

Interesting times

The airline industry is living in interesting times, as the old Chinese curse has it.

There are more and more signs of weakening economies, but the official indicators are not pointing to a recession, ie an absolute down-turn in activity. The OECD's mid-year *Economic Outlook* highlights the slow-down in the US economy from real GDP growth of 5.0% in 2000 to 1.9% this year, though a recovery to 3.1% is expected for 2002. The EU is just slightly down this year - GDP growth of 2.6% against 3.1% in 2000 - and next year is put at 2.7%. Japan, however, continues to plod along its L-shaped recession - 1.3% in 2000, 1.2% in 2001, 0.7% in 2002.

The airlines that are suffering disproportionately are those that followed strategies of tight capacity curtailment yield enhancement and focus on business travel. The US Majors' second quarter results were unprecedentedly bad - an operating loss of \$0.8bn against a \$2.8bn profit a year ago. BA, according to a widely reported analysis from Merrill Lynch, will be turning to losses for 2001/02.

The reason that the airline downturn is worse than that implied by the economic number probably has a lot to do with the collapse of the new technology sector. Those price-insensitive e-entrepreneurs are no longer travelling anywhere. Beyond that, the financiers have fewer and fewer deals to conclude. And corporations generally are critically reviewing their travel policies.

What strategies can be adopted in such circumstances?

- Protection through antitrust-immunised alliances has suddenly become a priority (see pages 4-6).
- But the possibilities for traditional mergers are very limited. In the US the DoJ has as expected ruled against United/US Airways on the grounds that this amalgam would create "monopoly rents" (a surplus which might not show up in monopoly profits but which could, for instance, be distributed to aggressive labour unions). In Europe route rights still present an intractable problem to merging Euro-Majors.
- Continued expansion is an option for a few carriers as diverse as Ryanair and Air France. They stand to capture more market share from their rivals during this phase of the cycle.
- Cost-cutting initiatives are inevitable, as is the union response to them.
- Deferrals of deliveries by the airlines and operating leasing companies will increasingly take place.
- In terms of new management techniques, CRM holds substantial promise for the business travel-orientated airlines (see pages 15-18), but is still regarded with some skepticism.

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The Müller plan: realism strikes Sabena

In early August, Sabena chief executive Christoph Müller bluntly told employees that their company was "close to bankruptcy". Müller pointed out that Sabena had just lost €113.6m in the first half of 2001, bringing total losses over the past 25 years to €1.7bn. No earth-shaking news there since Sabena has been living under a dark cloud as long as anyone can remember. What was different though was the length Müller was prepared to go to explain how the airline got into this mess.

Since 1995, when Swissair acquired 49.5% of Sabena, the airline's capacity has increased rapidly. The fleet (Sabena plus DAT plus dedicated CityBird and Virgin Express aircraft) grew from 58 medium haul and eight long haul aircraft in 1995 to 79 medium haul and 13 long haul aircraft in 2001. Sabena has hired almost 4,500 people in the last four years.

Not only has the fleet outgrown Sabena's natural market, it is also of the wrong composition (737s, A320 family, BAe146s), and the aircraft are too large on average, according to Müller: "Brussels is a second tier hub. At other second tier European hubs, say Amsterdam or Munich, the main carriers use somewhat smaller aircraft than Sabena does in Brussels."

One consequence is that Sabena load factors remain low (now 67% against the AEA average of 74%), despite a sharp recent increase in passenger numbers, and passenger mix is poorer - the split between business and economy was 28/72 in 1995 whereas today it is 18/82.

Another negative trend is the relative decline in O&D traffic, which usually brings in a higher yield than transfer passenger, from 62% in 1995 to 53% in 2000. The yield achieved from price-sensitive transfer passengers is insufficient to cover DOCs.

At the same time as average yield has been eroding, both internal and external costs have been inflating; for example, aircraft costs have risen by 18% since 1998 and crew costs by 4% in the same period. This deadly combination has reached the point where, even if Sabena's load factor were up to AEA's average, the airline would still lose money. Müller estimates that one third of

Sabena's predicament is a revenue problem and two thirds comes from operating costs.

So what to do?

Before embarking on a recovery plan, the shareholders had to put an end to their squabble, which paralysed management for over a year. Or as Müller put it, "when Swissair was changing CEO and strategy every other month, we wasted a lot of time."

The new agreement signed in early August cancelled the January 2001 agreement whereby Swissair committed to increase its holding to 85%. Swissair's share will be kept at 49.5%, for now. The Swiss airline will take over nine A320s from Sabena over a period of time, providing a much needed decrease in capacity. Both airlines will continue their commercial cooperation (but for how long?) and both agreed to withdraw legal action against the other. And last but not least, the Belgian state and Swissair agreed to inject together €430m in new capital, subject to an agreement for labour peace with the unions.

The plan

The buzz points of the new business plan (also called the Müller Plan) are:

- Refocus on core airline activity;
- Right-size medium and long haul operations;
- Review work practices and increase productivity; and
- Cut costs and enhance revenues.

According to Müller, no second tier hub in Europe can support a global intercontinental strategy. Brussels may be only big enough to support selected destinations on the US East Coast and some African destinations triggered by ethnic traffic.

Continuing this theme, very large aircraft such as the 747-400 or ultimately the A380, which have a huge seat cost advantage, can only be operated profitably from first tier hubs. This gives a significant cost advantage to first tier carriers against second tier carriers such as Sabena. Therefore, it has to be anticipated that only first

Aviation Strategy

is published 12 times a year by Aviation Economics on the first of each month

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Aviation Economics

Registered No: 2967706 (England)

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22/24 Corsham St
London N1 6DR
VAT No: 701780947

ISSN 1463-9254

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tier carriers will attract price-sensitive long-haul passengers and make money at it.

As a result of this analysis, Sabena will reduce excess capacity. All A340s will be sold and only A330s will be flown. The number of long haul aircraft will be reduced from 13 to 11. Tokyo and Washington will be cancelled.

Müller also believes that in European markets, high-yield time-sensitive customers can only be attracted with competitive travel times against ground transport (rail and road). Such routes must offer between four to seven daily frequencies. And the number of frequencies must inversely be proportional to the aircraft size used. This is where much smaller aircraft, regional jets, come in. Sabena will need to focus on local traffic between secondary cities and Brussels, and use potential transfer passengers in the time-sensitive market segment as marginal contribution.

Sabena will introduce 50-seat aircraft in mainline service. The cost disadvantage of smaller aircraft will be offset with true cost cutting in all areas, according to Müller. The airline will maintain high frequency services to second tier markets (Marseilles, Bordeaux, Gotenburg) and not compete head on with major hubs.

Müller explained that Sabena planners had examined five "network and fleet" scenarios.

1. Maintain existing fleet;
2. Cut number of aircraft down to 66;
3. Decrease capacity by moving to smaller types but maintain the current number of aircraft;
4. Increase frequencies with 98 smaller aircraft (on average); and
5. End hub strategy, and keep 15 aircraft

The strategy consists of a combination of 2 and 3. Sabena will increase frequency where additional business can be attracted and decrease or cancel services where mostly leisure passengers are flown (Faro, Beirut, Verona, Catania, Belfast will be dropped.) However, there has been no indication as yet as to where Sabena will obtain its RJs, and the purchase or lease of such types will depend on prior union agreement.

Optimism still

Once Sabena has right-sized its long and medium haul networks, load factor is expected to rise to 71% on medium haul and to 77% on long haul, against a 2000 average of 67%. Revenue per ASK is expected to rise to €0.11 on medium

haul and €0.04 on long haul.

The airline will revisit its commission policy (traditionally very generous to agents). It will make a big drive to develop Internet bookings. It will to reduce overhead and renegotiate contracts with suppliers.

The latter might prove difficult, as the recent legal move by Virgin Express shows. Virgin is trying to stop Sabena from unilaterally modifying a long-standing agreement under which Sabena buys blocks of seats on flights operated by Virgin Express on its behalf. Sabena wants to reduce the number of seats it must now buy from Virgin Express. The price is too high, said Müller. The agreement is the result of Sabena asking Virgin Express in earlier times to operate certain routes (London Heathrow, Barcelona and Rome) because the latter had much lower operating costs. Under a complicated arrangement, Sabena would sell business class seats and Virgin Express economy. Sabena, now downsizing, really wants the whole business back.

But the contract only ends in 2005. Virgin Express, which is heavily dependent on Sabena's business for its own survival, will not let go easily. There is another twist: Virgin is a significant customer of Sabena Technics that is up for sale. Any significant damage to Virgin Express could reduce the value of Sabena Technics to a potential buyer and thus backfire on Sabena Group.

Success in a Regional Jet operation generally depends on two factors - relatively high yields, which Sabena hopes it will achieve by targeting business traffic to/from secondary cities and and relatively low flying crew costs, with pilots employed on different contracts from those flying mainline (50- or 70-plus seat) aircraft.

So, unsurprisingly, the business plan has met with strong union opposition and major battles lie ahead, particularly with the pilots. A major plank of the restructuring plan is to improve cockpit crew performance. According to a local observer, pilot seniority rules and privileges are such that Sabena employs 30% more pilots than needed.

The pilots will make or break the business plan, or so they believe. Yet they are not only fighting the so-called "Müller plan", they are divided within Sabena itself, torn between the interests of mainline pilots who sit on top, and those of the pilots at the DAT regional subsidiary. If this was not complicated enough, Virgin Express and Sabena pilots are represented by one union (the Belgian Cockpit Association).

Oneworld and SkyTeam: justifying immunity

Oneworld and SkyTeam have now applied to the US DoT for anti-trust immunity, moves that will eventually lead to complete transatlantic open skies environment and, probably, more intense competition between the alliances. First of all, however, the two groupings have to justify their applications.

The headlines of both applications are broadly similar:

- Anti-trust immunity increases the quality and competitiveness of air services;
- Carriers increasingly compete on a network basis; and
- Alliances are pro-competitive and therefore pro-consumer.

Both filings quote a DoT study which states "alliance-based networks are the principal driving force behind transatlantic price reductions and traffic gains".

The governing principle, of course, for any international airlines gaining anti-trust immunity from the US DoT is that it will only be granted if there is an open skies agreement in place between the US and the relevant nation. Herein lies one important difference between the two filings in that the US and Italy and the US and Czech Republic already have open skies agreements in

place and the US and France have already agreed the framework for open skies. The only stumbling block is on timing, with the French regulatory bodies willing to accelerate the pace of signing an open skies agreement if anti-trust approval is given.

The UK-US position is much less clear. The UK regulatory authorities have in the past taken a hard-line stance against the US open skies formula. However, the UK negotiators are believed to be willing to sign now because:

- It is perceived that British Airways needs anti-trust immunity to compete with its European peer group across the Atlantic;
- Bmi, (formerly British Midland), has filed a complaint with the EC which essentially claims that the Bermuda 2 bilateral is illegal under European law; and
- If an agreement with the US is not reached soon, the EU may win the right to negotiate an agreement for the EU as a whole with the US which would take timing out of the UK's hands (the preferred route for Virgin Atlantic)

The other complication for BA/AA is that this is not the first time that the airlines have been to the regulatory authorities to seek approval for an immunised alliance. The original alliance proposed in 1996 faced severe criticism from the regulators. In their respective 1998 judgements the EU asked BA to cede between 220-230 weekly slots at Heathrow and the US DoJ asked for 336 weekly slots to be handed over by BA. At that time BA decided that the regulatory price was too high.

BA/AA's case

BA and American have refined their case for anti-trust immunity around six main tenets.

1. The world has changed markedly since 1996. The US has been able to sign open skies agreements with sever-

SCOPE OF THE ALLIANCES

	DL/AF/AZ/CZ	AA/BA
Marketing and sales	Yes	Yes
Scheduling and network planning	Yes	Yes
Code-sharing	Yes	Yes
Revenue and earnings sharing	Yes	Yes
Commission programmes	Yes	?
Standard form contracts/joint purchasing	Yes	Yes
Accounting data/information systems	Yes	Yes
Service standards and procedures	Yes	Yes
Joint advertising and media programmes	Yes	Assumed
Use of joint identities	Yes	No
Pricing and inventory control	Yes	Yes
Cargo programmes	Yes	Yes

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al European countries since that date (Germany in 1996, Romania in 1997, Italy in 1998, Portugal in 1999, Slovakia in 2000, Poland in 2001 and France pending), so that an open skies regime is now the norm and transatlantic alliance have been able to prosper in this regulatory context. AA/BA's current position is "Now American and British Airways are looking to match what other airlines have in place in order to effectively compete with stronger

alliances that have leapfrogged AA-BA in the marketplace". In some circles in Brussels this is acknowledged, and a strengthening of oneworld in order to increase competition with Star is thought to be acceptable.

2. Alliances have developed increasing competition across networks and have led to "explosive growth" at other European hubs. BA and AA quote growth rates since 1996 at Frankfurt of 67%, at Amsterdam of 48%, and at Paris CDG of 62%, compared to growth at Heathrow of 20%. Of course, BA's downsizing policy might also have something to do with this.

3. An open skies agreement will terminate the highly restrictive Bermuda 2 agreement.

4. Competition has continued to increase in the UK-US market. New services have been introduced by Continental, Delta, US Airways and bmi.

5. Oneworld hold a weaker slot position at its prime hub than its European rivals have at theirs: Oneworld holds 47% of Heathrow slots compared to 55% for SkyTeam at CDG, 69% for Star at Frankfurt and 70% for KLM/Northwest at Amsterdam.

6. Heathrow is the only two-alliance hub in Europe, with the Star partners United, Lufthansa, SAS and bmi being prepared to combine their slot holdings.

The issue of slots remains at the heart of the BA/AA filing. Whereas the SkyTeam filing contends that no applications to operate

ALLIANCE STRATEGIC AIMS

	DL/AF/AZ/CZ	AA/BA
Increased transatlantic services	Yes	Yes
Improved on-line connections	Yes	Yes
	(40,000 city pairs)	
Expanded access to beyond and behind gateways	Yes	Yes
Better co-ordinated hubs and transatlantic scheduling	Yes	Yes
Expansion of discount fares across the network	Yes	Yes
		(up to 25%)
Greater availability of discount seats on transatlantic	Yes	Yes
Improved inventory control	Yes	Yes
Reduced sales and marketing costs	Yes	Assumed
Increased levels of equipment utilisation	Yes	Assumed
Integrated cargo network	Yes	Yes
Improved quality of service	Yes	Yes

services between the US and France/Italy and the Czech Republic will be turned down because of a lack of slots (although there is the possibility that peak slots may not be available) the oneworld filing has to approach the issue of slot availability tentatively.

BA/AA points out that Heathrow is in effect full, and new slots are a rarity. However, given an open skies regime, those carriers wishing to operate transatlantic services will be able to do so through re-allocating partners' slots. The Star alliance partners have already announced a pooling of slots which would allow, say, bmi to switch a domestic slot for use on a transatlantic service. Similarly, Northwest could gain access to Heathrow slots through its partner KLM, and Delta through the pooled slot resources of Air France and Alitalia. Continental and US Airways, it is suggested, will have to wait alongside other new entrants who at least receive some priority in the slot distribution procedures.

The notion that BA (and AA) will not be asked to cede some of their slots by the regulatory authorities is very, very unlikely. The question is still how many and whether this number will be acceptable. Demand for Heathrow slots will come not only from the US carriers currently excluded by Bermuda 2 but also from airlines wanting to switch operations from Gatwick to Heathrow.

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Competitive statistics

Both groupings go to some length to find statistics to prove that "prove" that competition will not be adversely impacted by joint operations.

The SkyTeam application paints the alliance as being "mid-size" in global terms, quoting these US-European transatlantic passenger market shares: SkyTeam, 17.3%, Star, 18.3%, American/Swissair/Sabena, 14.1%.

In terms of competition by route the SkyTeam points out that overlap between the alliance partners occurs only four out of 22 transatlantic routes between the US and France/Italy. Also, it is interesting to note that in total American has twice as many weekly flights to France as Delta.

The overlap between BA and AA is on six transatlantic routes, five of which have alternative competition.

Objections will be raised over the

LHR-US	No. of weekly flights	% of total
British Airways	180	36.4%
American	119	24.1%
United	112	22.7%
Virgin Atlantic	63	12.8%
Air India	10	2.0%
Air New Zealand	7	1.4%
Kuwait	3	0.6%
Total	494	100.0%

SkyTeam anti-trust application, most notably on ensuring fair competition on the Atlanta - Paris route. Nevertheless, the amount of existing competition on an individual route basis and from other hubs should ensure that the application will go through relatively unscathed.

The same will not be true of the BA/AA application. The fact that American is teaming up with the largest player on the UK-US

market will cause as much scrutiny this time as it has done in the past.

Still, it is likely that the application will receive approval, once again with conditions and with slot give-ups. The US wants an open skies agreement with the UK, and the UK has made a positive decision on the BA application a prerequisite. Brussels wants oneworld strengthened to challenge Star. With public criticism of high fare levels on the Atlantic (particularly business fares), the UK government will make clear that it expects lower fares as a result of an open skies agreement.

Overlapping BA/AA routes from London	Other airlines offering non-stop service	Expected New entrants
New York	Continental (LGW and STN) United Virgin Atlantic Air India Kuwait Airways	Delta, bmi
Boston	Virgin Atlantic (LGW) United Delta (LGW)	US Airways, bmi
Chicago	United Virgin Atlantic Air India	Bmi
Los Angeles	United Virgin Atlantic Air New Zealand	
Miami	Virgin Atlantic (LGW)	Bmi
Dallas/Fort Worth	None	
Overlapping SkyTeam routes	Other airlines offering non-stop service	
Paris-New York	American Continental	
Rome-New York	Continental	
Milan-New York	Continental	
Paris-Atlanta	None	

Embraer: new challenges for Brazil's success story

Embraer faces some tough new challenges. First, like its competitors, it has to cope with softening demand for regional jets resulting from the global economic slow-down. Second, it has to break into the extremely competitive 70-108 seat regional jet market with a new product line two years behind arch rival Bombardier. How does the company plan to tackle these challenges?

Since its privatisation in 1994, Embraer has transformed itself from a bureaucratic, loss-making state entity into a dynamic private-sector enterprise and Brazil's largest exporter. It is the world's fourth largest aircraft manufacturer based on 2000 net sales of commercial aircraft, very close to catching up in size with Bombardier.

After gaining experience with the Bandeirante and Brasilia turboprops, Embraer was early to anticipate potential demand for small regional jets and launch a new product line ahead of competitors. In recent years, it has become a strong competitor in the RJ market with its attractively priced and economical 50-seat ERJ-145 and 37-seat ERJ-135 models, which were launched in 1996 and 1999 respectively.

While those aircraft accounted for 157 of Embraer's total 178 deliveries in 2000, sales have been helped by the availability of the 44-seat ERJ-140, which recently entered service with launch customer American Eagle.

Last year Embraer made particularly strong market share gains on its competitors. After the record 400 firm orders and 340 options secured in 2000, the company also claimed that it had achieved a leadership position or a 49% share of the global 30-60 seat regional jet market.

Profit growth has paralleled the surging regional jet deliveries.

The company became profitable in 1998, after 11 years of net losses. When RJ deliveries really took off in 1999, earnings surged to 509.3m Reals (\$204m). Last year's reported net income was 512.7m Reals (\$206m), but it included a large income tax provision of 257m Reals (these figures are on the Brazilian corporate accounting basis, which differs slightly from the US GAAP).

In the first half of this year, Embraer's net sales rose by 55% and operating income more than doubled to 1bn Reals (\$407m) to account for a spectacular 30% of revenues. Net earnings surged from 210.4m to 557.1m Reals(\$223m), representing a 16.2% profit margin, though some of the gain was attributed to foreign exchange gains.

Enlightened management

Embraer is known for its good corporate culture, and it aims to create a partnership among shareholders, management and employees. For instance, it pays dividends to shareholders and profit sharing to employees, and those amounts are linked. Last year's dividends amounted to \$134m, while profit sharing payments were \$37m.

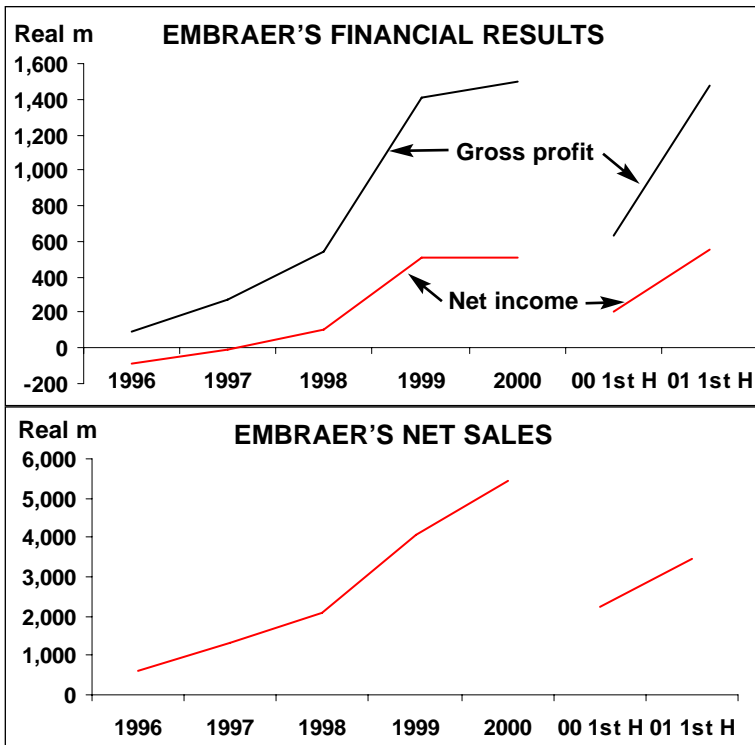
While the management team is regarded as strong, much of the company's early vision and success has been credited to Mauricio Botelho, its president and CEO since September 1995. Among other things, Botelho has stressed the importance of aggressive marketing, enhancing customer service, increasing efficiency and maintain-

EMBRAER'S BALANCE SHEET (Real millions)

	End-1996	1997	1998	1999	2000	Mid-2001
Cash & equivalents	10.9	139.9	420.4	611.2	2,358.6	2,912.8
Total debt	636.6	512.4	1,092.2	1,269.2	906.9	1,307.6
Shareholders funds	392.1	673.0	707.8	1,059.5	1,761.7	2,072.2

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ing good labour relations.

As part of a global share offering in July 2000, Embraer obtained a listing on the New York Stock Exchange (NYSE) and has since then seen its ADS price perform strongly. In June this year, US investors got a second opportunity to buy into this company when a group of existing shareholders, including majority-owner Bozano Holdings and BNDES, sold part of their holding in a \$750m public offering.

The balance sheet is in good shape, with cash reserves of \$1.26bn, total debt of only \$567.3m and shareholders' equity of \$900m at the end of June. With a firm order backlog of \$10.7bn and another \$12.8bn worth of options at the end of June, Embraer looks well positioned for the future.

Softening 50-seater sales

Like other aircraft manufacturers, Embraer has reported option deferrals and a barrage of questions from customers about such matters in recent months. However, as at mid-August, there had been no order or option cancellations.

The important US market has held strong, because regional airlines there are much more insulated from the effects of economic slowdown than the major carriers. If anything, Embraer's two major US customers, American Eagle and Continental Express, would gain if their parent companies stepped up efforts to downsize from large jets in response to a continued decline in load factors.

But Embraer has lost important business to Bombardier this year as a result of Canada's retaliatory actions in the Canada-Brazil dispute about aircraft subsidies. Regional jet orders from Northwest and Air Wisconsin, worth \$1.7bn and \$1.5bn respectively, went to Bombardier, because the Canadian government decided to match the low-cost financing terms that were offered by Brazil's ProEx programme.

However, after alarmingly weak sales in the first six months of 2001 (just 18 firm orders), Embraer looks likely to do much better in the second half of the year. Midwest Express' subsidiary Skyway Airlines, which in April signed an MoU to order 20 ERJ-140s plus 20 options, finally signed the contract in early August. At that time Embraer also reported that three other contracts covering 60-plus firm orders were likely to be finalised by year-end.

The deals still in negotiation include orders from Chautauqua and Trans States Airlines - former TWA feeders that have secured new growth opportunities with American. Chautauqua has exercised options for 28 ERJ-140/145s and added 25 options, while Trans States intends to place a new order for 10 ERJ-140s plus 25 options.

One major setback has been inability to finalise two major orders from China, which were placed in November 2000, have been signed but have not been authorised by the Chinese government. Embraer had hoped to deliver those aircraft this year, but now the order looks likely to be delayed further and also downsized.

As a result, Embraer now expects this year's deliveries of the ERJ-145 family to be about 185 aircraft, down from 200 anticipated only a few months ago. The option defer-

als may mean that next year's deliveries will be no higher. In light of the changed outlook, the company is not boosting the production rate from the current 16 aircraft per month to 20, as previously intended.

At the end of June, the ERJ-145 family had logged 838 firm orders, of which 434 had been delivered, and 403 options, bringing total sales to a highly respectable 1,241. The ERJ-145 accounted for about two thirds of the firm order total. It has gained at the expense of the ERJ-135, probably reflecting the general trend in favour of larger regional jets.

The ERJ-140 sales are picking up, following first deliveries in July. The firm order total of 139 aircraft at the end of June (all from American Eagle) was almost as high as the 148 orders that the ERJ-135 has secured after two years in service.

Sales of the ERJ-145 have been helped by the availability of the XR version, which extends the aircraft's range from 1,550 to 2,000 nautical miles. First flight was in July and deliveries to launch customer Continental Express, which has ordered 75 plus 100 options, will begin in mid-2002.

As regards the ERJ-135, Embraer is now focusing on marketing its corporate jet version, the Legacy, which is on schedule for first delivery in December. Those sales, which currently total 35 firm and 36 options, have somewhat helped to compensate for the option deferrals by regional airlines. However, while moving into the business market with a proven aircraft is a less risky strategy, short-term prospects do not look very good because of heavy spending cuts by corporations.

Embraer's leadership recently commented that while the company is still busy marketing the ERJ-145 family, most of the potential orders currently on the pipeline in Europe or the US are small. Of course, the one exception is US Airways, which has requested proposals from Embraer, Bombardier and Fairchild Dornier for up to 250 regional jets. However, those plans are still extremely uncertain, because US Airways faces an extremely tough task in persuading its pilots to agree to such large-scale regional jet expansion.

Move into large regional jets

Embraer's main focus now is to expand its product line with a new family of 70-108 seat regional jets. The \$850m-plus ERJ-170/190 programme will reach a milestone on October 29, when the ERJ-170 is scheduled to roll out (just 27 months after launch). First deliveries of that model are expected in December 2002 to Crossair, France's Regional Airlines and GE Capital.

The larger ERJ-190, which is expected to enter airline service in July 2004, will be offered in two versions - 98-seat ERJ 190-100 and 108-seat ERJ 190-200. Embraer is also seriously considering launching an 80-seat model.

This programme is risky, because Embraer faces its strongest competition in that aircraft size category - not just from Bombardier and Fairchild Dornier, but also from British Aerospace, Boeing and Airbus - and is entering the market relatively late. However, Embraer really had no choice, because that is where demand is heading.

While Bombardier has a major advantage in being able to offer much earlier deliveries with its CRJ-700 (in service since January) and CRJ-900 (from 2003), Embraer should be able to successfully break into that segment. In a recent filing, the company suggested that its "global customer base, aircraft performance, low operating costs, product development experience, market acceptance, cabin design and aircraft price" will give it competitive edge.

Many of the airlines are likely to order their larger regional jets from the same manufacturers that built their 50-seaters. For example, nobody had seriously expected Embraer to get Mesa's recent large 70-90 seat order, which went to Bombardier because the aircraft will go to America West Express where Mesa already operates CRJs.

The ERJ 170/190 has already logged a respectable 120 firm orders and 205 options. That does not include a 25-aircraft, \$750m firm order that TAM is expected to place before year-end, following an MoU signed in June for up to 100 ERJ 190-200s (with flexibility to convert to other models in the family). In any case, sales should pick up once

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flight-testing gets under way. According to Embraer executives, the company is working on about five potential 70-108 seat RJ orders that are likely to be decided by early next year.

Investment priorities

Embraer has also been investing heavily to strengthen its presence in new geographical regions, particularly Asia and South Pacific. Among other things, over the past year it has opened a sales and technical

office in Beijing.

The company is also looking for new expansion opportunities in its "core competence" areas, including aeronautical engineering, systems integration, logistics and project management and after-sales service.

This year's excess cash will be used for new investments, rather than returning it to shareholders. In January Embraer announced a \$1.75bn five-year investment programme, of which \$1.25bn will go to product development and the rest for industrial infrastructure and training. Around \$150m is being spent on constructing a new manufacturing complex in Brazil, which will include a runway for test flights and the final assembly lines for corporate and defence aircraft.

Top-priority items also include customer service investments. At the Paris Air Show, Embraer and ATR announced "AEROChain", an e-commerce portal focused on improving commercial relations with customers and suppliers. Embraer expects to involve 550 suppliers and 170 potential customers. This US-based joint venture is estimated to require a combined investment of \$21m and will be implemented by the second quarter of next year.

Embraer is particularly keen to build its position in the defence market, because military business accounted for only 8% of its total sales last year. There are opportunities since the Brazilian government is expected to invest \$3bn to upgrade the country's air force over eight years.

Earlier this year the company announced that it hoped to increase military sales to 30% of the total within five years. However, Embraer executives recently played down that target, suggesting that growth in military revenues will be a more gradual long-term trend.

Canada's recent decision not to appeal a WTO ruling which concluded that Brazil's amended ProEx export financing programme is legal was an important acknowledgment that Brazil has mended its ways. However, the pressure is on Embraer to continue to stick to the WTO rules.

EMBRAER'S ORDER BOOK, MID-2001

Customer	Type	Backlog	Options
Rio Sul Serv Aereos Regionais	120	2	0
Sub-Total		2	0
Belgian Air Force	135	1	1
British Midland	135	4	0
City Airlines	135	1	0
Conoco Inc.	135	1	0
Continental Express	135	23	0
Executive Jet Management	135	4	0
Flandre Air	135	4	12
Marilia (Unibanco)	135	1	0
Regional Air Lines	135	7	5
South African Airlink	135	28	40
Swift Aviation	135	25	25
Undisclosed	135	7	0
Sub-Total		106	83
American Eagle	140	139	31
Trans States Airlines	140	10	25
Wexford Management	140	28	0
Sub-Total		177	56
Air Moldova	145	2	2
Axon Airlines	145	1	0
Belgian Air Force	145	2	1
Brazilian Government	145	8	0
British Midland	145	2	10
British Regional Airlines	145	4	0
Continental Express	145	135	100
Crossair	145	11	25
Flandre Air	145	2	0
KLM Exel	145	1	2
LOT Polish Airlines	145	4	0
Mesa Air Group	145	20	64
Mexican Air Force	145	2	0
Regional Airlines	145	2	0
Rio Sul Serv Aereos Regionais	145	1	0
Sichuan Airlines	145	1	0
Wexford Management	145	18	45
Sub-Total		216	249
Crossair	170	30	50
Ge Capital Aviation Services	170	50	78
Regional Airlines	170	10	5
Sub-Total		90	133
Crossair	190	30	50
Sub-Total		30	50
Total		621	571

Source: ACAS.

KLM: Still searching for a sustainable role

KLM continues to search for a sustainable role for itself. Unable to grow to the same mass as Lufthansa, BA or Air France, it has attempted on various occasions to create a new role for itself - through Alcazar, a virtual merger with Alitalia and a junior partnership in an alliance with BA - but all have failed. Where next?

Founded in 1919, KLM is one of the oldest and longest established carriers worldwide. In its early years it built up a strong long-haul network based initially on routes to link the home country with its colonial outposts. However, based in a country of only 15m inhabitants, it had a low level of indigenous traffic demand and had to look abroad to develop the traffic to satisfy the capacity it offered. The Chicago Conference enabled it to develop these routes. It developed its home base of Schiphol airport in Amsterdam as a transit hub and very successfully built a set of services dependent on the sixth freedom rights it could exploit. Having a very low level of natural point-to-point demand and becoming increasingly dependent on transfer traffic resulted in an operation characterised by high load factors and low yields. It happens as a result to have the longest average stage length of any of the European carriers.

KLM has built Amsterdam to be the fourth largest airport hub in Europe after London, Paris and Frankfurt. Always maintaining a commercial managerial mindset, it took advantage of the management incompetencies of its competitors before their respective privatisations and made significant ingress into the natural markets of Lufthansa (in particular the NordWest Rhein region), Air France and BA. Indeed, it can still be said that Amsterdam is London's third airport as there are more regional connections from UK airports to Amsterdam than to both Heathrow and Gatwick combined.

In a regulated world, KLM performed adequately. The real problems have

appeared in earnest since the onset of European deregulation. Niche operations can only last so long.

Financial results

The results for 2000/01 were better than for the previous year but still disappointed the financial markets. On revenues of € 6,960m, up 10%, the company reported doubled operating profits of €277m and net profits of €75m against €29m last time. Traffic in the year grew by 3% against flat capacity. Load factors improved by 1.8 points to 78.5%. Yields rose by 10% in the period, against an increase in unit costs of 8% and the break-even load factor fell by 1.3 points to 73.8%.

As a result margins improved by 2.5 points to a mere 4.0%. In the year the group achieved a return on capital of 5.7% up from 3.0% in the prior year. This is at least five points below a sustainable return. Its debt gearing fell marginally to 104% from 107% and interest cover improved to 2.1 times from the death-defying 1.3 times of the previous year.

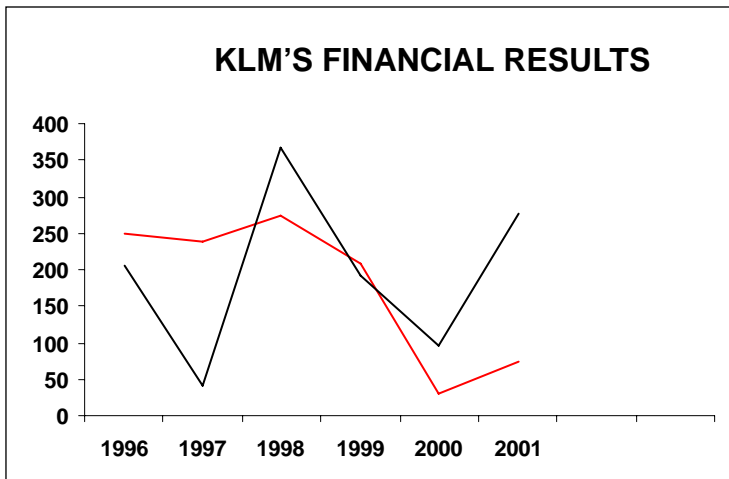
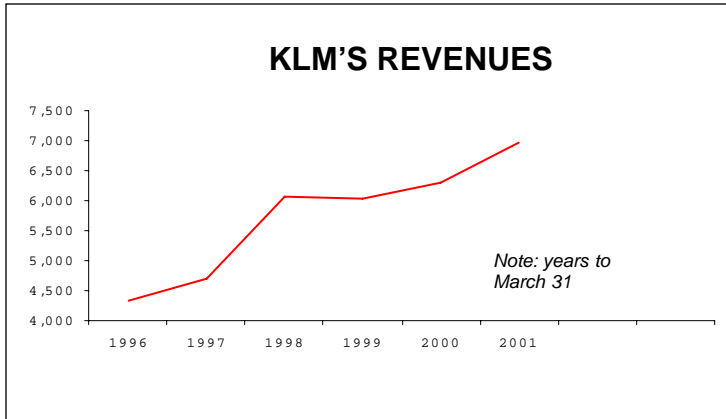
In the three months to end June 2001, the company announced operating income of only €23m down from €100m in the prior year period. All elements of operations showed significant deterioration: capacity grew by 3% against traffic growth of only 1% (load factors fell by 2 points to 76%); yields fell by 1% against unit cost growth of 4%. As a result margins in the quarter fell by 4.4 points to a mere (break-even level) of 1.3%.

The Wings alliance

KLM's a long-standing agreement with Northwest on the Atlantic (Wings) involves revenue- and cost-sharing on all routes

Aviation Strategy

Briefing



between the US and Europe, under the auspices of immunity from the US anti-trust laws. In addition, it covers routes to India. Both partners have had bilateral links with other carriers in their own and other regions - but the alliance has not been developed to be as encompassing as either Star or oneworld, and SkyTeam is rapidly developing into a global force.

KLM and Northwest have links with JAS in Japan where their route networks meet at Northwest's Tokyo hub. It announced in May that it has long last started talking properly with MAS to develop some form of cooperation, although this is unlikely to be fully fledged. Overall, the Wings is a poor third behind Star and oneworld in terms of market presence with only 7% world market share - except insofar that it is the longest established and the furthest developed.

KLM is currently almost inextricably linked with Northwest. The two operators

have combined their operations to such an extent that it will be extremely difficult to effect a dissolution. KLM no longer has any sales or marketing activity in the US except where combined with Northwest. Likewise, Northwest uses KLM's sales and marketing operation in Europe and the Middle/Near east. It has no real US network access except that provided by Northwest.

However, KLM does have an obligation to reimburse Northwest should it renege on the agreement before the end of the 11 year contract.

The European merger imperative

Despite some intermediate holding action, the company recognises that it has to combine operations with another European carrier to gain access to a major second hub and to enable it to survive. In particular it needs an entrée into a hub in a major domestic market.

The choices are now minimal. None at this stage in the cycle should now go for the dross in Europe. Alitalia has signed with Air France (and KLM has already been burnt there). Lufthansa (plus SAS and Austrian) is out of the question as is Air France (soon to be linked with Alitalia). Swissair is no longer an option. Starting negotiations with some of the expected fallout from the Swissair experience may be considered - but surely not seriously.

KLM controls roughly 53% (55% including Northwest) of the slots at Amsterdam's Schiphol Airport. It is a single terminal airport with currently four runways. A fifth runway is scheduled to open in 2003. The company has suffered considerable opposition from the environmental lobby in the political processes in the Netherlands.

In the past few years it has been constrained on the noise output at the airport - the only airport where such constraints have been imposed. The debate over whether to re-site the country's main airport in the middle of the North Sea was scotched a year ago - helped by the company's suggestion

that it would move operations out of Holland. The environmental dispute is unlikely to go away. In the short run there appears sufficient capacity, but it is very likely that KLM will become increasingly constrained at its home base.

KLM's competitors have discovered the delights of marginal pricing to encourage traffic through their respective hubs - Air France in particular through the development of CDG. KLM has always inherently or surreptitiously had to discount against its competitors' tariffs. In addition, albeit having a good long-haul network, its exposure to the scheduled internal European market is limited to less than a 10% market share.

BA again?

KLM is reported to have reopened negotiations with BA, but they are no longer talking about ensuring a fully merged operation (which would cause problems over the respective route rights and historically has caused disagreements over managerial control) but an agreement which would allow joint European operations and give each access to the second European hub that both require. In time this may lead to joint equity holdings, but in the short run will need to overcome political issues over competition between the UK and Netherlands.

If KLM were to sign a deal with BA, it would presumably bring it under the oneworld banner. This could cause a significant problem with the KLM agreement with Northwest Airlines on the basis that Northwest would suffer political problems were it be seen to be connected to American Airlines. transatlantic deal.

Moreover, BA has discovered a deadline: the EC has pressed its campaign to take control of all bilateral air service negotiations and has put a motion before the European Courts to allow it to do so. As a result the UK government has taken fright and is now earnestly trying to tie up an aviation agreement before Brussels takes power. Consequently, BA is desperately anxious to fulfill some portion of its original agreement with its chosen partner American and has

redefined its cooperation agreement with the hope that it is promulgated before the European Court rules in favour of the Commission. Equally, it may be said that the US would want to ratify an agreement before Brussels takes control. BA's priorities are focussed on the Atlantic and its attention to Europe currently limited.

The painful experiences

In its search for meaningful partnership, KLM's management have had a lot of bruising experiences in the alliance field. The agreement with Northwest now works very well operationally, but there were bitter boardroom battles between directors of the two airlines over control issues associated with KLM's 25% shareholding, resulting in the sale of this investment in 1997.

It also had to extricate itself from a misguided investment in Air Littoral. It started negotiations in 1989 with British Airways to form a merged entity to operate a combined "World Airlines" group. This fell apart on questions of control. In the early 1990s it was negotiating with Swissair, SAS and Austrian under the project name of "Alcazar" to create a merged European carrier.

All this having failed it signed a deal with Alitalia in 1997 which was designed to merge the two companies' respective European operations. At the time Alitalia had a deal with Continental and Northwest was negotiating a deal with Continental. The hope was that the four carriers would be able to combine North Atlantic operations to generate a multi-hub trans-regional route system - linking the five US hubs (Minneapolis/St Paul, Detroit, Memphis, Houston, NY Newark) with the three European hubs (Amsterdam, Milan, Rome). For political reasons more than anything else, the Alitalia deal fell apart and Northwest had to dispose of its control in Continental. and now KLM is on its own again. In hindsight it is a great shame that KLM could not pursue its commitment to Alitalia, now lost to the Air France/Delta alliance.

At the same time it took stakes in Braathens SAFE in Norway and Eurowings

in Germany to ensure regional links from those areas and attack the incumbent SAS and Lufthansa who had effectively joined operations. These two have now fallen by the wayside as Lufthansa has taken a stake in Eurowings. In addition, KLM was hoping to sell its stake in Braathens to SAS. This deal is now in abeyance following the dismissal of the deal by the Norwegian authorities and is currently stymied by regulatory concerns.

Meanwhile, the company has long had a major (and now fully owned) stake in Air UK, a regional British carrier, which provided substantial feed to Amsterdam from British regional airports. Faced with the start up of low cost competition in the UK from the likes of Ryanair, Easyjet and Go, it rebranded Air UK as a low cost carrier under the sobriquet "Buzz". This has been expensive with estimates of losses last year (to March 2001) reaching €50m. The suggestion is that the company will be forced to close the Buzz brand and move the fleet to its regional subsidiary KLM Cityhopper.

Outlook

If only this industry could get beyond the limitations of the results of the 1944 Chicago Conference the likes of KLM could develop a commercial and economic strategy that

would allow it to survive. This should not have anything to do with capital ownership. The failure of the link with Alitalia was due more to political incompetence and interference than anything else - the Italian government just could not work out how to transfer flights from Milan's overcrowded Linate airport to the new Malpensa without upsetting local politicians and the European Airline community. The delay in the full implementation exhausted KLM's patience. The company's talks with BA last year foundered on the problems of maintaining Dutch national route rights and required control of an airline by nationals of the home country for international route rights.

As it is KLM is left with three difficult alternatives:

1. Continue as is, with continued yield, unit revenue and margin erosion as the European majors concentrate on their own base hub development.
2. Yield to BA takeover, forgetting any idea of corporate or national identity. Attempt to disband the Northwest agreement in favour of a potential American Airlines connection. Forfeit management control in order to create the first cross-border European merger.
3. Acquire stakes in the remaining non-aligned airlines in Europe. Maybe even attempt to take over troubled Swissair or take a stake in Sabena or TAP (likelihood of success zero).

By James Halstead

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CRM: how much value can it really create?

A vexing question for a number of airlines is how much value does CRM (Customer Relationship Management) really deliver to the bottom line? While this question remains unanswered, many sceptical senior managers will continue to pay lip services to the strategic importance of a customer-centric perspective and will continue with business as usual.

McKinsey's investigation into 17 world class airlines clearly indicates that significant revenue improvements, of between 0.9% and 2.4%, are achievable. This revenue increase comes from three areas:

- * Re-attracting defected customers, which accounts for 0.1-0.3% of revenues;
- * Increasing the share of a customer's travel wallet, which accounts for 0.3- 1.2% of revenues;
- * Acquisition of new customers, which accounts for about 0.05% of revenues.

Associated with these revenues are costs which amount to between 0.3% and 0.6% of the existing cost base:

- * Additional flights needed as incentives are estimated to add 0.2-0.4% to costs;
- * New costs associated with additional CRM initiatives amount to 0.2-0.5% of costs;
- * Against this, there are reductions in costs in the order of 0.1-0.3% due to more efficient and targeted running of the existing CRM program.

So the bottom-line impact of CRM is significant, ranging from \$100-250m a year for a large airline through \$25-60m for a medium sized airline to \$15-50m for a small carrier.

To capture this value however, requires world-class CRM execution, bringing together multiple airline functions which can only effectively be done once top management attention and commitment has been made.

To implement CRM, airlines need to master four critical areas:

1. Knowing your valuable customers

First, airlines need to appreciate the true current profitability of their customer; second, airlines

need to be aware of the current potential value of a customer; and third airlines need to gain insight into the future potential value of a passenger.

Understanding current profitability requires knowledge of both the revenues derived from a customer and the associated costs that can distinctly allocated to the individual. This is not straight-forward:

- Obtaining the data needed for the analysis is difficult since it either not collected or incapable of being collected;
- Different departments own the data and are reluctant to release them for purposes of analysis;
- Treatment of costs is open to much debate - should allocated costs be marginal or on a fully loaded basis, or should general marketing expense be allocated to particular members? Should opportunity cost be modelled, which reflects the cost of a point-redeeming FFP member displacing a paying customer?

Performing a true profitability analysis reveals that customer profitability varies significantly between and across frequent flier tiers. It is not unusual to find lower tier members demonstrating greater levels of profitability, for instance, due to the way they exercise their frequent flyer awards.

Therefore, traditional segmentation and marketing campaigns based on frequent flier tiers do not necessarily drive the most effective results. At best frequent flyer segmentation mis-allocates resources towards unprofitable customers, and at worst drives profit-destroying behaviour.

Understanding the current potential value of a customer goes beyond the value that an airline is currently extracting from that customer and looks at the total spend of that customer with other airlines on competitive routes. Analysis shows that while passengers tend to be loyal to a single or limited number of airlines, they will switch according to a number of factors, which can be directly influenced by the airline.

Determining the reasons why a customer switches and devising a set of incentives to ensure a greater share of wallet is key to success.

By Carlos De Pommes, Engagement Manager in the Travel and Logistics Practice at McKinsey & Co.
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Understanding the future potential value of customers focuses on the potential of new customers who are currently active travellers. Determining this value requires consideration of passengers' travel patterns and their ability to switch airline if correctly incentivised. Emphasis is placed on current travellers rather than dormant travellers (those customers who were once profitable, but due to circumstances do not travel any longer).

One airline that undertook this exercise was able to identify potentially valuable customers with a 60-70% confidence level. Knowing this enables airlines to target very specific offers to those customers.

2. Understanding customers and what drives their behaviour

Within the airline industry, two specific behavioural characteristics determine the propensity for a customer loyalty. The most important characteristics are those influenced by level of market competition and corporate-policy constraints. The second most important set of characteristics is driven by customer attitudes or mindsets.

Behaviour driven by market captivity constraints is determined by the level of carrier competition in a particular market or on specific city pair. Where competition is limited either on a hub basis or on a city-pair basis, an airline would expect to see high levels of loyalty. Where the competition is fierce, then the level of loyalty would be correspondingly low.

The ratio of loyalty versus market domination does not however increase as linear function, but as an inflexion curve appearing between 45-55% market share domination. Below this critical mass in a particular market, the level of loyalty for a particular airline will be below its market penetration. Above critical mass, loyalty tracks above. As a measure of success in a particular market, an airline needs to move its level of loyalty above this expected curve.

Behaviour driven by corporate policy constraints is determined by the restrictiveness or level of compliance to corporate policy.

Airline corporate agreements provide incentives for the company to fly with a given airline, with the employees expected to follow corporate dictates. However, employees are adept at bypassing such corporate policy if personal

incentives are not aligned, for instance where an employee is a member of another airline's FFP scheme. In such circumstances, airlines cannot rely on the sole use of a corporate loyalty scheme and must simultaneously coordinate FFP awards.

Nevertheless, an airline needs to be careful to weigh up the value of the FFP benefits awarded to employee of that corporation, given that the airline is giving away value twice.

Behaviour driven by customer attitudes is influenced by customers' mindsets with regard to a particular carrier.

Distinct mindsets can be associated with customers' existing travel patterns: (1) those passengers which displayed an increase of travel on their airline, (2) those customers that displayed constant levels of travel and (3) those customers that displayed decreased levels of travel. Within each category the following customer traits have been identified:

- The rational evaluators (such as dissatisfied defectors) are those customers who evaluate the offer from a particular airline across a number of dimensions, such as brand, service, FFP awards, product, network, then based on the balance of these characteristics make their decision.
- The emotive evaluators are either evangelists for a carrier, or detractors. Their decision is based on a limited set of factors, rarely involving price, often involving perceived services. These customers would either go out of their way to travel with the carrier, or out of their way not to travel.
- Deliberate switchers are those fickle customers who switch loyalty based on price or reward offered, with little consideration for any other factor. They are the easiest to attract, but most difficult to retain.
- The inertial 'movers' are those customers that travel with a carrier based on easiest-path considerations, either because of corporate dictate or market captivity.

For each type of mindset, airlines need to target specific incentives. For example, those passengers who are rational evaluators in the increasing travel category would be motivated by an earlier tier upgrade because it is of perceived value, whereas an ineffective lever would be a telephone call with a 'We value your business' message. For those passengers who are in the dissatisfied defectors category, for instance because of the inability to redeem miles on desired routes, an effective lever would be a 'spe-

cial' exemption to fly route and upgrade. An ineffective lever would be to offer double mileage.

Unfortunately, accurately pinpointing the underlying motivation of each customer's behaviour remains elusive for the airline industry since insufficient data or analytical horsepower is applied.

3. Systematic CRM programs

Capturing customer value requires airlines to run systematic customer-centric campaigns focusing on sources of value, applying the levers and knowledge gained to positively impact customer behaviour:

Campaigns focused on re-attracting profitable customers apply incentives appropriate to addressing the cause of customers' defection.

The first determination needed is to verify whether the customer is still a potential passenger. Many customers 'defect' due to structural causes such as retirement, which means that no level of incentive would be sufficient to get the passenger to become a full-fare paying passenger again. Empirical evidence suggests this category of defection varies between 60 and 65% of the total reasons for defection.

For those 35-40% of customers who have switched loyalty, the effect of constraints and mindset changes needs to be specifically identified. These include:

- Service-related issues where the passenger has become disgruntled with the treatment received from airline staff or some similar service delivery failure;
- FFP-related issues, where a passenger becomes frustrated at the inability to redeem miles, or is 'unfairly' down-graded in tier status in one year, when previous travel patterns indicates an erratic nature of travel;
- Product-related issues such as a dislike for the airlines food, seats, video systems, lounges or a range of other product issues;
- Competitor offers, either in pricing or perceived superior service in a market in direct competition with the incumbent airline;
- Flight or schedule-related where insufficient service to a particular destination becomes problematic, for example where flight schedule requires a Saturday night departure to guarantee a Monday morning arrival; and

- Corporate-policy related issues, where a change in corporate policy dictates that a passenger flies with a rival airline as the airline of choice.

Data gathering and analysis is key to providing a first approximation of cause of defection. Based on probable causes, then a proactive outbound call campaign is a highly effective means of addressing this.

Campaigns focused on increasing wallet share target those customers who are flying with competitive airlines on competitive routes and have the ability to determine with whom they fly.

The first stage in this process is to positively identify which customers fit this category, through the use of new analytical tools and alternative sources of data. Two alternative approaches exist. The first is based the analysis of flight discontinuities, specifically one-way segments. Given that customers generally make return trips, pinpointing those passengers who have a profile of making one-way flights indicates potential wallet share loss. The second type of analysis is based on tracking frequent flyer points collected with car rental or hotel partners. In instances where a frequent flyer member starts collecting points away from home, and analysis of their travel patterns indicates that that passenger did not get to that destination with the airline, wallet share loss again exists.

Campaigns focused on reducing cost typically focus on those customers outside of the top tiers.

Airlines need to determine which services can be more effectively delivered through alternative means or even cut out completely without any perceived reduction in service. For instance, one airline identified significant cost savings if frequent flyers' monthly status reports were emailed rather than posted. Savings of approximately \$2 per member per month were achieved.

Prioritising the wide spectrum of CRM initiatives should be based on impact, thus ensuring those initiative with superior returns on investment are implemented first. These quick win 'high-impact, low-effort' CRM initiatives are important in that they delivers real value in a short time period, energises staff and provides momentum to tackling more complex initiatives. Examples of quick wins include:

- One airline offered those customers it had predicted were in danger of defection a special telephone hotline for any queries or difficulties they

were facing;

- Another airline that had identified that inadequate redemption was an issue for a customer segment, proactively provided redemption passes for those customers;
- One airline decided to proactively send apology letters for bad service to those elite tier members identified on flights delayed beyond normal parameters.

4. Operationalising CRM

Operationalising CRM in the airline business entails overcoming at least three significant barriers. **Leadership and organisation:** Senior management commitment is key to successfully implement CRM. This team needs to actively shape and reshape strategy, determine roles, allocate resource, and align incentives to ensure the optimised pursuit of customer activities across all airline functions.

Senior executives at those airlines in the early stages of CRM development are typically interested in the potential but sceptical about the value of CRM. These executives want the impact of CRM demonstrated before committing. However, these airlines are unfortunately in the weakest position to develop a credible business case to support CRM.

There is also the prevalent belief among at these airlines that no other airline is doing any better. Essentially these airlines do not know how much they do not know. Many CRM efforts stagnate due to misaligned organisational structures and incentives. Effective CRM roll-out requires departments impacted by CRM to have their performance measurements and incentives aligned with the goals of the initiative. For example, front line staff, who are traditionally incentivised on productivity, will now need to have their performance measures take into account client relationship impact.

Ill-defined strategy and capabilities: Detailed micro-segmentation beyond FFP tiers remains limited with the airline industry. Without such behavioural segments, effectively identifying high value customers, understanding the reasons for their behaviour and then directing high impact services will be not be successful.

To capture customer value, airlines need to run customer-focused, systematic campaigns.

Apart from the quick wins, many CRM initiatives have profound implication for an airline requiring an upgrade its capabilities to effectively deliver the service required.

For the airline industry, shifting from route support campaigns (i.e. traffic stimulation on particular city pair segments) to customer-centric requires an order of magnitude upgrade their capabilities. For instance, airline campaigns focused on supporting routes may be run typically one to three times a month, targeting say up to 50,000 customers each time, would now have to increase to between 30 and 100 campaigns a month, more accurately targeting a smaller number of customers, say 5,000. This poses new logistic and process challenges, in managing volume, analysing results and making modifications to subsequent campaigns to increase effectiveness.

Legacy technology and inflexible operations: Effective CRM is supported by effective technology. Airlines, however, are hampered by diverse and outdated legacy systems that do not allow the easy collection, analysis and dissemination of customer information.

While stand-alone technology is now available to undertake the data mining, analysis and campaign management, airline still need to access customer data from the multiple separate databases. Addressing the limitations of the architectural design of the infrastructure requires will take many years to effect.

Why airlines need to get started now

It is imperative for airline to be aware of the importance of CRM and hence the implications of the airline's competitive position.

Providing superior service to valuable customers will be key to ensuring levels of loyalty beyond any structural advantages or disadvantages in a particular market place.

Getting the basics right early on will be essential as the CRM is a philosophy that will take many years to full transform the airline

More importantly, first mover advantages do accrue to those airlines that master CRM ahead of others as re-attracting customers and increasing wallet share will be achieved at the expense of the competition.

Aviation Strategy

Value trends

JET FREIGHTER CURRENT VALUES (\$millions)

	New	5 years old	10 years old	20 years old
A300F4-200				15.6
A300-600RF	77.5	61.2		
727-200F Adv				3.8
737-300QC		27.5	22.0	
747-200M				19.9
747-400M	153.0	118.2	83.4	
747-400F	162.7	132.7		
747-400ERF	172.2			
757-200PF		45.1	34.7	
767-300F	81.6	63.3		
DC-10-30C/F				21.8
MD-11C		69.5		
MD-11F		78.6		

Source: AVAC
Notes: As assessed at end-April
2001; mid-range values for all types

AIRCRAFT AND ASSET VALUATIONS

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Aviation Strategy

Macro-trends

EUROPEAN SCHEDULED TRAFFIC

	Intra-Europe			North Atlantic			Europe-Far East			Total long-haul			Total international		
	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %
1993	137.8	79.8	57.9	145.1	102.0	70.3	96.3	68.1	70.7	319.1	223.7	70.1	479.7	318.0	66.3
1994	144.7	87.7	60.6	150.3	108.8	72.4	102.8	76.1	74.0	334.0	243.6	72.9	503.7	346.7	68.8
1995	154.8	94.9	61.3	154.1	117.6	76.3	111.1	81.1	73.0	362.6	269.5	74.3	532.8	373.7	70.1
1996	165.1	100.8	61.1	163.9	126.4	77.1	121.1	88.8	73.3	391.9	292.8	74.7	583.5	410.9	70.4
1997	174.8	110.9	63.4	176.5	138.2	78.3	130.4	96.9	74.3	419.0	320.5	76.5	621.9	450.2	72.4
1998	188.3	120.3	63.9	194.2	149.7	77.1	135.4	100.6	74.3	453.6	344.2	75.9	673.2	484.8	72.0
1999	200.0	124.9	62.5	218.9	166.5	76.1	134.5	103.1	76.7	492.3	371.0	75.4	727.2	519.5	71.4
2000	208.2	132.8	63.8	229.9	179.4	78.1	137.8	108.0	78.3	508.9	396.5	77.9	755.0	555.2	73.5
Jun 01	18.9	13.0	68.5	20.6	17.7	85.6	11.1	8.8	79.3	43.3	35.5	81.9	65.6	50.6	77.1
Ann. chng	5.6%	5.6%	0.0	2.0%	-1.0%	-2.6	-1.8%	-1.7%	0.0	0.9%	0.8%	-0.1	2.4%	1.9%	-0.4
Jan-Jun 01	106.7	65.7	61.6	113.2	84.4	74.6	66.9	51.5	76.9	250.6	190.1	75.9	376.9	268.5	71.2
Ann. chng	4.7%	4.9%	0.1	1.7%	-1.4%	-2.3	-2.4%	-2.3%	0.1	0.4%	-0.3%	-0.5	1.8%	0.9%	-0.6

Source: AEA.

US MAJORS' SCHEDULED TRAFFIC

	Domestic			North Atlantic			Pacific			Latin America			Total international		
	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %
1993	867.7	538.5	62.1	140.3	97.0	69.2	112.5	79.7	70.8	55.8	32.5	58.2	308.7	209.2	67.8
1994	886.9	575.6	64.9	136.1	99.5	73.0	107.3	78.2	72.9	56.8	35.2	62.0	300.3	212.9	70.9
1995	900.4	591.4	65.7	130.4	98.5	75.6	114.3	83.7	73.2	62.1	39.1	63.0	306.7	221.3	72.1
1996	925.7	634.4	68.5	132.6	101.9	76.8	118.0	89.2	75.6	66.1	42.3	64.0	316.7	233.3	73.7
1997	953.3	663.7	69.6	138.1	108.9	78.9	122.0	91.2	74.7	71.3	46.4	65.1	331.2	246.5	74.4
1998	960.8	678.8	70.7	150.5	117.8	78.3	112.7	82.5	73.2	83.5	52.4	62.8	346.7	252.7	72.9
1999	1,007.3	707.5	70.2	164.2	128.2	78.1	113.2	84.7	74.8	81.3	54.3	66.8	358.7	267.2	74.5
2000	1,033.5	740.1	71.6										380.9	289.9	76.1
Jun 01	88.1	66.3	75.3										33.3	27.9	83.8
Ann. chng	2.6%	-2.3%	-3.9										1.2%	1.8%	1.1
Jan-Jun 01	517.7	364.2	70.3										192.6	144.4	75.0
Ann. chng	1.2%	-0.4%	-1.2										5.0%	4.2%	-0.5

Note: US Majors = American, Alaska, Am. West, Continental, Delta, NWA, Southwest, TWA, United, USAir. Source: Airlines, ESG.

ICAO WORLD TRAFFIC AND ESG FORECAST

	Domestic			International			Total			Domestic growth rate		International growth rate		Total growth rate	
	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %	ASK %	RPK %	ASK %	RPK %	ASK %	RPK %
1993	1,349	855	63.3	1,785	1,205	67.5	3,135	2,060	65.7	3.4	2.0	4.4	4.8	3.9	3.6
1994	1,410	922	65.3	1,909	1,320	69.1	3,318	2,240	67.5	4.6	7.9	6.9	9.4	5.9	8.8
1995	1,468	970	66.1	2,070	1,444	69.8	3,537	2,414	68.3	4.1	5.4	8.5	9.4	6.6	7.8
1996	1,540	1,043	67.7	2,211	1,559	70.5	3,751	2,602	79.4	4.9	7.4	6.8	8.0	6.0	7.8
1997	1,584	1,089	68.8	2,346	1,672	71.3	3,930	2,763	70.3	2.9	4.5	6.1	7.2	4.8	6.1
1998	1,638	1,147	70.0	2,428	1,709	70.4	4,067	2,856	70.3	3.4	5.2	3.5	2.2	3.4	3.4
1999	1,911	1,297	67.9	2,600	1,858	71.5	4,512	3,157	70.0	5.4	5.0	5.7	7.4	5.6	6.4
2000	2,005	1,392	69.4	2,745	1,969	71.8	4,750	3,361	70.8	4.9	7.2	5.6	6.0	5.3	6.5
*2001	2,079	1,414	68.0	2,879	2,028	70.4	4,958	3,442	69.4	3.7	1.7	4.9	2.9	4.4	2.4
*2002	2,146	1,463	68.2	3,007	2,122	70.6	5,154	3,587	69.6	3.2	3.5	4.5	4.7	4.0	4.2
*2003	2,237	1,533	68.7	3,176	2,258	71.1	5,413	3,794	70.1	4.2	4.9	5.6	6.3	5.0	5.8
*2004	2,344	1,607	68.7	3,373	2,398	71.1	5,717	4,007	70.1	3.7	4.8	6.2	6.2	5.6	5.6

Note: * = Forecast; ICAO traffic includes charters. Source: Airline Monitor, January 2001.

DEMAND TRENDS (1990=100)

	Real GDP					Real exports					Real imports				
	US	UK	Germany	France	Japan	US	UK	Germany	France	Japan	US	UK	Germany	France	Japan
1993	105	100	100	101	105	117	107	106	109	112	117	104	108	101	96
1994	109	103	103	104	106	126	117	115	115	117	131	110	117	107	104
1995	111	106	105	106	107	137	126	122	123	123	141	115	124	113	119
1996	114	108	107	107	111	152	135	128	128	126	155	124	127	116	132
1997	118	112	110	109	112	172	146	142	142	138	177	135	136	123	132
1998	122	115	113	112	109	173	150	152	150	135	196	144	147	133	121
1999	127	117	114	115	111	179	150	155	153	135	220	151	152	136	122
2000	134	121	117	119	114	198	162	174	172	153	250	164	166	153	139
*2001	138	124	121	122	116	216	173	191	188	162	272	176	179	165	148

Note: * = Forecast; Real = inflation adjusted. Source: OECD Economic Outlook, December 2000.

Aviation Strategy

Macro-trends

FINANCIAL TRENDS (1990=100)

	Inflation (1990=100)					Exchange rates (against US\$)						LIBOR 6 month Euro-\$	
	US	UK	Germany	France	Japan	UK	Germ.	France	Switz.	Euro**	Japan		
1993	111	109	114	108	106	1992	0.570	1.562	5.294	1.406	0.773	126.7	3.84%
1994	113	109	117	110	107	1993	0.666	1.653	5.662	1.477	0.854	111.2	3.36%
1995	117	112	119	112	107	1994	0.653	1.623	5.552	1.367	0.843	102.2	5.06%
1996	120	114	121	113	107	1995	0.634	1.433	4.991	1.182	0.765	94.1	6.12%
1997	122	117	123	114	108	1996	0.641	1.505	5.116	1.236	0.788	108.8	4.48%
1998	123	120	124	115	109	1997	0.611	1.734	5.836	1.451	0.884	121.1	5.85%
1999	125	122	126	116	108	1998	0.603	1.759	5.898	1.450	0.896	130.8	5.51%***
2000	128	124	127	117	107	1999	0.621	1.938	6.498	1.587	1.010	103.3	5.92%***
*2001	131	127	128	119	107	2000	0.603	2.119	7.108	1.658	0.923	118.1	5.36%***
						Aug 2001	0.690	2.151	7.214	1.668	0.909	120.7	3.30***

Note: * = Forecast. Source: OECD Economic Outlook, December 2000. **Euro rate quoted from January 1999 onwards. 1990-1998 historical rates quote ECU. *** = \$ LIBOR BBA London interbank fixing six month rate.

AIRCRAFT AVAILABLE FOR SALE OR LEASE

	Old narrowbodies	Old widebodies	Total old	New narrowbodies	New widebodies	Total new	TOTAL
1988	126	34	160	16	1	17	177
1989	216	38	254	42	2	44	298
1990	380	77	457	74	14	88	545
1991	457	129	586	114	27	141	727
1992	433	138	571	75	15	90	661
1993	370	195	565	103	37	140	705
1994	267	182	449	61	23	84	533
1995	238	157	395	49	29	78	473
1996	124	101	225	32	22	54	279
1997	162	104	266	54	13	67	333
1998	187	125	312	67	55	122	434
1999	243	134	377	101	53	154	531
2000	302	172	474	160	42	202	676
2001-Jan	288	150	438	172	43	215	651
2001-Feb	298	155	453	152	46	198	651
2001-Mar	345	144	489	164	47	211	700
2001-Apr	326	130	456	184	61	245	701
2001-May	371	140	511	210	61	271	782
2001-June	353	150	513	222	67	289	802

Source: BACK Notes: As at end year; Old narrowbodies = 707, DC8, DC9, 727,737-100/200, F28, BAC 1-11, Caravelle; Old widebodies = L1011, DC10, 747-100/200, A300B4; New narrowbodies = 737-300+, 757, A320 types, BAe 146, F100, RJ; New widebodies = 747-300+, 767, 777, A600, A310, A330, A340.

JET AND TURBOPROP ORDERS

	Date	Buyer	Order	Price	Delivery	Other information/engines
Airbus	Aug 7	Emirates	2 A330-200s		3Q 2002	Rolls Royce Trent 772 engines
	Jul 16	Singapore Airlines	10 A380-800s		1Q 2006	
ATR	-	-	-			
BAe	Jul 11	British European	20 Avro RJX-100s	\$600m+	2002-2006	Honeywell AS 977 engines
Boeing	-	-	-			
Bombardier	Aug 29	Japan Air Comm.	5 Q400s	\$105m	4Q2002+	Replacement of YS-11 turboprops
	Jul 9	Northwest	75 CRJ440s	\$1.68bn	2002-2005	Plus 175 options
Embraer	Aug 27	Rheintalflug	1 ERJ145		1Q2002	Exercise of option
Fairchild	-	-	-			

Note: Prices in US\$. Only firm orders from identifiable airlines/lessors are included. MoUs/Lols are excluded. Source: Manufacturers.

Aviation Strategy

Micro-trends

	Group revenue	Group costs	Group operating profit	Group net profit	Total ASK	Total RPK	Load factor	Group rev. per total ASK	Group costs per total ASK	Total pax.	Total ATK	Total RTK	Load factor	Group employees
	US\$m	US\$m	US\$m	US\$m	m	m	%	Cents	Cents	000s	m	m	%	
American*														
Oct-Dec 99	4,477	4,206	271	280	65,751.2	44,328.2	67.4	6.81	6.41					98,700
Jan-Mar 00	4,577	4,365	212	132	64,392.8	43,478.4	67.5	7.11	6.78					104,500
Apr-Jun 00	5,011	4,494	517	321	67,000.4	50,538.7	75.4	7.48	6.71					105,900
Jul-Sep 00	5,256	4,684	572	313	66,654.0	50,828.1	76.3	7.89	7.03					107,500
Oct-Dec 00	4,859	4,779	80	47	63,562.5	44,318.5	69.7	7.64	7.52					107,500
Jan-Mar 01	4,760	4,743	17	-43	62,725.7	42,590.7	67.9	7.59	7.56					108,900
Apr-Jun 01	4,838	5,586	-748	-494	66,007.0	47,484.0	71.9	7.33	8.46					128,300
America West														
Oct-Dec 99	569	532	37	29	10,594.0	7,307.8	69.0	5.37	5.02	4,822				11,575
Jan-Mar 00	563	552	11	15	10,440.8	6,960.5	66.7	5.39	5.29	4,612				12,024
Apr-Jun 00	618	570	48	33	10,979.8	8,091.7	73.7	5.63	5.19	5,206				12,158
Jul-Sep 00	591	591	0	1	11,079.9	8,088.3	73.0	5.33	5.33	5,178				
Oct-Dec 00	573	654	-81	-47	11,133.1	7,616.8	68.4	5.15	5.87	4,958				
Jan-Mar 01	587	612	-25	-13	11,355.2	7,857.8	69.2	5.17	5.39	5,104				
Apr-Jun 01	587	641	-54	-42	11,097.7	8,367.4	75.5	5.29	5.78	5,294				
Continental														
Oct-Dec 99	2,158	2,073	85	33	33,771.2	24,094.4	71.3	6.39	6.14	11,347				
Jan-Mar 00	2,277	2,223	54	14	33,710.2	24,143.0	71.6	6.75	6.59	11,201				
Apr-Jun 00	2,571	2,292	279	149	34,406.9	26,534.0	77.1	7.47	6.66	12,084				
Jul-Sep 00	2,622	2,368	254	135	35,978.0	27,881.1	77.5	7.29	6.58	12,155				
Oct-Dec 00	2,429	2,332	97	44	34,454.0	24,685.1	71.6	7.05	6.77	11,456				
Jan-Mar 01	2,451	2,375	76	9	34,533.9	24,322.9	70.4	7.10	6.88	11,220				
Apr-Jun 01	2,556	2,419	137	42	36,712.9	27,443.4	74.8	6.96	6.59	12,256				
Delta														
Oct-Dec 99	3,713	3,705	8	352	58,265.1	40,495.3	69.5	6.37	6.36	25,739				
Jan-Mar 00	3,960	3,605	355	223	57,093.8	39,404.4	69.0	6.94	6.31	25,093				72,300
Apr-Jun 00	4,439	3,863	606	460	59,753.4	46,509.8	77.8	7.48	6.46	28,333				73,800
Jul-Sep 00	4,325	3,827	498	127	61,319.9	47,076.5	76.8	7.05	6.24	27,378				
Oct-Dec 00	4,017	3,839	178	18	58,655.8	40,527.0	69.1	6.85	6.54	24,919				
Jan-Mar 01	3,842	3,957	-115	-133	60,714.1	40,690.6	67.0	6.33	6.52	26,932				
Apr-Jun 01	3,776	3,890	-114	-90	61,538.0	44,783.6	72.8	6.14	6.32	28,130				82,500
Northwest														
Oct-Dec 99	2,555	2,461	94	29	39,228.3	28,618.2	73.0	6.51	6.27					
Jan-Mar 00	2,570	2,573	-3	3	39,486.0	28,627.4	72.5	6.51	6.52					
Apr-Jun 00	2,927	2,675	252	115	42,049.6	33,523.5	79.7	6.96	6.36					
Jul-Sep 00	3,178	2,824	354	207	44,379.9	35,353.1	79.7	7.16	6.36					
Oct-Dec 00	2,740	2,774	-34	-69	40,417.6	29,850.1	73.9	6.78	6.86					
Jan-Mar 01	2,611	2,847	-236	-171	40,211.6	29,394.7	73.1	6.49	7.08					
Apr-Jun 01	2,715	2,751	-36	-55	42,216.8	32,886.9	77.9	6.43	6.52					
Southwest														
Oct-Dec 99	1,204	1,050	154	94	22,360.7	15,047.8	67.3	5.38	4.70	14,818				27,653
Jan-Mar 00	1,243	1,057	186	74	22,773.8	15,210.2	66.8	5.46	4.77	14,389				27,911
Apr-Jun 00	1,461	1,146	315	191	23,724.3	17,624.9	74.3	6.16	4.83	16,501				
Jul-Sep 00	1,479	1,179	300	184	24,638.0	17,650.8	71.6	6.00	4.79	16,501				
Oct-Dec 00	1,467	1,216	251	155	25,267.5	17,443.2	69.0	5.81	4.81	16,287				
Jan-Mar 01	1,429	1,218	210	121	25,512.2	17,169.7	67.3	5.60	4.77	15,716				29,563
Apr-Jun 01	1,554	1,263	291	176	26,430.0	18,970.4				17,527				30,369
TWA														
Oct-Dec 99	809	913	-104	-76	14,501.6	9,687.1	66.8	5.58	6.30	6,038				
Jan-Mar 00	954	939	15	-4	15,465.4	11,607.0	75.1	6.17	6.07	7,020				
Apr-Jun 00	973	984	-11	-35	15,928.0	12,316.3	77.3	6.00	4.79	7,211				
Jul-Sep 00														
Oct-Dec 00														
Jan-Mar 01														
Apr-Jun 01														
United														
Oct-Dec 99	4,480	4,286	194	129	70,715.9	49,172.2	69.5	6.34	6.06	21,536				96,600
Jan-Mar 00	4,546	4,294	252	-99	68,421.1	46,683.5	68.2	6.64	6.28	20,141				96,100
Apr-Jun 00	5,109	4,504	605	408	70,913.5	53,624.8	75.6	7.20	6.35	22,412				98,300
Jul-Sep 00	4,905	4,946	-41	-116	72,495.7	54,049.9	74.6	6.77	6.82	21,458				99,700
Oct-Dec 00	4,792	4,955	-163	-71	70,550.1	49,897.9	70.7	6.79	7.02	20,509				99,100
Jan-Mar 01	4,424	4,815	-391	-313	67,741.4	46,267.7	68.3	6.53	7.11	18,860				98,600
Apr-Jun 01	4,658	5,011	-353	-292	71,928.2	52,651.5	73.2	6.48	6.97	21,331				98,000
US Airways														
Oct-Dec 99	2,135	2,256	-121	-81	24,705.9	16,714.2	67.6	8.64	9.13	14,075				41,636
Jan-Mar 00	2,098	2,237	-139	-218	24,250.3	15,568.7	64.2	8.65	9.22	12,804				42,727
Apr-Jun 00	2,433	2,285	168	80	26,171.9	19,557.4	74.7	9.30	8.65	15,554				42,653
Jul-Sep 00	2,381	2,376	5	-30	28,452.4	20,726.2	72.8	8.37	8.35	15,809				44,026
Oct-Dec 00	2,347	2,428	-81	-98	28,275.4	19,590.0	69.3	8.30	8.59	15,605				43,467
Jan-Mar 01	2,241	2,469	-228	-171	27,752.4	18,372.1	66.2	8.07	8.90	14,193				44,077
Apr-Jun 01	2,493	2,473	20	-24	29,394.8	21,693.4	73.8	8.48	8.41	16,582				44,673
ANA														
Oct-Dec 99	SIX MONTH FIGURES													
Jan-Mar 00	5,591	5,842	-251	6	49,646.9	31,844.9	64.1	11.26	11.77	27,430				
Apr-Jun 00	SIX MONTH FIGURES													
Jul-Sep 00	5,288	4,793	495	359	47,586.3	31,753.1	66.7	11.11	10.07	24,958				
Oct-Dec 00	SIX MONTH FIGURES													
Jan-Mar 01	5,376	5,186	190	-486	46,278.4	29,168.4	63.0	11.61	11.21	24,471				
Apr-Jun 01	SIX MONTH FIGURES													
Cathay Pacific														
Oct-Dec 99	1,989	1,658	331	133	29,313.0	22,167.9	75.6	6.79	5.66		5,600.0			
Jan-Mar 00	SIX MONTH FIGURES													
Apr-Jun 00	2,070	1,765	305	285	29,839.0	22,588.1	75.7	6.94	5.92		5,483.0			
Jul-Sep 00	SIX MONTH FIGURES													
Oct-Dec 00	2,356	1,983	373	382	32,070.0	24,586.6	76.7	7.35	6.13		6,147.0			
Jan-Mar 01	SIX MONTH FIGURES													
Apr-Jun 01	SIX MONTH FIGURES													
JAL														
Oct-Dec 99	TWELVE MONTH FIGURES													
Jan-Mar 00	14,665	14,254	411	181	126,282.4	88,478.5	70.1	11.61	11.29	37,247	18,856.7	12,738.0	67.6	
Apr-Jun 00	TWELVE MONTH FIGURES													
Jul-Sep 00	TWELVE MONTH FIGURES													
Oct-Dec 00	TWELVE MONTH FIGURES													
Jan-Mar 01	14,198	13,542	656	342										
Apr-Jun 01	TWELVE MONTH FIGURES													

Note: Figures may not add up due to rounding. 1 ASM = 1.6093 ASK. *Airline group only.

Aviation Strategy

Micro-trends

	Group revenue	Group costs	Group operating profit	Group net profit	Total ASK	Total RPK	Load factor	Group rev. per total ASK	Group costs per total ASK	Total pax.	Total ATK	Total RTK	Load factor	Group employees
	US\$m	US\$m	US\$m	US\$m	m	m	%	Cents	Cents	000s	m	m	%	
Korean Air														
Oct-Dec 99	4,340	4,177	163	232	49,516.0	36,693.0	74.0	8.76	8.44	20,564	7,827	5,995	78.2	
Jan-Mar 00														
Apr-Jun 00														
Jul-Sep 00														
Oct-Dec 00														
Jan-Mar 01														
Apr-Jun 01														
Malaysian														
Oct-Dec 99	TWELVE MONTH FIGURES													
Jan-Mar 00	2,148	1,652	496	-67	48,906.0	34,930.0	71.4	4.39	3.38		7,531.5	4,853.4	64.4	
Apr-Jun 00														
Jul-Sep 00														
Oct-Dec 00	TWELVE MONTH FIGURES													
Jan-Mar 01	2,357	2,178	179	-351	52,329.0	39,142.4	74.8	4.50	4.16		8,055.0	5,379.0	66.8	
Apr-Jun 01														
Singapore														
Oct-Dec 99	SIX MONTH FIGURES													
Jan-Mar 00	2,459	2,203	256	439	44,582.6	33,430.1	75.0	5.51	4.94	7,030	8,665.8	6,185.7	71.4	
Apr-Jun 00														
Jul-Sep 00	SIX MONTH FIGURES													
Oct-Dec 00	2,864	2,438	426	668	46,477.5	36,136.6	77.8	61.6	5.25	7,584	8,950.0	6,524.6	72.9	
Jan-Mar 01	SIX MONTH FIGURES													
Apr-Jun 01	2,635	2,317	318	209	46,170.5	34,981.8	75.8	5.71	5.02	7,416	9,084.0	6,460.4	71.1	
Thai Airways														
Oct-Dec 99	TWELVE MONTH FIGURES													
Jan-Mar 00														
Apr-Jun 00														
Jul-Sep 00														
Oct-Dec 00														
Jan-Mar 01					108	55,517.0	41,347.0	74.5			17,700	7,752.0	5,469.0	70.6
Apr-Jun 01														
Air France														
Oct-Dec 99	SIX MONTH FIGURES													
Jan-Mar 00	4,831	4,430	401	41	55,508.0	41,650.0	75.0	8.70	7.98	19,200				
Apr-Jun 00	SIX MONTH FIGURES													
Jul-Sep 00	5,506	5,132	374	385	60,088.0	48,464.0	80.7	9.16	8.54					
Oct-Dec 00	SIX MONTH FIGURES													
Jan-Mar 01	4,981	4,988	-7	-25	59,100.5	44,622.2	75.5	8.42	8.43					
Apr-Jun 01														
Alitalia														
Oct-Dec 99	SIX MONTH FIGURES													
Jan-Mar 00	2,225	2,254	-29	-15	24,747.8	16,898.8	68.3	8.99	9.11	11,693	3,464.8	2,404.5	69.4	
Apr-Jun 00	SIX MONTH FIGURES													
Jul-Sep 00	2,553	2,753	-200	-209	32,735.2	24,534.2	74.9	7.80	8.41					
Oct-Dec 00	SIX MONTH FIGURES													
Jan-Mar 01														
Apr-Jun 01														
BA														
Oct-Dec 99	3,473	3,476	-3	-112	45,347.0	30,192.0	66.6	7.66	7.67	11,084	6,469.0	4,270.0	66.1	65,800
Jan-Mar 00	3,097	3,281	-184	-247	44,533.0	29,328.0	65.9	6.95	7.37	10,778	6,253.0	4,041.0	64.6	64,874
Apr-Jun 00	3,488	3,342	146	-85	44,826.0	32,295.0	72.0	7.78	7.46	11,633	6,475.0	4,407.0	68.1	61,411
Jul-Sep 00	3,673	3,293	380	197	45,333.0	35,093.0	77.4	8.10	7.26	12,615	6,608.0	4,741.0	71.7	62,793
Oct-Dec 00	3,328	3,212	116	84	42,347.0	29,008.0	68.5	7.86	7.58	10,493	6,230.0	4,128.0	66.3	62,831
Jan-Mar 01	3,048	3,136	-88	-111	40,018.0	26,800.0	67.0	7.62	7.84	9,721	5,883.0	3,711.0	63.1	62,425
Apr-Jun 01	3,277	3,206	71	37	40,980.0	28,646.0	69.9	8.00	7.82	11,293	6,124.0	3,915.0	63.9	58,989
Iberia														
Oct-Dec 99	3,712	3,659	53	179	50,227.6	34,606.8	68.9	7.39	7.28	21,877				
Jan-Mar 00														
Apr-Jun 00														
Jul-Sep 00														
Oct-Dec 00														
Jan-Mar 01														
Apr-Jun 01														
KLM														
Oct-Dec 99	1,450	1,479	-29	-17	19,014.0	14,434.0	75.9	7.63	7.78		3,280.0	2,550.0	77.7	35,128
Jan-Mar 00	1,361	1,436	-75	-142	18,627.0	14,084.0	75.6	7.31	7.71		3,238.0	2,453.0	75.8	35,348
Apr-Jun 00	1,600	1,509	91	39	18,730.0	15,149.0	80.9	8.54	8.06		3,276.0	2,549.0	77.8	27,267
Jul-Sep 00	1,615	1,445	170	100	19,386.0	16,378.0	84.5	8.33	7.45		3,359.0	2,703.0	80.5	26,447
Oct-Dec 00	1,617	1,574	43	4	19,050.0	14,715.0	77.2	8.49	8.26		3,316.0	2,618.0	78.9	26,349
Jan-Mar 01	1,360	1,422	-62	-77	18,056.0	13,805.0	76.4	7.53	7.88		3,230.0	2,471.0	76.5	26,538
Apr-Jun 01	1,507	1,487	20	17	19,231.0	15,200.0	79.0	7.84	7.73		3,322.0	2,526.0	76.0	27,211
Lufthansa***														
Oct-Dec 99	3,398	2,964	434	378	29,120.0	20,313.0	69.8	11.67	10.18	10,807	5,503.0	3,930.0	71.4	66,207
Jan-Mar 00	2,831	2,742	89	11	28,599.0	19,781.0	69.2	9.90	9.59	10,355	5,422.0	3,751.0	69.2	67,489
Apr-Jun 00	3,346	3,123	223	400	31,865.0	24,405.0	76.6	10.50	9.80	12,249	5,988.0	4,338.0	72.4	68,000
Jul-Sep 00	3,375	2,993	382	182	32,654.0	25,878.0	79.2	10.33	9.17	12,849	6,156.0	4,536.0	73.7	
Oct-Dec 00	3,750	3,148	602	10	30,682.0	22,096.0	72.0	12.22	10.26	11,547	5,997.0	4,293.0	71.6	69,523
Jan-Mar 01	3,222	3,202	20	-80	30,223.0	21,232.0	70.3	10.66	10.59	10,903	5,781.0	3,953.0	68.4	72,279
Apr-Jun 01	4,119	4,045	74	41	30,658.0	22,930.0	74.8	13.44	13.19	12,236	6,371.0	4,239.0	66.5	85,771
SAS														
Oct-Dec 99	1,210	1,083	127	138*	8,227.0	5,210.0	63.3	14.71	13.16	5,536				27,201
Jan-Mar 00	1,145	1,179	-34	-33*	8,253.0	4,992.0	60.5	13.87	14.24	5,314				28,060
Apr-Jun 00	1,289	1,176	113	112*	8,492.0	6,004.0	70.7	15.18	13.85	6,236				28,295
Jul-Sep 00	1,122	1,070	52	33*	8,496.0	6,155.0	72.4	13.21	12.59	5,943				28,485
Oct-Dec 00	1,310	1,131	179	174*	8,541.0	5,492.0	64.3	15.34	13.24	5,747				27,767
Jan-Mar 01	1,183	1,175	8	2*	8,558.0	5,286.0	61.8	13.82	13.73	5,482				29,985
Apr-Jun 01	1,345	1,329	16	18*	9,144.0	6,227.0	68.1	14.71	14.53	6,279				30,499
Swissair**														
Oct-Dec 99	2,344	2,272	72	125	21,934.0	16,839.0	76.8	10.69	10.36	6,081				
Jan-Mar 00	SIX MONTH FIGURES													
Apr-Jun 00	1,916	2,006	-90	2	25,476.0	18,241.0	71.6	7.52	7.87	9,162	3,972.8	2,719.6	68.5	
Jul-Sep 00	SIX MONTH FIGURES													
Oct-Dec 00	2,179	2,069	110	-1,650	23,540.0	17,677.0	75.1	9.27	8.79	5,890	4,296.2	3,007.4	70.0	
Jan-Mar 01														

Note: Figures may not add up due to rounding. 1 ASM = 1.6093 ASK. *Pre-tax. **SAirlines' figures apart from net profit, which is SAirGroup. ***Excludes Condor from 1998 onwards. 4Q+ data are on IAS basis.

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