and easier to prepare operations manuals
- Ground handling is simplified at airports

Seat density is higher as there is no business class and only limited catering, which requires less storage space. This, combined with high load factors⁵ significantly lowered the average cost per seat (ELFAA, 2004). Southwest introduced a simple two-tiered pricing structure, peak and off-peak (to fill as many seats as possible), that eventually became standard practice for many carriers. This practice meant that their revenue generation was based on a system of maximising capacity rather than yield (Lawton, 2002). Because of this Southwest challenged the underlying assumption by most carriers that only two market segments existed: those who could afford to fly and those who could not (Freiberg & Freiberg, 2001). The carrier aimed to compete with ground transportation, attracting passengers to fly rather than travel by train, bus or car the relatively short distances between most of the cities it served. Southwest's low fares and frequent departures attracted leisure and price-sensitive customers who otherwise would travel by other transport modes, but also substantial portions of business passengers for whom high frequency and punctuality were important. Low-cost carriers flying point-to-point (without many connecting passengers) often have better on-time performance than legacy carriers, as they do not need to hold flights to transfer late arrivals from connecting services (Barkin et. al, 1995).

⁵ Average number of seats sold per flight

Southwest has staked out a unique and valuable strategic position based on a tailored set of activities (Porter, 1996). The success of the Southwest Airlines low-cost business model is summarised in table 4.1.

Table 4.1: Product features of original low-cost model (Southwest)

Product feature	Original Low-cost model (Southwest)
Aircraft usage	High
Airport	Secondary (mostly)
Brand	One brand (low pricing)
Check-in	Ticketless
Class segmentation	Single class
Connection	Point-to-point, no interlining, no baggage transferring
Customer service	Not as good as at legacy carriers
Distribution	Online, direct booking
Fare	Simplified fare structure: peak and off-peak. Low price (60% or more below legacy carriers).
Fleet	Young, single type (B 737's)
Frequency	High
Frequent Flyer Programme	No (mostly)
In-flight	Pay for amenities, onboard selling
Operational activities	Focus on core (flying)
Seating	Small pitch, no seat-assignment
Target group	Leisure, time- and price-sensitive business travellers
Turnaround time	25 minutes

Source: Combination of Alamdari & Fagan (2005) and O'Connell & Williams (2005)

4.3.1 Further 'unbundling'

The traditional package-holidays (flight, accommodation and car-rental) are losing market share. Passengers are increasingly composing their own holiday, by booking flight, accommodation and sometimes car-rental separately. Tour-operators and internet travel portals are offering products via Internet travel platforms as well as car-rental companies, Internet hotel platforms and budget hotel chains. Passengers can now

integrate their own flights and accommodation (and perhaps car-rental) into personalised package holidays via low-cost carrier websites (O'Connell & Williams, 2005).

Are there any other aspects that can be unbundled? The sector is constantly seeking new ways to raise revenue. Ryanair thinks there are more cost-cutting elements where carriers have not touched upon. This could result in a further decrease of air fares of five or ten percent (Wardell, 2007). For example, it introduced charges for checked baggage. It was presented as a revenue-neutral cost-cutting element, but it has developed as a significant revenue source (AEA, 2006). Another element is the 'check-in charge' that Ryanair has adopted. Because passengers are now able to check in themselves at home, Ryanair is charging passengers who do not use that opportunity. Ryanair charges a small fee for checking in at the airport rather than online (which is still free). This will save staff and other paperwork during check-in. Although these amounts are not huge, adding all the other taxes, fees and extras payable to your basic fare, makes the fare not low-cost. Recently, the Polish/Hungarian low-cost carrier, Wizz Air, introduced charges for allocated seating. Exit-row seats will cost an extra €5. - if booked online or €10.- at the airport (Sunday Times, 2007).

4.4 Leisure versus business

While the principal target group for low-cost carriers is the price-sensitive leisure passenger, a significant number of travellers are using these services for business purpose. The perception that business travellers are only placing high value on frequency, flexibility, frequent flyer programmes and in-flight comfort can be doubted since corporate involvement pushed travel expenditures down both in the number of trips taken and in the costs of individual flights. Especially, business travellers working for small and medium-sized enterprises are willing to trade the services at legacy carriers for travelling by low-cost carriers (Mason, 2001). It is more difficult to attract business travellers from large companies since they usually have a travel policy. Many large companies have deals with legacy carriers which offer the travel needs of the whole company. Most companies are also using business travel agents extensively, but a lot of low-cost carriers have uncomfortable relationships with these agents (Mason, 2001).

Short-haul business travellers have become increasingly price-sensitive. This has made low-cost carriers an attractive alternative for (smaller) companies (Mason, 2000).

O’Connell and Williams (2005) drew the same conclusion. A survey was undertaken to ascertain why passengers are choosing a particular carrier over the other. Results show that the lower the company size, the higher share of business passengers will fly low-cost.

Table 4.2: Company size of business travellers

Carrier	Aer Lingus	Ryanair	Malaysia Airlines	AirAsia
Company size(%)				
Self-employed	9.6	32.1	12.3	67.4
one - 24	11.3	26.5	8.2	20.7
25-99	18.3	24.3	16.1	11.9
100-999	26.2	17.1	29.2	-
1000-5000	29.2	-	23.7	-
5000+	5.4	-	10.5	-

Source: O’Connell & Williams (2005)

Although short-haul business travellers have become more price-sensitive especially those of small and medium-sized enterprises, service reliability, punctuality and frequency remain most important. Several low-cost carriers are also focussing on this kind of market segment. In 2006, easyJet for example, launched a business travel campaign raising awareness of the frequency and flexibility of their services and the quality of their schedule on primary routes (easyJet, 2006).

4.5 Low-cost business models: Examples from Europe

During the first half of the 1980s, a global trend emerged towards greater economic deregulation, following the US example. This trend was transferred across the Atlantic as the decade progressed. With the advent of full European air transport deregulation, a lot of new carrier start-ups emerged within the EU, each taking the Southwest business model as example, but refining and/or extending it to fit their particular environment (Gillen & Morrison, 2003) and many of them competing on price with established legacy

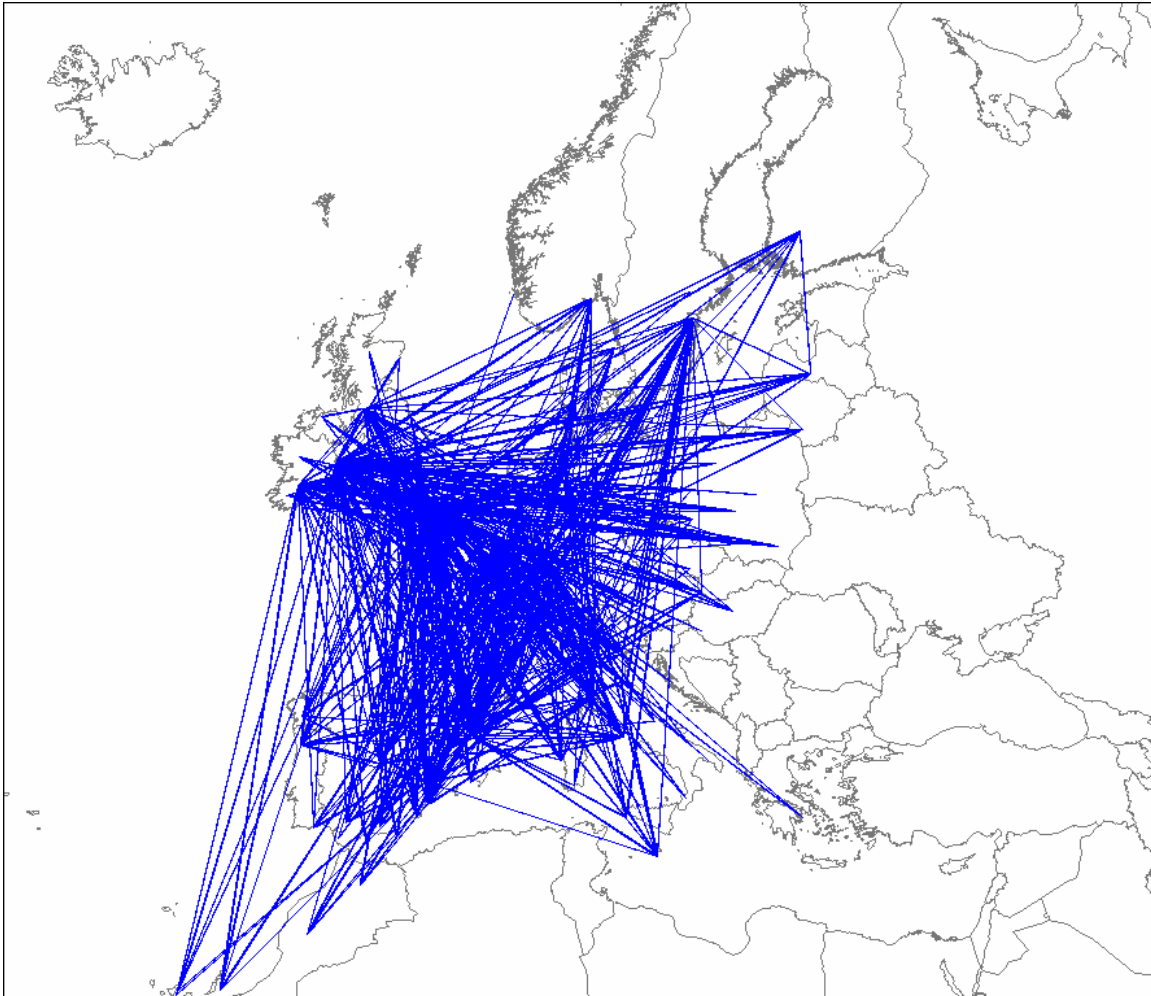
carriers (Lawton, 2002). The two low-cost carriers that had the most impact, Ryanair and easyJet, are described in sections 4.5.1 and 4.5.2. Both introduced ancillary revenue sources including car rentals, travel insurance and travel reservations services. They outsource everything other than cabin crew, pilots, reservation agents, head office functions and to some extent maintenance (Gillen & Lall, 2004). In Appendix B an overview of other examples from each continent can be found.

4.5.1 Ryanair

Dublin-based Ryanair was established in 1985, but it was not until its 1991 transformation that it took on the role of Europe's first low-cost carrier (Lawton, 2002). Deregulation of the UK-Ireland market enabled Ryanair to enter the busy Dublin - London route (Barrett, 2004). Ryanair has taken the Southwest operational effectiveness a bit further, by providing no service; no food; no frequent-flyer programme; no refunds; no travel agents and no tickets. Ryanair strived to achieve the lowest possible fares for their product and service. But these low fares could not be sustained unless a company maximizes its operational efficiency. One way of performing similar activities better than rivals is to pursue a rigorous policy of cost cutting (Porter, 1985).

Ryanair's model is closely linked to the low-cost model of Southwest. The original idea of Ryanair was to offer a no-frills, low fare service and no attempt was made to distinguish between different passenger groups. It strictly adheres to the point-to-point philosophy and it shows no signs of facilitating connections (Alamdari & Fagan, 2005). Growth is focused on rapid network expansion and not on frequency. The carrier has built up an impressive network to hundreds destinations within Europe as can be seen in figure 4.5.

Figure 4.5: Route network Ryanair



Source: Own creation with Flowmap created with OAG-data (2007)

Ryanair offers non-assigned seating with only economy class to obtain more seat density and quicker boarding. Because Ryanair operated from lesser-used non-hub airports (secondary airports), the carrier has lower airport charges and encounters less airport congestion from other carriers. Secondary airports also increase service improvements as it increases on-time performance (better punctuality), reduce time and achieve high aircraft utilization. Each new secondary airport service also serves that particular local catchment area far better in terms of access than when passengers were routed through hubs (Barrett, 2004).

Ryanair employs a young uniform fleet of Boeing 737's to gain economies in maintenance and training. Seristö and Vepsäläinen (1997) state that a higher number of aircraft by aircraft type can reduce the number of flight crew needed per one aircraft. In this way the carrier can use its crew more efficiently. Direct sales via the Internet and call centre are encouraged to reduce travel agent commission fees. The objective is to move eventually to direct sales. Like Southwest, Ryanair also aims to maximise overall passenger load factors or seats rather than yield ratios to reduce its costs per unit of output. As a result, its' goal is to fill as many seats as possible on every flight, rather than to achieve the maximum revenues per passenger on every flight. In other words, reducing costs is more important than maximising revenue (yield). The profit of Ryanair is determined by high capacity and low profit margins (Lawton, 2002).

Although Ryanair has been considered as a complete Southwest clone, Ryanair developed cost strategies further to be cost-leader. No free food or drink is offered, although this can be bought on board. Moreover, when a flight is cancelled or delayed, passengers usually do not get compensation or other alternative (Dobruszkes, 2006). The carrier does not have a frequent flyer programme, because this costs money to manage and to implement. Labour intensive activities are outsourced, for example passenger and baggage handling. This brings flexibility to the company in choosing whether or not to renew contracts as they expire (Barrett, 2004). Ryanair uses productivity-based pay schemes, whereby employee compensation is determined by labour productivity (Lawton, 2002). The company ensures high payment and social guarantees for staff members together with growing career possibilities.

Some cost-cutting strategies are considered extreme. Ryanair refused to recognise trade unions representing workers in the air transport industry and it has also been criticised for its poor treatment of disabled passengers. Customer service has been regarded as really bad and it was revealed that it is subject of more complaints than every other carrier in the EU (Taweelertkunthon, 2006).

But overall, passengers have responded positively to the low fares and accept the trade-off between these fares and the loss of many of the services provided by legacy carriers.

It operates now on more than 500 short-haul routes within Europe and is the largest European carrier in terms of passenger numbers.

4.5.2 easyJet

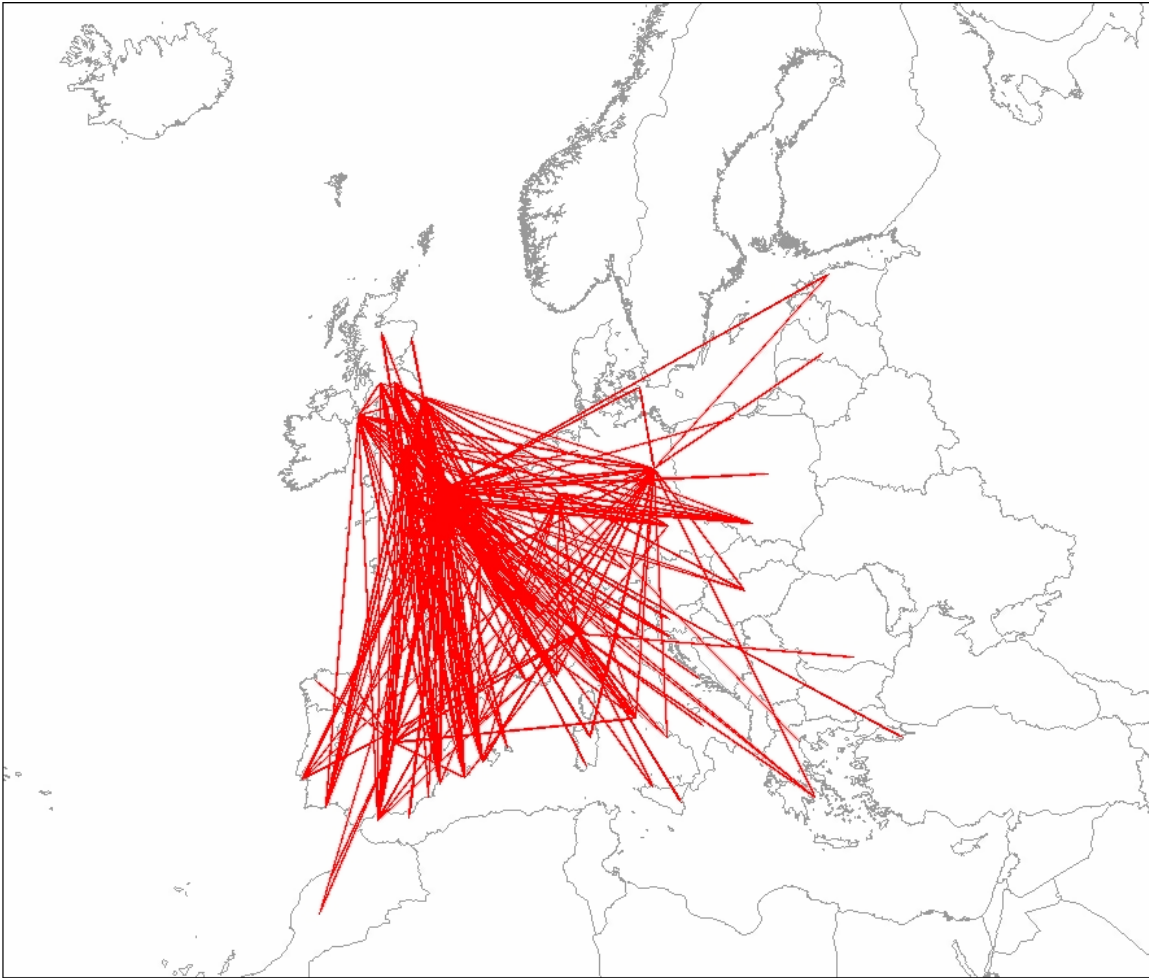
Inspired by an experience with Southwest Airlines, Stelios Haji-Iannou founded the right concept to start a new European carrier, easyJet. The original low-cost business model had not been “holy” in his eyes and there were many things in the model that could be adapted to fulfil the needs of each kind of customer segment. Its’ operations clearly copied the Southwest-model, but modified it to benefit from Southwest’s experience (Sull, 1999).

Like Southwest, easyJet has a simple fare structure: it only offers a single fare at any time for a specific flight. Fares increase in line with demand towards the date of departure. easyJet’s fare strategy is to offer value-for-money fares, but not necessarily the lowest fares for a given route (Lawton, 2002). It operates point-to-point and interlining and baggage transferring is not available.

It has low unit costs: easyJet completely avoids travel agents and relies exclusively on direct sales (Sull, 1999). Internet selling is undoubtedly the most significant operation cost saver the industry has experienced the past decade (Alamdari & Fagan, 2005). It maintains high aircraft utilisation and rapid turnaround times by operating a young uniform fleet (although it uses both Boeing 737 and Airbus 319). The carrier has eliminated in-flight frills (no food or drink), has paperless ticketing (a passenger gets only a booking reference number), has unassigned seating and established long-term agreements with many key suppliers are other factors which reduced unit costs (Sull, 1999).

Compared to Ryanair, easyJet focuses on building network density. The size of its network is less impressive than Ryanair’s, but easyJet has been able to gain a significant market share within Europe, as can be seen in figure 4.6.

Figure 4.6: Route network easyJet



Source: Own creation with Flowmap created with OAG-data (2007)

4.6 Differences between low-cost models

The carriers described above seem to have the largest impact on travel behaviour within US and Europe. But where Southwest and Ryanair almost follow the same model, easyJet distinguishes itself from that model on three other factors:

- easyJet focuses on building network density.
- easyJet has developed a European network based around international airports.
- easyJet focuses on maximising yield and gaining greater profit margins per passenger.

4.6.1 Network density and economies of scope

As can be seen on the maps above, easyJet and Ryanair are operating on many routes within Europe. Research by Burghouwt (2007) indicated that easyJet is following some kind of network strategy, whereby their route network is concentrated around traffic nodes and connecting larger airports. Ryanair on the other hand has a network that connects smaller airports. In other words, Ryanair focuses on network expansion and tries to fly on as many routes and airports as possible, whereas easyJet focuses on building network density. easyJet does not have as many routes as Ryanair, but it aims to increase the frequency of service from its bases and consolidate its existing routes (Lawton, 2002). easyJet has developed a European network based around international airports like Geneva (Switzerland), Berlin Schönefeld (Germany), Madrid Barajas (Spain) and Milan Malpensa (Italy), while Ryanair adheres to use secondary airports to reduce unit costs.

Both strategies seem to be profitable. A model used by Caves, Christensen and Tretheway (1984) shows that a distinction can be made between returns to density (i.e. the variation in unit costs caused by increasing transportation services within the network of given size) and returns to scale (i.e. the variation in unit costs with respect to changes in both network size and the provision of transportation services). They found that unit costs decrease when density of services increases in terms of larger aircraft, denser seating or just adding flights or seats. Moreover, low-cost carriers achieve returns to density by maximising flying time for each aircraft, thus meaning very reduced turnaround times (Dobruszkes, 2006). easyJet is using this kind of strategy. It is building his network around some important international airports, but their focus lies on increasing density between the network and not primarily on expanding it. So, easyJet will have lower average unit costs when it increases the density between city-pairs within their existing network. In addition, when an carrier is only focussing on expanding his network, like Ryanair is doing, unit costs will not decrease, according to Caves et al (1984). For a new route, a carrier needs to have an aircraft, pilots, crew and pay for airport charges etc.

However, after deregulation, the air transport industry underwent a period of mergers, alliances between- and acquisitions of carriers. The idea was to expand the networks as large as possible. Carriers tried to increase their network size, which seems to contradict with the perception of Caves et. al (1984), that it would only be convenient for carriers to increase densities and not expand their network (Basso & Jara-Díaz, 2005). Ryanair is therefore continuously adding flights to airports that it had not been serving to expand his network. It sets up a small base at a certain secondary airport and flies to as many airports as possible from that airport. Ryanair has built his network around several secondary airports. Examples include London Stansted, Frankfurt Hahn, Girona and Stockholm (Skavsta). Currently, Ryanair is operating on 516 routes and is serving 142 airports within Europe (Ryanair, 2007). These additional routes do not change the load factor or the density per point served of the existing routes, so the average unit costs per route decrease. In this way, Ryanair can profit from economies of scale.

Ryanair focuses on maximising capacity and maintain low margin per ticket sold, whereas easyJet focuses on maximising yield and gaining greater profit margins per passenger. easyJet is therefore placing more emphasis on gaining and retaining business travellers, because business traffic will pay a little more for convenient airports, which easyJet is serving as much as possible. Ryanair on the other hand does realise a modest profit with their core business (low fares), but with a maximum demand volume (De Wit, 2005).

5 Response of other segments

The low-cost revolution asked for a response of other segments. In the next sections the models of legacy carriers and charter carriers are described. What are the fundamental differences between those models and the low-cost model? The adjustments both models had to make to compete with their low-cost competitors are also mentioned. At the end of this chapter the impact of low-cost carriers on airports is discussed.

5.1 Difference low-cost and legacy carriers

After deregulation legacy carriers were allowed to reorganise their networks and markets served. This resulted in three types of benefits, according to Gillen & Morrison (2003). Information costs decreased for passengers by serving a large number of destinations with broad service networks. Secondly, service qualities were improved by increasing capacity and scheduling of flights that minimised wait times at hubs and lowered the likelihood of lost baggage. Lastly, the value of accumulating frequent flyer points was higher on large carriers flying to a number of destinations. Southwest on the other hand began to use a different strategy in 1973 (before deregulation), based on simplicity and streamlining of the operational processes and offering fares that were much lower than the usual fares. For a long time the legacy carriers thought that the low-cost carriers were not direct competitors, because the product they offered was clearly different and legacy carriers believed the assumption that business passengers would not fly low-cost only in exceptional cases. This assumption was confirmed, because various random surveys indicated that passengers flying low-cost would not have flown with another carrier, but would have either selected other transport modes or not taken a trip at all (Klingenberg, 2004). The low-cost business model was copied by a lot of other carriers and eventually forced the legacy carriers (for example KLM, Air France, Lufthansa) to compete vigorously on the denser European and intercontinental city pairs.

The legacy model is almost completely the opposite of the low-cost model. This model favours a high level of service and tries to maximise yields from travellers. They offer a wide range of services. Passengers can expect meals, drinks, in-flight entertainment, a

greater seat pitch than at low-cost carriers, assigned seating, multiple classes and a large number of ticket counters during and before a flight. Bookings can be done directly through carriers' websites or via travel agencies. They focus on all kind of passengers, business and leisure, and they offer frequent flyer programmes.

The characteristics of the legacy model are summarised in table 5.1. The characteristics of the low-cost model have been added too. Most legacy carriers are uniformed with each other in several alliances⁶. One of the key features is code-share flying, whereby a flight is operated by one carrier but is also marketed as a flight for one or more other carriers. In this way, carriers can expand their network.

Table 5.1: Product features of legacy model

Product feature	Low-cost model	Legacy model
Aircraft usage	High	Moderate to high: union contracts
Airport	Secondary (mostly)	Primary + Secondary
Brand	One brand (low pricing)	Extended brand (price and service)
Check-in	Ticketless	Ticketless, IATA ticket contract
Class segmentation	Single class	Multiple classes
Connection	Point-to-point, no interlining, no baggage transferring	Interlining, code share, global alliances
Customer service	Generally underperforming	Full service, offers reliability
Distribution	Online, direct booking	Online, direct booking, travel agent
Fare	Simplified fare structure: peak and off-peak. Low price (60% or more below legacy carriers).	Complex: structure + yield management
Fleet	Young, single type (B 737's/A320's)	Multiple types
Frequency	High	Moderate
Frequent Flyer Programme	No (mostly)	Yes
In-flight	Pay for amenities, onboard selling	Complementary extras
Operational activities	Focus on core (flying)	Extensions: e.g. maintenance, cargo

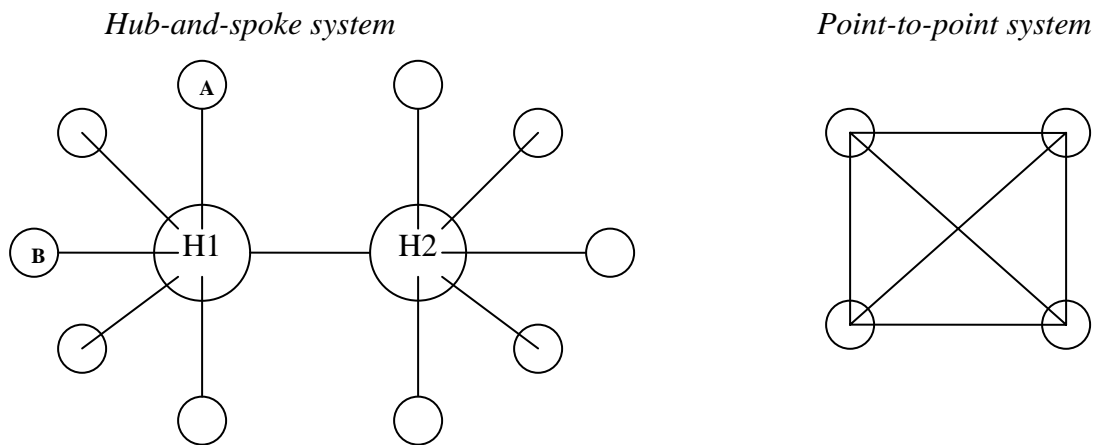
⁶ An alliance is an agreement between several carriers in which they cooperate.

Seating	Small pitch, no assignment	Generous pitch, seat assignment
Target group	Leisure, time- and price-sensitive business travellers	Leisure and business
Turnaround time	25 minutes	Low; congestion and labour

Source: Combination of Alamdari & Fagan (2005) and O’Connell & Williams (2005)

Legacy carriers focus mainly on network development. They make use of the earlier mentioned hub & spoke system compared to the point-to-point system used by low-cost carriers. The idea is to bring passengers from an array of destinations with smaller aircraft (feeders) to one (or more) central hub(s). At these central hubs passengers are transferred to other planes and are flown to other hubs (with larger aircraft) or to other destinations (spokes, with smaller aircraft). High frequencies can be developed on spoke routes and the use of a hub with feed traffic from spokes can allow more flights for a given density and cost level (Gillen & Morrison, 2005). The explanation can be simplified using graphs. The hub & spoke system is used by legacy carriers and the point-to-point system by low-cost carriers.

Figure 5.1: Difference hub-and-spoke system and point-to-point system



Source: Own creation

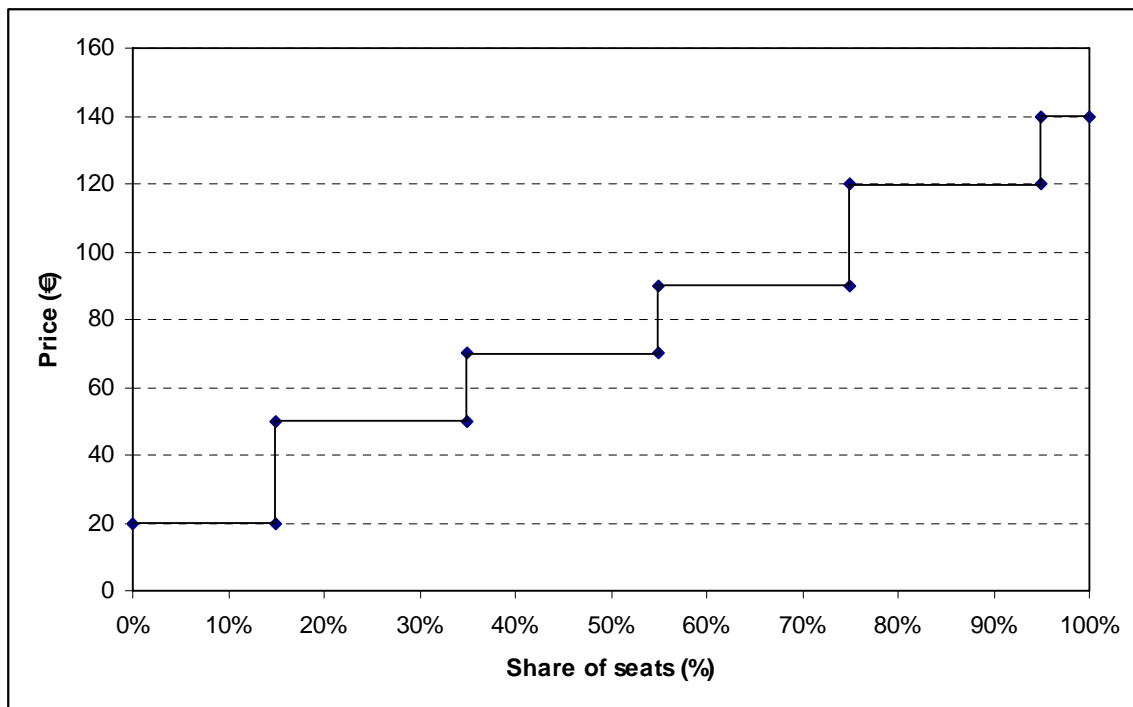
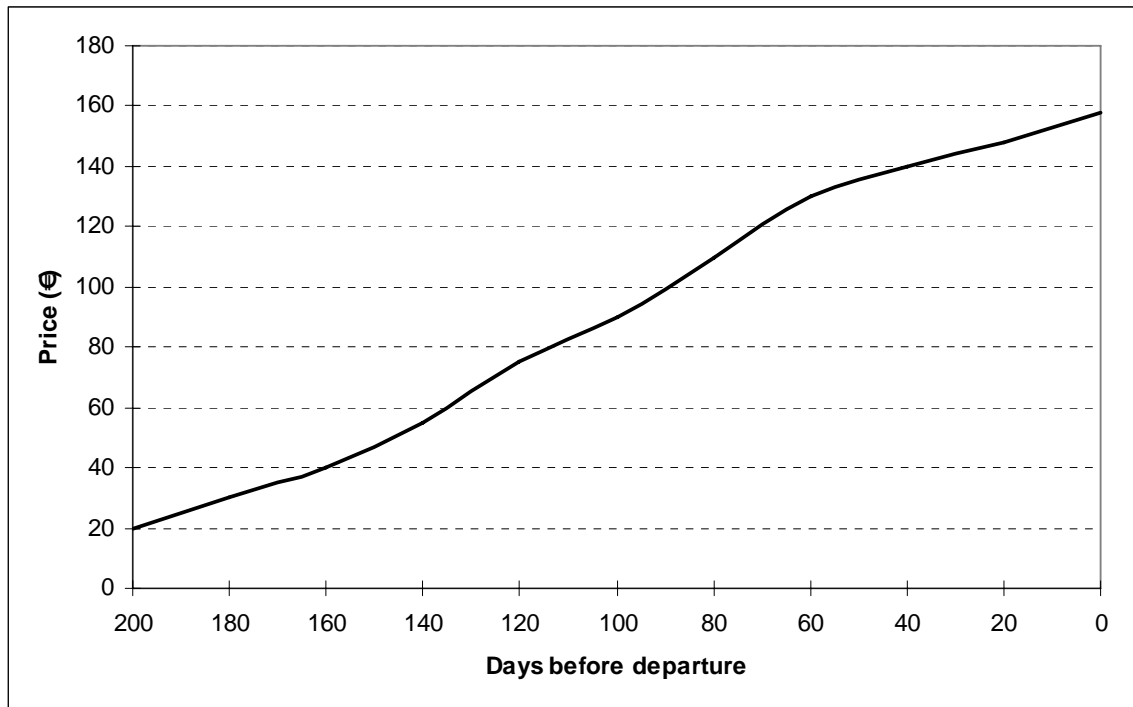
The greater choice of destinations and the multiple spokes requires a variety of aircraft with different capacities and performance characteristics. The legacy model tries to maximise the yield (revenue) on the entire network. This can result in a wide range of different fares for basically the same product. The cheaper fares are surrounded with conditions and flexibility was only available at the higher fares, making these tickets

unattractive for business passengers whose travel plans may change frequently. Legacy carriers changed some requirements when facing the low-cost competition. British Airways abandoned the minimum stay requirement for cheap fares; Lufthansa offered some cheap flights between Germany and the UK without a minimum stay requirement and SAS moved towards pricing the flights of a return journey separately (Dennis, 2007).

Looking at the graph of the hub & spoke system; a flight from A to B can only be done via H1. A legacy carrier considers how pricing of the A to H1 might affect the demand on the route H1 to B. The carrier would like the network system to work effectively and large information systems (computer systems) have to make it possible to create the maximum yield on the network as a whole and not on routes individually. If both routes were operated by different carriers, the carrier serving route A to H1 will take no consideration of how this route price will affect the route H1 to B, since the first carrier does not benefit from the other route (Gillen & Morrison, 2005).

The pricing structure of legacy carriers (the yield management) is shown in figure 5.2. In comparison, the pricing strategy of low-cost carriers is added too. The axes have all illustrative values.

Figure 5.2: Yield management and low-cost pricing strategy



Source: Own creation based on Brützel (2007)

As mentioned before in section 2.2, the purpose of yield management is to optimise total revenues. People usually buy their tickets only a short time in advance. The strategy of

(legacy) carriers using a yield management system is to offer cheap tickets way in advance before departure, but these fares will increase approaching the date of departure. Because the ticket fare is also influenced by the fares of other routes of the same carrier, the figure shows a fluent line. In the other figure, the pricing strategy of low-cost carriers is shown. Low-cost carriers do not determine their ticket fare on the days before departure, but they look at the percentage of tickets sold. A first number of tickets is sold against an extremely low fare. After a certain amount is sold, a next fraction is sold against a certain fare and so on. Because of that, the figure shows a gradual line.

The low-cost revolution needed a reaction from the legacy carriers. To reach a competitive cost structure, several frills, like free food and newspapers, were removed on short-haul flights. Other initiatives include promotion of the online booking systems, and therefore automated aspects of the travel process, and supply of discounted tickets. Wage costs were also reduced by increasing labour productivity, freezing or reducing salaries, hiring new staff on less generous terms and conditions and outsourcing more activities, including support services like catering, ground handling etc (Dennis, 2007). Heavy maintenance costs were conducted in lower cost economies. Lufthansa Technik for example now has a base in Budapest, Hungary, for such activities.

5.2 Difference low-cost and charter operations

Since the early 1960's, charter carriers have accounted for a significant proportion of the air transport industry. They are able to transport passengers under half the cost of legacy carriers (Williams, 2001). Charter flights are flights that are not scheduled and its main function is to transport leisure passengers to popular holiday destinations. Departures are available to many destinations from regional airports. Holiday demand is concentrated in certain periods and destinations, so they play a complementary role for legacy carriers during peak periods (Garriga, 2004). They are also operating to destinations that were not served by scheduled services. Charter carriers use larger aircrafts than legacy and low-cost carriers and the load factor is usually much higher than the other carriers (>90%). A large part of the charter carriers is vertically integrated within tour operating organisations. Besides a tour operator, a travel agency chain, carrier and often hotels and providers of ground transportation are involved in the operation (Williams, 2001).

The charter model can be characterised by a combination of large aircraft, longer flights on average than their legacy and low-cost counterparts, great aircraft and crew utilisation and high load factors. They do offer frills on their flights. Food and drinks are included in the price as in-flight entertainment. Aircraft size has a significant effect on a carrier's unit costs. The larger an aircraft, the lower are the operating costs per passenger kilometre. Charter airlines operate on routes that are on average much longer than short-haul low-cost carriers. Martinair, a typical charter carrier from the Netherlands, operates on routes that have an average distance of more than 4000 kilometres, in contrast to Ryanair, which has on average sector length of around 1000 kilometres.

Load factors of charter airlines are usually higher than 90%, compared to an 80+% load factor of low-cost carriers. Labour productivity is influenced to what extent a carrier outsources its activities. Distribution and administrations costs are non-existent for charter carriers since these activities are usually undertaken by the tour operating organisations. The characteristics can be summarised in table 5.2. The original low-cost and legacy model have been added to.

Table 5.2: Product features of charter model

Product feature	Low-cost model	Legacy model	Charter model
Aircraft usage	High	Moderate to high: union contracts	Lower usage but larger aircraft than low-cost carriers
Airport	Secondary (mostly)	Primary	Secondary (mostly)
Brand	One brand (low pricing)	Extended brand (price and service)	Low price for leisure traffic
Check-in	Ticketless	Ticketless, IATA ticket contract	Paper ticket
Class segmentation	Single class	Multiple classes	Single class (sometimes two or three)
Connection	Point-to-point, no interlining, no baggage transferring	Interlining, code share, global alliances	Point-to-point
Customer service	Generally underperforming	Full service, offers reliability	Via travel agent

Distribution	Online, direct booking	Online, direct booking, travel agent	Via travel agent
Fare	Simplified fare structure: peak and off-peak. Low price (60% or more below legacy carriers).	Complex: structure + yield management	Fares are part of holiday packages, including accommodation and sometimes car hire etc.
Fleet	Young, single type (B 737's)	Multiple types	Multiple types
Frequency	High	Moderate	Depending on demand (usually higher during summer)
Frequent Flyer Programme	No (mostly)	Yes	No
In-flight	Pay for amenities, onboard selling	Complementary extras	Complementary extras, but not as luxury as with legacy carriers
Operational activities	Focus on core (flying)	Extensions: maintenance, cargo	Passengers + cargo (sometimes)
Seating	Small pitch, no assignment	Generous pitch, seat assignment	Seat assignments, pre-bookable
Target group	Leisure, time- and price-sensitive business travellers	Leisure and business	Leisure
Turnaround time	25 minutes	Low; congestion and labour	Low

Source: Combination of Alamdari & Fagan (2005), O'Connell & Williams (2005) and Williams (2001)

Low-cost carriers have invaded this tour holiday market by launching scheduled services to sunshine resorts. Charter carriers have been less affected by competition on price, but they have been significantly affected on destinations from low-cost carriers (CAA, 2006). Given their business model of mainly selling holiday packages, they are less affected by price competition. They achieve 50 to 60% lower costs than legacy carriers (Williams, 2001), meaning that they have about the same costs as low-cost carriers. The greater choice in terms of flexibility, length of stay, destinations and frequency of low-cost carriers have led to the disappearance of charter carriers on short-haul routes. In this way, passengers were allowed to create their own holidays instead of relying on those package holidays offered by tour operators (CAA, 2006). The flexibility offered by the low-cost carriers is particularly attractive to passengers of short break holidays.

Charter carriers responded by moving to routes that are not served by low-cost carriers, in particular longer routes. They are concentrating on existing niche routes not served by low-cost carriers and are also expanding and reorganising their long-haul routes. Their interest increased to long-haul holiday destinations and charters are now more flying into the Far East, Caribbean, North and South America. For example, the earlier mentioned Dutch charter carrier Martinair, removed all their short-haul routes after the summer period of 2007, since they experience too much competition from other (and mainly) low-cost carriers. Martinair is now only focussing on longer haul routes (Luchtvaartnieuws, 2007). Another response was that charter carriers on routes where low-cost carriers have expanded, adjusted their business model. Actions that are taken: removal of stopover restrictions, charging for frills such as meals, seat allocation and baggage and allowing 'flight-only' bookings. These discounted fares on some successful routes have been turned into scheduled services. With this action, it looks that they are setting up some kind of low-cost point-to-point network (Garriga, 2004).

5.3 Impact of low-cost carriers on airports

Low-cost carriers have also had a significant impact on the development of existing and new airports. Dominant hubs, like Amsterdam Schiphol Airport (AMS), built new terminals especially for low-cost carriers. Low-cost carriers were also responsible for a de-concentration of airport activity on short-haul routes (Burghouwt, 2007) and secondary airports like Manchester or Düsseldorf were successful in attracting a number of services and therefore changed in valuable airports (Maertens, 2007). Former regional airports that had an exclusive feeder function to a hub airport have transformed in a provider of regular international flights to major low-cost focus (Garriga, 2004). Airport charges, congestion and competitive modes of transport are the most important elements for carriers to choose an airport to depart from or arrive to. Secondary airports seemed to be the perfect answer to the growth ambition of low-cost carriers.

There is a good supply in Europe of underused airports, which have proven to be an attractive option for low-cost carriers (Barrett, 2004). Secondary airports require a location advantage which comes either from a large economic or population base or from other source that may be attractive to travellers. Analyses of Pantazis & Liefner (2006)

show that airports which are willing to accept low-cost carriers among their carriers will widen their catchment areas. They will increasingly attract passengers from cities that are relatively far from the airport. Other carriers also benefit from serving that airport since a low-cost carrier generates exponential demand. The arrival of a low-cost carrier leads to a permanent increase in traffic (Gillen & Lall, 2004).

From the other side, airports were also interested for servicing low-cost carriers. As new low-cost carriers, they are able to develop these (secondary) airports and extract significant subsidies from the airport operator and local economic promotion (Klingenberg, 2004). Secondary airports attract low-cost carriers through special deals with discounted airport charges in order to get some of the market share from the dominant (hub) airport in the region (Pantazis & Liefner, 2006). Their view is that as passenger volumes increase there is more opportunity for increasing total revenue out of non-aviation activities. Retail, concession and parking expenditures by airport customers can be substantial revenue sources (Gillen & Morrison, 2003). Low-cost carriers will also generate a greater use of car hire where they serve smaller secondary airports (Barrett, 2004).

So, the combination of low-cost carriers and low-cost airports has been profitable for both, but mainly benefited the passenger. Air fares became lower and there were shorter waiting times for baggage, check-in etc. and shorter walking distances at the airport. However, these low-cost airports had one disadvantage; they are usually more distant from city centres, so a longer journey has to be taken to the city centre than from established airports. Good facilities of ground transport to get these passengers into the city centre are therefore important (Barrett, 2004).

Hubs are characterised by multiple runways, large landside facilities and are dominated by large legacy carriers. These carriers use hubs as a central base for most (or all) of their destinations. The idea is to use the hub as a transfer point where passengers change aircraft to fly to their intended destinations, when direct flights are not available. Increasingly, low-cost carriers have been able to get slots⁷. easyJet is a good example of

⁷ A slot is a right to use a bundle of airport infrastructure at a certain date and time to operate an air service.

that. As mentioned in paragraph 4.5, easyJet has developed a European network based around international airports like Geneva (Switzerland), Berlin Schönefeld (Germany), Madrid Barajas (Spain) and Milan Malpensa (Italy). At Amsterdam Schiphol airport a special terminal has been built to serve the low-cost carriers. Facilities are scarce to keep costs low. There are no shops, cafés, toilets and walk bridges to the aircraft. For this reason, turnaround time can be reduced.

Many large cities throughout the world have multiple airports. For example, London has five airports with international operations and Paris already three. London's largest and most important airport, Heathrow, got congested the last decennia due to the dramatic traffic increase. Other airports in the London-region made profit of that development, having only some non-scheduled services in summer or a feeder function to central hubs. Secondary London-airports like Gatwick and Stansted have developed in primary international airports and are important for the networks of several low-cost carriers.

6 Long-haul low-cost

Because of the continuing deregulation and the ending of multiple bilateral agreements between states in the rest of the world, the possibility to start new operations increased. Since a couple of years, a few carriers try to adapt the low-cost model to long-haul operations (Airline Business, 2004). Freddie Laker's Skytrain already tried it in 1977 with London – New York roundtrip fares much lower than the legacy competitors, but the company did not make it and was priced out of the market by the other carriers. Because the air transport market has changed dramatically and the low-cost phenomenon is much more accepted nowadays, people are wondering if this same business model can work on longer haul flights this time.

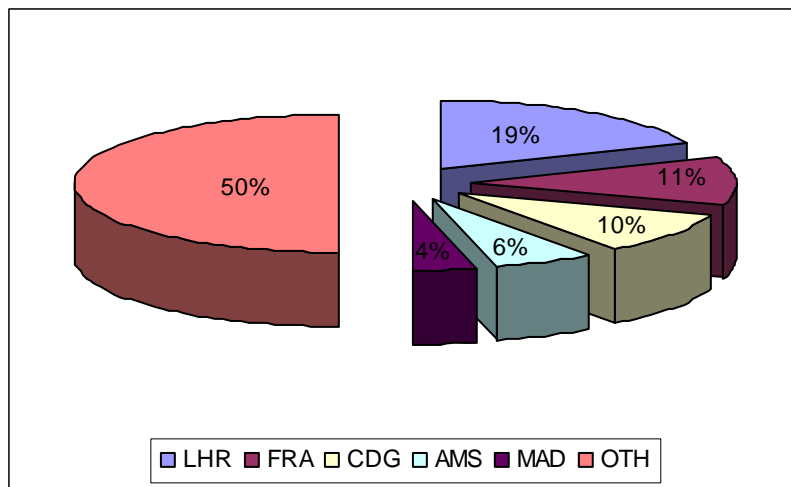
In this chapter an overview is given of the long-haul activity from Europe. Long-haul operations are for a large part done by the legacy carriers, and only a small fraction by other (new) long-haul carriers, which are mentioned in section 6.2. The long-haul low-cost model or at least elements of that model are described in the sections 6.3 and 6.4. Issues why it would not and opportunities why it would be possible for low-cost carriers to start a long-haul operation are explained in those sections respectively. The questions if there is a market from a consumer point of view, which type of airports will be used, what kind of markets will be served and what are the consequences for legacy and charter carriers will be answered. The chapter concludes with examples of five recent long-haul low-cost start-ups, including Oasis Hong Kong Airlines, Jetstar, Zoom Airlines, Viva Macau and AirAsia X.

6.1 Long-haul operations from Europe

Legacy carriers still have a large share on the long-haul market. Anything that is intercontinental can be considered long-haul. The cut between short/medium-haul and long-haul lies usually around 6 hour flight time. There are several barriers to enter the long-haul market, resulting from the limited distribution of demand, alliances, frequent flyer programmes and slot constraints at hub airports. Passengers travelling long-haul choose for legacy carriers since passengers place strong emphasis on the reliability,

quality, comfort, frequent flyer programmes and most important the connecting opportunities at hubs. Whereas most European countries mostly have a network of domestic and intra-European air services, long-haul traffic is much more concentrated (Dennis, 2005). Since deregulation, the long-haul seat-capacity has been increasingly concentrated on a small number of large airports (Burghouwt, 2007). Five European hubs (London Heathrow, Frankfurt, Paris CDG, Amsterdam Schiphol and Madrid) account for 50% of long-haul seat capacity as can be seen in figure 6.1.

Figure 6.1: Airport share of long-haul seat capacity

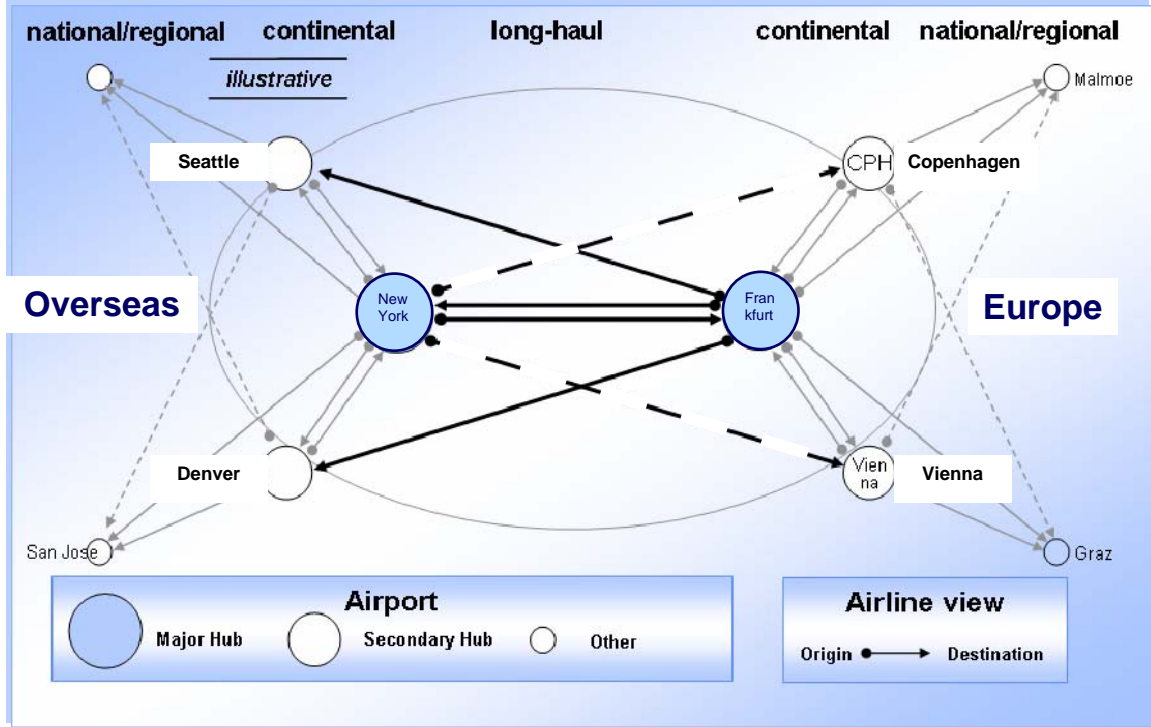


Source: Hind (2007)

These hubs are dominated by major legacy carriers. These carriers have built up impressive networks, which are hard to clear up. In other words, established legacy carriers seem to be in a stronger position on the long-haul than in the short-haul market. However, from a customer side, there is demand to operate more point-to-point on the long-haul or to more and other destinations. But due to this dominance and a lack of regional services, it is impossible to get a decent market share as a new long-haul entrant. Thin, low frequency routes from smaller airports have been dropped to increase the passenger flows at hubs. In addition, major legacy carriers are uniformed in several alliances and are cooperating with each other instead of competing. Alliance developments have improved long-haul networks of legacy carriers in favour of more frequencies and capacity between key alliance hubs in different regions of the world. These hub connections provide better journey times and frequencies, but losing a direct

plane service. The larger legacy carriers mostly have adopted this pattern of service, as can be seen in figure 6.2.

Figure 6.2: Long-haul network example of legacy carriers



Source: Brützel (2007)

When legacy carriers were free of regulatory constraints, they were able to build up these kinds of networks, creating economies of scale that enable them to feed passengers efficiently. These networks allowed the legacy carriers to dominate airports of certain large cities as well as traffic between smaller cities (Barkin et. al, 1995).

Long-haul traffic from Europe has been primarily focused on the Europe – North America market, accounting for almost half the total passengers’ kilometres in 2003. Europe – Africa is in second place, because Africa is very important from France. This same holds for Southwest Asia from the UK and Latin- and South America from Spain. Boeing did a market outlook in 2003 and looked 20 years ahead.

Table 6.1: Long-haul traffic forecast

Regional Flow	2003 Revenue Passenger Kilometres (Thousand Billion)	2023 Revenue Passenger Kilometres (Thousand Billion)	Average annual growth (%)
Europe - North America	348	903	4.9
Europe - Africa	99	269	5.1
Europe - Southeast Asia	95	253	5
Europe - Central America	73	177	4.6
Europe - South America	49	171	6.4
Europe - Northeast Asia	48	175	6.7
Europe - China	34	143	7.4
Europe - Southwest Asia	29	95	6
Europe - Oceania	n.a.	n.a.	n.a.

Source: Boeing current market outlook in Dennis (2005)

It will be unlikely that this level of growth and the numbers of revenue passenger kilometres will be accommodated by legacy carriers at the major hub airports only, because all are suffering capacity constraints and limits on development. Greater use of smaller (secondary) airports will therefore be necessary. According to Dennis (2005), there is already some long-haul activity from regional (secondary) airports. It can be divided into four groups:

- Long-haul services operated by overseas carriers.
- Routes to prime long-haul destinations, like New York, from smaller regional centres.
- Niche services based on ethnic demand, visiting family, friends and relatives. Examples include Birmingham – Islamabad, Nice – Montreal and Hamburg – Accra.
- Unique holiday-routes from regional German airports. Examples include Leipzig – Puerto Plata and Düsseldorf – Orlando.

These secondary airports may also be used by other long-haul carriers from abroad and (new) long-haul low-cost start-ups, taking advantage of the wide range of services to let passengers make their own connections⁸.

6.2 New long-haul low-cost models

New long-haul entrants (for example Oasis Hong Kong Airlines, MAXjet) are focussing on several niche markets, which the legacy carriers are not serving. Wensveen (2007) divides these new models in three specialisations:

- Network specialists: hub bypass/hub complements
- Product specialists: premium-class travelling
- Price specialists: high-capacity aircraft, all-economy class travelling

6.2.1 Network Specialist

A network specialist can be described as a corporate shuttle service on long-haul routes for high-yield business passengers. The pioneer of this service is PrivatAir and they are now a global leader in business aviation. It provides increased cost savings and increased productivity for corporate executives (Wensveen, 2007). The carrier emphasises the need from business travellers for long-range and large cabin aircraft. PrivatAir's services are operated on behalf of several legacy carriers including KLM, Lufthansa and Swiss Air.

6.2.2 Product Specialist

Product specialists are all-business class carriers operating scheduled services on routes with high load-factors and premium fares. It specialises on the relative strength of legacy yields in premium (business) cabins on long-haul flights (Wensveen, 2007). Examples include Eos Airlines, Silverjet and MAXjet Airways. These carriers have until now been primarily focussed on transatlantic travel, but they will soon expand to other long-haul destinations. They generally offer upscale meals, airport lounges and portable on-demand

⁸ On the website of London Stansted Airport passengers are able to create their own connection using their website. More information on: <http://www.stanstedairport.com/portal/page/STN%5EFlight+Information%5ECreate+your+own+connection/>

entertainment against lower fares than the premium fares of the traditional legacy carriers.

6.2.3 Price Specialist

The last long-haul specialist Wensveen (2007) mentions are carriers that are competing on price. They offer long-haul flights against lower fares than their (legacy) competitors and it requires large aircraft with high-seating configuration to be profitable. There have been some new start-ups lately who are using this type of model (some of them will be discussed in section 6.5). This model can be compared with the low-cost carrier model, described earlier in this thesis, and carriers are now trying to adapt this model to the long-haul. In the next section, this model will be explained. Issues why it would not and opportunities why it would be possible to use the low-cost model on the long-haul, are mentioned.

6.3 Why does it not work?

For a long time there has been a large scepticism and the general thought was that the low-cost model could only be sustained on short-haul routes and that any chance of no-frills flights on long-haul routes would not be possible. But there are some carriers who have tried to transform the long-haul travel industry by mixing low fares with personal options and quality service. The advantages that low-cost carriers have over legacy carriers on the short-haul tend not to count over longer distances. Legacy carriers are already efficient on the long-haul by having high aircraft utilisation and high load factors (Airline Business, 2004) and shorter routes offer greatest potential to achieve cost competitiveness over the legacy carriers. In addition, legacy carriers make the greatest part of their long-haul profits from business class passengers, which allows them to subsidise their lowest economy fares and fill the back of their aircraft.

6.3.1 Cost issues

Francis et. al (2007) argue that the cost leadership strategy applied to long-haul routes is not necessarily dependent on achieving all the cost efficiencies in the same way as the short-haul carriers. It is impossible to think that people will remain happy if carriers do

not offer in-flight food, drinks and entertainment and have to deal with limited legroom for quite a few hours on long-haul routes. Ryanair and easyJet are operating with a 29-inch seat pitch, while economy class seat pitches of legacy carriers are at least 31-inch. In addition, survey results indicate that while in-flight entertainment is not amongst the primary factors affecting passengers' choice, it contributes greatly to passengers' satisfaction with carrier services (Alamdari, 1999). Being entertained is especially important on long-haul flights. Due to seat configuration in most carriers' (economy) class cabin makes it difficult to sleep or relax. However economy passengers do not appear to be prepared to pay for it. So it will be hard to sustain the no-frills principle on long-haul flights.

Furthermore, legacy carriers already obtain low seat-per-mile costs and offer competitive fares on long-haul services. Whereas short-haul low-cost carriers have been able to cut half the fares of legacy carriers, long-haul low-cost carriers would likely to achieve only to cut 20 or 30% maximum. Business class passengers are paying a huge amount for a long-haul flight, so the marginal costs of economy class passengers can be significantly reduced (Dennis, 2005).

Utilisation of aircraft can hardly be increased on the long-haul. As can be seen in table 6.2, legacy carriers already have a high load factor of over 80% on long-haul operations. That is higher than the most important low-cost carriers have on short-haul operations.

Table 6.2: Aircraft utilisation

Carrier	Short-haul daily utilisation (hours)	Short-haul load factor (%)	Long-haul daily utilisation (hours)	Long-haul load factor (%)
Air France	7.6	65	14.1	81
British Airways	7.6	62	12	75
KLM	7.1	71	15	82
Lufthansa	7.1	62	15.3	83
Virgin Atlantic			14.6	81
Air Berlin	10.5	74		
easyJet	11	81		
Ryanair	9.8	78		

Source: Dennis (2007)

Secondary airports are able to ask lower airport charges and therefore they are an attractive option for low-cost carriers. However, this only tends to count on the short-haul, since airport charges are a relatively small part of total operating costs of long-haul carriers (Maertens, 2007).

Another source of revenues, cargo, is neglected by traditional short-haul low-cost carriers, but transport of cargo is an important source of revenue to legacy carriers. Low-cost carriers avoid cargo on short-haul routes as it complicates the operation and slows down turnaround times. On the long-haul, cargo is too significant a source of revenue to ignore (Francis et. al, 2007).

The most substantial element for cutting costs seems to be labour. A new entrant could probably find labour willing to work for less. However, long-haul low-cost carriers would still have to pay accommodation costs and allowance for their staff since it is physically impossible to return on the same day (Francis et. al, 2007). But maintaining low central administration costs like short-haul low-cost carriers are having now, this can lead to a limited cost advantage over legacy carriers.

6.3.2 Other issues

While low-cost carriers usually prefer to serve cheap secondary airports, this might be difficult for long-haul services, since carriers may need to connect passengers from and to other airports (Starmer-Smith, 2007). Hubs seem to be much more crucial on the long-haul, where there is more demand and potential feeder traffic. Feeder traffic at one, at the other or at both ends is necessary, since only a few origin & destination routes offer potential for non-stop routes. There are only a few dense routes which might have potential, for example London – New York or Singapore - Sydney. Other problems with airports can be that runways of many (secondary) airports are not long enough to handle intercontinental flights (Francis et. al, 2007) or that airports are only open at certain times. The minimum runway length a long-haul aircraft requires depends on various factors such as take-off weight, humidity, altitude above sea-level, weather and pavement surface. A runway length of at least 3.400 m is generally sufficient for all aircraft and

take-off weights (Maertens, 2007). It might be difficult for carriers to plan schedules to several airports on different continents when these airports are not 24 hours open. Another issue might be the bilateral agreements that are still present. Although there is a trend to more deregulation several bilateral agreements are still in touch, so it will be difficult to 'get in' to certain countries.

Frequent flyer programmes and environment are also important issues. Business passengers are unlikely willing to give up their frequent flier credits as the rewards on long-haul flights are more valuable. A certain frequent flyer programme is probably needed to attract a large share of business passengers. Environment is a major threat to long-haul low-cost. New start-ups will increase the number of flights throughout the world and will therefore harm the environment more. A more aggressive regulation of CO₂ emissions could slow down traffic of carriers. The Netherlands already complied with this regulation by introducing a new ticket tax, whereby a passenger leaving a Dutch airport to a short-haul destination pays an extra €1.25 and to a long-haul destination €45.-. Nevertheless, these (long-haul) low-cost operators have more flexible structures, suggesting that they might adapt quicker to this more restrictive scenario (Garriga, 2004).

6.4 Why does it work?

However, despite these disadvantages mentioned in section 6.3, several new carriers saw their chance recently and started long-haul services against very cheap fares. The proof is already there; several long-haul low-cost carriers are now operating and are doing well so far. Zoom Airlines is operating well above 80% of capacity (Starmer-Smith, 2007) and Oasis Hong Kong Airlines is filling more than 85% of its seats (Kjelgaard, 2007). They both would like to expand hugely in the near future. Also, about 26% of the Oasis traffic is already self-hubbing⁹ with low-cost carriers (Kjelgaard, 2007).

6.4.1 Cost-saving opportunities

There are some cost cutting elements transferable from the short-haul to the long-haul model. The cost advantages of those cost structures will not be as great as on short-haul

⁹ Passengers making their own connections.

routes (40 to 60% lower), but a cost advantage of 20 to 25% is much more likely. For example, all bookings with a carrier can be done online or through call centres (low distribution costs) and offer only point-to-point services without interlining, whereby passengers will have to make connections ‘at their own risk’ and ‘check out and check in’ at the connecting city (Airline Business 2007). Some argue that the low-cost model is actually more suited to long-haul routes than short-haul routes, since long-haul low-cost carriers achieve a higher utilisation rate and aircrafts burn much more fuel on take-off and landing than during flying (Kjelgaard, 2007). In that way, the environmental aspect can also be questioned.

Just like the low-cost philosophy on short-haul routes, people will decide to fly low-cost on the long-haul primarily because of the cost element. Cost will come before comfort, service and convenience. Fares are, as we can see in a chapter 7, almost continuously and substantially lower than their legacy counterparts. Book further in advance and it would be cheaper still. But will people also take more long-haul holidays each year? A weekend going to for example New York City becomes more attractive because of this new market, but people will not get there any sooner (aircraft will not go faster) and the effects of jetlags are not little.

6.4.2 Other opportunities

The current developments in the short-haul markets seem to lead to saturation. Other European low-cost carriers are trying to get in to market currently dominated by Ryanair and easyJet. This increases competition for airport space and slows down turnaround times. This saturation in the European market, but also in the US domestic markets resulted in long-haul attention from new entrants (Dennis, 2007).

On the long-haul, there is no competition from other transport modes. Although high-speed train travel tends to become a threat to short-haul low-costs flights, this does not count on the long-haul. On the other hand, a good connectivity to other transport modes (motorways, trains etc.) enlarges an airport’s catchment area in reducing costs when accessing the airport. It might enhance an airport’s attractiveness for long-haul low-cost carriers (Maertens, 2007).

Low-cost carriers mainly use the most fuel-efficient planes and travel with higher load-factors than legacy carriers. Traditionally, long-haul flights are taken by large aircrafts with more than 300 seats. The development of new aircraft types like the Boeing 787, Airbus A350 and Airbus A380 offer the possibility to fly longer distances with a lower capacity aircraft and offer lower seat mile costs than currently (Francis et. al, 2007). Also the new Boeing 7E7 series (200-250 seats) seems to be designed to handle point-to-point traffic on long-haul flights efficiently without the need of a hub & spoke network (Garriga, 2004). Indeed, the Airbus A320 has ranges up to 7000 km, what can guarantee the use on long-haul flights. For example, transnational coast-to-coast flights within the US range for about 4000 km. To cross the Atlantic, 5000 to 6000 km need to be bridged (distance between London and New York is about 5500 km).

Long-haul flights are usually taken from hub-airports. The last few years there has been more long-haul activity from secondary airports, because hub-airports got congested and new long-haul carriers have difficulties to obtain slots and are therefore forced to make use of other non-hub- or secondary airports. Large non-hub airports like Manchester, Düsseldorf, Barcelona and Geneva that are located in major agglomerations handle a significant number of long-haul passengers, while smaller secondary airports like Cologne-Bonn, Hamburg, Nice and London Stansted still have a few regular long-haul services per day (Maertens, 2007).

Francis et. al (2007) argue that long-haul low-cost services are most successful in pure leisure markets (especially the visiting friends & relatives (VFR) market), since these passengers are less sensitive to frequency and do less care compared to business passengers when frills are reduced. Other potential success might be found in ethnic links and dense point-to-point markets, where modest market share is required to operate. On other routes, frequencies will be uncompetitive thus making it impossible to attract enough market share. As airports costs are a small proportion of the total for long-haul flights, there is an argument to concentrate for (low-cost) hub airports, because feeder traffic is more guaranteed and passengers have to opportunity to self-hub themselves.

In table 6.3, some cost-efficient elements are summarised that could be applicable and are already applied in practice to long-haul low-cost operations. The only opportunity for carriers and the most ideal scenario for passengers would be a combination of low fares and some of the frills offered by legacy carriers. The line between both models needs to be blurred if (new) low-cost carriers would like to operate on the long-haul. Efficiency will decide which carriers will survive (Garriga, 2004).

Table 6.3: Product features of the long-haul low-cost model

Product feature	Low-cost model	Legacy model	Charter model	Long-haul low-cost model
Aircraft usage	High	Moderate to high: union contracts	Lower usage but larger aircraft than low-cost carriers	Will be achieved because of longer sector lengths
Airport	Secondary (mostly)	Primary	Secondary (mostly)	Primary (mostly), depends on individual airport facilities
Brand	One brand (low pricing)	Extended brand (price and service)	Low price for leisure traffic	One brand (low pricing), but be clear about service
Check-in	Ticketless	Ticketless, IATA ticket contract	Paper ticket	Ticketless
Class segmentation	Single class	Multiple classes	Single class (sometimes two or three)	Multiple classes (usually two)
Connection	Point-to-point, no interlining, no baggage transferring	Interlining, code-share, global alliances	Point-to-point	Point-to-point, no interlining, no baggage transferring, self-connecting
Customer service	Generally underperforming	Full service, offers reliability	Via travel agent	Unknown
Distribution	Online, direct booking	Online, direct booking, travel agent	Via travel agent	Online, direct booking

Fare	Simplified fare structure: peak and off-peak. Low price (60% or more below legacy carriers)	Complex: structure + yield management	Fares are part of holiday packages, including accommodation and sometimes car hire etc.	Simplified fare structure: the earlier you book, the cheaper the fare. Low price (20 or 25% cost advantage to legacy carriers is likely)
Fleet	Young, single type (B 737's)	Multiple types	Multiple types	Young, single type probably, but one aircraft type may not be suitable for all routes (range and capacity issues)
Frequency	High	Moderate	Depending on demand (usually higher during summer)	Low to moderate (currently about once a day)
Frequent Flyer Programme	No (mostly)	Yes	No	Maybe more valuable
In-flight	Pay for amenities, onboard selling	Complementary extras	Complementary extras, but not as luxury as with legacy carriers	Longer-haul passengers are likely to value this more highly
Operational activities	Focus on core (flying)	Extensions: e.g. maintenance, cargo	Passengers + cargo (sometimes)	Focus on core (flying), but cargo is an important source on revenue on the long-haul
Seating	Small pitch, no assignment	Generous pitch, seat assignment	Seat assignments, pre-bookable	Comfort more important the further you fly. Pre-allocation might be demanded
Target group	Leisure, time- and price-sensitive business travellers	Leisure and business	Leisure	Leisure, time- and price-sensitive business travellers
Turnaround time	25 minutes	Low; congestion and labour	Low	Less important since aircraft spend longer in the air

Source: Combination of Alamdari & Fagan (2005), O'Connell & Williams (2005), Williams (2001) and Francis et. al (2007)

Low-cost carriers are also starting to think of code-sharing. Jetstar is already code-sharing with its owner Qantas. Also Aer Lingus and JetBlue are cooperating. Customers will be offered the cheapest available seat on an Aer Lingus flight and the cheapest available seat on a JetBlue connecting flight (Airline Business, 2007). Although these are examples of code-sharing between a legacy- and a low-cost carrier, there is also a possibility of code-sharing with low-cost carriers on both ends. An example could be a code-share or mini-alliance between Southwest Airlines (intra-US), Zoom Airlines (US-Europe) and Oasis Hong Kong Airlines (Europe-Asia). At least, they could agree about interactive marketing campaigns and cross-selling of tickets. Mergers and acquisitions are also a possibility. There has been already some development in that area, i.e. Air Berlin made a long-haul move by acquiring German leisure carrier LTU. With this move they are reacting to demands from the market and the deal gives Air Berlin a long-haul network (Airline Business, 2007). Also Ryanair would like to take over Aer Lingus to expand their network (mainly long-haul), but until now, this has been blocked by the European Commission because together they would have been a threat to competition at Dublin airport, especially on routes to London¹⁰ (The Irish Times, 2007).

6.5 Recent long-haul low-cost start-ups

The answer to the question if there are long-haul low-cost carriers already is yes. For this thesis I have looked at five recent start-ups. These carriers have all in the past few years started or will start soon long-haul low-cost services. These carriers are named as long-haul low-cost carriers because of the following criteria. They offer:

- International scheduled services with flights during at least 4 hours;
- (Much) Lower fares than their (legacy) competitors.

The carriers which will be described are:

- Oasis Hong Kong Airlines
- Jetstar
- Zoom Airlines

¹⁰ Ryanair has already a 29,4% share in Aer Lingus, but actually Aer Lingus would like to reduce Ryanair's stake in the company.

- Viva Macau
- AirAsia X

In this section, each paragraph shows the characteristics of the long-haul low-cost carriers mentioned above. What kind of frills do they offer, what services do they operate and how does the network structure look like? Which aircraft does the fleet consist of and what type and which airports are served or will be served in the near future? Do they offer multiple classes or do they stick to the original low-cost model by having only one class? The answers to these questions can be found in the next paragraphs. Paragraph 6.5.6 shows a comparison of all carriers.

Because of the lack of academic literature on these carriers and about this topic, I have used the carriers' websites and several air transport magazines, like *Airline Business*, in which short articles treat this topic. I have also used the Official Airline Guide database to see what kind of long-haul low-cost services these carriers are now operating at the moment and will operate in the near future. Transcontinental routes in the US of 4 to 6 hours flight time like Southwest, JetBlue and new Virgin member Virgin America, are being left out of the analysis.

6.5.1 Oasis Hong Kong Airlines

Although delayed for a year due to a steady stream of hold-up problems such as securing route licenses from Hong Kong and Russian authorities, Oasis Hong Kong Airlines finally started its services in October 2006. Oasis can be considered as a pure long-haul low-cost service (Hind, 2007). It began scheduled daily non-stop services from their base Hong Kong to London Gatwick and recently launched 6 times weekly services to Vancouver. It now has a fleet of two Boeing 747-400's and announced the purchase of three additional aircraft. Goal is to achieve a fleet of 25 aircrafts by 2010 (Oasis, 2007).

Daily flights between London and Hong Kong are offered for as little as €220.- each way including taxes, roughly 40% less than the legacy carriers like Cathay Pacific (see table 7.2). Oasis also plans to operate to Cologne/Bonn, Berlin, Milan in Europe, as well as to Oakland (San Francisco) and Chicago in the USA in the near future. These airports are

destinations that offer easy onward connections. London Gatwick and Berlin, for instance, are hubs served by short-haul low-cost carriers that fly to most major European destinations and Oakland is served by low-cost flights to other cities in the US.

Oasis has operations now for almost a year and with their entry to the London – Hong Kong market, traffic was stimulated for around 15-20% (Airline Business, 2006). Because of the popularity of its London – Hong Kong route, Oasis will add another three non-stop flights a week from December 2007, bringing the total to 10 flights per week.

The overall aim is to offer fares that are significantly cheaper than those offered by other carriers. But that does not mean that there are no-frills. Oasis offers both economy and premium class fares. There is no charge for baggage and all passengers get two free meals and a choice of in-flight entertainment, although economy class passengers must pay for alcoholic drinks. Meals will be basic, but passengers wishing to have a better meal will be able to purchase one. To keep other costs down, Oasis bases its pilots abroad, targets a daily aircraft utilisation of 16 hours, has low distribution costs, puts all staff on contracts and make wages largely incentive-based, as well as outsource as much as possible. Oasis also considers cargo as a vital ingredient and this will help them to offer cheap fares for passengers.

Oasis is targeting carriers such as Emirates, Gulf Air and Finnair, that now offer one-stop connections between the two cities at cheaper fares than the non-stop legacy carriers of British Airways or Cathay Pacific. Almost a quarter of the Hong Kong – London market is travelling via hubs to save money. It also hopes to attract cost-conscious small and medium-sized businesses, which are willing to pay a bit more for premium class, but believe the current business-class fares of legacy carriers are too expensive (Airline Business, 2006). The service must also create a new market of budget travellers who are increasingly go abroad (for example visiting friends and relatives) because of the cost (Capell, 2006).

The international route map of Oasis Hong Kong Airlines looks as follows (September, 2007).

Figure 6.3: Route network Oasis Hong Kong Airlines



Source: Own creation with Flowmap created with OAG-data (2007)

6.5.2 Jetstar

Australia's Jetstar has been one of the greatest successful start-ups in recent years. This is quite remarkable as Jetstar is a fully owned subsidiary of legacy carrier, Qantas, but is managed separately and is operating independently. But until now, Jetstar has sustained a positive balance between its independence and synergies with Qantas (Airline Business, 2007). Jetstar has also an Asian part called Jetstar Asia, set up only six months later. Jetstar Asia is a Singaporean-based partnership between Qantas (49%), local businessmen Tony Chew (22%) and FF Wong (10%) and Singapore government's Temasak Holdings (19%) (Jetstar, 2007).

In May 2004, Jetstar started first in the domestic Australian market. It concentrated on growing the domestic key leisure market with lower fares and opening new destinations. Qantas was confident Jetstar would be the lowest cost operator in Australia and tried to break in the duopoly of Qantas and Virgin Blue. The carrier chooses to be a true point-to-point carrier and gives ability to transfer operational cost savings into revenue earning opportunities for their network. In that time Jetstar had one class of travel while using Boeing 717 aircraft but it later moved to an all Airbus A320 fleet. A range of hot and cold beverages (including alcohol) and snacks and a comprehensive in-flight audio program can be purchased on board.

Within three years, Jetstar started international operations. The carrier offers now point-to-point routes between Australia, New Zealand, Asia and the Pacific. The idea was to complement Qantas' mainline international operations with an emphasis on inbound and outbound leisure routes. Their every day low fares took Jetstar into a price leadership position in international leisure markets within the first weeks of operation.

Jetstar offers two classes of travel on these international operations: Economy- and StarClass (premium economy). This product features:

- Assigned seating with online seat selection;
- Baggage interlining for international connections on flights of Qantas, Australian Airlines and British Airways (not including passenger through check);
- Range of meals and snacks (complimentary with StarClass and available for purchase on board or pre-purchase via website in Economy Class);
- Video on demand (complimentary with StarClass and available for purchase on board or pre-purchase via website in Economy Class);
- Ability to earn Frequent Flyer points;
- Fleet consists of Airbus A320's and next year transition to Boeing 787's;
- Qantas code-share arrangements on all flights.

The carrier's network consists now of several international destinations from six Australian destinations. The international route map of Jetstar (Jetstar Asia is not included) can be found in figure 6.4.

Figure 6.4: Route network Jetstar



Source: Own creation with Flowmap created with OAG-data (2007)

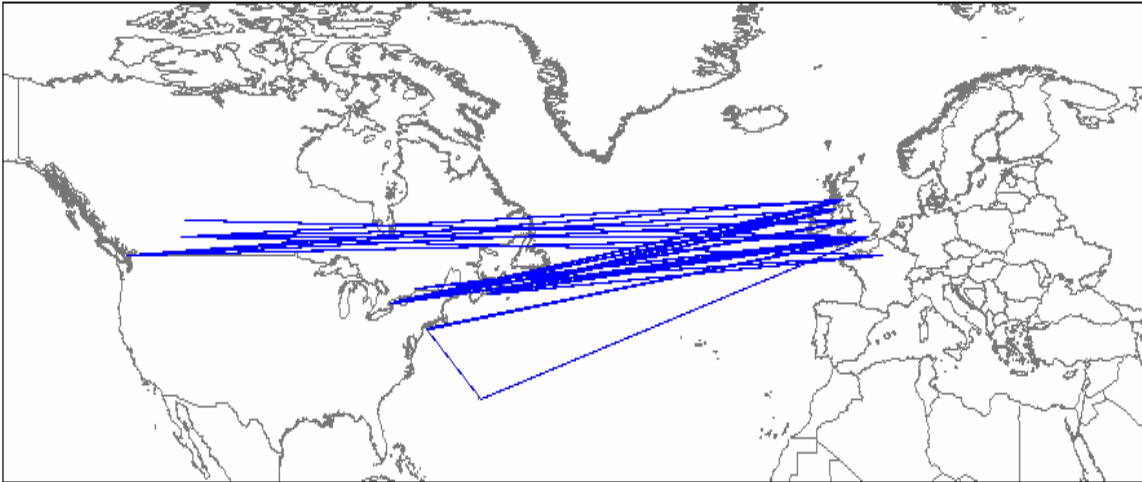
The story is ongoing as Jetstar plans to introduce routes to Europe and North America, mainly to ethnic destinations like Australia's residents Greeks and Italians. This will involve establishing hub destinations in Kuala Lumpur, Bangkok or Ho Chi Minh City. In April 2007, Jetstar achieved 4.4% international market share and over 15% domestic share in the Australian aviation market. In July 2007, the carrier was named World's Best Low-Cost Airline as part of the annual World Airline Survey.

6.5.3 Zoom Airlines

In June 2007, Zoom Airlines Ltd announced a revolution in low-cost transatlantic travel with the introduction of London – New York JFK flights from €190. - each way, including all taxes, fees and charges. Other recent transatlantic start-up carriers have all targeted the premium business class market, with Eos Airlines, MAXjet Airways and Silverjet launching up-market, all-business class services (product specialists). Zoom is operating at the other end in the down-market largely for leisure travellers. It is seeking to undercut the lowest economy fares offered by the legacy carriers including British Airways, Virgin Atlantic, American Airlines, United Airlines and Continental Airlines. This new service took off almost a year ahead of the earlier mentioned "Open Skies" agreement between the EU and US which may lead to more low-cost flying.

Zoom Airlines Ltd is a UK sister company of Canadian Zoom Airlines Inc., incorporated in May, 2002 (Zoom Airlines, 2007). Originally, the company was created to fill in the Canadian leisure travel market, but it is now primarily operating on the long-haul (Hind, 2007). Zoom's network is shown in figure 6.5.

Figure 6.5: Route network Zoom Airlines



Source: Own creation with Flowmap created with OAG-data (2007)

Zoom operates a combination of scheduled and charter services to various destinations including the UK, France and the Caribbean. It links eight Canadian cities with five points in the UK and Paris Charles de Gaulle in France. Those services are full-service and low-cost and the carrier has been granted permission to operate from London Gatwick as an official UK carrier to the US, alongside British Airways (American Airlines), Virgin Atlantic, Delta Airlines and Continental Airlines.

The UK-company (based at Gatwick) was incorporated in 2006 and launched flights this year. It can be seen as a long-haul low-cost carrier since it operates five direct flights, and also two off-peak services via Bermuda, between London Gatwick and New York JFK. On Zoom's new route, a one-way seat in economy class starts at €190. An average of 25% of seats on every flight, on- or off-peak, is guaranteed to be available at that fare (The Sunday Times, 2007). The carrier claims to be offering savings up to 70% on the fares being offered by legacy carriers.

The standard economy seat has 31 inches of pitch. The service includes a hot meal and non-alcoholic beverages for free, and there is in-flight entertainment with a \$5 charge to buy a headset. The baggage allowance is 20 kg. Passengers can also pay extra to fly in Premium Economy, which includes an extra five inches of seat pitch, 30 kg baggage allowance, adjustable head and foot rests, a separate check-in line, priority baggage and boarding, an enhanced meal service with a choice of three hot mains and complimentary alcoholic drinks and headsets. The carrier's fleet consists of Boeings 757 and 767 and the average load factor lies between 80 and 85%.

6.5.4 Viva Macau

Viva Macau is one of the most recent international start-ups with headquarters in former Portuguese colony of Macau, also named as Asia's new Las Vegas. Recent addition of world-class casinos, entertainment facilities and Macau's rich cultural heritage must contribute to a tourist boom.

Their fleet consists of two Boeing 767's, building up to 10 to 15 aircrafts within five years. The carrier's idea is to bring residents of Macau, but also Hong Kong and the Pearl River Delta, to fly to exciting destinations against a low fare. It started a ferry connection, called Express Link, between Shun Tak Centre in Hong Kong and Macau International airport. The Express Link allows passengers who are flying via Macau to hand in their luggage and get their temporary boarding passes upon check-in for the turbojet ferry service.

The carrier was founded in 2004, but started operations in 2006 with services to Maldives and Indonesia (Jakarta) as can be seen in figure 6.7. The carrier also operates non-stop routes Macau – Sydney route and Macau – Pusan. Both destinations are flown three times a week.

Figure 6.7: Route network Viva Macau



Source: Own creation with Flowmap created with OAG-data (2007)

The carrier offers two classes of cabin service, Star and Superstar. It offers a range of service including online booking system, assigned seating, in-flight service on demand, in-flight entertainment and a multilingual cabin crew. The low-cost carrier expands rapidly and it has received government approval recently to launch a wide range of new destinations covering Japan (Tokyo, Osaka), Vietnam (Ho Chi Minh City), Thailand (Phuket), the Philippines (Manila) and Australia. Viva Macau also plans to offer long-haul services to Europe in the future (Viva Macau, 2007).

6.5.5 AirAsia X

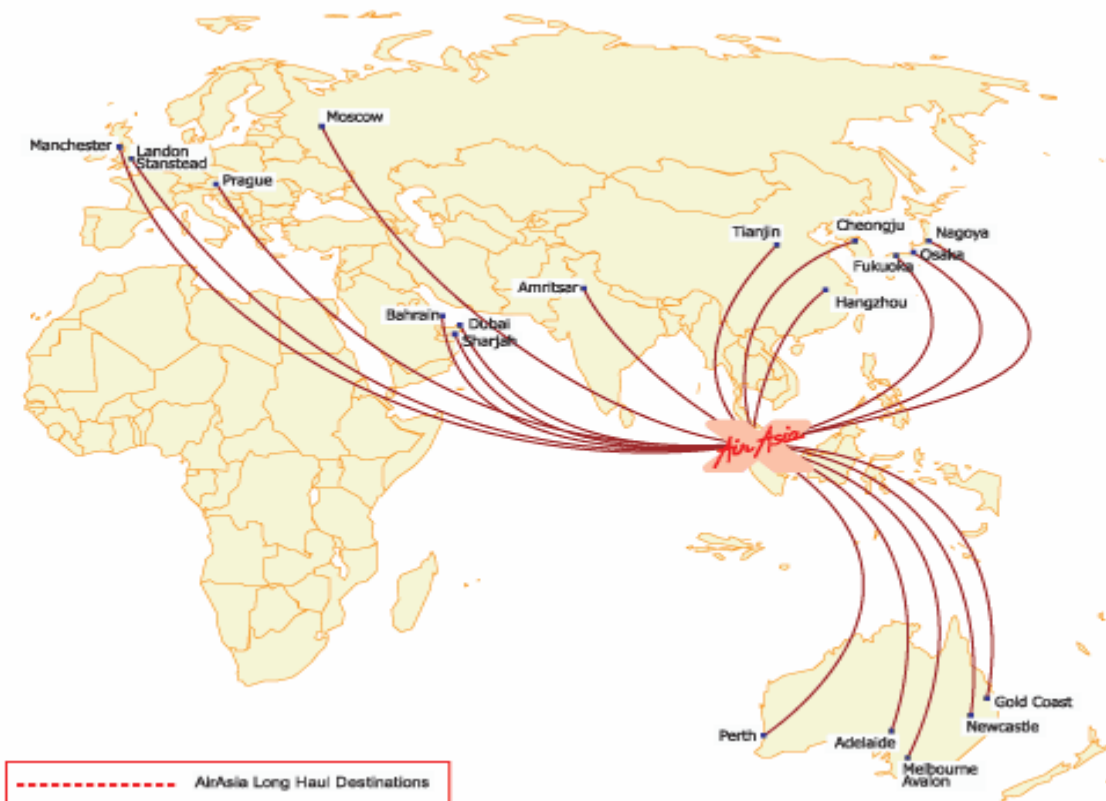
Malaysian AirAsia has already successfully pioneered the introduction of low-cost carrier operations across Asia and has become Asia's leading and largest short/medium-haul low-cost carrier (see Appendix B for more information about AirAsia). Now they have introduced the long-haul section, AirAsia X, to provide greater options and affordability to the travelling public. AirAsia X will start operations in November 2007

AirAsia X will be operated by Fly Asian Xpress (FAX). FAX is a carrier operating turbo prop services, providing connectivity among all major cities in East Malaysia with the

rural areas. FAX signed a Memorandum of Understanding with AirAsia, which allows AirAsia to franchise its internationally recognized brand to FAX. AirAsia X will strive to make Malaysia (Kuala Lumpur) the world's biggest low-cost hub and its network focus will cover popular destinations in China, India, Europe and Australia against affordable fares. This will be done to secondary airports mostly. They will also try to tie up with other low-cost carrier partners at destinations in order to increase connectivity and route network. The carrier has ordered about 15 A330-300 that will be used for the long-haul operation. AirAsia X is targeting leisure travellers mainly, including students.

AirAsia X recently announced its first destination; Gold Coast Airport, near Brisbane, in Australia. The first flight is scheduled for November 2, 2007. It also plans to have at least five flights to China a week and from September 2008, it will offer flights to Europe, Japan and the Middle East as well. At figure 6.8 can be seen to which destinations AirAsia X would like to fly in the near future. It becomes clear that AirAsia X would like to use Kuala Lumpur as their main hub.

Figure 6.8: Planned route network AirAsia X



Source: AirAsia X (2007)

A key principle of the AirAsia X business model is high frequency, point-to-point medium to long-haul services. It expects to offer fares 30 to 50% cheaper than its competitors. AirAsia X will be a true no-frills service: lots of seats, fast turnaround times, arriving at unsocial hours and with travellers paying for food and entertainment. Instead of earlier announcements, they will offer a premium-class too. The cost of a premium-class seat will be similar to the economy fare and a third of business class fare of legacy carriers. Those premium seats are bigger and have more pitch, but airport lounges, special check-in counters or free alcoholic drinks are not offered.

6.5.6 Comparison of long-haul low-cost carriers

While all five long-haul low-cost carriers have a same kind of low-cost philosophy, there are some differences between the models. For example, concerning the route networks of each carrier, Oasis Hong Kong Airlines can be considered as a pure long-haul low-cost carrier, whereas Viva Macau and Zoom Airlines are also operating on medium- and shorter haul routes. Jetstar, as a daughter of Qantas Airways, shows some network characteristics by having a lot of routes in the Southeast Asia and Australian region. It is difficult to say what kind of carrier AirAsia X will be, but looking at their planned network in figure 6.8, they will be considered as pure long-haul as well.

A second difference is the type of airports each carrier is flying to. AirAsia X has already announced that it will only fly to secondary airports to keep airport charges low. On the other hand, Zoom is aiming at primary airports. Paris Charles de Gaulle and New York JFK are already in their airport portfolio assuming that they will continuously look for primary airports in the largest cities of the world. However they also operate to quite small airports in Canada, Scotland, Wales and Bermuda.

Another difference is the number of routes each carrier is having. Jetstar and Zoom are already operating on quite a few routes, whereas the other three are still in its infancy. A reason for that is that Jetstar 'got' some routes of Qantas, mainly the ones that were not profitable enough to Qantas. Zoom has already been operating for quite a few years. In the first few years Zoom was considered as a charter carrier, but since they stepped into

the busy London – New York market and promoted themselves as a (new) long-haul low-cost carrier, the carrier experienced a new image.

A fourth fundamental difference between the carriers is the use of cargo. In paragraph 6.3.1 Francis et. al (2007) concluded that cargo was a too significant source of revenue to ignore. Still, Zoom Airlines is not having any cargo operations and also AirAsia X is not planning to introduce cargo to their operations.

The main differences between each carrier is summarised in table 6.4.

Table 6.4: Character differences between long-haul low-cost carriers

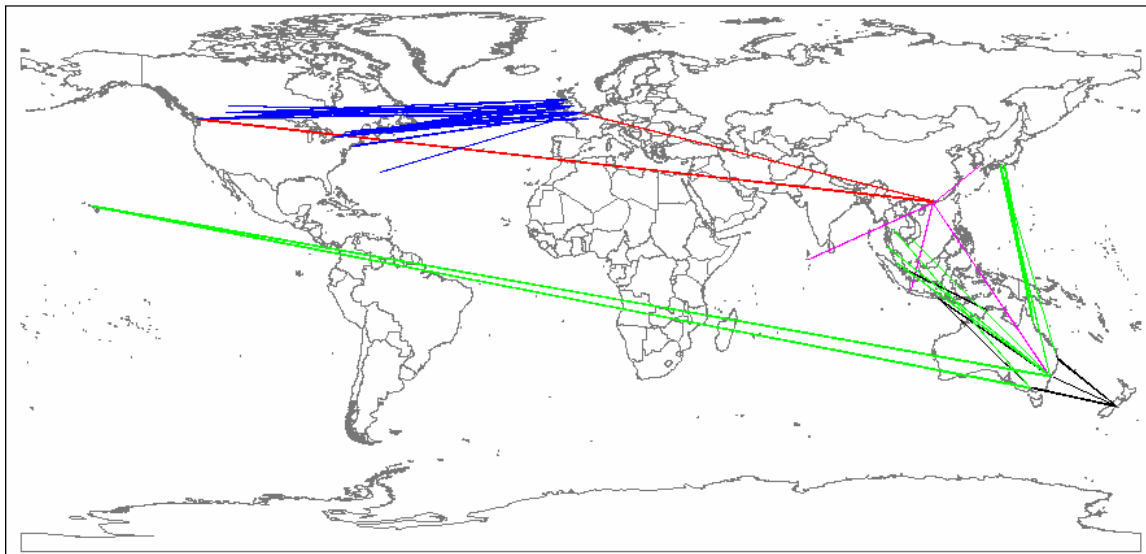
Characteristic	Oasis Hong Kong Airlines	Jetstar	Zoom Airlines	Viva Macau	AirAsia X (Fly Asian Xpress)
Country	Hong Kong	Australia	Canada/United Kingdom	Macau	Malaysia
Operating since	2006	2004	2002	2006	2007
Average load factor 2007	85%	n.a.	82%	n.a.	n.a.
Fleet distribution	Boeing 747-400: 3	Airbus A320-300: 23 Airbus A330-200: 6	Boeing 767-300: 4 Boeing 757-200: 1	Boeing 767-200: 1 Boeing 767-300: 1	Airbus 330-300: 15 (ordered)
Number of airports served	3	30	16	3	0
Type of airports	Primary	Primary and Secondary	Primary	Primary	Secondary
Number of routes	2	60	25	3	0
Route distance distribution	Short-haul: 0 Medium-haul: 0 Long-haul: 2	Short-haul: 44 Medium-haul: 7 Long-haul: 9	Short-haul: 1 Medium-haul: 4 Long-haul: 20	Short-haul: 0 Medium-haul: 3 Long-haul: 1	n.a.
Average route distance of all routes(in km)	9969	2424	5740	4362	n.a.
Average route distance of long-haul routes (in km)	9969	7092	6221	7375	n.a.

Frequency of long-haul routes (weekly)	LGW - HKG: 10 HKG - YVR: 6	BNE - KIX: 7 CNS - KIX: 4 CNS - NGO: 4 MEL - BKK: 2 MEL - HNL: 2 SYD - HKT: 3 SYD - HNL: 3 SYD - KUL: 3 SYD - SGN: 3	LGW - JFK: 5 YUL - CDG: 3 LGW - BDA: 2 LGW - YEG: 2 All other long-haul routes: 1	MFM - CGK: 3 MFM - MLE: 2 MFM - SYD: 3 MFM - PUS: 3	n.a.
Cargo	yes	no	yes	yes	no

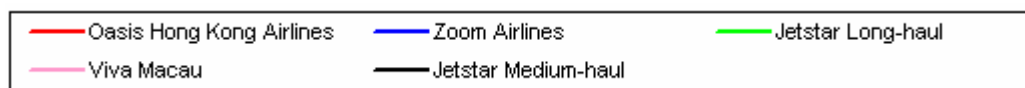
Source: Compiled from OAG (2007) *Short-haul distance<2000, Medium-haul 2000<distance<5000, Long-haul distance >5000 (distance in km)

Looking at the route distribution in table 6.4 the conclusion can be made that these five long-haul low-cost carriers together operate on 32 long-haul routes (distance >5000 km), 14 medium-haul routes (2000<distance<5000) and 45 short-haul routes (distance <2000 km). The last group consists of 44 intra-Australia flights of Jetstar and one international flight of Zoom Airlines between New York JFK and Bermuda. Adding all long- and medium-haul together, a world map with these activities of those five carriers looks as follows (figure 6.9).

Figure 6.9: World map of all long-haul low-cost activity



Source: Own creation with Flowmap created with OAG-data (2007)



From figure 6.9 the conclusion can be made that the long-haul low-cost phenomenon concentrates on the Southeast Asian/Australian and the transatlantic market. The

Southeast Asian/Australian market can be earlier considered as long-haul since distances between the destinations are greater than in Europe and North America. When a carrier starts low-cost operations in that region it will soon be considered as long-haul. Oasis Hong Kong Airlines recently opened the long-haul low-cost market between Europe and Asia and Asia and North America by starting operations between Hong Kong and London and Hong Kong and Vancouver.

6.6 Summary

In section 6, I have tried to explain the entrance of the long-haul low-cost phenomenon to the air transport industry. I started with an overview of all long-haul activity. Special attention was given to the situation in Europe. Currently, about 50% of all European long-haul activity departs from only five large European hub-airports. After that, I continued to describe new long-haul business models which entered the air transport market the last few years. Besides the low-cost variant (price-specialist), the network- (corporate shuttle service) and the product-specialist (offering all-business class flights) arrived. In section 6.3 and 6.4 I mentioned various opportunities and issues why the low-cost model could or could not be adapted to the long-haul. It seems that some frills need to be sustained to keep passengers happy, utilisation of aircraft can hardly be increased and carriers still have to pay accommodation costs and allowance for their staff. Moreover, hubbing and a frequent flyer programme are too significant factors to attract a large share of (business) passengers. On the other hand, there are also opportunities. There is no competition from other transport modes, the (long-haul) activity from secondary airports has increased and also the propensity to fly by the leisure segment (especially the visiting friends & relatives segment) has grown. These elements stimulated various carriers to start a long-haul low-cost operation. Examples of recent long-haul low-cost start-ups are given in section 6.5. They all offer some frills, have only one or two types of aircraft in their fleet and are operating to various airports (primary as well as secondary). But the question remains: are they really cheaper than the other (legacy) carriers? A fare-analysis is done in next section.

7 Fare-analysis: Are they really cheaper?

To prove if the recent start-ups mentioned in section 6.5 are really cheaper than their counterparts, a few high-densed routes are analysed. This chapter tries to identify differences in fares and fares structures of long-haul low-cost carriers in relation to other carriers. From their appearance, a first consequence of low-cost carriers' entrance in a particular route has been the decrease of the average fare. Three routes are analysed: London – New York (LON-NYC), London – Hong Kong (LON-HKG) and Hong Kong – Vancouver (HKG-YVR). Zoom Airlines and Oasis Hong Kong Airlines (the last two routes) are operating on these routes respectively. With the help of the OAG database I have checked which carriers are operating on a certain route, how often and if an airport is part of a multi-airport system. Most carriers were operating at least one flight per day on these routes, but there are some exceptions. Only roundtrip fares are used. A random day, Wednesday, is chosen and return is exactly one week later. The fares are found with the help of the websites of each carrier. The research is done on August 9, 10, 11 and 13, 2007.

7.1 London – New York

The first route analysed is London – New York (LON – NYC). On that route Zoom Airlines is operating since June 2007, to New York JFK airport. Besides Zoom, the legacy carriers Delta Airlines, Continental Airlines, American Airlines, Virgin Atlantic, Air India and British Airways are offering daily flights between London and New York. Results are shown in table 7.1.

In the figures (7.1 en 7.2), we can recognise Zoom at the red line. For quite a period they offer a much lower economy class fare than the other carriers, but when approaching Christmas and New Year, Zoom offers a slightly higher fare than their legacy counterparts. From January 2008 on, it seems that Zoom will increase its average fare on route London – New York, but that is still below the legacy carriers. So, on average, Zoom is clearly cheaper during off-season periods, but will be equally or slightly higher priced than their legacy counterparts during peak periods.

At premium class level Zoom is continuously cheaper than their legacy competitors. Of course discussion can be started about what frills are offered by each carrier. But when looking in a broad way, the conclusion can be made that Zoom is at least 50% cheaper than their legacy counterparts and almost 50% cheaper than the all-business class carriers, like Eos Airlines, MAXjet Airways and Silverjet.

Table 7.1: Fares (economy and premium class) including taxes on route London – New York City

Fares (incl tax) on route London - New York City	Zoom Airlines (departs Gatwick and arrives JFK)		Delta Airlines (departs Gatwick and arrives JFK)		Continental Airlines (departs Gatwick and arrives Newark)		American Airlines (departs Heathrow and arrives JFK)		Virgin Atlantic (departs Heathrow and arrives Newark)		Air India (departs Heathrow and arrives JFK)	
	Economy	Premium	Economy	Premium	Economy	Premium	Economy	Premium	Economy	Premium	Economy	Premium
15/08/2007	671	816	819	1891	1197	2787	827	1900	986	6750	798	1847
29/08/2007	446	594	430	1891	634	4001	409	1835	439	5910	702	1847
12/09/2007	294	442	430	2802	634	3910	409	2663	439	4176	517	1551
26/09/2007	294	499	430	2506	634	3693	409	2515	439	3261	517	1551
10/10/2007	294	442	430	2137	634	3149	409	3073	439	3261	517	1551
24/10/2007	294	442	430	2137	634	3149	409	2145	439	3261	480	1551
7/11/2007	332	536	424	4043	547	3062	350	2145	380	3261	451	1551
21/11/2007	332	536	371	2321	547	3062	350	2145	380	3261	451	1551
5/12/2007	347	551	371	2137	547	3062	350	2145	380	3261	451	1551
19/12/2007	491	724	471	2506	804	3062	443	2145	956	3614	813	1551
2/01/2008	417	621	434	2137	838	3823	443	2145	638	3261	429	1551
16/01/2008	417	621	434	2137	640	3062	443	2145	638	3261	429	1551
30/01/2008	417	621	434	2137	640	3062	443	2145	638	3261	429	1551
13/02/2008	417	621	434	2137	640	3062	443	2145	638	3261	429	1551
Fares (incl tax) on route London - New York City	British Airways (departs Heathrow and arrives JFK)		British Airways (departs Heathrow and arrives Newark)		Eos Airlines (departs Stansted and arrives JFK)	MAXjet Airways (departs Stansted and arrives JFK)	Silverjet (departs Luton and arrives Newark)					
	Economy	Premium	Economy	Premium	Premium	Premium	Premium					
15/08/2007	986	6750	986	6750	2781	1585	n.a.					
29/08/2007	439	5881	439	5881	1679	1253	1328					
12/09/2007	439	4000	439	3113	2125	1364	1772					
26/09/2007	439	3113	439	3113	2423	1142	1624					
10/10/2007	439	3113	439	3113	2239	1142	1476					
24/10/2007	439	3113	439	3113	2054	1142	1624					
7/11/2007	380	3113	380	3113	2054	1142	1476					
21/11/2007	380	3113	380	3113	2054	1142	1476					
5/12/2007	380	3113	380	3113	2054	1142	1476					
19/12/2007	638	3466	956	3466	2054	1142	1919					
2/01/2008	638	3113	638	3113	2054	1142	1624					
16/01/2008	638	3113	638	3113	2054	1142	1476					
30/01/2008	638	3113	638	3113	2054	1142	1476					
13/02/2008	638	3113	638	3113	2054	1142	1476					

Fares are based on best available fares

Fares are in euros (€)

Search date: 10-11 August 2007

Figure 7.1: Fares economy class on route London - New York City

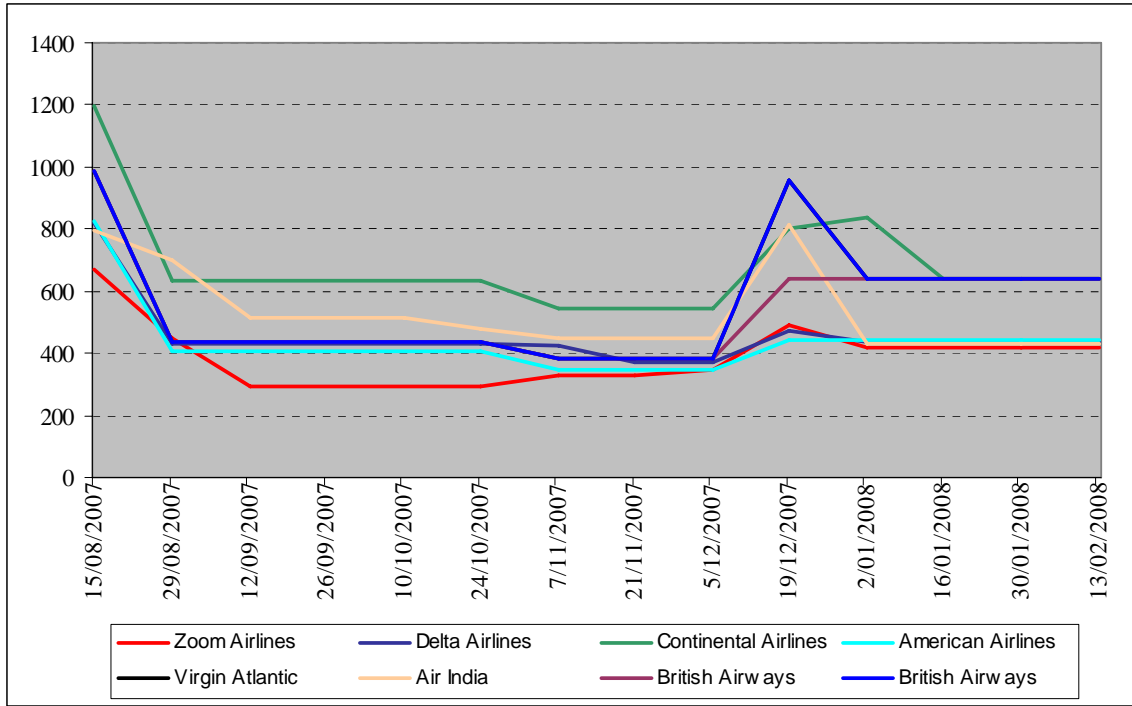
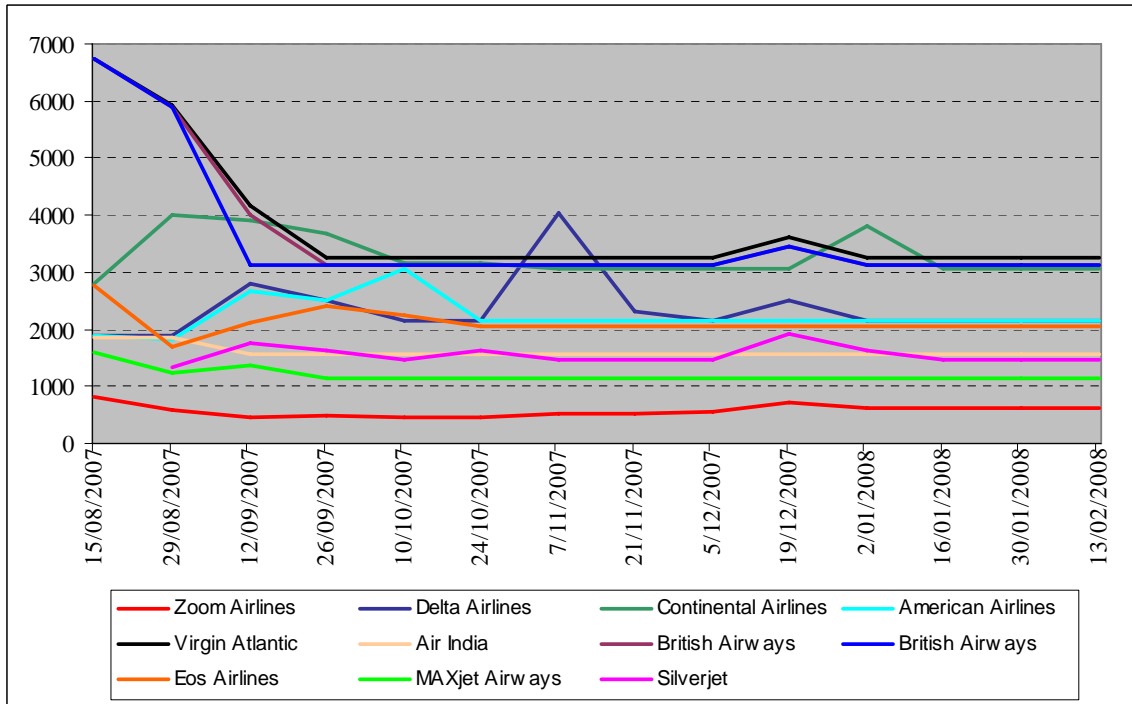


Figure 7.2: Fares premium class on route London - New York City



7.2 London – Hong Kong

The second route analysed is London – Hong Kong (LON – HKG). On that route Oasis Hong Kong Airlines is operating since October 2006. Besides Oasis, the legacy carriers British Airways, Cathay Pacific, Air New Zealand and Virgin Atlantic are offering daily non-stop flights between London and Hong Kong. There are a lot of other carriers, which are offering one or more stop(s) flights between London and Hong Kong, but only Emirates is included. The table 7.2., can be found on the next page.

Looking at figures 7.3 and 7.4, Oasis can be recognised at the dark blue line. For almost the whole period they offer a substantial lower economy class fare than the other carriers, even around Christmas and New Year. Only when a passenger books his flight just one or two weeks in advance the fare is almost the same offered by the other carriers. Remarkable is the Oasis fare on 10 October 2007, it is quite high compared to the other fares offered by Oasis and the legacy carriers. No explanation can be found for that.

At premium class level Oasis is continuously cheaper than their legacy competitors. Like Zoom, discussion can be started about what frills are offered by each carrier. As this route is quite a long flight (around 12, 13 hours), frills are (of course) offered. Passengers can expect hot meals, drinks, in-flight entertainment and the same seat width and pitch (32 inch, but at premium level a bit more) like the other carriers. But we can conclude that Oasis is at least 50% cheaper than the legacy carriers, although Emirates comes close.

Table 7.2: Fares (economy and premium) including taxes on route London – Hong Kong

Fares (incl tax) on route London - Hong Kong	Oasis Hong Kong Airlines (departs Gatwick)		British Airways (departs Heathrow)		Cathay Pacific (departs Heathrow)		Air New Zealand (departs Heathrow)		Virgin Atlantic (departs Heathrow)		Emirates (departs Gatwick + 1 stop-over at Dubai (and Bangkok till November 1, 2007))	
	Economy	Premium	Economy	Premium	Economy	Premium	Economy	Premium	Economy	Premium	Economy	Premium
15/08/2007	999	1769	1042	7556	2044	4813	1145	2521	n.a.	7630	2086	5712
29/08/2007	851	1622	938	5640	1939	5256	823	2521	739	5714	836	2859
12/09/2007	585	1622	702	4366	1939	4813	631	3302	702	6036	680	2547
26/09/2007	496	1622	672	3628	1000	4000	631	4189	672	4071	680	2547
10/10/2007	748	1915	746	3628	1939	4000	705	3746	813	6036	680	2547
24/10/2007	585	1990	746	3628	956	4000	705	4388	746	5667	680	2547
7/11/2007	467	1915	672	3628	853	3926	631	3746	672	3701	680	2556
21/11/2007	437	1622	672	3628	897	3926	631	3302	672	3701	680	2547
5/12/2007	437	1769	672	3628	1111	3926	631	3302	672	4071	680	2556
19/12/2007	659	1915	894	2536	2044	4813	1154	4388	968	4071	1395	2547
2/01/2008	638	1769	702	2536	2044	4000	968	3746	938	5667	836	2895
16/01/2008	417	1769	672	3628	897	4000	631	3302	672	4031	680	2547
30/01/2008	491	1990	672	3628	897	4000	631	3302	672	3701	680	2895
13/02/2008	467	1769	672	2536	853	4000	631	3302	672	4031	680	2547

Fares are based on best available fares

Fares are in euros (€)

Search date: August 9, 2007

Figure 7.3: Fares economy class on route London – Hong Kong

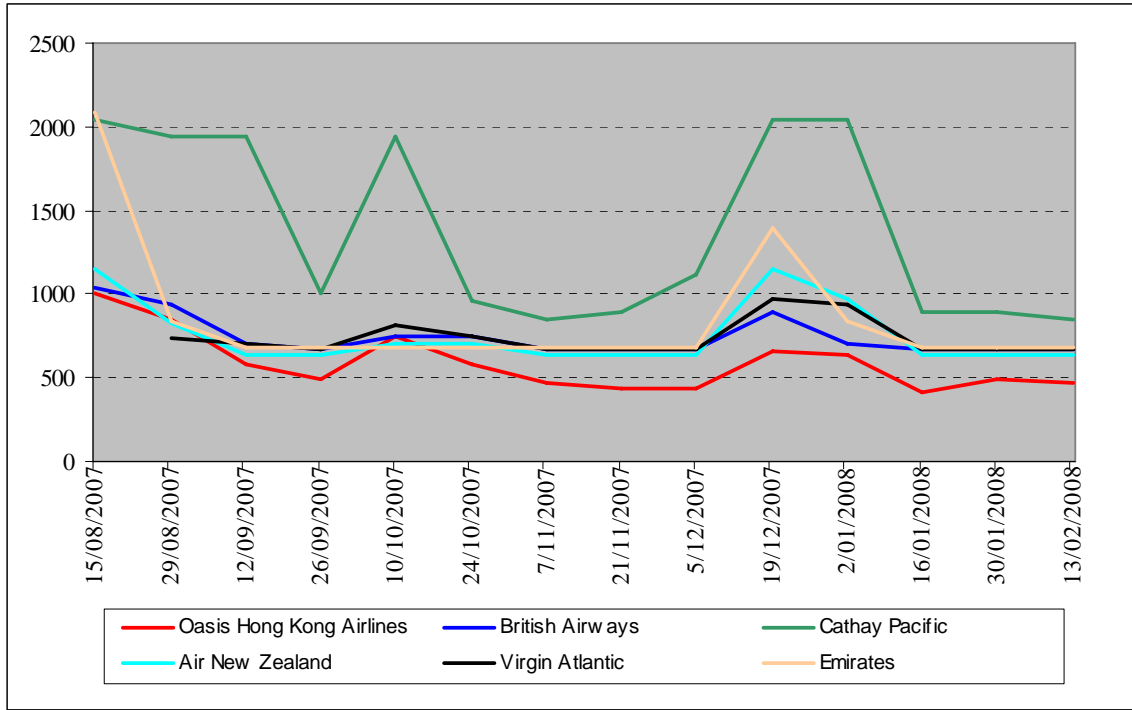
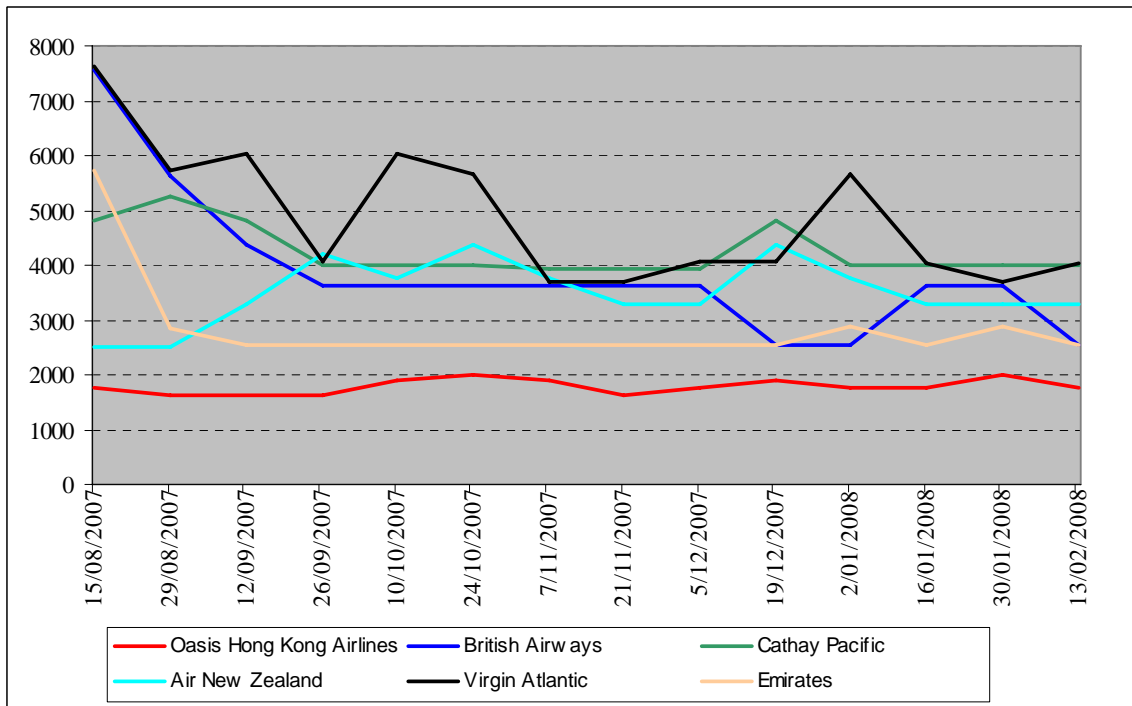


Figure 7.4: Fares premium class on route London – Hong Kong



7.3 Hong Kong - Vancouver

The last route analysed is Hong Kong – Vancouver. On that route Oasis Hong Kong Airlines is operating since June 2007. Besides Oasis, only the legacy carriers Cathay Pacific and Air Canada are offering almost daily non-stop flights between Hong Kong and Vancouver. Oasis does not operate this route on Wednesday, so a Tuesday is used. Table 7.3 shows the fares of each carrier.

Table 7.3: Fares (economy and premium class) incl. taxes on route Hong Kong - Vancouver

Fares (incl tax) on route Hong Kong - Vancouver	Oasis Hong Kong Airlines		Cathay Pacific		Air Canada	
	Economy	Premium	Economy	Premium	Economy	Premium
14/08/2007	n.a.	2132	1198	3609	n.a.	3573
28/08/2007	950	2132	n.a.	3609	n.a.	3112
11/09/2007	566	2132	1096	3609	953	3112
25/09/2007	566	2132	843	3609	715	3112
9/10/2007	566	2132	721	3609	715	3112
23/10/2007	566	2132	721	3609	715	3112
6/11/2007	566	2132	721	3609	715	3112
20/11/2007	566	2132	721	3609	715	3112
4/12/2007	566	2132	721	3609	715	3112
18/12/2007	566	2132	1311	3609	946	3112
1/01/2008	714	2132	1265	3609	949	3573
15/01/2008	566	2132	1265	3609	835	3573
29/01/2008	595	2132	1265	3609	816	3573
12/02/2008	566	2132	721	3609	715	3573

Fares are based on best available fares

Fares are in euros (€)

Search date: 13 August 2007

In the figures 7.5 and 7.6, we can recognise Oasis at the red line. For the whole period they offer a substantial lower economy class fare than the other carriers, even around Christmas and New Year. Only when a passenger books his flight just one or two weeks in advance the fare is almost the same offered by their legacy counterparts.

At premium class level Oasis is continuously cheaper than their legacy competitors. Like the other two analyses, discussion can be started about what frills are offered by each carrier.

Figure 7.5: Fares economy class on route Hong Kong - Vancouver

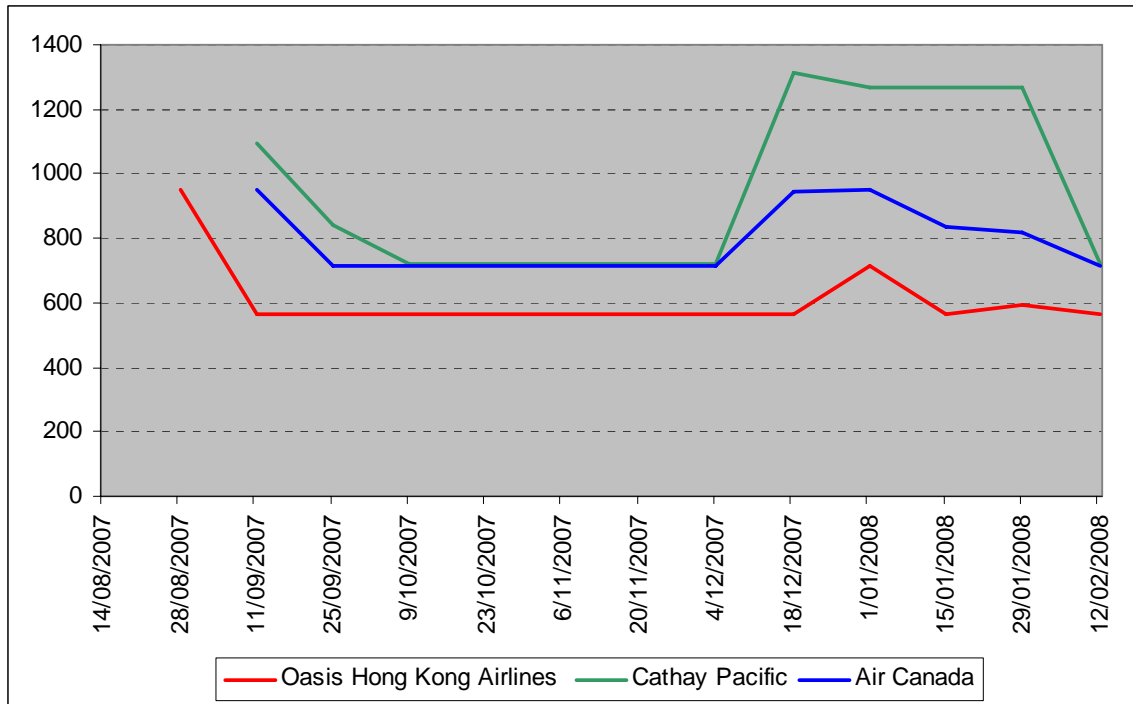
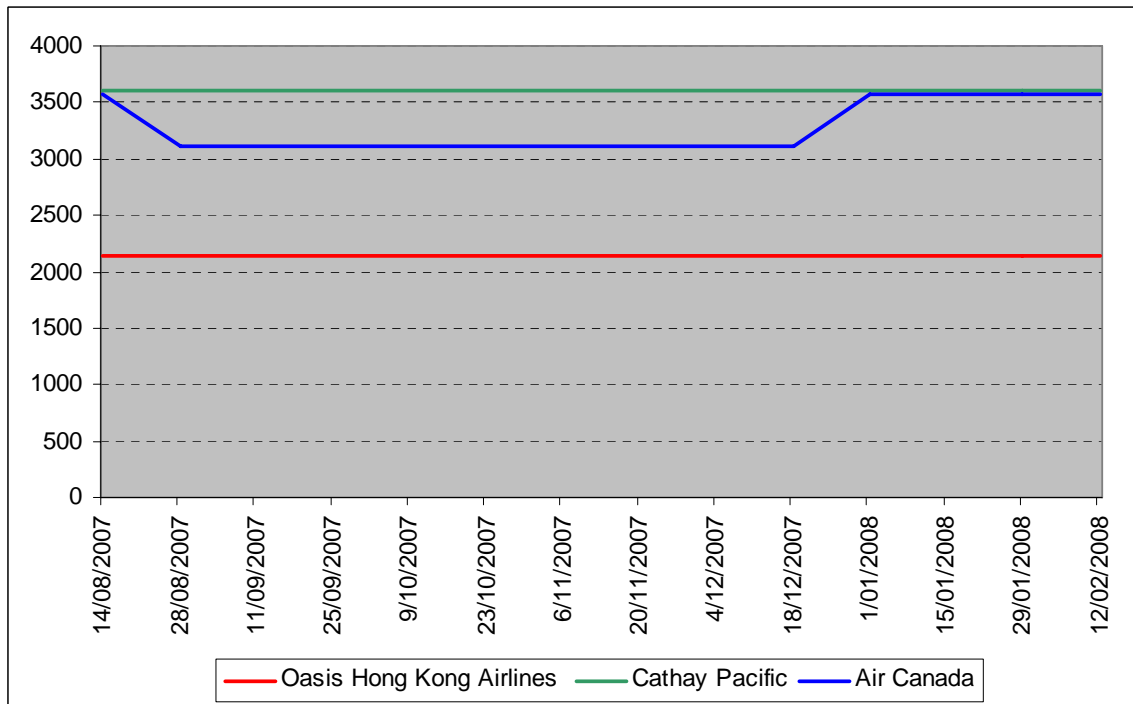


Figure 7.6: Fares premium class on route Hong Kong - Vancouver



7.4 Summary

From the tables and figures in sections 7.1 to 7.3 the conclusion can be drawn that the long-haul low-cost carriers analysed are obviously cheaper than their competitors. Especially in off-peak periods the long-haul low-cost carriers offer substantially lower economy class fares than the other carriers. During peak periods, the story is a bit different. The long-haul low-cost carriers used in the analysis do not look as low-cost as they try to be in these periods. In these examples the Christmas period is an important peak period. Each low-cost carrier offers a bit lower, similar fares or even a bit higher fare than their competitors.

Concerning the business class fares, each long-haul low-cost carrier offers noticeably much lower fares than their legacy counterparts. Discussion can be started about what frills are offered, but looking at section 6.5, the carriers mentioned offer the basic frills that can be expected in business class on long-haul routes. These frills include a larger seat pitch, extended meals and complementary in-flight entertainment. The fares offered by the long-haul low-cost carriers are on certain points about 40 to 50% cheaper than their competitors.

8 Conclusions

This thesis has investigated the question to what extent the low-cost model can be adapted to the long-haul. This was accomplished by the help of thirteen sub-questions. The main conclusion that can be drawn is that long-haul low-cost is not expected to revolutionise the industry as it once did on short-haul. Legacy carriers are well-positioned in the long-haul area, at least compared to the short-haul area. The importance of hub feed, the difficulty of reducing frills on long-haul routes and the good value-for-money on long-haul fares makes it hard for long-haul low-cost entrants to operate.

8.1 Summary and future outlook

After an introduction of the topic of this thesis, a historic overview of the entrance to and impact of the low-cost phenomenon on the air transport industry was given. After deregulation, first in the US and later in Europe, the industry underwent a major shake-up and a lot of new carriers tried their luck in the low-cost world. Demises of many low-cost carriers (People Express) and the introduction of several strategic innovations (for example yield management) by the legacy carriers seemed to lead to the collapse of the low-cost model. It was not until the late 1980s/early 1990s that low-cost carriers were able to re-emerge. They took advantage of surplus capacity produced by fleet expansion and lower demand for air travel.

The pioneer of the low-cost model, Southwest Airlines, was the only major US carrier to make net and operating profits during the period when the US air transport industry experienced a significant downturn in growth and sales revenue. Already starting in 1973 the carrier has been profitable every year since. In chapter 4, the low-cost model used by Southwest Airlines is discussed extensively. Southwest's remarkable growth was achieved through low costs and high efficiency in every aspect of its business. Southwest operates from uncongested (secondary) airports; it reduced or abandoned many frills (it does not offer meals, free alcoholic drinks and in-flight entertainment and there is no pre-assigned seating) and it is operating only a single type of aircraft (B737). Also the European successes of Ryanair and easyJet (with a different low-cost model) are

described in that chapter. Ryanair is characterised by the most 'unbundled' model of all low-cost carriers. Some cost-cutting elements are considered extreme, for example by introducing charges for checked baggage and the 'check-in' charge for checking in at the airport rather than via the Internet. easyJet on the other hand does not necessarily offer the lowest fare on a given route indicating that they focus on maximising yield and gaining greater profit margins per passenger. A main difference between the European carriers is the focus of Ryanair on network expansion and tries to fly as many routes as possible, whereas easyJet focuses on building network density and thereby increase the frequency of its bases.

In chapter 5, an answer is given to the question what differences the low-cost model has with other business models of legacy and charter carriers. Legacy carriers focus mainly on network development. They make use of the hub & spoke system compared to the point-to-point system used by low-cost carriers. Charter carriers operate non-scheduled flights and its main function is to transport passengers to popular holiday destinations. The charter model can be characterised by a combination of large aircraft, longer flights on average than their counterparts, high load factors and great aircraft and crew utilisation. The low-cost revolution needed a reaction from both models. The legacy carriers removed several frills (free food and newspapers) on short-haul flights and automated several aspects of the travel process (promotion of the online booking system). Charter carriers responded by moving to routes that are not served by low-cost carriers and were expanding and reorganising their long-haul routes.

Low-cost carriers have also had a significant impact on the development of existing and new airports. Hubs built new terminals especially for low-cost carriers and regional airports have transformed in a provider of regular international flights. The low airport charges, the low congestion and the shorter walking distances and waiting times for check-in, baggage etc. are a big advantage of secondary airports and therefore for low-cost carriers. However, these airports are usually further away from city centres, so passengers need to undertake a longer journey from the airport to the city centres.

From chapter 6 on, I start discussing about the adaptation of the low-cost model to the long-haul. Currently, long-haul operations are for a large part done by the legacy carriers. In Europe, this has been done from a small number of airports. Five European hubs account for 50% of long-haul seat capacity. Major legacy carriers have built up impressive networks from these hubs. However, because major hub airports are suffering capacity constraints and limits on development, greater use of smaller (secondary) airports will be necessary, since the forecasted level of growth cannot be accommodated at major hub airports and by the legacy carriers only. From a customer side, there is demand to operate more point-to-point on the long-haul and to more and other destinations. This will not only be achieved by the legacy carriers, but also by other models. Besides the low-cost variant (price-specialist), the network- (corporate shuttle service) and the product-specialist (offering all-business class flights) arrived.

The long-haul low-cost model has been a recent phenomenon. For a long time there has been a large scepticism and the general thought was that the low-cost model could only be sustained on short-haul routes and that any chance of no-frills flights on long-haul routes would not be possible. Some key elements of the low-cost carrier business model either cannot be implemented on the long-haul (higher daily fleet utilisation, lower personnel costs in avoiding accommodation) or are of relatively less importance because of a difference in cost structure between short- and long-haul carriers (impact of discounted airport charges and abandonment of amenities such as lounges is much smaller on long-haul flights as fuel, personnel and capital costs are responsible for a larger share of total costs) (Ionides, 2006). In addition, as airport costs are only a small proportion of the total costs for long-haul flights, there is a stronger argument for remaining at hub airports since there is more demand and potential feeder traffic. 'Low-cost airports' like London Stansted and Berlin Schönefeld are potentially interesting to be used for 'do-it-yourself' feeder service (Francis et. al, 2007). Furthermore, on the short-haul, low-cost carriers were able to reduce or completely abandon the frills, but long-haul requires additional comfort and service to keep passengers happy.

However, there are some opportunities for long-haul low-cost. Online ticketing, the technological development of aircraft and a large reduction of labour costs that can be achieved, are elements that are ready for adjustment. Also the increased long-haul activity from secondary airports and the increased propensity to fly by the leisure segment (especially the visiting friends & relatives segment) are opportunities to gain market share using this model. Because hub-airports get congested and new carriers have difficulties to obtain slots, they are forced to use other airports. Passengers of the leisure segment are less sensitive to frequency and do less care than business passengers when frills are reduced. Another opportunity is to code-share or other form of cooperation between long-haul low-cost carriers. A new long-haul low-cost entrant does not have to achieve a large impact on the market to be successful; they can already gain success by hurting the established legacy carriers.

There are already some carriers which are indeed confident this model will work. Five of them (Oasis Hong Kong Airlines, Jetstar, Zoom Airlines, Viva Macau and AirAsia X) are analysed in this thesis. They all offer lower fares than their competitors, but that does not mean there are no frills. All long-haul low-cost carriers mentioned offer two classes, whereby passengers get a generous seat pitch, free meals and a choice of in-flight entertainment. There are also many differences between these carriers. The route distribution, the number and type of airports operated, the type of aircraft and the use of cargo are all examples of elements where there is a distinction between the carriers.

A fare analysis has been done in chapter 7 on three routes where long-haul low-cost carriers are operating to prove if they are (significantly and obviously) cheaper than their competitors. The cases analysed all show that these long-haul low-cost carriers offer a discounted economy class fare as well as a higher-priced business class fare that is still a lot cheaper than their legacy competitors.

Looking at the near future, the distinction between the low-cost carrier model and the other models is becoming vaguer since each model is adopting elements of the others'. The new low-cost carriers, especially that are operating long-haul, are offering amenities

to passengers who are willing to pay for the extra comfort. The traditional low-cost model seems to be abandoned and several carriers introduced new services. The new long-haul low-cost carriers analysed in this thesis are generally breaking away from the low-cost model in terms of premium cabin and feeder traffic. Further reduction of costs on the long-haul is limited. Yet, opportunities for long-haul low-cost carriers do exist but only if the carriers identify the right market, operate on high demand routes and have a low-cost philosophy. People are now more sophisticated, they are comfortable buying point-to-point tickets. Long-haul low-cost operations can be launched only on routes where there is dense enough existing traffic to guarantee high passenger volumes. In other words, if a market is sufficiently dense, a low-cost carrier can fill its flight with local passengers. However, the trade-off between a lower fare and the reduction of services must be continuously analysed.

8.2 Contribution of this thesis and directions for future research

This thesis adds to the literature in three ways. First, the thesis shows a brief but complete history of the entrance, development and impact of the low-cost phenomenon to the air transport industry. Second, in my opinion, this has been one of the first academic contributions about the topic of long-haul low-cost. Until now, there has been not much written about this topic, besides some (short) articles in papers and (air transport) magazines. Third, this thesis has done a fare-analysis to prove if these new long-haul low-cost carriers offer cheaper fares than their competitors. It seems, they do.

Other interesting issues for research include studies to other long-haul business models including the network- (corporate shuttle service) and the product-specialist (offering all-business class flights) variants. This could be done the same way this thesis is done by looking at the differences between those models and the business models used by other carriers in terms of product features, routes, fares etc. After deregulation and the entrance of new business models, passengers are given an increased choice of carriers, fare and frequency. The author hopes that this thesis has provided a decent overview of the long-haul low-cost development in the air transport industry.

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Appendices

Appendix A - Freedoms of the air

First Freedom	The right to fly across the territory of a foreign country.
Second Freedom	The right to land in a foreign country for technical or non-traffic purposes, such as for re-fuelling or maintenance.
Third Freedom	The right to deplane traffic in a foreign country that was enplaned in the home country of the carrier.
Fourth Freedom	The right to enplane traffic in the foreign country that is bound for the home country of the carrier.
Fifth Freedom	The right to enplane traffic at one foreign point and deplane it in another foreign point as part of continuous operation also serving the carrier's homeland.
Sixth Freedom	This term is applied to Fifth Freedom traffic carried from a point of origin in one foreign country to a point of destination in another foreign country via the home country of the carrier.
Seventh Freedom	This term is applied to a carrier's operating turn around service and carrying traffic between points in two foreign countries without serving its home country.
Eighth Freedom	This term is used to refer to "consecutive or fill-up" cabotage in which a carrier picks up traffic at one point in a foreign country and deplanes it at another point in that same foreign country as part of a service from the home country of the carrier.
Ninth Freedom	A carrier of one country operates flights and carries traffic solely between two points in a foreign country (stand alone cabotage).

Source: ICAO (www.icao.com) (2007)

Appendix B - Low-cost carriers: examples from each continent

North America - JetBlue

Although operating a single-economy class only, JetBlue can almost be described as offering a business class product (Alamdari & Fagan, 2005). Founded in 2000, JetBlue Airways was ahead of competition and it turned profit within 6 months of operations. It attracted media and investor attention from the outset. With \$130 million it became USA's best capitalised start-up and the favourite of flyers and investors (Airline Business, 2007).

JetBlue deviates from the original low-cost model by operating point-to-point (no interlining and baggage transferring) to and from major airports. JetBlue does not set a maximum flight duration as it offers several direct coast-to-coast services (>5 hours). It claimed to be 'New-York's new hometown carrier', establishing its base at New York's JFK airport (Lawton, 2002). JFK was chosen above New York's other airports due to its under-utilisation during most hours of the day and because of its heavy proportion of international flights (Shifrin, 2000). Another reason was the appeal of the New York metropolitan area with around 18 million highly mobile people. Added to this is New York's attraction as a business and tourist destination for people of many other regions and countries throughout the world (Lawton, 2002).

Their in-flight service can hardly be described as no-frills. JetBlue has leather seats throughout the cabin with at least 32-inch seat pitch (compared to 28-inch at Southwest) with pre-assigned seating and larger overhead bins. It offers complementary soft drinks/snacks and free satellite television for each seat (Alamdari & Fagan, 2005). It has a number of fares on each route: 14 day or 7 day advance booking (with peak and off-peak) and a more expensive fare that can be purchased on the day of departure (Lawton, 2002). The carrier aims to attract frequent flyer business passengers and convenience conscious leisure travellers. To create brand loyalty, JetBlue has its frequent flyer

programme (Trueblue), which gives out a free roundtrip ticket after purchasing a certain amount of roundtrip tickets (Gillen & Taweelertkunthon, 2006).

JetBlue uses a young uniform fleet of Airbus A320's. Its management team decided to operate with A320's rather than B737's for several reasons: first, it allowed for 24 more passengers than the B737; second, it also offered more legroom for passengers than competing economy class cabins; third, it burns less fuel than the certain types of the B737. The carrier is concerned with efficiency: turnaround time is 30 minutes (compared to the 20 minutes of Southwest). All flight and ground crew are taught the 'one-minute rule': between the time the last passenger disembarks and the first passenger boards for the next flight, the carrier expects there to be just one minute (Shifrin, 2000).

Until last winter, the carrier had been profitable in every subsequent quarter and year, but after JetBlue left 130.000 passengers stranded at its New York JFK hub for hours during a bad Valentine's Day failure. JetBlue posted a \$22 million first quarter loss in 2007 (Airline Business, 2007).

North America – AirTran

AirTran Airways emerged from the demise of ValuJet, which went out of business after an airplane crash in Florida resulting in the loss of 110 lives. Using funds acquired in the pre-crash public flotation of ValuJet, management bought the failing AirTran Airways and adopted this name for the organisation (Lawton, 2002). The carrier's hub is at Hartsfield - Jackson Atlanta International Airport, the world's busiest airport by passenger volume, where it is the second largest carrier. AirTran is the world's largest operator of the Boeing 717. The carrier recently added the Boeing 737-700 aircraft, one of the most fuel efficient and environmentally friendly aircraft flying today, to its fleet (AirTran, 2007).

AirTran distinguishes itself from other US low-cost carriers in this way, that it offers a business class service together with its economy class service (Alamdari & Fagan, 2005). Because of this service, AirTran was named the best low fare carrier for the fifth time by

Entrepreneur magazine in 2006 (AirTran, 2007). AirTran tries to be both a low-cost and high quality service provider. To reach that goal, AirTran offers advanced seat assignments, a frequent flyer programme, full participation in travel agents via Global Distribution Systems (Lawton, 2002) and adopted a mixed airport strategy by primarily serving secondary airports, but also serve many other prime destinations (Alamdari & Fagan, 2005).

Europe - Air Berlin

Air Berlin is ranked third today among Europe's low-cost carriers after Ryanair and easyJet. Founded already in 1978, the vision was to offer inexpensive flights to and from Berlin. On April 29, 1979 Air Berlin started its first operation from Berlin Tegel airport to Palma de Mallorca, capital city of the most popular island for holiday Germans (Kirsch, 2005). Originally, Air Berlin was a full charter carrier offering the traditional holiday package through travel agents, but after deregulation, the carrier took advantage of its new freedom and started to sell seat-only tickets to individual customers (Burghouwt, 2007).

The new strategy was to bring customers closer to their holiday. It differentiated itself from competitors by flying directly to popular holiday destinations even from smaller German airports (Kirsch, 2005). Its network was characterized by a strong north-south orientation, connecting the sunshine resorts with destinations in northern Europe (Burghouwt, 2007). Air Berlin regularly serves various major holiday destinations on the Mediterranean coast, as well as in the Canary Islands, Portugal and North Africa.

In 2002, the carrier deviated from the north-south network pattern and introduced a low-cost City Shuttle. This service connects German airports with major European cities like Amsterdam, Barcelona, London-Stansted, Madrid, Paris, Rome, Vienna and Zurich (Air Berlin, 2007). The City Shuttle includes routes from one of its hubs Mallorca to Madrid, Barcelona, Alicante etc. These services were concentrated in outgoing waves for connecting passengers from and to local German airports (Burghouwt, 2007).

Air Berlin does not operate with a pure low-cost carrier model: instead of just point-to-point service, Air Berlin offers guaranteed connections via its hubs. The carrier also offers free services including in-flight meals and drinks, newspapers on board, assigned seating and a frequent flyer program. Its fleet consists mostly of a mix between Boeing 737's and Airbus A320's. In this way, it gives the carrier more flexibility in negotiating with the two aircraft builders (Kirsch, 2005).

In April 2007 Air Berlin made a long-haul move by acquiring German leisure carrier LTU. With this move they are reacting to demands from the market and the deal gives Air Berlin a long-haul network (Airline Business, 2007). The necessary feeder network through the European and domestic German connections is a large advantage.

Asia – AirAsia

In Asia, the low-cost phenomenon is in its infancy, but it is growing rapidly particularly in Southeast Asia (SEA) (Gillen & Taweelertkunthon, 2006). Asia has a massive population (>3.4 billion people) with a rising middle class and a growing propensity for travel. Also the geography of various Asian countries is an incentive for people to travel by air since alternative transportation modes are limited. But setting up a low-cost carrier has been doubted for a long time since the average domestic and intra-Asian fares of legacy carriers were already very price competitive compared to the situation in Europe and the US. Asian legacy carriers already possess lower operating cost structures; their network and fleet structures allow them to achieve a lower cost per seat than their European or North-American legacy counterparts (Lawton & Solomko, 2005). The new Asian low-cost carriers also face more competition, because on some low-cost carrier's target routes about a dozen other carriers operate, although in Europe and US it's only two or three (Gillen & Taweelertkunthon, 2006). But some low-carriers challenged general thought and adapted the low-cost model. The one that has been the most prominent and successful pioneer in Asia, is AirAsia.

Launched originally as a subsidiary of Malaysian Airlines, AirAsia was re-launched as a private company by Tony Fernandes in December 2001. AirAsia uses innovative cost

optimising methods such as quicker turnaround times and maximising flight utilisation while continuing to maintain the most important elements of safety, service and schedules (Goh, 2005). It places equal emphasis on brand reputation, customer service and people management. The carrier pursues a Ryanair operational strategy, a Southwest people strategy and an easyJet branding strategy (Lawton & Solomko, 2005).

One-way fares are based on demand and supply and fares increase as seats are sold on every flight. It operates point-to-point services and no interlining or baggage transferring is possible. There are no complimentary meals or drinks, but passengers have the opportunity to purchase a variety of food and drinks on board. Similarly to the other low-cost carriers, AirAsia concentrates on just one aircraft type, the Boeing 737-300's (Goh, 2005). All seats are not pre-assigned. It does not operate a frequent flyer programme and it focuses on high flight frequency. Aircraft turnaround is about 25 minutes and its aircraft utilisation rate is 13 hours a day (O'Connell & Williams, 2005).

AirAsia would rather lower the cost of travel for everybody. It has moved into new-Asian markets, such as Thailand (by developing a franchise under the brand name 'Thai AirAsia') and Indonesia (O'Connell & Williams, 2005). Direct sales through website and call-centre are used to cut costs. In 2003, AirAsia became the first carrier in the world to introduce SMS booking where passengers can book their seats and check scheduled flights (AirAsia, 2007). It both focuses on building network density and rapid network expansion. Corporate culture is encouraged and customer service is professional and friendly. Load factor is maximised, but yield management is also taken into account.

Recently, AirAsia started a new long-haul low-cost carrier, called AirAsia X¹¹.

Australia - Virgin Blue

Also the Australian market has been favourable of low-cost entry. The Australian domestic market was deregulated in 1990, but the legacy carriers acting in a duopoly,

¹¹ More info elsewhere in section 6.5.5.

Qantas and Ansett, were not troubled by the new entrants following. Entrants had problems in obtaining finance and access to facilities such as terminals (Forsyth, 2003). A second entry phase started in 2000 and soon Virgin Blue, subsidiary of the Virgin group, entered. The timing of Virgin Blue's entry into the Australian market was fortunate as it was able to fill the gap created by the failure of Ansett in September 2001. Ansett's failure allowed Virgin Blue to grow rapidly to become Australia's second domestic carrier, rather than just a cut-price alternative to the established players. It also gave them access to terminal space without which growth would have been significantly limited.

The Australian market consists of a core of high-density links between a small group of large cities, and a few of other routes (Forsyth, 2003). The carrier's strategy is focused on underserved markets away from crowded and slot constrained airports and where there is traffic growth potential (Lawton, 2002). The carrier offers high daily frequency services on the Brisbane-Melbourne-Sydney triangle. The second phase of entry did not have a large impact on fares. Lower fares have become more readily available, but the legacy carrier (Qantas) had been serving the domestic market reasonably well before new carriers entered (Forsyth, 2003). Virgin Blue operates with fares which are sensitive to the load position of the flight. It uses a similar formula like Southwest Airlines and Ryanair, eliminating costs such as in-flight meals and drinks, avoiding a frequent flyer programme and operating one type of aircraft (Boeing 737). It has shorter turnaround times and Internet is used to sell tickets (Australians have very high internet access). The low-cost carrier has been able to have more productive working agreements with their staff and sometimes pay lower wages (Forsyth, 2003). Australia has returned to a duopoly status in the national market, but the market is now divided between a legacy carrier, Qantas, and a low-cost carrier, Virgin Blue (Lawton, 2002).

Recently, Virgin Blue proceeded with plans for a new intercontinental carrier, V Australia. It will offer non-stop returns from Australia across the Pacific to the underserved west coast of the US, starting in the last quarter of 2008. Jetstar¹², a daughter carrier of Qantas, will do the same to Europe next year (Herald Sun, 2007).

¹² Jetstar has been described in section 6.5.2.

Africa - Kulula

The low-cost phenomenon is also slowly emerging in the other parts of the world, Africa and South-America. A domestic South-African discount carrier, Kulula was launched by Comair, a British Airways' South African franchise carrier. It aimed at passengers who until now could not afford to fly and previously used ground transport (Birns, 2001). Kulula does not offer in-flight service, food, business class, pre-assigned seating, frequent flyer programme, flight changes or refunds for cancellations. Most bookings are taken directly, via telephone or Internet (Lawton, 2002). The carrier has expanded the last few years. It already sells tickets on Comair's BA-coded flights and on other African carriers including Zambian Airways. The carrier is now studying several potential long-haul routes including United Kingdom, China, the Indian subcontinent, the Middle East and North America (Airline Business, 2007).

South America - Gol

The South American region is the last area where low-cost carriers emerged. The most notable carrier is Brazilians Gol Transportes Aéreos, launched in 2001. The deregulation of the Brazilian market that took place in the 1990's enabled the creation of this new low-cost-carrier. Despite launched during one of the worst years ever for the Brazilian industry, the new carrier performed better than most (Lawton, 2002). Gol uses the standard low-cost model, although there are some numerous variations (Evangelho et. al, 2005). Gol departs in pre-assigned seats and in higher relative tariffs compared to the local legacy carriers. Because of the country's geography, it operates some long distance routes. This reduces aircraft rotation. The lack of competitive secondary airports forces Gol to use the same airports as its competitors. In this way, they cannot profit from lower airport charges, quicker turnaround times and less congestion.

However, there are also many similarities. Its in-flight service is limited to serving snacks and sodas. It uses a single type of aircraft (Boeing 737) and distribution is not always based on travel agents with commission payments. Gol pays a wage above the local market average, but it is not the best wage though. It offers though participation in

profits, besides motivating employees through its informal environment and workplace (Evangelho et. al, 2005). The carrier also strives, like Ryanair, to outsource operations as much as possible.