Charter carriers developed low-cost operations. Development of the long-haul market and greater competition with scheduled airlines has created new challenges. As the pressure to reduce seat-mile costs becomes increasingly significant, how important is it that operators purchase new or used aircraft?

Horses for courses for long-haul charter fleets

Operators of inclusive tours (ITs) and charters have been the pioneers of low-cost operations, and they are continually meeting new challenges. Some of the latest developments include the expansion of the long-haul market and increased competition with scheduled airlines.

Today, all charter airlines base a large part of their business on long-haul markets. However, there is a division between carriers with new aircraft and those with used aircraft having low market values.

The latter is particularly the case with younger airlines that have less established long-haul businesses, although there are exceptions. However, with a wider range of long-haul aircraft than ever before, are there any set rules dictating the purchase of new or used aircraft?

Fleet planning

With the pressure to reduce seat-mile costs, both fleet planning and aircraft choice have become fundamental influences on cost. The largest cost is that of aircraft acquisition or lease rate, which is, in turn, influenced by aircraft choice and annual utilisation. New aircraft can only be justified if the latter is high.

The issue of used versus new aircraft comes down to the balance between cash operating costs and lease or finance charges. The 767-300ER has been the workhorse for long-haul charter operations, although the DC-10-30 and L-1011 are also used in some charter fleets. However, the latter have high fuel, maintenance, flight crew and weight-related charges. Their market value means their lease rates will be much lower than a new 767-300ER. In many cases used aircraft are the only option.

Nevertheless, the high lease rates of new aircraft can be offset by features such as flight crew commonality with other aircraft types. The 757 and 767 are good examples. An airline's ability to have a mixed fleet of 757s and 767s can mean that the number of two-man crews per aircraft is much less than would be required for a DC-10 or L-1011 fleet, both of which have three-man flight crews. Moreover, new aircraft have the added bonus of reliability.

The charter market evolved in Europe and from the UK, in particular. IT airlines should look to the UK's charter airlines for clues on how to develop their operations. But other carriers are not identical, unlike UK airlines, which are all now vertically integrated with tour operators. As a result, UK operators are able to place a high reliance on the volume of business they expect, and in most cases this is relatively large.

767 & A330

Two of the UK's most prominent carriers are Airtours and UK Leisure. Both have operated the 767-300ER for several years. The 767-300ER was the first aircraft to pioneer long-haul charter operations with Etops missions. This was done with new aircraft operated by Britannia in the UK and LTU in Germany.

The 767-300ER was the right aircraft at the right time. Its high-density configuration of 325 seats meant it could accommodate seasonal fluctuations in demand. Its performance meant it still had a long-range capability at this payload. This allowed it to fly all year round between either the UK or Germany and points in the southeast US, Mexico, and the Caribbean. The 767-300ER's list price was also low compared to market values of alternatives, such as the DC-10-30.

Until recently, the 767-300ER was the only real choice. However, the earliest long-haul markets have now grown, and newer markets, such as in the Indian Ocean, have been developed. As a result, the 767-300ER is becoming outgrown.

"We were approaching the end of a lease period on our 767-300s," says Philip Ovenden, managing director of Leisure International Airways. "We leased the 767 at a time when it was the only choice for long-haul operations. The time came to decide what to replace them with. The possibilities were acquiring more 767-300s, the 767-400 or the A330-200. The 767-400 was thrown out because it cannot fly non-stop between Montego Bay and the UK.

"Our 767-300s were originally acquired at substantial lease rates, because there was no competition at the time. The arrival of the A330-200 on the market meant that both airframe and engine manufacturers were prepared to compete hard and so prices came down. The A330-200 eventually won on pure economics," concedes Ovenden.

The A330-200 also beat the 767-400ER in a competition for an order from a leading UK charter airline. "The A330-200 won the competition on the basis of pure economics, since it produced the lowest cost per seat-mile,"says Gene Mashlan, managing director of Airtours. "The A330-200 is a true widebodied aircraft, it can accommodate LD-3 containers, has good overall economics and the right range, speed and field

Condor's fleet of 757/767s only requires five or six two-man flight crews per aircraft, compared to ten three-man crews for every DC-10.

performance. The 767-400's range and field performance disqualified it."

Airtours operates to Australia and across the Atlantic to Florida, Las Vegas and Mexico in the winter. The 767-400 would have suffered a payload restriction on these routes.

Airtours and Leisure International are classic examples of how new aircraft can become a necessity, not a choice. Both carriers are vertically integrated with tour operators, providing enough traffic to generate high aircraft utilisations, and making it economical to buy new aircraft.

Charter carriers with established markets and consistent traffic volumes must typically achieve 4,500 flight hours (FH) per year to justify the high lease rates of new aircraft. With Airtours, Leisure International and other UK operators, such as Monarch and Britannia, the high lease rates for new aircraft will be competitive, since these operators are well-established airlines. High lease rates can also be offset by substantial flight crew commonality with other aircraft, such as the A320 and 757.

Leg room

"One recent development in the long-haul market is the introduction of two classes in the aircraft cabin," says Leisure International's Ovenden. "Monarch and Airtours have introduced a comfort class into their widebodies. This development is because about 50% of complaints from passengers were related to the lack of leg room. The UK market has now reached the stage in which a portion of the traffic is prepared to pay a surcharge for more space. This is despite it being cost conscious."

Airtours' Mashlan notes: "Our comfort class is seven seats abreast with a 35-inch seat pitch in the A330-200. This compares with nine seats abreast and a 29- or 30-inch seat pitch in economy class. We introduced a small comfort class to minimise the impact on seat numbers in the cabin and we have introduced a lower deck loo complex."

DC-10-30

The use of new aircraft is not a necessity for established long-haul charter carriers. UK airline Monarch had already been in the long-haul market for several years with the 757 and A300-600R. When market growth led to an increased use of the 767-300ER, Monarch opted for used aircraft and managed to acquire a DC-10-30 at an attractive rate. The carrier has since placed orders for two A330-200s, which have flight crew commonality with the A320s in its fleet. "We are keeping our DC-10," explains Danny Bernstein, managing director at Monarch. "This is despite A330s being delivered in the spring of 1999. It may seem strange that we are prepared to operate two very small, different fleets of long-haul aircraft of the same size, but no matter how much traffic and what fleet you have, you can never make full use of the last aircraft. That is, if we require three aircraft for the summer season we only need two for the winter. So the third aircraft should be less expensive because it will not achieve the same utilisation as the other two. The A330-200 is four times the price of a used DC-10. The A330-200s therefore have to work hard.

"We already have both A320s and 757s and this allowed us to be choosy about the new types we selected, since either the 767 or A330 would have flight crew commonality with our narrowbody fleet. The DC-10 is still economical and we can live with low utilisation. Even though it requires a totally separate crew complement from the rest of our fleet the low utilisation means it only requires a small number of crews."

While Monarch is keeping the DC-10 to provide fleet flexibility, German airline Condor is making the change from its DC-10-30s to new aircraft. "We serve the Caribbean and South American markets, as well as Florida, Mexico, Thailand, destinations in the Indian Ocean and Las Vegas," says Ulf Handel, fleet development manager at Condor. "We were a 100% owned subsidiary of Lufthansa, but we have now merged and vertically integrated with the large tour operator C&N. Our long-haul fleet is nine 767-300ERs and three DC-10-30s. The DC-10s are too large to fill their quota all year round and we often have to do multiple stops in Germany to fill the aircraft. We can only use them well at times of the year when there is a lot of traffic.

"Our 767s are configured with 24 seats in comfort class and 245 in economy. The economy class has seven abreast seating with 32-inch seat pitch. The DC-10s have 370 all-economy seats

A COMPARISON OF LONG-HAUL CHARTER AIRCRAFT

Aircraft type	767-300ER	767-400ER	A330-200	L-1011-500	DC-10-30	MD-11
Maximum seat numbers	325	375	380	310	370	440
Range nm	5,080	4,500	5,400	5,200	5,000	5,6000
Typical seat configuration	220–260	320–360	350–370	310	355	370
Acquisition price ($ 000's)	97–108	108–120	115	15	25	50–70
Monthly lease rate ($)	600–700	730	730	225	230–290	500–700

and underfloor galleys.

"We have decided to replace the DC-10s because of their size. These will be replaced with medium-range 757-300ERs which provide more flexibility. We have also looked at replacing the 767-300s with larger aircraft around the year 2000–2001. We will not do this unless there is no gain in cost per seat-mile economy. This means we will need a stretched aircraft.

"We have looked at the 767-400 with the same range as the -300 and are talking to Boeing about increasing the -400's range capability. We will also look into the A330-200, which, with 300 to 320 seats, is about the right size for us.

"Both the 767-400 and A330-200 would provide more economical alternatives to the DC-10 even when it is fully depreciated. The DC-10's cash direct operating costs are too high. It has high engine-related maintenance and inventory costs because of its three engines. It also has much higher flight crew charges than the 767-400 would have.

"We have about 10 three-man flight crews per DC-10, but we would only need five or six two-man crews per 767. This is because the 767 has crew commonality with the 757. There is therefore a massive difference between the two fleets in terms of number of pilots and crew productivity. This is partially explained by our large fleet of nine 767s and 18 757s, versus just three DC-10s. This is why we prefer the 767-400 to the A330-200," explains Handel.

MD-11

Citybird is a small Belgian carrier which started operations in late April 1997. "We started with just one MD-11 and now have a fleet of two operating charter and scheduled services. The charter routes are to the Caribbean, while we also operate scheduled services to Florida, the US west coast and Auckland," explains Victor Hassan, chief executive officer at Citybird. "We operate on a low-frequency basis and use electronic ticketing, aggressive tariff structures and our fleet has a two-class configuration. The MD-11s were acquired on operating leases from Boeing. One was a whitetail and the other was still in production, but had no customer lined up. We got a reasonably good deal for a start-up carrier."

In late 1996 used MD-11s were a good prospect for carriers looking for a 300-plus seat long-haul aircraft. It provides the best mix of relatively high operating efficiency and low capital cost.

"The MD-11 is a good aircraft to start using for long-haul operations. It has the right range and performance capability," says Hassan. "The alternatives were the 747, A340, A330-200 and A330-300. The 747 was too big, we do not like four-engined aircraft and so we did not like the A340, the A330-200 was not available and the A330-300 did not have enough range.

"The new MD-11s were a better deal than three- or four-year-old MD-11s. We did not want DC-10-30s because we preferred aircraft that could generate higher productivities and utilisations. Our MD-11s currently generate about 5,500FH per year, which is the fifth highest of all MD-11 operators," claims Hassan.

Citybird also operates two 767-300ERs. "These were chosen to add frequency on routes and because we needed smaller aircraft. They were leased from Ansett Worldwide Aviation Services. One was new and the other one-year-old."

Citybird is vertically integrated with European tour operator Neckerman, which is the second largest in Germany. This source of traffic and the generation of 5,500FH per year explains the choice of new aircraft. Citybird's operation is also supported by scheduled services to the US west coast, routes which have never been operated by flag carrier Sabena.

747

French carrier Corsair started operations in 1990 with one used 747. Its strategy was to add one aircraft to its fleet each year. The carrier now has a fleet of six 747s. One -100, one -SP, two -200s and two -300s.

"We were only able to get a used 747-100 because we were originally just a small 737 operator," explains Herve Pierret, planning director at Corsair. "We operate routes to French overseas territories in the Caribbean, which includes Martinique and Guadeloupe. Half of our business now comes from package holidays and the other half from ticket-only customers."

The airline is vertically integrated with tour operator Nouvelles Frontier, the biggest in France. "We expanded our network to Reunion Island in the Indian Ocean and we also operate to Tahiti via the US west coast. Our traffic comprises people visiting friends and relatives. We have lowered our fares to 40% of the prices that AOM and Air France were previously offering. This has stimulated traffic, while we have also developed package holidays," says Pierret.

The carrier has opened and developed routes to the Dominican Republic, San Martin and to several destinations in Africa. The 747 fleet operates to these destinations all year round. The airline also flies to Canada in the summer and Thailand in the winter.

"The previous management of the company used 747s. When we restructured the pilots were already qualified on the 747, but we also needed an aircraft with high capacity in order to achieve the minimum cost per seat-mile and to present the minimum risk on the aircraft," explains Pierret. "The aircraft also had to be affordable if the utilisation turned out not to be as high as expected. The president also wanted the airline to own the aircraft, which meant it had to have low capital cost. When the airline's financial position improved we bought some 747-300s at good prices."

Corsair is one of the very few charter airlines in the world to operate 747s, and these are configured with a high-density seating layout of 580. "Utilisation for the -100 and -200s is about 4,500FH and 5,000FH for the -300s," says Pierret. "We studied new aircraft in 1997 and examined medium- and long-range and medium-capacity aircraft. The 767 looked good because it would be flexible all year round and could open up new long-haul routes. We considered the 767-300, A330-200 and used DC-10-30s for this, since they all would have 300–350 seats. We then eliminated the DC-10 since, despite a low capital cost it is not the future and we are financially strong enough to afford new aircraft.

"We have now ordered two A330-200s. These will be used to increase capacity on existing sectors, and open up other new routes. We have still not looked into a replacement for the 747s. We have considered the A330 against our used 747s. The A330's seat-mile economics are not as good and are about 10–12% higher, but the aircraft is less risky than the 747 because it is smaller. Boeing offered us 777s, but these were too big. We were also offered the 767-400, but its range is not good enough for Reunion Island, which was our performance target."

L-1011-500

Besides the A330-200, the L-1011-500 has also found its way into some long-haul charter fleets. American Trans Air (ATA) and Air Transat have both acquired L-1011-500s in recent years. The aircraft is only about 16 years old, but has the same passenger payload and range capability as the 767-300ER – for a quarter of the acquisition price. The L-1011-500 also has a track record of high reliability in the long-haul charter market with LTU. The German carrier achieved annual utilisations of up to 5,700FH per year.

"We have only two aircraft type ratings at ATA," says Charles Cleaver, chief financial officer at American Trans Air. "Because we already operate a large fleet of -100s, pilots only required one weekend of differences training when we acquired the -500s."

ATA recently acquired five -500s from Royal Jordanian for an all-up cost of about $15 million each. However, Cleaver noted: "Even taking the -500s was expensive because of the pilot salary system being based on seniority and aircraft maximum take-off weight. A new aircraft, however, would have caused much higher introduction costs.

"Our L-1011-100s are flown to Europe, while the -500s are used on even longer routes to Korea and Japan," explains Cleaver. ATA has 75% of its charter work from 13 tour operators, but is not yet vertically integrated with any of them. "It may happen yet, although the market is still in its relative infancy compared to Europe.

"One -500 will go into service with a Brazilian tour operator and others will provide capacity between New York and Athens for a cruise company. The L-1011-500 can do routes which were previously not possible, and this attracts new customers.

"The aircraft has excellent economics. A flight engineer is cheaper than a supernumerary captain or first officer. The flight engineer is also a licensed A&P mechanic and so can sign off a repair at an outstation," says Cleaver.

Both Air Transat and ATA operate the L-1011-500. ATA acquired five ex-Royal Jordanian L-1011-500s for $15 million each. This included passenger door and interior installation by Marshall Aerospace.

While ATA is extremely pleased with the L-1011-500, new aircraft are preferable. "The prospect of a 757/767 mixed fleet is attractive to ATA, but the L-1011's utilisation of 250FH per month is not high enough. The -500 is still economical compared to the 767 at high utilisations. The 767 is the obvious replacement for our -100s, but used 767s are still not there in terms of market values and resulting lease rates. These would have to be less than $350,000 per month for the economics to be right for us. In other words, the L-1011-100 is still the best solution for ATA."

Canadian carrier Air Transat has a fleet of 10 -100s and -150s with a 362-seat two-class configuration. It has recently acquired three -500s. All L-1011s and the airline's five 757-200ER's are operated on long-haul routes. The airline has orders for two A330-200s, which will have the same number of seats as the L-1011-100s.

Air Transat is a subsidiary of tour operator Transat, which provides package holidays to Florida, Cuba, Mexico and the Dominican Republic from Canada. The airline also flies to Europe in the summer and operates a domestic scheduled service between Toronto and Vancouver.

"Our aircraft have different range capabilities and we try to match fleets to our different routes," says Denis Petrin, vice president of finance and administration at Air Transat. "The L-1011-500s were good because of their low acquisition cost, but also had good cash direct-operating costs which are not too high when the aircraft is operated at high utilisations. The L-1011-500 is also very reliable and can use the same pilots as the -150 fleet, providing some savings.

"The A330-200s will serve markets with high capacity all year round and so generate high utilisations. The A330 will allow the L-1011-150s to be phased out, but the -500s will be kept," says Petrin.

Mix and match

In contrast with the long-haul charter fleets of ten years ago, today's airlines use every long-haul type of aircraft. This fact, and an analysis of several airlines' long-haul fleet strategies underlines the point that new aircraft are not the only choice for charter carriers, even when aircraft utilisations are high.

Provided the right used aircraft can be acquired at reasonable prices and operated reliably, then charter airlines can achieve competitive seat-mile costs. New aircraft generally have higher performance which provides greater flexibility for more established airlines with wider route networks. New aircraft also have the advantage of allowing mixed fleet flying, being configured precisely to the airline's specifications and providing a higher degree of safety with respect to operational reliability.

The MD-11 could provide other charter carriers with the best of both worlds in the next few years. It can accommodate up to 440 passengers in all-economy seating, it is still young and has many cash operating cost features of other modern aircraft. Market values are only $50–$70 million – less than the purchase price of a new 767-400 or A330-200.