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## DEVELOPMENT OF PASSENGER AIR CARRIERS

### ABSTRACT

The work presents the development of carriers in passenger air traffic, and the focus is on the development and operations of carriers in chartered passenger transport. After the Second World War, there were only scheduled air carriers. The need for mass transport of tourists resulted in the development of charter carriers or usage of scheduled carriers under different commercial conditions acceptable for tourism. Eventually also low-cost carriers appeared and they realize an increasing share in the passenger transport especially in the aviation developed countries.

### KEY WORDS

development, air carriers, air transport, low-cost carriers, charter carriers, conventional carriers

### 1. INTRODUCTION

Basically, three different operation models in passenger air transport can be differentiated. The first are conventional air carriers which include national flag carriers and all the other carriers whose main activity includes regular passenger and cargo transport in domestic and international traffic. Such carriers are mostly oriented to the construction of the destination network, either by means of a large number of direct flights, or by connecting the destinations via one or several central airports. They are oriented to all the market segments in passenger transport, from highly profitable business passengers to low-paying but at the same time numerous tourists. The nature of their operation makes them extremely expensive and the prices of their services high, Table 1.

Apart from this operation model there are two more, but their operation method is significantly different from the conventional carriers and the service prices far more favourable. The older model of the two is the model of charter air carriers. These carriers experienced their greatest expansion in the sixties and the seventies of the last century in Europe and North America, partly because this type of air traffic was more liberally regulated than scheduled air traffic.

The third and latest operation model are the low-cost carriers. They offer a different product and marketing strategy of the charter carriers, although the core of the idea has remained the same: to provide the passengers with inexpensive service. This model has been successfully implemented in the domestic traffic within the USA, from as early as 1978. This was most contributed by the US carrier Southwest Airlines. This model was transferred to Europe in the middle of the nineties, with the pioneers of this model being the carriers EasyJet, Ryanair and Go.

**Table 1: Fares of scheduled carriers and costs of charter transport on the relation London-Athens, July-September 1990 [1]**

	Return ticket price (GBP)	Relation of prices (excursion=100)
<i>Scheduled transport<sup>A</sup> – free sales</i>		
<b>No restrictions:</b>		
Club/ Business class	848	236
Eurobudget	758	211
<b>Restrictions<sup>B</sup>:</b>		
Excursion	359	100
In-advance sales		
Weekend (K class)	287	80
Workday (K)	267	74
Weekend (M class)	246	69
Workday (M)	222	62
<i>Scheduled – for agents</i>		
Average fare in package arrangements	150	42
<i>Charter transport – cost per passenger<sup>C</sup></i>		
Friday (day)	133	37
Tuesday (day)	130	36
Tuesday (night)	110	31

## Notes:

- A – Olympic and British Airways. Low-cost carrier easyJet is offering a return ticket in the range from about 100 GBP to about 300 GBP.
- B – Restrictions vary but include staying at the destination during weekend (Saturday night), impossibility to change the reservation, payment at time of reservation, etc.
- C – Charter cost is based on the up to 90% occupancy.

## 2. SHARE OF CHARTER TRANSPORT IN WORLD MARKET

About 13% of international passenger traffic, considering in passenger-km (pkm), in aviation was realized on charter flights, which includes also charter flights performed by conventional air carriers [2, 3]. This great success of charter operations is certainly most contributed by the prices of the offered service. A certain number of low-tariff seats is offered also on scheduled flights, but the number of these seats is very restricted, especially during the high-demand period, and such low-tariff seats are usually sold as part of tourist arrangements, and thus unavailable to public. Low-cost carriers also have multi-tariff system of selling the tickets, so that the fare can be three times more expensive in the high-demand period, e. g. in summer, than in the low-demand period, except of course if the ticket for a certain flight is bought even several months in advance.

It is precisely this capability of maintaining low transport prices even during the high-demand period, which made it possible for the carriers to take over somewhere between one third and a half of the international traffic within EU [1], which is at the same time the most important world charter market.

## 3. CHARTER AIR CARRIERS

The international charter passenger traffic is dominated by specialized carriers in private ownership or in the ownership of major conventional carriers. However, a certain part of charter flights was performed by the carriers who are primarily conventional carriers. These carriers thus employ the excess of their capacities, and increase their economic efficiency. Some charter carriers are extremely big, with levels of transported passengers which exceed many national carriers. The biggest of them, German Condor and British Britannia Airways, each separately generated more passenger kilometres in international traffic in 2000 than any conventional carrier in South America or Africa, even more than SAS in Europe.

There are many charter airlines that are based in the tourist countries, which are receptive destinations, such as Furture in Spain or Pegasus in Turkey. The primary activity of these carriers is charter flights to

their home-countries, that is, imission of passenger traffic. A good example is a Croatian charter carrier Air Adriatic.

Still, all the big charter carriers have developed in the North European countries, which are a large emission market, and this mainly refers to Germany and Great Britain.

The charter industry is becoming extremely concentrated. Whereas in 1987 five of the biggest charter carriers produced 24% of total world international charter traffic, the number rose to 35% in 2000. Twenty strongest charter carriers control over 80% of the charter market, and due to constant merging into groups among carriers, i. e. horizontal market integration, it follows that five of the leading ones control over half of the market [1].

Today's charter fleets are modern and relatively new, and the usage trend of the old and used aircraft for charter operations has been mainly abandoned.

## 4. SECRET OF SUCCESS

Successful operation of charter air carriers has always been accompanied by some kind of lack of understanding. A question is raised, how is it possible that charter carriers, on the same routes, using approximately the same aircraft as conventional carriers, which means with approximately the same direct operative costs, offer even up to 70% lower prices. This question has been partly answered by the low-cost carriers, but the charter carriers, primarily the European ones, still manage to resist the competition and remain profitable at times when there are very few who manage to do that.

In order to understand how charter carriers manage to offer such low prices for their services and at the same time remain profitable, it is necessary to study in detail the structure of the charter service costs, and to compare it to the service costs of the conventional air carriers. There are several indicative parameters that need to be focused on during the comparison, and these are the direct and indirect operative costs, number of aircraft seats, and the passenger cabin occupancy factor. In order to get the right picture of the relation in the structure of costs, one should consider the carriers who operate on the same routes and use similar aircraft.

### 4.1. Direct operative costs

Direct operative costs include all the costs related to and dependent on the type of aircraft which is used and which would change if the type of operating aircraft were changed. Basically, direct operative costs consist of the flight operation costs, maintenance costs and costs of aircraft depreciation.

The flight operation costs are without doubt the highest individual element of direct operative costs. In the first place these costs are related to the flight crew, their incomes, per diem allowances, bonuses etc. Charter carriers in this category do not realize any special advantage. Although traditionally the pilots' incomes by conventional carriers are higher, recently, the lack of pilots on the labour market has contributed to the balancing of these values.

Fuel price is another major part of direct operative costs. Here, definitely, no major differences between the prices paid by carriers should exist. The better price that the carriers can achieve depend little on the type of service they offer or the competition of the fuel suppliers at a certain airport, depending only on the amount of fuel purchased by the carriers.

Navigation fees paid by the carriers during the usage of air traffic control service as well as ground navigation instruments are equal for all the carriers, if they use similar aircraft on the same routes. The factor of saving achieved by the charter carriers, using the less expensive airports especially in their home countries, lies in the airport fees. These are not great savings, but considered over a longer period of time, the advantage is obvious (Table 2).

**Table 2: Landing fees at airports in London in 2000, for Boeing 737-400 [1]**

Airport	Landing fee GBP
Heathrow	1127
Gatwick	827 *

\* Note: after 1600 h, outside maximum demand period, fees are reduced even to 342 GBP, and charter airlines use these reductions, especially on night flights.

The maintenance costs for the same aircraft are almost the same, for all carriers who use similar aircraft.

The insurance costs are only a small part of total costs, and large carriers can achieve very good prices with insurance agencies, regardless of whether it refers to charter or conventional carriers.

The depreciation costs per hour of aircraft flight would be the same if charter and conventional carriers had the same number of aircraft utilisation hours during one day. However, this is not so. During the summer months or high-demand periods, charter carriers have far greater time utilisation of aircraft. With the same type of aircraft they fly on the average longer routes. Similarly, the conventional carriers are limited by take-off and landing times, since their passengers do not want to travel at night, leave early in the morning or arrive late at night. Charter passengers are much more liberal regarding departure and arrival times, primarily due to the price of service they pay, and also since arrangements that include departure and arrival during night are cheaper than those during

day. This allows charter carriers to plan during a single day (24 hours) up to three rotations on two- to three-hour long flight routes, whereas for such routes a conventional carrier plans a maximum of two rotations.

The aircraft utilisation by charter carriers during winter months can be reduced even below the one by conventional carriers, but this is fully compensated by high aircraft utilisation during peak-demand period, that is in summer. During low-demand periods some carriers have the possibility to lease their aircraft to other carriers in another part of the world who are then faced by high demand, and thus can increase the aircraft utilisation. The introduction of new and economical, long- and mid-range aircraft, such as Boeing 767-ER and A310-300 has opened the possibilities of introducing long-haul charter flights, with the demand being the highest during periods of European winter. These aircraft are used by European charter carriers also on the Mediterranean routes during peak-demand in summer months, thus contributing to greater cost efficiency due to the large number of seats.

Eventually, charter carriers feature 50% better annual aircraft utilisation (Table 3), as well as one third lower depreciation costs.

**Table 3: Aircraft flight time for scheduled and charter transport in Great Britain, 2003. [4]**

Airline	Average daily utilisation, in hours, per aircraft type	
	Boeing 757	Airbus 320
Mostly scheduled transport:		
British Airways	7.0	8.0
British Midland	–	8.6
Only charter transport:		
First Choice Airways	11.5	9.1
My Travel Airways UK	9.5	11.7
Britannia	10.1	–
Monarch	9.8	8.1

Charter carriers realise some advantages in relation to conventional carriers in case of direct operative costs. This is primarily the daily aircraft utilisation which reduces the price of aircraft depreciation per flight time, and lower fees at airports used by charter carriers.

#### 4.2. Indirect operative costs

Indirect operative costs are all those costs that do not directly depend on the type of aircraft used, which means that in the case that the type of aircraft is

changed, they would remain approximately the same. Indirect operative costs are related to passengers and goods that are carried, type of service provided and general administrative costs. It is precisely these costs which make the biggest difference between charter and conventional carriers.

The costs of ground stations at airports used by carriers are much lower for charter carriers than for conventional carriers. Primarily due to the fact that charter operation in this respect is simpler and has very marked seasonal character. Charter carriers do not have the requirement for permanently employed staff, offices, business passenger lounges and other equipment that the majority of conventional carriers own at airports to which they fly. Charter carriers usually seize the tactics of subcontracting others to do passenger and aircraft handling for them. This may seem expensive when cost per one flight is considered; however, when a period of one year is considered, due to strong seasonal character of charter operations, the advantage is obvious.

Charter carriers realize great savings in services provided to passengers. The service on the aircraft is not so much poor in quality, but it is certainly simpler and less expensive. They use also fewer members of cabin crew per flight than is the case in conventional carriers. Mostly, these cabin crew members are paid less than cabin crew members of conventional carriers. Cabin crew of charter carriers usually have higher commission from the products sold during flight, which gives additional stimulation, thus increasing also the total sales. This source of income is of great significance for the crews as well as for the carriers themselves.

Better planning of aircraft rotation also results in higher savings, primarily since charter carriers are not limited by take-off and landing times which are adequate for highly profitable business passengers, which means that they can extend their operations to almost the entire day (24 hours) in compliance with the working hours of the airports to which they fly. In this way they mainly avoid paying for aircraft and crew overnight stays, hotels, per diem allowances, aircraft parking fees, etc.

Charter carriers also have no obligation towards the passengers who connect to flights to farther destinations. Charter operations in the majority of cases are based on the principle of "point-to-point" transport. The exception here are the German carriers who have the tendency to use one airport as the home airport and to connect the tourist destinations with other major German cities through them.

This means that in case a passenger, due to the delay of the first aircraft does not manage to catch the connecting flight, the carrier is fully liable, covering the expenses of food, even accommodation while the

passenger is waiting for the next flight. Here again, charter carriers successfully avoid such situations and realize savings.

Still, the greatest saving, considering indirect costs, is realized by charter carriers in the area of distribution and promotion of their capacities. For the distribution of their capacities the charter carriers do not use global computerized reservation systems (GDS, CRS) but rather sell them to one or several tour-operators who sell them later as part of package arrangements to end users, i. e. passengers. Sometimes, charter carriers sell their capacities outside package arrangements, as separate seats on certain flights, but still via tourist agencies or directly via the Internet. In this way, charter carriers pass a great majority of costs related to reservations and ticket issuing to tourist agencies, whereas conventional carriers spend from \$7 to \$13 on issuing each air ticket. Conventional carriers also have other costs that are successfully avoided by charter carriers. These are tourist agency commissions. This commissions accounted for 11.6% of operative costs of British Airways for the business year 1999/2000 [1], which clearly shows the volume and importance of this saving. Besides, charter carriers do not have branch offices where they could sell air tickets, nor do they employ staff that would sell them. Charter carriers do not sell their service to the passengers, but this is performed by tour-operators and agencies.

The amounts spent by charter carriers on the promotion are almost ridiculously low when compared to the costs of conventional carriers. The latter spend a lot of means so as to convince the passengers that they would be their right choice for air travelling, whereas passengers who travel by charter flights usually do not even know what airline they are flying with. They only know where they are travelling to and what tourist agency is taking them. Annual costs of charter carriers for these purposes can probably be reduced to several business lunches and meetings with the primary lessee of charter capacities.

Regarding indirect operative costs, almost all economic indicators are in favour of charter carriers, and the consequence is that indirect operative costs can be halved, provided carriers operate on the same routes.

Great savings in indirect costs in combination with minor savings on direct costs indicate that, if similar aircraft are used on the same routes, charter carriers can have from 20 to 30% lower costs than the conventional ones. But this is far from enough in order to understand how charter carriers can have such low tariffs compared to conventional carriers. However, initial advantage from 20 to 30% is increased by two further factors, high seat density on aircraft and high occupancy percentage thereof.

### 4.3. Seat arrangement density on aircraft

The increase in the number of passenger seats in the aircraft is realized by charter carriers in several ways. Primarily, charter carriers do not offer business class service which reduces the number of possible seats on the aircraft since it requires larger leg-room and fewer seats in one row. Conventional carriers have tried to find a compromise solution here by introducing convertible seats, which convert as necessary the six seats of economy class into five or four seats of the business class. This possibility of modifying the passenger cabin layout has increased the flexibility of conventional carriers in adjusting their offer to the market demand, but still not to such an extent that it could compensate the advantages of charter carriers in this respect. Furthermore, in order to optimize the number of seats on the aircraft, charter carriers reduce the pitch even up to 29 inches (73.66 cm - measured from the backrest of a seat in one row to the backrest of the seat in front). On widebodies, they add one additional seat in a row, e. g. ten instead of nine seats abreast on aircraft MD-11. The number of toilets is also reduced, as well as the number and size of the galleys. The latter is facilitated by the simpler and sparing service on charter flights.

With greater density of passenger seats on an aircraft, the carriers reduce the cost of one seat per travelled kilometre (seat-km costs). As example, the A320 aircraft of the British Airways has a configuration of 149 seats, whereas charter carriers accommodate up to 180 seats in the same aircraft. With such an increase in the number of seats of 20%, charter carriers reduce the seat-km cost even by 17%. The influence of the greater seat density on the business cost-efficiency is even greater in using wide-bodied aircraft where the differences in capacities can reach even up to 30%, and the seat-km cost is reduced by a quarter [1].

### 4.4. High aircraft cabin load factor

This is another parameter which renders charter carriers more economical than the conventional carriers. On short-haul routes within Europe, the passenger cabin load factor is by about 20% higher in case of charter carriers. The highest load factor is achieved by the British charter carriers (over 89%), whereas German charter carriers have somewhat lower load factors since they sell a relatively large part of their capacities on the market as separate passenger seats, Table 4 [1].

Charter carriers have high load factors of the passenger cabins primarily due to the tour-operators and tourist agencies who invest great efforts as well as means to sell their arrangements which include air travel. Vertical integration between the tour-operators

and charter carriers contributes to a great extent in harmonising the hotel accommodation supply with the transport capacities thus insuring high percentage of cabin load factor. This trend is more expressed in Europe than, for instance, in the USA, where it is mainly prevented by anti-monopoly laws. Vertical integration means that both the tour-operator and the carrier are integrated in the same business group. Such vertical integrated carriers fill 80-100% of their capacities through their main tour-operator.

**Table 4: Load factors on international flights, 1999 \* [5, 6, 7]**

Scheduled transport	Seat occupancy in % *	Charter transport	Seat occupancy in % *
Great Britain:			
		Air 2000	91
British Airways	62	Flying Colours	92
		Britannia	90
		Airtours	92
KLM UK	59		
British Midland	62	Monarch	84
Rest of Europe:			
KLM	70	Finnair	88
SAS	59	Hapag Lloyd	84
Lufthansa	64	Condor	82
Finnair	56	Transavia	81
North America, on all routes:			
		Canada 3000	85
		World	66
		Amtran	66

\* Note: Load factors requirements today are significantly different from the constant trend of reducing the prices in air transport. Scheduled carriers have to have load factor of 70-80%, and charter companies about 90% to be profitable.

There are several more characteristics of charter market that significantly influence achieving such high cabin load factors. This is primarily the very limited flexibility in selecting the departure and arrival times. Especially in case of package-arrangements, where passengers may stay for a precisely determined period of time. Passengers are also motivated by reduced prices to travel on less popular days, times or seasons.

The paid-for arrangements that include charter transport are very difficult to cancel or change, except at a certain cost which is then covered by the passenger. Great advantage of charter travel is that in case the tour-operator does not manage to sell a sufficient number of spaces, the flight may be cancelled. Of course, with certain compensation to the carrier,

which is still less than paying for the whole aircraft lease for the particular flight. In this way both parties have gained.

High load factors drastically reduce the price of charter transport per passenger, since the total operative costs of one flight are divided to a much greater number of passengers.

Previous analyses have shown that charter carriers have the initial advantage of 20 to 30% when costs are considered, mainly due to very low indirect operative costs of charter carriers. When the double effect, high seat density in the cabin and higher load factor of a greater number of seats on the aircraft are added, the advantages of charter carriers over the conventional carriers increase drastically. The end result is that the initial advantage of 20 to 30% is transformed into an advantage of 55 up to even more than 65% in the lower total costs.

## 5. FUTURE OF CHARTER TRANSPORT

The air transport market was exposed to continuous changes, especially during the last decade of the last and the beginning of this millennium. Horizontal and vertical integration of the carriers and tour-operators has directly influenced the charter transport market and has made it stronger in many aspects. A great competitor to charter transport are certainly the low-cost carriers whose radical and revolutionary manner of doing business achieve great success. The low-cost carriers have inherited their logic of low costs and simple service precisely from the charter carriers. However, whether the low prices of travel are the only thing that a market expects from a carrier, this is hard to believe. Different types of passengers require different services and their readiness to pay for this differs as well.

Today all three models of air transport coexist on the market of the short-haul routes within Europe. It is unlikely that the future will bring about the disappearance of any of them. However, it is certain that only the strongest, most aggressive and most ready to change will survive. The state regulations protect the stipulated standards, quality level and flight safety, as well as the national flag carriers who sometimes enjoy in too many benefits. The tendency towards sound competition in the European as well as the world sky will place all the market competitors over time in the same position. The USA and Europe have gone the furthest in that respect.

As part of organized, tourist travels, charter air transport depends most on the tourist migrations in the world, and particularly in Europe. The total num-

ber of people travelling continuously is constantly increasing, if unforeseen events are excluded, such as terrorist attacks or epidemics. From this perspective charter carriers and tour-operators do not have to fear for their survival, provided they adapt to the modern market trends. The market of air travel will certainly bring in the future many interesting and exciting changes, but also leave a little space for hesitation and wrong decisions.

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## KLJUČNE RIJEČI

razvoj, zračni prijevoznici, zračni prijevoz, nisko-budžetni prijevoznici, čarter prijevoznici, konvencionalni prijevoznici

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