The use of code-sharing by airlines to circumvent restrictions of bilaterals has evolved into the forming of mega alliances. The power to redirect traffic and make large cost savings is apparent. Where could this leave the revenue and cost structure of airlines not already part of an alliance?

The power of alliances

Aircraft direct operating costs have improved over the past few decades. Increased competition is now leading to a war against indirect operating costs. In a move to circumvent the restrictions of bilateral agreements some airlines have been forming alliances. The advantage of an alliance is that it avoids massive overheads and start-up costs on new routes. But what can an alliance do to increase unit yields and reduce unit costs?

Alliances work by offering passengers a seamless service wherever they want to fly. In a typical scenario, several major carriers share and co-ordinate route networks to provide passengers with a one-stop shop. Examples of alliances include Star, Oneworld, the Delta/Sabena/ Swissair/Austrian alliance and KLM/Northwest.

A summary of the major airline alliances, their geographical and route network coverage and traffic statistics is shown *(see table, page 15)*. As *Aircraft Commerce* was going to press it was announced that Finnair had joined the Oneworld alliance.

One-stop shop

A typical seamless service might involve a passenger in Phuket Thailand wanting to travel to Indianapolis, Indiana. Under traditional airline structures and bilateral air service agreements, the passenger would have first flown to Bangkok on a Thai domestic flight. He or she would then have the choice of flying to a US gateway on one of two carriers, one being US. Finally the passenger would have to fly at least one US domestic sector to Indianapolis.

This long and arduous journey would require the passenger to reclaim and re-check baggage at least once, probably twice, as well as waiting for several hours between connections.

However, if the passenger took the same journey using a seamless service, he or she could travel with baggage checked for the entire journey and also minimise all connections. The airlines used would share the same terminals.

Under traditional bilaterals this journey would never have been possible. Airlines are required to maintain citizenship and so cannot buy into others' route networks through mergers. This prevents the circumvention of bilateral route right restrictions.

Code-shares

The cornerstone of alliances has been code-share agreements. These work by putting an airline's two-letter flight designator code on a partners' flight number. That is, the same flight booked through a computer reservation system (CRS) of one of the airlines will have the two-letter designator codes of both airlines.

If two carriers use this co-operation across their entire route networks then they both gain access to a lot more traffic flow without either airline having to expand its network. Partner airlines are able to provide seamless services to passengers to a much larger number of destinations than in their individual route networks. This ability to access more traffic translates directly into incremental revenue, with an even larger improvement in operating income.

The aim of providing a seamless service is to redirect traffic. For example, code-share example between Thai and United is a very effective way of redirecting traffic towards the two airlines and away from other carriers outside the partnership. All Thai traffic arriving in the US can be directed on to UA's network wherever possible and kept away from any other US airline.

Likewise, a lot of trans-Pacific passengers travelling with United can be channelled on to Thai's domestic and Asia Pacific network. The two carriers therefore create a competitive advantage for themselves by which others could suffer. Unless, of course, they enter into similar co-operative agreements.

Synergies

The practicalities of such a system need to be considered, since this is where cost benefits are derived. Co-operating carriers would have to co-ordinate schedules, use the same terminals, share CRSs and jointly handle each passenger's and baggage.

The volume of traffic on certain routes operated by two airlines may be such that one of the carriers can abandon a route altogether. The same traffic volume could then be carried by the remaining airline more efficiently.

Alliances allow partner carriers to benefit from the synergies between each other without needing to be involved in full-blown mergers. In fact, alliance partners are believed to gain between 70% and 80% of the benefits they would gain from a merger, without having to invest any capital in another airline.

Improved traffic

A perfect illustration of the power alliances have to re-direct traffic is the alliance of KLM and Northwest. The Detroit-Amsterdam route both airlines serve has grown by 55% per year over the past five years. This huge growth is particularly indicative of alliance

Passenger growth of 911% and 787% in the past five years between Detroit- and Minneapolis-Amsterdam is a powerful illustration of the KLM/Northwest alliance's ability to redirect traffic to its advantage.

strength, since 60% of the traffic does not originate from either Detroit or Amsterdam. Instead it comes from 'behind and beyond' destinations which each hub serves through traffic connections. Prior to KLM's and Northwest's co-operative agreement the route was not operated. The alliance has clearly been successful in redirecting traffic into Northwest's and KLM's networks.

Airlines in co-operation with others do not willingly disclose yield data or indicate how unit yields have improved from alliances. However, an approximate guide can be ascertained from the change in traffic that occurs as a result.

Open skies

Alliances are not formed simply through code-share agreements, however. Bilateral air service agreements still stand between countries, and competition and anti-competition issues always need to be resolved.

The origination of the KLM/Northwest alliance resulted in the Dutch and US governments agreeing an Open Skies bilateral. This gave KLM and Northwest full anti-trust immunity.

Anti-trust immunity is a condition by which airlines in partnership are allowed to agree fares between them. That is, airlines which have just a code-share agreement are still required to effectively compete with each other. One example of two carriers which have a code-share agreement are Continental and Virgin. Continental gains access to London Heathrow via this agreement without having to gain rights to the airport or fly the routes.

Continental buys seats from Virgin and sells them its own passengers at rates which it does not disclose to Virgin. Anti-trust immunity would allow the two carriers to set fares between them, a technique which has often received criticism for being anti-competitive and against passengers' interests.

When KLM and Northwest introduced anti-trust immunity all other carriers failed to see its advantages and even treated the issue humourously. This attitude has changed and resulted in several US airlines seeking anti-trust immunity partnerships with non-US airlines.

The US has overcome bilateral agreements to some extent, having open skies policies between itself and individual states. The US now has open skies bilaterals with 32 other countries and these permit anti-trust immunity to the airlines operating between them. This is usually accompanied by an alliance between a US airline and a carrier of the other country.

Countries with which the US has open skies agreements include: Canada, Austria, Belgium, Denmark, Germany, Singapore, Malaysia and South Korea.

Open skies still disallows cabotage rights to foreign carriers. However, it does permit code-sharing on connecting flights. Delta, for example, is allowed code-sharing on Swissair's Zurich-Geneva route which connects with Delta's JFK-Zurich sector.

The Oneworld alliance includes British Airways, American, Canadian, Cathay Pacific and Qantas. BA and AA are asking for anti-trust immunity in the same way that KLM and Northwest have. This has received criticism from Virgin, which argues that allowing BA and AA anti-trust immunity would be highly uncompetitive. This is because the two carriers control more than 80% of the trans-Atlantic market from the UK. Anti-trust immunity, it is argued, would mean the two could control the market. EC ministers have said, though, that BA and AA would have to give up 267 slots per week at Heathrow as compensation for the deal being allowed. Virgin argues that this would still not cause BA too many problems, because it could simply transfer some European services from Heathrow to Gatwick.

Low-cost market entry

Alliances produce a large cost saving by avoiding start-up costs on new routes and the losses usually incurred as a consequence. Code-sharing and alliances therefore provide cost-effective market development.

After forming alliances airlines can enter new markets simply by adding their code to their partner's services. This allows them to service the market with virtually no cost being incurred for the effort.

SUMMARY OF MAJOR AIRLINE ALLIANCES

Alliance	Star	Oneworld	KLM/Northwest	Delta
Airline partners	United, Lufthansa, SAS, Air Canada, Ansett, Thai*, Air New Zealand and Varig	American, British Airways Canadian, Cathay Pacific, Qantas, Iberia, Japan Airlines Lan Chile, Aerolineas Argentinas, Air Liberté/TAT, Deutsche BA and Finnair*	KLM, Northwest, Alitalia, Continental, Avial and America West	Delta, Swissair, Sabena, Austrian and Air France
Number of destinations	767	778	635	626
Unduplicated route Kms	3,788,547	3,958,489	2,286,986	2,279,085
Number of aircraft departures	2,051,919	1,909,111	1,837,864	1,649,862
ASKs	588,981,267	750,772,958	449,128,263	375,953,735
Departures per destination	2,675	2,454	2,894	2,636
Passenger revenue per ASK	7.00	6.25	6.28	6.57

**** Data for airline not included***

Source: Merrill Lynch

The new airline can now take full advantage of its partner's route network behind and beyond the hub it now flies into. This also permits it to compete with other carriers incumbent in that market.

One classic case is when United entered the Chicago-Dusseldorf market after forming its alliance with Lufthansa. Prior to this AA was the only US carrier on the route and United was deterred by thinking there would not be enough traffic to justify two airlines.

An open skies policy was agreed between the US and Germany when the United and Lufthansa alliance was formed. United started the Chicago-Dusseldorf route and took full advantage of Lufthansa's domestic network, something AA could not do.

United only had to employ three staff and used Lufthansa's gates at Dusseldorf. United became profitable on the route within one month and AA withdrew shortly afterwards.

Delta also suffered after Lufthansa and United started code-sharing. Prior to the Lufthansa and United alliance, Delta's trans-Atlantic division was generating about $22 million of operating income per annum prior to Lufthansa's and United's alliance. By the early 1990s Delta's trans-Atlantic operating income had slumped, with an annual loss of $524 million.

Delta was in a stark position compared to United. Delta had purchased the network from Pan Am. Pan Am had the advantage of its own German domestic network and Heathrow operation, but had to give this up. Delta had no domestic network to tap into and suffered when United entered the market with the competitive advantage of access to Lufthansa's network.

Delta pulled out, but not before it formed an alliance with Sabena, Swissair and Austrian. This allowed Delta to stop operating to this part of Europe, but still maintained a traffic feed from its alliance partners. Delta's trans-Atlantic profits have since substantially improved to $238 million.

Cost savings

Because alliances provide airlines with literally hundreds of virtual destinations on their networks, the carriers involved are able to avoid sizeable investments in developing new markets. They can leave it to their incumbent alliance partners to continue operating services while they just feed in more traffic.

The first level of cost saving is through ticket distribution and marketing on partners' CRSs. By simply adding partners codes to flight numbers an alliance partner can sell seats on a whole barrage of new routes with virtually no incremental and start-up marketing cost. In some alliances airlines have literally no longer required any sale staff and office facilities.

It is even possible that CRSs could be consolidated providing one of the largest savings alliances offer. The two airlines can then co-operate to develop ticket distribution and other IT systems. These can extend to flight despatch, spare parts inventory management and crew scheduling computer systems. Each system can cost an individual airline tens of millions of dollars in each case. Joint development will therefore incur this cost once only, not several times for each carrier.

Another major impact alliances can have on costs is the ability for airlines to rationalise capacity. Qantas and BA, for example, each used to have 747s operating between the UK and Australia prior to co-operation. They were competing with each other and trying to fill aircraft.

With co-operation between the two capacity can be adjusted to where just one of the two airlines operates a 747 more efficiently. This also has spin-off effects. BA used to station crews in Australia for six-month periods and these received overseas allowances for the entire time they were stationed there. This cost can now be avoided, or at least reduced.

Aircraft can also be utilised more effectively. One example of this is the alliance between Northwest and KLM. KLM required a 747 to operate a second daily frequency between JFK and Amsterdam and used one of Northwest's aircraft that was parked for 20 hours per day at JFK. The use of the aircraft on the route did not interfere with its existing schedule.

The practicalities of providing a seamless service provides great scope for cost reductions in all areas. Airport terminals have to be shared and baggage interlined. This means the ground staff of one of the two carriers can perform most

Delta's trans-Atlantic profits are ten times higher after forming an alliance with Sabena, Swissair and Austrian and pulling out of the Frankfurt market.

of the tasks required for both carriers. This scale effect results in huge overhead cost reductions.

Other savings follow with reduced line maintenance ground staff and possibly even stocks of spare parts held at airports. Also, fewer station managers and despatch staff are required.

Another advantage is the bulk buying of supplies, from small items, to the largest, such as aircraft. Savings have been made with the purchase of aircraft such as in the order from Sabena, Swissair and Austrian for A330-200s and from the TACA Group for A320s.

Alliance power

The ability to serve markets with very little cost in addition to being able to control traffic flow and then agree fares through the mechanisms of anti-trust immunity is considerable.

The biggest alliances have geographical and route coverage with at least one major carrier in every continent. This can leave airlines not involved in a weak position. SAS' involvement with Star meant Finnair was left on its own in Scandinavia with no global geographical network to tap into. Consequently, it has recently joined Oneworld.

Alliances can also leave smaller carriers in comparatively weak positions. British Midland, for example, operating a European network from Heathrow will be at a disadvantage to BA.

Because alliances do not even require equity stake investments between partners, the path is open to the closest possible co-operation between very large airlines. Huge savings could be made through joint development of software, integrated sales forces, the sharing of airport facilities and ticket offices, since duplication will largely be avoided.

Merrill Lynch has devised a point system for assessing the power of each alliance. This is based on assessing the strength of each according to five categories: geographical network, market size (revenues and passengers), route network density (how well partner airlines used their networks in terms of traffic capture), financial strength and regulatory freedom (possession of anti-trust immunity).

This index has a maximum point score of 100. It awards Oneworld the highest score of 72.5 points, with Star close behind with 66.9 points and KLM/Northwest 68.8 points.

Oneworld is regarded as having the best advantage with respect to Geographical network and market size. However, in terms of network density it is weaker than KLM/Northwest. It is also the weakest of all four major alliances in terms of regulatory freedom and has poorer financial strength than the Delta alliance.

The Delta alliance, which receives the lowest total score of just 41.9 from Merrill Lynch's index, includes Air France. "Prior to being part of the Delta alliance, Air France had a poor performance," claims Candace Browning, first vice-president at Merrill Lynch, New York. "Air France was not even using Charles De Gaulle as a hub in terms of co-ordinating its flights to provide connections. If Air France were to improve its operating and financial performance the Delta alliance could become a powerhouse. In the meantime, Air France is heavily dominated by unions and so its difficult to say what could happen."

There are numerous examples of how alliances re-direct traffic and so improve their revenues and financial performance as a result. SAS predicts, for example, that the Star Alliance will have a $200 million impact on its bottom line. United also expects an incremental revenue of $200 million.

Ultimately many airlines, and certainly almost all flag carriers, could become part of an alliance at one stage. However, as more airlines join an alliance there will be diminishing returns of benefit. This is because major alliances already have achieved significant geographical coverage and domination. Additional carriers will only offer small degrees of route network coverage not already held.

With all airlines in a major alliance, the competitive advantages they would have had would cancel each other out. "It is easy to see where there will eventually be a zero sum game between alliances," says Browning. "The situation will change massively if alliances take advantage of their position to rationalise capacity. For example, BA and Qantas could halve their UK-Australian 747 services. This will have a knock-on effect on yields."

This raises the issue of how damaging alliances will be to other carriers that have been left out. United's estimation of an incremental $200 million revenue means other carriers somewhere are suffering. Niche operators, such as those in the no-frills category may or may not be affected. "Small airlines which are mainly point to point should not be affected by alliances which basically work by making it easier for connecting traffic. Small airlines also have an appreciable price advantage," Browning explains.

This is a situation in which airlines between major carriers like BA and small ones, such as AirTran, are left out.

Alliances are also relatively young. While there has been time to see the immediate effects of re-directing traffic onto alliances' networks, it will still be some time before the effects of reducing costs are fully realised. One major advantage of alliances is to reduce indirect operating costs. There is still a high level of duplication of sales activities and staff, ground and airport personnel and even the operation of services. As this duplication is reduced and the marketing power of alliances reaches its full potential, partners should experience improvements in operating performance, at least for a few years.