5 Product Analysis in Airline Marketing

Once an airline has its strategy in place, attention needs to shift to the translation of this strategy into the product design process. This Chapter looks at the theory of product analysis in Marketing and discusses the ways in which it can be applied to Marketing in today's airline industry.

5:1 What is the "Product"?

At first sight, it might be thought that applying theoretical product principles to the airline industry is inappropriate. These principles have mainly been developed for industries dealing with tangible consumer products. The airline industry's "product" is, of course, an intangible one which is instantly perishable and cannot be stored.

This is an argument which can be rejected. The airline industry's product may be intangible and many-facetted. It is still capable of providing – or failing to provide – customer satisfaction. It is also the case that many of the analytical models developed for analysing products in Fast Moving Consumer Goods industries can also be used in the air transport industry. They do, though, have to be used in an analogous way, to take account of the intangible nature of the airline product.

In this chapter we shall begin by looking at questions of product innovation and product management using the theoretical principles that can be derived from the concept of the Product Life Cycle.

5:2 The Theory of Product Analysis and its Application to the Airline Industry

5:2:1 The Product Life Cycle

In all areas of marketing, the processes of product development, product

innovation and product management need to be continuous and never-ending. The reasons for this are derived from the model illustrated below.

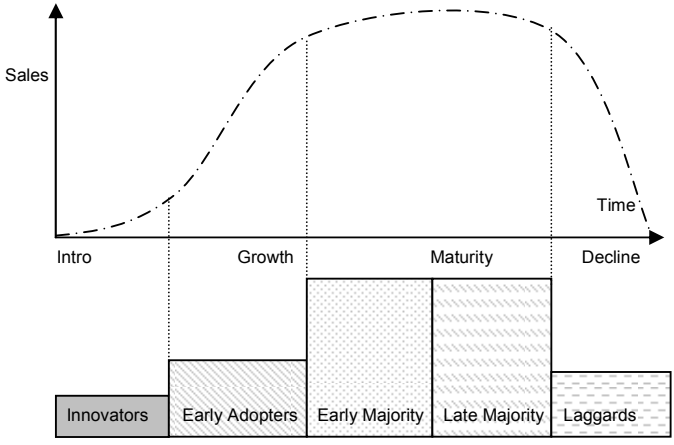

Figure 5:1 The Product Life Cycle

When a new product is introduced into the market, it is inevitable that it will first go through the so-called Introductory stage of the Product Life Cycle. The product is new, so there will not have been time for advertising and promotional work to come to fruition. Also, the product will not benefit from so-called "Imitative Buying", because few people will know about it, and fewer still will be using it.

The Introductory stage will be a crucial stage in the life of a product. Some pass through it and go on to be successes. A far greater number do not. Instead, sales are disappointing and the product has to be withdrawn from the market after a short time. Somewhere between 60% and 80% of new products eventually come into this category.

Sadly, the aerospace industry illustrates well some of the risks involved in product innovation. For example, Concorde was completely unsuccessful in achieving commercial sales and had to be withdrawn from production as a marketing disaster. The only aircraft operated commercially were those given to Air France and British Airways under the most favourable terms. A more recent case was the Advanced Turbo-Prop of British Aerospace. This aircraft, a 64 seat propeller-driven plane, was abandoned after fewer than 40 had been produced. Even re-naming it the Jetstream 61 failed to change its fortunes. The Saab 2000 aircraft had a similarly short and disappointing Life Cycle, again being withdrawn after

very few had been sold. In 2005, Boeing had to stop production of its 717 aircraft after only a relatively short time.

Airline marketing also illustrates the perils of innovation. Many airlines have the experience of launching a new route amidst great optimism, only to find that the financial results are so disappointing that it has to give up very quickly. Some have made an innovation in their in-flight product, only to find that this is unpopular with passengers and has to be quickly withdrawn. An example of this came in 1990 when Lufthansa up-graded product standards in the rear cabin of its aircraft in Europe, and re-named the whole of this cabin "Business Class". It was a change which was unacceptable to those passengers who had paid higher fares and who felt that they were entitled to greater recognition. Innovation can also be risky in terms of selling or distribution concepts. For example, in the late 1980's British Airways invested in a new chain of up-market travel shops in Britain's high streets using the branding of "Four Corners Travel". Again the concept had only a short life. It was soon discontinued, with, presumably, substantial losses having to be written off.

An example of a failed product innovation which combined together issues in both aerospace and airline marketing occurred in 2006. Earlier, Boeing had launched an initiative to offer airlines the opportunity to give their customers onboard access to email and the internet. This was done using the brand named of Connexion by Boeing. Unfortunately, it did not turn out to be a success. The necessary equipment proved to be costly and unreliable, and added significantly to aircraft weight – a problem which was particularly serious at a time of high aviation fuel prices. Eventually, Boeing had to bow to the inevitable and withdraw the product from the market, after it had been responsible for accumulated losses of more than three hundred million dollars.

There is now substantial literature in the theory of marketing about product innovation. This has largely been derived from the work of the US marketing professor, E. M. Rogers. Using Rogers' principles, it is possible to suggest that new products must show at least the following characteristics if they are to be long-term successes:

1. Relative Advantage

Clearly, new products must be substantially better value-for-money than those they are replacing, in order for consumers to accept the risks of using them.

2. Compatibility

An innovation is unlikely to be successful if it is a very radical departure from the existing ways in which business is done in the market sector in

question, or if it is incompatible with prevailing ethical or moral standards. At the time of writing, this might apply to products which were seen as having an unacceptable environmental impact. For example, if Boeing had moved ahead with the plans announced in 2002 for a so-called 'Sonic Cruiser' (an aircraft with a significantly higher cruising speed than today's aircraft, but with a much higher fuel consumption) Compatibility questions would certainly have affected the likelihood of a successful product launch.

3. Complexity

Some innovations fail because they are perceived as being extremely difficult to use, requiring purchasers to invest a great deal of time and effort in becoming familiar with them. As we have seen, part of the appeal of Low Cost Carriers has been that making flight bookings with them over the internet has been so easy.

4. Divisibility

It is often easier to persuade consumers to take a series of short steps, rather than one very large and risky one. Each small step can then be portrayed as a trial, the successful completion of which allows confidence to be built. For example, in aerospace marketing, it may be much easier to persuade an airline to buy a large fleet of a particular aircraft if short-term leases of one or two aircraft have demonstrated that the aircraft will perform well in the airline's particular operating environment. The principle of Divisibility is also very well illustrated by the growing popularity of so-called Fractional Ownership schemes for business jets. Here, the manufacturers of these jets hope that experiencing the product through a Fractional Ownership plan will result in a company or an individual eventually buying their own aircraft

5. Communicability

Customers are unlikely to be persuaded to buy a product if the benefits this product will bring cannot be communicated to them persuasively.

If these features illustrate some of the requirements of successful product innovation in air transport marketing, it is equally instructive to look at some of the common mistakes that lead to product failure. Products will fail if the size of the market for them has been over-estimated through poor or non-existent market research. They will also fail if the product cannot be delivered on time, or does not perform well even when it is. Mistakes can also be made in pricing policy, with the product either being offered at a price which is too high relative to the benefits it will bring, or too low (in the case of so-called "Status Goods") to give the necessary aura of exclusivity. Finally, promotional or distribution policies may be poorly

thought-out. For example, advertising campaigns may offend rather than excite potential customers, or the incentives which are given to distribution channel intermediaries may not be enough to encourage them to push the product strongly.

All in all, product innovation represents an extremely challenging part of the product management process, with the range of possible mistakes explaining easily why so many products fail to get beyond even the Introductory stage of their Life Cycle.

Let us now make the assumption that a new product *does* get beyond this stage, and enters the so-called Growth phase of the Cycle. Here, sales accelerate markedly as advertising and promotional work comes to fruition, and the product benefits from imitative buying as consumers see it being bought and used by others.

Clearly, the onset of the Growth phase is good news for the innovating firm. Substantial amounts of cash will begin to flow in, allowing the original research, development and promotional costs invested in the product to be recovered. Also, production volumes can be increased, bringing the Economies of Scale and Learning Curve effects which will permit lower unit production costs.

The Growth phase does, though, hint at some of the problems which will have to be addressed during the later, much more challenging, stages of the Cycle. When it begins, there will be the task of ensuring that production rates are increased to meet the rapidly-rising volume of demand. If they cannot be, there is a risk that a major marketing opportunity will be lost if potential customers are not prepared to wait in order to take delivery. Later in the Growth phase, there will almost certainly be the first worrying signs of a classic problem of product management: the firm's competitors will see the success of the innovation, and will begin the research and development of their own rival products. In a sense, they will not have to carry out their own market research or demand forecasting exercise. The innovating firm will have done this for them.

The leading firm will hope that the Growth phase will go on for as long as possible. It cannot, though, continue forever. Eventually, the Maturity stage of the Product Life Cycle will arrive. Here, firstly, the growth in the size of the total market for the product begins to slow, Most of the people who can be persuaded to buy the product have already done so. The market therefore begins to progressively change from one of growth to one of replacement. Replacement sales are rarely enough to maintain, let alone expand, the volume of demand.

The other change of the Maturity phase is more serious still. By this time, rival firms will have had time to complete the research and development of their own, competing products. These will be introduced

into the market, probably in rapid succession. Worse still, these firms will have had the benefit of being able to study the product of the innovator. They will have been able to isolate its weaknesses and, almost certainly, to develop a product which will leapfrog the standards set by the innovating firm.

The Maturity phase of the Cycle is a very challenging one. By this stage, the market is no longer growing rapidly. It is also becoming saturated with competition. Strong product management skills will be needed if the success established during the Growth phase is to be continued in Maturity.

In responding to the challenges of Maturity, the situation is by no means hopeless. By this stage, the original costs of developing and introducing the product will have been recovered. It will therefore be possible to make profits at lower prices. Also, the firm should be getting the maximum benefits from production Scale Economies and from the Learning Curve effects which make production more efficient. Again, these factors will increase financial flexibility. The task in managing mature products is to use this flexibility in the most telling way.

The keys to doing so lie in the "4Ps" of marketing discussed under the heading of the Marketing Mix in Section 1:1:2. A first possible response is to invest money in the product itself. This can be used to improve its specification so that it catches up with and preferably overtakes the value-for-money on offer from the products which have arrived in the market later. It can also be used to modify the product so that it can be used to exploit other, hopefully less saturated, markets.

Alongside investment in the product, discounted prices can be offered as a possible way of ensuring that growth in the total market resumes, or that a greater share of the existing market is obtained. Also, increased investment in advertising and promotion can be sanctioned with the same two purposes in mind. Finally, greater incentives can be offered to firms in the distribution channel through higher commissions or greater mark-ups.

If the right balance of these measures are correctly applied, there is no reason why the success of a product established during a Growth phase cannot be continued for a considerable time once the onset of Maturity has begun. For many products, though, such success cannot be prolonged indefinitely. They will eventually reach the Decline phase of the Life Cycle. This is where market growth comes to an end, and the product is overwhelmed by newer rivals, Once Decline sets in, there is no choice but to abandon the product and take the resources devoted to it and use them for more rewarding purposes.

The inevitability for many products of a Decline phase poses another challenge in product management. If a firm wishes to continue in business and expand, it will be making a grave mistake if it leaves investment in research and development of new products until the Decline phase of its existing products sets in. If it does, the result will be a disastrous period of poor sales and loss of reputation. Instead development and innovation of new products must begin whilst existing products are still doing well.

5:2:2 Product Life Cycles in the Aviation Industry

The Product Life Cycle is well-illustrated by applications which can be found both in the aerospace industry, and, by analogy, in airline marketing as well.

In aerospace, a very good illustration of successful product management comes with the world's biggest-selling commercial aircraft, the Boeing 737. The 737 family has a long history - the first 737s were introduced in 1967 - but it continues to sell well today. It does so because, at all stages of its Life Cycle, Boeing has managed the product skilfully.

It is now often forgotten, but when the first 737s were delivered in the late 1960s, there were no signs at all of the enormous success that the aircraft would become. Early sales were slow, and the initial aircraft – designated 737-100s – performed poorly. Such was the scale of the early disappointments that, when it faced a financial crisis in 1972, Boeing came very near to withdrawing the aircraft and stopping production. Thus the 737 was close to being one of the many product innovations that fail to get beyond the Introductory stage of their Life Cycle.

Boeing did not do so, though. Instead, an improved version of the aircraft, the 737-200, was put on the market. This entered a very clear Growth phase in the 1970s, achieving more than 1000 sales during the decade.

By the early 1980s it became clear that the success enjoyed by the 737-200 could not continue indefinitely. The aircraft was not especially fuel efficient at a time when fuel prices were very high. It was also noisy, when environmental resistance to aircraft noise was increasing and the first signs were appearing that excessively-noisy aircraft would be banned. Finally, the early 1980s saw Boeing's increasingly-confident European rival Airbus planning what has become the highly-successful A320 family. The B737 was clearly reaching the Maturity stage of its Product Life Cycle.

The reaction of the company was a very positive one. Instead of ceasing production as they might have done, Boeing invested further by introducing three new versions of the aircraft, the -300, -400 and -500 series. These featured a fuselage stretch (in the case of the -300 and -400.

The 737-500 was the same size as the -200), a more up-to-date cockpit and quieter, more fuel-efficient engines. These new models revitalised the product, to the extent that more than 2000 aircraft were sold between the beginning of the 1980's and the early 1990s.

By 1994, the 737 was again under threat as the Airbus A320 family expanded and became better established. Then, though, Boeing launched further developments in the form of the -600, -700, -800 and -900 737's. These aircraft have again sold well, confirming the 737 as by far the most successful aircraft family ever in terms of the number of units sold. Boeing is currently in the process of extending the family still further with another stretch of the aircraft, but the company knows that even its Life Cycle will come to an end eventually. Early plans are being made for the development of an all-new family of aircraft to replace the 737 sometime during the next decade. It is clear that Airbus will also introduce a replacement for the A320 at around the same time.

A second, equally convincing, illustration of Product Life Cycle concepts in the aviation industry can be found in the history of Frequent Flyer Programmes. FFPs are a major issue in Airline Marketing today, and will be fully covered in Section 9:3.

The first programme, the AAdvantage scheme, was introduced by American Airlines in 1981. It was, of course, then perfectly possible that this would turn out to be an unsuccessful idea, unpopular with customers and abandoned quickly. It did not, though. The programme passed quickly through the Introductory stage of its Product Life Cycle and entered a rapid Growth phase. Soon, the programme had many millions of members and was having a significant impact on choice-of-airline decisions in the US domestic market.

Once this had happened, it was certain that American would not be left alone to enjoy its success. The very extent of this success meant that its rivals had no choice but to follow. They did so, first in the US domestic market and then, progressively, internationally as well. At the time of writing, FFPs are at the Maturity stage of their Life Cycle. Almost all airlines are participating in FFPs either by running their own programme or by forming partnership and franchising agreements with those who do. Also, most of the programmes are now similar in terms of the benefits they offer – a clear sign of the commoditization one would expect at Maturity.

There are now early signs that FFPs may be reaching a Decline phase of their Life Cycle. The programmes are becoming increasingly unpopular with corporate travel purchasers, who argue that they tempt irresponsible employees to take unnecessary journeys to accumulate extra mileage or to protect their programme status. FFPs also make it more difficult to implement changes in corporate travel policy due to "Switching Cost"

effects, a subject which was covered in Section 4:1:4. Many Corporate Travel Managers are now insisting that FFP points are awarded to the company, or are not given at all. Instead, they require increased levels of corporate discounting. All these factors may, in some cases, make FFPs less important in airline marketing in the future then they are today. Also, airlines are now moving to neutralise their effects. The growing links between the different FFPs within airline alliances mean that often passengers can obtain mileage points in the programme of their choice, irrespective of the airline they actually choose to fly. This is, in reality, an admission by the airlines concerned that the effect of FFPs on market share is increasingly a neutral one, but one which comes at a high cost.

A third, and especially fascinating, illustration of the application of the Product Life Cycle comes with the marketing of leisure air travel and of vacation resorts. It requires an understanding of a further aspect of Life Cycle theory.

At different stages, of a Life Cycle, different types of customer are buying a product, because people vary in their attitudes to new products. When a product is at the Introductory stage of its Life Cycle, the people who are most likely to buy it are known as *Innovators*. Innovators are people who have relatively high disposable incomes. They tend to be well-educated, confident, and adventurous in terms of their willingness to experiment with new purchases. They are also often insecure and status-conscious, anxious to impress their friends and acquaintances.

Because of these characteristics, a particular marketing mix will often be required at the Introductory stage of a product's Life Cycle, if the Introductory period is to be negotiated successfully and lead to a profitable Growth phase. The product must be positioned as fresh, innovative and exciting. Advertising and promotional policies must emphasise it as status-enhancing, and something which only the smartest of consumers are yet able to appreciate. Often, a high price will also be needed as a further way of emphasising a product's exclusivity.

Late in the Product Life Cycle, a completely different type of customer will need to be targeted. By this time the product will be seen as old-fashioned by Innovators. Instead the target market will consist of so-called *Laggards*. Those people who will only buy a product when it is very well-proven. They will usually have only a relatively low disposable income, and will often be poorly-educated and also be fearful of the risks involved in buying a new and, to them, untested product. They may be less status-conscious than Innovators.

Bringing Laggards into the market requires a significantly different Marketing Mix, compared to the one which will need to be used to attract Innovators. The product must be positioned as well-tested, tried, and

proven to work. Sometimes, even shame will be used as a marketing weapon by pointing out how widely used the product is and how behind-the-times non-users are. Testimonials from satisfied customers will also be a common tactic. Prices will have to be kept low, reflecting the generally-lower disposable income of Laggards.

The theory of Innovator and Laggard behaviour should be applied in Airline Marketing to the marketing of holiday destinations. When choosing their holiday, Innovators will often be prepared to travel to new, untried places, because of their adventurous spirit. They will also want to visit somewhere that is status-enhancing. A new resort area will therefore find a readier audience amongst Innovators. The problem that then arises, though, is that Innovators make up only a small percentage of the population – perhaps only 5% of people show true Innovator characteristics. There is always a temptation on the part of those who manage resort development to aim at a move into mass tourism, to bring greater benefits in terms of employment and balance-of-payments gains. The problem of doing so is that once a resort becomes known as a destination for the mass market, it will at the same time become unattractive to Innovators because "everyone" is going there. This is serious because, although small in numbers, Innovators usually have very high disposable incomes.

The history of visitors to some of Spain's holiday resorts illustrates this use of the theory of the Product Life Cycle very well. In the 1960's Spanish resorts such as Benidorm, Torremolinos and Lloret del Mar were seen as exciting and different at a time when most people were still taking their holidays close to home. By the 1980s the reverse was the case. The resorts were associated with noise, congestion and unruly behaviour, and were no longer visited by the well-off travellers who could contribute the most to the local economy. During the 1990s it became necessary to spend large amounts in cleaning up the resorts in an attempt to reverse these adverse trends.

5:2:3 Managing a Product Portfolio – the "Boston Box"

The management of Product Life Cycles is important in Airline Marketing today. It does not, though, provide the sole basis for effective product management. Most firms do not deal in only a single product. Indeed, any that do are probably dangerously over-specialised. Many firms have a range, or portfolio, of products which may run into hundreds or even thousands of different products. They need a framework which will guide their decision-making so that the contribution of each of the products to corporate profitability is maximised.

The classic method for analysing a Product Portfolio is known as the Boston Box, because it was developed by the US Boston Consulting Group. It was first introduced in 1963, and has remained a cornerstone of product management policies ever since. It is illustrated in its most basic form in Figure 5:2.

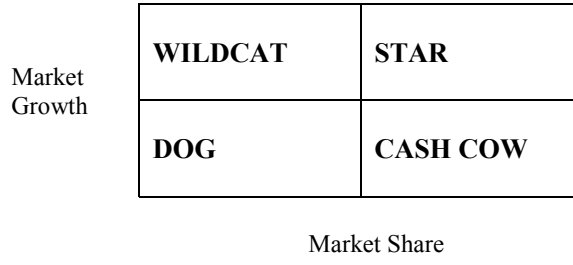

Figure 5:2 Product Portfolio: The Boston Box

The model classifies products using two variables: the size of the total market and the share of the market held by the product of the firm in question. (In some versions of the product then the second variable is the share held relative to the share of the market leader). This allows a division into so-called *Wildcats*, *Stars*, *Cash Cows* and *Dogs*. Each of these types of product needs to be managed in a different way.

Wildcat products are defined as those where the firm's product only holds a low share of the market, but the overall market is growing quickly. The message the model gives is a clear one: invest, to gain market share. Though such investment will be risky, if it is managed properly a return will be obtained because of the rapid growth taking place in the total market. It can take the form of spending on any of the "4Ps" of the Marketing Mix. Investment can be made in the product, to ensure that its specification meets, or preferably overtakes, that of the market leader. Advertising and promotional work can be used to gain market share, or competitive pricing can be employed. Lastly, the firm's distribution channel intermediaries can be incentivised to push the product harder through increased commissions or mark-ups.

In Airline Marketing, an often very instructive use of the Boston Box is to apply it to an airline's route network. By analogy, this can give some very useful messages as to how each route should be managed.

A Wildcat route is one where the traffic as a whole is growing strongly, but where the airline concerned has only a small share of this rapidly

growing market. Wildcats require both patience and continuing investment. Patience is needed because in the short-term a Wildcat may be a loss-maker. If the growth prospects of the route are good enough, these losses should be accepted and a presence maintained. This is especially so given the regulated nature of competition in many air transport markets, and the ways in which airport slots are allocated. In international markets, if an airline withdraws from a route, it may lose its status as its government's designated carrier on the route in question, with the relevant Traffic Rights instead given to another airline. It may also have to surrender some airport slots, with the risk that these again will be given to another airline. The overall effect may then be that when it wishes to re-enter the market it will not be able to do so.

For many airlines, routes to India and China are currently exhibiting 'Wildcat' characteristics. The rapid growth being experienced in these countries means that carriers should maintain a long-term presence, even if short-term losses are incurred.

The Star situation is one where the overall market is growing quickly and the firm's product has a good share of the market. Star products are obviously strong ones for the firm in question, and they should be a significant source of profit. They do, though, require intensive and costly management. This is because the rapid growth in the total market will provide a continuing incentive for new competitors to enter them. Established firms will therefore have to spend heavily to defend their position. This spending will need to encompass continuing product investment and substantial efforts in the direction of advertising and promotion. Pricing will also probably be very keen, with thin profit margins. All-in-all, Star products are often those which provide a high proportion of a firm's sales volumes, but a significantly lower proportion of its profits.

The aero-engine market illustrates the principle of Star products very well. The market for big-fan engines powering large jet aircraft is a huge one. The competition, though, between General Electric, Pratt and Whitney and Rolls-Royce is intense. All three firms have to spend large amounts on continuous product development and improvement. (Because of this, General Electric and Pratt and Whitney have combined forces in part of the market, to form the so-called Engine Alliance) Pricing is so keen that it is believed that often engines are sold for less than the cost of producing them. The manufacturers then hope to obtain a return on sales of spares and product support through the lifetime of the engine. For each manufacturer, the big fan engine market produces large sales revenues, but often only relatively thin profit margins.

For Cost Leader airlines, intra-European routes illustrate Star principles well. The market is very large and growing rapidly, but the growth has attracted an explosion of new entry that, increasingly, is likely to hold down profit margins.

The next the Boston Box category is the Cash Cow. This is the one where the product in question still has a good share of the market, but where the total market is no longer growing strongly.

The fundamental difference between Stars and Cash Cows is that the Cash Cow market will no longer be an attractive one for new entrants. Established firms will have invested to gain their place in the market, and should be able to continue to exploit it successfully. New entrants, though, will have to spend especially heavily if they are to challenge the existing players. Entering a new market will always be costly. It will be particularly expensive, though, to enter a market which is not growing. A growing market allows a new firm to hope that it will be able to become established on the basis of new demand rather then by having to take existing customers away from their suppliers. This will not be possible in a stagnant market. Success will only be possible for a newcomer if it succeeds in taking market share from other firms. We shall see in Section 10:2:1 that growing with a market can be achieved relatively cheaply. Growing by taking share from others will always be a costly and risky activity, one which is unlikely to yield a return to a new entrant.

For existing firms, of course, Cash Cows should be a major source of profit, because they will not have to protect themselves so much from the activities of newcomers. The problem will often be that though the milking of Cash Cows may be extremely profitable, the lack of growth in the total market means that these milking opportunities may not continue for long.

The aero-engine market again provides a good illustration. We have already seen that in this market, the big firms have to invest heavily to maintain their position. For some years, one of the firms in this market, Rolls-Royce, appeared to have a product which conformed to Cash Cow principles.

Alongside its larger engines, Rolls-Royce offered its Tay product, a small engine of 15,000-17,000 lbs of thrust. The Tay was itself a relatively unambitious investment based on the core of an older Rolls engine, the Spey. The Tay, however, enjoyed a favourable position, because General Electric and Pratt and Whitney for a long time offered no engine in this class. The Tay therefore had a virtual monopoly in the three markets where it was used, for the Fokker 100 and Fokker 70, the Gulfstream business jet, and in the re-engining of older noisy jets. One's guess is that Rolls enjoyed strong profit margins on Tay sales.

The Tay also illustrates the point that Cash Cow products may not be available to milk for very long. The Fokker company went into bankruptcy in 1996, and production of the Fokker 70 and Fokker 100 stopped. It has never resumed, despite efforts being made to bring this about In addition, recent years have seen many Fokker aircraft parked, removing from Rolls the income from spares and support.

For airlines, Cash Cow situations occur on any route where future growth prospects are poor. An example at the moment is the is routes between London and Paris and London and Brussels. These routes have been affected by railway competition as a result of the opening of the Channel Tunnel. This competition will become more intense once a fast rail link has been completed between London and the Tunnel in 2008. This will reduce city centre to city centre journey times to below the critical three hours duration.

Because of these poor growth prospects, it would be a foolish airline that decided to enter these markets today. With little traffic growth, they could only establish their position by taking market share from some very strong established carriers. With new entry therefore unlikely, these established airlines should be able to exploit the available demand relatively unchallenged. There may come a time though, when the effect of surface competition means that the route changes from a profitable Cash Cow into the next Boston Box category, the Dog.

Dog products are those where the total market is not growing and the firm has only a low share of the existing small market. Once a product has been finally classified as a Dog, there is a clear product management message. It should be abandoned and the resources which might otherwise have been spent on maintaining it and on attempts to improve market share should instead be devoted to much more promising Wildcat situations.

We have already referred in the last section to British Aerospace's decision to withdraw its ATP (later, Jetstream 61) aircraft from the market. They presumably did so because it matched the characteristics one would expect of a Dog very well. The ATP was a 64 seat turboprop aircraft. Growth prospects for the market of turbo-props in this size bracket at the time were poor. The reason was that regional jets of similar size were being produced in increasing numbers, and these aircraft seemed to have a clear edge over turbo-props in terms of passenger appeal. This meant that more and more airlines were choosing them, despite their somewhat higher operating costs. At the same time, the ATP achieved only a low share of the market with sales being dominated by its rivals the Franco-Italian ATR 72 and Canadian Bombardier Dash-8 (Ironically, at the time of writing, turbo-prop sales are reviving, with their operating economics looking especially good with fuel prices high).

For airlines, the use of the Dog category is, by analogy, the route withdrawal decision. Almost all airlines find from time-to-time that they have routes where traffic is not growing, where they have a poor market share, and where losses are being incurred. They must give up service on these routes and take the resources used to serve them to more promising situations.

5:2:4 Balancing Risk and Opportunity — the Ansoff Matrix

The Boston Box allows for some important rules for product management to be defined. One further model is, though, very useful in the search for a complete range of decision-making tools.

All firms have to balance risk and opportunity in their product planning decisions. The firm's profits will be a reward for its risk-taking, and too conservative an approach will mean that profits will be foregone and market opportunities will be left open for competitors. At the same time, if too many products are introduced which are risky, the result will be financial disaster if things go wrong.

The model which is used to guide decisions about risk and opportunity is known as the Ansoff Matrix after its US inventor. It is illustrated in figure 5:3.

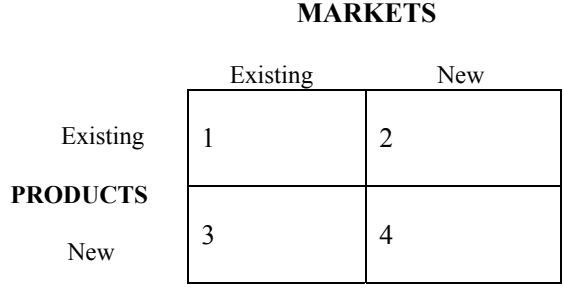

Figure 5:3 The Ansoff Matrix

The Matrix suggests that products can be divided into four categories. The first is illustrated by Box One in the Matrix. It is where the firm offers its existing products to its existing customers. In the short term, this will be a low risk solution. The markets are ones which the firm knows, and the products are presumably proven successes. It does not, though, provide a basis for the long-term development and growth of a business. The

existing products will go through their Life Cycle, and will eventually reach the Decline phase. At the same time, new opportunities will be appearing which the firm will be ignoring. These will be available to the firm's competitors who will use them to build their strength to eventually challenge the firm in its core activities.

If what is effectively a "Do-Nothing Case" is unacceptable, firms must do more than simply offer existing products to existing customers. To do so, they must balance risk and opportunity in the way described in Boxes Two and Three of the Ansoff Matrix. Box Two describes taking existing products and offering them to a new market. For example, a firm having a successful range of products selling well in a domestic market might decide to move into exporting. Box Three is the situation where new products are developed for markets where the firm has a sound knowledge of customer requirements and established customer loyalty. For example, we have already referred (in Section 4:4:2) to Lufthansa's introduction of All-Business Class corporate jets on routes where it already had a strong presence in the business travel market through its conventional services.

The most interesting case in the Ansoff Matrix is that described in Box Four. This is where the firm takes a completely new and unproven product and offers it to a totally new and undeveloped market. It carries almost limitless opportunities, but also usually a very high degree of risk. The result is that new businesses which adopt this philosophy sometimes achieve great success. More commonly, though, the risks are unsustainable and the result may be a disastrous bankruptcy.

We have already referred in Section 4:2:6 to one aviation situation where an entirely new product was offered to an entirely new market, and the result was a remarkable success story – that of Federal Express. When Mr Fred Smith (Fedex's founder) introduced his idea of overnight guaranteed door-to-door deliveries of small urgent shipments, it was a new idea tapping a hitherto unexploited market. It is true that some of FedEx's growth can be explained by the fact that it has taken the existing small shipment market away from the established airlines and the US Post Office which had been serving it so poorly. To an equal or greater degree, though, FedEx developed new traffic flows as a result of firms realising the opportunities for business growth which the FedEx concept gave them.

Mr Smith did, though, take an enormous risk. The fact that he was successful should not be taken as meaning that in all comparable cases, the result would be the same. The concept requires a heavy investment to be made before significant cash flows can be obtained. Funding the investment and sustaining early operating losses can often prove fatal, especially if it coincides with a cyclical business downturn. The timing of such downturns, of course, cannot be accurately predicted.

The overall message of the Ansoff Matrix is a clear one. To achieve the correct balance between risk and opportunity, firms must have products which fit into each of the four boxes of the Matrix. There must be established products and markets which provide for profits in the short term. The business must grow and develop using examples drawn from Boxes Two and Three. If it can do so, there may be room for some much riskier products drawn from the Fourth Box. It must be accepted that some of these products will fail. Others may cause large early losses before becoming long-term winners. The business must be certain that current profits are sufficient to cover these possible losses.

5:3 Fleet and Schedules-Related Product Features

In the book, we have already spent considerable time looking at the product from the point-of-view of the customer. Section 2:3:3 examined the product requirements of the business air traveller and Section 2:3:5, those of the leisure customer. In this section, we will focus more on the supply side of the product, by examining the product decisions that airlines must take. In doing so, they fact a dilemma. They presumably wish to offer a product which is as attractive as possible to the customer. However, an attractive product will often be an expensive one to produce. Therefore, decisions must often be based on a complex tradeoff between product quality and production costs.

In making this tradeoff, the overriding factor to be taken into account will be the business strategy of the airline concerned. Optimum decision-making for an airline in a Cost Leadership position will be quite different from one aiming at multi-product Differentiation.

The work is divided into two. In this section, product features which relate to the aircraft and the way in which it is used are considered. In the next, we will look at more general customer-service related product decisions. In all cases, we will be seeking to define the current areas of controversy and to define the ways in which an airline can achieve a Sustainable Competitive Advantage.

5:3:1 Cabin Configuration and Classes of Service

The principle of trading off product quality against production costs is well-illustrated by this first area of decision-making.

An airline seeking the lowest costs of operation will configure its aircraft in a single class, and will place as many seats as possible in each plane. Safety considerations will give an absolute limit. These will reflect

both the structural capabilities of the aircraft and the need to meet standards for emergency evacuations. The other question will be that of passenger comfort. There seems to be an acceptance in the industry that a seat pitch of 28 inches is the minimum which passengers will accept. Even with modern, lightweight seats this represents a poor standard of comfort, and most airlines do not go as far as this extreme. 29 inch or 30 inch seat pitches are usually given, even by airlines focusing on the European leisure air travel market where low production costs have been a traditional pre-occupation.

Decisions about basic seating comfort standards have a very significant impact on unit cost levels. For example, leisure-orientated airlines will usually place 235 seats into one of their most commonly-used aircraft, the Boeing 757. This results from a mix of seats at 28 and 29 inch seat pitches. Raising the seat pitch to 33 inches – typically used by scheduled airlines – reduces the number of seats that can be placed in the same aircraft to around 180. Thus a decision about cabin comfort can affect unit costs by 30%.

An airline whose marketing strategy is based on targeting both the business and leisure traveller cannot rely on a cabin configuration aimed at producing the lowest operating costs. Instead, they must develop a multi-product philosophy, one of the manifestations of which is the need to have different classes of service on board their aircraft. The cost implications of doing so are substantial, and are becoming greater all the time.

The problem is that as they search for competitive advantage, many airlines are making the cabin configuration of their First and Business classes more and more attractive. They are doing so by using new and costly seats, and also by giving substantially more space to each passenger. This in turn is forcing their rivals to match or exceed their product specification. The result is what at the moment appears to be a never-ending and fruitless search for competitive advantage. One airline may establish such an advantage, but this does not turn out to be sustainable. The very fact that customers like its new cabin configuration forces its rivals to respond with something equally or even more appealing in order to protect their market share. The end result of a round of competitive innovation in seating comfort standards is that market shares remain the same, but all the airlines which have taken part in it have significantly higher unit costs.

The history of First Class and Business Class cabin configurations illustrates this point well. Today, a competitive long-haul First Class cabin will have seats which fold down into horizontal beds. In order to accommodate this, a seat pitch of around 70 inches will be needed. In Business Class, a competitive seat pitch is now around 55 inches, an

increase from the 38 or 40 inches typical of only ten years ago. At the time of writing, there is a growing trend to extend the flat-bed principle to Business as well as First Class. It will be hard, though, to get a return on this investment, particularly during times when a business slowdown reduces the size of the Business Class market.

In some cases, airlines have opted out of at least some aspects of competition over cabin service. In particular, many carriers have withdrawn from the First Class market entirely and have instead put their faith in a much-enhanced Business Class product. Air Canada, Aer Lingus, KLM and Northwest are all examples of airlines which have made this decision. They risk losing some of their highest-yielding business, but have much greater freedom of action. In particular, they can improve their Business Class so that it is fully competitive with the highest standards, without the concern that by doing so, they will be competing with their own First Class market. Airlines that stay with First Class often find that by improving their Business Class to keep up with market trends, they succeed in persuading some of their own First Class passengers that it is no longer worthwhile for them to pay the First Class premium.

On short-haul routes, questions of cabin configuration and classes of service are rather different. On these routes, almost all airlines outside of the U.S.A have given up First Class, on the grounds that it has become harder and harder to persuade passengers to pay the higher fares for sectors of only an hour or so. In Europe Swissair and Lufthansa were the last airlines to withdraw First Class, doing so in 1993. Instead, short-haul flights now are usually based on a two-class cabin, divided between Business and Economy seating.

Until very recently, airlines that had such a cabin configuration used a uniform standard of seating comfort throughout the aircraft. Seat pitches were the same throughout at 32 or 33 inches, as was the number of seats abreast. On Boeing and Airbus single aisle aircraft such as the 737, 757 and A320, this meant six-abreast seating with three seats either side of the aisle. (McDonnell-Douglas aircraft such as the MD-80, being slightly narrower have been used at 5-abreast. This has also been the case with the Boeing 717). The division between Business Class and Economy Class was made by using a flexible cabin divider which could be moved up and down the aircraft according to the relative demand for Business and Economy seats.

Such a philosophy gave the airlines the benefit of valuable operational flexibility, but it was probably only sustainable in the tightly-regulated market that then prevailed. The problem it gave was that seating comfort standards were very poor in Business Class, particularly for those people who on busy flights had to sit in the middle seat of three. Business

passengers came to feel that not enough was being done to recognise the fact that they had paid very much higher fares – often four or five times as high – as those who sat in the rear cabin.

The solution which has been adopted recently is to install convertible seats. These seats are expensive and also rather heavier than standard seats. They do, though, allow a row of six-abreast seating to be converted into one of four or five-abreast very quickly, during an aircraft turnaround period. This is an expensive option because, besides the capital costs of the seats, it also means that fewer seats are available for sale on busy peak-time flights. It is probably an inevitable move though, given the changing competitive scene in the industry.

The other current controversy with cabin configuration and classes of service is a similar one, but it applies to airlines' long-haul rather than short-haul routes. When three classes were adopted as the standard configuration on these routes, the principles appeared clear. First Class would accommodate passengers prepared to pay high fares for extravagant standards of comfort. Business class would be for all other passengers who paid full, flexible fares. The Economy cabin would offer only a low product specification for passengers paying discount and promotional fares.

As time has passed, these principles have become blurred. Business Class product specifications have risen steadily, and, in an attempt by airlines to get a return on their money, the fares that allow passengers to sit in Business Class have been very substantially increased. In turn, market demand has often meant that lower flexible fares have been introduced. These fares permit passengers to travel without restrictions. They only allow seating in the Economy Cabin, though.

The problem is that despite the fact that flexible Economy Fares are lower than Business Class Fares, they are still very high in comparison with restricted discount fares. They again mean that a passenger who has paid a relatively high fare can end up sitting next to someone who has paid very much less.

The answer to this problem may be a four-class aircraft, with the Economy cabin sub-divided so that a section of the aircraft is available exclusively for those people paying the higher economy fares. British Airways has introduced this idea with its World Traveller Plus cabin. More may do so as the Airbus A380 is introduced.

5:3:2 Network, Frequencies and Timings

The planning of an airline's schedule is again one where compromise between product quality and cost will be needed. There will also be many practical constraints which may mean that the carrier's freedom of action to

meet the requirements of its customers will be significantly affected.

We saw in Section 2:3:3 that for business travellers, a broad network of direct flights is central to their product requirements. These are the features which will give them the flexibility they need. It will not be easy, though, to decide on exactly what should and should not be offered.

In terms of the practical constraints, route entry decisions are still often limited by government regulation of market access. On international routes, it may still be necessary for an airline to gain designation by the home government under the terms of the relevant Air Services Agreement. Even if such designation is obtained, decisions about capacities and frequencies may also be constrained by regulatory factors. Many Air Services Agreements are still written in a way which is designed to ensure that airlines do not compete on capacity, with equal amounts provided by airlines from each country.

Airport slot availability is an increasing number of cases a constraint on route entry and scheduling as was discussed in Section 3:2:5. At the moment, the industry bases slot allocation at congested airports on the 'Grandfather Rights' principle. Opportunities to land and take off at particular times are retained by established airlines on a more-or-less permanent basis, from one season to the next. This can mean that there will be significant difficulties for a new airline wishing to begin services at a congested airport where all the attractively-timed slots will be in the possession of incumbent airlines. Even if slots can be obtained to allow services to begin, they may be at unsuitable times. It may also be difficult to get sufficient slots to allow the frequencies of established airlines to be matched.

Environmental factors are often another practical constraint. Many airports now impose restrictions on the amount of night flying they allow, and some ban it altogether. Whilst many airlines try to avoid 'dead-of-night' arrivals and departures because of their unpopularity with passengers and difficulties with airport access, night flying is still a way for leisure-orientated airlines to boost aircraft utilisation and lower their unit costs.

In terms of current controversies regarding network and schedules planning, airlines are having to make a number of difficult decisions, many of which involve the familiar tradeoff between costs and product quality.

On long-haul routes, a very clear passenger preference has emerged in recent years. Passengers prefer non-stop flying to flights involving intermediate stops. To meet this requirement, aircraft manufacturers have responded by producing families of aircraft with longer and longer ranges, and the opportunities provided by such planes have been taken up by some airlines. Many markets have now been transformed in terms of the ways in which carriers serve them. For example, almost all services between

Southeast Asia and Europe, and Southeast Asia to the West Coast of the USA are now non-stop, and any airline which attempted to serve them with an intermediate stop would find itself at a serious competitive disadvantage.

The industry's appetite for longer range non-stop services still appears to be significant. Airbus offers a variant of its A340 family – the A340-500 – which is able to fly non-stop over routes requiring 16-17 hours of flying time. Boeing is marketing an comparable long-range variant of its 777 family, known as the B777-200LR.

In principle, non-stop flying helps airlines to achieve low operating costs, but only up to a point. Non-stop flights allow for higher aircraft utilisation and of course the landing fees and turnaround costs associated with the intermediate stop are avoided. The very long ranges now being used, though, are on balance a higher cost option for the airlines that offer them to their customers. Very large quantities of fuel have to be carried early in a flight for use later on, in turn raising aircraft weight and fuel burn – something of great significance with oil prices in excess of $70 a barrel, as they are at the time of writing. Also extra crews have to be carried to permit proper rest periods. This increases costs and takes up seating capacity.

The other main area of controversy involves debate over the related issues of hub-and-spoke networks and so-called 'market fragmentation'.

Many airlines have based their strategic response to the competitive challenges of deregulation on the hub-and-spoke principle. The idea is a simple one. The airline selects an airport with a good geographical location relative to major traffic flows. Its flights in-and-out of this airport are then co-ordinated in carefully-timed "banks", so that passengers can transfer from an in-bound flight from their origin to an outbound flight to their destination.

Passengers benefit substantially from networks based on the hub-and-spoke principle. On each of the spokes, frequencies can be much higher because the airline is carrying the traffic heading to the end destination from all the origin points, rather than just passengers in one city-pair market. Also, it should be possible for larger aircraft to be used, giving access to lower seat-kilometre costs. This may in turn result in lower fares.

From the airline's point-of-view, hub-and-spoke concepts allow them to exploit a far larger number of origin-and-destination markets than they could do with a route network based on the point-to-point principle. It also protects them from competitive attack. The dominance they achieve at the hub airport and the higher frequencies achievable on each of the spokes both help in this regard.

Despite these advantages, the role of hub-and-spoke networks is becoming increasingly controversial. It is now clear that they are

unpopular with passengers because of the delays and congestion associated with changing flights at the hub. They are also extremely resource-intensive. Because of the need to group flights together in co-ordinated banks, at some stages of the day a hub airport will be the scene of frenetic activity. At others, it will be almost deserted, and costly resources in terms of staff and equipment will be idle.

It is instructive to note that one of the most successful carriers of recent years, Southwest Airlines, is not a hub-and-spoke operator. Instead, it uses a network based clearly on line-haul, point-to-point principles. This means that the airline has to use a relatively small aircraft, the Boeing 737. It does, though, achieve low unit costs through the intensive utilisation of resources. It also appears to be a remarkably popular airline with passengers.

The viability of hub-and-spoke networks is now being affected by another factor. Increasingly, aircraft manufacturers are producing smaller jet aircraft with reasonable operating costs. One of the main markets for these is airlines seeking to attack their rival's hubs with a so-called "hub overflying" strategy. The regional jets produced by Bombardier and Embraer are current examples of these aircraft.

On long-haul routes, similar trends can now be seen, though they are usually referred to as the trends towards market fragmentation rather than hub overflying.

During the 1970s and 1980s, a passenger wishing to fly from, say, a smaller city in Europe to one in the USA often faced a difficult and tiring journey. They had to fly from their home city to a European hub and from there to a gateway hub in the USA. There, they had to pass through immigration checks, reclaim their bags and clear customs as it was their point-of-entry into the USA. Their journey was only completed when they finally took a connecting flight domestically in the USA.

Again, this system brought advantages to both the airlines and their passengers. It allowed Boeing 747 aircraft to be used between the two hub airports, with a daily or better then daily frequency. As a large aircraft with low seat-kilometre costs, the 747 in turn allowed airlines to offer lower fares than might otherwise have been the case.

During the 1980s, though, a revolution in airline fleet planning began to take place. Controversially, the rules governing over-water flying with twin-engined aircraft were progressively relaxed, a relaxation which allowed airlines to choose a more-or-less optimum flight path for all their trans-Atlantic flights whether they were using two, three or four-engined jets. The Boeing Company in particular responded by producing longer range versions of its 767 aircraft, and by investing in a new twin engined family, the 777. Airbus produced a competitor to the 777, the slightly

smaller A330, although interestingly it stayed with the four-engined principle for its A340 family.

All these developments meant that airlines had access to a series of aircraft which were smaller than the 747 but which had attractive seat-kilometre operating costs. This, when combined with the substantial growth which had taken place in the market and a growing trend towards regulatory liberalisation, permitted an increasing number of direct non-stop services to be introduced, services which linked two secondary cities on either side of the Atlantic. In turn, these allowed more passengers to fly point-to-point, without the tiresome hub interchanges referred to earlier.

Of the different airlines flying the Atlantic, the one that exploited the situation most fully was undoubtedly American Airlines. Despite having more than 20% of its activity in the international, rather than the US domestic market (a proportion which it is now seeking to increase still further), American has never had Boeing 747s in its fleet and appears very unlikely to order the Airbus A380. Instead it has focussed exclusively on the use of smaller aircraft on its long-haul services.

The controversy about aircraft downsizing on long-haul routes continues. As has been noted, Airbus is now introducing a new large aircraft, the A380. The initial version of this aircraft has around 550 seats in a mixed-class configuration. It will certainly be stretched, though, and later versions may have 800 or even 1000 seats.

Alongside the Airbus innovation, Boeing, after much hesitation, has launched a stretched and up-dated version of the 747, which will be known as the 747-8.

The reason Boeing was so hesitant in deciding on a stretched 747 was an interesting one. Both Boeing and Airbus have agreed that the crucial market for new large jets is that from Asia/Pacific markets to Europe and, especially to North America. Many of the airports in the region will suffer from runway congestion in the future. The disagreement between Boeing and Airbus is regarding the extent to which the fragmentation trends which have affected Atlantic routes will spread to Asia/Pacific markets. Boeing stated that it has come to accept that such a spread is inevitable, and that this will significantly undermine the demand for large aircraft, at least in the short and medium term. Airbus, seeking every opportunity to undermine Boeing's dominant position with the 747, argues that if fragmentation did occur to some extent, it will not eliminate the urgent need for a larger aircraft with, in their case, the technological edge available from an all-new design. To some degree, Boeing's decision to launch begin development of the 747-8 shows a change in the company's position, though, in fact, a large measure of the justification for investment in the new version derives from forecasts of sales of a freight version of the

aircraft. Boeing would also point to the considerable early success of the new 787 aircraft as an indicator that its fragmentation predictions will still be proved accurate.

5:3:3 Punctuality

Planning to ensure high standards of punctuality is a central product issue for all airlines. It is true that some of the punctuality problems being experienced by airlines at the present time reflect outside factors such as airport and air traffic control congestion. Still, many trade-offs exist where airlines that are prepared to spend more may fare significantly better than those which opt for the lowest possible costs of operation. In turn, these carriers will have an important advantage in securing long-term customer loyalty.

An important first area for these tradeoffs is in airline fleet planning. Generally, an airline will obtain the best punctuality performance if it operates new aircraft of proven technology. This means that an airline seeking the best possible punctuality performance should avoid being a launching customer for a new aircraft containing significant amounts of new technology. An especially difficult situation is when both the airframe and systems and the aircraft engines are entirely new. It will, though, lose opportunities to take advantage of the attractive discounts manufacturers always offer to launching customers.

The airline should also have a policy of replacing aircraft with new planes after a few years. Some airlines - Singapore Airlines is an example - do so, and appear to gain significant punctuality benefits from it. This is because aircraft despatch reliability tends to decline with the age of an aircraft once a certain threshold has been passed.

A further punctuality-related decision is whether or not an airline should invest in the automatic landing capability which will enable its aircraft to operate in conditions of poor visibility. Heavy costs will be associated with such a decision. Besides the capital costs of buying the equipment and maintaining it, flight crew training costs will also be significantly raised both in initial training and also because of the regular opportunities which must be given for crews to practise their blind landing skills. As a further difficulty, it is an investment which for many airlines will be poorly utilized. Few airports in the world have a problem with low visibility for more than ten or fifteen days per year, meaning that for almost all the time, a blind landing capability will not be needed.

Despite all these problems, investment in automatic landing is now a necessity for many airlines. Customers now realise that fog need not delay

an aircraft unduly, and competition has forced more and more carriers to make the required investment.

Maintenance is another area where trade-offs between cost levels and punctuality performance will need to be made. An airline seeking to achieve the best possible punctuality record will need a substantial line maintenance capability, to ensure that technical problems can be corrected as soon as they arise. Also, a considerable investment in spares will be required, for the same reason.

It is in the area of schedules planning where the most significant trade-offs have to be made if an airline is to achieve a good punctuality performance. A carrier aiming at the lowest possible cost of operation will develop a schedule which will give a high annual utilization of each aircraft in the fleet. Such a policy will lower costs because it will result in the fixed costs of aircraft ownership or lease rentals being spread over the greatest quantity of output. Very high aircraft utilization will, though, often bring significant product penalties. It will result in some customers having to accept inconvenient departure and arrival times, because high utilization will require aircraft to be kept flying continuously except for essential maintenance and turnaround periods. Even more significantly, a policy of high aircraft utilization may bring problems with punctuality. This is because once an airline experiences an initial delay, there will be no slack in the schedule to allow the delay to be made up. Thus, if an aircraft is delayed early in the day – perhaps for reasons outside the airline's control such as air traffic difficulties – all the remaining flights it is due to operate during the day will also be late. The only way around such difficulties seems to be to use uncongested, often remote, airports, where delays due to congestion are less likely to occur. This is the policy adopted by many Low Cost Carriers - notably so by Ryanair. When it is combined with careful attention to the detailed analysis of the aircraft turnaround process, it does indeed seem to be possible to combine high aircraft utilisation with a good punctuality performance.

Similar considerations apply to the question of the time which an airline allows in its timetable for a flight to be completed. A punctual departure is, of course, reassuring for passengers. However, it is a punctual arrival which matters to them even more, especially if they are trying to make a connection. If an airline allows a generous time in its schedule for the completion of flight, a punctual arrival is much more likely. It will also mean that a flight will arrive punctually even if it runs into stronger-than-expected headwinds. A slack schedule will, though, bring a cost penalty if it reduces the number of aircraft rotations that can be flown in a day.

5:4 Customer Service-Related Product Features

5:4:1 Point-of-Sale Service

Point-of-sale service is the term used to describe service offered to the customer at the point where they are actually making a booking. It is an area where revolutionary changes have occurred over the last five years.

Point-of-sale service has always been difficult for airlines because of the large number and wide variety of sales outlets they have used. In the past, some airline customers have wished to deal with them direct. The traditional methods to allow this have been downtown ticket offices, airport ticket desks and call centres. In addition, airlines have had to make themselves accessible to travel agents, with over 80% of bookings traditionally being obtained through agents. A final source of business has been from other airlines on an interline basis. Though the nature of interline relationships is now changing, it is still the case that a passenger wishing to book a multi-sector journey using several different airlines can do so by contacting only the first carrier (assuming that they are proposing to use a relatively expensive flexible ticket). This airline will then contact the others to make the necessary bookings.

Given this range of outlets, the point-of-sale task would always have been difficult for airlines. There can be little doubt, though, that by their own policy decisions traditional 'Legacy' airlines made it a great deal harder. In particular, by adopting very complex fare structures and reservations procedures, they increased point-of-sale transaction times and also ensured that the systems could only be accessed by trained experts. In turn, this further increased the proportion of bookings coming through the travel agency system and raised commission and booking fee costs.

To try to address the problem, the response of many airlines was to invest large sums in the development of so-called Global Distribution Systems such as Amadeus and Sabre, which we will cover fully in Section 7:3. Though to some degree these arrested the rise in processing costs by improving staff productivity, they proved costly and controversial. They were also to a large extent addressing the symptoms of the problem rather than the problem itself.

It has taken the Cost Leader revolution we referred to in the last chapter as well as the growth of widely-available internet access, to radically change the situation. As we have seen, by making fares and reservations procedures very simple, these airlines have been able to move to a "self-service" approach, with a high proportion of their bookings being made on-line by passengers themselves. This has resulted in very large cost savings in terms of commissions and administration, and is a policy which many traditional airlines are now belatedly following.

5:4:2 Reservations and Overbooking

For most air travellers, a pre-booked reservation they can rely on remains an integral part of the product that they expect from airlines Today, the availability of cheap computing power means that most of the technical problems associated with providing them have been resolved.

There is still one air transport product where a reservation is not offered. This is with the pure form of the so-called Shuttle concept. Pioneered by Eastern Airlines in the USA in 1961, the idea of the Shuttle is that passengers do not need to book in advance. Instead, the airline guarantees to fly all those who report for a flight. They can do so by keeping back-up aircraft and crews, which are called into action if the number of passengers checking in for a flight exceeds the capacity of the aircraft allocated to it.

The Shuttle concept brings a number of theoretical advantages. Passengers are saved the trouble of making reservations, and airlines the cost of recording them. Also, most Shuttle passengers pay at the airport. The business therefore comes direct to airlines with a useful saving in commission costs and some cash-flow benefits. It also helps to cement market control.

Shuttle concepts continue to be used in the USA, with, for example, US Airways and Delta still flying Shuttle flights between New York, Washington and Boston. The concept is in decline, though, in other markets. It requires a very large commitment of resources of aircraft and crew. These only achieve poor utilization because of the rarity with which back-up aircraft will be needed outside of the peak periods. Also, airport slot constraints are becoming more and more severe. In order to protect their so-called "Grandfather Rights" on the slots they have been allocated, airlines need to use them on a minimum of 80% of occasions during a given traffic season. There can be no certainty that they will do so if these slots are allocated to Shuttle back-up flights. Finally, through the advent of very capable Revenue Management systems (dealt with in the next chapter), carriers are now much more successful at selling seats on off-peak flights at low, but still profitable, prices. It is therefore often a worthwhile option to fly a route with an aircraft which will cater for all the peak time full-fare demand. Though this aircraft will then be too big for the level of such demand at off-peak periods, lower fares and careful capacity management can be used to produce worthwhile returns even on these flights. This may well be a cheaper and more profitable option than flying all services with a relatively small plane and augmenting peak-time capacity with a costly back-up aircraft.

An illustration of changing attitudes towards Shuttle services came in the UK domestic market in 1997. British Airways had flown domestic trunk services from Heathrow using the Shuttle principle since 1975. In 1997, though, the guarantee of a seat for all those reporting for a particular flight was discontinued, with all passengers expected to make a reservation. At the same time, the making of reservations was made easier by the adoption of "ticketless travel", a development discussed fully in Section 7:2:2.

If reservations are to be required in almost all cases, airlines still have to address another difficult problem: many passengers do not turn up and use the reservation they have made. The proportion of occasions where this is so varies from market to market, but it is quite common to find 10% of bookings coming into the "no-show" category. There are many reasons for this. Some passengers fully intend to get to the airport to check in for their flight but are prevented from doing so. They constitute *accidental* no-shows. Last minute illness or death will be an obvious reason for accidental no-showing. Other reasons will include traffic delays on the way to the airport and the passenger experiencing a late in-bound connecting flight.

Not all no-shows are accidental, however. Many are *deliberate*. For example, business travellers who are uncertain about the time at which their meetings will end may book seats on several flights with different airlines. They will then have a convenient return flight whatever the actual finishing time. Another problem may occur when an unscrupulous passenger is holding a Standby ticket for a particular flight. They have an incentive to phone the airline a number of times making false bookings using fictitious names. The result will be no-shows, meaning that the Standby passenger will be accommodated.

Given such a significant no-show problem, it might be argued that airlines are themselves creating the problem by an over-generous attitude to those who book but fail to check-in for a flight. All service industries face the same problem as airlines, that their output is instantly perishable and cannot be stored. Some – cinemas are a good example – require customers to pay at the time of booking and no refunds are given if they fail to show up for the actual performance. As mentioned in Section 4:2:3, many Low-Cost Carriers take a similar approach. They will only deal with customers who have credit or debit cards. Card details are taken by the airline when a reservation is made and the card is automatically debited. This gives the carrier a guaranteed income and removes the necessity to overbook. Other, less radical airlines are increasingly making some of their lower fares non-refundable.

Despite the attraction of this idea, it is not a practical one for airlines in all circumstances. In particular, business travellers often regard the right to no-show as an important part of the flexibility they are buying when using an expensive fare. If one carrier unilaterally made such fares non-refundable in the event of a no-show it would lose significant market share to its rivals.

If a degree of no-showing is inevitable, airlines have a strong incentive to overbook, and, perhaps perversely, their passengers will also benefit as a result of such a policy. By overbooking, load factors can be increased, which will in turn allow fares to be lower. Also, overbooking permits more passengers to travel on the flight of their choice. If an airline did not overbook, it would only accept reservations up to the number of seats on an aircraft. All other requests for bookings would be refused. However, if, as would be very likely, there were no-shows, the flight would take off with some of the seats unoccupied. Ironically, there would then be passengers using later and presumably less convenient flights who could in fact have taken the flight of their choice.

There are thus clear advantages which will accrue to the customer if an airline practises overbooking which will be lost if it does not. Despite this, overbooking remains unpopular. Of course, an airline should use historical records to help fix the amount by which each flight should be overbooked. If a conservative estimate is made, on almost all occasions there will be no problem. The number of no-show passengers will exceed the amount of overbooking and all passengers will get on the flight. However, no matter what degree of care is exercised, there will be occasions – hopefully rare – when difficulties arise. Then, the random element present in patterns of no-showing means that the number of passengers reporting for a flight exceeds the capacity of the aircraft being used for it. Some passengers will therefore be "bumped".

In the past, airline approaches to this problem were totally unsatisfactory. Too often, the passengers selected for bumping were the last ones to check in. This was expedient, in the sense that these passengers would not have baggage already loaded into the aircraft lower holds, which would otherwise have to be retrieved for security reasons. However, these late-arriving passengers would often be business travellers. They would therefore be commercially important to the airline. Also, as business travellers, it would often be vital that they should get the flight on which they are booked, because they had meetings to attend, or onward connections to make.

Today, better-managed airlines are more sophisticated at handling bumping situations. Their aim is to identify, and to compensate, the passengers who are prepared to accept a delay. These are clearly unlikely

to include business travellers. If such a passenger is, for example, flying to negotiate an important contract, no amount of compensation will be sufficient to make up for the fact that they miss their meeting. Many leisure travellers, though, will find the offer of compensation an attractive one. It may not matter to them a great deal whether they reach their destination today or tomorrow, especially if they receive a cash payment in compensation. Airlines should therefore seek volunteers for off-loading on those flights where they expect to have problems. In doing so, they can provide a valuable protection for their commercial reputation. A further incentive for them to do so, at least in the European Union is that now substantial compensation has to be paid to passengers who are involuntarily bumped from a flight and face a substantial delay as a result.

5:4:3 Airport Service

As in all other areas of product design, airline decisions about the level of airport service they offer to their customers will be a reflection of their overall business strategy. Low-fare airlines will find airport service a major area where they can achieve economies to ensure that their low fares will be profitable. They often use uncongested airports, which may sometimes impose inconvenience on passengers by being far from the cities they are designed to serve. They may insist on longer check-in times to enable a smaller number of check-in desks to be used, or, increasingly encourage check-in to be undertaken in advance on-line. A simple bag-drop facility is then all that is needed at the airport, though even here, charges are now often made for each piece of checked baggage, both as a way of producing additional revenue and to encourage people where they can to limit themselves to hand baggage only. No special lounges are provided, resulting in a significant cost saving. Finally, the boarding process will be a usually be a simple one on a "first come, first served" basis with no pre-allocation of seats.

For airlines aiming to penetrate the market of frequent business travellers the task could not be more different. Major efforts have been made in recent years to establish airport service as a significant area of product differentiation. Some carriers now provide limousine services to pick up premium-fare passengers at their home or office to bring them to the airport – Virgin Atlantic, Continental and Emirates are examples. Once there, kerbside check-in facilities may be on offer to remove the necessity of carrying heavy baggage into the terminal. If they do come into the terminal to check-in, a separate, uncongested desk will be provided. There may then be provision for a preferential channel for moving through passport and security formalities, before the passenger is invited to use

what will generally be an extremely luxurious lounge with hospitality and business facilities available free-of-charge. At the arrival airport, business travellers can now expect preferential baggage service with their bags arriving on the baggage carousel first. There may also be an arrivals lounge allowing them to freshen up before going to their meeting.

All these advances in airport service do not come cheaply. They involve investment in extra staff and equipment, and in rental payments to the airport operator in respect of lounge space and extra check-in desks. It is essential therefore that airlines are able to raise their fares to pay for them or increase their share of the business travel market as a result of better airport service. It may be harder to sustain higher fares in a recessionary period, whilst increases in market share may only be transient if rival airlines also offer enhanced airport service.

5:4:4 In-Flight Service

Many of the points we need to discuss with regard to in-flight service have been made in earlier sections. Section 2:3:3 looked at the question of customer requirements in this area, and in this chapter, Section 5:3:1 considered issues associated with classes-of-service decisions. There are, though, a number of additional aspects which will affect the nature of passengers' in-flight experience.

One of these areas is the question of an airline's fleet planning policies. Naturally, all aircraft manufacturers argue that selecting their aircraft will in turn allow airlines to give their customers a superior in-flight product. For example, Airbus claim that their A320 family is better than the B737 because it has a wider fuselage cross-section, allowing for wider seats and wider aisles. Equally, though, Boeing argues that its B767 is superior to the Airbus A330 and A340 because it is designed for 7-abreast rather than 8-abreast seating in the Economy cabin. Airbus replies that its A330 and A340 are optimised at 6-abreast seating in Business Class, in contrast to the 7 abreast of the B777. The latter therefore results in a 'prisoner', in the middle seat of three in the centre of the cabin.

For smaller aircraft, manufacturers of regional jets might argue that these aircraft bring significant benefits compared with turbo-props, at least over longer routes because they give a smoother flight, usually at higher altitudes, though these advantages are reduced with the latest generation of turboprops such as the Bombardier Dash 8-400.

There are, of course, many costs associated with in-flight service. However, despite what they spend on items such as food, drink and in-flight entertainment, airlines find that the main costs are those associated with cabin staffing in terms of the salaries paid, the allowances given and

the costs of hotel accommodation for flight attendants. The usual linking between the correct policy and airlines' overall business strategy applies.

For low-fare airlines, there might appear to be a temptation to dispense with cabin staff altogether. Because these airlines are generally "no-frills", the cabin service task is in any case a limited one. Such an option is not, though, a possibility. The primary function of cabin staff is that of ensuring safety on board, and regulatory bodies insist that a minimum number of qualified cabin staff are carried. The rules are rather complicated, but in essence they mean that there must be one cabin attendant per 50 passengers up to 200, and one per 25 passengers over 200. A "no-frills" airline will, though, work with the minimum legal number of cabin staff as will a typical charter airline.

Scheduled carriers will generally have a greater number of cabin staff than the minimum, to ensure more attentive cabin service for First and Business Class travellers. Some airlines, especially from the Far East, will greatly exceed the minimum number. For example, a typical European or North American airline will budget for 14 or 15 cabin staff on a B747. Carriers such as Thai International use 22 on this same aircraft.

Whatever the number of cabin staff employed, a significantly greater issue for airlines – and their passengers – will be the attitudes displayed by cabin staff towards the passengers in their care. Warm, friendly and confident attitudes will constitute a major marketing advantage, whereas uncaring attitudes will be a serious handicap, especially amongst regular business travellers who will fly often enough to be able to compare the reception which they receive on different airlines.

Ensuring the right approach from cabin staff is one of the industry's intractable problems at the present time. Cabin crew are entitled to expect a career structure like everyone else and in highly unionised carriers in Europe and North America at least, trade unions have often been successful in negotiating this for them. However, there is then a risk that people stay in what is a difficult and exhausting job for too long, when cynicism has long ago replaced the initial enthusiasm that they may once have felt. Also, in recent years, at many airlines, cabin crew have seen their salaries and allowances reduced, as carriers have battled to restore profitability. Though such changes have often been a regrettable necessity, they have hardly helped to improve motivation and commitment.

5:5 Controlling Product Quality

Quality control is an essential part of the product design phase of marketing for any airline. Without it, the carrier cannot know which parts of its

product are weak, and where improvements are needed.

Many aspects of the airline product can be quantified. For example, with point-of-sale service, modern telephone equipment can provide statistics on the proportion of calls answered within a given time period. It can also give information about the proportion of calls that are lost at busy times, in the sense that callers become tired of waiting for someone to help them and abandon the call.

Baggage service – or the lack of it – can also be quantified. The proportion of bags which are mishandled and fail to arrive at the destination at the same time as their owners is one necessary statistic. Also, baggage delivery times can be monitored by recording the time taken for the first bag and the last bag to reach the baggage delivery carousel.

Punctuality and regularity performance should also be studied carefully. The proportion of flights departing and arriving within prescribed limits of the scheduled time is a fundamental measure, with on-time to within 5 minutes a suitable standard for short-haul routes, and on-time to within 15 minutes for long-haul. In terms of regularity (the proportion of flights advertised in the timetable which are actually operated), the standard should, of course, be near to 100%.

Monitoring of customer compliments and complaints should also be undertaken. All airlines receive fraudulent or unjustified complaints. Although these require vigilance, the number of them should be relatively constant. Therefore, comparing the number of customer compliments with the number of complaints will provide a first quality control statistic. Airlines should also investigate the nature of the complaints they receive. If these focus to an increasing degree on only a small number of product components, this will be a strong indicator of the areas where management attention is needed.

We have already discussed in Section 2:3:2 the use of in-flight and airport surveys as ways of collecting information about customer requirements. They can also form part of a quality control programme. An in-flight survey will have the advantage that passengers are actually experiencing the product at the time they fill in their questionnaire. If they are questioned at the airport of arrival their memories of the flight will still be fresh. In either case, asking passengers their opinions can have a valuable Customer Relations function, of convincing them that the airline is interested in continuous product improvement.

A further area of quality control work is one which should never be ignored – the opinions of the airline's own customer contact and sales staff. These people will regularly come into contact with customers and will have to listen to their complaints. Their reports can provide an accurate barometer of the airline's performance.

5:6 The Air Freight Product

Airlines with an interest in penetrating the air freight market need to spend a great deal of time in detailed planning of the freight product. There are, of course, many differences between the air passenger and air cargo businesses which were set out in section 2:4:1. The basic principles of product planning are, though, exactly the same. Successful airlines will be those that identify correctly their customer's requirements and then make the difficult tradeoff between product quality and costs.

5:6:1 Air Freight Capacity

With questions of air freight capacity, we have discussed in Section 2:4:1 the advantages from the customer's point-of-view of an airline investing in pure freighter aircraft. These will allow capacity to be provided on the routings that the freight customer wants, at times which suit their demand pattern. They also offer a greater certainty that goods will actually be flown on the flight on which they are booked.

If it is decided that the provision of freighters will be worthwhile, a decision will have to be made about the type of aircraft to be selected. In deciding this, airlines will need to bring in some of the same considerations they will employ when selecting a passenger aircraft. For example, they will need information on the payload/range capabilities of the different aircraft types in comparison with their route networks and traffic flows. They will need data on capital and ownership costs, fuel consumption, field-length performance and available operating costs. In addition, though, there are two pieces of data which are unique to freight operations and which can be crucial in plane choice. First, *cabin door size* and *cabin cross-section* of the main deck of the aircraft will decide what size of consignment can be accommodated. All narrow-bodied jet freighters (such as the freight version of the Boeing 757) can only accept consignments of up to 86 inches in height through their cargo doors. They cannot, therefore, accept the 8 feet by 8 feet rectangular cross-section of International Standards Organization (ISO) standard-sized containers. Of the wide-bodied aircraft, the freighter version of the MD-11 cannot accommodate two of these containers side-by-side in the main deck. The B747F and the A380F are the only freight aircraft at the moment which can do so. The 747F has the added advantage of a nose-loading capability, providing carriers are prepared to accept the higher capital and maintenance costs of an aircraft equipped with this facility.

The second important performance measure for a freighter is its *design density*. Freighters do not only have a weight-limited payload. They also

have a fixed volumetric capacity. If an aircraft only has a small volume relative to its maximum payload it will often become volumetrically full before its maximum payload is reached. Older narrow-bodied jets such as the B707 and DC-8 all had significant design density problems because of their inadequate cabin volumes. The Boeing 747 has a design density approximately 40% below that of the 707. This aircraft, though, has a very large payload/range potential so in practice it can only be used on the busiest long-haul services, as can the A380F.

The airline specialising in the air freight market will have to decide which types of freighter aircraft it is to employ. Total market airlines aiming to penetrate both the air passenger and air freight markets must decide whether or not they will use freighters at all. They need not do so. It is part of the synergy available to the total market airline that in providing passenger service it also produces lower-hold freight space. With narrow–bodied planes such as the B737, lower-hold capacity is not especially useful because these aircraft have belly-holds which are awkwardly-shaped and comparatively small. They can therefore carry only a small amount of freight, even when operating a flight where the passenger and baggage load is limited. The freight they do carry also poses time-consuming problems of loading and unloading. Wide-bodied aircraft, though, are much more capable. The B747 can carry 25 tones or more of containerized and palletized cargo in its lower hold. Other wide-bodies such as the A330, A340 and MD-11 have a freight capability of 12 tonnes or more, depending on the passenger payload and the fuel needed for a given sector.

Given that it will have large amounts of freight capacity available in its passenger aircraft, a total market airline operating wide-bodied planes can consider relying exclusively on lower-hold space. It will still be able to offer a good flight frequency, and it will not have to bear the heavy costs of operating a freighter fleet. Indeed, in the past an investment in freighters has rarely been a successful one for such airlines, especially in markets such as the North Atlantic where freight yields have generally been low.

Despite the attractions of not employing freighters, it is unlikely to be a viable option for an airline with a serious interest in the air freight market. To many customers, an exclusive reliance on belly-hold capacity will significantly reduce the quality of the product. For example, a shipper of hazardous cargoes may need freighter service because industry safety rules forbid the carriage of many types of hazardous goods in the lower holds of passenger aircraft. Also, freighter capacity is very important to the shipper of large consignments. The main deck of the B747F, the largest freighter currently in common use, can accommodate shipments of over 100 inches in height.

A further problem with a freight product based only on belly-hold capacity is that it fails to take into account shipper's requirements for space. Air freight peaks strongly at night, following production during the working day, and at the end of the working week. There is a pronounced trough in demand on Sundays and Mondays. Some belly-hold capacity will therefore be provided at times of the day or the week when little freight is moving. At other times, though, there may be a chronic shortage of capacity, especially on Friday evenings.

In the longer term, a policy of relying purely on belly-holds may be untenable for another reason. It ties the amount of freight space offered to passenger demand. Generally, air freight demand is growing more quickly then that for passengers, in itself likely to lead to a shortage of belly-hold freight capacity. Also, passenger demand growth is generally faster in the leisure rather than the business travel segment. Leisure-orientated flights tend to be on routes to holiday resorts where the quantities of air freight moving may be relatively small.

A final factor jeopardising a belly-holds only policy may be that in the longer-term, aircraft developments may mean that less space will be available for freight. The Airbus A380 is a double-decked aircraft in terms of its passenger cabins, in order to keep its overall dimensions within those necessary for airport compatibility. This means that a large increase in the passenger carrying capabilities of the aircraft, without corresponding growth in belly-hold space. Consequently, a greater proportion of the belly-hold capacity will be taken up with passengers' bags, and less will be available for freight.

Overall, airlines with a major interest in building their presence in the air freight market will have to operate a fleet of freighters. They may operate these aircraft themselves, or wet-lease them from specialists such as the US firm Atlasair. If they choose to operate the aircraft themselves, an attractive option may be to use conversions of obsolete passenger aircraft, rather than buy new and very expensive specialist freighters from the manufacturers. This will especially be the case if the passenger aircraft are comparatively new but have become obsolescent because of a lack of range. With freighters, shorter ranges are less of a problem because the aircraft can simply land and take on more fuel. Both Airbus and Boeing are offering freight conversion programmes for used aircraft, both as a way of providing a service to airlines and as a way of hopefully protecting the residual values of their older aircraft.

With questions of air freight capacity, there is an interim solution possible, with the use of so-called "Combi" and "Quick-Change" aircraft. A Combi is an aircraft where the main deck can be divided between passengers and freight with a moveable bulkhead to separate the two. A

Quick-Change (QC) aircraft is one which can be converted from a passenger to a freighter aircraft quickly – generally in less than an hour. This is because the seats can be removed in a short time as they are placed on pallets.

Both Combis and QCs are more expensive and heavier than equivalent passenger aircraft because they need a large cargo door and a strengthened floor. Theoretically, though, both can bring significant benefits. Combis have allowed routes to be opened up where there has been insufficient passenger demand to allow a service to begin at a marketable frequency. They have also permitted carriers to enter the large-shipment market without the risks associated with investing in pure freighters. QC aircraft have sometimes been valuable in short-haul operations. Here, passengers have not generally wished to travel at night, so aircraft have had to be left on the ground then, with a significant penalty in annual utilization. Converting the aircraft into a freighter allowed for extra, night-time flights to be operated.

Despite these advantages, Combi flying has declined recently whilst the QC concept has never achieved the popularity for which the aircraft manufacturers must have hoped. Combis have generally been unpopular with passengers, resulting as they do in a smaller-sized passenger cabin. Recent years have also seen the introduction of new fire suppression rules which have caused increases in both capital costs and aircraft weight. These in turn have challenged the economics of Combis.

With QC aircraft, these have generally been opposed by the passenger departments of airlines. Using an aircraft as a night-time freighter may mean that there will delays to early morning passenger flights if technical problems have occurred overnight. Also, in the past, QC aircraft have suffered from the way in which the nightly conversions have damaged aircraft interiors.

Besides questions of freight capacity, an airline hoping to penetrate the air freight market will have to make decisions about the ground handling systems to be employed, and the investment to be made in information technology.

In the late 1960s and early 1970s a number of airlines installed sophisticated on-airport automated freight handling systems. These were intended to allow them to lower their ground handling costs and to improve the service they offered to their customers. This early move to highly automated cargo handling was not successful, though, largely due to the unreliability and inflexibility of the systems.

During the later 1970s, many airlines discontinued automated on-airport handling and returned to labour-intensive methods. By this time, the advent of wide-bodied aircraft meant that more and more freight was

loaded into aircraft in containerized or palletized form. As this trend developed, airlines found at least a short-term answer to their handling problems by offering concessionary rates to those air freight forwarders who were prepared to take the Unit Load Devices (ULDs), load them and present them to the airlines in a ready-for-carriage form. This process, operating under the so-called Bulk Unitization Programme, rescued airlines from otherwise intractable problems of on-airport cargo handling. It did, though greatly increase the number of expensive Unit Load Devices which they needed to purchase. The Programme also raised the bargaining power of air freight forwarders relative to the airlines. It was therefore significant that during the 1980s and 1990s large integrated carriers such as FedEx, UPS and DHL grew rapidly. These firms adopted a policy of substantial investment in airport handling facilities, and largely chose to by-pass the forwarding industry. It is also the case that some airlines – British Airways and Air France are good examples – have now invested again in automated on-airport handling, despite having their fingers badly burnt in the industry's first move in this direction. They are relying on the fact that the state-of-the-art in cargo handling has advanced considerably since then.

The design of the freight product is an interesting aspect of airline marketing. The total market airline can use the synergies available from the belly-hold space in its passenger aircraft. It can therefore offer flight frequency and cheaply available capacity as its main advantages. The pure freight airline, on the other hand, can supply capacity which will meet the needs of the freight customer without any requirement for compromise. It is these advantages that are becoming increasingly important.

SUCCESSFUL AIRLINES ……

- ✈ Appreciate that product development is a continuous, never-ending process, using the lessons of the Product Life Cycle.
- ✈ Analyse products and routes, using the Boston Box model to guide their investment decisions.
- ✈ Correctly make the difficult decisions which balance risk and opportunity, using the guidelines provided by the Ansoff Matrix.
- ✈ Appreciate that adding product frills rarely produces long-term gains in market shares, because frills can easily be matched by competitors.

- ✈ Work towards ensuring that the highest standards of personal service are delivered to customers – something which *can* boost market shares.

- ✈ Establish a rigorous quality control system for their product, and work to ensure that the weaknesses shown by this system are corrected through a process of continuous improvement.