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The strategic response of full service airlines to the low cost carrier threat and the perception of passengers to each type of carrier

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The strategic response of full service airlines to the low cost carrier threat and the perception of passengers to each type of carrier

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ABSTRACT

Low cost carriers have changed the competitive dynamics of the short-haul market forever. They have revolutionised the way of doing business in aviation by adopting a fresh approach on both strategic and operational issues. Simplicity has become their universal principle over network airlines and subsequently they have achieved substantial cost advantages which are passed onto the consumer as lower fares. Network airlines have found it difficult to reshape their structural barriers and have been slow to incorporate the components that low cost carriers deemed very significant in impacting their operating margins. However, a restructuring of their internal weaknesses should spur initiatives to design long-term strategies to address those shortcomings. Network airlines rely on producing value-adding and consumer-driven product differentiation beyond the basics of the low cost carrier product. To further differentiate themselves network airlines need to focus on: customer satisfaction; develop long term mutually beneficial relationships with both passengers and corporations; collaborate with a wide range of bipartisan partners; retain differentiated flight products that add value; and to incorporate strategies that other network carriers deemed paradigmatic. Network carriers should resist reducing costs associated with value-added services and need to become innovative in generating alternative revenue streams.

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1 Chapter one: Introduction

1.1 Setting the scene

The airline industry is facing evolutionary change. Full service airlines have been the world's dominant airline business model for decades but they now stand at a critical juncture as a new airline force is reshaping the competitive dynamics of the short-haul market. Events, such as SARS, 9/11 and the Asian currency crisis, had a significant effect on the operations of the full service carriers but, with time, the traffic on international routes gradually recovered and profits returned. However, a far more serious threat was unfolding in the short-haul market - it was becoming a permanent problem and was causing major concern to airline managers across the world. Low cost carriers had re-engineered the design of the traditional airline business model and were capturing significant chunks of the short-haul air transport market worldwide. By March 2006, they had secured 8% of the intra-Asian market, and 23% and 27% of the intra-European and US domestic markets respectively. In other parts of the world, low cost carriers have also being growing quickly: Gol gained 25% of the Brazilian market; Air Deccan claimed 10% in India; Virgin Blue acquired 30% in Australia; while Air Arabia had taken 6% of the Intra Gulf market by 2006. OAG (December, 2006) calculated that the total number of low cost carrier seats worldwide was up by 16% over the year 2005/06 and there appears to be no stopping the continuous growth, year after year, of these budget carriers.

To reflect the speed at which these low cost carriers are growing, the number of European routes served by low cost carriers in 2000 can be compared against the number of routes served in 2006 and is shown below in Figure 1 and Figure 2. In 2000, the bulk of the traffic was centred around Ireland and the UK, largely because Ryanair and easyJet had set up their initial bases in this region. However, by 2006 the low cost carrier route network had grown substantially as there were 48 low cost carriers operating out of 22 States in Europe and this resulted in an enormous increase in capacity (Eurocontrol 2006, p17). This type of low cost carrier growth typifies what has occurred in the US and Asia. Low cost carriers have also been synonymous with strong financial performance as many of the best performing budget carriers had operating margins that were on average three times that of the network airlines in 2005, and this has attracted investors, thereby allowing these carriers to become well capitalised. This has allowed the low cost carriers to plan for the future and retain their double digit annual growth rate by procuring large orders for new aircraft. In Europe for example, Aviation Strategy (March 2005) declared that the four leading low cost carriers, easyJet, Ryanair, Air Berlin and SkyEurope, had over 330 narrow-body aircraft on firm order by early 2005, while the total narrow-body order at European full service airlines stood at just 26.

Figure 1. European Low Cost Carrier route network in 2000

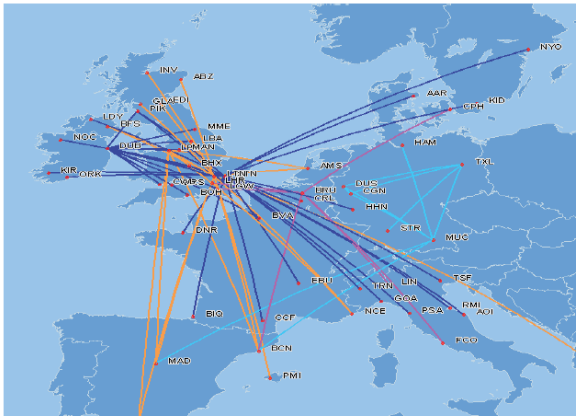
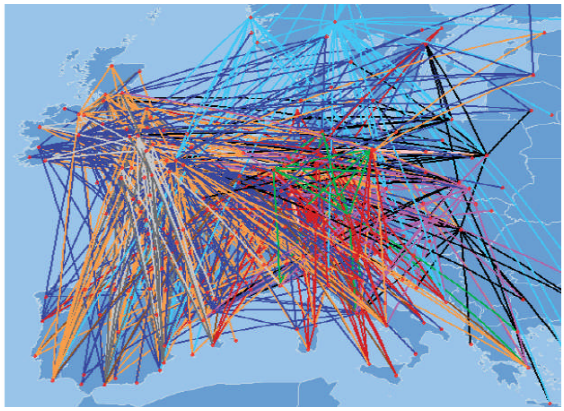


Figure 2. European Low Cost Carrier route network in 2006



Source: CAA, 2006

Analysis by the Boston Consulting Group (2004) revealed that that the low cost carriers around the world had taken up to 60% of the passenger growth from the legacy airlines, which explains why these carriers have experienced such low annual passenger growth year after year. However, the major concern pertaining to network carriers was the number of passengers switching to low cost carriers. In its 2000 air traffic forecasts for the UK, the Department of the Environment Transport and Regions (DETR) made the assumption that 30% of the passengers carried by the no-frills carriers would be diverted from existing airlines and that the remainder would be stimulated (DETR, 2000). A study, conducted in 2002 by the European Low Fares Airline Association (ELFAA) concluded that approximately 60% of the traffic was stimulated, while the remaining 40% was substitute traffic (ELFAA, 2002; CAA, 2006). A later study by Hapag-Lloyd Express (2004, p30) indicated that 59% of passengers travelling on budget carriers were new passengers[1] and confirmed the earlier analysis by stating that a further 37% were switching from the network airlines to the budget carriers. In the US, the problem was even more acute, because by 2005 an average of around 63% of all passengers travelling on US Majors could also have taken a low cost carrier and that this is steadily rising with each passing year and this was very threatening as large Majors such as United and American Airlines for example were generating a large amount of their revenues from the domestic market (Ito and Lee, 2003; Lee, 2007). In Malaysia, the national flag carrier became the first major casualty of low cost carriers as it structured a landmark deal with Air Asia whereby the carrier would take over the majority of its domestic routes.

Several academics, including Hansson et al. 2002, Tretheway, 2004 and Taneja, (2004, p32), have all emphasised that the traditional business model of the legacy carriers is broken and that there must be a structural shift in airline strategy if traditional airlines

[1] These new passengers are comprised of the following: 71% would otherwise not have travelled; 15% would have travelled by car; 6% would have travelled by rail; 8% others.

are to compete successfully with the low cost carriers. McKinsey Consulting have estimated that the potential profits of Europe's traditional network airlines are estimated to fall by around $2.5 billion per year by 2010 if their current strategies which challenge the low cost carrier threat remain unchanged. Similarly, the potential revenues of the US majors will decrease by $6.4 billion per annum if American incumbents maintain their current strategies (McKinsey Quarterly, 2005 p5). Harrington et al. (2005) stressed that full service airlines must evolve or risk extinction.

Surprisingly, few academics have outlined what strategies would prove effective to counter the low cost carrier threat. Franke (2004), a noted airline consultant and academic, stressed that the network airlines urgently needed a new business strategy and identified three areas that required restructuring. They included: reducing the complexity at hubs; simplifying the customer interface; and providing greater differentiation for premium passengers. Flenskov (2005, p114) stressed that incumbents must offer a competitive product to each segmented passenger market. Auerbach and Delfmann (2005) stated that network airlines should remain consistent by retaining their traditional full service frills approach, which would be the key prerequisite to achieving sustainable competitiveness in the future. Doganis (2005) outlined that network airlines should implement the following: cut the domestic and short-haul routes where load factors and yields are heavily undermined by the no-frills carriers; integrate more and consolidate with alliance partners, which would strengthen schedules and reduce capacity; focus on increasing their frequencies on short-haul markets; continue operating into primary airports; cut costs significantly in order to reduce the cost advantage of the no-frills carriers; strengthen the brand; and offer passengers differentiated services that would enable them to charge higher fares and maintain passenger loyalty. Doganis (2006, p269) also postulated that smaller and medium sized network airlines should feed the short-haul traffic into the hubs of the established long-haul operators and theorized that small to medium sized airlines could become subsidiaries of large network carriers or even merge with them. Franke (2007) reiterated that legacy network carriers needed to cut costs, adopt more flexible pricing models and segment the customer base, and stressed that innovation will be the winning formula to regain profitability and competitive advantage. Clearly there was a need to find winning strategies that would prove effective against low cost carriers.

The full service airlines transported 1.5 billion passengers in 2006, which represents over 80% of the world's RPKs, and are an important component in the air transport chain (Airline Business, August 2007). Full service airlines have a large number of advantages over low cost carriers and a continued erosion of their market share would force this business model to further retreat and become extinct - which would have an enormous impact of the industry. The full service airline is a valuable commodity to both the economy and passenger for the following reasons:

- The network airlines operate hub and spoke operations - this allows a number of cities to be linked through a central hub, and each additional spoke that is added magnifies the linkage benefits and through services. By combining point-to-point traffic with transfer traffic at a central hub, airlines are able to offer a wider variety of destinations to consumers with higher frequencies than a point-to-point operation. Network carriers, through their collaboration with alliances, offer passengers a 'seamless' travel experience which allows both passengers and baggage to transfer between carriers as if the passenger was travelling on the same airline. The members of the Star Alliance, for example, served a total of 873 destinations in 2006, while passengers travelling on a low cost carrier are restricted to destinations within its network. Intercontinental connections are not available on low cost carriers, yet interconnectivity is an important constituent for passengers. Mason and Alamdari (2007) used a Delphi study to indicate that 82% of the responses indicated that networks will be the principal component of intercontinental travel. SITA (2005) indicated that 300 million interline tickets were produced in 2004. Studies have shown that around 30% of all intra-EU passengers had tickets that accommodated interlining, and a further 10% had a fully flexible interline ticket in 2001 (DG Competition Consultation Paper, 2001).

- Consumers have the opportunity to travel to any city in the world as long-haul travel remains a unique component of full service airlines - over 75% of the RPKs of British Airways, KLM, Air France, Lufthansa and Swiss come from long-haul operations. In contrast, Dobruszkes (2006) stated that 70% of Europe's low-cost flights are less than 1000 km.

- Full service carriers have segmented the cabin into business and leisure offerings both in short and long haul markets. Network carriers remain strongly favoured by the business travelling community - research by Alamdari and Mason (2006) pointed out that less than 10% of corporate trips, for example, are booked with low cost carriers, and the majority of the corporations do not use them. Network carriers provide a plethora of supplementary flight products aimed at the business traveller that include lounges, flexible interchange tickets, baggage allowance, frequent flyer points, seat comfort, etc.

- Freight is an important component of industrialisation and economic growth as the World Bank (2002) indicated that air cargo, trade and GDP have a direct relationship. Thus, in the new speedy logistic era, nations with good air cargo capability have a competitive trade and development advantage over those without such capability. In Asia for example, the strong growth in inter-regional trade has been supported by the

boom in airfreight as major Asian airports account for 35% of Asia's total international trade by volume, but more than 40% by value (Senguttuvan, 2006). In the UK, freight accounted for 20% of all Britain's exports by value in 2000 (DETR, 2000). However, freight is not carried on low cost carriers as it is not an integral part of its business model. IATA projects that air freight will become a $60 billion business in 2007 (Air Cargo World, 2006), while Boeing estimates that 60% of this value is transported in the bellyholds of full service airlines (Boeing Commercial Airplane Group, 2000/01).

- The low cost carriers are noted for their poor customer service, and a survey on 16,000 travellers conducted by Carlson Marketing Group in 2003 confirmed that easyJet and Ryanair had the industry's poorest customer relations (Travel Trade Gazette, 2003).

- The IATA Corporate Survey (2004, p87) listed several reasons why passengers disliked travelling on low cost carriers, and these include: no frequent flyer programs; inconvenient flight schedules; bad airport location; and seat comfort.

- Passenger surveys conducted by O'Connell and Williams (2005, 2006) listed that passengers choose full service airlines because of a mixture of the following attributes: schedule, reliability, quality, connections, fare, frequent flyer programs, service and comfort, while passengers choose low cost carriers primarily because of their low fare offerings. This wide mix of flight attributes offered by the full service airlines creates value for the passenger.

1.2 Scope, Originality and Aims of the Research

Network airlines have two major problems when competing with low cost carriers: firstly, they need to restructure their internal mechanisms to develop more effective strategies, and secondly, network airlines need to re-examine the requirements of passengers who are travelling in the short-haul market as the difference between the flight product characteristics had become noticeably unsynchronised.

Strategies were urgently needed as the voice from industry was loud and clear; low cost carriers are a major threat to the full service airline business model. The following quotes outline the urgency of the problem.

- Martin George (2003), director of marketing at British Airways stated that '*British Airways very existence in the short haul market depends on finding solutions and fast to the threat of low cost airlines'*.

- The CEO of SAS summed it up for many airlines by stating '*Yet another restructuring plan is being finalised for our short-haul operation and low cost carriers are now one of our greatest challenges'* Barrie (2003).
- Robert Milton, Chief Executive Officer of Air Canada stated that *'It appears that the only successful airlines today are the original low-cost carriers or restructured mainline carriers'*. (Velocci 2003).
- Michael O'Leary, Chief Executive Officer, Ryanair stated that '*Nobody, but nobody will match our airfares and if they do, we'll simply lower ours straight away'* (Calder 2002)
- Ray Webster, Chief Executive Officer, easyJet stated that *'In ten years time, all intra-European traffic will be on low cost airlines'* (Flight International 2002)

It is somewhat surprising that academics generally have not addressed the issue of how incumbents should respond to the low cost carrier threat. Authors, such as Morrell (2002), Williams (2002, 1993) and Holloway (2003), have largely avoided the area, while Lawton (2002) only discussed the strategies of low cost carriers. Hanlon (1999) echoed what the majority of academics were proposing by suggesting that network carriers should develop strong hub and spoke systems, implement marketing loyalty schemes, focus upon their core competencies, outsource non-core functions, such as information technology, and reduce costs. These strategies collectively should then strengthen the competitive position of an incumbent. Holloway (1998) authored a book, entitled 'A strategic management perspective on an industry in transition', which preceded the low cost carrier threat, while his later book, 'Airlines: Managing to make money', discussed competitive strategy but failed to address the issue of how incumbents could strategically challenge the low cost carriers (Holloway, 2002). Similarly, Shaw (2004) only dedicated a small proportion of his book entitled 'Airline Marketing and Management' to the general strategies of airlines, while Flouris and Oswald (2006) gave an excellent in-depth analysis of general airline strategy but, once again, gave no insight into how incumbents could reshape their strategies in order to compete successfully with low cost carriers. Work by Taneja (2002, 2003 and 2005) largely discussed the general trend of the industry and did not disclose any new strategies, while his 2002 book edition stressed that network airlines needed to adopt new technologies. Apart from Aviation Strategy, a monthly intelligence report that provides some insights into the response of the network carriers to low cost carriers, there was an evident gap in the academic literature concerning what strategies network airlines deemed effective in combating the low cost carriers.

Numerous authors have cited multiple reasons why passengers choose a particular airline, and this is a major challenge facing airlines today as passengers demand a multitude of different attributes - it is impossible to be all things to everyone [at the same time]. At the same time, there is an increasing amount of literature on the need for airlines to better understand their customers. Academics, such as Parasuraman et al. (1985), found that there was a gap between a passenger's expectations and perceptions.

Holloway (2002, p230) stated that airlines must bridge the gap between a passenger's expectations and actual delivery. Gilbert and Wong (2003) and Aaker et al. (2003) argued that airlines must accurately perceive what passengers want and expect. Park et al. (2004) confirmed that airlines need to understand their customers and determine what their passengers expect from the service. The McKinsey group also reiterated that airlines must gain a better understanding of their customers (McKinsey Quarterly, 2005 p6). Taneja (2005) stressed that airlines must start prioritising their passengers' needs. However, there has not been any published work previously conducted on determining if an airline's view of the requirements of passengers matched the requirements of passengers, or on measuring the amount that each airline has mismatched the requirements of its passengers - and this was another significant gap in the literature. Also, there had not been any published work conducted on the cross-price elasticity of airline passengers between a low cost carrier and a full service airline, which would measure what proportion of passengers would most likely switch over to another carrier due to a change in the fare. This would assist network airlines in determining the price sensitivity of passengers and which flight products they would be willing to substitute as a result of the fare change - which was another void in the literature.

Aims of the Research

- To uncover the key factors which have been responsible for the continued growth and success of low cost carriers, and to assess their impact on the full service airline business model.
- To obtain insights into the perceptions of passengers to a change in fare between low cost carriers and full service airlines, while determining which flight products are most important to passengers travelling on each type of carrier.
- To measure the strategic capability of full service airlines in responding to low cost carriers and to ascertain the former's understanding of the requirements of passengers.

1.3 Fundamentals underpinning the choice of Methodology and Analysis

Philosophical assumptions underpin the research process, which dispose researchers towards different paradigms and methodologies (Burrell and Morgan, 1979). The two research areas that have received most attention in literature can be broadly labelled as positivist and phenomenological (Reichardt and Cook, 1979). The most commonly used terms to differentiate these paradigms with respect to their associated methods and techniques, are *quantitative* and *qualitative* respectively, with *quantitative methods* being

based on the positivist paradigm while *qualitative methods* are built on a phenomenological worldview (Creswell, 2003; Firestone, 1987).

Research methods are the data collection techniques which refer to the specific, fact-finding procedures that yield information about the research phenomenon. The meaning of data and the measures through which data are captured are also influenced by theoretical frameworks relating in some way to the research questions. These measurement theories should not bias the test for or against one explanatory theory over its rival. Research methodologies can range from an objective, scientific (*quantitative*) research style to the subjective, interpretive, more constructive (*qualitative*) style. Data collection methods typically associated with (but not limited to) qualitative methodologies include: interviews and questionnaires; diary methods; case studies; observation and participant observation (fieldwork); and the researcher's impressions and reactions to observed phenomena. The objective of quantitative research is to develop and employ mathematical and econometric modelling, theories and hypotheses pertaining to scientific and business entities. Quantitative methods can be applied to questionnaires in order to determine their statistical significance and correlation.

To fulfil the **first aim** (listed above) of the research thesis, an analysis of the secondary data was conducted which involved the summary, collation and/or synthesis of existing research. This was derived by an extensive review of the academic literature.

To fulfil the **second aim** of the research thesis, which was to 'obtain insights into the perceptions of passengers towards low cost carriers and full service airlines', the author chose a **questionnaire methodology** similar to researchers who undertook similar types of studies into the perception of passengers, and include Park, 2007; Park et al. 2006; Fourie and Lubbe, 2006; Gilbert and Wong 2003; and Mason, 2001. This is a clear way of extracting information from passengers, as the questions target specific areas of interest to the researcher. The methodology of using face-to-face interviews with passengers was discarded as it is a time consuming process which would have negatively impacted on the volume of respondents. Quantitative methods were then carried out to determine the correlation of flight products for both leisure and business class passengers who were travelling on full service and low cost airlines. The point at which passengers begin to substitute the various flight products was also measured against a fare change, and this was *quantitatively* accessed via a statistical process called the Spearman rank coefficient.

To fulfil the **third aim** of the research thesis, which was to 'measure the strategic capability of full service airlines in responding to low cost carriers and to ascertain the former's understanding of the requirements of passengers', the author accessed five types of methodologies which are listed below. Each one will be discussed in-turn to provide an explanation as to why each one was either considered or discarded.

- Delphi Study
- Focus Groups
- Case Studies
- Interviews with Airline Staff
- Surveys

Delphi Study

The Delphi method is a social research technique which has the aim of obtaining a reliable group opinion from a panel of independent experts who answer questionnaires in two or more rounds with controlled opinion feedback. It was first developed for the field of technological forecasting in the US in the early 1960's by Norman Dalkey (Rand Corporation) and Olaf Helmer (Institute for the Future). Today, it is considered a useful method for eliciting and aggregating expert opinion whenever there is a lack of viable or practical statistical techniques (Armstrong, 2001; Armstrong, 2006). It can be defined as a medium-term qualitative forecasting method that is based on building a consensus amongst a group of experts. A Delphi type-study enables an exchange of information amongst anonymous experts (no expert knows which other experts are going to be consulted) and this reduces the pressure to conform to the perceived views of industry peers. In the first round, each expert is expected to provide an answer to each question - and also a justification for their answer along with any assumptions made. The research team then distils the answers and feeds-back a summary of the responses and justifications with the entire group. In the second round, the experts react to the information gathered during the earlier round, which allows the forecast to be fine-tuned. It enables the experts to reach a consensus or convergence of thoughts on a subject (Rowe and Write, 1999; Landeta, 2006; Green et al. 2007). A number of researchers have applied this technique to the airline industry, as Mason and Alamdari (2007), for example, asked the opinions of industry experts about the future trends of EU network carriers, low cost carriers and consumer behaviour. Cooper et al. (1995) also used the Delphi approach to analyse the implication of privatising Latin American carriers in the future. However, the objectives of this thesis were very specific, and seeking a methodology to determine the dynamics between full service airlines and low cost carriers in the future was outside the scope of the research. In addition, the literature had hypothesised several scenarios of the direction of full service airlines and how they should respond to low cost carriers, and these were discussed extensively in the literature review.

Focus Group

Focus Groups are interactive discussion groups used for: generating knowledge and hypotheses; exploring opinions; exploring attitudes and attributes; evaluating commercial decision making; and identifying and pretesting questionnaire items (Fern, 1982). A

moderator (usually the researcher) conducts a one-to-two hour in-depth interview, commonly with a group of between 6–12 participants drawn from a target population of experts (Krueger, 1988, p27; Krueger and Casey, 2000). The moderator attempts to create a highly synergistic environment in which participants openly share their perceptions, build on each others' ideas, and jointly develop new insights (Calder, 1977). Academic researchers also make regular use of the focus group technique. In fact, focus groups now appear in more than 100 academic articles each year as researchers use them as both a primary and supplemental method of research (Morgan, 1997). Numerous researchers such as Hill et al. (2007) and Beck et al. (2006), for example, have used the Focus Group methodology in order to collect the participants' perceptions on a specific subject area. The Focus Group method of inquiry has found increasing favour in all areas of research as Durgee (1987) used the methodology to study consumer needs and preferences, which had a similar analogy to the requirements of passengers.

A survey, entitled 'Impact of Low Cost Carriers', was conducted throughout the world with full service airlines with the cooperation of IATA[2], and this survey is outlined in **Appendix VII.** The questionnaire was developed after a number of **Focus Group** discussions took place between the author and IATA over several months in 2005. Between 8 and 10 IATA delegates gathered in a conference room - their average experience was around 10 years, many of them had worked for full service airlines and were well aware of the threat posed by low cost carriers, and all welcomed the urgency of the research. The researcher participated via telephone on four occasions with these delegates and the discussions lasted on average around one hour and centred around constructing specific questions which would extract maximum information from full service airlines. IATA included its own specific questions (i.e. questions 2, 3 and 6) which were to be used as intelligence gathering data and excluded the researcher from the use of this information. The **Focus Group** devised a total of 35 closed strategy questions based on a five point likert scale arrangement (i.e. not at all, not very, some, some-what, extremely) in order that the results would yield a more precise and valid response from each surveyed airline. An additional 3 open-ended questions (i.e. questions 7, 8 and 9) were incorporated which allowed the full service airlines to add additional information that was not captured by the earlier questions.

An important decision made as a result of the overall collaboration of the **Focus Group** was to change the structure of question 5 – the 'Air Travellers Choice'. In the original passenger surveys conducted in Ireland, Malaysia and India, passengers ranked the most important reason for choosing to travel with a particular airline in ascending order (e.g. 1, 2, 3, etc.). However, the dialog within the Focus Group restructured this

[2] IATA has over 270 members from more than 140 nations, whose main objective is to assist airlines to achieve lawful competition and uniformity in prices. The author conducts regular short airline courses on IATA's behalf throughout the world and it was through this collaboration that IATA agreed to sanction this survey.

question as a five-point likert scale arrangement so that the results would yield a more precise and valid response from each surveyed airline. The analysis involved with linking both types of scales is discussed in detail in Chapter 10.

Case Studies

A *case study* is 'an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident' (Yin 1994, p13). The case study is an ideal method when a holistic, in-depth investigation is needed (Feagin et al. 1991). Eisenhardt (1989) concluded that case study research has three strengths in the building of theories: (i) its likelihood of generating novel theories, (ii) the testability of its emergent theories or hypotheses, and (iii) the likelihood of empirical validation of resultant theories. There are numerous case studies associated with the airline industry as authors such as Barrett (2006) and Chan (2006) provided a systematic way of looking at events, collecting data, analyzing information, and reporting the results. As a result, the researcher may gain a sharpened understanding of events and what areas pose challenges for the future.

The researcher used this methodology in **chapter 5** to synopsise the strategies used by Aer Lingus to compete with Ryanair. The incumbent was cited several times by academics and industry executives alike as having restructured itself the most in order to compete with low cost carriers, and the case study would give an account of the re-organisational benchmarks that it achieved. The realignment of Aer Lingus' strategies could be used as a blueprint for other incumbents.

Interviews with Airline Staff

Interviews cover a wide variety of formats, but generally are designed as personal meetings between an interviewer and respondent(s). Interviews are a quantitative research method commonly employed in survey research, but are often criticized for their high propensity to encourage interviewer and respondent bias. Interviews represent a targeted method of collecting data and are often insightful - providing perceived causal inferences. The type of interviews range from unstructured, semi-structured, to completely structured in format. The completely structured interview comprises of a verbal survey with fixed response options. On the other end of the scale, the 'depth' interview is an unstructured and personal interview in which a single respondent is probed by a highly skilled interviewer to uncover underlying motivations, beliefs, attitudes and feelings on a topic (Breech 2002).

The aviation literature is replete with **interview** methodologies. Miles and Mangold (2005) and Barrett (2004), for example, conducted interviews with Airline CEOs of

Southwest and Ryanair respectively, and this type of methodology generated deeper insights into decision making strategies. A prominent monthly magazine, entitled Airline Business, conducts a monthly interview with a top level representative of the industry in order to extrapolate past, present and future directions. The researcher of this thesis interviewed the following personnel in order to get a clearer view of the competitive dynamics between full service and low cost carriers and uncover the thoughts of key decision makers who could provide further insights into competitive responses and airline business strategy.

- Berger, B. – Route Network Director at Ryanair
- Coleman, M. - Strategy Director at Aer Lingus
- Fernandes, T. - CEO of Air Asia, Malaysia
- Forbes, B. – Marketing Director at Emirates
- Griffiths, M. – Commerical Officer at British Airways
- Joyce, A. - CEO of JetStar, Australia (by phone)
- Kumar, S. - Commercial Directror of Air Sahara, India
- Kuruvila, J. - Chief Revenue Officer of Air Deccan, India (by phone)
- Saw, T. – Marketing Vice President of Malaysia Airlines
- Sheety, G. - Vice President of Marketing at Jet Airways. India
- Singh, K. – Strategy Director at Singapore Airlines
- Yassin-Knan, K. - Strategy Director at Malaysia Airlines

The information gathered from these interviews was used in the Focus Groups to structure the questionnaire.

Surveys

Pinsonneault and Kraemer (1993, p77) defined a survey as a 'means for gathering information about the characteristics, actions or opinions of a large group of people', while Salant and Dillman (1994, p. 2) stated that surveys can also be used to assess needs, evaluate demand and examine impact. Survey research is a quantitative method, requiring standardised information from and/or about the subjects being studied. Tourangeau et al (2000) state that a questionnaire is the best method to elicit sensitive information, while at the same time it provides respondents with an opportunity to approve or disapprove with the status-quo of an organisation's strategies.

A combination of the **literature review** of marketing (Chapter 6), strategic management (Chapter 7), **Focus Groups, Case Studies** and **Interviews with Airline Staff** structured and calibrated the questionnaire for this research thesis. The difficulties in acquiring satisfactory responses from surveys is well documented in literature, and the difficultly in persuading the relevant personnel to co-operate once contacted, has become increasingly difficult (Groves & Couper, 1998; De Heer, 1999; Groves et al., 2002). To overcome this difficulty and to ensure that high ranking airline managers (i.e. Senior Managers or Vice

Presidents) participated, the survey was administered in conjunction with the International Air Transport Association (IATA). It also ensured the relevance and credibility of the responses harnessed the collective wisdom and experiences of the senior executives. Schnell (2005) stated that 60.1% of airline managers are leaders of their departments and report regularly to the Vice President or CEO. This empowers them with company-wide knowledge as they attend regular meeting with peers from other departments and have transparency within the entire spectrum of the airline. Schnell (2005) also states that the average airline manager has worked 17.1 years in the industry and 9 years at the current carrier, and that airline managers' answers are expected to reasonably correspond to the actual situation that the carrier is facing. IATA has over 270 member airlines whose flights account for 94% of all international scheduled air traffic. The operational objective of the organisation is to ensure that members' aircraft can operate safely, securely, efficiently and economically - under clearly defined rules and works towards these objectives by implementing standardisation processes. IATA represents the interests of the airlines and is highly regarded in the industry. The author is a certified instructor with IATA and has conducted numerous short courses on areas such as: airline distribution; airline strategy; airline marketing; and airline management with around 20 different airlines throughout the world on behalf of the organisation, and it was through this collaboration that IATA agreed to sanction the survey. The IATA link was pivotal as it ensured the participation of senior strategy directors and a good response rate. Researchers such as Yu and Cooper (1983) and Martin et al. (1989), found that the response rate to surveys increased dramatically by around 33% to 39% with personalisation.

Levy and Lemeshow (1999, p7) stated that a pilot survey must first be conducted to test both the instrument and the survey procedures before the actual survey is conducted. According to Oppenheim (1966, p26), some questions need as many as eight revisions before producing satisfactory results. The piloting of the survey was two-fold: firstly, the focus group (i.e. IATA) administered the 'prototype' questionnaire among its own employees and with three undisclosed full service airlines with which the organisation closely works; secondly, the author piloted the same questionnaire with a group of airline strategy directors who undertook a 3-day IATA airline strategy course in Singapore, which was conducted by the author. Careful analysis is needed when constructing a questionnaire in order to formulate items which avoid ambiguity and return data of the required scope. The Focus Group, in conjunction with the researcher, then constructed the finalised version of the survey, which would allow the responses to be dimensionally measured via likert scales. It was administered to 150 top airlines (in terms of revenues earned) and the responses were dimensionally measured via likert scales in order to correlate differences between each carrier. The survey itself contained the distinguished 'IATA' label and it was attached as a web-enabled survey, whereby respondents would click on the link activating the questionnaire.

1.4 Research Objectives and Methodology

The hypothesis tested here is that full service airlines can mount a formidable challenge to the low cost carriers but this is dependent on their strategic capability and on their ability to meet the requirements of their leisure and business passengers. The aims of the research are broken down into three specific objectives which provided focus to the research. In each case the methodology adopted is outlined below.

i) To extensively examine the principle drivers that have enabled the low cost carriers to be successful and to identify the problems that they have been causing for full service airlines.

Methodology

This research was conducted through an extensive review of the existing literature which was extracted from journals, books, intelligence reports, conference proceedings, airline annual reports, equity research reports such as ABM AMRO, etc.

ii) To assess the number of passengers who would switch between a low cost carrier and a full service airline as a result of a fare change (in discrete increments of 10%, 20%, 30% and those who would not switch) and to identify which flight products would become substituted or retained when passenger switch airlines as a result of a fare change.

Methodology

Two questionnaires targeted passengers travelling on each type of airline. The surveys were conducted in Ireland, Malaysia and India where over 1,250 responses were gathered. The thrust here was to understand the decisions made by passengers who were journeying on low cost carriers and full service airlines. Answers were sought to the following questions: 'Were one particular group of passengers (leisure or business) favouring a particular type of carrier?'; 'How many flights had passengers taken on other carrier types?'; 'What would persuade passengers travelling on low cost carriers to switch to full service airlines?'; and 'Was there a difference in passenger opinion between the flight product rankings of low cost and network airlines?'. The results of this were published in two academic papers in the Journal of Air Transport Management.

iii) To investigate the level of importance that each network carrier placed on a particular strategy, while determining the level of difficulty associated with implementing their strategies. The degree of correlation between the requirements of passengers and the airlines' view of the requirements of passengers was also analysed.

Methodology

A detailed questionnaire was designed from literature review of the marketing chapter (i.e. chapter 6) and from literature review from the strategic management chapter (i.e. chapter 7). Figure 46 shows an integrated framework of strategic management principles and strategic marketing concepts which form the core components to the questionnaire. It accesses the strategic capability of full service airlines and their ability to gain competitive advantage over low cost carriers. The questionnaire also sought to determine if the ranking of flight products determined from passenger surveys (objective 2 above) correlated with the airline management's perception of flight product rankings. It also measures the level of correlation between an airline's strategic capability and its understanding of the requirements of passengers. The questionnaire was administered to the world's top 150 airlines (in terms of revenues earned) in collaboration with IATA, and a total of 41 responses were received. The support of IATA was essential to ensure that the senior strategy directors took responsibility for the contents of the questionnaire, and it would also ensure the relevance and credibility of the responses.

1.5 Thesis layout

Chapter 2 reviews the overall airline industry in terms of: its growth pattern; financial performance; cyclical trends; yield deterioration and overcapacity which have significantly impacted its profitability; and its underperforming position in the air transport value chain. It then delves deeper into the different types of airline models, which include full service airlines, regional carriers, low cost carriers and charter airlines, and examines the performance of each of these carrier types in terms of: financial performance; traffic; load factor; yield; and market capitalisation. It concludes by looking at the traffic forecasts for the next two decades and what regions of the world will experience the most growth.

Chapter 3 examines the regulatory environment of the US, European and Asian markets. It shows the operating environment of the pre-deregulated market and compares it to what transpired after deregulation. In the US, carriers could enter any market and compete on the basis of price, which was a new dimension, while in Europe deregulation opened up cross-border and domestic markets (including [cabotage]) and

removed national ownership restrictions. One of the noteable changes that occurred after deregulation was the prolific growth of low cost carriers, which quickly took advantage of the newly liberalised market. The chapter then discusses the fragmented regulatory process in Asia, as Australia and New Zealand established an open skies policy while other Asian countries retained a system of restrictive bilateral agreements - however, the rise of low cost carriers in the region occured against a background of an increasingly liberal attitude towards traffic rights.

Chapter 4 analyses the impact of the low cost carrier growth on the network airlines in the US, Europe and Asia. It shows the imminent dangers facing network carriers as an increasing proportion of their domestic and short-haul markets are being attacked by budget carriers, and outlines the hazards ahead as low cost carriers have secured much of the production capacity from aircraft manufacturers for short-haul aircraft. Fare data was collected from network and low cost carriers from around the world over a three-year period in order to determine the level of response from network airlines and measure their ability to reduce fares. The core differences that divide the two airline business models are then examined extensively - they include: flight product characteristics; legacy costs of the network airlines; unit cost differences; network orientation (hub and spoke versus point-to-point); and ancillary revenues.

Chapter 5 comprises a case study of Aer Lingus which was widely perceived to be the carrier that most effectively responded to low cost carriers, and was also singled out because it operated in tandem from its domiciled base in Dublin with Ryanair, the world's most aggressive low cost carrier. Parts of Aer Lingus' strategy could provide a framework for other network airlines to respond to budget carriers as it was further down the learning curve. The chapter shows how management restructured the carrier but retained core differentiating features and imitated facets of the low cost carrier model that strategically fitted with its own business plan.

Chapter 6 contains a detailed literature review of airline marketing. It extrapolates the core marketing principles of Philip Kotler (one of the world's most respected marketing academics) and combines these principles with airline marketing literature to provide an integrated marketing framework. It shows that modern marketing is particularly geared to the customer - he/she has become concentric to all marketing endeavours as relationships, value and satisfaction have become the building block of the airline marketing department. The chapter further explores the marketing strategies that impact a passengers' decision to book with a full service airline and uncovers ways to retain its customers. This chapter extrapolates the core points of the marketing literature which provided part 1 of a framework of questions that was administered to airline executives in conjunction with IATA.

Chapter 7 adopts a strategic management perspective in discussing alternative solutions for traditional carriers to compete effectively with low cost carriers. Emphasis is given

to the design of a structural analytical framework in which complex inter-relationships can be analysed. This comprises the following strategic components: cost leadership and product differentiation; collaboration with other carriers; strengths and weaknesses; Porter's theory of competitive rivalry; key aspects of airline strategic marketing; and enhancement of a business' structural position via possession of a capable management team and by diversification outside an airline's core competency. This chapter extrapolates the core points of the strategic management literature, which provided part 2 of a framework of questions that was administered to airline executives in conjunction with IATA. This overall framework provided the 'blueprint' for a questionnaire that would assess the incumbents' capabilities in competing with low cost carriers.

The empirical part of the thesis is composed of two parts. The first part is based on a passenger questionnaire that gathered information on the perceptions of passengers of both network and low cost carriers, while a second questionnaire was aimed at strategy directors working at network airlines and measured their strategic capability in responding to low cost carriers. Chapters 8 and 9 detail the results of the passenger surveys that were conducted in Ireland, Malaysia and India. They highlight the key findings, such as passenger characteristics, journey purpose, connections and fares. They then centre on an in-depth study of the factors that influence carrier choice and the ranking order of flight products for both leisure and business passengers. These chapters conclude with an analysis of cross-price elasticity which measures the sensitivity of passengers to a change in fare, and also its substitution effect on passengers' flight products.

Chapter 10 discusses the results of the IATA survey undertaken as part of the empirical validation of this thesis. Each incumbent's strategic capability was measured by assessing the level of importance that a network airline placed on a list of strategies and by probing the level of difficulty that each carrier encountered when implementing its strategies. The responses to the passenger surveys from Chapter 8 and 9 were used to investigate if the airline's perception of passenger requirements synchronised with the airline's view of passengers' requirements.

Chapter 11 discusses and summarises the output and conclusions from the research. It uses the thesis findings to flag the important strategies that would allow network airlines to significantly challenge the low cost carriers and also highlights their difficulties in implementing such strategies. In addition, it outlines the limitations of the study and makes recommendations for further academic research into the area.

2 Chapter 2: Evolution and Structural Characteristics of the Airline Industry

2.1 The growth and financial state of the airline industry

This chapter sets the scene of the dynamics that currently exist within the airline industry. It begins by discussing the factors that are triggering airline growth and interprets why the industry is cyclical in nature. It then analyses the important elements that are negatively the profitability of the industry such as decling yields, overcapacity issues, etc. Within this turmoil, the chapter shows that full service airlines are the weakest performing airline group when compared to low cost carriers, regional carriers and charters. The chapter concludes by showing the traffic potential that will become apparent by 2023 and how low cost carriers are better positioned to capture a sizable chunk of this traffic surge.

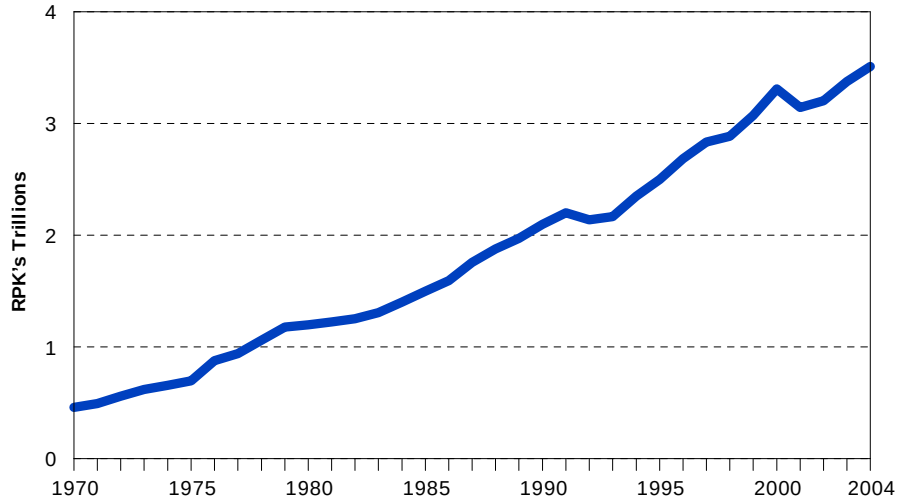
2.1.1 The growth of the airline industry

To gain an insight into the airline industry's prospects and problems one must look at the market environment and the financial forces that shape the industry. In 2006 the global industry was operating 82,000 flights and offered 9.5 million seats daily (AOG, September 2006). Button (2004, p9) indicated that the industry presently carried 1.6 billion in 2003, it is responsible for almost 4 million jobs, had a turnover of $260 billion, used 18,000 aircraft, and served a 15 million kilometre network involving 10,000 airports while air cargo traffic added over 130 billion revenue tonne-kilometres. Air transport has enormously benefited economic growth and prosperity, contributing around US$ 880 billion a year to world GDP, representing 2.4% of global GDP. If you include air transport's catalytic impact, the contribution to GDP is US$ 2,960 billion, equivalent to 8% of world GDP (World Travel and Tourism Council, 2004). At a micro level, the growth of European air transport since 1995 has boosted European Union GDP by 4 percent. The expected growth to 2025 will boost GDP of the 25 European Union nations by a further 1.8 percent[3]. According to the Boeing Current Market Outlook (2006)[4] world air traffic grew by 2.5 times at an annual rate of 4.8 percent during the period 1985-2005. Alderigh and Cento (2004) stated that in the last 50 years the European airline industry had faced only one annual decrease in traffic which was in 1991.

[3] The Economic Catalytic Effects of Air Transport in Europe," Eurocontrol Experimental Centre, Bretigny sur Orge Cedex, 2005.
[4] www.boeing.com/nosearch/exec_pres/CMO.pdf

Figure 3 shows the five-fold growth in air travel from 1970 to 2004 measured in Revenue Passenger-Kilometres (RPK): this is a standard air traffic demand statistic defined as the product of the total number of passengers b the actual distance flown. This growth was largely because of deregulation, low entry barriers, strengthening global economies, falling fares, tourism development, overseas holidaying, and increased international trade that sparked business travel and airlines worldwide reacted by adding enormous amounts of capacity. Nonetheless, this growth pattern has not evolved in a stable uninterrupted way. The average growth rate between 1971 and 1979 was 11.5% p.a. followed by 5.8% for the period 1980-1990 and 6.2% between 1991 and 2000. From the 1970s to the present day, there has been a number of glitches to the growth of air traffic such as the oil crises of the 1970s and late 1980s, the Gulf war in the early 1990s, SARS, 9/11 and the present Iraq war but air traffic is highly resilient in that it quickly recovers from such cataclysms.

Figure 3 Air Transport Demand (RPKs, Trillions)



Source: IATA, ATA

Dennis (2002) stated that economic growth has historically been a key determinant of travel demand and it continues to play an important role in many forecasting models. The traditional 'rule of thumb' measure for general air transport markets is that the GDP multiplier is around 2 - this assumes that demand will grow or decline twice as fast as any change in GDP (Doganis, 2002). Examining the IATA data on passenger traffic since the 1970s reveals that the GDP multiple has been in the range of 1.5-2.2. Chin and Tay (2001) produced a regression model which indicated that air traffic growth rates are positively associated with GDP growth rates. In addition, strong economies increase business travel. The World Travel and Tourism Council estimated the business travel market to be worth $387.1 billion in 2001 (Euromonitor International, 2002). Increasing globalisation and market integration creates the need to travel between customers and suppliers and among the different locations of an enterprise. UK companies alone are spending £15 billion a year on business travel (The Sunday Times, January 2006). Air

travel continues to be the preferred method of travel among business travellers, with around three-quarters of business people travelling by air (Euromonitor International, 2002).

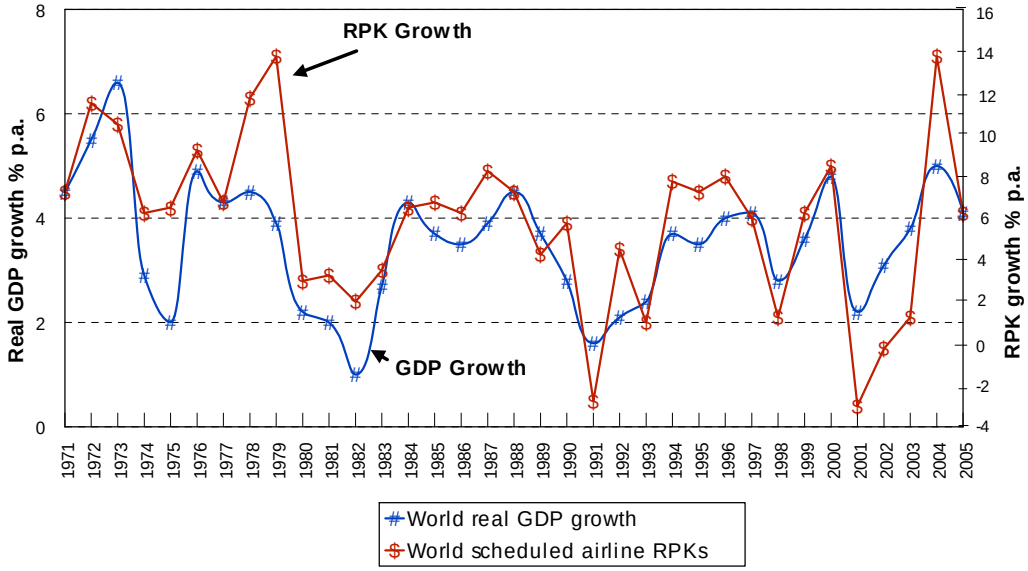
According to a report by Simos (2006) in the Journal of Business Forecasting, the volume of world trade is estimated to have increased by 7 percent in 2005. The baseline forecast anticipates that the growth rate of global trade for 2006 will be estimated at around 7.8 percent. This optimism is further supported by air cargo statistics. According to Boeing, annual growth in air cargo demand exceeded growth in passenger traffic for most years in the 1980s and 1990s and some years even recorded double digit growth. The outlook is also good as air cargo is expected to rise by 6.1% p.a. compared to 4.9% growth for passenger traffic over the next twenty years (Conway, 2006).

Air travel is also intrinsically related to tourism mainly in terms of international flows, but also for domestic movements in larger countries. According to the World Travel and Tourism Council (2004), world travel and tourism was estimated to generate $5,490 billion worth of economic activity (total demand) in 2004. The tourism ratio (which shows the percentage of demand attributed to tourism over total industry supply) of air transportation should exceed 90% by the new millennium (Smith, 1998). In most developed countries, holiday travel is by far the largest type of travel (Graham, 2006). Furthermore Mintel (2004) found that UK holidaymakers for example are 70% more likely to take short breaks than they were 5 years previously. Shaw and Callum (2006) indicated that UK residents presently spend 250% more of their personal income on air travel than they did a decade ago. Goetz and Graham (2004) and Papatheodorou (2002) argued that globalisation and liberalisation has significantly contributed to the growth in air transport.

2.1.2 The cyclicality and financial state of the Airline Industry

Besides the healthy passenger traffic growth over time, the aviation industry is also long known for its cyclical nature as it is highly exposed to economics, politics, wars, diseases and natural catastrophes. The cycle of boom followed by recession has become familiar across the world. Hätty and Hollmeir (2003) confirmed that air transport is cyclical in nature and that demand for it is synchronised with economic cycles. Nonetheless, the airline industry has created its own cycles that overlay the economic cycles, often producing an even greater adverse effect. Gallagher (1995) showed that since the mid-1960s the US airline industry has experienced five major cycles.

Figure 4 Economic Activity and Airline Demand Cycles

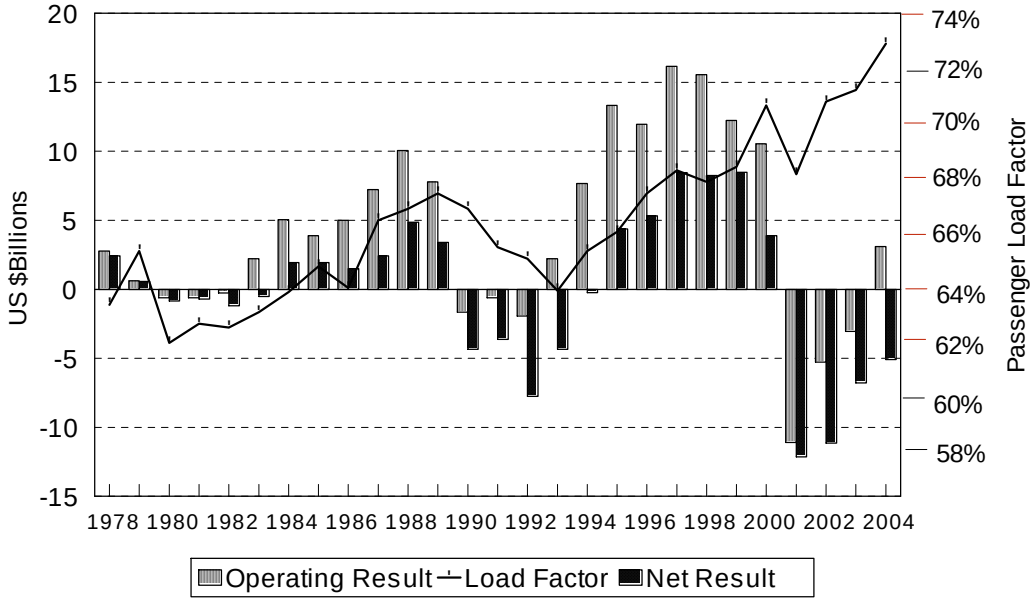


Source: IATA, Sentance (2005)

Figure 4 and Figure 5 show different aspects of the cyclical nature of the airline industry from the 1970s to date. The former encapsulates the fact although GDP and passenger traffic move in parallel, the fluctuations in airline demand are far more pronounced. The latter focuses on financial performance and shows a pendulum like motion of profitable and loss making swings that are getting larger, as the profits in the mid 1990s were greater than those in the 1980s and the losses in the new millennium were greater than those in early 1990s. Morrell (2002) pointed out that the operating margin of the world's scheduled airlines only exceeded 5% twice in the 1980s and three times in the 1990s. Chin and Tay (2001) who extensively studied the cyclicality of the airline industry over the last 35 years pointed out that the downturns have been getting more pronounced while the upturns are becoming weaker. However, airlines have corrected the cyclical nature of load factors largely through effective yield management systems. In fact, Doganis (2001) stated that cost reduction has become a continuous and long term necessity for financial success. Network carriers have had to restructure their outdated cost structures and adopt some of the cost efficiencies of the no-frills carriers, which are currently the best performing airlines.[5]

[5] Differences between alternative airline business models are discussed extensively in Chapter 4.

Figure 5 World Airline Financial Results (1980 – 2004)



Source: ICAO

Note: The difference between operating and net results is largely the interest paid on bank loans (subtracted from any monies received from interest on bank deposits).

In the three years leading up to the end of 1992, the world's scheduled airlines made losses of $11.5 billion, which is greater than the accumulated net profit generated by the airline industry from its inception (Harkes, 1993). European governments injected subsidies totalling $12.1 billion from 1991 to 1995 to keep flag carriers financially solvent (Smit, 1997). Airlines expanded their networks by adding new destinations and service frequency in order to gain market share while not focusing on costs as these were counterbalanced by charging higher fares. This was followed by a period (1995-2000) of profitability fuelled by strong economic growth, high employment, larger disposable incomes, the dot.com boom and global stability through the absence of terrorism and wars. The global airline industry had a net profit in this period of $37.6 billion, however it was short lived, as in 2001 a severe economic downturn occurred resulting in a complete erosion of airline profitability. The industry had a net loss of $12.6 billion in 2001 alone, representing one-third of what the industry gained from 1995-2000. It lost $11.5 billion and $6.5 billion in 2002 and 2003 respectively, with the loss reducing to around $5 billion in 2004. Further exacerbating the profitability issue is the fact that the breakeven load factor for IATA international scheduled airlines rose by 4.7% from 1998 to 2003. The cumulative net losses for the industry over the period 2001 – 2005 totalled $43.6 billion.

Skinner et al (1999) recommended a dynamic approach to managing the cycles of the airline industry and suggested that an aggressive management of operating leverage, fleet capacity, yield, etc would reduce the amplitude of the cycles. Gillen and Lall (2004) and

Franke (2004) claimed that the low-cost model can cope better with recessions and the associated changes in demand than the traditional models.

2.1.3 Financial implications for Incumbents following 9/11, the Iraq War and SARS and their rippling effect through the industry

Ito and Lee (2005) argued that no industry has suffered greater economic damage from the terrorist attacks of September 11, 2001 than the US airline industry. An industrial survey by Kemp and Dwyer (2003) questioned 50 international airlines about their mission statements and found that profit was only mentioned by just 24 carriers while the majority expressed the view that survival was on the top of their agenda. The effects of the attacks had a rippling effect worldwide. Kilroy (2001) stated that worldwide commercial passenger traffic fell by approximately 18 per cent from 10th September to 10th October, 2001. Prior to the terrorist attacks, the US airline industry was already in a weakened condition due to reduced demand, rising labour costs and high debt service costs (United States House of Representatives, 2002). Golaszewski (2003) estimated that carrier losses in the US would have been about $2.8 billion (pre-tax income) in 2001 before the impact of September 11. However, the US airline industry began 2001 after 24 consecutive profitable quarters, including net profits in 2000 totalling almost $3 billion. The impact of the 9/11 event on the US airline industry was substantial. The terrorist attacks pushed the industry into financial crisis after air travel dropped 20% over the September–December 2001 period compared to the same four months in 2000. Looney (2002) reported that after the attacks, the consensus forecast for the US real GDP growth was immediately downgraded by 0.5 per cent for 2001 and 1.2 per cent for 2002. This implied that US traffic levels should have fallen by around 1% for 2001 and 2.4% for 2002. However, it was much worse than forecasted. According to Air Transport Association (ATA) data reported by the DOT Inspector General, the number of business travellers declined 26 percent from December 2001 through December 2002[6]. Net losses totalled $8 billion for 2001[7]. Indeed, these losses would have been significantly higher had the Congress not quickly passed the Air Transportation Safety and Stabilization Act in September 2001, which provided $5 billion in emergency assistance to the airlines. By 2002, the US Airline's industry debt stood at over $100 billion with 11 of the 12 passenger airlines rated as "junk bonds" by Standard & Poor's, while only Southwest remained "investment grade[8]". Meanwhile, Southwest had a market capitalization of $10.7 billion, which was twice the value of the other carriers combined. According to

[6] GAO report 04-836 Airlines Financial Condition accessed at www.gao.gov/new.items/d04836.pdf

[7] Federal Aviation Administration, Aviation Policy and Plans, Aviation Industry Overview, FY 2000 and Aviation Industry Overview, FY 2001.

[8] Subcommittee on aviation hearing on the financial condition of the airline industry, accessed at www.house.gov/transportation/aviation/06-03-04/06-03-04memo.html

Aviation Strategy (June 2004) each of the legacy US-based carriers would take more than 30 years to pay off its debts and leases at the then current rate of cash generation. Golaszewski (2003) stated that between February 2001 and February 2002 the US Majors as a group reduced capacity by 16%, while Doganis (2006, p10) reported that the low-cost carriers' traffic grew by 26% from 2001 to 2003. During the period 2000-2003, US legacy airlines' revenues were down by 25%, while low cost carriers had increased passenger revenues of over 12% (US GAO Report, 2004). By 2004, the US majors (including profits from Southwest and JetBlue) reported a net loss of $9.0 billion (ATA, 2005). This represented the fourth consecutive year of losses and it brought the cumulative 2001–2004 losses to $32.3 billion. The US full service airlines have not yet recovered despite enormous restructuring programs that were largely made in chapter 11 bankruptcy arrangements[9]. Table 1 below shows the number of US based airlines that entered bankruptcy protection (Chapter 11) after the 9/11 events. In December 2005, following the entering into Chapter 11 Bankruptcy Protection of Independence Air, in excess of 50% of capacity in the United States was provided by airlines in bankruptcy[10].

Table 1 US based Airlines that entered chapter 11 since 9/11

Airline	Date	Airline	Date
TWA[1]	October 2001	ATA	October 2004
Vanguard	July 2002	Aloha	December 2004
US Airways	August 2002	Delta	September 2005
United	December 2002	Comair	September 2005
Hawaii	March 2003	Northwest	September 2005
Great Plains	January 2004	Mesaba	October 2005
Atlas Air	January 2004	Independence Air [2]	November 2005
US Airways	September 2004	Florida Coastal Air	February 2006

[1] TWA declared Chapter 11 bankruptcy (for the 3rd time) the day after it was acquired by American Airlines
[2] Ceased operations on 5th January 2006
Note US Airways entered bankruptcy on two occasions, the first in August 2002 and again in September 2004
Source: Air Transport Association

In Europe, the results were also devastating. The third quarter of 2001 contained only 19 days of post September 11th performance and in that time the AEA affiliated carriers made losses of US$234m. This compared to a US$857m profit in Q3 2000 – a decline of US$1.1 billion. The results for the final quarter were even worse. AEA airlines lost a

[9] "Chapter 11 is a chapter of the United States Bankruptcy Code which governs the process of reorganization under the bankruptcy laws of the United States. (The Bankruptcy Code itself is Title 11 of the United States Code; therefore reorganization under bankruptcy is covered by Chapter 11 of Title 11 of the United States Code.) In contrast, Chapter 7 governs the process of a liquidation bankruptcy"
[10] Beyond Open Skies. Airline Business, December 2005.

record US$1.4bn, almost five times that recorded for the final quarter of 2000 (DG TREN, 2001). By early 2002 the European association of full service airlines had a breakeven load factor (ratio of unit costs to unit yields) of 69%, while their actual load factor was only 66%. This load factor inequality signalled that the airlines' costs were too high and that the market was experiencing severe overcapacity. For the industry to thrive, the breakeven load factor had to come down, perhaps to the levels around 65% where they found themselves in the late 1990s. The Iraq war began in March 2003 and the AEA (2004) reported that in 2003 European traffic levels fell by 15% in Europe, 10% on the North Atlantic and around 12% between Europe and Asia. Low cost carrier traffic however was unaffected during this period. Later that summer SARS emerged in Asia. Europe's Far East traffic declined by 23.1% and the loss of passenger revenue amounted to US$ 900 million. These losses came close to the corresponding figures for the North Atlantic market in the six months following 9/11, with traffic declining by 25.5% resulting in $1.3 billion of lost revenue (AEA, 2004). 2003 saw the 5th consecutive yearly deficit for AEA airlines, with an operating loss of US$ 1.5 billion. The low cost carriers were again unaffected and some airlines such as British Airways etched out a profit of around $1 billion, despite the unfavourable conditions facing incumbents that year. By 2004 the AEA member airlines were beginning to return to pre 9/11 levels as total scheduled passenger numbers increased 4.9% to 307 million. The largest increases however were in the regions which suffered the greatest downturn in 2003 and there was no significant increase in passenger numbers in the intra-European market, suggesting that the incumbents were not focusing their attention on the increasing threat posed by the low cost carriers. After five consecutive years of heavy losses, AEA airlines posted an aggregate operating profit in 2004 of US$ 417 million (AEA, 2005).

In Asia another crisis emerged that had a direct impact on travel and tourism to the region. The crisis in 1997-98 that started in Thailand was rapidly transmitted to Indonesia, Malaysia, the Philippines and Korea, and its impact was echoed throughout the Asian Economy. Park (2005) explained that the crisis caused chaos in financial markets, which resulted in an exodus of foreign capital and was responsible for the resulting high interest rates. The 17 members of the Association of Asia Pacific Airlines (AAPA) had a combined loss of $1.2 billion for 1997/98 (Orient Aviation, December 2000/January 2001), while American and European airlines were profitable during this period. The region was not affected by the events of 9/11 as badly as its counterparts in the US and Europe. However, a new endemic was emerging in Asia that would again transform the fortunes and forecasts for Asian carriers. SARS, began to take effect in mid 2003. The AAPA member airlines witnessed their RPKs (billions) drop by 50% from 2000 levels, resulting in losses of around $750 million in 2002 (Herdman, 2005). Cathay Pacific for example typically carries 30,000 passengers each day but SARS had reduced its daily number to 10,000. It had cancelled 42% of its schedule and was losing $3

million a day (ATI, April, 2003). Traffic is resilient however and recovered quickly such that by 2004 the consolidated AAPA group members had an operating profit of $3.9 billion, while net income had reached $3.5 billion (AAPA, 2005). Some airlines, such as JAL and Malaysia Airlines however, continued to experience financial difficulties, but overall the 17 member airlines had an operating margin of 3.6% for 2005 and had profits totalling around $4 billion.

2.2 Important factors that are impacting the profitability of incumbent airlines

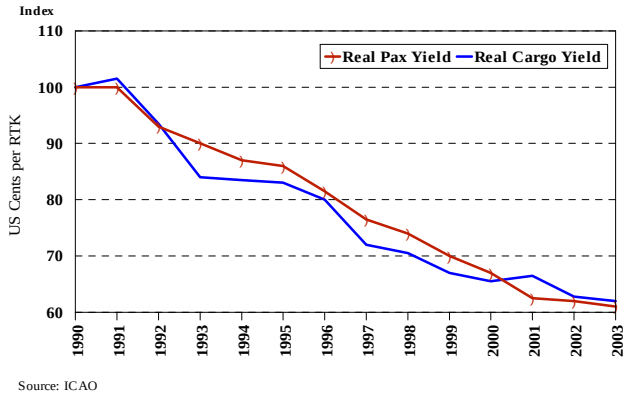
2.2.1 Declining Yields and Overcapacity issues

Numerous authors such as Doganis (2006, p16), Taneja (2005, p113) and Holloway (2004, p175) point out that falling yields and overcapacity exacerbated by the proliferation of low cost carriers were significantly impacting the profitability of full service airlines.

Figure 7 below shows that in real terms the average yield of the world's airlines for both passenger and cargo fell by around 40% from 1990 to 2003. Williams (1994) indicates that fares in the United States dropped by around 15% after the first few years following deregulation. In the U.S. for example, the average coach fare for a 1,000 mile journey fell 14.7% from 2000 to 2002 (Gittell, 2003 p9). The most dramatic falls have been on routes affected by the launch of low cost airlines. Gillen and Lall (2003) argued that high yield passengers travelling first and business class essentially account for most if not all the profits in the up-cycles. Mason (2006) indicates that the revenue contribution made by this group of travellers had dramatically increased from 26.2% in 1992 to almost 33% in 2000. However, by 2002 the higher yield passengers began down grading to economy cabins and consequently their revenues fell to 28%, while yield in the leisure cabin fell by around a third. Real yield is forecasted to fall at an average of 0.9% per annum for the next ten years[11]. Operating in an environment where average fare is continuously falling will suppress future profit levels.

[11] http://www.avitas.com/index.jsp

Figure 7. The Decline of Yield 1990 - 2003	Figure 8 Cyclical Overcapacity Problems 1990 - 2002



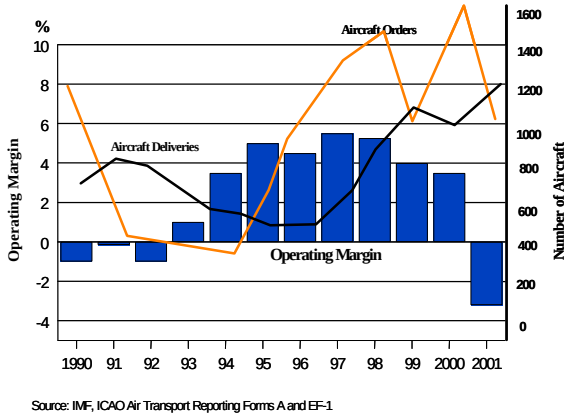


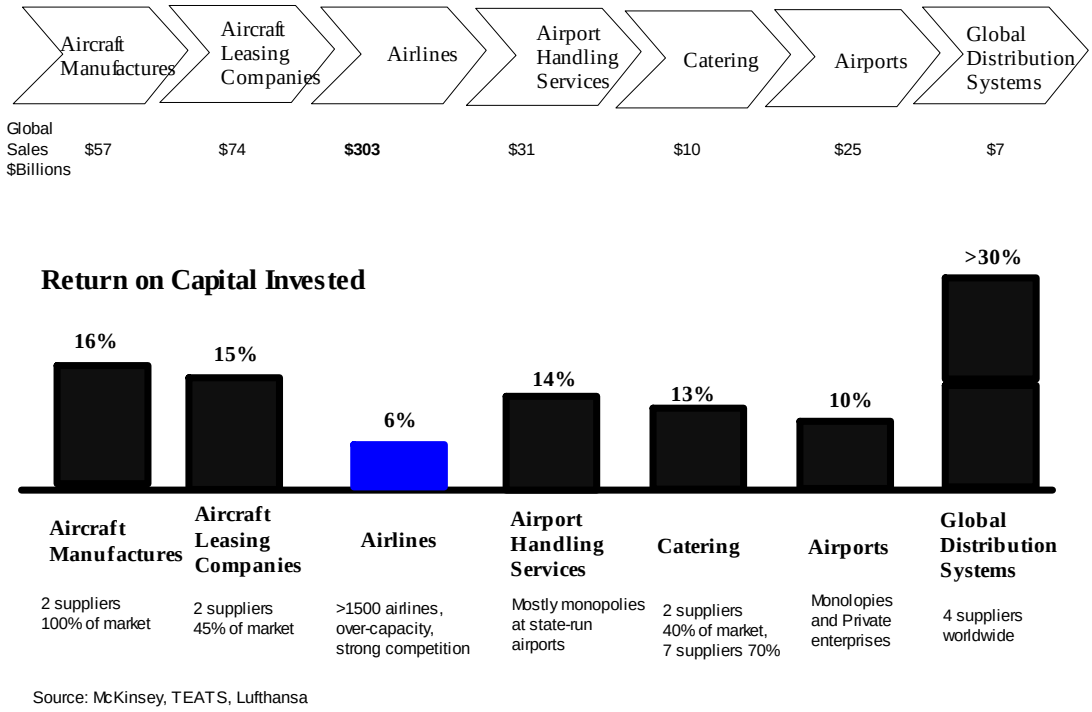
Figure 8 above shows that there were around 800 aircraft delivered in 1991 which represented the peak of a previous cycle. The industry then experienced a cyclical downturn due primarily to the first Gulf War, which resulted in very few aircraft being ordered during the years 1991 to 1994. Thereafter the global airline industry began returning to profitability and in 1996 the industry ordered in excess of 900 aircraft. This was followed by orders for more than 1200 in 1997 and more than 1400 in 1998. The aircraft orders ensured sufficient capacity for future growth. Aircraft orders peaked at 1,430 aircraft in 1998 and 1,600 aircraft in 2000 with the Asian downturn constraining growth in 1999. The aircraft supply chain has a 3 year cycle, from ordering to final delivery. From 1999 – 2001 there were almost 3,250 aircraft delivered, with 1,200 in 2001 alone and this surplus capacity was added when the industry began experiencing unprecedented demand falls, resulting from the collapse of the dot.com industry, terrorism and pending wars in Afghanistan and Iraq which began destabilising the airline industry. Holloway (1998) argued that management have consistently ordered aircraft during periods of high economic growth followed by delivery in the course of the subsequent downturn. Chin and Tay (2001) confirm that airlines take delivery of aircraft at the crest of an economic cycle and shortly thereafter there is an imminent downturn whereby capacity has to be significantly reduced. Morrell (2002, p10) stated that the number of parked aircraft doubled to around 1,000 in the year following the Gulf war, just as traffic declined and deliveries accelerated. In the author's own experiences of travelling to the world's airlines on behalf of AACO and IATA, airline directors never take account of the cyclicality of the industry and the high cost of the asset when the industry is on the crest of a strong economic cycle. Emirates and Ryanair for example are some of the few airlines who purchased large quantities of aircraft immediately after 9/11 taking advantage of the manufacturers' available production capacity and discounted prices. The industry has currently repeated the historical pattern as airlines have just moved into positive earnings and in 2005 the world's airlines ordered a record 2,000 aircraft and a further 500 in the first half of 2006. When this enormous capacity begins

arriving and if the economy slows or terrorism escalates then the downward cycle in aviation may repeat itself. In addition the poor profitability of the industry is also linked to the escalation of fuel prices[12], excessive competition, high labour costs[13] and the failure of EU airlines to use state aid to restructure effectively (e.g. Sabena).

2.2.2 Airlines reap the lowest returns in the aviation value chain

The air transport value chain provides further evidence that the airline industry has one of the lowest returns in the industry while its aviation suppliers reap the highest returns. Airlines, to adopt Porter's terminology, can be seen as being at the end of a chain of vertical linkages that supply the ultimate air transport service. The poor profit margins of the airline industry are very much apparent in Figure 9 below when it is peered against the other industries that supply it. The airlines are the worst performing of any of the individual sectors in the air transport chain with the majority of the service providers making double the margins, with GDSs making five times. The year proceeding 9/11 produced heavy losses for the global airline industry, indicating that this would have a cascading ripple throughout the industry. Doganis (2002, p5) confirms that even in cyclical downturns the suppliers of aviation goods still outperform airlines by a big margin.

Figure 9. The Air Transport Value Chain (2001/02)



Source: McKinsey, TEATS, Lufthansa

[12] According to the ATA, jet fuel rose from $18 per barrel in 1998 to over $70 in 2005.
[13] United Airlines pilots were awarded a 35% pay increase in 2000. Similarly America West gave its pilots a 11% pay increase. In the EU, pilots at Alitalia represent 13.6% of staff but account for 29% of its staff costs.

A small number of suppliers control the majority of the aviation market, with for example two catering suppliers (LSG Sky Chefs and Gate Gourmet) controlling 40% of their market while BAA control the majority of London's airports. The limited number of suppliers causes almost a quasi-monopoly situation with suppliers being in a position to leverage high prices. Button (2004, p75) stated that competition efficiency is premised on the fact that other services providing inputs or buying the product are also operating in competitive environments. These dominant positions in the market lead to serious vertical distortions in the overall air transport sector. Because of BAA's finite supply capacity, DETR (2000) researched that if all UK airports increased airport charges by 50%, it would only result in a 7.5% reduction in total demand. These companies enjoy a competitive advantage, as a result of differential market power, which enables them to control prices and earn monopoly rents.

It is important that airlines must hone their negotiating skills in order to reduce the high operating margins enjoyed by suppliers. Fisher and Ury (1991) stated that negotiation is the most effective means to increase profitability. Ryanair is noted for its exhaustive negotiating skills for extracting discounts. Fan (2005) confirmed this strategy by stating that Cornwall's Newquay airport discounted its landing charge to the extent that it forced the airport into a £0.75 million debt. The incumbent airlines must negotiate more effectively and especially those carriers that are members of an alliance should use their critical mass and act as a collective group when bargaining. Bissessur and Alamdari (1998) indicated that significant cost reductions could be achieved if airlines worked together and used the synergies of joint purchasing.

2001 was one of the worst years on record in aviation, yet Pilling and O'Toole (2002) indicated that the net profit margin for the 50 leading airport groups in that year was 11 per cent, even though Pels (2000) found that most European airports were inefficient. For the same period the top 50 major airlines recorded an average margin of – 4 per cent, clearly showing the disparity between carriers and one of their most important air service suppliers. Graham (2001, p58) stated that European aeronautical revenues (revenues collected from landing and passenger charges) decreased by only 3.3 per cent over an 18 year period. Table 2 below confirms the disparity between the world's largest airports and airlines as measured by turnover for the financial year 2002/03. Fraport, the German airport operator had a margin of 16%, while Lufthansa, Europe's only airline in the top five, recorded a negative margin of - 1.9%. Thus network airlines have not been successful at reducing the divide between them and the service providers. IATA has been lobbying airports on behalf on the airline community to reduce landing charges, which has proven to be successful in certain airports like Narita but the industry needs its suppliers to work more closely with airlines.

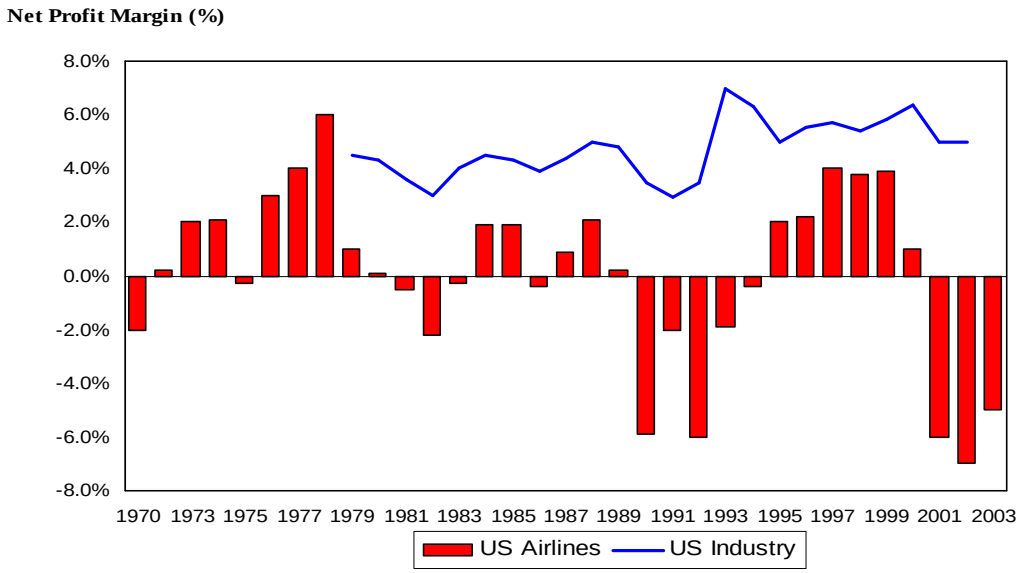
Table 2 Airport and Airline comparison - Turnover and Margin for 2002/03

Top 5 Airports			Top 5 Airlines		
	Turnover ($billions)	Operating Margin (%)		Turnover ($billions)	Operating Margin (%)
BAA	2.95	31%	American	17.29	-19.0%
FraPort	1.80	16%	JAL	17.24	0.5%
Aena (Spanish)	1.59	12%	Lufthansa	16.12	-1.9%
New York	1.52	19%	United	14.28	-23.0%
AdP (Paris)	1.32	9%	Delta	13.30	-11.0%

Source: ATI, Airline Business, JAL

Figure 10 below goes outside the airline industry and compares the profit margins of US industry generally to that of US airlines and the results confirm the difficulty for the latter in generating profits and the poor returns. For example the six largest US airlines (American, Continental, Delta, Northwest, United and US Airways) had total revenues of more than $600 billion between 1992 and 2000, while their combined net income over that period was only $13.5 billion compared to Microsoft's net income of $9 billion for 2000 alone. US industry in general is not as exposed to the regular cyclical downturns that occur in the airline industry. New approaches to the existing airline business model must be initiated to reduce the high cost base and generate other revenue streams that will contribute to the overall financial performance.

Figure 10 US Airline and General Industry - Comparison



Source: Airline Business (2003)

2.3 Financial Performance Present and Future

Airlines face challenging, dynamic market environments that in the short term are extremely sensitive to the world economic and political situation. Events such as 9/11, the SARS outbreak and the poor economic conditions of the early 2000s have seen an overall stagnation and reduction of traffic during the period 2001–2003, although some market sectors have performed better. Historically, airlines have made very low margins. The increasing challenge from low-cost carriers has permanently changed the dynamics of airline competition and presented management with a paradigm change in the short haul market. Table 3 below shows that profitability is not uniform across the industry with losses at the US majors at almost $11 billion for 2005. Ito and Lee (2005) found that 9/11 resulted in a transitory, negative demand shock of more than 30%, in addition to an ongoing negative demand shift of approximately 7.4% that could not be explained by cyclical, seasonal or other factors. Moreover, they estimated that this structural demand shock accounts for over 90% of the current weakness in domestic airline demand relative to its pre-September 11 peak level. The largest improvement is forecasted by IATA for this region by 2007 when positive financial returns are expected. This transformation will come about due to the synergies gained from cost cutting and will also be due to capacity reductions, which will increase pricing power and operating profitability. The US domestic market is under intense competition from low cost carriers and another well capitalised carrier, Virgin America is currently pending entry. Also adding to the competition equation is the additional capacity coming on stream from last year's record aircraft orders which will further accelerate the decline of yield. However, global economies are steadily growing and this will impact premium traffic and will benefit the network airlines with extensive long-haul exposure.

In the Asia Pacific region, the 17 member airlines of AAPA (Association of Asia Pacific Airlines) carry around 500 million passengers each year, a figure that grew by 10% in 2005. Forecasts indicate that the region will become the world's best performing aviation market. The Chinese market is driving the region's market forces, as it is home to 22% of the world's population and has had an economic growth rate of 7% for the last 14 years. Its annual growth rate of 16% in both domestic and international air traffic is the world's highest with over 100 million passengers and 2.5 million tonnes of cargo carried in 2004 alone (Commission of the European Communities, 2005).

Europe is forecast to become the world's second most profitable region. According to the European Commission's spring economic forecasts, economic growth in the EU is projected to rebound in 2006 to 2.3% and continue till 2007, up from 1.6% in 2005. The main impulses stem from a robust increase in investment, continued strong world growth and an improved outlook in Germany (Economic and Financial Affairs, 2006). The Association of European Airlines (2005) forecasted that there will be a 6.5% per annum

increase in passenger traffic for the next few years. It also established that there was substantial growth in traffic to and from the 10 EU accession countries, with airline members registering a year-on-year growth of 15.4%, with double-digit (and even triple-digit) growth in all markets except Slovenia and Cyprus. Lobbenberg et al. (May, 2003) argued that there exists 'plenty of untapped growth in Eastern Europe'.

The Middle East and Latin America are the other emerging aviation regions. The Gulf carriers of the Middle East are currently leading the world in aircraft orders with $60 billion having been invested by just three airlines with $27 billion ordered in 2005 alone (O'Connell, 2006). Governments have also committed a further $30 billion for aeronautical infrastructural developments that will enable the region to become a global competitor within the next decade and equal its peers in the United States, Asia and Europe. Going into 2006, the Gulf based airlines have 36% more long-haul seats capacity on order than the European and Asian airlines combined (O'Connell 2006). The Latin American International Air Transport Association (AITAL) has 21 member airlines which carry around 66 million passengers a year, similar to the number uplifted by the Middle East based airlines. Its members generate around $12 billion each year with their 550 aircraft. A large part of the capacity is used for domestic and intra-regional operations, which registered an impressive a growth rate of 15% year-on-year (AITAL, 2005). The regions two largest incumbents, Varig and Aerolineas Argentinas encountered severe financial problems and have significantly reduced their fleet size while Flint (2006) points out that Copa, Gol, LAN and TAM are the regions main performing airlines.

Table 3 Airline Industry Net Profits $ billions

Industry	2004	2005	2006	2007
Global	-5.7	-6	-2.2	7.2
Regions				
North America	-10.0	-10.8	-5.4	1.1
Europe	1.1	1.8	1.4	2.1
Asia Pacific	3.4	2.9	2.0	3.1
Middle East	0.2	0.3	0.2	0.5
Latin America	0.1	0.2	0.2	0.4
Africa	-0.4	-0.4	-0.6	0.0
Markets				
Domestic (US) only	-9.4	-10	-5.5	0.9
International (IATA members only)	2.9	2.7	2.1	5.1
Other	0.8	1.3	1.2	1.2

Source: ICAO data to 2004, IATA World Air Transport Statistics Forecasts 2005-2007

Overall for 2005, IATA preliminary results show that its 189 member scheduled airlines achieved an aggregate operating profit of approximately $4.3 billion, up 30% over 2004. Passenger revenue growth was particularly strong as it rose by 11% to $325 billion. The continuing losses of the United States based airlines however has created an overall net loss of around $6 billion for the global industry, but that is forecasted to change by 2007 with predicted profits of $7.2 billion.

2.4 A comparison of the financial results, passengers carried and market capitalisation of the various airline types

There are four main airline groups notably Full Service Airlines, Low Cost Carriers, Regional and Charter airlines. Each airline has a different structural model that is unique. **Full Service Airlines** are legacy in nature as they were set up by governments as far back as the 1930s, however due to bureaucrarcy, competition and deregulation, many have now transitioned to become private airlines and continue to be the flag carrier. These carriers divide their aircraft cabins into first, business and economy classes, while cargo remains an important part of the airline business model. A core competency of full service airlines is their network which facilates the seamless movement of passengers from both their own network and from the networks of other carriers through a central hub. A **low cost carrier** is often referred to as a 'no-frills airline' or a 'low fare airline'. These carriers operate on a very different operating platform than that of scheduled airlines as they enshrine the concept of 'low cost' into their organisational culture and offer low fares in exchange for eliminating many of the traditional passenger services. The fleet type generally differentiates the **regional airlines** from the other types of airline business models as they operate aircraft that generally have less than 90 seats, where the aircraft are composed of a mix of turbo-prop and regional jets. Regional airlines normally serve a dual role by feeding passenger traffic into the hubs of incumbents and by operating on low-density routes that were unprofitable for the network carriers**. Charter Airlines** generally do not operate to a set timetabled schedule as they focus primarily on vacationing traffic. These airlines usually offer flights as part of a holiday package that also includes transfers and hotels, most of which provided by vertically integrated tour operators. Economies of scale derived from the integrated holiday package cross subsidies the operating economics of operating the aircraft.

2.4.1 The diversity of full service airlines, low cost carriers, regionals and charter airlines

Historically, full service carriers represented the majority of airlines and it was only in later years that airlines began to differentiate and focus on market niches. Charter airlines for example focused on vacationing traffic, while low cost carriers concentrated on price sensitive passengers and regional airlines served outlying communities in more rural areas. Many of the full service carriers already had their own short-haul feeder airlines such as Aer Lingus Commuter, Japan Air Commuter, United Express, etc and this provided some protection from new entrants and short-haul competitors. However, the low cost carriers and regional airlines in particular were beginning to impact on the operations and financial results of the full service carriers. They grew very quickly and were increasingly encroaching on the incumbents' market shares. The low cost, charter and regional airlines also began to evolve by changing their structural characteristics (i.e. flight operations, marketing, flight products offerings, etc), thereby further challenging the incumbents. In recent years there have been very few full service airlines launched, which is an indication that investors are no longer interested in this sector but are attracted by the other business models, such as low cost carriers and regional airlines.

Table 4 below outlines the different types of airline business models that have been formed since 2002. It outlines the wide diversity of new entrant airlines that are posing an increasing threat to the network carriers. An imminent threat to the network carriers are the long-haul all business class airlines and the long-haul low cost carriers, which have only recently commenced operations. These new operators have directly challenged the network carriers' last remaining niche that had set them apart from competitors. The all-business class airlines such as MaxJet are offering in-flight products that are comparable to the likes of British Airways but at greatly reduced prices, while the likes of Zoom are flying from seven Canadian cities to five British cities which has also impacted British Airways. These new entrants are impacting the business and economy class markets of full service airlines as passengers become attracted by the cheaper fares and switch to the inexpensive competitors.

Table 4. Different types of full service airlines, low cost carriers, charter and regional airlines that have been formed in recent years.

- Full service airlines such as Etihad in Abu Dhabi and Kingfisher in India
- Low cost carriers within full service carriers, such as Ted (UAL), Atlas Blue (Royal Air Maroc) and JetStar (Qantas)
- Low cost carriers such as Air Deccan in India and Air Arabia in Sharjah
- Low cost carriers that are offering superior frills such as live TV and flights products such as 32' seat pitch comparable to the full service airlines (JetBlue)
- Traditional airlines rebranded as low cost carriers like Aer Lingus & America West
- Long-haul low cost carriers such as Zoom in Canada, Oasis Hong Kong Airlines and Australian Airlines
- All business class airlines such as Eos, Silverjet and MaxJet connecting the UK to the USA
- Regional airlines such as Lagun Air in Spain
- Regional airlines which have been converted to low cost carriers, such as FlyBe and Norwegian Airlines
- Independent charter airlines such as Air Finland, USA 3000 and Flyjet in the UK
- Niche charter airline such as Air Bourbon that links Paris to the Island of Reunion[1]

[1] Air Bourbon began operations in June 2003 and was liquidated in November 2004

2.4.2 The financial performance of full service airlines, low cost carriers, regional airlines and charters

Airline revenues and operating margins vary considerably when comparing low cost carriers, full service airlines charter carriers and regionals. Comparisons between airlines' revenues are available from a number of sources that include the International Air Transport Association (IATA), the International Civil Aviation Organization (ICAO), Air Transport Association (ATA), Association of Asia Pacific Airlines (AAPA), Association of European Airlines (AEA) and the UK Civil Aviation Authority. In addition to published statistics, a number of reports providing 'benchmark' statistics and comparisons of airline performance have been produced (such as Mason et al., 2000; Morrell et al., 2000; Feng and Wang, 2000; Doganis, 2002; Transport Research Laboratory, 2002).

Table 5 below clearly demonstrates that low cost carriers and regional airlines all generate high operating margins while the opposite occurs for the full service airlines. The operating margins of the low cost carriers in 2005 were on average three times that of the network airlines. Smit (1997) states that operating margins are an excellent way of comparing the financial performances of airlines. The operating margin indicates how

much an airline makes from each dollar of sales before interest and tax. Full service airlines return less that $0.02 for every dollar in sales, while other airline business models such as low cost carriers return $0.06 for every dollar earned. Regional airlines however generate the highest return of 7.7%. For benchmark purposes Nokia phones had an operating margin of 13.6% for 2005, Caterpillar 17.2%, while IBM had a margin of 12.8%.

Table 5 Top 150 airline groups financial summary by type – 2005

Airline Group	Revenues $billion	Change from 2004	Operating Result $billion	Operating Margin
Full Service Airlines	351.9	10.6%	5.5	1.8%
Low Cost Carriers	23.8	20.4%	1.3	6.1%
Regional Airlines	9.9	24.6%	0.7	7.7%
Charter Carriers	5.6	17.2%	0.9	3.0%
Total	439.9	11.7%	10.3	2.5%

Source: Airline Business, August 2006

Alamdari and Fagan (2005) measured the correlation between low cost carriers and operating margins using the Spearman's rank (*r*s). They achieved a correlation coefficient $r^2 = 0.809$, indicating that there is strong correlation between low cost carriers and high operating margins. The authors applied the theory of linear regression coefficient they found that operating margins became reduced when low cost carriers added extra frills and flight products. JetBlue's recent financial results have confirmed this experience as their 2005 operating margins were 2.8% as opposed to Southwest's 9.6%. The table above shows that the full service airlines generated almost $352 billion in revenues for 2005, while the low cost carriers generated 14.7 times less but were much more efficient in generating higher margins. The network airlines are facing excessive competition, overcapacity, falling yields and are saddled by a high cost structure. These characteristics are largely accountable for the industry's shortfall in generating profits. The industry has never earned a real rate of return on its investors' capital in its 60+ years of existence. Taneja (2002) argues that airlines must stop going after profitless growth. The competitive pressure within the airline industry to maintain and exceed the expectations of good service, reliable schedule, low fares, etc have become increasingly difficult for incumbents.

2.4.3 Traffic, load factor and yield of full service airlines, low cost carriers, charter and regional airlines.

Table 6 below compares the passenger traffic, load factors and yields of full service airlines, low cost carriers, charter and regional airlines for the year 2005. The low cost airlines account for a relatively small proportion of global Revenue Passenger Kilometres, representing less than 10%. However, they are attracting a lot more passengers than the network airlines with their traffic growing by almost 20% in 2004/05. OAG (September 2006) estimated that the capacity on low cost carriers has more than doubled in just four years. This high growth is causing alarm for the network carriers as they were only able to experience passenger growth of 5% in 2004/05. In addition the yield of the full service carriers was only 18% higher than the low cost carriers and 29% higher than the charter airlines. Another concern is the growth of regional traffic and the high yields that regional airlines are generating. The latter accounted for 3.4% of the world's RPKs in 2005 which is significant. Incumbents are faced with difficult challenges as they already encounter high labour costs, strong unions, pension deficits, low productivity, stagnant traffic and compete in an environment where low cost carriers have cost levels that are 30-40% (per seat-kilometre) lower. A list of the world's top 25 airlines by operating profit and operating margin for 2005 are shown in **Appendix 1.**

Table 6 Top 200 passenger airlines by airline type - 2005

Airline Type	Passengers Carried (Millions)	Change 2004/05	Pax Traffic RPKs (Millions)	Share of RPKs (%)	Load Factor (%)	Yield US$ c/RPK
Network	1,534	5.0%	3,235,993	82.0%	75.0%	8.88
Low Cost	278	19.6%	352,220	8.9%	77.4%	7.22
Charter	78	1.3%	225,462	5.7%	82.7%	6.29
Regional	176	17.5%	133,794	3.4%	69.7%	12.26

Source: Airline Business, August 2006

2.4.4 Market Capitalisation of Incumbents and low cost carriers

Figure 11 below shows the market valuations of Asian, European and American network airlines from early 2001 to mid 2005. The Asian airlines have maintained their valuations throughout, even though there were declines for 9/11 and SARs. However, the US airlines have been devalued by around two-thirds during the period 2001 to mid 2005. They carried an enormous amount of debt, had high costs, faced

excessive competition and had been unable to generate any profits over that period, which have all contributed to their shrinking valuations. Meanwhile the European airlines stand roughly in between the US and Asian groups. They have also been slow to recover from the downcycle and were beginning to encounter the onslaught of low cost carriers which caused a downward effect on revenues and investor confidence.

Figure 11 Airline Valuations 2001 - 2005

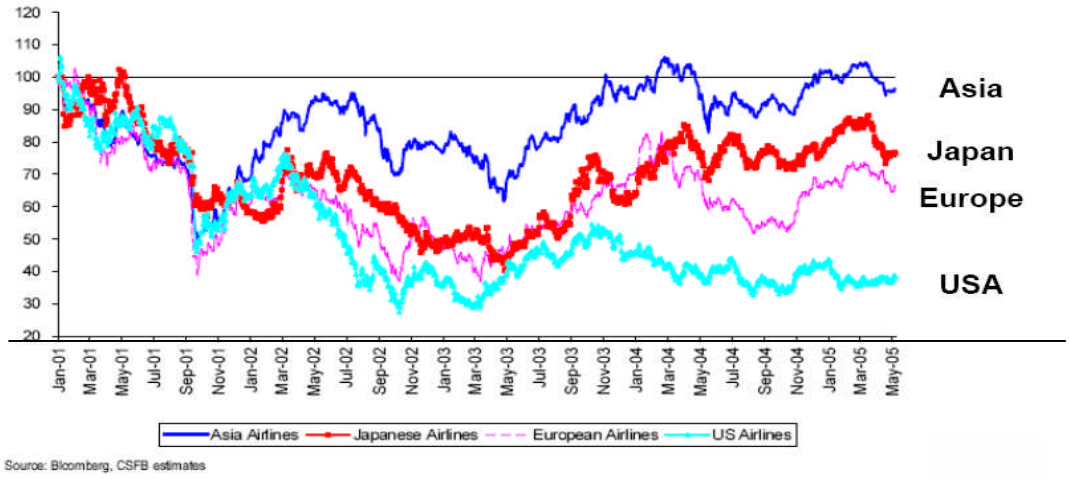


Table 7 below gives the market capitalisation breakdown of airlines across three continents for 2004. Southwest, for example, has double the capitalisation of the ATA member airlines yet produces only one-twelfth of their revenues; as a result the respective ratio is 1.571 compared to only 0.058 for the network carriers. Similarly, Ryanair's capitalisation is one-fourth that of the entire group of European incumbents that are listed on stock markets, yet it only generates one-thirtieth of the incumbents revenues. Clearly investment in the air transport sector is now favouring the low cost carriers. Research has found that once low cost carriers launch successful IPOs and trade on international stock markets they are less likely to exit as investors are particularly encouraged by the high margins (Audretsch and Mahmood, 1994; Mata and Portugal, 1994; Audretsch and Mahmood, 1995). Porter (1985) stated that a firm can achieve competitive advantage in a market only if it can create more economic value than its competitors. Incumbents are finding it difficult to attract investment, which will have a knock on effect in areas such as aircraft procurement, pension funding, in-flight product development, etc. If they are unable to stimulate investment they will become increasingly under-capitalised and will find it more difficult to compete with the low cost carriers who are well funded and may very well diversify their business models further by entering the long-haul market similar to what JetStar is currently planning.

Table 7 Market Capitalisation of Global Airlines (December 2004)

Region	Carriers	Market Capitalisation US$ billions (1)	Revenue US$ billions (2)	Ratio (1)/(2)
	ATA (9*)	5	85	0.058
USA	Southwest	11	7	1.571
	JetBlue	2	1	2.000
	AEA (10*)	24	69	0.347
Europe	easyJet	2	2	1.000
	Ryanair	6	2	3.000
	AAPA (12*)	42	65	0.646
Asia Pacific	Virgin Blue	2	1	2.000
	Air Asia	1	0.1	10.000

* Indicates the number of airlines that are represented on a stock market.
Source: Airclaims, Bloomberg, easyJet, Ryanair, Air Asia, Virgin Blue, ATI and AAPA

2.5 Passenger Forecasts

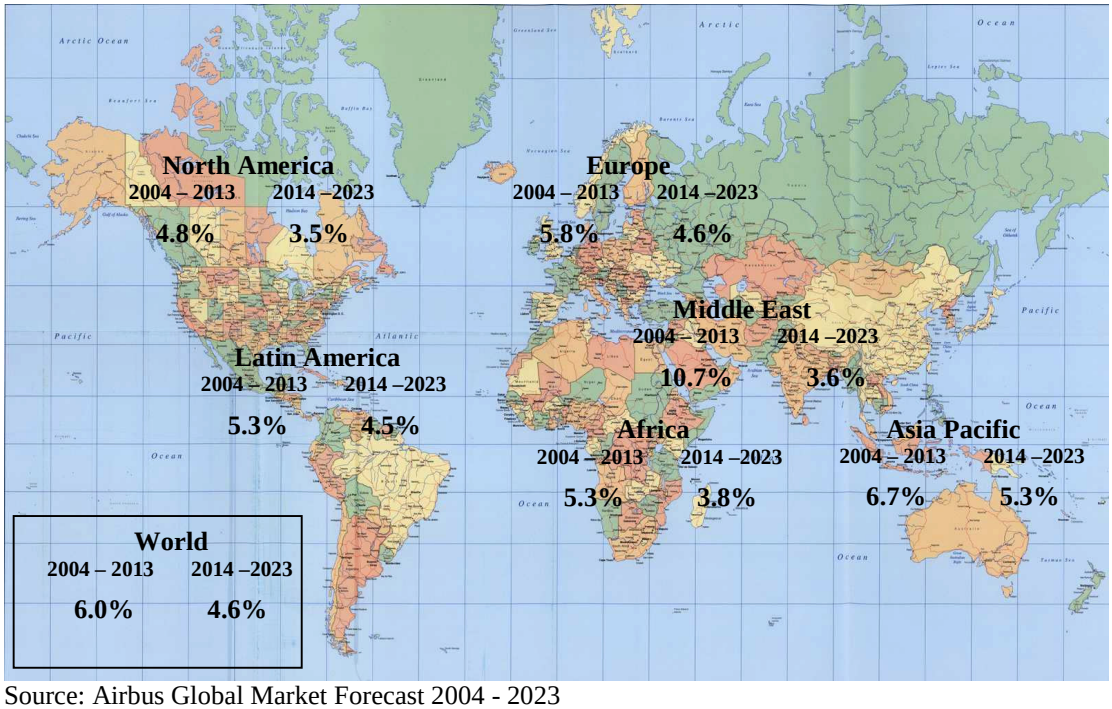
2.5.1 Passenger growth prospects for 2004 - 2023

Each year the world's aircraft manufacturers produce a 10 year forecast of the global air transport market and then extrapolate that forecast further to produce a 20-year forecast. The IMF has forecast that the GDP growth rate for ten years 2004–2013 will be 3.2% and have estimated that it will be at 3.1% for the years 2004-2023[14]. Asia Pacific is expected to lead the world's growth. The Boeing Current Market Outlook (2006) indicated that most markets are expecting to at least double their passenger traffic base by 2025. However, the Airbus Global Market Forecast for 2004 – 2023 appears to be the most comprehensive forecast. It incorporates low cost traffic stimulation and diversion from network carriers. It also takes account of the new markets that low cost carriers are expected to develop and even forecasts increased frequencies on existing routes. In addition, it also includes the pace of liberalisation in developing countries together with structural constraints of congestion and environment and its results are given below in Figure 12. It gives two sets of forecasts; one to 2013 and the second till 2023. It shows that the North American market will encounter the world's slowest traffic growth while the European market will grow to 5.8% per annum during the period 2004-2013, as the new Eastern European countries become more integrated with the European Union, in turn providing more opportunity for the low cost airlines. Beyond this period Airbus forecasts a slightly slower growth rate. The Asian market is forecast to grow by 6.7% per

[14] http://www.imf.org/external/data.htm

annum till 2013 and then slow to 5.3% per annum for the next ten years. Lawton (2005) pointed out that 500 million people live within 3 hours of hubs such as Kuala Lumpur and Bangkok, while Ionides (2004) declared that the majority of the population has not yet flown. The region has experienced a boom in low cost carriers recently and the region's primary airports such as Singapore and Kuala Lumpur have reacted to this strong growth by establishing low cost terminals. Clearly this is a very innovative and forward thinking approach. However, the Airbus forecast points out that the Middle East will become the world's fastest growing region registering 10.7% growth per annum till 2013. A study by O'Connell (2006) confirmed this research as the region has ordered a total of 234 widebody aircraft in the last few years. In addition, over $26 billion will be invested in the region's airports to support the growth of airline traffic over the next decade. Airlines such as Emirates, Qatar Airways and Etihad will feed 6th freedom long-haul traffic[15] through their respective hubs as evidenced by the fact that around 53% of the traffic between India and the UK is connecting via airports in the Gulf. Africa and Latin America are both forecasted to grow by 5.3% per annum over the next 10 years.

Figure 12 Regional air traffic growth from 2004 - 2013 and 2014 - 2023.



Source: Airbus Global Market Forecast 2004 - 2023

In Africa, the Yamoussoukro declaration signed in 2000 was aimed at inaugurating an Open Skies policy which would remove bilateral constraints and boost intra-regional traffic. Traffic is expected to grow by 5.3% per annum till 2013. In Latin America, Lan Chile has began franchising to Ecuador, Argentina and Peru while Gol, South America's

[15] This refers to the right of an airline to carry passengers between two third countries through its home basis, e.g. Qatar Airways carrying people between London and Melbourne with a stop-over in Doha.

fasting growing low cost carrier plans to operate 60 737s by the end of 2006 and have began to operate cross border flights. It had one of the highest operating margins in the world in 2005 of over 23%. Most of the region's carriers are already privatized and the Latin American governments have taken the initial steps toward liberalisation. Airbus forecasts that South America will encounter the same growth rate as that of Africa.

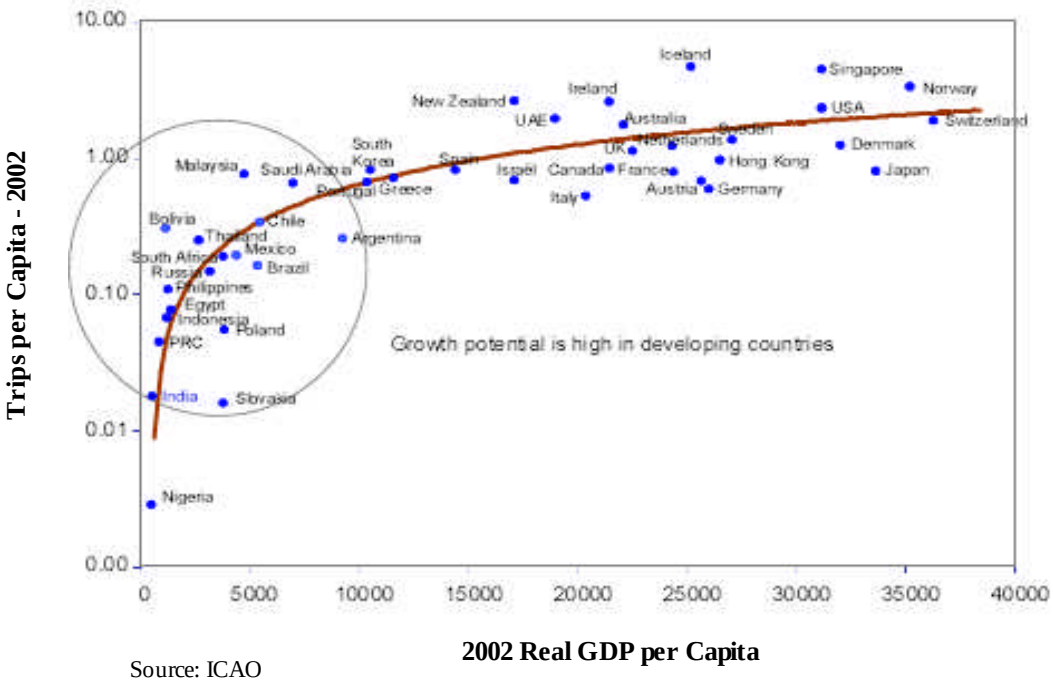
2.5.2 The growth potential of under-performing aviation markets and the opportunity for low cost carriers

The potential for future growth in air travel is enormous as it becomes more affordable for consumers. Many of the world's population in third world countries have not yet flown. Asia is now set to become the next frontier in aviation development. According to the Airbus Global Market Forecast (2004-2023), both China and India are set to become the world's largest consumer markets within the next 25 years, with a combined purchasing power five times greater than that of the United States today. According to the Worldwide Tourism Organization, as many as 100 million Chinese tourists will travel internationally by 2020. Boeing Current Market Outlook (2006) shows that the Chinese market will become the strongest growing air transport market in the world, growing its passenger base five-fold. Emerging markets such as China have reduced their trading barriers and their technological platforms are now similar to other industrialised nations. Honglin (2006) stated that foreign investment in Chinese industry grew to $53 billion in 2003, which justifies the strong air traffic growth forecasted for the region. Airline Business (August, 2006) reported that China Southern and China Eastern had recorded the world's highest passenger growth rates in 2005, increasing by 56.4% and 37.2% respectively.

Figure 13 below shows the propensity to fly and is based on the GDP/per Capita of each country. In mature air transport markets, such as the United States, GDP growth is a key driver behind the growth of passenger traffic, however demand for air travel is increasingly being driven by ticket price and consumer confidence. The US GDP/Capita figure is one of the highest in the world at $32,857, its citizens enjoying a combination of high wages and low air fares resulting in an air travel propensity of 3.9 trips per person per year; the highest in the world. However, Europe is quickly catching up as economies continue to strengthen and numerous low cost carriers have entered the marketplace. In addition, ten new countries (Cyprus, the Czech republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia) joined the EU in May 2004. These countries have added 105 million people to the current 15 EU member States. Airfinance Journal (2003) explained that €1.04 billion will be made available annually to the accession countries to upgrade their transportation infrastructure such that it is up to European standards. Hungary has already used its portion of the funds to upgrade

Budapest airport. The World Tourism Organisation included both Poland and Hungary in their 'Top-15 inbound tourism destinations'. Lobbenberg et al. (2003) argued that 'plenty of untapped growth remains in Eastern Europe'. In Asia regulatory barriers are set to fall. Asian carriers currently circumnavigate the regulatory barriers via franchise partnerships. They are currently strengthening their brands and purchasing large chunks of production capacity from aircraft manufacturers and will be well positioned when deregulation finally arrives. According to Airbus (2004) there will be 10 cities in the Asia Pacific region that will have more than 20 million inhabitants by 2020.

Figure 13 Propensity for air travel



Source: ICAO

The rest of the world however lags behind the powerhouses of the US, Europe and Asia. Africa, for example, had the world's second highest passenger growth after the Middle East at 10.1% in 2005 (IATA, 2006). Evidence of the continent's growing economic activity and evolving air transport market is marked by the recent purchase by Kenya Airways of four Boeing 777s and six 787s and Ethiopian Airlines' procurement of ten 787s (ATI, March 2006; ATI, April 2005). Such countries had experienced catastrophic events such as famine and extreme poverty a decade earlier. Similarly Brazil, Latin America's largest airline market, has an immature air transport market as there are only 1.8 domestic flights taken per 1000 people each year (Citigroup Research, 2006). Gol has ordered 87 Boeing 737-800s and the region's air transport market is set to change dramatically. A large proportion of other third world countries also have an immature

aviation base and recent aircraft orders by airlines in China, India, Indonesia, etc. are set to change the dynamics of air travel and significantly grow airline traffic.

2.6 Concluding Comments

Air traffic has shown a five fold increase over the last four decades. In spite of strong cyclicality and extraordinary adverse effects (such as terrorist attacks), the industry has shown resilience and will continue to grow and expand worldwide. The low cost carriers will produce the next paradigm shift in air transport growth as travellers in undeveloped countries begin to switch from buses and ferries to aircraft as witnessed in Europe when carriers such as Ryanair entered markets. These growing air travel markets will be further fuelled by strengthening economies whose citizens will enjoy higher disposable incomes. However the equation of continued passenger growth is not correlated to increased profitability for airlines, in fact the opposite happens. Airline profitability remains a major problem for today's incumbent airlines. Incumbents worldwide have found it extremely difficult to generate profits and most years they report very poor financial returns. Multiple problems have been identified as the root-causes for this profit shortfall with the most acute difficulties being cited as high operating costs, structural constraints (e.g. unions), declining yields, overcapacity and the increasing threat from low cost carriers. The highly publicised Stern Report (2006) seems to pose another direct threat to the airline industry in terms of preparing the scene for the imposition of environmental taxation and the introduction of a market for trade in emissions. The industry is in a constant state of flux.

The major airlines in the United States have all been in bankruptcy at one time or another and 50% of their capacity today remains in chapter 11 bankruptcy protection. This region remains in severe financial distress and is responsible for the overall global profit shortfall reported by IATA and ICAO. The low cost carrier is outperforming the incumbent in terms of market capitalisation, passenger growth and profitability. The average ratio for the market capitalisation/revenue of European incumbents for example is 0.3:3 when compared to Ryanair, while North American incumbents perform far worse when compared to low cost carriers there. The incumbents may very well face a shortage of funds, which may undermine their future sustainability. Most investors today show a preference for low fare rather than for traditional airlines. The number of passengers choosing to travel on low cost carriers globally has grown four-fold when compared to full service carriers in the last year, while their operating margins are three-times that of the traditional airlines. It is very difficult to think of the airline sector operating without the traditional airline especially in long-haul travel and the evidence is beginning to mount to their survivability in the short-haul market. Clearly the incumbent is facing unprecedented challenges and solutions are urgently required.

3 Chapter 3: Airline Deregulation and the Emergence of Low Cost Carriers

This chapter analyses the process of airline deregulation and liberalisation in the US, Europe and Asia. It is followed by a discussion on the emergence of low cost airlines. sector. Relaxation of the constraints in civil aviation regimes have been gradually introduced since the late 1970s involving both domestic and international markets; they have resulted in a fundamental shift in airline economics and have subsequently created the necessary business environment for the growth of low cost carriers from the mid 1990s to date.

3.1 US Deregulation Policy

In the early days, the US Government finalised the approval on all aviation issues and airlines were highly constrained in what they could do. In the US, Congress regulated the industry through the Civil Aeronautics Board (CAB) which was established in 1938. It controlled decisions on important activities such as fares, route entry, capacity, flight products and mergers. The CAB attempted to strengthen weaker carriers by giving them access to lucrative routes. Between 1950 and 1974, the CAB received 79 airline applications but none were granted and it refused to award new routes to existing carriers (Shina, 2001). The CAB traditionally prohibited price reductions by requiring that carriers charge equal fares for equal distances. Thus, it became difficult for carriers to lower fares in densely trafficked markets, leading to inefficiencies. In addition, airlines were not free to withdraw from certain routes regardless of the commercial implications. Meanwhile, carriers operating in the 'liberalised' states of California, Texas and Florida were offering very competitive services at fares below the prevailing rates in the rest of the US. California based airlines, such as Air California and Pacific Southwest, sold tickets for less than half those sold by the CAB certified airlines. Traffic on the Los Angeles to San Francisco market grew from 1.5 million passengers in 1960 to 3.2 million in 1965. Similarly, traffic in secondary markets such as Fresno to Los Angeles grew by 72% within twelve months (Bailey et al., 1985).

Graham (2003) pointed out that those airlines that were not regulated by CAB were performing much better than those operating under CAB regulations. Carriers such as Pacific Southwest Airlines (PSA) and Southwest were more efficient and enlarged the markets they entered due to the low fares, as they attracted more passengers than the regulated high fare carriers (Oum et al., 1991). Regulators allowed airlines to

purchase larger aircraft predicting that the economies of scale resulting from the lower seat mile costs would allow fare levels to fall. However, this did not occur and load factors fell due to the increased capacity.

Economists, such as Straszheim (1969), began to question the limitations of regulation and argued the benefits of freer competition in air transport. Leading reformists, such as Levine (1965) and Jordan (1970), reported the efficiency achieved in the deregulated Californian market. Keeler (1972) concluded that regulation diluted any profits derived from the CAB's fare system due to excess capacity, while Douglas and Millar (1974) built a competition model that showed more efficiency in terms of capacity control if fares were not regulated. DeVany (1975) however, reported that regulation was actually in the consumer interest as fares were set close to the output maximizing level. Keeler (1978) in a later study reported that CAB's regulation was costing passengers $2.7 billion in excess charges per year. They all supported policy actions that would facilitate freer market competition by reforming outdated constraints. The early regulated airlines constantly lobbied for subsidies, which impeded economic development and above all, failed to boost economic growth. The protectionist approach by the CAB resulted in inefficient and uncompetitively run businesses.

The CAB (1975) concluded that the consequences of the regulatory legislation resulted in key anti-competitive issues, such as the exclusion of new airlines from long-haul trunk markets, protection of inefficient carriers, encouragement of high labour costs and little price competition. If the regulations were relaxed, a more competitive environment would emerge and provide enormous benefits to the consumer in the form of lower fares through innovative pricing and greater product differentiation. Economists, such as Friedrich Hayek and Ludwig Von Mises, emphasised 'laissez faire' arguing that competition can take the place of government regulation in a more efficient way. Thus, serving the consumer better in the long run by allowing firms to gain flexibility, restructure costs, improve productivity and compete in open markets without any government limitations and constraints.

The underlying premise of airline deregulation was that competition among airlines would replace government regulation in determining fare and service offerings. A deregulation act proposed a gradual relaxation of the CAB's regulation of the industry, with fare and route authority to be phased out over a four-year period.

The major provisions of the Airline Deregulation Act (Bailey et al., 1985)

i) To establish the freedom of any carrier fulfilling safety requirements to enter markets and for any carrier to exit a market

ii) To establish the freedom to compete on the basis of price, by abolishing any price regulation

iii) To provide for a ten-year Essential Air Service Program to ensure air service to small communities, with local service subsidies to be phased out within six years.

CAB's authority was eliminated gradually with regard to economic regulation, according to the following schedule (Dempsey and Goetz, 1992).

i) Dormant route authority and then all authority over routes would cease by 1981
ii) Limited fare authority until 1983[16]
iii) Limitation of merger approval[17]

The Board ceased operations on January 1st 1985 and its remaining functions moved to the Department of Transportation which is still in-place today.

3.1.1 Market development following Deregulation in the US

The early years of airline deregulation were characterized by periods of intense competition among the major established airlines, as well as by competition from new-entrant carriers and from carriers formerly confined to intrastate markets[18]. Between 1985 and 1992, two major[19] US airlines (Eastern and Pan Am) had ceased operations and three more major airlines (Continental, America West and TWA) were being reorganised under bankruptcy protection, while six other carriers had been merged into the majors. Other important airlines that were involved in acquisitions or takeovers included large carriers such as Frontier, Republic, Ozark, Western and Piedmont. Still other mergers involved the acquisition of carriers that had been pursuing a low-fare strategy similar to Southwest's, such as People Express, Air Cal and Pacific Southwest. Research by Kim and Singal (1993) found that the industry consolidation that had occurred through these mergers contributed to higher fares and an increase in market power.

In the years between the onset of airline deregulation in 1978 and the wave of mergers beginning in 1985, most of deregulation's benefits to consumers came in the form of improved service and lower fares created by competition from new entrants and the major incumbent network carriers (Morrison and Winston, 1986). The ability to serve

[16] Air Carriers could reduce their fares by 50% without CAB's approval and raise fares by up to 5% per year in competitive markets.
[17] CAB could only approve mergers if the anti-competitive results were less than the transportation need and no-less anticompetitive alternative was available.
[18] For accounts of competition during the early years of deregulation and of the initial wave of new-entrant airlines, see John R. Meyer and Clinton V. Oster, Jr., Editors, Airline Deregulation: The Early Experience, John Wiley and Sons, Boston.
[19] A major airline is categorised by the fact that it generates over $1 billion in annual operating revenues.

new and growing markets, to fashion more extensive route networks and to charge low fares had been severely constrained by regulation. As the constraints on airline operations were lifted by deregulation, carriers quickly exercised their new route and fare freedoms.

Deregulation brought innovations in technology that enabled the development of sophisticated yield management systems. Such systems allow airlines to quickly change the mix of high and low fares relative to the load factor on a given flight. However, one of the principle barriers that initially prohibited freer competition was the control of the Computer Reservation Systems (CRS) by the major incumbent airlines. United owned Apollo while American Airlines owned Sabre and these systems showed an architectural bias to the host airline when travel agents booked an airline ticket. This helped the top five airlines to increase their share of the US domestic market from 61% in 1987 to 72% by 1991[20]. By 1998 it still had not moved by much, as 67% of the market was still controlled by the top five airlines[21]. Viscusi et al. (1998) argued that one of the unanticipated developments after deregulation has been the widespread adoption of the hub-and-spoke system, which has drastically changed route structures. During the first ten years of deregulation, the major airlines shifted dramatically from point-to-point linear route systems to hub-and-spoke alternatives, which provided superior network connectivity and so wider market coverage.

By the late 1990s, the major airlines' domestic route networks had become fairly stable and were built around hub airports typically dominated by a single carrier. These hub-based networks established geographic areas in which each major network airline has substantial presence and market power. Borenstein (1992) and Evans and Kessides (1993) both stated that there was a large increase in number of hub-and-spoke systems following deregulation, allowing carriers to offer online service between a greater number of city pairs. Consolidated traffic at the hub provided the synergies to establish multiple long-haul routes. This provided competition in long-haul markets. The low cost carriers largely remained with simplified point-to-point networks, serving primary and outlying secondary airports, giving the traveller a cheaper alternative travel option. This provided competition in short-haul markets.

Nonetheless, in many of the markets not served by low-fare carriers, the benefits of deregulation have been eroding. Studies by Borenstein (1989), Levine (1987) and Morison and Winston (1987) found that fares on routes to and from hub cities have indeed risen above the industry average. In 1990, the US General Accounting Office

[20] US GAO (1992), p30-31.
[21] US TRB Special Report 225, p1-3.

examined trends and services at 15 concentrated[22] airports and compared them with trends at 38 less concentrated airfields, and concluded that the yields (average fare per mile) increased more at the concentrated airports and that fares charged by the dominant carriers tended to rise as their aggregate airport enplanement share increased (Belobaba and Van Acker, 1994). However, studies on the industry overall have demonstrated that fares actually decreased overall. Of all the studies that have examined the economic effects of airline deregulation, the most widely quoted has been a Brookings Institution study published in 1986. The authors Stephen Morrison and Clifford Winston alleged that as a result of airline deregulation there has been at least a $6 billion (in 1977 dollar terms) annual improvement in the welfare of travellers (Winston,1992; Dempsey and Goetz, 1992, p281). Other authors have established that fares had been reduced by around 15-20% as a result of deregulation (Call and Keller, 1985; Button, 1991).

Williams (2002) argues that competition is the major driver of current change. In the US today, 85 percent of airline passengers have a choice of two or more carriers, compared with only two-thirds in 1978 (ATA, 2006). It has altered the way in which airline markets are supplied. For the most part in the past 20 years where there has been effective competition, fares have been low and service has been responsive to consumer needs (Bailey et al., 1985; Meyer et al., 1987; Morrisson and Winston, 1995; Goetz and Graham, 2004). Button and Taylor (2000) concluded that deregulation grew US traffic from 93.4 million passengers in 1993 to 126.1 passengers in 1998 mostly as a result of the continued degradation of air fares.

The deregulation of the US domestic airline industry in 1978 was the precursor of similar moves by most other developed economies in Europe (beginning 1988–1997), Canada (beginning in 1984), Australia (1990) and New Zealand (1986).[23] The argument was that the industry was mature and capable of surviving under open market conditions subject to the forces of competition rather than under economic regulation.[24] Williams (2002, p4) pointed out that around 30 countries around the world began to deregulate their domestic air transport markets. Williams also stated that Europe had an arcane system of exchanging air traffic rights on a bilateral basis and the process needed reform.

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[22] An airport was considered concentrated if it was one of the 75 busiest (based on enplanements) and one carrier accounted for at least 60 percent of an airport's enplanements or two carriers together accounted for at least 85 percent of enplanements (GAO/RCED-90-102).

[23] Canada's deregulation did not occur till 1987. Australia and New Zealand signed an open skies agreement in 2000, which created a single Australia–New Zealand air market, including the right of cabotage. Canada and the US signed an open skies agreement in December 2005.

[24] In contrast to deregulation within domestic borders, international aviation has been slower to introduce liberalisation. Consequently the degree of regulation varies across routes, fares, capacity, and other aspects of airline operations depending upon the countries involved. The US–German, Netherlands and Korea bilaterals are very liberal. In some cases, however, most notably in Australasia and Europe, there have been regional air trade pacts, which have deregulated markets between and within countries.

3.1.2 Liberalisation of Aviation in Europe

Starting in the 1960s, the charter airlines in Europe and North America escaped the price levels fixed by IATA. This allowed them to operate in a Laissez Faire type environment. Williams (2002, p87) claims that charter airlines accounted for about 30% of Europe's Revenue Passenger Kilometres (RPK) and transported around 80% of European passengers on holiday packages, even up to the late 1990s. These airlines usually offer flights as part of a holiday package that also includes transfers and hotels, most of which provided by vertically integrated tour operators. The integrated package produces sizable economies of scale for the airline which in turn allows it to charge low fares. Doganis (1991) explains that charter airlines can sell seats at one-third the price charged by their scheduled airline competitors, while Williams (2001) shows that the charter airlines' operating costs are half those of Europe's full service carriers.

Meanwhile, the full service European scheduled carriers complained of the inroads which cheap and unregulated charter services were making into their potential traffic and profits. The network airlines campaigned for stricter controls while at the same time the public and the tourism industry were pressing for deregulation as the charters were the only airlines that were offering lower fares. Barrett (1997) referred to a 1985 ICAO survey which stated that European air fares had traditionally been the highest in the world. On short intra-European routes, the fares were 26% higher than the world average. The high fares charged by European airlines were absorbed by a combination of low productivity and high costs rather than being reflected in high profits.

Europe's Single European Act of 1986 sought to eliminate barriers in intra-European competition without lowering barriers to competition from non-EU airlines. Three deregulation packages, agreed by the European Council of Ministers in 1987, 1990 and 1992 fully deregulated European air transport. Following the single European Act to unite the European Community by the end of 1992, the rules on licensing of air carriers within the European Union were set out in the Council Regulation Acts[25]. The first two rounds of intra-EU liberalisation[26], which came into effect in 1987 and 1990, allowed European airlines to offer lower fares and to match the prices charged by European charter airlines. They also allowed routes to be served by more than one airline from a single country (double or even multiple designation) and loosened the market-sharing bilateral arrangements among EU nations. In 1992, 90 per cent of domestic European routes and 96% of the cross-border EU-routes were operated on a

[25] Council Regulation (EEC) No. 2407/92 of 23 July 1992, on licensing of air carriers 1992. O.J.L 240.
[26] The terms "deregulation" and "liberalisation" may be used interchangeably. Nonetheless, it is usual to refer to deregulation in domestic markets (e.g. the US market) and liberalisation in international ones (e.g. across the EU member states).

duopoly basis[27], a further change in the legislation would surely change Europe's competition policy.

Deregulation was introduced in a time-phased manner through three packages but it was the 'Third Package[28]' under the constitution entitled Council Regulation 2409/92 that effectively removed all remaining government-imposed restrictions regarding designation, market access and capacity. In effect it liberalised the licensing of carriers, the routes they fly and the prices they can impose. It also opened up cross-border and domestic markets (including cabotage[29]) and removed national ownership restrictions. The European Commission had also taken measures to ensure that the 'competition rules' that apply to other industries also apply to airlines. Doganis (2001, p67) described the three areas that were primary targets, namely cartels and restrictive agreements, monopolies and mergers, and state aid/subsidies. These restrictions were rigidly introduced. These three packages, agreed by the European Council of Ministers, fully deregulated the European air transport sector. The provisions are listed below.

1) Licensing of air carriers: Council Regulation 2407/92

This states that members shall permit any EU carrier holding an operating license granted pursuant to the regulation to exercise traffic rights within the EU.

2) Market access: Council Regulation 2408/92 on access for community air carriers to intra-community air routes

Under this regulation, access to routes between member states is unrestricted. Most importantly, any airline holding a valid air operators' certificate in the EU cannot be prevented from operating any other route within the EU, including flights wholly within another country. On accession, the new member states will therefore have all the 'Air Freedoms', including unrestricted access to cabotage routes.

3) Fares and rates for all air services: Council Regulation 2409/92

The basic effect of this regulation is freedom for EU carriers to set fares for scheduled, chartered and cargo services. Fares are not subject to any controls under the regulation.

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[27] CAA: The Single Aviation Market: The First Five Years, CAP 685, 1998, p190.

[28] Note that although the third package effectively created a totally 'open skies' agreement within the European Union, services outside the European Union are still governed by bilateral air service agreements.

[29] Cabotage occurs when domestic services operated in one EU Member State by a carrier licensed in another Member State. EU Member States were not obliged until 1 April 1997 to open their domestic markets to free competition from all EU-licensed carriers, although airlines were entitled to operate consecutive cabotage services as extensions to services to or from their own state provided that no more than 50% of the capacity was made available on the cabotage sector.

Table 8 below compares the key features such as market access, designation, capacity and tariffs prior to deregulation, to the changes that occurred to each of these features after the three packages had been implemented. It is evident in comparing the two columns in Table 8 that the open-market bilaterals cleared away many of the earlier constraints on market access, designation, capacity and tariffs.

Table 8. A comparision of the pre-deregulation and post-deregulation changes in the European market

Pre-deregulation		Post-deregulation
Market Access	Only to points specified	Open route access – airlines can fly on any route between two states
	Very limited Fifth Freedoms sometimes granted	
	Charter rights secured under 1956 ECAC agreement*	
Designation	Generally single – but double/ multiple in some bilaterals	Multiple
	Airlines must be under substantial ownership and effective control of nationals of designating state	
Capacity	Shared 50:50	No capacity control
Tariffs	Double approval	Double approval

* European Civil Aviation Conference Agreement opened up traffic rights for charter services within the EU.

Source: Doganis (2006, p36)

Williams (2002) stated that Europe became the world's first truly deregulated region. Other regions throughout the world may follow Europe's example of staged phases which gives the deregulation process time to evolve and airlines the chance to adjust their strategies in order to accommodate for the change and not to be faced by the sudden transition to liberalised skies.

3.1.3 Why deregulation was urgently required from a European context

Deregulation paved the way for low cost carriers to enter markets where high fares had prevailed. It aimed to liberalise air travel within the EU and challenge the cartel of flag-carrying national airlines, such as British Airways, Air France and Lufthansa. These three major airlines controlled 40% of the available passenger-kilometres on scheduled intra-European flights through bilateral agreements. Kangis and O'Reilly (2003) stated that competition was relatively benign or nonexistent prior to deregulation because barriers to entry were so high and competitors were relatively weak. Governments also refused to grant operating and/or route licences, in essence an effective strategy to protect the national carriers. Liberalisation slowly changed as new operators entered unrestricted markets and began to challenge the flag carriers with their high cost bases and inefficient operating practices. Table 9 (i) below reproduces an analysis of eleven routes from London in the period 1980-1985 conducted by the UK CAA. It is noted that traffic on the Dublin – London route grew by only 2.5% over the period 1980-1985, while fares increased by 72.6%. By contrast, traffic on London to Frankfurt route grew by 40% over the same period while fares also increased significantly by 43%. The supply restrictions in bilateral air agreements meant that passengers were pushed into higher fare categories at times of peak demand. In 1986, unemployment in Ireland stood at 17.6%, the highest in Europe and many trips to neighbouring countries were by ferry as air travel was deemed excessively expensive. The charter market between the UK and Ireland stood at just 1% in the period 1980 – 1985 and travellers were forced to take a flag carrier if they needed to travel by air. Barrett (1997) stated that strong public opinion pushed the Irish Government towards deregulation in spite of the strong protectionist stance in both the Courts and the Government. In a European context, one of the first major routes to experience deregulation was Dublin to London. In 1986, eleven years prior to full deregulation, the Irish Government issued an operating licence to a second airline called Ryanair, granting them rights to operate on the Dublin to London Luton route.

The deregulation of the Dublin to London route was a major success and was looked upon in Europe as a very positive indicator for further deregulation. Barrett (1997) reported that the Dublin-London Luton service began on 23 May 1986 at a fare of IRL£99 return unrestricted, while the fare charged by British Airways and Aer Lingus that operated from Dublin to Heathrow was IRL£208. Threatened by this action, the incumbents matched the fare the following day. Fares from Cork and Shannon have fallen even more from the highs of IRL£240 in the 1980s.

Table 9 (i) Fare increases and Passenger growth 1980 - 1985

London to:	Passenger Numbers 1985 (000s)	Load Factor 1985 (%)	Fare Increase 1980-1985 (%)	Passenger Growth 1980-1985 (%)
Glasgow	1080.8	62.6	31.9	40.4
Edinburgh	1033.9	62.7	31.9	58.3
Belfast	895.3	60.8	40.9	30.7
Manchester	869.1	59.8	45.5	41.9
Aberdeen	460.3	64.6	29.2	34.5
Newcastle	313.2	58.0	38.8	18.4
Paris	2438.3	73.9	63.2	17.1
Amsterdam	1312.0	70.8	38.5	24.1
Dublin	**994.3**	**75.2**	**72.6**	**2.8**
Frankfurt	977.4	70.6	43.2	40.1
Brussels	719.0	61.7	43.6	20.4
Average		65.5	43.7	29.9

Source: Competition on the main Domestic Routes, UK CAA Paper 87005 (1987)

In the first full year of deregulation passenger numbers on the Dublin-London route were up 92%. CAA data from 1985 to1994 showed the impact that deregulation had on the Ireland-UK market. It produced a shift in passenger growth as shown below in Table 9 (ii). The once stagnating market from 1980 to 1985 became the fastest growing European market over the years 1985-1994, with a growth of 184%. This was 1.95 times the growth rate on air trips to France, 2.16 times the growth rate to the Netherlands and 2.62 times the growth rate to Germany. Within the UK it has been estimated that no-frills airlines and their low fares stimulated 1.24 million new airline trips in 2002, almost a 60% increase (Williams et al., 2003).

Table 9 (ii) UK to major European Countries - Passenger Growth 1985-1994

UK to:	Passengers 1994 (000)	Growth 1985-1994 (%)
Spain	17,645	85
France	7,261	94
Germany	6,169	70
Ireland	**5,126**	**184**
Greece	4,963	73
Italy	4,188	62
Holland	4,013	80
Switzerland	2,647	31
Portugal	2,692	63

Source: Civil Aviation Authority

Ryanair and other new market entrants availed of deregulation to open new routes to Cork, Shannon, Knock, Kerry, Waterford and Galway, the deregulated Ireland–UK air market growing larger than the markets serving far larger populations than Ireland such as the UK routes to Germany, France, Italy, Belgium and the Netherlands. Deregulation had also stimulated economic activity as a Green Paper[30] report on Aviation Policy published by the Irish Government in 1994 estimated that airline deregulation had benefited the economy very significantly. The report established that there had been a 60% increase in number of visitors who contributed valuable exchequer receipts of IRL£560 million annually and it forecasted that an additional 25,000 jobs in tourism would be created over the next ten years. Deregulation had transformed a stagnant tourism industry that registered just 2 million visitors per year to becoming the fastest growing tourism sector in the Organisation for Economic Cooperation and Development (OECD, 2001).

Barrett (1997) and Morrell (1998) agreed that traffic grew as a result of liberalisation and the new competition entering the market, particularly from low price challengers. This view is supported by the EU's 2000 annual report on the European air travel industry, where it is argued that: *'It may be the case that the low cost carriers are helping to keep the intra-European passenger forecasts higher than would perhaps be expected for a mature market'*.

3.2 Deregulation in Asia

Although Asia has been the fastest growing air travel market in the world during the last two decades, air transport deregulation and liberalisation in the region has been slower than in North America and Europe. Countries in Asia are more diverse politically, economically and culturally than those in North America and Europe, with each of them differing in their approach to deregulation. Some countries have strong economies and successful well-established national airlines, while the opposite occurs for other countries within Asia. Some have been strong advocates of liberalisation such as Singapore and New Zealand, the two countries with the smallest populations in this region. Other countries have allowed a second designated carrier to fly international routes in order to meet the rapidly rising demand and act as a competitive benchmark for the flag carrier. This has been the case in several countries, such as Australia (Ansett), Hong Kong (Dragonair), Indonesia (Merpati), Japan (All Nippon Airlines), Korea (Asiana), Philippines (Cebu Pacific), Taiwan (Mandarin Airlines) and Thailand (Bangkok Airways). Whereas in Malaysia the government did not allow a second designated network carrier and also refused to issue a new carrier called Air Asia with a new Air Operating Certificate (AOC).

[30] Government of Ireland, 1994. Green paper on Tourism Policy, Government Publications, Dublin.

Subsequently this forced Air Asia to inherit an existing one with liabilities of $10.5 million dollars (O'Connell and Williams 2005). Williams (2002) stated that the Civil Aviation Administration of China (CAAC) consolidated ten carriers under its direct control into three groups (Air China, China Eastern and China Southern) to strengthen China's national carriers.

Asia has a doubled edged regulatory system whereby its long haul routes to the US have very liberal open skies agreements but for intra-Asian services the skies are closed. In regulatory terms, the Asian aviation market differs significantly from that in Europe and North America. Airlines operating cross-border services in the Asia Pacific region are subject to international Air Services Agreements (ASAs), which specify the designated airlines, permitted routes, frequencies and capacities. A low cost airline in the United States is able to launch a route where it identifies a market opportunity without the need to consider traffic rights. A similar airline in Asia needs to wait for the negotiation of bilateral agreements and is likely to face counter-lobbying by the incumbent national carrier. Generally the ASAs are more restrictive in this region and governments can use them as a tool to protect their national carriers. The agreements determine whether a market is monopolistic, duopolistic, oligopolistic or strongly competitive, and so directly affect airlines and consumers.

Many regulatory barriers still remain, for example Valuair, was forced into a late cancellation of its inaugural flight from Singapore to Jakarta in May 2004 over the issue of traffic rights and it was a reminder that market access cannot be taken for granted (ATI, May 2004). Similarly, Air Asia's Indonesian associate airline AWAIR was forced to cancel its planned inaugural international service between Jakarta and Singapore after it failed to secure final regulatory approval (ATI, January 2005). The Hong Kong government for example used to follow the policy of 'one route for one airline'. This benefited its national flag carrier, Cathay Pacific, for a long time. However the complex and restrictive bilaterals existing between Asian countries may help protect flag carriers in the short run, but they may hurt Asian carriers in the long run, by encouraging incumbents to be inefficient and allowing major foreign carriers to exploit the Asian market (Oum and Yu, 2000). Governments have been slow to release their grip on Asia's airlines and it is perhaps the high level of government ownership that most distinguishes the region's airline market. There are only eight airlines in the Asia Pacific region that are majority privately owned. They include All Nippon Airlines, Asiana, Cathay Pacific, EVA, Korean Airlines, Japan Airlines, Philippines and Qantas. Tony Ryan and Karmit Singh, founder of Ryanair and CEO of SATS (Singapore Airport Terminal Services) respectively, indicate that the biggest challenge facing the region is its inadequate deregulation policies, bilateral fragmentation and government involvement (O'Connell and Ionides, 2004).

Asia's regulatory process was slow to change because a large percentage of the traffic carried by the 17 AAPA[31] (Association of Asia Pacific Airlines) member airlines is domestic. In 2005 for example, over 61% of AAPAs 440 million passengers travelled within the boundaries of their own countries (Herdmann, 2006). Similarly, China's domestic passengers represent 83% of its total traffic of 138 million. Around 60% of AAPA's international traffic is carried on intra-Asian routes and the remainder to Europe and the United States (AAPA, 2005). Consequently a large proportion of their revenue is derived from the region. Korean Airlines for example has about 60% of its revenue emanating from Korea and Southeast Asia; 12% from Japan and 8% from China (Centre for Aviation Pacific Aviation, September/October 2003). In order to protect these markets airlines did not push their respective governments to enter a deregulated intra-Asian market, as open markets would allow cabotage thus threatening their domestic markets. It would also have allowed existing carriers to increase frequencies and at the same time permit new entrants that would impact yields, load factors and profits. Low cost carriers such as Southwest and Ryanair were formed before deregulation and they grew rapidly afterwards. It may well be that the Asian carriers wish to remain regulated in order to offset the low cost carrier threat.

Nevertheless, liberalisation initiatives continue to be taken at the regional, sub-regional and bilateral levels. Notably, the agreement among ASEAN[32] member countries to establish a regional trade pact known as the ASEAN Free Trade Area (AFTA), which provided a platform for these countries to cooperate. The AFTA framework also enabled member countries to make progress on sub-regional initiatives. For example, a joint agreement was signed by Indonesia, Malaysia and Thailand in 1994 to promote development of air transport in ASEAN's northern growth triangle. ASEAN subsequently agreed in 1996 to liberalise air transport on a sub-regional basis with an ultimate goal of creating open skies within Southeast Asia. These initiatives were taken just prior to the Asian economic crisis and conditions were not conducive for airlines wanting to pioneer new markets. Nevertheless, ASEAN continues to make progress and is working towards a staged and progressive implementation of open sky arrangements (Forsyth et al., 2004). The Asia Pacific Economic Forum (APEC) also has an agenda to promote free and open trade and investment. In 1997, its Transport Ministers adopted a list of eight areas where liberalisation of air transport could be pursued, including air carrier ownership and control, tariffs, air freight, multiple designation, charters, alliances and market access. Several members of APEC also signed the Multilateral Agreement on the

[31] Air New Zealand, All Nippon Airways, Asiana Airlines, Cathay Pacific Airways, China Airlines, Dragonair, EVA Air, Garuda Indonesia, Japan Airlines, Korean Air, Malaysia Airlines, Philippine Airlines, Qantas Airways, Royal Brunei Airlines, Singapore Airlines, Thai Airways International and Vietnam Airlines.

[32] Member countries include; Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam.

Liberalisation of International Air Transportation (MALIAT) in December 2001, whereby the members agree to exchange open skies policies with all other parties.

Australia and New Zealand have set the foundation for deregulation as they have established a Single Aviation Market and subsequently an open skies agreement. Australia even allows 100% foreign ownership of its domestic operators, a pioneering move in deregulation (Chang and Williams, 2004). Hooper (2005) reports that Singapore has raised the possibility of an open skies air services agreement with China; it is also engaged in discussions about liberalising trade, including aviation services, with India. Singapore and Australia also have agreed to work towards an open skies agreement once the airline industry stabilises signalling that the road to deregulation is slowing moving forwards and towards an open intra-Asian aviation market. Singapore's newspaper, The Straits Times (2004), recorded that the Prime Minister of Singapore argued that low-cost carriers were the catalyst for deregulation in Asia and were putting pressure on governments to remove capacity constraints. IATA has suggested that the framework for complete open skies within the region will be in place by 2015 (Sritama, 2004).

OAG (April, 2006) provides evidence that the region is beginning to liberalise and expand its boundaries, as it declared that there were nearly 460,000 flights within the Asia-Pacific region in April 2006, nearly 95,000 more than in April 2003. Another important point is the fact that the potential in Asia is huge as there are over 235 cities with populations exceeding 500,000, of which 130 exceed one million – one third of the world's cities of that size. Few are linked by international air services, or even have international service of any kind. Yet many of them have fully serviceable airports (Centre for Aviation Pacific Aviation, September/October 2003). There is a large opportunity for Asia to significantly grow its traffic base as a recent study completed by InterVISTAS-ga2 Consulting, Inc. entitled 'The Economic Impact of Air Service Liberalisation' found that the liberalisation of air services between countries has seen a 12–35 percent growth in air travel, significantly greater than during the years preceding liberalisation. In a number of situations, growth exceeded 50 percent, and in some cases reached almost 100 percent of the pre-liberalisation rates (Boeing current market outlook, 2006).

Table 10 below gives an indication of the liberalised agreements that have been forged and may pave the way forward for the Asia Pacific region to become deregulated in the future.

Table 10 Recent trends in Asia's Regulatory Agreements

China/Singapore China/Australia	China granted 5th freedom traffic rights to Singapore Airlines, making it the first foreign carrier to be granted rights beyond China. In 2004 China also granted 5th freedom traffic rights to Australia for cargo purposes.
Australia/Singapore	Australia and Singapore removed all capacity restrictions on the services between & beyond, excluding Australia-US routes.
Australia/India	Doubled the passenger capacity to 4,500 seats/week and initiated an open freight agreement with unlimited capacity
Brunei, Indonesia, Malaysia, Philippines	Signed the BIMP East ASEAN Growth Area intra-regional agreement in 1999 aimed at liberalising air services between the signatory states.
Brunei, Singapore, Thailand	Signed the Liberalisation of Passenger Air Services plurilateral (open to any ASEAN state) agreement in 2004.
ASEAN/Open Skies Plan	ASEAN is working towards an open skies area between member countries by 2010.
Indonesia, Malaysia, Thailand	Signed the IMT Growth Triangle agreement in 1999 aimed at liberalising air services between the signatory states.
Singapore/Sri Lanka	Open Skies agreement permitted unlimited passenger and cargo services between both countries.
Cambodia/Laos/Myanmar /Vietnam	Signed the multilateral CLMV agreement (first in 1998 and formally in 2003) aimed at liberalising air services within the Mekong region.
Thailand	Foreign ownership cap for domestic airlines to be increased from 30% to 49%.

Source: ATI, Orient Aviation, Centre for Aviation Pacific Aviation, Association of Asia Pacific Airlines (AAPA), O'Connell (2005), Lyle (2006).

3.2.1 Airline Deregulation in India

India is classified as belonging to the Asian continent but in many ways is an entirely different market and home to one-sixth of the world's population. The Government of India created Indian Airlines in 1953 by nationalising eight domestic operators. The airline was to be solely responsible for all operations within the country, while its sister Air India was to be the designated carrier for all international services. In 1992 the government took the first step to open up the domestic market and allow private carriers to operate domestic flights under the Air Transport Operator (ATO) licence. There was a rush for licences as players like East West Airlines and Jet Airways got off the ground with high-profile launches. Soon, about 40 companies from all manner of backgrounds applied for ATO licences. Williams (2002, p74) stated that six air taxi operators, Archana, Damania[33], East-West, Jet Airways, ModilLuft and NEPC Airlines had scheduled airline status conferred upon them. By 1995, these private carriers had a 35% share of the overall domestic market, with Indian Airlines

[33] Damania was renamed Skyline NEPC in 1996 and is now trading as Air Sahara.

accounting for the rest. However, these start-up carriers had to comply with the traffic allocation rules, whereby they were required to allocate some capacity on unprofitable regional routes in Northeast India. As expected, few survived the experience and today only Jet Airways and Air Sahara remain.

Taneja (2004) strongly contended that India's tight regulatory control has held back its national airlines and the economic development of the country. Saraswati (2001) strongly argued that airline competition was restricted in order to protect the state enterprises, even though their service quality was inferior in comparison to that offered by the private carriers. He also revealed that political and bureaucratic hurdles made management ineffective on critical decisions, particularly on operations, finance and staffing. Hooper (1998) argued that the government's stance on foreign ownership and its painfully slow decision-making process has made it difficult for India's state airlines to pursue optimal financial structures. The tight regulations and closed aviation market had completely halted aircraft procurement for Air India and Indian Airlines, with each having to wait ten years after submitting applications before approval was granted. Due to a capacity shortfall, Air India in 2000 could only serve 19 out of a possible 96 international destinations (Aviation Strategy, 2001). Ionides (2003) pointed out that a study by the CII National Committee on Civil Aviation found that domestic fares were 23-30% higher than international fares for a comparable distance.

Lack of investment, excessive taxation, indecision about the ownership of state-owned carriers and a very restrictive regulatory system have all seriously impacted India's economic reforms. The resultant economic loss has been considerable. Raguraman (1998) and Saraswati (2001) both emphasised that a more liberal and competitive regime in India's aviation market was urgently required. In early 2003, the Ministry of Civil Aviation commissioned its cabinet secretary, Naresh Chandra, to prepare a road map for the civil aviation sector that would provide the basis for a new national civil aviation policy which opened up India's skies. The aim was to deliver fast track reforms.

The Key Recommendations of the Naresh Chandra Report are as follows:

- Foreign equity investment in both domestic and international scheduled air transport services should be further liberalized from 40% to 49%.
- Phased liberalisation of the international air transport sector should be implemented. The initial phase would allow private airlines the right to provide international air services. A second phase would envision India actively pursuing the objective of complete liberalisation of the international air transport sector through (a) seeking more liberal bilateral agreements and (b) enhancing access to wider markets by joining a regional grouping of countries in a plurilateral agreement.

- Charter services should be further liberalised by relaxing the restrictions pertaining to frequency and foreign ownership. A mix of foreign and Indian passengers should be allowed on domestic tourist circuits.
- Requirements on fleet size and equity capital should be removed to enable easier entry into the aviation sector.
- Immediate measures should be introduced to reduce the system costs of the civil aviation sector, including the right for airlines to source fuel from the supplier of their choice.
- Airport charges should be brought down to rates comparable with neighbouring South East Asia states and Gulf countries.
- Aviation related taxes, such as Inland Travel Tax, Foreign Travel Tax and Passenger Service Fees, should be replaced with a single lower ad valorem sector specific rate, at 5% of the airfare.
- The restriction that green field airports should not be constructed within 150 kilometres of an existing airport should be abolished.
- Essential air services on routes that are strategically important but commercially unviable should be provided with subsidy support.
- Privatisation of the national carriers through a consortium of domestic financial institutions and foreign institutional investors should take place. Privatisation of the airports should also occur.
- With increasing privatisation and the potential abuse of monopoly power by airport operators, the responsibility of ensuring appropriate levels of regulation should be vested with the proposed Aviation Economic Regulatory Authority (AERA).
- Safety regulation of the Air Traffic Control Corporation should be under the control of the Directorate General of Civil Aviation. In order to contain any potential abuse of monopoly power, it should also be regulated by AERA.
- Segments of airports and ATC services, which have natural monopoly or common user/carrier characteristics, should be subject to independent economic regulation by the proposed AERA.

Source: http://civilaviation.nic.in/moca/nccommittereport.pdf

3.3 The Emergence and Growth of Low Cost Carriers

It is rather difficult to provide an accurate definition of what a ‘low cost carrier’ is. Some people may even prefer to use alternative terms such as “no-frill airline” or ‘low fare airline’. Still, there is a good perception in both the industry and the public of what a low cost carrier is. As discussed in greater detail in chapter 4, this is a new

airline business model, which introduced a fresh approach in both strategic and operational issues. Low cost carriers innovated in terms of setting their fares based on single rather than return journeys using simple yet powerful yield management techniques. They engage in direct selling (predominantly through the Internet) saving on Global Distribution System (GDS) fees and travel agent commission charges. They generate substantial economies of density (i.e. low unit costs per passenger) through high load factors in a single-class, dense-seat cabin configuration. Low cost carriers generally do not offer any "frills" such as in-flight catering or entertainment and generate a good share of their revenue from the sale of ancillary products and services. They fly to and from regional airports (which not only charge lower fees than main airports but may be even willing to offer subsidies in the context of regional development) offering point-to-point services, thus avoiding complicated online and interline operations in congested hub airports. They put large orders of the same aircraft type to increase ex ante bargaining power and reduce ex post unit maintenance and training costs. These carriers enshrined the concept of 'low cost' in their very organisational culture aiming at reducing labour costs and achieving the highest possible staff and equipment productivity.

3.3.1 The US Experience

The low cost model origins began within the liberalised states of Texas and California some twenty years before deregulation. In the early days, Southwest operated in the Dallas-Houston-San Antonio triangle where the state of Texas controlled entry but not fares. It was not until 1978, under the US Deregulation Act that airlines were allowed to enter the previously restricted inter-state domestic markets and to set fares related to what the market could bear. Southwest had therefore, a substantial, advantage as a result of having experience with differential pricing, specifically 'off-peak' and 'peak-pricing'. Southwest also had substantial experience of low fare operations, while the competition were beginning to shift their strategy from service-competition to fare-competition after 1978. Deregulation produced a swift change in the economic regulatory environment of airlines. The US airline industry completely changed as it required carriers to focus' on pricing, product differentiation, network configuration, service and marketing (code sharing, alliances, etc) (Chou, 1993; Debbage, 1993; Fleming, 1991; Goetz and Sutton, 1997; Sorenson, 1991). Maldutis (1992) indicated that Southwest had around 3.3% of the US domestic market by 1982, while the four largest incumbents namely Eastern, Delta, United and American had 12.7%, 12.2%, 11.8% and 10.0% respectively. From 1979 to 1985 a large number of new airlines entered the market and began to compete with major established scheduled carriers. Gudmundsson and Kranenburg (2002) stated that 114 airlines entered the US market between 1979 and 1994 (yet none remained by 1999). This included some high profile airlines such as People's Express, Pacific Southwest, New York Air, Jet America and

Midway Airlines. Capacity more than doubled to 8.9 billion RPKs from 1980 to 1994. Demsey (1990) indicated that deregulation brought about a period of destructive competition, which was bad for consumers and the industry in general. The explosion of new entrants posed a serious threat to the existing incumbents as the new entrants had low unit costs and could undercut the existing fare levels. In response a number of the major airlines introduced their own low cost subsidiary airlines such as Delta Express, Continental Lite and Shuttle by United Airlines. These were the first examples of 'airlines within airlines' and were later dissolved and reintegrated back into their associated legacy carrier. The main problems were that they inherited high costs from their parent companies and restrictive working practices under union agreements. The failure of so many of the new entrants and the withdrawal of the incumbent subsidiaries created an opportunity for some of the emerging low cost carriers to capture additional market share. Consequently Southwest, ValuJet, Reno Air and Morris Air (the latter was taken over by Southwest) all gathered strength.

Southwest has traditionally captured market share by offering low prices for less differentiated travel services. The entry of a low cost carrier like Southwest into a market had two effects on the overall market. Firstly, a *market diversion effect* where air travellers switched from high-fare established route carriers to take advantage of lower fares. Secondly, a *market creation effect*, where low prices induced more travellers into using air transportation either for the first time and/or instead of other modes, especially those in the short-haul markets (i.e., less than 1,500 miles of stage length). Numerous authors such as Windle and Dresner (1995), Windle et al. (1996), Gittell (2003), Flouris and Walker (2005) have described that there is a paradigm shift in the traditional marketplace when a low cost carrier enters. The result is two-fold as there is a decrease in average air fares coupled with an increase in enplanements and the result has become synonymous with the term "The Southwest Effect". The Avmark Aviation Economist (1993) confirmed the analogy as its research highlighted that traffic had increased by 143%, while at the same time average fares dropped by around 26% when Southwest entered 20 new markets. By 1993 the US Department of Transport labelled Southwest the dominant domestic airline because of the effect it was beginning to have on the rest of the industry (Bennett and Craun, 1993). The same authors also found that Southwest was the dominant airline in the top 48-states, which accounted for one-third of domestic passengers and was price leader for more than 60% of the most dense markets under 500 miles. In the Californian market for example, it controlled 42% of the market with United Airlines in second place holding 37%, even though United had a hub at San Francisco (Office of Aviation Analysis, 1993). By this time Southwest had competed with American Airlines in more than 40% of its domestic markets, whilst nearly two-thirds of Delta's domestic RPMs were in competition with low cost carriers (AMR Corporation, 1994). Colehan (1995) studied the entry effect that Southwest Airlines had on selected West Coast markets

and Table 11 below clearly shows that low cost carriers triggered enormous passenger growth as a result of reducing fares.

Table 11 Southwest's effect on selected West Coast Markets (Quarterly Passenger Traffic, 1993 data)

From	To	Traffic prior to Southwest entry	Traffic Stimulated by Southwest	% Change Passengers	Fare Reduction
LAS	BUR	81,210	214,610	164%	-35%
LAS	LAX	126,560	250,200	98%	-28%
LAS	ONT	35,980	98,620	174%	-47%
LAS	RNO	44,490	129,350	191%	-69%
OAK	BUR	64,220	268,840	319%	-35%
OAK	ONT	37,790	109,350	189%	-55%
OAK	SAN	61,300	138,380	126%	-26%

Source: Colehan (1995) US DOT form 41

Note: The abbreviations are listed as follows: LAS (Las Vegas), LAX (Los Angeles), BUR (Burbank), ONT (Ontario), RNO (Reno), OAK (Oakland), SAN (San Diego).

Colehan (1995) stated that before Southwest entered the Oakland-Burbank route, it was the 179th largest market in the United States. However, after Southwest began operating the route it soared to the 25th largest passenger market in less than a year. In another example, Southwest's entry onto the Chicago-Louisville route, resulted in that market tripling its number of passengers 30 days after the carrier entered. Windle et al. (1996) reported that studies conducted on the impact of low cost carriers on communities revealed that where low cost services operated, fares are reduced, not only on the specific city pair, but also on neighbouring city pairs. Calder (2002) explained that at any one time over 50 communities are reported to be trying to persuade Southwest to introduce services to their regions. Evidence as to why so many communities wanted Southwest to enter their markets is provided by Vowles (2000), who examined a regional market in New England. He stated that the average fare had dropped by over 25% at Baltimore, Providence and Manchester, one year after Southwest entered these markets. Cassotis (2005) confirmed that the fare reduction had aroused the interest of local citizens, as only 200,000 used Providence and Manchester airports prior to low cost carrier entry; however, traffic rose thereafter to over 5.5 million from the years 1995 to 2000. Similarly, Florida used to be one of the most expensive destinations in the US, however when Southwest, AirTran, JetBlue, Delta Express and MetroJet entered the sunshine state, it became one of the lowest priced destinations in the US (Al-Kiyumi, 2001). The Transport Research Board (1999) analysed routes which Southwest entered between 1990 and 1998 and found that on average, fares fell by 54%.

By the early 1990s, the legacy network carriers included American, Continental, Delta, Eastern, Northwest, TWA, United, and USAir, which accounted for around

90% of the total market share of revenue passenger miles. Around the same time the low cost carriers only served 78 of the largest city pairs, however that quickly changed. Between 1998 and 2003, low-cost airlines increased their presence in the 5,000 largest city pair markets raising the number of markets served from 1,594 in 1998 to 2,304 in 2003. The low cost carriers were now impacting the domestic markets and by 2004, the incumbents' market share had dropped to 74.8%. Southwest Airlines was the low cost leader and controlled the majority of the low cost market, capturing over 16% by 2004. Figure 14 below shows the continued growth of low cost carriers in the US domestic market.

Figure 14 Market share of low cost carriers 1990 - 2004

LCCs	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04
Air Tran[1]	-	-	-	-	0.6	1.4	1.0	0.9	1.2	1.3	1.5	1.6	1.9	2.0	2.1
ATA	0.1	0.1	0.1	0.4	0.7	1.0	0.9	0.8	1.1	1.2	1.3	1.6	1.9	1.8	1.8
Frontier	-	-	-	-	-	0.2	0.3	0.3	0.3	0.5	0.6	0.6	0.8	0.8	0.9
JetBlue	-	-	-	-	-	-	-	-	-	-	0.3	0.8	1.3	1.7	2.1
Southwest	7.0	8.2	9.6	11.3	12.7	13.6	14.1	13.8	13.8	14.3	14.9	16.2	15.8	15.9	16.1
Other LCCs	-	-	0.2	1.9	2.4	2.3	2.8	2.4	2.2	2.2	2.0	2.1	2.0	2.0	2.2
Total	**7.1**	**8.3**	**9.9**	**13.6**	**16.4**	**18.5**	**19.1**	**18.2**	**18.6**	**19.5**	**20.6**	**22.9**	**23.7**	**24.2**	**25.2**

[1]Values for AirTran and ValuJet combined. Source: U.S. DOT DB1A Database, 1990-2004.

The seven legacy and seven low-cost airlines accounted for 90 percent of all domestic airline industry seat capacity in 2003[34]. The continued growth of the low fare sector however is severely threatening the incumbent short-haul market as the number of passengers who travelled on low cost carriers increased from 79.8 million in 1998 to 117.1 million in 2003[35]. Cassotis (2005), Vice President of SH&E, declared that US low cost market penetration was 29% in 2005. de Neufville (2004) added that it is 'not a real stretch for the low cost US market to expand to 50% in the next 20 years'. Southwest is now the largest U.S. domestic passenger carrier, with more aircraft than any of the major carriers, serving 60 cities nationwide. There is now a substantial overlap between the routes served by low cost carriers and the legacy network carriers. At least 70 percent of the city-pair markets served by the legacy network carriers are now served by at least one low cost carrier. This means that they are dictating the fares on most routes.

The new millennium presented un-chartered challenges for the US legacy carriers as economic downturns, terrorism, high fuel prices, low yields and low cost carrier competition impacted, as a result of which they had to reorganise their business

[34] The legacy airlines included Alaska, American, Continental, Delta, Northwest, United, and US Airways. The low-cost airlines were AirTran, America West, ATA, Frontier, JetBlue, Southwest, and Spirit.
[35] GAO-04-836 Airlines Financial Condition.

enterprises. They cut operating expenses by $12.7 billion between October 2001 and December 2003, while at the same time reducing seat capacity by 12.6% (DOT Form 41 data). The low-cost carriers used legacy airlines retrenchment as an opportunity to expand and the seven low-cost carriers increased seat capacity by 26.1% during the same period that legacy airlines cut capacity. JetBlue, the newcomer to the low cost carrier scene also expanded its route structure and added multiple frequencies to its existing schedule increasing its seat capacity by a compound annual growth rate of 54.1% from 2000 to 2005. In 2005, the legacy carriers reduced their capacity by a further 4%, while the low cost carriers increased theirs by 10.3%[36].

The capacity of the low cost carriers continues to grow worldwide as they accounted for 61% of the narrow body orders in 2003, amounting to 385 aircraft (Centre for Asia Pacific Aviation, 2004). Like all other parts of the world, the US low cost carriers are proceeding to order multiple numbers of aircraft, while the incumbents have been unable to do so because of their distressed financial condition. Air Tran for example, ordered 50 B737s and 6 B717s signalling plans to grow by 25% annually for the next few years. Similarly, JetBlue expanded capacity by up to 60% in 2004 signing for 100 regional Embraer jets on top of the 65 orders for A320s. Southwest exercised its options for 79 737-700s in April 2006, while at the same time holding additional options of 116 more -700s, with delivery positions available from 2008 through to 2012 (ATI, April 2006). By 2008, around 37% of the US fleet will belong to the low cost carriers and they will receive 52% of all aircraft deliveries destined for the North American market (ACAS Database).

3.3.2 The Emergence of Low Cost Airlines in Europe

Prior to deregulation, the vast majority of international European routes had only two carriers as a result of restrictive bilateral agreements. In 1992, 90% of domestic European routes were run on a monopoly basis and on cross-border EU-routes, 96% were operated on a duopoly basis[37]. As a result of deregulation, the balance of power in European air transport has shifted from the governments towards the airlines.

The ending of institutional monopolies acted as an incentive to new airlines to enter the market. Numerous authors such as Graham, 1998; Mason et al. 2000; Mason, 2001; Ison, 2000; Doganis 2001; Williams 2002; Pender and Baum, 2002; Lawton 2002 and Button 2004 have all confirmed that deregulation has been the underlying

[36] Legacy Airlines capacity adjustment in 2005: US Airways (-8%), Northwest (-8%), Delta (-5%), United (-3%), Continental (5%) Low Cost Carriers: America West (1%), Southwest (8%), Air Tran (23%), JetBlue (27%) all sourced from US DOT (2005) Transport Series.

[37] CAA: The Single Aviation Market: The First Five Years, 1998, p190.

reason for the growth and expansion of Europe's low cost carriers. These had been developing since 1995 when European liberalisation began to free up the conditions for route entry and the fares charged. Airlines such as easyJet and Ryanair began to establish themselves in the low fare sector. It took time for the low cost carriers to get recognised as their model differed significantly from that of the full service airlines as they did not serve primary airports[38] and did not have interline passengers, etc. By 2000, Williams and Chang (2002) confirmed that the incumbents still controlled the majority of Europe's traffic, as the top six out of fourteen incumbents accounted for 64% of traffic. However, around this time Ryanair and easyJet were gathering strength and beginning to expand rapidly. A 1998 study conducted by the UK Civil Aviation Authority described the emergence in the 1990s of a 'third way' in European aviation. It emphasised that this new type of airline brought together the costs of charter airlines and the convenience of scheduled carriers (CAA, 1998 p125). This led to a major shift in the industry, offering new travel opportunities to consumers as well as threatening the high-fare/high-cost operating structures of incumbent operators. It was found that the European market produced even more of an opportunity than that in the US as outlined below.

i) There were a large number of charter carriers operating on short-haul European routes (there is very little charter business in the US as vacation travel takes place on scheduled airlines).

ii) Fares on both aircraft and trains within Europe were very expensive.

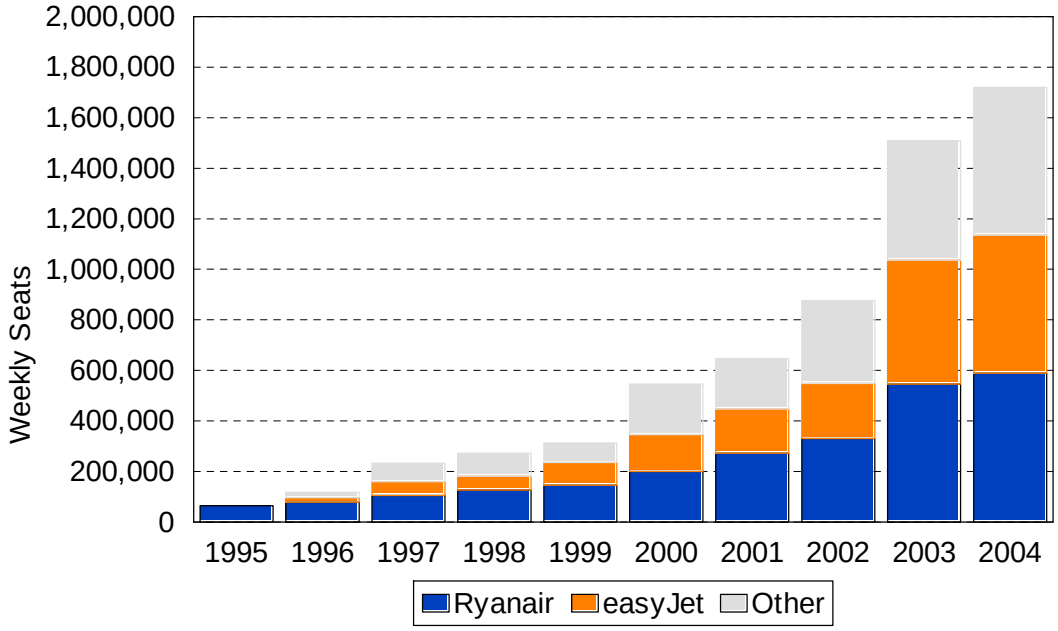
iii) High density cities are closer together in Europe than they are in the US.

iv) Southwest had been successfully growing passenger numbers and profits since 1970 and it was clear that this model could be successfully replicated in Europe.

Internationally, Skytrain operated on the transatlantic market as early as 1977 and it demonstrated that European passengers were eager to travel on airlines that offered reduced frills but cheap fares.

[38] For example, Ryanair served Stockholm's secondary airport Skavsta situated 100 kms away from the city centre, while Paris' Beauvais is 80 kms from the city centre.

Figure 15. Weekly low cost carrier summer capacity 1995 – 2004



Other, includes Virgin Express, Bmibaby, Hapag-Lloyd Express, Germanwings, Basiq Air, Air Berlin, My Travelite and Norwegian

Source: AEA (2004)

Figure 15 above shows the growth of European low cost carriers in the past few years, reflecting a shift in consumers preferences towards cheap air travel to short and medium-haul destinations and away from holiday packages. From 1998 onwards, low cost outbound holiday air travel from the UK began to grow faster than the air charter business. This was prompted by strong route expansion programmes and the merger synergies created when easyJet took over GO and Ryanair acquired Buzz. Rising passenger demand was stimulated by heavy advertising campaigns[39] and easy online booking access. Operating profits rose from €67.8 million for Ryanair in 1998/99 to €163 million in 2001/02, while easyJet's rose from £8.3 million to £69.6 million over the same period. Both airlines experienced the classical passenger growth and margin growth trends of first movers in a new market. The growth rate of Europe's low cost carriers has been high, with a compound average growth rate (in terms of RPKs) of 46% between 1995 and 2004. Low cost carriers have changed people's leisure and travel habits, opened up direct services between European Union (EU) city pairs that were not available through the legacy airlines, forced established airlines and tour operators to change their business models, popularised regional airports by breathing life into otherwise under utilized airports and changed forever the dynamics of the industry. Liberalisation's third package effectively created an open skies policy that included cabotage, which opened up markets to competition from airlines of other member states. It also allowed new airlines to be established provided they fulfilled

[39] In 1998 easyJet spent £2.65 per passenger on advertising, while BA spent £0.72 (Mason et al. 2000).

all the requirements of Council Regulation EEC No 2407/92 on the Licensing of Air Carriers.

Table 12. Top 10 growth carriers, seat capacity 2002 – 2004

Airline	2002	2003	2004	2004 v 2002	CAGR
Germanwings	360,810	2,927,668	4,043,444	1020%	234%
Norwegian	447,224	238,684	3,162,612	605%	165%
Germania	330,624	902,811	1,837,500	455%	135%
Sterling	587,601	1,632,804	2,106,083	258%	89%
Bmibaby	1,925,924	6,556,967	6,777,264	252%	87%
VolareWeb	2,062,307	4,105,393	5,793,189	181%	67%
easyJet	12,892,872	23,354,613	31,592,084	145%	56%
Air Berlin	4,046,573	8,871,544	9,831,056	149%	56%
Ryanair	16,298,326	27,222,262	32,349,902	98%	41%
Blue1	1,055,559	1,351,576	1,908,767	81%	35%

Source: Analysis from OAG Max. CAGR stands for Cumulative Annual Growth Rate.

Table 12 above shows that Ryanair and easyJet dominate Europe's low cost carrier market. The sum of all the other low cost carrier capacity just equals that of Ryanair or easyJet. This highlights the competitive advantage of these dominant carriers, which offer an average of 3.2 times more capacity than their nearest rival Air Berlin. They will continue to outpace all other competitors and retain firm leadership as Ryanair ordered 126 Boeing 737-800s in 2005/06 and easyJet 140 A319s in 2003/05. Nevertheless, several newcomers to the industry have experienced high growth. Germanwings for example, only launched operations in October 2002 and has had a compounded annual growth rate of 234%. Similarly, Norwegian which also only launched operations in late 2002 had a growth rate of 165%. In comparison, IATA's annual average growth rate for 2004 was 5.6%.

Table 13 below shows that the UK had Europe's largest concentration of low cost carriers, which is no surprise given that both Ryanair and easyJet have several bases in the UK. However, certain markets such as Belgium appear to be getting saturated as outlined by its low cost carrier growth of only 5% from 2002 to 2004. Other markets such as the UK and Ireland also appear to be slowing and McKinsey (2005) confirmed that cities such as Brussels, Dublin, Cologne and Stockholm have reached saturation point.

Table 13. Departing Seat Capacity by Country, low cost carriers 2002 - 2004

	2002	2003	2004	2004 v 2003	CAGR
UK	26,676,210	38,335,445	44,528,195	16%	29%
Germany	8,233,518	15,951,648	19,235,443	21%	53%
Spain	5,732,709	10,291,315	14,948,363	45%	61%
Italy	4,581,315	9,378,384	12,817,978	37%	67%
France	2,939,494	5,900,752	8,706,242	47%	72%
Ireland	3,303,424	4,726,489	5,464,620	16%	29%
Norway	1,058,789	3,480,393	4,047,661	16%	95%
Netherlands	2,640,879	3,292,766	3,945,263	20%	22%
Switzerland	1,380,337	2,356,084	3,048,727	29%	49%
Belgium	2,455,547	3,047,813	2,732,176	-11%	5%
Sweden	877,722	2,030,246	2,604,830	28%	72%
Portugal	1,130,734	1,494,219	1,850,781	24%	28%
Austria	273,273	849,196	1,667,181	96%	147%
Denmark	567,596	1,041,813	1,415,097	36%	58%
Czech Republic	260,911	515,036	1,309,245	154%	124%
Finland	534,915	754,967	1,150,588	52%	46%
Greece	492,704	842,006	1,072,968	27%	48%
Poland	-	-	907,473	-	-
Hungary	-	43,584	743,575	1606%	-
Slovakia	59,733	129,048	305,409	136%	126%
Cyprus	18,211	131,336	268,683	104%	284%
Malta	6,950	9,550	12,240	28%	41%

Source: Analysis from OAG Max

Research suggests however, that there is still room for more growth as almost 40 million Britons vacationed abroad in 2003, with 27.6 million travelling on air inclusive tours (CAA 2004), of which 25.9 million choose a holiday in one of the top seven Mediterranean destinations, i.e. Spain, France, Greece, Italy, Portugal, Cyprus and Turkey (ABTA 2003). Mintel (2004) found that UK holidaymakers are 70% more likely to take short breaks than they were 5 years previously. The study showed that 44% of UK employees will take two short breaks a year, 32% will take three and nearly a quarter will take four or more. This growth in short breaks has been fuelled by the availability of low fares to popular leisure and city break destinations. In the German market, 43.8 million people took a holiday trip abroad in 2002. Koutoulas (2006) researched that 52% of these vacationed in the Mediterranean and used packaged tour operators. This opens another market for the low cost carriers which can replace tour operators by offering dynamic packaging. By March 2006, OAG (2006) showed that the number of low cost carrier flights in the German market had increased by around 2,000 (352,000 seats) compared to March 2005. This indicates that low cost carriers are replacing the German charters serving the Mediterranean as they did in the UK (see Williams, 2001). Mintel (June, 2005) research also pointed

out that 65% of consumers reported that they would always take a regular airline when going long haul but would consider a no-frills airline for travel within Europe.

Finally, we should also consider the rising demand for air travel stemming from second home owners abroad. Thanks to the low cost carriers, the accessibility of many destinations in Spain and France has dramatically improved in both time and monetary terms. As a result, a significant number of relatively affluent Britons and Germans have decided to buy property abroad, as they can now afford to visit them on a very regular basis. This new type of derived demand for airline services is relatively price inelastic as consumers are effectively locked-in due to the location of their asset (i.e. real estate property abroad). In the future, these travellers may constitute a key element of demand for low cost carriers in Europe. Ironically perhaps, this is also an argument against the democratisation of air travel presumably brought by low cost carriers: a recent survey by the UK Civil Aviation Authority (2006) has shown that the socio-economic profile of travellers today is not significantly different compared to ten years ago in Britain, i.e. low cost carriers may have made life easier for the middle class but not necessarily for the low-income earners. On the other hand, however, there is little doubt that low cost carriers may have a positive impact on regional development in terms of accessibility improvement and income generation.

3.3.3 The Emergence of Low Cost Airlines in Asia

Asia has a population of 3.8 billion people and the flying time between Asian cities is within 3 to 4 hours. Harbison (2005) stated that the Asia-Pacific region had 235 cities each with more than half a million people and only a tiny minority of these cities had international air services, showing that the potential for growth is enormous. The first countries to experience full deregulation of their markets were Australia and New Zealand. The Australian market was a duopoly with Ansett and Qantas as the main competitors while Impulse a smaller airline operated on Australia's eastern seaboard trunk routes with B717s. Low cost carrier Virgin Blue, an offshoot of the Virgin group entered the market in mid 2000. A series of events then transpired that allowed the carrier to grow rapidly in a short time. Ansett collapsed in September 2001 and Anderson (2006) states that Ansett had 35 per cent of Australia's domestic market when it went into receivership. Around the same time Impulse was acquired by Qantas and absorbed into the QantasLink group of subsidiary airlines. This opened the market considerably with Forsyth (2003) claiming that Virgin Blue captured more than 30% of the domestic market. In 2002, in response to low cost competition, Qantas introduced its own low cost subsidiary Jetstar and it carried almost 6 million passengers in 2005. Both airlines then began to look beyond their domestic markets. Virgin Blue expanded its operations to New Zealand, Fiji and Vanuatu through a separate Virgin subsidiary known as Pacific Blue, while Jetstar set up a hub in Singapore and commenced short-haul operations to Thailand, Indonesia and Vietnam,

while at the same time launching a trans-Tasman service (ATI, April 2006). Kissling (1998) stated that New Zealand was at the forefront of deregulation because a low cost carrier called Kiwi Airlines had been operating on the Trans-Tasman as early as 1985. Air New Zealand responded by launching its own low cost subsidiary Freedom Air. The excess competition between the incumbents and Freedom Air forced Kiwi Airlines out of business (Wilson, 1996). Freedom Air expanded its fleet to 11 A320s and operated on secondary routes between New Zealand and four Australian east coast cities. It grew capacity by 54% and replaced Air New Zealand on the leisure focused services linking Brisbane with Wellington and Christchurch (Centre of Asia Pacific Aviation, July 2004).

Nonetheless, most of the Asian countries had deregulated their own domestic markets and there were signs that the region was slowly beginning to integrate its fragmented regulatory environment. Following Japanese deregulation in the 1990s, Skymark started operations with six B767s, however it is transitioning to eleven B737-800s and modelling itself more like Southwest. A second carrier called Air Do soon followed. In the late 1990s, Japan Airlines set up a subsidiary called JAL Express, in response to the rising competition from the domestic start-ups. It commenced operations and served around a dozen domestic destinations using eight B737-400s. Moreover, and as a result of deregulation and the institutional abolition of barriers to market entry and exit, the Japanese Fair Trade Commission concluded in 2002 that 'the implementation of the proposed integration plan [between JAL and JAS] would not constitute a substantial restraint of competition within the area of domestic air transport services' (JFTC, 2002).

Another Asian market that substantially grew its domestic market was Indonesia where passenger numbers have grown from 6 million in 1998 to 30 million in 2006. Lion Air, Indonesia's largest low cost carrier has captured 30% of the domestic market (Association of Asia Pacific Airlines, August 2006). Its pace of growth will challenge all other carriers in the region as it ordered 60 B737-900ERs which will allow it to connect intra-Asian cities up to 5 hours away (ATI, July 2006). Hooper (2005) stated that there is plenty of potential for such additional capacity because there are 3 cities within 5-hours flight time from Jakarta that contain more than 5 million people and up to 26 cities with such populations from Bangkok and 32 such cities from Manila. In Malaysia, the highest profile low cost carrier emerged in late 2001 called Air Asia, with a mission to make flying affordable. It quickly established hubs across Malaysia at Kuala Lumpur, Senai and Johor Bahru and by 2004 had 30% of the domestic market (O'Connell and Williams 2005). It became highly innovative in overcoming the region's regulatory barriers as it pioneered a cross-border joint-venture in Indonesia where it is operating out of three cities, namely Jakarta, Surabaya and Bangdung. Similarly, it expanded to Thailand where 49% of its equity is owned by the nation's prime minister and serves the major Thai cities. By 2006, Air Asia had

ordered 100 A320 aircraft and holds a further 30 options. Air Asia indicated that further capacity could be added to its three markets (i.e. Malaysia, Thailand and Indonesia). ATI (July 2006) quoted the airline as saying 'All three markets are doing very well and we potentially see that these markets are more than capable of taking 60-70 aircraft each.' Thailand's skies quickly became another competitive battleground. The entry of Air Asia into Thailand's already crowded domestic market prompted Thai Airways International to form its own low-cost joint venture, Nok Air. By 2004, Thailand's low cost carriers had gained 16% of the domestic market (Tris Rating Company 2004). Traffic growth at Bangkok airport had been growing at the rate of around 21.3% year-on-year, however 2004/05 saw traffic surge to 179% primarily because of the increasing number of low cost carriers serving the Thai capital. There is a huge potential for growth within Thailand as only around seven million people travelled by air in 2004 out of a population of 65 million, but forecasts suggest that it will grow by 3 million passengers by 2005 (Bangkok Post 2004, cited in Chong 2004). Table 14 below gives an outline of the demographics of the various Asian countries, their changing regulatory environment and their potential for the growth of low cost carriers. See O'Connell and Ionides (2004) for the list of low cost carriers in Asia.

Table 14 Potential for low cost carriers in Asia (March 2005)

Country	Population (million)	GDP per Capita (US$)	Regulatory Barriers to Entry	ASEAN Flights * % (Hub Airport)	No of LCCs	Potential for LCC emergence and growth
Singapore	4.2	25,200	Low	36.2	3	High
Malaysia	23.5	8,800	Medium	60.3	1	High
Indonesia	238.5	3,100	High	82.3	3	Medium
Thailand	65.0	7,000	High/Medium	48.2	2	Medium
Philippines	86.5	4,600	High/Medium	59.1	1	Medium
Laos	6.2	1,800	High	92.6	-	Low
Cambodia	13.3	1,600	High	87.1	-	Low
Vietnam	83.2	2,300	High	58.8	-	Low
Myanmar	43.0	1,700	High	94.2	-	Low
India	1,100.0	3,300	High/Medium	n/a	>14	Medium/Low
Japan	127.5	31,500	Medium	n/a	3	High
S. Korea	48.9	20,400	Medium	n/a	-	Medium
Hong Kong	6.9	32,900	Low	n/a	-	Medium
China	1,300.0	6,800	Medium/High	n/a	-	Medium
Taiwan	20.3	25,300	Low	n/a	-	Low
Australia	20.3	31,900	Low	n/a	2	Saturated
New Zealand	4.1	25,200	Low	n/a	2	Saturated

Source: CIA World fact book, Forsyth et al (2004), Asian Development Bank (2004), ATI
*Note: ASEAN flights only include those countries that are affiliated to the chartered agreement.

There are countries within Asia such as the ASEAN members that have established a joint-signatory on economic co-operation, which will reduce the barriers of aviation. The benefits of such an agreement encouraged 3.1 million Malaysian residents, 2.4 million Indonesians and 1.8 million residents of Thailand to travel to other ASEAN countries in 2001 (Hooper, 2005). Until late 2003, Asian based low cost carriers operated within national boundaries but since then Air Asia has launched its first international route from Kuala Lumpur to Phuket and Indonesia's Lion Air has commenced operations to Singapore. The rise of low cost carriers in the region occurs against a background of an increasingly liberal attitude towards traffic rights. The success of the low cost model is likely to accelerate the move towards the dismantling of regulatory barriers as respective governments recognise the economic benefits of deregulation. Around this time three low cost carriers converged upon Singapore to take advantage of its liberalised aviation market. There was a gap in the market as Singapore Airlines is unique in Asia being a predominantly long-haul airline with only 7% of its revenues in 2003 coming from the short-haul sector (Singapore Airlines 2004). The new entrants that sought to fill Singapore's short-haul gap were Tiger Airways[40], ValueAir[41] and Jetstar Asia[42]. These carriers were the first to commence low cost intra-Asian routes. In May 2004, Valuair started operations to Bangkok, followed by daily services to Hong Kong and Jakarta with Airbus A320s leased from Singapore Aircraft Leasing Enterprises (Chong, 2004). Later in 2004, Tiger also commenced international services and in 2006 it began serving China. By Christmas of that same year, Jetstar Asia entered the Singapore market, immediately pitting it against other new entrants Thai AirAsia and Valuair. It began flights to Hong Kong, Taipei and Manila. Because of the extra capacity and competition, traffic on the Singapore-Bangkok route has increased by 60% since 2000, while average fares have fallen by two-thirds (Centre for Asia Pacific Aviation, February 2006). By early 2005, low cost airlines accounted for over 7% of all passengers at Singapore's Changi Airport.

In India, O'Connell and Williams (2006) stated that up to 14 Low Cost Carriers were preparing to launch services in 2005, with another 5–6 in the planning stage in 2006. That is more than the total complement of such airlines operating in the whole of the Asia Pacific region and the Middle East in 2004. These start-up carriers have commitments for over 130 aircraft. There are around 5 million new air travellers in India every year, which will take the total number of air travellers to around 50 million by 2010. By mid-2005, India's only low cost carrier, Air Deccan had captured 10% of the domestic market, serving 32 destinations and operating close to 100 flights daily. Meanwhile, the first low cost carrier in China called Spring Airlines

[40] 49% owned by main carrier Singapore Airlines, 24% by Indigo, 16% by Irelandia Investments and 11% by Temasek Holdings.
[41] Headed by former Singapore Airlines Chairman Lim Chin Beng, funded by Asiatravel.com and private investors.
[42] 49% owned by Qantas and 19% by Temasek Holdings and the remainder by 2 private investors.

commenced services from Shanghai in mid July 2005, signalling that Asia's biggest market was quickly incorporating the new airline business model.

Low cost carriers are causing capacity to increase significantly in the Asia Pacific region with OAG (April 2006) pointing out that the region's airlines operated nearly 460,000 flights in April 2006 within the Asia-Pacific rim, which is nearly 95,000 more than they scheduled back in April 2003. The Centre of Asia Pacific Aviation (2006) gave the breakdown of Asia's low cost carrier activity for 2005/06 and it indicated that the region's low cost seat capacity rose by 63% over the previous year with an additional 17,000 services operated. The low cost carriers have increased their market share by 4% and they accounted for 10% of the region's total capacity in 2006. Asia is becoming a two speed market, with high growth rates for low cost carriers and slow growth with regard to full service airlines. Even though the region had an immature low cost carrier market compared to the United States and Europe, it is responding to the high growth rate and building low cost terminals. Kuala Lumpur opened their facility in March 2006, while Singapore's Changi opened a similar facility a week later at a cost of $29 million and $27 million respectively. Jakarta's Soekarno-Hatta airport and Bangkok also announced that they too would construct such terminals. Indonesia's commitment in furthering its air transport market is reflected in its historic landmark when Lion Airlines signed a 25-year agreement with Indonesia's Government to manage Jakarta's secondary Halim Perdanakusuma Airport. Tiger has indicated that the new low cost terminal at Changi has reduced its ground costs by 60% as the carrier has eliminated the use of air bridges to board passengers, saving it $625,000 per year (ATI, April 2006).

Two major prerequisites for the growth and proliferation of low cost carriers are the availability of secondary airports and internet access. Internet penetration is well developed in certain strong economies such as Japan and Korean. In Malaysia, Air Asia has pushed its distribution strategy by offering low fares through its website enticing its passengers to use the Internet. A survey conducted by O'Connell and Williams (2005) on Air Asia's passengers discovered that almost 74% booked online while Table 15 below shows that over 42% of Malaysia's residents now have internet access. This establishes that potential customers who wish to book a ticket on low fare carriers are willing to source out all available options in order to access cheap travel. Research has indicated that there is a multitude of secondary airports especially within Asia, contrary to what many authors such as Lawton, Hooper and Forsyth have opinionated. Table 15 below outlines all the airports that have paved runways exceeding 1,600 metres. As a comparison, Ryanair operates a daily service with a Boeing 737-800 to Derry airport in Northern Ireland whose runway length is 1,672 metres in length. In the Asia Pacific region alone there are 316 airports whose runway lengths exceed 1,600 metres, while there are 248 airports whose runway lengths exceed 2000 metres. In addition, Australia and New Zealand have 188 smaller

airports with runway lengths of more than 1,600 metres as well as 91 larger sized airfields.

Table 15 Asia's Airport and Internet infrastructure (2005)

North Asia	Internet Penetration %	Runway 1,600 m+	Runway 2000 m+	West Asia	Internet Penetration %	Runway 1600 m+	Runway 2000 m+
S. Korea	67.1	7	6	Bangladesh	0.01	7	5
Japan	67.7	60	53	India	4.7	61	137
Taiwan	Unknown	7	7	Pakistan	4.5	34	15
China	8.5	104	90	Sri Lanka	1.3	3	2
Hong Kong/ Macau	70.1	2	2				
South East Asia				**Australasia**			
Vietnam	4.2	12	9	Australia	68.7	81	35
Laos	0.2	2	1	New Zealand	80.2	8	7
Cambodia	0.2	2	2				
Philippines	9.2	28	16				
Myanmar	0.1	10	4				
Thailand	12.9	25	20				
Malaysia	42.3	16	11				
Singapore	57.2	3	2				
Indonesia	7.8	38	25				

Source: CIA fact book, International Telecommunication Union, Centre of Asia Pacific Aviation and ATI

3.4 Concluding comments

Airline deregulation has already a history of thirty years in the US. Elsewhere however, the process of liberalisation has been slow, or has only recently been initiated. In any case, the gales of laissez-faire are blowing strongly with no sign of reversion at present. This changing business environment in civil aviation has been marked by the birth and gradual empowerment of low cost carriers. Had the countries not liberalised their markets, low cost carriers would not have proliferated and certainly would not have gained so much market share in such a short period of time. These carriers have caused a paradigm shift in the traditional marketplace. Their entry causes a two-fold effect; firstly, a *market diversion effect* where air travellers switch from high-fare established route carriers to take advantage of lower fares; and secondly, a *market creation effect*, where low prices induce more travellers into using air transportation either for the first time and/or instead of using other modes, especially in the short-haul markets. The growth rate of low cost carrier traffic has reformed the competitive dynamics within the air transport industry, primarily

because passengers have been induced by lower fares. However, Asia which forms the world's most populated continent is witnessing pockets of excessive growth while other areas are constricted due to the regulatory barriers that are restraining their development. Some Asian low cost carriers have already begun to circumnavigate the regulatory obstacles and have created franchises which are proving to be very successful. India's fast track reforms have completely metamorphosed (in a very short timeframe) the regulatory landscape of a country that had a bureaucratic and archaic structure, subsequently experiencing high traffic growth and boosting economic development. Many organisations envision that Asia will benchmark the step-stone approach that was used in Europe as a way forward for introducing deregulation into Asia.

The low cost carriers have revolutionised the way of doing business in aviation by adopting a fresh approach on both strategic and operational issues. An increasing worry facing the incumbents is that the low cost carriers have capitalised on their achievements and have ordered the majority of the narrow body aircraft from the manufacturers. Thus they have secured most of the interim production slots forcing the incumbents to order later into the financial cycle which has two major repercussions; firstly aircraft prices are very high as the financial cycle is peaking and secondly they run the risk that the arriving aircraft may join the airline during a downcycle, which would cause an adverse effect financially and would certainly widen the divide between the incumbent and low cost carrier.

This chapter highlighted the necessary link between airline deregulation and low cost carrier growth and provided statistics to show the meteoric rise of the latter within a very short period of time. The next chapter complements this analysis by examining the core issue, i.e. why low cost carriers have been successful and what makes them fundamentally different from the traditional airlines.

4 Chapter 4: Challenges posed by Low Cost Carriers

Traditional industries are changing: DVDs have replaced videos and flat screens have made cathode ray tubes obsolete; likewise, low cost (or no-frills) carriers have re-engineered the design of the traditional airline business model and captured significant chunks of the air transport market worldwide. This chapter is divided into three parts: the first part (**section 4.1)** briefly describes the prolific growth of low cost carriers worldwide; the second part (**sections 4.2 – 4.4**) examines in detail the main problems that the low cost carriers are causing for the full service airlines in Europe, US and Asian markets, and how conditions vary within each continent; and the last part (**section 4.5**) analyses the core differences between low cost carriers and full service airlines in the context of product features and operating margins, legacy costs and cost structure, network structure, and ancillary revenues.

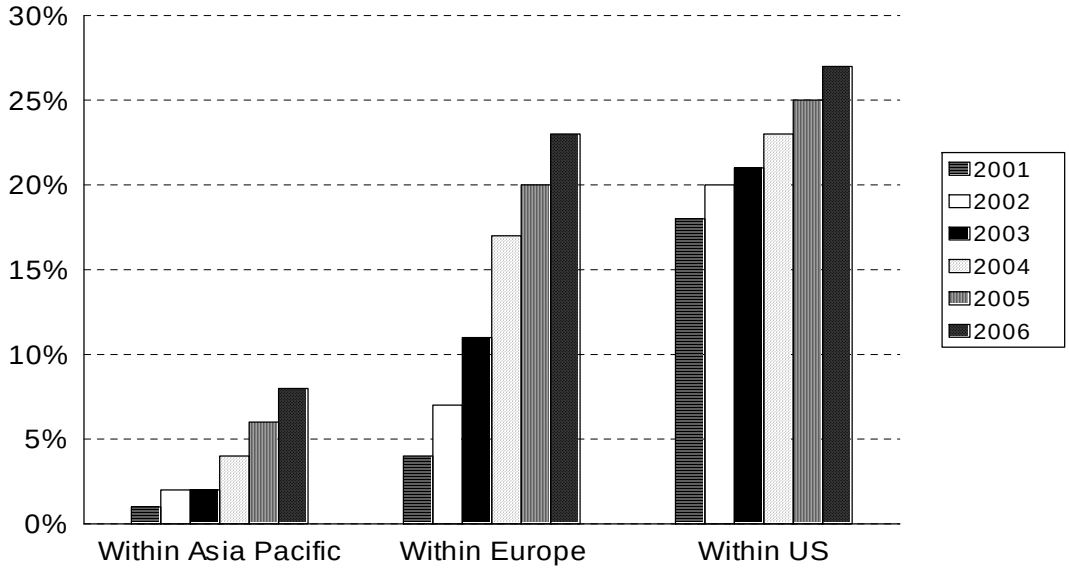
4.1 The growth of low cost carriers worldwide

Low cost carriers have experienced a substantial rise in their seat capacity since 2001, as shown in Figure 16. By March 2006 they had secured 8% of the intra-Asian market, and 23% and 27% of the intra-European and US domestic markets respectively. In other parts of the world low cost carriers have also being growing quickly as Gol gained 25% of the Brazilian market, Air Deccan claimed 10% in India, Virgin Blue acquired 30% in Australia, while Air Arabia had taken 6% of the Intra Gulf market by 2006. OAG (December, 2006) calculated that the total number of low cost carrier seats worldwide was up by 16% over the year 2005/06 and there appears to be no stopping the continuous growth, year after year, of these budget carriers.

There has been a paradigm shift in the airline business since the start of the new millennium, as low cost carriers have won the favour of investors and have altered the strategic thinking of airline directors worldwide. The big market that low cost carriers are now beginning to penetrate is Asia, as deregulation is slowly changing the outdated bilateral rules, thus allowing carriers to operate independent of any regulatory rules. In the US there were two waves of low cost carriers - the first group comprised of 34 budget carriers and, by 1996, all these carriers, with the exception of Southwest, had either been acquired by other airlines or gone out of business (Aviation Systems Research Corporation, 1996). The second wave of low cost carriers were different as they had learnt from the failings of the earlier carriers and had anticipated the problems facing them as they entered service. These included Frontier, AirTran (in its present form) and JetBlue, which were established in 1994, 1997 and 2000 respectively. Southwest, Air Tran and Jetblue had around 16.3%,

2.1% and 2.3% respectively of the US domestic market (seat capacity) by 2005, while the remaining budget carriers had around 4.8% (US DOT DB1A Database, 2006). The overall global air transport market grew by 2% in 2005, with low cost carriers are now becoming a major component of the air transport business environment - OAG stated that the low cost carriers accounted for 17% of all seat sales and 15% of all flights across the world in 2006 (DG TREN, 2006).

Figure 16. The growth of low cost carriers in Asia, Europe and the US (in terms of seat capacity).



Source: OAG (March, 2006)

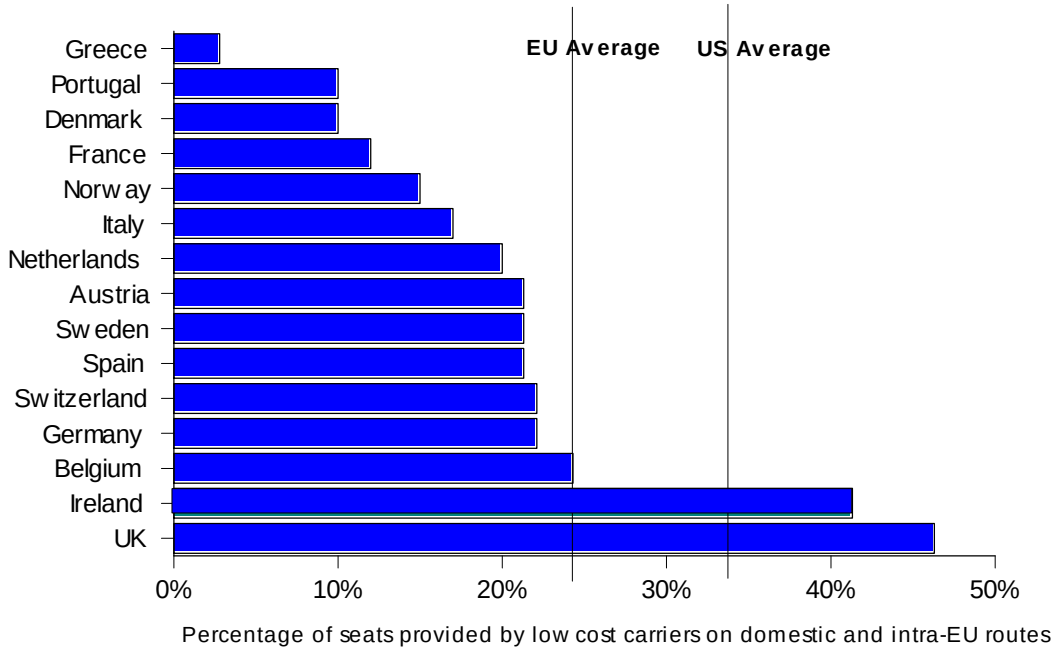
4.2 Problems that low cost carriers are causing incumbents in European markets

Presently, in Europe there are 150 airlines that transport over 2 million passengers every day (Burstrom et al. 2006). Debus (2005) pointed out that there were just two low cost carriers in Europe in 1996 operating to 18 airports, carrying 2 million passengers with just 35 aircraft. However, by 2005 the landscape had completely changed as there were now 35+ low cost carriers operating to 233 airports (i.e. 50% of all European airports), carrying around 100 million passengers with 439 aircraft. In addition, over 50% of all low cost carrier routes that were operating by 2005 had been started in the previous two years (Anra Consulting, 2005) and they are now the main drivers of aviation growth according to figures from OAG. The capacity of budget carriers has doubled in the last four years from 22 million seats on 169,000 flights in September 2002 to 46 million seats on 323,000 flights by September 2006 (DG TREN, 2006). Gillen and Lall (2004) have long argued that low cost carriers lead to a permanent increase in traffic.

4.2.1 Penetration and growth of low cost carriers in Europe

In 1997, around 77% of all intra-European routes were serviced by either one or two full service airlines, and the charter airlines largely controlled the remaining market - the low cost carriers had an insignificant presence (CAA, 1998). However, by 2005 the landscape had completely changed as the average European low cost carrier penetration had grown to around 24%: the UK[43] had become Europe's largest low cost carrier market as 46% of all its intra-European seats were on budget carriers, followed by Ireland at 41% (as shown below in Figure 17). The British Isles have the highest concentration of low cost carriers because it is home to both Ryanair and EasyJet, who have multiple hubs positioned there - these two carriers accounted for around 50% of the low cost seat capacity in the European market in 2005. In the UK domestic market 50% is now served by low cost carriers (CAA, 2006). This is a worrying prospect for the flag carriers of countries such as Italy, Spain and France, which similarly have a large number of passengers taking domestic flights. Evidence from the UK suggests that these domestic markets may become dominated by the budget carriers, despite the fact that incumbents in their home markets have the strongest presence and brand strength. McKinsey Consulting, sourced in European Cockpit Association (2006), estimated that the intra-European market of the full service network carriers and charter airlines had fallen to 66% and 18% respectively by 2004.

Figure 17. Penetration of Low Cost Carriers in Europe (2005)



Source: Official Airline Guide (2005)

[43] The low cost carriers serving the UK market carried 77.5 million passengers in 2005 (51.3 million travelled internationally, while 26.2 million took domestic services).

Low cost carriers are attracting passengers from two primary areas: firstly, they are attracting passengers who otherwise would not have travelled or who would have used other surface means, such as car, rail or ferry; secondly, passengers are shifting from the network airlines to the low cost carriers, and this is severely threatening the future short-haul market of the traditional full service airlines. In its 2000 air traffic forecasts for the UK, the Department of the Environment Transport and Regions (DETR) made the assumption that 30% of the passengers carried by the no-frills carriers would be diverted from existing airlines and that the remainder would be stimulated traffic (DETR, 2000). Data from Hapag-Lloyd Express (2004, p30) indicated that 59% of passengers travelling on budget carriers were new passengers[44], while a further 37% were switching from the network airlines to the budget carriers. A similar study, conducted in 2002 by the European Low Fares Airline Association (ELFAA), confirmed the Hapag-Lloyd study and concluded that approximately 60% of the traffic was stimulated, while the remaining 40% was substitute traffic (ELFAA, 2002; CAA, 2006). Analysis by the Boston Consulting Group (2004) revealed that that the low cost carriers have taken up to 60% of the passenger growth from the legacy airlines, which explains why these carriers have experienced such low annual passenger growth year after year. There is little doubt that the growth in low cost travel is the result of an innovative model that has successfully reduced air fares to a point where they are often cheaper than surface transport (Doganis, 2001; Caves and Gosling, 1999; Barrett, 2000).

The interplay between Europe's low cost carriers and full service airlines is shown below in Figure 18 and Figure 19. Passenger traffic on the London to Barcelona route has increased five-fold from 1995 to 2005, as shown in Figure 18. The incumbents have increased the traffic on the route gradually by adding more frequencies from both Heathrow and Gatwick. However, the growth of the low cost carriers is substantial. easyJet entered the market in late 1995 followed by Ryanair in late 2002, which connected London Luton and Stansted to the nearby towns of Reus and Girona, and both budget carriers supplied seats at lower fares than British Airways and Iberia. These low cost carriers suppressed the growth of the incumbents - surprising because British Airways and Iberia collaborated extensively as they were both members of the Oneworld alliance. Figure 19 (below) shows that Aer Lingus was the only incumbent on the Dublin to Edinburgh market, and traffic grew on the route seven-fold from 1986 to 2000. Go (British Airway's low cost subsidiary), however, entered the market in 2000 followed one month later by Ryanair. The ensuing competition between the incumbent and the two no-frills entrants provided an enormous boost to traffic, which more than doubled within 18 months. A fare war between the carriers subsequently emerged as Ryanair dropped their fares to £29 return, while Go charged £50 and Aer Lingus' fares were the highest (Kemp, 2003,

[44] These new passengers are comprised of the following: 71% would otherwise not have travelled; 15% would have travelled by car; 6% would have travelled by rail; 8% others.

p260). Subsequently, Go withdrew and many of Aer Lingus' passengers switched to Ryanair, and by 2005 the incumbent had 59% fewer passengers than it had six years earlier.

Figure 18. Number of passengers on the London to Barcelona route (1995 – 2005)

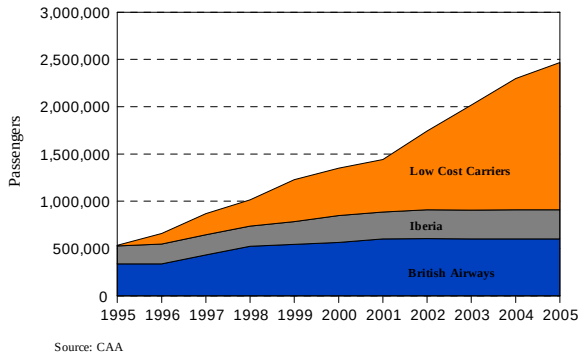
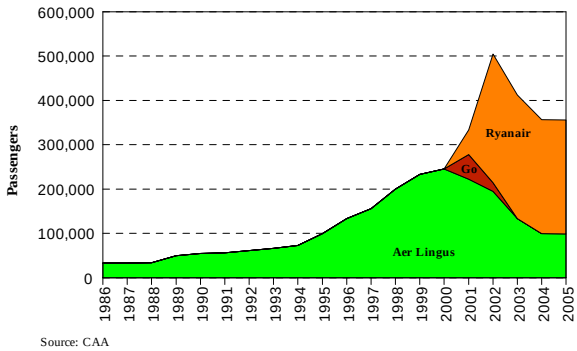


Figure 19. Number of passengers on the Dublin to Edinburgh route (1996 to 2005)



Analysis from CAA data in 2005 showed that the low cost carriers are now a dominant force on almost all the London – intra European markets, as outlined below in Table 16. This sets a precedent for what could happen at other European capitals as budget carriers set up hubs across the EU member states. In the London to Italy market, the budget carriers are beginning to take advantage of Alitalia's weak financial position[45]: Ryanair, for example, has created hubs at Rome Ciampino, Milan Bergamo and Pisa, while easyJet has a base at Milan Malpensa. By 2005, low cost carriers had captured over half of the 12 densest routes between London and Italy causing Alitalia to retract, and it now only flies between two points in Italy (i.e. Rome and Milan) to London (Doganis, 2005). In addition, the table below shows that the budget carriers have gained over 50% of the traffic between London and the cities of Barcelona and Berlin.

Table 16 Market shares of low cost and network airlines from London to various European cities (December 2004)

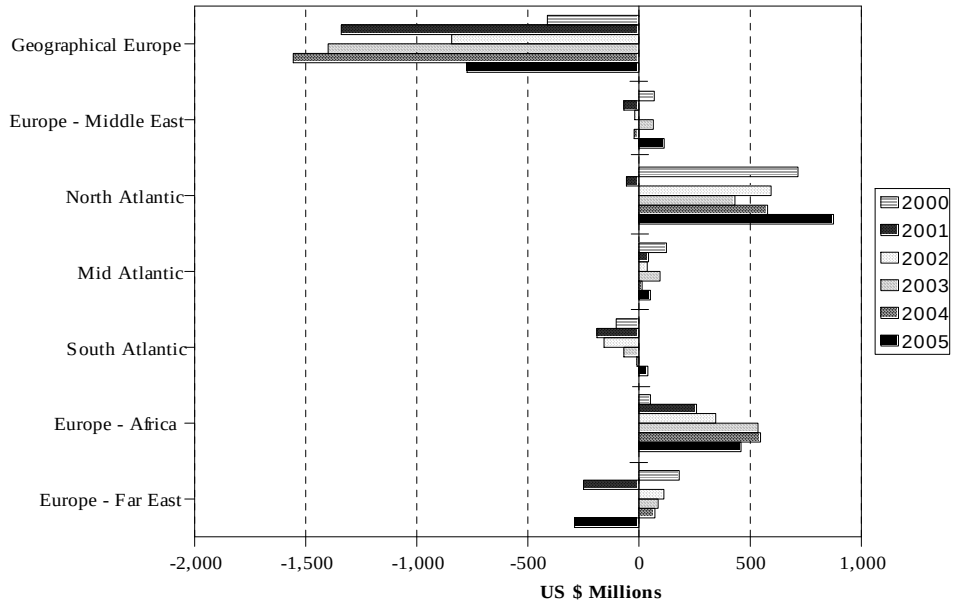
London to:	Low Cost Airline	Incumbent
Rome	Ryanair (35%) easyJet (10%)	British Airways (29%), Alitalia (26%)
Milan	Ryanair (30%), easyJet (8%)	British Airways (37%), Alitalia (25%)
Hamburg	Ryanair (37%)	British Airways (39%), Lufthansa (24%)
Barcelona	Ryanair (27%), easyJet (32%)	British Airways (27%), Iberia (13%)
Berlin	Ryanair (34%), DBA (4%), Air Berlin (16%)	British Airways (45%)

Source: UK CAA

[45] Alitalia has had 7 years of consecutive losses and a net debt of €2.6 billion by the end of its financial year in 2006. It also has had an annual decline of 0.6% in its RPKs from 2000 to 2005.

In Ireland, Barrett (2004) stated that Ryanair had displaced Aer Lingus as the dominant carrier, and that it was transporting 50% of the Dublin-London traffic, 45% of the Dublin-Manchester passengers and 34% of the Dublin-Paris market by 2004. This effect forced Aer Lingus to restructure its business model into a low cost carrier as it was very dependent on its short-haul operations. It implemented the following changes: trimmed its workforce by one-third, reduced distribution costs, enhanced productivity, standardised its fleet and eliminated most of its traditional frills, including phasing out its short-haul business class service. See **Chapter 5** for a detailed account of Aer Lingus' response to the Ryanair threat. Similarly, in the UK, British Airways was also experiencing major difficulties when confronted by low cost carriers in its short-haul markets - because these operations consistently produced losses: British Airways lost around £165 million in 1999 on its short-haul European routes; the following year this doubled to £315 million; and from 2001 to 2004 it lost an additional £600 million (BA Reports & Accounts: 2000-01; 2001-02; 2002-03; 2003-04). It was losing both high-yield business passengers and leisure travellers to the budget carriers. In 1999, BA controlled around one-third of the UK market (i.e. inbound, outbound and domestic), while Ryanair and easyJet had around 9%. However, the situation changed dramatically by late 2004 as Ryanair and EasyJet had accumulated around 34% of this market, while British Airways' share had fallen to around 22% (Sentance, 2004). British Airways, however, is not dependent on it short-haul network like other carriers, such as SAS, BMI, etc., because it derives the bulk of its profits from its North Atlantic operations (the region accounted for £1.5 billion of its operating profits from 2000/01 to 2004/05) while other long-haul markets, such as Africa, Middle East and India, contributed an extra £785 million over the same period.

Figure 20. European carriers net profit by region 2000 - 2005

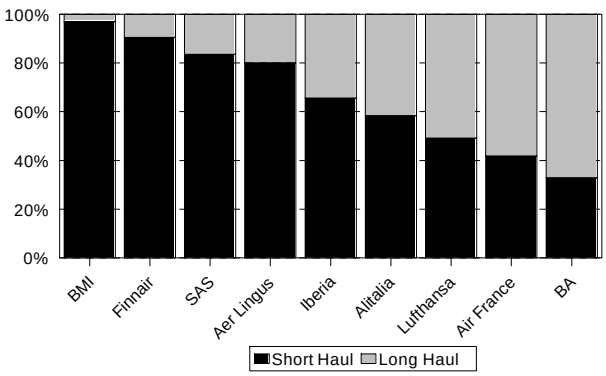


Source: AEA, AEA Market Research Quarterly (2005) and Operating Economy of AEA Airlines 2006, 2005

Figure 20 (above) shows the net profit of the AEA member airlines from 2000 to 2005. It shows that Europe's flag carriers have derived most of their profits from the North Atlantic and the African continent. However, the continuous losses on the intra-European routes are alarming as they lost a total of US$6.3 billion from 2000 to 2005, while the North Atlantic markets made net profits of around US$3.2 billion over the same period. However, the AEA members were able to reduce the losses on the European market, which declined from US$1.5 billion in 2004 to US$0.7 billion in 2005, as they began to directly challenge the budget carriers (Operating economy of AEA airlines, 2004, 2005; AEA Market Research Quarterly, 2005).

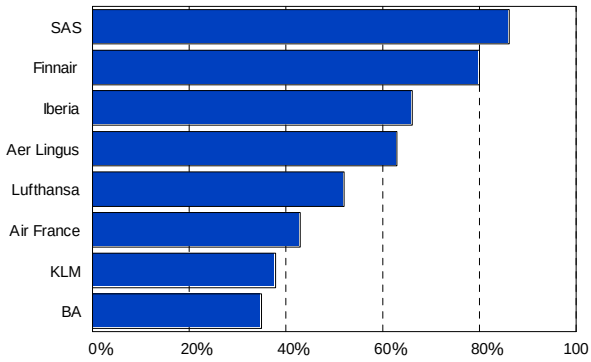
The majority of European network airlines (with the exception of Luxair) have both short-haul and long-haul operations. However, some carriers have a far greater proportion of their network deployed on short-haul sectors and are therefore highly exposed to low cost carriers. Figure 21 (below) shows that almost all of the British Midlands network (96%) is exposed, while other incumbents, such as Finnair, SAS and Aer Lingus, also have a large proportion of their short-haul capacity in competition with budget carriers (Avery 2004). Subsequently, these incumbents generate a sizable proportion of their revenues from their short-haul operations, as shown below in Figure 22. Airlines such as SAS and Finnair, derive over 80% of their revenues from short-haul operations, while Iberia and Aer Lingus generate over 60%. Thus, it is paramount that these carriers remain competitive as they are highly exposed to the low cost carrier threat, and they must react aggressively in order to sustain their market share, at least in their home territory.

Figure 21. The short-haul exposure of the European network (2004)



Source: Company Reports and Avery (2004)

Figure 22. The percentage of total revenues that the short-haul network produced for European Airlines (2004)



Source: Company Reports and Avery (2004)

4.2.2 The loss of the Incumbents' business passengers

Mason (2005) found that 65% of short-haul business travellers took their journeys in premium cabins in the early 1990s. These business tickets had few restrictions attached, allowing carriers to charge premium rates. However, the yield of intra-European passengers travelling on AEA member airlines fell by 41% from 1991 to 2003 as low cost carriers infiltrated markets that were once dominated by full service carriers, and business passengers began switching to budget carriers. Mason (2001) established that this was now a major threat for incumbents as almost 50% of passengers who were travelling on full service had used a low cost carrier in the previous year. A survey by Barclaycard[46] in 2002 confirmed Mason's research as it also found that half of its respondents had travelled on low cost carriers, and three-quarters of those cited that low fares triggered their decision to switch to a budget carrier for their short-haul trip. The Barclaycard survey also pointed out that 63% of those business travellers who did not travel with a low cost carrier would consider doing so in the future (Barclaycard 2002/03). American Express (2005) found in their survey that 30% of business travellers now ranked price as their number one concern when purchasing air travel. Mason (2005) also stated that a survey of US and UK business travellers indicated that they are increasingly using cheaper carriers as an alternative for short haul travel. Both Tarry (2004) and Alamdari (June 2005) confirmed that the number of European business passengers who were travelling on full service airlines was declining. They found that British Midland had witnessed a three fold reduction in the number of business passengers from 2001 to 2003, while the numbers were halved at SAS and KLM over the same period. The average number of business-class passengers travelling on the 24 member AEA carriers dropped from 17.1% in 2001 to 12.1% in 2003. British Airways and Iberia had contemplated removing business class altogether from their short-haul fleet, which indicates the seriousness of the problem facing incumbents; such a decision, however, may significantly impact the incumbents' revenues.

4.2.3 The differences in fares between network and low cost carriers

A major problem facing the network carriers is the difference in air fares between themselves and the low cost carriers. Lawton (2002) pointed out that the average fares of the no-frills carriers were some 40-60% lower than their full service counterparts. To determine the fare difference between low cost carriers and incumbents, a series of fares were collected over a 3-month period[47] in 2002/03,

[46] Barclaycard questioned 2,500 corporate card holders who were in the following positions; CEOs, company directors, managers and executives.

[47] The fares were collected every Friday on the following dates:
1). Friday 13th December 2002 to Friday 28th March 2003
2). Friday 12th December 2003 to Friday 27th March 2004
3). Friday 10th December 2004 to Friday 25th March 2005

2003/04 and 2004/05, and are shown in A**ppendix II.** In particular, **Table 1** in **Appendix II** shows a collection of fares (weekend return) that were taken from the websites of Aer Lingus and Ryanair, who were operating between London Gatwick and Dublin. The data for 2002/03 show a 38% difference between the fares of the budget carrier and the incumbent three months prior to departure, and a 49% difference on the day of departure. However, the fare of the incumbent increased sharply two weeks prior to the departure, by 91%, because the increase captures business passengers who usually book close to departure and penalises leisure passengers for inadequate forward planning. By 2003/04, the fare data show that Aer Lingus had responded to Ryanair's challenge on the Dublin to London Gatwick route, as 3 months prior to departure the fare differential was around 14% and by the day of departure the difference between the carriers was around 28%. The carrier was now operating A320s, having used BAE 146s in the previous year, and the lower unit costs of the Airbus assisted the incumbent in offering a more competitive fare. However, Aer Lingus had withdrawn from the London Gatwick to Dublin market by 2004/05 and subsequently Ryanair increased its fares significantly because of the reduced competition. Barrett (2004) cited that Ryanair's average fare had fallen to €52 in 2001/2, €46 in 2002/3, €40 in 2003/4 and added that the carrier had attracted an extra 12 million passengers during the time when its average fares were reduced by 23%. Part of the Ryanair strategy for market stimulation is to give away free tickets: in 2004 it gave away about a quarter of its seats through numerous promotions, and the carrier speculated that it could give away up 50% in future years if its ancillary revenues, such as in-flight gaming, proved successful (The Independent, 2005; USA Today, 2005). This places enormous pressure on Europe's incumbents, whose operating costs could not justify an attempt to match the fare levels of Ryanair, and who could not sustain operations by giving away free seats.

Table 2 in **Appendix II** shows the difference in fares (weekend return) for British Airways and EasyJet, operating between London Gatwick and Barcelona using Boeing 737 aircraft. The data for 2002/03 show that there was a 34% difference between the fares of the budget carrier and the incumbent three months prior to departure and a 92% difference on the day of departure. By 2003/04, there was a 28% difference between the fares of the budget carrier and the incumbent three months prior to departure and a 64% difference on the day of departure. By 2004/05 the overall fares on the route had reduced and the British Airways' 2005 fare from London Gatwick to Barcelona was now replicating easyJet's fare three years earlier. Nonetheless, easyJet's overall fare had further reduced, and the fare difference between both carriers in 2004/05 was 28% three months prior to departure and the difference on the day of departure had narrowed to 33%. Pels and Rietveld (2004) studied fares between the network and budget carriers on the London – Paris route in 2002 and found that British Airways would only reduce its fares due to low levels of forward bookings. This indicated that the incumbent had not responded aggressively

in counterattacking the threat posed by the budget carriers, and had allowed them to strengthen their market share by not adequately responding through fare promotions.

Table 3 in **Appendix II** shows the difference in fares (one-day return trip – travelling on a Monday) between several carriers that operate on the London to Glasgow route. The fares were collected over an eight-week period[48] for the years 2003, 2004 and 2005. This would represent a typical business trip where an executive would take the earliest flight out in the morning and return later that evening. Most business people book their flights close to departure, and the average fare difference between the low cost carriers and the incumbents was four-fold one-day prior to departure in 2003. Foster (2003) studied the fares between London and Amsterdam for British Airways and easyJet in 2003 and found that the fare differential was eight-fold between the two carriers one-day prior to departure. Many business passengers are tied to corporate contracts which stipulate that they must use that particular carrier for travel, despite the fact that the fare is often much higher than a budget carrier. The fare data for 2004 and 2005 show that the fare difference between Ryanair and the incumbent carriers is four-fold while the difference between easyJet and the network carriers is three-fold, indicating that Ryanair is maintaining a lower cost base, thus passing on these savings to its customers in the form of even lower fares - in this way, it mounts further pressure on incumbents.

4.2.4 The difference in aircraft orders between incumbent and low cost carriers

The number of aircraft ordered by the European low cost carriers is also threatening, as seen below in Table 17. The four leading low cost carriers has over 330 narrow-body aircraft on firm order by March 2005, which is more than twelve-times the combined backlog of the traditional network carriers, and only British Airways has any significant short-haul aircraft commitment with 129 A319s on option. The budget carriers have also filled up the production slots at Boeing and Airbus over the next couple of years - this will provide the necessary capacity for these carriers to expand, while at the same time constraining the growth of the incumbent airlines and forcing them to order later into the economic cycle and ever closer to an economic downturn. If all the low cost carriers' options are exercised, they will catch up with the European incumbents, in terms of fleet size, by the end of the decade. These incoming aircraft will facilitate continued passenger growth, and a study of 13 European countries revealed that there were 431 airports, of which the majority were underutilised because the national flag carriers had concentrated their networks on

[48] The fares were collected every Friday on the following dates:
1) January 26th to 16th March 2003
2) January 25th to 14th March 2004
3) January 30th to 20th March 2005

hub airports (Fewings, 1999). The low cost carriers have taken advantage of deregulation and have expanded across Europe by establishing hubs, while incumbents have remained concentrated within the borders of their own countries. Consequently, budget carriers such as easyJet, will utilise the capacity of the newly arriving aircraft on the following: 'joining the dots[49]' (41%), increasing the frequency (16%) and by developing new routes (41%) (Vandermoere, 2005). Ryanair is aiming to have around 35 airport bases by 2012 with each base averaging around 10-11 aircraft (Aviation Strategy, March 2005). By the end of 2005, only Air France-KLM, Lufthansa and British Airways had carried more passengers[50] than Ryanair and easyJet, but the two are quickly catching up. Overall, this indicates that incumbents are facing one of their most difficult challenges ever and solutions need be found urgently in order to curtail the threat.

Table 17. European Narrowbody fleet (March 2005)

Leading LCCs	Current fleet	Firm orders	Options	Leading Euro-Majors	Current fleet	Firm orders	Options
easyJet	89	94	120	Air France /KLM	191	8	11
Ryanair	79	157	190	Lufthansa	132	-	-
Air Berlin	44	60	42	British Airways	101	7	129
SkyEurope	11	21	11	Iberia	112	5	24
				Alitalia	121	-	-
				SAS	119	6	-
Total orders leading LCCs	223	332	363	Total orders leading Majors	776	26	164

Source: Aviation Strategy (March 2005) and SkyEurope

4.3 Problems that low cost carriers are causing incumbents in US markets

The US is the world's largest air transport market and, in 2005, the Air Transport Association[51] (ATA) members carried around 738 million passengers, up 18% from 2001. The last year that the US majors had reported a net profit ($2.5 billion) was in 2000 and a lot has changed since then, as they faced multiple problems including: 9/11 terrorist attacks, the sudden decline of the dot.com industry (critical component of their business class passenger revenues[52]), high operating unit costs, increasing

[49] easyJet will begin to operate from its European mainland hubs to its other hubs e.g. Madrid to Rome, Paris to Barcelona, Milan to Athens, etc.
[50] By the end the financial year 2005 Air France-KLM carried 70 million passengers while Lufthansa and British Airways carried 51.2 and 35.6 respectively. In contrast Ryanair and easyJet carried 34.5 and 29.6 million respectively for the same year.
[51] In 2005, the ATA members comprised of 20 Majors (airlines that generate more than $1 billion in revenues each year); 33 national (airlines that generate between $100 million and 1 billion each year); 31 regionals (airlines that generate less than $100 million each year) and 55 commuters (airlines with aircraft that carry 60 or fewer seats) (ATA, 2006)
[52] IBM for example spent nearly US$340 million on domestic U.S. air travel in 2001 (IBM, 2003).

debt[53], falling yields[54] and the threat posed by the low cost carriers which were increasingly encroaching on their domestic markets. In addition, there was an over capacity in the market as the Legacy carriers added 750 mainline and 575 regional jets in the late 1990s, adding to their financial problems. Subsequently, from 2001 to 2005 they posted net losses of almost $35 billion[55] (ATA 2006). By early 2005, 41% of the US domestic seat capacity was provided by airlines in bankruptcy protection.

4.3.1 Growth and Penetration of low cost carriers in the US

In 1994 low cost carriers only had around 8% of the US domestic market - Southwest was the dominant competitor. Gittell (2003, p7) stated that Southwest has grown at a steady rate of between 10-15% per annum, has an unbroken string of 34 consecutive years (to 2006) of profitability, and that it was unaffected by the negative shocks that rippled through the industry[56]. In a Department of Transport study cited by Lawton (2002, p143), the total number of passengers in US markets with low fare airlines tripled, while the number of passengers without access to low fare carriers fell. By the mid 1990s, almost 40 percent of passengers within the US were flying in markets where a low fare competitor existed, compared with less than 15 percent in 1988. This phenomenon is now commonly known as the 'Southwest effect' and it is characteristic with an increase in enplanements and a decrease in average fares from a particular community after service is inaugurated by a low cost carrier (Windle and Dresner, 1995; Windle et al., 1996; Southwest Airlines 1999). Lee (2003) gives a view of the rapid growth of the low cost carriers in comparison to the Majors (in terms of the top 1000 airport pairs served in the US domestic market). Analysis from the Department of Transport's DB1A Database revealed that Southwest, Air Tran and Frontier had increased their number of airport-pairs in the top 1000 US markets by 40%, 568% and 320% respectively between 1995 and 2000. Subsequently, Majors such as American, Delta, United and Northwest had increased/decreased theirs by -17.4%, 8.8%, 14.7% 4.3% respectively over an eleven-year period from 1990 to 2000, demonstrating the speed at which these low cost carriers were infiltrating the most important US markets. Thretheway (2004) explained that, at the start of the new millennium, low cost carriers had operated 688 aircraft out of a total of 5570 US registered aircraft (12.3%), provided capacity of

[53] By late 2005 the US Air Transport Association stated that US airlines accumulated approximately $100 billion in debt, up 41% since 2000. American Airlines for example repaid $957 million in 2005 to service its debt, which represented 5% of sales (Air Transport World, July 2006 p30).

[54] The yield of Legacy carriers in the US fell by around 17% from 2000 to 2004. United Airlines for example reported that the proportion of its domestic revenues from its premium passengers (business class and unrestricted economy) fell from 41.0% in 1999 to 19.8% in 2003 (GAO-05-834T; US DOT DB1A database).

[55] ATA member airlines lost $8.2 billion in 2001; $11 billion in 2002; $2.3 billon in 2003; $7.6 billion in 2004 and $5.6 billion in 2005.

[56] During 2001, arguably one of the worst years in United States aviation history, Southwest remained profitable, earning $511.1 million on revenues of $5.55 billion.

106 billion available seat miles (ASMs) versus 999 billion for all carriers (10.6%), and earned US$12.5 billion (9.1%) of the total US$138 billion in system wide revenues. By 2001 Southwest's market share had risen to 15.7%, placing it slightly above Delta (15.1%) and making it the industry's largest carrier in terms of O&D passengers (Lee, 2003). Aviation Strategy's (June 2004) research showed that between 1998 and 2003 Southwest's domestic capacity (ASM) share rose from 7.7% to 11.5%, while the legacy carriers' ASM share fell from 83.3% to 74.1%.

In recent years Southwest has further pressurised the Majors by entering primary airports, such as Dulles (United hub), Denver (United hub), Pittsburg (US Airways hub) and Philadelphia (US Airways hub), and is moving back to San Francisco (United hub) - all this proving challenging for the Majors because Southwest enters a market with the aim of dominating that market (Gittell, 2003). This is clearly evident from when Southwest entered Pittsburgh (US Airways hub) in early 2005 as it captured 12% of the airport's market within a year, causing US Airways market share to decline by 19% (ATI, July 2006). By 2005, Southwest controlled 70% of the intra-Texas and intra-California markets, and had a 65% share in its top 100 O&D markets (Southwest Annual Report 2005): it was a dominant and financially strong carrier as its market capitalisation in 2005 was equal to British Airways, Air France and Lufthansa combined (finance.yahoo.com). By 2006 it was carrying almost 84 million travellers, up 32% from 2002, with 473 aircraft and was carrying more domestic passengers than any of the other majors. In addition, AirTran, which is the seventh-largest US airline by market value, has also been consistently profitable over the last several years and has increased its share of the local origin-demand market in Atlanta[57] (home of Delta) from 9.9% in 1998 to 14.1% in 2004, and it has challenged every route that Delta operates (US DOT Form 41). It quickly replaced US Airways at Baltimore/Washington after the incumbent withdrew from that market. By 2006, it was carrying 20 million passengers, twice the number compared to four years earlier with 127 aircraft, and had around 2.5% of the US domestic market.

In 2000 JetBlue entered the US market and was one of the best-funded start-up airlines in US history with an initial capitalisation of $130 million. Within seven years of operation, it was carrying 18.5 million passengers, attracted by its unique features such as its Live TV[58], 32"seat pitch, new aircraft, wide overhead bins, frequent flyer program, etc. In addition, it positioned itself at New York[59], which did not have an established low cost carrier. Moreover, JFK was not slot constrained,

[57] Low cost carriers market presence at various hubs across the US for 2002 are listed as follows: Chicago, 31.1%; Miami, 27.0; Houston, 32.3%; Detroit 17.9%; Memphis 6.7; Denver 18.5%; San Francisco 35.9; Washington DC 23.5%; Philadelphia 8.2%; Pittsburg 6.3% (US DOT DB1A DATABASE 1990-2002)

[58] JetBlue purchased the Live TV service in 2002 for US$ 82 million (Wynbrandt, 2004).

[59] There are 18 million people in the New York metropolitan area and the airline was awarded 75 slots at JFK to be phased in over three years.

which allowed the carrier ample room to expand. Rhoades and Tiernan (2005) explained that Jetblue's rate of growth has been one of the highest in the industry as it increased its number of departures by 748% in its first five years, and by 2005 it had 2.5% of the US domestic market. OAG (December 2006) showed that US low cost carriers had around 27% of the total capacity[60] in 2006.

Figure 23 (below) shows the changing market dynamics between low cost carriers, regional and full service airlines over the last six years and it clearly shows that the network carriers have lost a significant number of passengers. In the US domestic market, the capacity share accounted for by the regional airlines has increased from 5% in 1980 to 21% in 2005 and they now carry around the same number of passengers as the low cost carriers. These regional airlines are either contracted or owned by the network carriers and provide feed traffic from secondary and tertiary cities into the hubs of the Majors, and they are being used extensively by Majors whose capacity is being deployed to their international operations. In 2003, more than 60% of the regionals' flights fed into the hub-and-spoke infrastructure of the US majors (US Bureau of Transportation Statistics, 2004). The low cost carriers also increased their market share in parallel with the regional carriers, and by 2005 had around a quarter of the market, with most city-pairs encountering continuous low cost carrier growth[61].

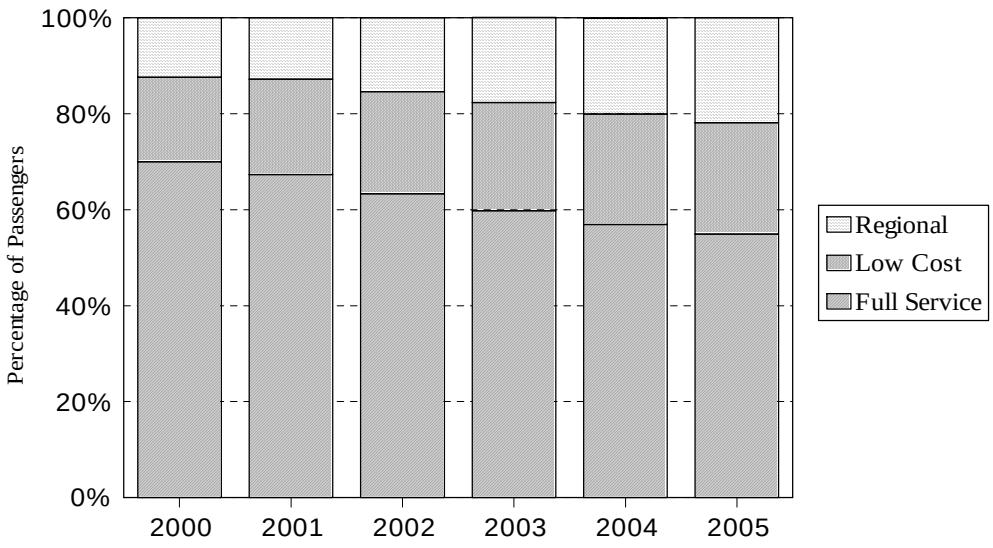
Research group JP Morgan stated that Delta, United, US Airways, American and Northwest had reduced their domestic capacity by 28%, 24%, 23%, 23% and 22%, respectively between 2000 and 2006 (Aviation Strategy, June 2006). This left a void in the market which was quickly replaced by capacity supplied from low cost carriers. The FAA (2006) stated that the large capacity cuts by the legacy carriers triggered an 18.5% fall in the number of enplanements from 2000 to 2005, while the number of low cost carrier enplanements grew by 38% over the same period. As a result, the legacy carriers' share of domestic capacity fell from 79.5% in 2000 to 66% by 2005 (FAA, 2006).

[60] The total number of seats offered by all the US carriers in 2006 was 899.4 billion seats and the low cost carriers supplied 239.1 billion.

[61] The following city pairs experienced the following low cost market share growth in years 2000/01/02/03;

1) Atlanta – Los Angeles: 5% growth in 2000, 10% in 2001, 7% in 2002, 23% in 2003 (Los Angles included the airports of Los Angeles International, Burbank, Long Beach, Ontario and John Wayne).
2) New York – Los Angeles: 11% in 2000; 17% in 2001; 28% in 2003; 31% in 2003 (New York included the airports of JFK, Newark and LaGuardia and for Los Angeles airports see note 1 above (USA TODAY analysis of the DOT data provided by Back Aviation Solutions, March 16th 2004).

Figure 23. Changing market dynamics between US full service, low cost and regional airlines 2000-2005



Source: DOT Form 41 and Form 298C

Table 18 (below) shows the market exposure (in terms of passengers in Origin and Destination markets) of the major network airlines to low cost carriers. By 2005, over 70% of all American Airline passengers could also have chosen a low cost carrier to get to their final destination, while almost three-quarters of all United Airlines domestic passengers could have done the same. The data reveal that on average around 63% of all passengers travelling on US Majors could have taken a low cost carrier and that this is steadily rising with each passing year. Research conducted by Booz Allen and Hamilton (2002) showed that the US low cost carriers have the potential to operate in more than 70% of the US market.

Table 18. Proportion of Domestic O&D Passengers by Major airline in markets with Low Cost Carrier Competition

Majors	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05
American	24.2	27.8	33.5	32.4	32.9	41.5	53.1	56.2	62.0	65.9	71.1	71.3	70.2
Continental	29.3	33.1	38.1	39.7	39.0	39.6	46.5	49.7	63.7	65.1	68.4	66.8	64.7
Delta	18.3	27.9	35.0	37.6	36.4	37.8	43.9	45.3	51.4	52.2	54.5	53.4	56.2
Northwest	14.6	21.8	24.2	25.0	23.6	32.2	46.5	48.1	50.2	49.2	54.7	55.1	55.2
United	29.3	33.6	41.5	45.3	45.8	52.5	62.7	65.8	71.7	76.6	75.0	74.7	74.0
US Airways	6.2	10.8	18.9	19.8	19.0	21.4	25.4	32.7	38.5	39.8	45.9	45.0	58.2

Source: U.S. DOT DB1A Database 1990 – 2002; Ito and Lee (2003); Lee (2007)

Note: LCCs include Air South, Access Air, Air Tran, American Trans Air, America West (2003 onwards), Eastwind, Frontier, JetBlue, Kiwi, Morris Air, National, Pro Air, Reno, Southwest, Spirit, Sun Country, ValuJet, Vanguard and Western Pacific.

Table 19 (below) shows the financial exposure of the Majors to the low cost carriers. By 2002, over half of Alaska Airlines' domestic revenues were exposed to the low cost carriers, while almost 70% of United's domestic revenues were at risk from low cost carriers. This exposure has created many problems for United Airlines: it lost $7.4 billion[62] from its North American operations between 2001 and 2005, while in comparison it lost $1.6 billion from its Pacific operations and a further $1 billion from its North Atlantic market over the same time period, showing that the domestic market is presently the carrier's greatest challenge (United Airlines annual report 2001, 2002, 2003, 2004 and 2005). By mid 2006, statistics showed that a much larger proportion of the domestic revenues of network airlines[63] had become exposed to low cost carriers, as 42% of United Airlines domestic revenues, for example, were exposed to Southwest alone and an additional 17.1% and 15.5% were compromised by JetBlue and Frontier respectively. Similarly, almost fifty percent of Delta's domestic revenues were threatened by both Southwest and AirTran (www.darinlee.net/stats.html). This is one of the primary reasons why Majors are deploying their capacity to international operations where they compete with carriers with similar cost levels, thus becoming more competitive as they face insurmountable problems in the US domestic markets.

Table 19. Proportion of Domestic Revenues generated in markets with Low Cost Carrier Competition

Majors	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02
Alaska	2.7	2.3	6.1	47.0	44.0	53.9	64.8	65.0	59.0	59.8	53.0	52.3	51.8
American	10.7	10.8	11.1	16.1	17.7	24.2	25.2	23.9	30.2	39.7	43.9	50.0	57.1
Continental	11.3	10.4	12.1	20.3	27.0	32.4	35.2	31.9	33.1	39.7	43.5	58.3	60.1
Delta	4.3	4.7	4.5	11.6	21.4	28.8	31.5	28.8	31.0	35.4	36.1	42.5	44.0
Northwest	7.6	7.3	7.4	8.8	13.8	17.8	19.5	18.2	26.8	41.8	44.1	46.8	42.6
United	7.2	8.9	9.5	22.9	25.3	33.3	41.2	40.2	46.5	53.4	57.2	64.1	69.0
US Airways	5.8	3.9	3.4	4.5	7.9	18.7	17.7	11.6	17.1	17.9	25.5	32.6	35.1

Source: U.S. DOT DB1A Database 1990 – 2002; Ito and Lee (2003).

Note: LCCs include Air South, Access Air, Air Tran, American Trans Air, Eastwind, Frontier, JetBlue, Kiwi, Morris Air, National, Pro Air, Reno, Southwest, Spirit, Sun Country, ValuJet, Vanguard and Western Pacific.

[62] United Airlines lost the following amounts in its North American market (US $Billions); $1.7 in 2001, $2.3 in 2002, $1.2 in 2003, $1.4 in 2004, $729 in 2005

[63] The domestic revenue exposure of each network airline to low cost carriers in mid 2006 are listed below:

1). United Airlines: Southwest, 42.7%; JetBlue, 17.1%; America West, 16.4%; Frontier 15.5%; AirTran, 8.2%; ATA, 7.2%; Spirit, 1%.

2). American Airlines: Southwest, 33.8%; JetBlue, 16.7%; America West, 15.9%; AirTran, 12.4%; Spirit 6.3%; ATA, 5.1%; Frontier 4.4%.

3). Delta: AirTran; 23.4%; Southwest, 21.1%; JetBlue, 12.5%; America West, 10.9%; Frontier, 4.6%; Spirit, 2.3%

4). Continental: Southwest, 34%; JetBlue, 24%; America West, 11.9%; AirTran, 5.7%; ATA, 4.6%,Spirit, 2.6%

5). Northwest: Southwest, 17.5%; America West, 16.7%; AirTran, 14.1%; Spirit, 8.5%; Frontier, 7.9%; JetBlue 1.9%

6). US Airways: Southwest, 36.3%; AirTran, 23.5%; JetBlue, 14.6%; Spirit, 2.1%; Frontier 0.9%. (www.darinlee.net/stats.html)

4.3.2 The differences in fares between a US network and low cost carriers

To determine the fare difference between a US low cost carrier and an incumbent, a series of fares were collected over a 3-month period[64] in 2002/03, 2003/04 and 2004/05, and are shown in **Table 4, Appendix II.** Fares (weekend return) were collected from the websites of United Airlines and Southwest operating between Oakland and Los Angeles. The data for 2002/03 show a 26% difference between the fares of the budget carrier and the incumbent three months prior to departure, and a 33% difference on the day of departure. By 2003/04, the fare data show that the fare of both carriers had fallen overall from the previous year but the fare difference between United and Southwest was 21% three months prior to departure. By 2004/05 the average fare on routes for both carriers fell again, but the fare of Southwest remained below that of United by an average of 19% over the three month collection period. This indicates that when United drops its fares, Southwest reacts accordingly with an even lower fare, making it difficult for the incumbent to sustain a competitive advantage. Booz Allen and Hamilton (2002) have stated that Southwest typically prices its fares 50% lower than incumbents in one to two hour markets, reducing the price realisation of traditional carriers in those markets by 25 to 35%.

4.3.3 The Transatlantic Push

US major airlines have long dominated the long-haul internal US markets as low cost carriers traditionally have operated on shorter distances (e.g. between 400 – 600 miles). However, this landscape is changing dramatically as the low cost carriers have also been stretching their average stage length and challenging the Majors on both medium and long-haul domestic routes. The European Cockpit Association (2006, p40) indicated that the average sector length of US low cost carriers was around 540 nautical miles in 1999 but had increased by 50% by 2002. SH&E Consulting (2006) confirmed, from a study, that the 0-500 mile market was declining rapidly, while the 500-1,500 mile and over 1,500 mile market had increased by 5.2% and 5.5% respectively from 2000 to 2004. Field (2006) stated that the average trip length of Southwest has nearly doubled in the last 12 years from 495 miles (800km) in 1992 to 793 miles (1,280km) by late 2005. Similarly, Jetblue now offers multiple frequencies on US transcontinental routes between the east and west coast on its narrowbody A320s, competing directly with American Airlines out of the New York market. The US low cost carriers are now catching up with the Majors in long-haul

[64] The fares were collected every Friday on the following dates:
1). Friday 13th December 2002 to Friday 28th March 2003
2). Friday 12th December 2003 to Friday 27th March 2004
3). Friday 10th December 2004 to Friday 25th March 2005.

US domestic markets and have been depressing yields; this is forcing the Majors to take another step forward by developing their international operations where low cost carriers have not yet threatened.

The average US domestic yield has declined by 2% annually over the last two decades, following deregulation in 1978. However, in recent years the decline in yield has been accelerating: it measured 14.03 cents/RPM (real terms) in 2000, falling to 11.46 cents by 2004, averaging a 3.5% reduction per annum (FAA, 2006). However, the yield on international routes has remained relatively steady over the last few years and the network carriers are now beginning to shift their capacity internationally. North Atlantic and Pacific yields have both hovered at around 9.2-9.5 cents/RPM from 2000 to 2004, while the Latin American routes are higher at 13 cents/RPM over the same time period (ATA, 2005). In 2004, the US majors had a large percentage of their capacity operating within the US, with carriers such as Delta and American having around 76% and 68% respectively of their capacity operating on domestic routes. The majors have been retreating from domestic markets by redeploying the majority of their wide-body capacity to international operations. Delta, for example, has redeployed 20 767s from its domestic network and, in the second quarter of 2006, it increased its international capacity by 21.5% compared to the year's previous quarter, adding 50 new international routes to 20 overseas destinations in the previous 12 months. In 2006, Delta served 29 destinations in Europe, 48 in Latin America and will launch routes to Dubai, Seoul, Johannesburg, Dakar and Accra by the end of 2007, and has also applied to operate into the Chinese market. In 2006, Delta's international capacity rose by 20.1%, while domestic ASKs fell by 13.9%. - this reduction in domestic capacity leaves a gap in the market which will be quickly filled by the low cost carriers, exacerbating the problem (Field, 2006; ATI October 2006; Aviation Strategy October 2005; Delta news 2006).

United Airlines has invested $165 million in upgrading its first and business class seats on its international services as it had around 40% of its capacity deployed on international routes: it increased its capacity on routes to Asia by 15% and 13% in 2004 and 2005 respectively, and by July 2006, it added another 40 weekly flights to the region, having 44% of its total capacity in the Pacific (ATI March 2006; Bureau of Transport Statistics 2006). Field (2004) stated that United planned to derive more of its revenue from flying between the USA and Asia, Europe and Latin America than from its domestic operations as its overall international activities accounted for 46% of revenues in 2004 and it targeted 55% for the following year. Similarly, Continental Airlines has deployed a large number of its 172-seat Boeing 757s to transatlantic operations, travelling to many European cities that did not previously have a non-stop US connection, including Belfast, Bristol, Edinburgh, Berlin, etc., increasing transatlantic capacity by 19.5% in 2006 (Shifrin, 2006). By 2006, the US

had 73 open sky agreements - many of these have not been taken up by US carriers, but they must be cautious as switching capacity from domestic to international creates voids in the market, allowing low cost carriers to strengthen their position. This is a major threat as the US based low cost carriers have also been ordering aircraft, while the network airlines have been unable to do so (except for their regional airline affiliates). Coombs (2003) reported that US low cost carriers will have increased their fleet size from 776 aircraft in 2004, to 1,030 by 2006, while SH&E (2006) shows that Southwest, JetBlue and AirTran have 118, 153 and 52 aircraft respectively joining their fleets over the period 2006 – 2010.

4.4 Problems that low cost carriers are causing incumbents in Asia-Pacific markets

Asia's low cost carriers have only been in operation for the last few years, and the market that they are operating in would be regarded as an immature one. However, they have caused problems for incumbents in Australia and Malaysia, which sets a precedent for what could happen in other Asian countries.

4.4.1 Growth and penetration of Virgin Blue and Air Asia

In Australia, Virgin Blue was formed in August 2000 and, a year later, it was advantageously positioned when Australia's second largest airline, Ansett, collapsed. The failed carrier had 40% of the domestic market and this allowed Virgin Blue to capture 30% of the market within a short time (Easdown and Wilms, 2002 and Forsyth, 2003). In 2003-04, the Australian domestic market generated profits (before interest and tax) of $420 million for Qantas, exceeding its international profits by $120 million, and indicating the importance of Australia's domestic market and the need to protect it from low fare competitors (Airline Weekly 2005, p12). Today, the Virgin Blue group (which includes Virgin Blue, Pacific Blue and Polynesian Blue) employs more than 4,000 and operates 2,100 flights each week to 30 Australian and international destinations, including New Zealand, Vanuatu, the Cook Islands, Fiji, Tonga and Samoa. Domestically, Virgin Blue serves 22 destinations, with the majority of flights to/from three cities – Brisbane, Sydney and Melbourne.

Virgin Blue, however, has expanded beyond the normal delineations of a low cost carrier as it code shares with United Airlines and Virgin Atlantic, providing onward connections for international passengers within its network. It has not adhered to the traditional low cost model as it has a frequent flyer program[65] and it also appeals

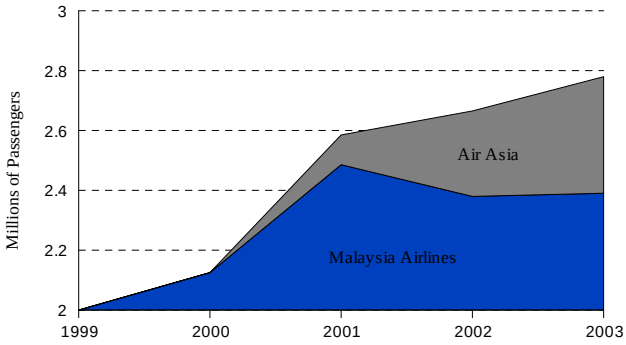
[65] Virgin Blue's frequent flier program operates in conjunction with Emirates, Europcar, National Australia Bank and Virgin Atlantic Airways.

directly to corporate business passengers as it offers a fully refundable fare. This has attracted the business community as its yield increased by 2.6% in 2006 - this action pressurised Qantas to respond by lowering their business fares, which had a cascading effect on their own yield (Virgin Blue 2006). The budget carrier also retrofitted all its Boeing 737-700/800s to accommodate back-of-seat personal television screens in order to gain a competitive edge over Qantas, and it has also challenged Qantas and Air New Zealand on their cargo duopoly by carrying freight in the belly-hold of aircraft flying between Australia and New Zealand through its Pacific Blue affiliate.

In the Malaysian market, Air Asia entered into service in January 2002. Without the structural costs of its legacy rival, Malaysia Airlines, it offered promotional fares as low as RM 1 (US$0.27) and advertised extensively, while the incumbent only advertised internationally, neglecting its home market. AirAsia soon made inroads into the Malaysian market and by 2006 it had 50% of the domestic market (Air Asia, 2006). It then expanded into international markets by launching affiliate Air Asia branded airlines in Indonesia and Thailand from where it operated intra-Asian routes such as to Singapore in 2003, Macau in 2004, and to China, the Philippines, Vietnam and Cambodia in 2005. The carrier has ordered a total of 180 A320s (as of March 2007) and aircraft will arrive at the rate of one or two a month till 2011. In order to facilitate the growth of Air Asia, the airport authority at Kuala Lumpur has built a low cost terminal with a throughput of 10 million passengers, charging 40% lower fees than its main terminal. Subsequently, another new terminal is being built in Kota (Eastern Malaysia), stressing how quickly the region is adapting to low cost carrier growth (Centre of Aviation Pacific, 2006). By 2007, Air Asia had four bases in Malaysia, including Kuala Lumpur, Johur Bahru, Kuching and Kota Kinabalu.

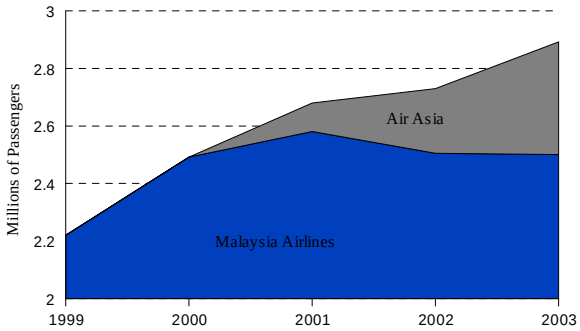
The growth of Air Asia in the Malaysian market is similar to that seen in Europe. Figure 24 and Figure 25**,** below, show the no-frills carrier growing its markets out of Kuala Lumpur while Malaysia Airlines' market share has declined. Ionides and O'Connell (2004) reported that many passengers are first time flyers as only 6% of Malaysians have used air travel, but many are also switching from the Malaysian incumbent to avail of the lower fares.

Figure 24. Market share of Malaysia Airlines and Air Asia from Kuala Lumpur to Penang



Source: Malaysia Airports

Figure 25. Market share of Malaysia Airlines & Air Asia from Kuala Lumpur to Kota Kinabalu



Source: Malaysia Airports

Air Asia has become a huge threat to the Malaysian incumbent whose problems are two-fold[66]: firstly it is in serious financial difficulty and, secondly, it is unable to compete with Air Asia's low unit costs. The incumbent is also heavily financed, regulated and controlled by the government which has contributed to its problems. In the domestic market the Government had subsidised all routes and assumed all losses, which cost an estimated US$135 million each year; this form of protectionism made the incumbent operate in an un-commercial nature, relying on continued government support (CNN Money, 2006). In a landmark restructuring deal, the government concluded that Malaysia Airlines would not become profitable in its domestic operations and withdrew from the majority of its domestic routes, while a leaner and more agile Air Asia took over the responsibility of the domestic operations. In a further example of bureaucracy and government ownership, the government compensated the Malaysian incumbent with $236 million in exchange for giving up its loss making routes, while Air Asia received a $5 million subsidy to service some of the rural routes (CNN Money, 2006). Doganis (2001) argued that state-owned airlines[67] are characterised by bureaucratic and politically interfering governments. Malaysia Airlines has now retracted from its domestic market because it was unable to compete with Air Asia, and it is also probable that it will withdraw from intra-Asian markets as low cost carriers begin infiltrating, thus becoming a long-haul carrier with an unclear future.

[66] Malaysia Airlines has had a consistently underperforming profit margin of only 0.3% for the last number of years and has accumulated debts totalling $2.6 billion. In addition its unit costs are around 6 US cents per ASK and it competes with Air Asia that had the world's lowest operating costs in the airline industry at 2.3 US cents per ASK in 2005 (O'Connell and Williams 2005).

[67] Doganis (2006, p226) lists 38 airlines that are 100% Government owned; 32 airlines that are more than 50% Government owned and 15 airlines that are between 10-49% Government owned.

4.4.2 The differences in fares between an Asian network airline and a low cost carrier

To determine the fare difference between an Asian low cost carrier and an incumbent, a series of fares were collected over a 3-month period[68] in 2002/03, 2003/04 and 2004/05, and are shown in **Table 5** and **Table 6** in **Appendix II.** Fares (weekend return) were collected from the websites of Qantas and Virgin Blue and for Malaysian Airlines and Air Asia. **Table 5** shows the different fares for Virgin Blue and Qantas operating between Sydney and Brisbane. The incumbent had more flights per day than Virgin Blue and this flight frequency provided it with a competitive advantage which may justify a fare premium. The data for 2002/03 show that there was a 55% difference between the fares of the budget carrier and the incumbent three months prior to departure and a 48% difference on the day of departure. It was clear that Qantas could not compete successfully with Virgin Blue so, as a competitive response, it setup Jetstar which had a lower cost base and could counter attack Virgin's low fares. The data for 2003/04 show that Qantas had responded by cutting fares - Virgin Blue's fares had increased slightly from the previous year but there was still an average difference of 20% between the fares. By 2004/05 the difference in fares between the two carriers three months prior to departure was 29% and was 22% on the day of the departure, indicating that Qantas could not close the fare gap on its low cost carrier rival which was operating on the route for around five years.

Table 6 in **Appendix II** shows the different fares for Air Asia and Malaysia Airlines operating between Kuala Lumpur and Kuching. The incumbent had 40% more flights per day than Air Asia and operated the short route with a mix of 737s and wide-body A330s. The data for 2002/03 show that there was a 183% difference between the fares of the budget carrier and the incumbent three months prior to departure and a 75% difference on the day of departure. The air fare of the incumbent remained at the same level during the three month collection period which meant it was very difficult to manage its load factor as passengers had no incentive to book early with most booking close to the day of departure, while Air Asia applied yield management principles to boost its load factor and revenues. Data taken for 2003/04 were roughly the same as the previous year. O'Connell and Williams (2005) confirmed that the fare (return) difference between Air Asia and Malaysia Airlines on the Kuala Lumpur – Kuching route had varied between a low of 75% to a high of 191% and that the incumbent cut domestic fares by 50% (funded by Government subsidies) in 2004 to compete more effectively with Air Asia. By 2004/05, Malaysia Airlines had implemented its online booking engine and was using yield management principles. These effects had a large impact on fare

[68] The fares were collected every Friday on the following dates:
1). Friday 13th December 2002 to Friday 28th March 2003
2). Friday 12th December 2003 to Friday 27th March 2004
3). Friday 10th December 2004 to Friday 25th March 2005.

differences between Malaysia Airlines and Air Asia in 2004/05 as there was a 34% difference between the fares three months prior to departure and a 44% difference on the day of departure. Even with the help of the Malaysian Government, the incumbent still could not compete with Air Asia and this should act as an indicator to other weak Asian flag carriers, such as Garuda, Philippine Airlines, etc., that they need to respond to low cost carriers before these begin to establish bases in their countries.

4.5 Core differences between low cost carriers and full service airlines

The five principle differences between low cost carriers and full service airlines are as follows:

- Product differences
- Legacy costs
- Cost structures
- Network (hub and spoke verses point to point)
- Ancillary Revenues

4.5.1 Product differences

Several authors (e.g. Barkin et al., 1995; Doganis, 2001; Gilbert et al., 2001; Williams, 2001; Lawton, 2002, O'Connell and Williams 2005) have extensively described the characteristics of the low-cost business model. Table 20 (below) summarises these features and contrasts them with those of a typical full-service carrier.

Full service airlines remain the most dominant airline business model in the air transport industry and they sustain multiple differentiating features, despite a tendency to reduce some services in order to compete on a similar unit cost platform as budget carriers. Incumbent brands attract leisure and business passengers who can book tickets through a multitude of channels and travel seamlessly to any destination worldwide via their own network or through partner arrangements. They provide services for both leisure and business passengers; this is a difficult balance as they must reconcile the concept of 'being all things to all people'. Business passengers' needs are accommodated through items such as: flexible tickets; chauffeured service to airports; separate check-in and security lines; comfortable lounges with full compliment of food, beverages, entertainment and computer facilities; through to priority boarding, while onboard they lounge in spacious seats; have complimentary

food, beverages; video-on-demand with multiple channels and email facilities; and arrive at a prime airport with multiple ground transportation options to city centres. In addition, they are handsomely rewarded by a frequent flyer program for their patronage. Leisure passengers do not receive the pre-flight privileges of the business class but still receive a full compliment of food, beverages and entertainment, and a solid commitment that their welfare will be cared for if the trip experiences problems as full service airlines have a strong reputation for superior customer service.

Table 20 Product features of low cost and full service airlines

Product features	Low cost carrier	Full service airline
Fares	Low fare, minimal restriction	Generally higher with restrictions
Yield Management	Simple ticket price structure	Complex multiple fare structure
Distribution	Online and direct booking	Online, direct, travel agent, GDS
Check-in	Ticketless	Ticketless, IATA ticket and interline
Airports	Secondary (mostly)	Primary
Sectors flown	Short-haul	Short haul and long haul
Connections	Point-to-Point	Interlining, code share, global alliances
Class Segmentation	One class (high density)	Two class (dilution of seating capacity)
Inflight	Pay for amenities	Complementary extras
Aircraft Utilisation	Very High	Medium: due to unions & primary airports
Turnaround Time	25 minute turnarounds	Low turnaround time due to Congestion /Labour
On-Time	High on-time performance	Low on-time due to congestion & connections
Product	One Product: low fare	Multiple integrated products
Ancillary Revenue	Packaging, on-board sales	Focus on the primary product
Aircraft	Single type: commonality	Multiple types: scheduling complexities
Seating	Small pitch, no assignment	Generous pitch, offers seat assignment
Customer Service	Generally under performs	Superior customer service and reliability
Operational Activities	Focus on core (flying)	Extensions: e.g. cargo, maintenance, holidays
Brand	Low fare	Differentiated products – value for money

Source: O'Connell and Williams 2005

In recent years, academic literature has covered the low cost carrier in depth and has categorised full service airlines as broken models due to the fact that they have been largely unable to challenge the growth, profitability and sustainability of the low cost carrier business entity. The business model of the full service airlines is such that it crosses transoceanic continents which are subject to the cyclicality of each region's economics, biological problems, terrorism, etc. In Asia, for example, the currency crisis in 1998 crippled economic growth and development, followed a few years later by the SARS outbreak, which affected both business and tourist traffic. In the United States, the network carriers were significantly affected by 9/11 and by the collapse of the dot.com industry, which also initiated the rapid decline of traffic, including the

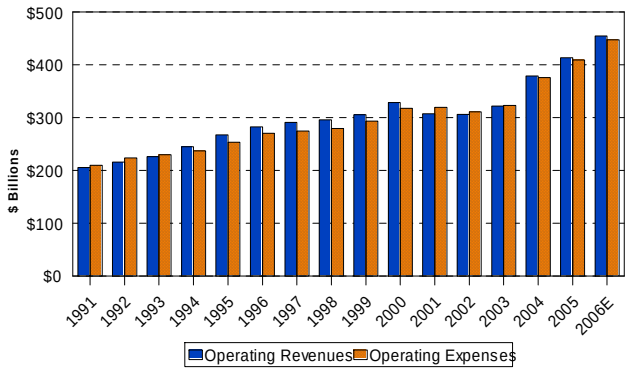
coveted high premium business passenger who began switching to low fare substitutes.

Despite the fact that passenger traffic has continued to grow, the industry's profits have been extremely disappointing. The lament of many industry experts is that profits are very difficult to extract because full service airlines are riddled with high cost structures and operate in a hypercompetitive market with competitors that have much lower unit costs. Figure 26 (below) shows the very tight margin that exists between operating revenues and expenditures of the world's full service airlines and the need for these carriers to reduce their expenses in order to attain profitability and sustain positive margins. Table 21 (below) shows the widespread disparities between the operating margins[69] of the leading network airlines (in terms of revenues) and low cost carriers in America, Europe and Asia. The American network airlines have continuously improved their operating margins, with the exception of Delta[70], while the majority of European and Asian network carriers have also significantly improved their margins as they have pared costs, reduced capacity and focused more on international operations. Nonetheless, the persistent cost difference and the narrowing revenue premium of the full service carriers has not allowed these carriers to close the operating margin gap on the budget carriers. Franke (2007) shows that the operating margin for low cost carriers worldwide has hovered at around 10% over the eleven year period 1995 – 2005, while premium carriers, such as British Airways, Singapore Airlines and Cathay Pacific, have been able only to maintain margins of around 4-5% during the same time period. On the other hand, the majority of global network airlines have witnessed deteriorating margins, registering just above 0% for 2005. It is very apparent that the overall business model of the legacy airlines must continue to be restructured and overhauled or budget carriers will replace their traditional counterparts and cause a paradigm shift in global air transport markets.

[69] The operating margin indicates how much an airline makes from each dollar of sales before interest and tax.

[70] Delta made an operating loss of $1.6 billion in 2001; $1.3 billion in 2002; $786 million in 2003; $3.3 billion in 2004 and in 2005 it had an operating loss of around $2 billion and subsequently entered chapter 11 bankruptcy in September 2005, carrying $20 billion of debt.

Figure 26. The operating revenues and expenses of the world's full service airlines (1991 – 2006)



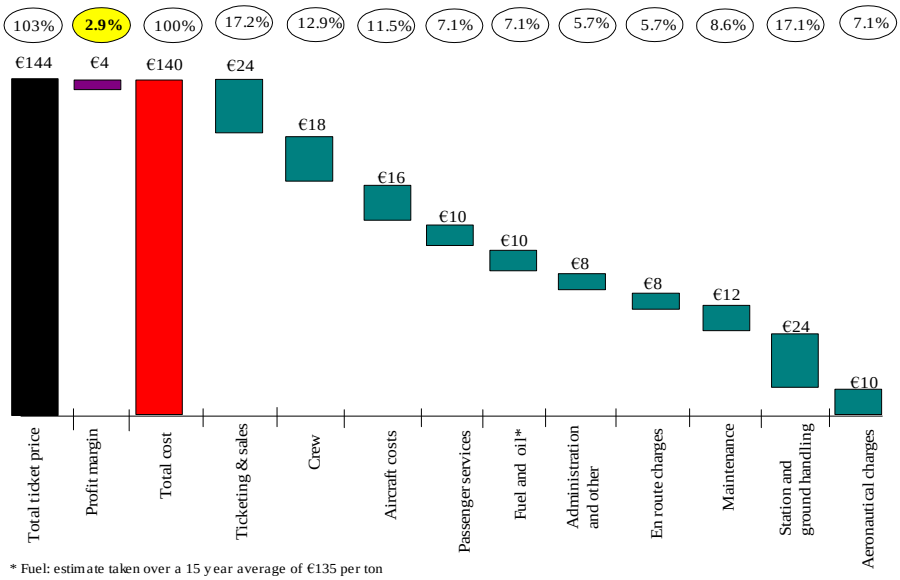
Source: ICAO, IATA, Air Transport World

Table 21. Operating margins of leading American, European and Asian full service airlines and low cost carriers (2002 – 2005)

	2002	2003	2004	2005
American	-19.1%	-4.8%	-0.8%	-0.5%
United	-19.9%	-9.9%	-4.7%	-1.3%
Delta	-9.8%	-5.9%	-21.7%	-12.4%
Southwest	7.6%	8.1%	8.5%	9.6%
Air France/KLM	-	2.3%	2.9%	4.4%
Lufthansa	9.4%	-0.9%	5.9%	3.2%
British Airways	3.8%	5.4%	7.2%	8.3%
Ryanair	31.3%	23.2%	24.9%	21.8%
Japan Airlines	0.5%	-3.5%	2.6%	-1.2%
ANA	-0.2%	2.8%	6.0%	6.5%
Singapore Airlines	6.8%	7.0%	11.0%	9.1%
Air Asia	-	11.4%	14.6%	18.9%

Boston Consulting Group (2004) analysed the breakdown of costs for a typical European full service airline and their research indicated that its operating environment is largely responsible for its underperforming margins, as shown below in Figure 27. Such airlines operate to prime slot congested airports that command a price premium because demand for capacity far exceeds supply. They use a series of distribution channels, including travel agents, clearing houses, online agents, online portal sites (e.g. opodo), airline websites, etc., making distribution an expensive and complex way to sell tickets. In recent years, fuel costs have escalated and incumbents worldwide operate multiple types of old aircraft which significantly adds to their overall complexity in terms of scheduling, maintenance, etc. In addition, strong unions often outweigh commercial decisions, thus constraining the productivity of the labour force, which impacts their competitiveness with budget carriers.

Figure 27. An analysis of the low margins of Europe's full service airlines (2004 data)



* Fuel: estimate taken over a 15 year average of €135 per ton

Source: Boston Consulting Group, 2004

Finally, passengers have become more demanding as they require a full range of flight products at a low fare. A full analysis of the cost differences between a full service and a low cost carrier is outlined in detail below in **section 4.5.3.** Figure 27 (above) shows that when all the costs of operating a flight are factored together, the profit margin is only 2.9%, and the analysis concludes that the carrier only makes a €4 profit from a €140 fare: this is clearly not a sound platform on which to build airline growth and the only option is to vigorously challenge all costs and establish other sources of revenue streams, such as dynamic packaging options.

4.5.2 Legacy Costs

Labour costs have been the highest operating expense of full service airlines, representing between 23-35% of the total expenditure for North American and European carriers, while for Asian carriers this ranged lower at around 20% of the total cost, with the exception of Cathay Pacific and Singapore Airlines[71] (ICAO, 2002). In comparison, Ryanair's labour cost is around 15% of its total costs.

Flag carriers were set up by governments back in the 1930s and 1940s and, since then, they have accumulated legacy costs such as pensions. In the US, the pension deficit is now an acute problem: the seven US majors[72] had a combined pension shortfall of $22 billion by the end of 2003 (Aviation Strategy, December 2003). These carriers only totalled $4 billion in profits during the peak of the last business cycle and then subsequently lost $32.3 billion from 2001 to 2004, thus were not in a sound position to fund such large pension decifits. United Airlines, for example, entered bankruptcy in December 2002 and had a pension deficit of $5.9 billion, which was straining its financial restructuring program. However, under Chapter 11 bankruptcy rules, a company is free to accept or reject any contract or obligation as long as it can justify the action to the bankruptcy judge. United entered bankruptcy in December 2002, having the largest pension burden of the US majors, and argued that this would be viewed unfavourably by capital markets when endeavouring to exit bankruptcy. Subsequently, the court allowed the government to absorb the four under-funded pension plans and authorised United to pay the government $1.5 billion in securities in exchange for taking the pensions. The deal with the PBGC[73] would save United $4.4 billion in cash contributions, including $1.3 billion in 2005; however employees in retirement would still lose out on around $1.9 billion in

[71] The cost of labour as a percentage of total costs in 2002 are listed for the following airlines: Delta, 41%; American, 30.4%; United Airlines, 29%; Air France, 33.5%; Iberia, 31.6%; British Airways, 24.3%; Cathay Pacific, 25.6%; Singapore Airlines, 21.5%; Japan Airlines, 20.7% (ICAO, 2002).

[72] The pension deficits of the US majors by December 2003 were as follows: Alaska, $101 million; Continental, $1.2 billion; American, $3.7 billion; Northwest, $3.7 billion; Delta, $4.6 billion; US Airways, $2.5 billion and United $5.9 billion.

[73] The Pension Benefit Guarantee Corporation (PBGC) is the government agency that insures pension plans and protects benefits. It was designed to serve as a "safety net" (or type of insurance) for employees and retirees in the event that a severely financially distressed plan is in danger of failing.

benefits (Marshall, 2005; Aviation Strategy October, 2004). This was certain to cause unrest and resentment among United Airline employees, as management had already trimmed the workforce by 44,000 employees from 2000 to 2006, and the remaining staff had to accept salary cuts and productivity improvements; yet the company chose to offset its pension obligations to a third party and, as a result, the company's employees will receive a lot less money than anticipated. Similarly, British Airways' pension deficit for 2005 totalled £2.07 billion, a rise of £101 million on the previous year. The carrier has indicated that it would give the fund a one-off payment of around £800 million in exchange for an adjustment to its retirement age policy and has proposed to raise the normal retirement age for pilots from 55 to 60 years-of-age and increase the retirement age of its cabin crew to 65 (ATI, September 2006). These legacy costs are a major differentiator between budget and full service carriers, and the latter group have made inadequate financial provisions for the welfare of their employees, in turn jeopardising their own financial stability and the morale of employees.

4.5.3 The cost structure of full service airlines and low cost carriers

Airline operating costs are classified into Direct Operating Costs and Indirect Operating Costs. Doganis (2002, p78) stated that Direct Operating Costs include all those costs which are associated with and depend on the type of aircraft being operated. Indirect Operating Costs include all those costs which remain unaffected by a change of aircraft type. See Tsai and Kuo (2004) for calculating operating costs.

Table 22. Distribution of the global network airlines operating costs, 1996 - 2004

	1996	1997	1998	1999	2000	2001	2002	2003	2004
Direct Operating Costs	**51.4%**	**50.6%**	**50.5%**	**51.6%**	**54.7%**	**57.2%**	**55.5%**	**55.5%**	**59.5%**
Flight Deck Crew	7.4%	6.8%	7.0%	7.1%	6.3%	6.8%	8.1%	7.2%	7.4%
Fuel and Oil	13.1%	13.3%	11.0%	12.1%	17.0%	16.8%	14.3%	15.4%	19.1%
Flight Equipment Insurance	0.4%	0.3%	0.4%	0.2%	0.2%	0.3%	0.6%	0.5%	0.4%
Maintenance & Overhaul	9.7%	10.0%	9.8%	10.4%	10.1%	10.9%	11.5%	10.9%	10.9%
Flight Equipment Depreciation	8.1%	7.6%	8.4%	8.2%	7.2%	8.0%	7.0%	6.9%	6.7%
Rentals	4.1%	4.3%	4.5%	4.8%	5.7%	5.7%	5.0%	5.5%	5.4%
User Charges[1]	8.7%	8.2%	9.2%	8.8%	8.1%	8.6%	8.9%	9.0%	9.5%
Indirect Operating Costs	**48.6%**	**49.4%**	**49.5%**	**48.4%**	**45.5%**	**42.8%**	**44.5%**	**44.5%**	**40.5%**
Station and Ground	11.8%	11.7%	11.6%	11.7%	11.0%	10.1%	10.1%	10.2%	8.5%
Cabin Attendants	6.9%	6.9%	7.1%	7.2%	6.6%	6.9%	6.9%	6.5%	6.2%
Passenger Service	6.6%	7.1%	6.6%	6.7%	6.3%	6.0%	6.6%	6.1%	5.8%
Ticketing, Sales & Promotion	17.0%	17.2%	16.6%	16.6%	16.1%	14.7%	13.2%	13.7%	13.9%
General & Administrative	6.3%	6.6%	7.7%	6.1%	5.4%	5.1%	7.8%	8.1%	6.3%
Total Operating Costs	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

[1] Airport charges and Navigational charges

Source: IATA Airline Economic Results and Prospectus, part 1, 2005

Table 22 above shows that the global legacy airlines had an almost 50:50 split between direct and indirect operating costs in 1996, but nine years later there has been a gradual divergence as Direct Operating Costs have significantly increased as a proportion of total costs, mainly due to increased fuel charges, maintaining older aircraft, increases in the financing and leasing of aircraft, together with the exorbitant increases in landing and navigational charges. As a consequence, the Indirect Operating Costs proportion has decreased over the last decade as incumbents started adopting strategies that were similar to the low cost carriers, such as outsourcing station and ground expenses, using less cabin crew, especially in short-haul markets, and by renegotiating productivity and labour contracts. The network carriers have also removed hot meals on short-haul flights, increased the seating density and used lounges belonging to alliance members rather than staff their own facilities. The largest cost reduction, however, has been because of the shift in distribution towards an online platform that has included e-ticketing and online booking - this reduced the overall distribution costs proportion of total operating costs of the legacy carriers from 17.0% in 1996 to 13.9% by 2004.

Oum and Yu (1995) stated that the survival and success of a carrier depends largely on cost competitiveness. However, when unit costs of legacy airlines are compared against low cost carriers there are alarming differences and, subsequently, they are unable to match the fares, which encourages passengers to switch to budget carriers. This has a cascading effect as load factors drop, yields become reduced, market share stagnates or falls and ultimately the competitiveness of the carrier deteriorates. O'Leary (2004) stated that the only competitive advantage for the short haul market is to have a low unit cost operation. Lobbenberg et al (2003) and Doganis (2006, p171) show that the cost differences between a low cost and a traditional carrier in the UK is around 50%. Deregulation has allowed the no-frills carriers to set up bases and extend networks across Europe, where they have begun to threaten each flag carrier's home market. The majority of these incumbents have serious operating cost disadvantages when compared to the no-frills carriers, and passengers may begin to shift to the low fares carriers as their low unit costs allow them to offer cut-price fares. Ryanair, for example, had unit costs (stage-length adjusted) that were 60-70% lower that most European incumbents in 2005 (Doganis (2006, p177). In the United States a similar effect had emerged as the difference in average unit costs (per ASM) between Southwest and American Airlines, United and Continental was 43% in 2004 (US DOT, 2005). Morrell (2005) agreed that the cost ratio was almost 2:1 as he compared the unit costs of Southwest and US Airways in 2002, and found that their total operating costs were 48% lower[74], citing that distribution had the largest difference in unit operating costs between the carriers. Franke (2004) stated that the largest

[74] Morrell (2002) found the following unit cost differences between US Airways and Southwest: Staff costs, 46%; Fuel costs, 20%; Maintenance costs, 21%; Distribution costs, 68%; Landing/rents costs, 34%; aircraft/rent/depreciation, 46%; Other costs, 61%.

contributing factor to the higher cost of the incumbents is the complexity of the network carriers' business model.

A joint study by McKinsey and IATA was conducted on the unit operating costs[75] between network and low cost carriers in the US, Europe, Asia and South America, and is shown below in Figure 28 to Figure 31. It reveals that the network carriers in each of the continents have been unable to close the operating cost gap between themselves and the low cost carriers. Figure 28 (below) shows a comparison of the three largest US network carriers (United, American and Delta) and two low cost carriers (Southwest and JetBlue). The analysis concluded that Southwest has maintained a 36% cost advantage between 1996 and 2004, despite all the cost cutting and restructuring policies implemented at the full service airlines. Aviation Strategy (June, 2004) confirmed that the unit cost gap between the US legacy and low cost carriers is typically between 2 and 4 cents per ASK.

In Europe, Figure 29 (below) shows that Ryanair's unit costs have been reducing faster than the unit costs of the three largest incumbents (Air France, Lufthansa and British Airways) and by 2004 it had an alarming 64% average unit cost difference between itself and the incumbents. Clearly this is an enormous threat and costs must be urgently addressed and other revenue streams must be sourced in order to compensate for the high expenses. Similarly, easyJet's costs have increased marginally but they still remain 40% below that of the three network airlines. Hansson et al (2003), cited in Franke (2004), calculated that the adjusted stage length cost difference between European incumbents and budget carriers can be 5 Eurocents per ASK which confirms the analysis shown below in Figure 29; they also indicated that labour costs represented one-third of the unit cost differences, while airports (i.e. secondary airports, rapid turnaround times, etc.) accounted for a further 21% of the cost differences. Both US and European incumbents have found it difficult to reduce costs due to structural barriers such as unions, entrenched hubs, legacy costs, etc., and they have been unable to match the agility of their low cost competitors. Meanwhile, the no-frills carriers have relentlessly reduced or contained costs, which has resulted in lower breakeven load factors[76], and lower fares that induce more passengers to fly, which ultimately leads to higher operating margins and continued profitability. Binggeli and Pompeo (2002) have shown in their study of the low cost

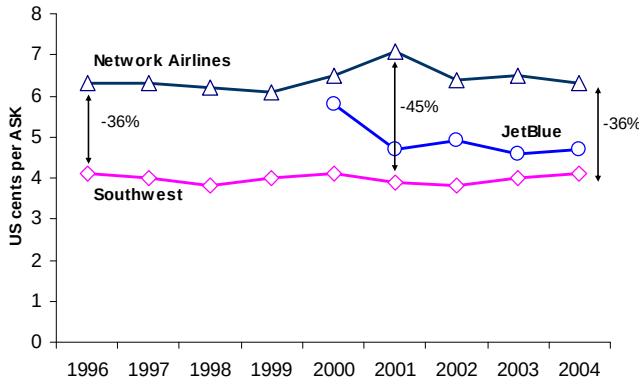
[75] Information on each airline's cost and available capacity was taken from the following sources in the following regions;

1) Information for the US carriers was taken from the Bureau of Transport Statistics' Form 41 data.
2) Information for the European, intra-Asian and intra-South American carriers was taken from IATA's Airline Economic Task Force database and from company accounts.

[76] Ryanair's break even load factor was about 64% in 2004 and its actual load factor was around 85% (European Cockpit Association 2006, p18). The Break-even load factors for the AEA member airlines from 2000-2004 have been around 69.5% and for the industry to thrive the break-even load factor must come down to around 65% (AEA yearbook, 2005).

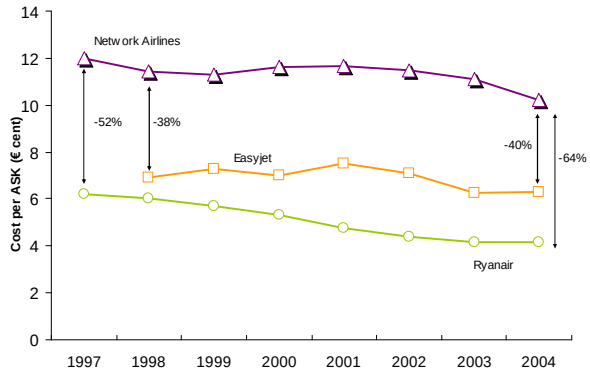
carrier sector, that lower costs and higher seat load factors permit these carriers to offer fares 50–70% lower than those of the incumbents.

Figure 28. The cost gap between the three largest US network carriers[1] and Southwest (1996-2004)



[1] United, American and Delta
Source: IATA airline cost performance (2006)

Figure 29. The cost gap between the three largest European network carriers[2] and Ryanair (1996-2004)



[2] Air France, Lufthansa and British Airways

In Asia and South America, the cost difference between the network and low cost carriers is also apparent, as shown below in Figure 30 and Figure 31. O'Connell and Williams (2005) confirmed the joint IATA-McKinsey analysis: they concluded that the unit cost difference between Malaysia Airlines and Air Asia was around 60% in 2004, and the data show that the unit costs of the state owned incumbent have been increasing, indicating that it has not yet responded to Air Asia's threat and has ignored the damage that budget carriers have inflicted on US and European incumbents. In South America, the unit cost difference is also striking as Gol had a cost advantage of around 40% in 2004 over TAM, a full service Brazilian carrier, despite the fact that its costs had marginally increased year-on-year.

Figure 30. The cost gap between Malaysia Airlines and Air Asia (1996-2004)

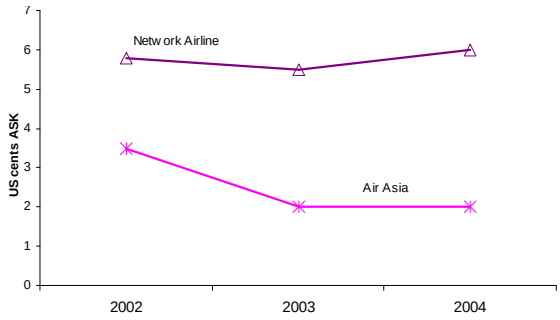
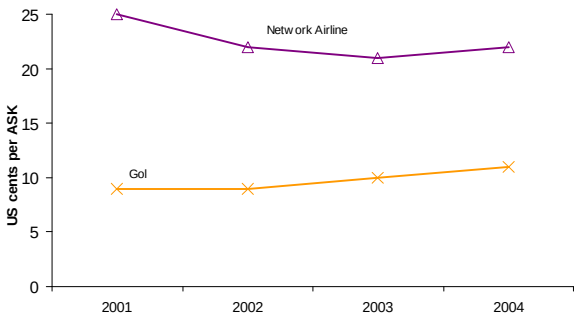


Figure 31. The cost gap between TAM and Gol (1996-2004)



Source: IATA airline cost performance (2006)

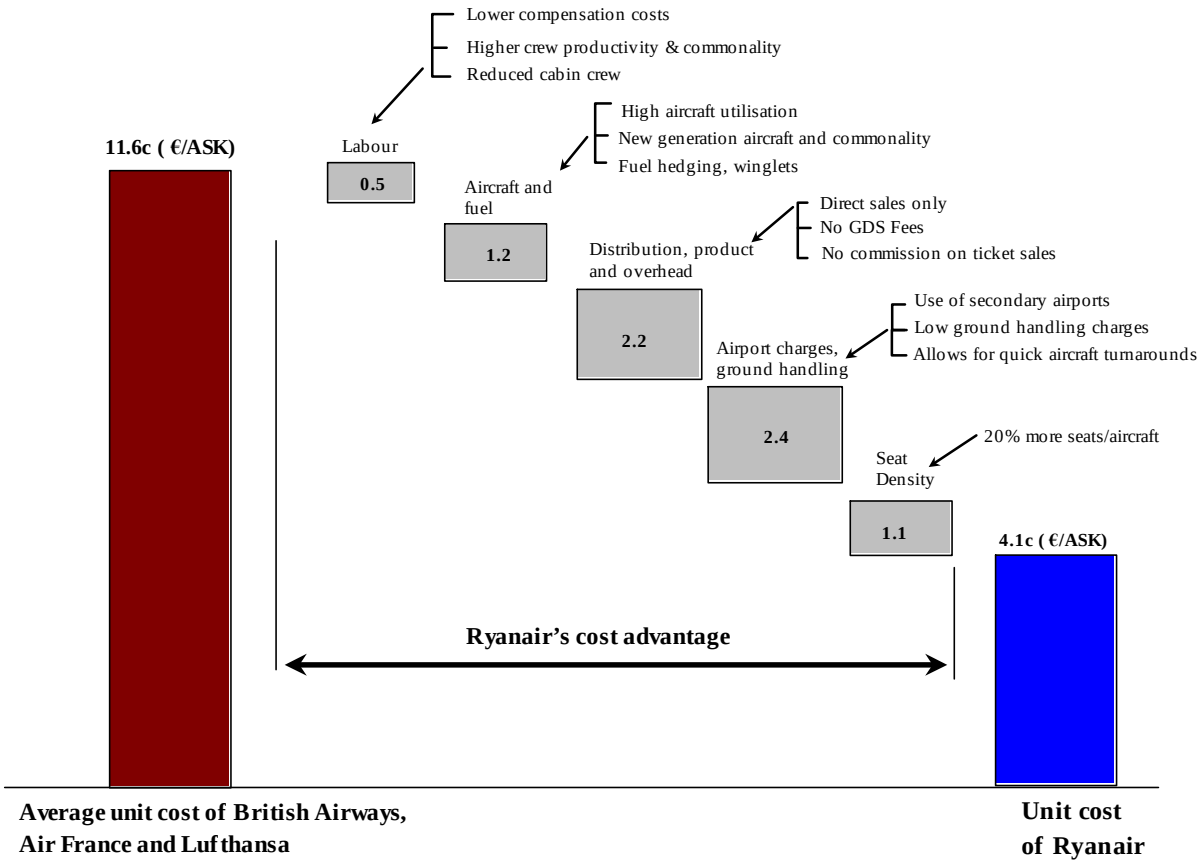
The following section will discuss the areas where low cost carriers have such unit cost advantages over full service airlines. The unit costs of Ryanair are compared to the average unit costs of British Airways, Air France and Lufthansa as a generic

representation of where low cost carriers worldwide have such cost advantages over full service airlines.

The unit cost differences between Ryanair and European network airlines

World renowned aviation consultants, Hansson, Ringback and Franke, stated that around 70% of the unit cost differences between full service and low cost airlines can be attributed to the business model (i.e. distribution, secondary airports, seat density, etc.). They also estimated that 60-80% of the cost gap between the carriers can be closed (Aviation Strategy, February 2003; Franke, 2004). However, Franke (2004) alarmingly stressed that the low cost carriers are able to deliver 80% of the service quality at less than 50% of the cost of the network carriers. This jeopardises the future of network carriers in short-haul markets as passengers will invariably opt for the cheaper fare and sacrifice the frills. Figure 32 (below) outlines Ryanair's cost advantages over British Airways, Air France and Lufthansa in intra-European markets for 2005. Each of these areas of cost advantage is explained below.

Figure 32. Ryanair's cost advantage over Europe's full service airlines (2005 data)



Note: Stage lengths are adjusted
Source: IATA Airline Cost Performance, March 2007

Seat density

Low cost carriers[77] generally do not offer business class seating, which takes up a lot of valuable space, and instead offer a dense, single class seating configuration as other space consuming items, such as catering galleys and convection ovens, are eliminated. Skytrax (2007) shows that the seat pitch of Ryanair is 30 inches while that of Lufthansa and Aer Lingus is 32 inches, allowing the carrier to pack in extra seats. A typical Boeing 737-800 in service with a traditional airline will generally only have 158 seats, whereas Ryanair configures this aircraft to accommodate up to 189 seats, allowing the carrier to sell 20% more seats, resulting in its cost per seat-km being around 19% lower. In Asia, Air Asia for example, has a 29 inch seat pitch, while Malaysia Airlines and Thai Airways have a 34 inch seat pitch. In addition, Ryanair has non-reclining leather seats, which saves the carrier a few hundred thousand dollars per year as these seats are less prone to breakages and the leather is more durable and easier to maintain (CNN, 2004).

Airport charges and ground handling

The cost advantage of airport charges and ground handling is the largest area of difference between the incumbents and Ryanair. According to the IATA airline economic results and prospectus (2005), airport and en-route charges constituted 9.5% of a full service airline's operating costs in 2004. En-route charges[78] are the same for both types of airlines. ICAO data for 2004 showed that BA's and Air France's navigation charges represented around 4.5% of their total operating costs, while low cost airlines generally have higher navigational charges because of their short-haul, high frequency nature. Air Navigation Service Providers (ANSPs) cost airlines around €6 billion per annum but the Eurocontrol Performance Review Commission reported that, if all ANSPs were at the efficiency level of 'the best in class', costs would be reduced by 20% (ATAG, 2004).

However, it is the airport charge that accounts for the main difference between the airline models as network carriers serve congested primary airports that offer interconnectivity to other destinations and are usually located close to city centres. On the other hand, Ryanair serves non-congested secondary airports that are some distance away from city centres, like Frankfurt Hahn which is 82 miles from the city centre, while Frankfurt's primary airport, Frankfurt Main, is only five miles. Suzuki (2007) estimated that over 30% of travellers will use an 'out of region airport' to take advantage of lower fares, while O'Connell and Williams (2005) found that

[77] The exception is Spirit Airlines in the US who offers business class.
[78] En-route charges are measured by the following calculation: aircraft weight * distance travelled in nautical miles. Low cost airlines generally do not report their annual operating costs to International organisations such as IATA or ICAO.

passengers flying out on Ryanair had travelled 44% further than Aer Lingus passengers in order to reach the airport. Similarly, Air Asia passengers had travelled an average distance of 27 miles further than passengers who were departing on Malaysia Airlines. Evidence strongly suggests that passengers will tolerate travelling to distant secondary airports, which will boost the further growth of low cost carriers at these cheaper airports. Button et al. (2002) illustrated the cost difference between using Frankfurt's primary and secondary airports by stating that a 737 operator at Frankfurt Main pays €13 per departing passenger and an additional landing fee of €1.75 per passenger, while Ryanair pays €4.25 per departing passenger and has negotiated with the airport that the landing charge is free. See **chapter 7 section 9.2.2.** for some examples of where Ryanair has negotiated favourable terms in order to reduce its airport charges.

Altogether, network airlines spend some $42 billion a year for airport and ATC charges, representing 10% of their operating costs. However, Boston Consulting Group (2004) extensively studied the costs associated with airports and revealed that they could reduce their operating costs by an average of 20-30% and pass on these savings to airlines. Francis et al. (2004) suggested that airports could derive additional revenues from non-aeronautical sources, relieving the burden that airlines pay, and cited that Luton airport has increased its non-aeronautical revenues as a proportion of its total revenues from 45% to 59% between 1995 and 2001. Papatheodorou (2003) revealed that secondary airports will substantially discount landing charges and that they will also provide subsidies to carriers that attract traffic for the economic benefit of the region's wider economic area. The much publicised deal between Ryanair and Charleroi airport demonstrated the incentives that secondary airports were prepared to give Ryanair as the conditions involved a reduction in landing charges, a fixed price of €1 per passenger for ground handling services, and financial support for the opening of Ryanair's base including advertising, with the entire package totalling €15 million (Barbot, 2006). Iberia also argued that incentives offered by autonomous Spanish regional governments amounted to financial aid worth €10-17 per passenger, putting the national flag-carrier at serious commercial risk (ATI, January 2005).

There is generally no air traffic control congestion and holding time in the air when aircraft serve secondary airports; on the other hand, a network carrier has a 10 minute holding time on average when approaching a hub, and there are also further delays while taxiing to the gate because of the congestion on the ground. Low cost carriers use the aircraft's built-in step ladders to disembark passengers, while full service airlines use air bridges provided by airports. Budget carriers outsource all of their ground handling work (except for the home base) which eliminates the need to purchase equipment (tractor tugs, baggage trailers, ground auxiliary units, belt loaders, etc). In addition there are no interlining passengers and their associated

bags[79], thus reducing the risk of misplacing luggage, and budget carriers have also eliminated expensive business lounges. Doganis (2006, p174) stated that station and ground expenses for British Airways' intra-European operations accounted for around 16% of its European cost base in 2002, while Ryanair's equivalent figure is less than half of this. In an innovative move by Ryanair to reduce the number of check-in desks, bags and other handling facilities at airports, the carrier has increased its carry-on baggage allowance to 10kgs and charges £2.50 for each piece of checked-in luggage. The incentive will reduce Ryanair's annual handling costs by 10% - equating to around €30 million. Aer Lingus is also introducing such measures in order to reduce costs (ATI, January 2006).

Another advantage of secondary airports is that aircraft can be turned around in less than 30 minutes. Dennis (2004) indicated that a 737 operating between London Heathrow and Frankfurt Main has a 45 minute turnaround at each airport and this aircraft can perform 6 sectors a day, while a similar aircraft operating between the secondary airports of London Stansted and Frankfurt Hahn has a 30 minute turnaround time and can perform 8 sectors a day. McKinsey Quarterly (2005) calculated that shortening the turnaround time from 50 to 30 minutes can increase the utilisation of the aircraft by 40% (over a 700 mile sector) and raise the productivity of the gate agents by as much as 65% in an eight hour time shift. The aircraft is not generating any revenue while it is on the ground and Gittell (2000) estimated that a five-minute increase in the turnaround time of the ten US major airlines would increase their costs by $1.6 billion over a twelve month period.

Distribution, product and overheads

Distribution is now the third largest operating cost for full service airlines after labour and fuel. It is composed of commissions to travel agents, override commissions, cost of paper tickets, GDS fees, administration costs, etc. Doganis (2006, p204) estimated that 67% of these distribution costs could be saved by booking directly online via the airline's own website, and Jarach's (2002) research suggested that sales through an airline web site are four times cheaper than through travel agencies and computer reservation systems. **Table 22** (above) shows that distribution expenses for full service airlines have fallen significantly from 1996 to 2004 and that they represented 13.9% of a network airline's operating expenses by 2004 - but it is a cost that airlines can continue to reduce[80]. Hofton (2004) argued that the incumbents must tackle distribution costs if they are to compete effectively with low cost carriers.

[79] In Dublin for example the airport authority charged a transfer fee of €1.0 per passenger in 2006 (Dublin Airport Authority, 2006).
[80] Distribution costs at British Airways have reduced from £30 per passenger in 1997 to £15 by 2004.

Full service carriers in the US and Europe have now eliminated the practice of paying commission to travel agents, but in Asia around 90% of bookings are still conducted via travel agents (Mastercard Asian Lifestyles, 2003). If agents sell a large number of tickets for one particular carrier then they may earn an override commission[81] and this is another incentive used worldwide today. Another large cost in the distribution chain are the Global Distribution Systems (GDSs) which aggregate all the network airlines' seat inventories and schedules worldwide, and then make them available to both online and traditional travel agents for a fee. Airlines are generally charged around $13 per ticket ($6.5 each way) and this has been a major expense to full service airlines - avoidable if the ticket was booked directly through an airline's website. Alamdari and Mason (2006) referred to the wide differences in profit margins[82] between GDSs (i.e. Amadeus and Sabre) and airlines, indicating that the GDSs could significantly reduce their fees. These GDSs reach out to some 230,000 points of sale worldwide, and the world's full service airlines pay $5.5 billion in GDS fees every year for the privilege of their wide coverage (Clarke and Tunnacliffe 2005).

However, a new generation of GDSs, called Global New Entrants (GNEs), are now emerging and will use a combination of ITA core software[83] and G2 switchworks[84] which will direct-connect travel agents to an airline's reservation system through vendors (such as Navitaire's DirectNet distribution service, EDS, IBM or Unisys) and have the potential to offer the same product for $2-3 per ticket. This new generation will have a dramatic effect on GDS costs once initiated across all platforms, allowing network carriers access to multiple distribution channels at low cost. Passengers booking tickets online pay by credit card and these credit card fees are an expensive item as they account for over $1.5 billion in the US alone and, in Europe, they add around 25% to distribution costs. In response, carriers are now beginning to offer multiple types of payment options on their websites that will bypass the credit card payment process through debit card mechanisms, such as Maestro/Switch, Paypal, Bill me later, etc., and this process is estimated to reduce the credit card cost by over 50% (Burg, 2006). All carriers must be e-ticket compliant by the end of 2007. IATA estimates that each e-ticket[85] will save at least $9 in processing costs over paper tickets. Given that, at present, 300 million interline tickets are printed each year, savings of $3 billion per year could be achieved. Other

[81] Tsai et al. (2004) studied override commissions in Taiwan and discovered that airlines incentified travel agents by giving them a $26 rebate per ticket if they sell more than 1,500 tickets on their carrier and this rises to $46 for selling more than 3,000 tickets.
[82] The profit margins of Amadeus and Sabre were 16.6% and 8.1% respectively, compared with the average margins of 1.9% and −2.8% for European and US incumbents respectively in 2003.
[83] ITA software provides all of the information required to book and ticket any itinerary directly in a carrier's inventory system or in a GDS.
[84] G2 switchworks has established efficient and reliable connections with leading travel suppliers that integrate with existing agency business processes.
[85] Ryanair for example sell 97% of their tickets online.

technologies that will reduce costs include Common User Self Service (CUSS) kiosks which are estimated to reduce check-in costs by 96% as passengers can bypass the traditional check-in system, thereby reducing the need for extra staff and facilities at airports. The cost to use the kiosks is estimated at just $0.16 cents per passenger, representing $1 billion savings if there is a 40% market penetration (JetOne, 2006).

Ryanair's products and overheads, in comparison to the network carriers, are also stripped down as the carrier does not offer in-flight entertainment systems, complimentary food and drinks, assigned seating, frequent flyer programs, etc., - it competes solely on low fares. Its headquarters in Dublin are basic and do not contain any lavish boardrooms, expensive paintings, furniture, etc., unlike other full service airline headquarters. Similarly, easyJet's headquarters consist of portable cabins with open seating areas for employees.

Aircraft and fuel

Ryanair bulk ordered aircraft in the economic down cycle of 2001/02 at substantial discounts and locked in a large number of options for future purchase at the same price. The carrier is currently Boeing's largest customer in terms of order backlog, giving it substantial leverage when negotiating with the manufacturer, as noted when the carrier ordered 70 737-800 series aircraft (including engines and optional extras) in 2005 each valued at $51 million, while the list price for the model registered between $61.5 – 69.5 million (M2 Communications Ltd, 2005). In comparison, Air France/KLM and British Airways, for example, had only eight and five narrow-body aircraft respectively on firm order by mid 2005, which would not justify deep discounting.

Financially struggling network carriers continue to operate a mixed fleet of older aircraft[86] which are fuel inefficient and require frequent maintenance work. In comparison, the average fleet age of the 11 European Low Fares Airline Association (ELFAA) member airlines was just 3.9 years by late 2006 (ELFAA press release 2006). They generally operate with a standardised fleet of aircraft - Southwest[87] and Ryanair, for example, use an all Boeing 737 fleet which reduces complexities such as maintenance, crew scheduling, etc. Kilpi (2007) showed that there was a direct correlation between standardised fleets and operating margins, and revealed that Southwest's standardised fleet had a direct impact on its high profit margin in 2000, while Iberia's mixed fleet of Boeing, Airbus and McDonnell Douglas aircraft significantly impacted on its operating margin. Table 23 (below) shows the hourly

[86] Alitalia for example operates 74 MD-82s while SAS operates 44 MD-81/82/87 variants in 2007. These aircraft production assemblies have long been terminated.
[87] Southwest operates 194 737-300s, 25 737-500s and 264 737-700 but is transitioning to an all fleet of Boeing 737-700s by March 2007. Ryanair now operates a fleet of 134 737-800s.

utilisation per day for Europe's full service and low cost carriers in 2006. Dobruszkes (2006) confirmed that low cost carriers such as easyJet, Ryanair and Norwegian, operate their aircraft on average 11 hours a day which is 30% more flying per day than British Airways, thus allowing low cost carriers to operate more sectors per day and thereby increase revenues.

Table 23. Hourly utilisation of aircraft per day for European full service and low cost carriers (2006)

	737-300	737-400	737-500	737-800	A318	A319	A320	A321
British Airways	9.1	9.1	8.1	-	-	8.4	8.0	8.1
Lufthansa	7.3	-	7.5	-	-	9.4	8.4	8.4
Air France	-	-	8.1	-	9.3	8.6	8.1	8.2
European Low Cost Carriers[1]	Generally operate between 10 and 12.5 hours a day							

[1] European Cockpit Association (2006, p20).
Source: World Air Transport Statistics, Volume 2 Key Performance Indicators, 2006

Fuel is the second largest operating cost for airlines: the cost of aviation fuel escalated to $62 per barrel by January 2007, up from $36.62 per barrel in January 2004 (US Dept of Energy). Davy (2005, p28) estimated that a 1 cent movement in jet kerocene will affect Ryanair's operating profits by 0.8% or, alternatively, a $1 movement in the price of a barrel of oil will result in a 3% opposite movement in its earnings. The network carriers have offset the fuel increase by adding a surcharge to tickets[88] - British Airways, for example, passed on 80% of its higher fuel costs to the consumer, while Ryanair did not add any surcharge, which makes its comparable fare lower than that of the incumbent, thus attracting more passengers. Fuel hedging is a practice of making advance purchases of fuel at a fixed price for future delivery in order to protect against the shock of anticipated rises in price, and is a widely used practice. Fuel prices registered $65 per barrel in February 2006: Air France had 61% of its requirements hedged at $44 per barrel; British Airways had half its requirements hedged at $55; while Ryanair had 90% of fuel requirements hedged at $48 per barrel – this for the quarters ending December 2005 and March 2006 (ABN-AMRO, 2005). Similarly, Southwest had hedged 85% of its fuel requirements at the low price of $26 per barrel in 2005 and 65% at $32 per barrel for 2006, while network airlines such as Continental, Delta, American and Northwest had no hedging policy in place for 2006, consequently having to pay market rates. This shows the clear disparity between the management teams of some network and budget carriers in assessing risk. In another move to reduce the fuel cost, Ryanair is fitting winglets to its entire fleet which will

[88] BA's short-haul fuel surcharge increases between 2004 and 2005 were as follows: surcharge increased to £2.50 by May 13th 2004; increased to £4 by October 14th 2004; increased to £6 by March 22nd 2005; increased to £8 by July 27th 2005 (British Airways).

reduce fuel burn of each aircraft by up to 2%, while network carriers have retained the conventional aerofoil.

Labour

Network carriers are typically overstaffed: British Airways had around 200 employees per aircraft in 2005, while Ryanair had 29. Similarly, Norway's low cost carrier, Norwegian, had 22 staff members per aircraft, while SAS had 73. Doganis (2006, p128) showed the productivity per employee (measured as ATK per $1,000 of labour cost) [89] and established that easyJet's productivity was almost 500% more than that of SAS and 250% more than of Air France in 2002. The lean workforce of Ryanair is due to productivity and outsourcing as pilots fly close to 900 hours per year, the maximum allowed by EU law[90]. The Economist reported that easyJet and Ryanair pilots flew 50% more than their counterparts at British Airways in 2002 (The Economist, 17th August 2005). The European Cockpit Association (2006, p19) stated that low cost carrier crews fly up to 6 block hours per day on average, while their counterparts at the full service airlines generally do 4. Consequently, the crew productivity of the low cost carriers is 25% higher, thereby requiring 20% fewer crews than a network airline for the same number of block-hours flown in their network.

The flight crews used at network airlines are an expensive commodity as they are heavily unionised and cockpit crews represent only a small portion of an airline's workforce, yet they account for a disproportionate part of salary expenses. Doganis (2006, p122) shows that Austrian Airlines cockpit crew constitute only 13.6% of the airline's staff numbers, yet they represented over 32% of its staff costs in 2002; similarly, the flight-deck crew of SAS make up 10% of its employees but are responsible for one-quarter of its staff costs. These costs will be extremely difficult to reduce as strong unions will prevent deteriorating salaries, but management must try to increase the productivity of flight crews. Lufthansa, for example, added two hours to pilots' flight schedules every month, stating that it would continue to grow the mainline carrier and offer job security in the event of another economic down-cycle. The budget carriers continue to cut crew costs as the schedule is structured so that there is no necessity for overnight crews[91], and they do not provide crew transportation. Ryanair does not provide entry pilots with a type rating[92]. Similarly, cabin crew are not paid while they undergo training. Ryanair uses four cabin crew members per aircraft, which is the minimum number that is allowable under EU

[89] Labour rates throughout the world vary enormously.
[90] EU directive 79/2000.
[91] British Airways for example have around 3,300 people staying in hotels in any given night around the world costing approximately $85 million per year (Arnoult, 2006).
[92] Pilots who already have a twin engine commercial rating pay between €22,000 – 25,000 to attain a B-737 type-rating.

directives[93], and pay is directly related to productivity: in fact, 50% of Ryanair's cabin crew remuneration is productivity based (Davy, 2005).

4.5.4 Network (hub and spoke versus point to point)

Full service airlines operate hub and spoke networks: this allows a number of cities (spokes) to be linked through a central hub, and each additional spoke that is added magnifies the linkage benefits and through services. By combining point-to-point traffic with transfer traffic at a central hub, airlines are able to offer a wider variety of destinations to consumers with higher frequencies than a point-to-point operation. Williams (1993) concluded that aircraft load factors increased by 5-10% because of centralising passengers at a hub. Concentration of traffic at the hub leads to economies of scale, especially for those airlines with high marginal costs per passenger (Brueckner and Spiller, 1994; Pels, 2000). Baltagi et al. (1995), for example, studied the domestic operations of 24 trunk and local US airlines from 1971-1986 and calculated that the associated airlines experienced 9.7% lower costs, which were primarily saved by operating from a hub. Many network carriers have tried to maximise the number of possible connections at a hub in a reasonable period of time as alliance members entering the dominant hub of one of their partners want a good onward linkage. The arrival times of aircraft originating from cities at the ends of numerous spokes, are co-ordinated into a short time period where passengers and baggage are seamlessly interlined to other flights. A hub is therefore an integrated air transport interchange through which the dominant carrier[94] operates synchronised banks or waves of flights. British Airways, for example, generates 80% of its revenues from its operations at London Heathrow, and the hub is responsible for 90% of its long-haul capacity - which makes the hub a core revenue generator and is pivotal to its overall strategy (Sentance, 2004).

However, major hubs worldwide are congested and this subsequently results in delays in both the air and on the ground. Eurocontrol (2004, p29-34) showed that around 17.5% of all European network airlines suffered delays (greater than 15 minutes) in 2003 and established that ground and route delays combined cost network carriers €800 million[95]. In contrast, low cost carriers operate on a point to point basis where there is no interconnectivity between carriers, and the majority[96] do not offer connections between aircraft on their own network as this reduces

[93] The legal requirement states that there must be 1 cabin crew member for every 50 passengers.
[94] The dominant airlines (% of total flights) at their respective hubs are listed as follows: Delta, 74.8% of flights at Atlanta; American, 83.2% of flights at Dallas; Air France 57.9% of flights at Charles De Gaulle; British Airways, 42.3% of flights at Heathrow; JAL; 45% of flights at Tokyo (Airline Business, Airport Rankings June 2005).
[95] The ground delays cost €400 million and the route delays cost a further €400 million.
[96] Southwest interlines about 20% of its traffic through its hubs, while Ryanair passengers must take two separate flights if they wish to travel onwards to another destination. O'Connell and Williams (2005) found that 17.5% of Ryanair passengers were engaged in do-it-yourself connections.

complexity and costs. In addition, budget carriers serve secondary airports with little or no air traffic, so delays are significantly reduced. Ryanair has long prided itself on good, on-time departure performances, recording an 81.8% on-time accomplishment in 2005 verses 61.3% for British Airways (Air Transport Users Council 2006). American Airlines has been using de-peaking[97] as a means of reducing delays at its hubs since 2002. The process allowed American to distribute its flights more evenly throughout the day giving better on-time dependability and more time for passengers to make connections. It also reduced costs by $100 million at its primary hubs at Dallas and O'Hare by shortening the number of block hours (through less congestion), reducing the number of gates and lowering fuel and crew costs (Shifrin, 2004).

Connectivity between a full service airline's short-haul and long-haul network is conducted at the hub and is a primary function of the operating structure of a network carrier. Data on the percentage of connecting passengers at the hubs of major European airlines, collected by Fuhr and Beckers (2006), are shown below in Table 24. According to them, hubs are a vital component of the overall strategic framework of full service airlines as they are the mechanism by which carriers move passengers. Aviation Strategy (April 2003) confirmed that KLM is highly dependent on its connecting traffic and stated that more than 50% of its passengers transferred at Schiphol. However, British Airways is not as dependent as a large proportion of its passengers terminate their journey at London, but around 34% of its passengers connect at Heathrow to other flights. In the US, the major carriers have a large percentage of their domestic passengers transferring through their hubs: Continental, American, United and Delta had an average of 37.3%, 40.1%, 45.5% and 49.8% respectively connecting through their hubs in 2005 (SH&E Consulting, 2006). On international routes, US connecting traffic was higher as 60% of American Airlines' traffic on the London – Chicago market was transferring onwards at O'Hare, while 85% of its Manchester – Chicago passengers did so (Office for national statistics, 2004). In Asia there is no data available on connecting traffic, however O'Connell and Williams (2005) found that around 37% of Malaysia Airlines passengers were transferring at Kuala Lumpur.

[97] Depeaking means spreading flights that arrive to and from the hubs in longer time intervals than its previous banks of flights. This smoothes out the extremes of the peaks and troughs of the connecting banks to create a more manageable rolling hub.

Table 24. Transfer traffic at hubs of major European Airlines

Airport	Airline	Transfer Traffic[1]
Amsterdam (AMS)	KLM	58%
Frankfurt (FRA)	Lufthansa	65%
Paris (CDG)	Air France	44%
Munich (MUC)	Lufthansa	46%
Heathrow (LHR)	British Airways	34%

[1] Market shares and transfer quotas are based on the number of departing passengers. At hub airports, alliance partners of the local Full Service Airline have been included.

Source: Fuhr and Beckers (2006) based on MIDT data tapes (2004)

Hansson et al. (2002), cited in Franke (2004), argued that 60-80% of the cost gap can be closed between the full service and budget airlines without the need for the full service carriers to abandon their hub and spoke operations, which has been a set part of their traditional model for decades. As low cost carriers add extra aircraft and extend their networks, they will be in a stronger position to offer more direct services, thereby offering passengers the convenience of flying direct rather than through a congested hub - this may have enormous implications for network carriers in the near future.

4.5.5 Ancillary Revenues

Ancillary revenues are incremental revenues that an airline earns after the fare has been paid and are generated either through the website or during the travel experience. The industry classifies this process as dynamic packaging, which allows a customer to assemble individual components such as flight, accommodation, car hire, insurance, etc. Pilling (2007) stated that, when the components (e.g. car rental) of a dynamic package are integrated as part of the overall transaction process when booking a ticket, then they have a much greater penetration rate, and he cited an example of Ryanair bringing insurance into its sales process, which resulted in its penetration rising fivefold from 2% to 10%. Low cost carriers in particular have capitalised on this revenue stream and its importance is growing in stature. The ancillary revenue of Ryanair, easyJet, Air Asia and Southwest represented 15%, 7%, 6% and 2% of total revenues respectively in 2004/05 (Centre of Asia Pacific Aviation, November 2005). Both Ryanair and easyJet reported over a 30% growth in ancillary revenues for 2005 over the previous financial year, and Barrett (2004) stated that it is a vital component for the sustainability of the Ryanair low cost model. Table 25 (below) shows the various sources of ancillary revenue that Ryanair collected in 2005.

Table 25 Ryanair's ancillary revenue for 2005

	Total (€) millions	(€) per passenger
Non-flight scheduled operations	96.1	3.5
Car rental revenues	48.7	1.8
In-flight sales	34.6	1.3
Internet related services	21.2	0.8
Total	200.5	7.3

Source: Davy, 2005

The non-flight scheduled operations shown above in Table 25 include revenues from sales of rail tickets, hotel accomodation, travel insurance, excess baggage[98] and debit/credit card revenues, which accounted for the largest share of ancillary revenues at €96 million or €3.5 per passenger. Ryanair's website is a powerful selling tool as it rents approximately 400,000 cars a year and 500,000 hotel nights, and this is electronically conducted with minimal staff interaction. The inflight sales are linked to cabin crew productivity as they receive 10% commission on all inflight sales[99]. The Internet related services include all additional web enabled browsers, such as links to personal loans, low cost telecom cards, an online shop and access to financial services like GE and the Bank of Scotland. In addition, it includes the revenues associated with changing travel dates and names which is £15 (€22) per sector and per passenger (Davy, 2005). By the end of 2007, the carrier intends to further boost its ancillary revenues by implementing onboard gambling and in-flight mobile telephony services. The Airline Business/SITA 2006 Airline IT Trends survey found that 30% of all ticket sales are now being made online and that incumbents must look further than just selling seats and take advantage of this revenue generating opportunity.

4.6 The impact of an accident on low cost carriers

Safety has always been a critical element to the business success of the passenger airline industry. Alamdari (2004) and Holloway (2002, p124) have stated that safety is a core function of airline operations and today's passengers expect it to be a basic fundamental component of air travel. Doganis (2002, p237) stated that an airline's 'reputation for safety' is a key product feature when considering its image. Airline accident rates have continuously decreased year-on-year from 1.3 accidents per million departures in 1990 to 0.4 by 2006 (Ascend, 2007). While the accident rate has

[98] Ryanair increased its excess baggage charge from €5.72/kg to €6.44/kg in 2005.
[99] Onboard sales generated 11% of Ryanair's total passenger revenues in 2002 (Ryanair annaul report, 2002).

been decreasing, there has been an exponential increase in the number of flights - and this trend is set to continue over the next two decades, pressurising pilots, controllers, maintenance, airports and navigation systems. In Europe, Eurocontrol expects the number of flights to double from 10.5 million in 2005 to 21 million by 2025, and in the US, the Federal Aviation Authority estimates that the growth in revenue passenger miles will increase by between 1.8 to 2.4 times by 2025 (Aerosaftey World, 2007). This rapid growth in flight activity increases the probability of an accident, and much of this growth is stemming from low cost airlines. In the week commencing 22nd of October 2007, Ryanair, easyJet and SkyEurope opened 69, 30 and 19 new routes respectively, while the network of the full service airlines remained largely unchanged. McFadden and Towell (1999) report that 70% of all aviation accidents occur from pilot error, and the European Cockpit Association (2006, p33) indicated that two-thirds of all the new positions for pilots in Europe stemmed from low cost airlines. The same study on page 48 confirmed that some managements at low cost airlines failed to respect the responsibilities and safety-related decisions of captains, and disciplined crew if they did not extend the number of hours flown on a 'duty day' or to operate an aircraft that was considered unsafe for that flight. This will certainly impact on the probability that low cost carriers may have an accident in the future.

If an accident occurs, the carrier in question will immediately lose social credibility and many passengers will divert to other carriers. The recent fatal crash of a TAM Airbus A320 at Sao Paulo Congonhas airport on 18 July 2007 had a measurable impact on its market share. It lost around 6% of the Brazilian domestic traffic by September 2007 as compared to the same month a year earlier, while all the other Brazilian carriers gained market share, indicating that passengers switched carriers as a result of the accident (Anna.Aero, 2007). USAToday (2006) stated that many passengers remained reluctant to fly ValuJet after its accident in 1996, and management subsequently rebranded the low cost carrier 'Air Tran' in order to disassociate itself from an accident which had claimed the lives of 110 people. Executives concluded that *'the only way to save ValuJet was to rename the airline and rebuild it under a different blueprint'*.

Insurance companies will compensate for aircraft damage, damages to third parties on the ground and significantly contribute to claims pertaining to injured passengers. However, the damage to the brand can be catastrophic. Nomura (2003) estimated that a large sized carrier could expect to loose up to $900 million in lost revenues as passengers defected to other carriers. Ryanair's chief executive, Michael O'Leary, acknowledged on Radio Telefís Éireann's television program, hosted by Eamonn Dunphy in 2003, that an accident would significantly impact the carrier, claiming that

it would do irreparable harm to Ryanair (Radio Telefís Éireann, 2003). There is little doubt that an accident would invoke a major investigation into the operations of low cost airlines with regard to maintenance, pilot training, pilot workload, tight scheduling, etc. The intense media presence would ensure that any accident would remain headline news for a considerable time and would trigger passengers to book with other carriers. If any major inadequacies were detected in the airline operation, then large fines would be levied, and if these problems were not resolved to the satisfaction of the relevant authorities, the airline's Air Operators Certificate (AOC) could be temporary suspended or revoked - as was the case with Air Madrid, which was forced to ground its entire fleet in December 2006 due to safety issues. It is evident that an accident would significantly impact the low cost airline business model.

4.7 Concluding Comments

This chapter discussed the challenges posed by low-cost carriers in the contemporary airline business environment. These carriers have experienced a meteoric rise since the early 1990s and have now become a major component of the air transport business and have caused substantial problems to major airlines in the European, Asian and American markets as leisure and business passengers are increasingly switching to budget carriers, while at the same time low cost carriers are also taking the industry's growth thus leaving flat traffic levels at the network carriers. Mounting losses are accruing for network airlines whose networks are most exposed to budget carriers and in markets across the world incumbents have been retreating like that witnessed in Malaysia, United States and Italy. In the US market, the budget carriers are matching the stage lengths of the network carriers and consequently the latter are pushing capacity onto international markets to escape from sharply falling domestic yields and compete with incumbents who operate on similar unit cost platforms. This void in the market is being quickly replaced by low cost carrier capacity which is again fuelling their relentless growth, while at the same time the US regional airlines are also growing but they are partnering with the Majors. The budget carriers' vision for the future far outclasses that of the incumbents as they have secured most of the short-haul capacity, forcing the incumbents to order later into economic cycle and ever closer to an economic downturn. Part of this additional capacity will be used to integrate their existing hub structures by 'joining the dots' between their bases and further encroaching into the network carriers' market share creating umpteen problems.

Network airlines have not been successful in reshaping structural barriers such as unions, entrenched hubs, legacy costs, etc and they have been slow to incorporate the components that low cost carriers deemed very significant in impacting strong operating margins such as revenues from ancillary devices. Low cost carriers enjoy substantial cost advantages over the traditional incumbents, which are subsequently passed to consumers as lower fares. In this context, low cost carriers offer good value for money and keep their customers satisfied despite their lower levels of service. Ironically perhaps, low cost carriers have also helped the incumbents realise the existing disorder within their cost structures and revenue management. Simplicity has become a universal principle in the airline business; in fact, traditional carriers aim now at reducing complexity without destroying value. This is a major task which is admittedly difficult to successfully achieve. Nonetheless, the very existence of network carriers relies on producing value-adding and consumer-driven product differentiation beyond the basics of the low cost carrier product. However one major circumstance that could permanently disable the growth of low cost carriers would be an accident.

The airline that is widely acclaimed to have mounted the strongest challenge to low cost carriers is Aer Lingus and the following chapter discusses the various strategies that it formulated to successfully compete with Ryanair, Europe’s most aggressive low cost carrier.

5 Chapter 5: The response of European Incumbents to low cost carriers.

An indepth study of Aer Lingus' response and a synopsis of the strategies adopted by British Airways, Lufthansa and the Charter airlines.

5.1 Aer Lingus – the early years

Aer Lingus was established in 1936 as Ireland's national airline. Its primary purpose was to form an infrastructural air link between this island nation and other European capitals. From 1946 – 1957 Aer Lingus had a monopoly on air services between Ireland and the UK. The heavy hand of full government support was described by Share (1988) who pointed out that the Irish regulatory authorities were frequently described as ''the downtown office of Aer Lingus'' in the era before 1986. Ireland had one of the most stagnant aviation markets in Europe and it was perceived as an unattractive destination for new entrants. Many foreign airlines did not take up their entitlements under bilateral aviation agreements and this allowed Aer Lingus to amass 72% of the entire Irish market by 1979/80. Agriculture remained the bedrock of employment and economic development, and in the 1980s high unemployment levels of 17% and a 68% marginal tax rate prompted mass emigration to the US and the UK with the majority travelling by sea, as air fares were excessively expensive. The entire income tax of the people who remained went to service the public debt. In addition, Ireland's tourism potential was suppressed by the continuing violence in Northern Ireland, as the country as a whole was perceived to be in conflict. Barrett (1997) described that traffic on the Dublin to London route grew by only 2.5% from the period 1980-1985, while fares increased by 72.6% - it cost IR£209 (€500 today) to travel by air between the two capitals, while fares between London and Cork/ Shannon sold for IR£240. According to ICAO (1984), Aer Lingus had one of the lowest productivity figures in Europe and one of the highest ratios of airline pay to GNP per head. Doganis (2001) explains that many state owned airlines acquire the symptoms and characteristics of 'Distressed State Airline Syndrome'. The BBC News (2001) identified that national airlines suffered from overstaffing and highly unionised workforces, and confirmed that management teams were not commercially focused and subjected to constant government interference. Barrett (2006) described that Aer Lingus had developed all these complications as it had acquired the following attributes:

- History of losses (28 loss making years: 1939-2001)
- Over politicised (government retaining 85.1% ownership)
- Strong unions (main unions SIPTU and IMPACT were against the low cost business model and the national carrier suffered numerous industrial disputes)
- Overstaffing (6500 staff for 2.3 million passengers: 1986)

- No clear development strategy (developed 40 non airline businesses)
- Bureaucratic management (slow change, inefficiencies and high unit costs)
- Poor service quality (high fares bundled with standard service)

The aviation business is well known for its cyclicality and is very exposed to political uncertainties, such as war. The first Gulf War plunged Aer Lingus into a financial crisis and it lost $313 million in 1993 with a net margin of minus 23% - this was worse than all other European airlines, with the exception of Olympic, and by the following year it lost an additional $187 million. Aer Lingus initiated a restructuring plan (the Cahill Plan) which was drawn up to restore the airline to profitability, and the government injected IR£175m (£90m for redundancy payments with the balance used to reduce debt) - this was the last time that the EU allowed the incumbent to receive any subsidy. Nuutinen (1993) stated that the equity would only prolong Aer Lingus' life by a few years. In an effort to restructure the losses, the company's non-core businesses were either sold or dissolved. They included the following subsidiaries; Aer Lingus Commuter, Aer Lingus Teoranta, Pegasus Hava Tasimaciilgi, AS, Timas, TEAM Aer Lingus maintenance, Airmotive Ireland Holdings, Aer Lingus Espana and Tourist Development, Cara Data Processing, PARC and PARC Care.

5.2 Ryanair's threat to Aer Lingus

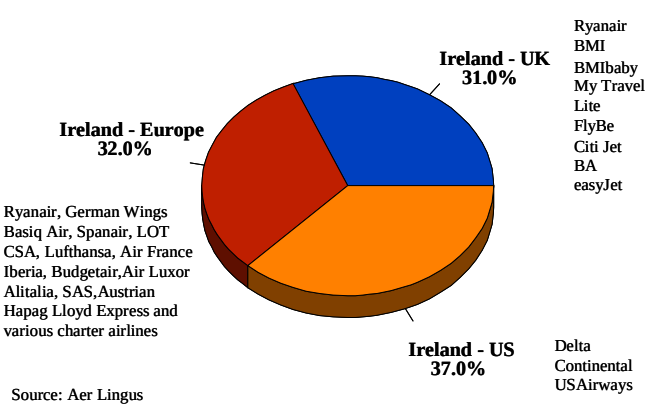
Airline competition was relatively benign or nonexistent in Ireland because barriers to entry and exit were so high, and in 1986 Aer Lingus and British Airways controlled 65% and 35% respectively of the Dublin to London market. Limited competition, high fares, mass unemployment and emigration pushed the Irish government to issue a second operating licence to Ryanair. Barrett (1997) outlined that Ryanair commenced operations on the Dublin-Luton route on 23rd May 1986 offering a fare of IR£99 return unrestricted, a reduction of 54% on the Aer lingus and British Airways tariff. Competition intensified as Ryanair increased the number of routes to other UK destinations in tandem with Aer Lingus. Kangis and O'Reilly (2003) pointed out that by 1996 Ryanair had become the leader on the Dublin-London market, capturing 36.2% of the market while reducing Aer Lingus' to 35.4%, and it had also outperformed the incumbent on the Dublin–Birmingham route gaining 63% of that market in the same year. Doganis (2001) described that Ryanair had replaced many of the weaker flag carriers, such as Aer Lingus, Alitalia and SAS, as the dominant airline on certain routes by the late 1990s. By 1999, British Airways amassed losses of £311 million on its European network, which was largely due to the growing presence of Ryanair and easyJet *(*Avmark Aviation Economist July/August 2000). Aer Lingus entered the new millennium on the back of two years of net profit with respectable operating margins of 6.1% in 1999, primarily because of its successful transatlantic operation. However, 2000 was the beginning of a series of catastrophic events that had

a cascading effect on Aer Lingus. Principle among the factors that had precipitated the airline's early decline were scares over the Foot and Mouth disease in the UK at the start of 2001, which led to a major drop in traffic in one of its most important markets (in 2000, UK traffic accounted for 3.6 million of the 6.9 million total carried). Meanwhile, its profitable North American operation was plunged into disarray as the technology stock crash in 2000, coupled with the 9/11 attacks, pushed the carrier deeper into a financial crisis. Thereafter, it was haemorrhaging €2.5 million per day and Buyck (2003) highlighted its distressed state by reporting that the carrier's cash reserves would be depleted by January 2002 (Buyck, 2003). The US government had granted a $15 billion rescue package to struggling US carriers, but European state aid rules prevented the Government from investing capital into Aer Lingus at a time of financial misfortune - a time when no other sources of capital were apparent. The sudden fall in US traffic had disastrous consequences for Aer Lingus, which earned over 40% of its revenues and 50% of its profits from its North American operations. According to OAG data for October 2001, Aer Lingus' North Atlantic capacity as a percentage of all its Available Seat Kilometres (ASKs) was 64.9%, while airlines such as BA and Lufthansa registered 39.6% and 34.1% respectfully. With the North Atlantic market in chaos and continued pressure from Ryanair, the airline lost €140 million in 2001 and its financial situation was rapidly deteriorating.

Figure 33 below, shows that 63% of Aer Lingus' revenues were earned from its short-haul operations in 2002 and the airline was severely exposed to the low cost carrier threat - this case study may prove to be the way forward for other network airlines faced by similar competitive advancements. London – Dublin, the most contested route in Europe with over 4.5 million passengers per year, was Aer Lingus' most coveted route. This route also provided Ryanair with a sound platform on which to base further growth and it quickly opened up more routes from Dublin to other UK provisional airports, and by 2002 there were 3.7 million passengers travelling on these routes. By 2002, Ryanair had already developed hubs at Luton, Stansted, Hahn, Charleroi, Skavsta in addition to its entrenched hub at Dublin. Williams, Mason and Turner (2003) described the financial importance of the Ireland-UK market to Ryanair as their research showed that around half of its revenues were derived from this source in 2001. Aviation Strategy (January 2003) indicated that Ryanair had controlled around 50% of the Ireland-UK market by 2002 and continued strong growth was forecasted well into the future. Aer Lingus was now struggling to address the relentless growth and continued profitability of its low cost rival, and even more worrying was the fact that many passengers were travelling to London via Luton or Stansted and were bypassing Heathrow, which was previously considered as a core strategic advantage over Ryanair. Heathrow was closer to central London and had an underground rail network that provided interconnectivity to the greater London area but, more importantly, Heathrow provided connectivity to other airlines, in particular to Aer Lingus' Oneworld alliance partners that served 570 destinations in almost 90 countries. Also of concern, according

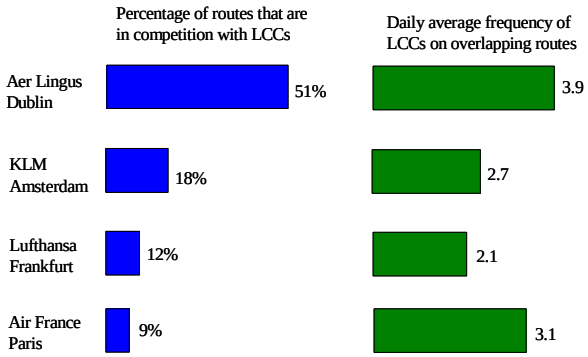
to Lobbenberg (2004) a Heathrow service over a Luton/Stansted operation would command a value to customers of just €10, which indicated that the prime airport was no longer a powerful strategic weapon, and which implied that Aer Lingus' fares would have to become very competitive if it was to halt the decline in its market share. According to OAG data for 2002, Dublin was positioned fourth in the top 20 airports serviced by the 'no frills' airlines, just ahead of Stansted and Luton (AEA 2003). Figure 34 (below) shows that 51% of Aer Lingus' short-haul routes were in direct competition with low cost carriers, and that they were increasing their frequencies and mounting an ever increasing challenge to the incumbent. In contrast, Lufthansa had experienced only 12% of routes being in direct competition with budget carriers at Frankfurt Main as they concentrated themselves at Frankfurt's secondary airport, namely Frankfurt Hahn, and were considered less of a threat. However, Ryanair and Aer Lingus shared the same airport, placing enormous pressure on the latter to compete while, at the same time, Aer Lingus had a significant operating cost disadvantage of 9.2 CASK in relation to Ryanair's 4.5 CASK for 2001 (O'Connell and Williams 2005). The Irish incumbent was now facing the fight of its life.

Figure 33. Aer Lingus' revenues and competition by region (2003).



Source: Aer Lingus

Figure 34. Low cost carrier impact on incumbent operations (2003).



Source: OAG, National Statistics, McKinsey Analysis, July 2003

Table 26 (below) shows the airlines that Ryanair has forced off Irish routes and its aggressive response when carriers threaten its market. When GO, for example, started operating a new route from Dublin to Edinburgh, Ryanair retaliated by commencing operations on the exact same route, charging £10 each way for the Edinburgh sector while at the same time also reducing its price on the Dublin-Glasgow route to £10 (Cassani 2003). Europe's second largest low cost carrier, easyJet, avoided Dublin and served Cork and Shannon, but Ryanair's aggressive pricing again forced the carrier out of the market.

Table 26. The route withdrawals on the UK-Ireland market due to Ryanair.

Airline	Market	
Go	Edinburgh-Dublin	
Duo	Birmingham-Shannon	
easyJet	Gatwick-Shannon/Cork/Knock	
HapagLloyd Express	Cologne - Shannon	
MyTravelite	Birmingham - Knock	
Thomsonfly	Doncaster-Dublin	
FlyBe	Birmingham-Shannon	
BMIbaby	East Midlands-Cork	
Aer Arran	Birmingham-Dublin	Dublin-Cork *(Reduced)*
EUJet	London (Kent) - Shannon	
British Airways	Manchester - Shannon /Cork	Gatwick – Shannon/Cork
Aer Lingus	Stansted-Dublin Gatwick-Dublin Bristol – Dublin Leeds – Dublin Stockholm – Dublin	Valencia/Almeria – Dublin Dusseldorf – Shannon Gatwick – Shannon Paris - Shannon

A Salmon Smith Barney (2003) report stated that the European low cost carriers had taken at least 5 percentage points in market share from the incumbents in almost every route by 2002. By this time Ryanair was serving 101 routes from 8 bases in 16 countries, while Aer Lingus operated from a relatively small home market with a population of 4.2 million, and now shared its home base at Dublin with Europe's most aggressive low cost carrier. Meanwhile, Ryanair turned misfortune into opportunity as it took advantage of Boeing's slump in production capacity following 9/11 and ordered 150 737s - the largest single order for the next generation aircraft ever placed with the manufacturer, and the airline capitalised by gaining substantial discounts on the bulk order. 2001 will be remembered as the worst year in aviation history, yet Ryanair recorded the world's largest operating margin registering 23.4%, while Aer Lingus recorded negative 4.7%. Its market capitalisation of $4.2 billion in 2002 was twice that of BA, the world's fifth largest airline in terms of RPM (ATI, 2002). As Aer Lingus' problems escalated, it was widely claimed that it would become another causality of the industry as it was losing €2.5 per day by November 2001, and Walsh concluded: "The old business model was a failure – a bankrupt business model" and immediate change was now urgently required (ATI, April 2004).

5.3 The strategic turnaround of Aer Lingus

It was clear that Ryanair's strategy of cost leadership had set it apart from other competitors in the European short haul sector and this permitted it to drive yields to levels not sustainable by competing carriers without similar cost structures.

Subsequently, network carriers, such as Aer Lingus, that had a large proportion of their short-haul network exposed to budget carriers were most at threat, and the incumbent had the added disadvantage of operating from the same hub in tandem with Ryanair. In contrast, British Airways, Air France, Lufthansa and Alitalia, for example, operated from hubs that low cost carriers generally avoided and these incumbents interconnected passengers by scheduling waves of flights at key times during the day. Burghouwt and de Wit (2005) stated that Air France had four departing sequences at Charles De Gaulle per day but that Aer Lingus had no such structure in place, and stressed that the carrier had a weak schedule. Ryanair was now a well capitalised carrier whose brand name for low fares had been ingrained into the Irish public over the last decade and this presented Aer Lingus with a significant commercial threat.

Willie Walsh took over as Chief Executive Officer of Aer Lingus in October 2001. He was a former pilot and held the post of CEO at the company's Spanish subsidiary, Futura, between 1998 and 2000, and for a time he had also acted as the pilots' union representative. Prior to his appointment as CEO, he had held the position of Chief Operating Officer. The carrier was 95% owned by the government - change management is difficult in any organisation but tends to be far more challenging in companies whose major shareholder is the government. The Irish government realised, however, the difficult circumstances that Aer Lingus faced and agreed to support changes, with the understanding that the alterations would be permanent. O'Toole (2004) and Harrington et al. (2005) both stated that Aer Lingus had previously compared its cost structure with other full service carriers that offered a two class service, but this strategy had now become outdated and the incumbent needed to benchmark itself against 'the real competition' to determine the extent of change required. Unlike United Airlines for example, which set Delta's costs as its benchmark, Walsh correctly perceived that they had to re-position themselves in the market and modify their business model if they were to avoid the usual pattern of reaching a targeted goal only to find that the savings were insufficient and the process was to be restarted. Unlike almost everyone else, Walsh perceived that the new model had to focus not on the traditional competitors, but on the low cost carriers that posed the greatest threat to the survival of mid sized airlines like Aer Lingus. The new management team realised that the low-cost sector had created a radical and irreversible downward shift in ticket prices. In this changed environment, the need to offer low fares was now taken for granted, implying the need to vigorously reduce costs. To determine the extent of change required, benchmarking against Ryanair was conducted. The optimum strategy for a network carrier that had a large percentage of its revenues coming from short haul operations would be to find a 'strategic fit' where Aer Lingus could adopt as many low-cost features as possible to further reduce costs and retain as many differentiators as possible, so as to compete more effectively with low-cost carriers. Porter (1996) illustrated that a 'strategic fit' allows imitation of parts but not of the whole strategy.

Aer Lingus initiated a Survival Plan that aimed for cost reductions of the magnitude of €190 million, which represented 16% of the 2001 cost base. However, management quickly realised that it needed further cost reductions because of weak yields which resulted from the slow recovery in premium traffic and its expansion into lower-yield leisure markets. The Survival Plan etched out from 2001 to 2003 now required cost reductions to the magnitude of €344 million, which represented 30% of the 2001 cost base. The following measures were implemented from the period 2001 – 2003 in order to restructure the airline and mount a formidable challenge to Ryanair.

1) Restructured complex and/or unprofitable product segments

i) Aer Lingus reduced its average fare on its short-haul network from €118 in 2000 to €79.7 by 2004 (37.5% reduction). Similarly, its transatlantic average fare was also reduced from €340.10 in 2000 to €252 by 2004 (28% reduction). O'Connell and Williams (2005) concluded that Aer Lingus' fares on selected Irish routes to Heathrow were €62 each way, while its main competitor, Ryanair, charged €45 each way from similar airports to Stansted. It also eliminated all restrictions, such as Saturday night stay over and advanced purchasing. This strategy prompted customers to avail of the new fare structure by 2002/03 (Aer Lingus, 2003). Management sourced new innovative ways to advertise its new fares and instructed cabin crew to announce that the cheapest fares were to be found on Aer Lingus' website in an all out effort to heighten awareness.

ii) Aer Lingus, like most traditional carriers, had previously entered new markets after rigorously pursuing a detailed study which later anticipated substantial passenger growth. The normal procedure would begin with a loss making route, allowing two to three years for the route to gain momentum and become profitable. Aer Lingus was no longer in a position to move so slowly and the incumbent abandoned this established route development plan and simply inaugurated service to new, promising destinations – most clearly outside the established Aer Lingus pattern. If the route was underperforming within a few months, it would abandon the service (Aer Lingus Annual Report, 2003).

iii) It also reduced its business class fares by 60%, triggering more passengers to use the service. O'Toole (2004) reported that the airline's premium return fare from Dublin to Brussels was lowered from €1,000 to €498.

iv) In 2001, the carrier transported 13% of its passengers in business class, but demand for the premium service fell to 10% by 2002 to 7% in mid 2004 (ATW online, June 2004). As a result, it removed business class from most of its 31 European routes with the exception of Dublin-Heathrow and Dublin-Brussels, Amsterdam, Frankfurt, Manchester, Birmingham, Edinburgh and Glasgow flights. However, it retained its Premier class on all its transatlantic routes

v) Aer Lingus increasingly concentrated on its leisure travellers and expanded services to tourist destinations such as Barcelona, Malaga, Prague and Tenerife. Between 2001 and 2003, some 30 new routes were launched with 10 more scheduled for 2004.

vi) It retained its cargo operations on its German and transatlantic flights as these markets comprised 88% of its cargo business - this allowed it to produce faster turnaround times at the other airports (O'Connell and Williams, 2005).

vii) It introduced fuel hedging schemes (normally 40% of requirements)

viii) It transformed all economy class catering costs into revenue generators

2) Network and fleet realignment

i) One of Aer Lingus' core strengths is its service frequency to London Heathrow - it operates 13 daily flights to Dublin, 5 daily flights to Cork and 4 flights a day to Shannon. O'Connell and Williams (2005) found that connectivity at Heathrow was a vital component in its overall strategy as over 40% of Aer Lingus passengers were interlining at Heathrow with half of the sample continuing their journey onwards with British Airways. Aer Lingus is also the fourth largest carrier servicing Heathrow and holds 3% of the slots. Many analysts believe that these slots are the carrier's most valuable asset and advised the government to retain a 28.29% interest in the airline after privatisation in order to prevent the slots from being sold (ATI March 2006).

ii) In 1999, Aer Lingus was operating four main types of aircraft on its European network: Fokker 50 turboprops, British Aerospace BAe146, Boeing 737s (400 and 500 series), and Airbus A320/321. The heterogeneous fleet mix added cost and complexity – clearly, moving to a single standardised aircraft would remove some costs. Flight crews, engineering, spare parts, etc., could interchange between aircraft as each operate on a common platform. Pilling (2005) states that Lufthansa has eight types of aircraft and spends around $1.8 billion on maintenance, representing 10.5% of its total operating costs, while American Airlines constitutes 9.9% of operating costs and a large proportion of this cost was accentuated by operating multiple aircraft types. In contrast, Ryanair's maintenance costs for 2004 were 5.4% of its total costs, and a large part of these lower costs accrued were due to operating a standardised fleet of Boeing 737s (Ryanair, 2005). Kilpi and Vepsäläinen (2004) estimated that the average inventory value of spare parts was US$3.35 million per aircraft in 2002, and a standardised fleet will require much less inventory. Standardised fleets also reduce the scheduling complexities and the crew training costs, and Airbus estimated that commonality can save airlines in the region of US$200,000 and US$1 million per aircraft annually (Clarke, 2001). The majority of low cost airlines have standardised fleets, including Southwest, Ryanair, Jetstar and Air Berlin, while other carriers are transitioning to single fleets, such as easyJet and Air Asia. Table 27 (below) shows how Aer Lingus have reorganised their fleet whereby the airline would have been operating just one aircraft type by 2006. The Fokker 50 aircraft was retired in 2001 as part of the plan to move to an all jet fleet. The BAe146 aircraft were removed in late 2003 with the subsequent closure of the Dublin to London City Airport route. The Boeing 737s were finally phased

out at the end of 2005 and Aer Lingus entered 2006 with an all Airbus fleet for its European operations, consisting of 21 A320s and 6 A321s with an average aircraft age of just 3 years[100]. The restructuring of the short-haul fleet resulted in the airline reducing its fleet complexity from 31 aircraft (6,823 seats) in 1999 to 27 aircraft (7,680 seats) by 2006.

Table 27 The transition of the Aer Lingus fleet 1999 - 2006

		1999	2000	2001	2002	2003	2004	2005	2006
Short-haul	Fokker 50	5	4	0	0	0	0	0	0
	BAe146	8	8	8	7	6	0	0	0
	B737-400	6	5	4	2	3	3	0	0
	B737-500	7	7	8	8	8	8	4	0
	A320	0	1	4	4	4	9	17	21
	A321	5	6	6	6	6	6	6	6
	Sub Total	*31*	*31*	*30*	*27*	*27*	*26*	*27*	*27*
Long-haul	A330-200	1	2	3	3	3	3	3	3
	A330-300	5	5	5	4	4	4	4	4
	MD-11*	1	1	1	0	0	0	0	0
	Sub Total	*7*	*8*	*9*	*7*	*7*	*7*	*7*	*7*
	Total	**38**	**39**	**39**	**34**	**34**	**33**	**34**	**34**

*MD-11 was wet leased from World Airways for summer schedules only
Source: Aer Lingus

iii) Table 28 (below) provides an overview of the routes and number of direct sectors that Aer Lingus operated from its three Irish bases, Cork, Dublin and Shannon, for the period 1999 to 2005. In 1999 there were more direct routes and weekly sectors than in 2003, and this was directly attributed to the phasing out of the Fokker 50 and BAe 146 aircraft which operated on short domestic routes and on high frequency routes to the UK. When the carrier transitioned to higher capacity aircraft (174 – 204 seats), many of these routes that were operated by the Fokker and BAe aircraft became unprofitable and were subsequently closed, which showed that the new management team were extremely cost focused and were not influenced by governments to keep certain routes open for economic interests. Aer Lingus also safeguarded its yields in the short-haul market by extending its network deeper into central and Eastern Europe as it opened routes to Warsaw, Lisbon and 8 destinations in Spain. Walsh had taken the view that it was more important to fly to destinations where the customers wanted to go, rather than where a legacy route existed. He added 30 new routes to the airline's European network, closing four historic loss-makers and experimenting with new, often leisure-driven services (O'Toole, 2004). Dublin to Malaga was an example of a new route that the old Aer Lingus would never have been associated with but it

[100] Aer Lingus Annual Report and consolidated accounts, 2003 and 2004.

was clear that others were making money in these markets. Subsequently, the stage length increased (average European sector length of 597 Kms in 2001 versus 813 Kms in 2004). By 2005, the incumbent was serving 44 short haul destinations from Dublin, an increase of 130% over 2001. Management also set in place a structure to increase the daily aircraft utilisation and by 2005 each short haul aircraft was operating an average of 9.4 hours a day, up by 2.5 hours per day from 2000. In addition, the operational hours were extended by 4 hours per day, as the first aircraft departed Dublin at 06:10 and the last aircraft arrived back to base at 01:10, which allowed the incumbent to add more flights or to increase the frequency (Mannion, 2006). The turnaround time at the provincial airports was reduced from 45 to 30 minutes to become more closely aligned with Ryanair's performance.

Table 28 Aer Lingus' route development 1999 – 2005 (Summer schedule)

Period	Number of direct routes ex-Dublin	Weekly Sectors Ex- Dublin	Number of direct routes ex-Cork	Weekly sectors ex-Cork	Number of direct routes ex-Shannon	Weekly sectors ex-Shannon	Total Routes Ex-Ireland to Europe	Total weekly Sectors ex-Ireland to Europe
1999	26	1058	6	128	5	91	37	1277
2000	25	1021	5	118	5	93	35	1232
2001	19	924	4	122	4	88	27	946
2002	22	880	3	106	2	56	27	1042
2003	29	894	4	108	1	56	34	1058
2004	39	834	7	98	1	54	47	986
2005	44	876	10	138	1	54	55	1068

Source: Aer Lingus

3) Realignment of human resources and productivity with the new business model:

i) Aer Lingus showed all the signs of a government owned airline that was overstaffed: it employed 7,044 to transport 6.5 million passengers in 1999 and, by the following year, this had been reduced to just 6,624 employees. However, Walsh immediately set about changing the staffing mechanism at Aer Lingus by instantly dismissing 600 temporary staff members and thereafter reduced the head count by a third (around 1,845 jobs), including a 60% head reduction in the management group. The job cuts were as follows;

a. 38% reduction in managers (24 posts);
b. 33% reduction in clerical grades (563);
c. 33% reduction in operatives (427);
d. 32% reduction in information technology specialists (37);
e. 31% reduction in superintendents (93);
f. 31% reduction in cabin crew (476);
g. 28% reduction in technical grades (50);
h. 27% reduction in pilots (156); and
i. 27% reduction in specialists (19).

ii) Introduced a pay freeze for 2002 and 2003, and reduced time off for flight crews.

iii) To give staff incentives and boost morale, management (with government approval) raised the employee stake at the airline from 5% to 14.9% under an Employee Share Ownership Trust (ESOT) agreement.

iv) Table 29 (below) shows the productivity improvements at Aer Lingus from 1999 to 2004. Walsh's management team had impressively enhanced productivity over the period as the turnover per employee increased by 44% and each member of staff generated €27,394 profit by 2004, as opposed to each staff member losing €7,375 in 2001. The increase in aircraft utilisation and a longer working day, enforced by Walsh, positively impacted productivity as Aer Lingus added 9 new routes without supplementing any additional aircraft. From 2001 to 2004 it increased the passenger/aircraft ratio by 30%, while the increase in the number of passengers carried per staff member was very impressive as it almost doubled over the period - but it still remained distant to Ryanair's performance as it carried 10,600 passengers per employee in 2004. Walsh continued to publicise the poor performance of the carrier in the media and frequently mentioned that the carrier could face imminent closure unless the past culture of inefficiencies were resolved. Walsh also sold Aer Lingus' entire art collection, generating €500,000, and this strategy instilled a 'fear factor' into employees.

Table 29 Productivity improvements at Aer Lingus 1999 – 2004

	1999	2000	2001	2002	2003	2004
Staff	7,044	6,624	6,833	5,245	4,281	3,006
Aircraft	38	39	39	34	34	33
Passengers (m)	6.5	6.9	6.3	6.2	6.6	6.9
Turnover (€m)	1,134	1,372	1,097	958	888	906
Profit (€m)	71.6	79.9	-50.4	63	83	107
Turnover/staff (€)	161,016	207,201	160,544	182,650	207,428	231,951
Profit/staff (€)	10,165	12,062	-7,375	12,011	19,387	27,394
Profit/aircraft (€m)	1.8	2.1	-1.2	2.0	2.4	3.2
Passenger/aircraft	171,000	182,000	162,000	194,000	194,000	211,000
Passenger/staff	923	1,041	922	1,182	1,542	1,779

Source: Aer Lingus Accounts 2000 – 2005

v) A survey conducted by Alan Long indicated that 77% of the Aer Lingus staff members that he questioned stated that their workload had increased since 2001 (Long, 2006).

3) Radical changes in Distribution

i) O'Toole and Pilling (2003) indicated that the passenger processing costs at Aer Lingus were €20 higher than Ryanair's because its distribution channels relied heavily on travel agents. Walsh widely claimed that distribution was the key to gaining competitive advantage. The carrier removed the shamrock logo from the tail fin of a number of its aircraft and replaced it with AerLingus.com livery, demonstrating its willingness to lose its trademark link with tradition and heritage in favour of an innovative and technological logo and gain competitive advantage. From the period 2001 to 2003, Aer Lingus estimated that it reduced its distribution costs by 56% (€76million) and that the majority of the cost savings were achieved by simply reducing its dependency on travel agents - it reduced their commission from 4% in 2002 to zero two years later, widely advertising its aerlingus.com channel as an alternative, which bypassed GDS fees and contributed to the savings on distribution costs. It imitated large parts of Ryanair's booking engine by incorporating a one-way fare for example, and the website also reduced the workload on the call centre. By December 2003, 50% of sales were generated over the web, climbing to around 70% at the end of 2004. By 2007, a target of 85% of online sales is envisaged.

ii) The incumbent also used the webpage to generate additional revenue streams, such as fees for changing a ticket, name changes, etc. It invested heavily in IT as a means of reducing costs in the medium term and it automated its check-in facilities in 2003 at Dublin and Cork airports, and shortly thereafter extended it to other airports. The airline reported that some 52% of passengers used the "FastPass" automated service by November 2004. Aer Lingus views this service as a means of reducing airport and handling charges through reduced desk rental and labour costs (Aer Lingus, 2004).

iii) By 2005, it was fully e-ticket compatible with other Oneworld alliance partners (ATI, March 2005). IATA estimates that each e-ticket will save at least $9 in processing costs over paper tickets and studies have shown that around 30% of all intra-EU passengers had tickets that accommodated interlining in 2001 (DG Competition Consultation Paper, 2001).

4) Retain the Aer Lingus' differentiated products

i) *Professional, efficient and friendly service*. Kangis and O'Reilly (2003) emphasised that the Aer Lingus' brand represented quality, comfort and hospitality, embroidered with an excellent customer service reputation. Connolly (2002) also described that the Irish incumbent had developed a reputation for

friendliness and service, enabling it to win countless accolades over the years. Harrington et al. (2005) also argued Aer Lingus' core strength was its customer service component, a point at which it judged arch rival Ryanair to be most exposed. Walsh built on this competency while taking Aer Lingus forward, and the low prices coupled with a superior product created value for the customer when compared with low cost carriers. Aer Lingus' strategy was a twin track one, namely to offer cheaper fares while maintaining its reputation as a service-oriented airline. Furthermore, if a customer misses his or her flight or encounters a cancelled flight, they can get the next available flight – space available - without any extra cost. Such service propositions increase the perceived value for the customer, which increases brand loyalty and, ultimately, revenues.

ii) *Attractive schedule and interline facilities*. Aer Lingus' prided itself on an attractive schedule and, at Dublin for example, it had 48.8% of the peak morning departures[101] (Mannion, 2006). A large survey conducted by O'Connell and Williams (2005) concluded that over 30% of the passengers chose Aer Lingus because of its attractive schedule and connectivity at Heathrow, as 40% were interlining onwards to other carriers from there. On the North Atlantic market, Coleman (2004) stated that around 300,000 passengers interline from American Airlines to Aer Lingus annually.

iii) *Quality*. Walsh believed his business model of quality and product consistency, allied with cheap fares, would win over the doubters by creating greater perceived value than competitors in the eyes of the consumer.

iv) *Reliability and on-time*. O'Connell and Williams (2005) concluded that 20% of Aer Lingus passengers choose the carrier because of its reliability. From the UK, Aer Lingus had around 68% of their flights running on-time in 2000, and research from over 23,000 flights unveiled that this had increased to 73% by 2004, while the carrier had only 4.8% of its flights delayed by more than one hour (Flightontime, 2004). While the battle between Aer Lingus and Ryanair raged, the incumbent widely publicised that it safeguarded the welfare of passengers and would not leave them stranded in the event of a problem with the flight.

v) *Continue to serve primary airports*. The incumbent continued servicing primary airports as it provided more value to its customers.

vi) *Frequent Flyer benefits*. It retained its frequent flyer programme, entitled 'Gold Circle Club', that was commissioned back in 1988, and continued to build on this program by rewarding the loyalty of passengers for continued service.

vii) It retained its membership of the Oneworld Alliance[102].

viii) It retained its airport lounges.

ix) It maintained its standard on allocated seating.

[101] The peak morning departures were from 06:00 to 07:30

[102] Aer Lingus has elected to leave the alliance in April 2007.

5) Communicated its new proposition

Leading advertising academics, Rossiter et al. (1991), argue that brand attitude cannot be formed, and intention to buy cannot occur unless brand awareness has occurred. Sheehan et al. (2005) carried out a study on customers' attitude to Southwest Airlines after watching a 30-minute television program based on the carrier, and the results indicated that attitudes were positively affected among those who were familiar with the brand featured in the program, but who had never actually used the brand. Walsh stipulated that advertising in the past may have focused on the luxury of business travellers but that was no longer viable and realistic. In the past, Aer Lingus promised more than they could deliver but now they delivered what was needed. They spent an estimated €4 million on advertising in Ireland in 2002 and paid out a similar amount for the UK market (Mitchell, 2003). Figure 35 (below) shows an example of how Aer Lingus advertised its revamped product - very simple advertising is used, combining a destination, a low price and a differentiating product feature. Typically, a single destination is clearly visible, emphasising the use of primary airports, and the price is also prominently placed - by using 'from fares' and one-way pricing, the tariffs look more attractive. This is reinforced by including the phrase "including taxes + charges", an additional item that is often not advertised by budget carriers but sometimes constitutes a sizable proportion of the total fare. The advertisement shown also alludes to Aer Lingus's differentiator of assigned seats, setting them apart from low cost carriers. The brand is clearly visible, enticing the customer to book via aerlingus.com. Finally, the [strapline] tries to capitalise on the airline's experience as a full service carrier, while emphasising its new low price structure: "Low Fares, Way Better."

Figure 35. Example of Aer Lingus' new approach to advertising

5.4 Evolution of Aer Lingus' key performance indicators

The ultimate proof of the sustainability of Aer Lingus' turnaround strategy came about after the implementation of the survival plan that produced a continuous return to profit. Table 30 (below) shows the financial results of Aer Lingus through its transition period 2001 to 2004. Management had radically changed the Aer Lingus' business model and achieved a marked improvement in the company's financial performance. However, the carrier's turnover decreased by around 17% to €906 million by 2004 which reflects the organisation's all-out drive to reduce fares and challenge Ryanair's aggressive pricing strategy. Its operating costs have fallen significantly, from €1.3 billion in 2000 to €810 million in 2004. However, the majority of the structural cost changes occurred between 2001 and 2003 as costs had levelled off by 2004. Management had transformed an operating loss of €52 million (net loss of €139 million) in 2001 into an operating profit of €67 million (net profit of €35 million) by the following year – a remarkable return to profit. By 2003 this had further increased to €83 million and by 2004 the carrier was sufficiently restructured to generate three consecutive years of profitability. The company could look forward to expanding its operations under the proven business plan. The low profit for 2004 was due to an exceptional item, notably redundancies, as the workforce was reduced by a further 1,325 employees. In approximately six months, Walsh and his management team had turned a significant loss into an altogether unexpected profit and they had turned Aer Lingus into a role model for similar sized airlines.

It shows that the cost reduction initiatives and changes to the business model were now positively impacting on profitability. The result of these significant cost cuts indicate that Aer Lingus' operating margin rose to 10.6% in 2004, while it was 4.7% in 2001. Essentially, this means that Aer Lingus was making almost €0.11 cents on every Euro of sales by 2004 instead of losing about €0.05 cents on every Euro in 2001. This improvement in profitability has occurred because the fall in turnover over the five year period (as a result low fares) has been less than the fall in its cost base. Walsh's focus on costs made the carrier leaner, flexible and more competitive, and had effectively turned Aer Lingus into a role model for similar sized companies. The management team closely focused on Liquidity Management which ensured that the working capital and cash resources were sufficient to meet the operating and capital asset requirements of the business.

Table 30 Aer Lingus Financial Results (€000) (1999 – 2004)

	2004	2003	2002	2001	2000	1999
Profitability						
Turnover	906,836	888,298	1,170,936	1,097,100	1,372,419	1,207,681
Cost of Sales	659,503	651,598	893,970	905,107	970,025	
Gross Profit	211,333	236,700	276,966	191,992	402,161	383,195
Gross Profit[a] (%)	23.3%	26.6%	23.6%	17.5%	29.3%	31.7%
Operating Costs	**810,522**	**805,155**	**900,738**	**1,149,326**	**1,296,904**	**1,065,166**
Operating Profit	**96,314**	**83,143**	**67,131**	**-52,226**	**79,931**	**95,868**
Oper. Margin[b] (%)	10.6%	9.3%	5.7%	-4.7 %	5.8%	7.9%
Profit for year	1,236	69,217	35,315	-139,923	71,626	55,465
Shareholders Funds	366,204	321,868	255,603	223,921	363,264	289,966
ROCE[c] %	26.3%	25.8%	26.2%	-23.3%	22.0%	33.0%
Activity						
Trade Debtors	31,358	36,445	47,232	60,596	71,995	70,559
Debtors Days[d]	12.6	14.9	14.7	20.1	19.1	21.3
Trade Creditors	48,440	32,954	29,085	51,192	63,723	55,815
Creditor Days[e]	25.4	13.5	11.8	20.6	23.9	24.7
Liquidity						
Current Assets	859,445	724,893	763,819	741,709	956,019	897,113
Curr. Liabilities	442,120	408,908	454,083	488,743	520,186	428,588
Current Ratio[f]	1.94	1.77	1.68	1.52	1.84	2.1
Op. Cash Flow	102,666	111,663	85,407	42,070	164,423	253,721
Financing						
Long Term Liab	400,214	383,527	456,739	456,601	457,353	507,535
Gearing[g] %	109.3%	119.1%	178.7%	203.9%	125.9%	175.0%
Interest Cover	-0.24	2.7	1.2	-5.3	2.33	2.1

Source: Analysis from Aer Lingus accounts from 1999-2004

[a] Gross Profit % is calculated by: Gross Profit/Turnover
[b] Operating margin % is calculated by: Operating Profit/Turnover
[c] Return on Capital Employed is calculated by: Operating Profit/Shareholders funds
[d] Debtors Days is calculated by: (Trade Debtors/Turnover)*365
[e] Creditor Days is calculated by: (Trade Creditors/Cost of Sales)*365
[f] Current Ratio is calculated by: Current Assets/Current Liabilities
[g] Gearing is calculated by: Long Term Liabilities/Shareholders Funds

The Return on Capital Employed (ROCE) is used in finance as a measure of the returns that a company is realising from its capital employed. The ratio can also be seen as representing the efficiency with which capital is being used to generate revenue. Aer Lingus' ROCE has greatly improved over the last three years as it spectacularly changed from -23.3% in 2001 to 26.3% by 2004 which was positively impacted by its improving operating profit (Aer Lingus' operating profit in 2004 had increased by 152% since 2001) together with an increase in shareholder funds.

Debtor turnover, expressed in days, has fallen in overall terms from 20.1 days in 2001 to a low of 12.6 days in 2004. It indicates the average time taken to collect trade debts and it shows that Aer Lingus has improved its efficiency as it now takes 7.5 days less to collect debts, which shows that the carrier has moved away from the government

strings of inefficiency and has become more business-like. This result is two-fold. Firstly, it shows the impact of online selling as the more seat inventory is sold via the Aer Lingus website. In 2000 the carrier sold just 1% of their seats online but by 2004 this figure had grown to 66%, and the majority of the sales are conducted by credit cards whose e-commerce platforms allow the transaction to be quickly credited to the bank account of the airline, while travel agents use time consuming Bank Settlement Plans (BSPs) which take weeks to be credited to the airline account. Secondly, the airline has become a more effective negotiator and it has reduced the time it takes to turn debtors into cash. Creditor turnover, expressed in days, has increased to 25.4 days in 2004 from 20.6 in 2001. The poor financial risk of Aer Lingus is shown by the change in trade creditors from 2001 to 2002 as the volume dropped by 74% because companies were unprepared to offer credit facilities to an airline that had lost €139 million in 2001, and they also demanded their monies to be paid earlier (from 20.6 days in 2001 to only 11.8 days in 2002). However, by 2004 the financial situation significantly stabilised and Aer Lingus was again considered a solid company to offer a credit extension to, and the airline capitalised on its improved financial condition by negotiating longer periods to settle accounts. Ideally, the average creditor payment period should be more than the average debtor collection period so as to improve the cash position.

An organisation's current ratio gives an indication of its ability to meet short-term debt obligations: the higher the ratio, the more liquid the organisation. Morrell (1997, p68) describes that a ratio of 1 is generally considered to have good short-term financial strength but a ratio falling below this level indicates that the airline is not generating adequate cash to meet its short-term obligations. The liquidity of Aer Lingus has improved over the five-year period, rising from a low of 1.52:1 in 2001 to 1.94:1 in 2004. The current ratio for 2004 represents an improvement in terms of Aer Lingus' ability to meet its short term debt repayments. The carrier's long term liabilities have also decreased over the years, which has improved the performance of the company's gearing ratio, and this is critical to the evaluation of a company's financial structure and bankruptcy risk. A gearing ratio may take many forms but it usually examines the relative relationship between debt and shareholders' funds (i.e. equity and assets of a company). From 2001 to 2004, Aer Lingus' gearing ratio halved and this is because the carrier has chosen to lease ten of its A320s from ILFC rather than purchase the aircraft. Morrell (1997) explained that gearing will decline as more assets are financed by operating leases. Aer Lingus now depends less on fixed interest debt as a source of finance relative to shareholders' funds and is a welcome development, given that the higher the gearing ratio, the greater the proportion of an organisation's money that is borrowed, which increases the risk. Moreover, an organisation with a high gearing ratio may become very exposed should interest rates go up. Another measure that can be used to assess whether an organisation is over-exposed to interest rate changes is the interest cover ratio**.** It also describes the safety margin that a business has in terms of being able to meet its interest obligation. A low value for the interest cover ratio means

that the business is potentially in danger of not being able to meet its interest obligations. Morrell (1997, p65) suggested that this ratio is particularly important as it shows the ability of the airline to meet interest payments on its debt, and banks generally look for an interest cover of 2.5:1. Aer Lingus' interest cover fell dramatically in 2001 to -5.32, but has continuously improved since then as it had a cover of 2.7 times in 2003. Coleman (2004) stated that this positively impacted the decision by the banks Bank of Ireland, Lombard Aviation Capital and Macquarie Bank, to finance its two Airbus A330 aircraft, raising approximately $70 million at a cost significantly below market cost of funds. However, the interest cover for 2004 registered -0.24 times - this was due to exceptional items for the year, which amounted to €102.5 million and was mostly related to the voluntary redundancy and early retirement packages that were given to employees leaving the company.

Table 31 (below) shows the impact of the structural changes that Walsh and his team applied at Aer Lingus through the turbulent times of 2001 to 2003. The carrier's overall capacity fell by 10%, which represented a closer alignment to demand, thus triggering higher load factors. Aer Lingus' reduction in fares had a cascading effect on its income as yields fell by 23%, which subsequently reduced its unit revenues by 13%. However, unit costs (excluding depreciation, amortisation, interest and operating leases) fell by 23% and, if these items were factored into the cost element, then overall costs would have fallen by slightly over 30% in just three years (see below). Therefore, costs fell at a much greater rate than yields and this result generated very impressive cash returns as its cash flow on a per seat basis increased by over 150% from 2001 to 2003, clearly indicating the importance of the cost reduction strategy. By 2004, the company had over €800 million in cash, which earned €33.5 million in interest. Table 32 (below) examines Aer Lingus' core cost reductions from 2001 to 2003. Its overall costs had fallen by 30% and management were targeting a further 5% reduction in 2004 to be followed by further cuts beyond that. At the onset, Aer Lingus targeted to reduce costs by €190 million but, as a result of the actions taken, described above, the airline exceeded the target and reduced its costs by €344 million. High cost components that could be easily stripped were quickly addressed, which included distribution, aircraft hire and outsourcing. Aer Lingus sold its BAe 146s and two 737s (leased one back), and moved to a standardised fleet. The arrival of the new Airbus aircraft lowered the depreciation and maintenance costs significantly while at the same time new contracts were negotiated by management to increase aircraft and crew productivity, which further lowered the cost structure. Aer Lingus increasingly focused on a point-to-point service and placed less emphasis on its hub and spoke operation since it did not operate schedules that incorporated waves of departing flights like that seen at BA, Air France, Lufthansa, Iberia, etc. The staff cuts and savings in overhead costs amounted to IR£148 million as management eliminated around one-third of the workforce, and by 2003 it was carrying 11% more passengers than it did two years previously. Fuel is a major expense to all carriers and Aer Lingus uses about 400,000 tonnes annually - a

movement of $1 per tonne impacts its cost by $400,000. However, management contained fuel costs by hedging around 40% of its fuel requirements 18 months in advance (Coleman, 2004).

Table 31. Changes in Aer Lingus' key performance indicators 2001-2003.

	Unit	2001	2002	2003	(2001-03)
Seats		7,578	6,479	6,823	- 10%
Load factor	RPK/ASK	72%	79%	81%	+ 9%
Yield	€/RPK	0.114	0.110	0.087	- 23%
Unit Revenue	€/ASK	0.082	0.087	0.071	- 13%
Unit Cost*	€/ASK	0.074	0.071	0.056	- 24%
Cash/Seat	€/Seat	22,363	50,692	56,398	+152%

* Excludes depreciation, amortisation, interest and operating leases

Source: Aer Lingus

Table 32. Aer Lingus's primary areas of cost reduction 2001-2003

Distribution	- 56%
Aircraft hire	-51%
Misc. DOCs	-49%
Overheads	-36%
Fuel	-31%
Airport charges	-28%
Depreciation	-21%
Maintenance	-12%
Staff costs	-21%
En-route	+6%
Total	**-30%**

Source: Aer Lingus

Table 33 (below) shows that Aer Lingus has recovered from the crisis of 2001 to become one of the best performing network carriers in Europe by the end of the financial year 2003. It had the lowest fleet age and the highest load factor when compared to other full service airlines, and its yield is on a similar platform to that of Iberia or 64% higher than Ryanair's. However, the difference between Aer Lingus' cost per seat and revenue per seat is very impressive (26%), and it matches that of easyJet and is five-times higher than SAS or Alitalia. This shows that the structural changes made at Aer Lingus have greatly improved its competitive position as its operating margin was the highest (9.3%) among its peers, and it has integrated many important differentiators into its business model but still retained a low unit cost, which has allowed it to challenge the low cost carriers.

Table 33. Peer Benchmarking of European airlines (financial year ending 2003)

	Aer Lingus	Austrian	IBERIA	SAS	Alitalia	SWISS	RYANAIR	easyJet
Home Population (m)	4.0	8.2	40.3	19.0	58.1	7.5	---------	----------
Passengers (m)	6.6	7.1	25.6	19.3	22.5	10.7	23.1	20.3
Employees	4,281	7,167	24,441	9,147	22,126	8,072	2,302	3,372
Aircraft (S-H)	27	76	122	164	157	61	72	74
Aircraft (L-H)	7	12	27	10	25	20	0	0
Total Seats	6,823	12,798	34,363	25,268	33,709	15,785	11,368	10,576
Avg. Fleet Age	4.6	6.1	8.5	8.7	9.7	5.6	7.3	6.0
Load Factor	81%	70%	74%	63%	70%	60%	81%	84%
Yield (€/RPK)	0.087	0.077	0.088	0.120	0.095	0.068	0.053	0.078
Cost*/ASK (€)	0.056	0.042	0.055	0.073	0.063	0.040	0.024	0. 063
Operating Margin	9.3%	2.8%	3.5%	6.5%	-8.8%	-12.8%	23.2%	5.2%
Revenue per Seat (€)	130,190	139,182	133,424	139,235	128,606	139,622	81,683	136,644
Cost per Seat (€)	102,798	119,793	113,437	132,719	122,389	137,675	45,827	110,116
Difference Revenue and Cost per Seat (%)	**26%**	**16.1%**	**17.6%**	**4.9%**	**5.1%**	**1.4%**	**78.2%**	**24.1%**

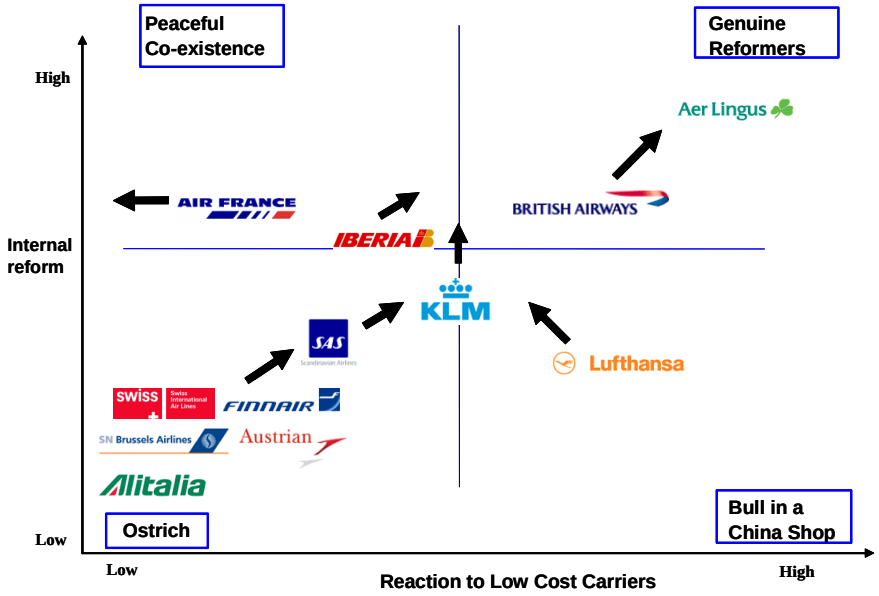
* Excludes depreciation, amortisation, interest and operating leases

Source: Company accounts

5.5 The Response of European incumbents to low cost carriers

ABN AMRO (2005) gives the positioning of European carriers that have responded to low cost carriers and have found that Aer Lingus restructured itself the most in order to react to the low cost carriers, as shown below in Figure 36. The chart also shows that the two other network carriers that most reacted to low cost carriers were British Airways and Lufthansa, but the latter did not internally reform itself as much as some of the other carriers. These two incumbents are now described in some detail (below) to outline the strategies that they implemented to counteract the threat posed by budget carriers.

Figure 36. European network carriers' response to low cost carriers.



Source: Adaptation from ABN AMRO (2005)

5.5.1 *The response of British Airways*

Management has implemented numerous changes which have transformed the financial results of BA's short-haul operations from a loss of £172 million in 2001 to a profit of $7 million by 2006. The following is an outline of the core strategies that they changed:

1) Rationalised the network.

i) British Airways did not have a seamless, short-haul airline, but a collection of strategically diverse carriers, such as Go, Deutsche BA, Air Liberté, Bral, Brymon, Maersk Air and CityFlyer Express, each of which was an independent/quasi-autonomous business with separate management and sales divisions. It sold Go as it cannibalised its own sales and restricted management's ability to cut costs at the mainline carrier. It also sold Air Liberté and Deutsche

BA. Regional subsidiaries, British Regional Airlines Group (BRAL) and Brymon Airways, were merged to form British Airways CitiExpress. Maersk Air was re-branded under the name Duo Airways following a management buy-out of the Birmingham-based carrier, while CityFlyer Express was reabsorbed into BA's mainline short-haul operation at Gatwick. It also realigned capacity with demand as it replaced B767s to Oslo, for example, with A320s, and closed routes to secondary airports on the continent. Its short-haul fleet was reduced from 234 aircraft in 2001 to 179 by 2005, and subsequently its short-haul capacity (ASKs) was reduced to 21% in 2005/06 from 23% in 2001/02.

ii) BA operated a twin hub policy at Heathrow and Gatwick. It restructured its Gatwick hub to focus on leisure passengers, and its network there provides high frequency, point to point leisure services on its 43 routes, with 15% of its short-haul services connecting to BA's long haul network at Gatwick, while the Heathrow network retained a two class service that interconnects extensively to its long-haul operation.

iii) In January 2006, BA CitiExpress, the loss-making UK regional airline, was renamed as BA Connect in an effort to make it more "distinct" in the market place. It included the following strategies on all routes (excluding London City):

- Single-class cabins
- One-way fares were reduced by 40% (compared to BA CitiExpress)
- Open seating arrangement
- Introduced pay-on-board meal and beverage services, however free in-flight meals remained on London City routes
- Route frequency was a differentiating feature
- BA Connect reduced its fleet by 40 aircraft since 2001, which simplified its fleet from 9 aircraft types to 3, and it reduced its number of bases from 15 to 8

BA Connect continued to under perform financially as it only managed to minimally curtail its losses from £27 million in 2005 to £20 million a year later, while transporting around 3.4 million passengers a year. Subsequently, Walsh (who moved from Aer Lingus to BA) informed management to transform the carrier into a profit making venture or it would face closure by 2008. In the interim, BA Connect was sold to Flybe in return for a 15% stake equity in the enlarged regional airline which will gradually rebrand the BA subsidiary. However, British Airways retained BA Connect's London City based flights.

2) Distribution changes

i) BA's distribution/selling costs were reduced from 18% in 1994/95 to 7.7% by 2004/05. In 2003 it reduced this cost by £212 million and by a further £100 million in the following year. It has achieved this by the following methods:

- Eliminated travel agent commission.
- Around 60% of all short-haul travel is made on BA.com, while one-third of BA's total passengers booked online in 2006.
- In the 1990s, BA had at least 70 'selling classes' and by 2004 this had been reduced to 25.
- Fare restrictions such as Saturday night stay, advanced purchasing, etc., were eliminated
- Yield management systems were structured on a similar platform as budget carriers with the fares increasing as the departure date approaches.
- BA restructured its flexible tickets to three simple grades: flexible fares, fares that can be changed for a fee, and restricted fares that are unchangeable.
- BA.com allowed customers to manage their frequent flyer programs online and to customise their own bookings, such as seat selection, meal choice, etc. One-third of all BA customers now use the e-commerce platform to customise their itinerary.
- BA.com also enabled 'upselling' to premium economy (more legroom) which had increased yield by 1.5% on tickets sold through the website.
- It introduced dynamic packaging where customers can assemble their own holiday components, such as car and hotel

3) Labour cost reduction

Wave after wave of cost cutting campaigns have been launched since 2001. The 2002-04 'Future size and shape' restructuring program saved £460 million in labour costs, followed by a further push to save £450 million - and this was followed by yet another cost reduction campaign, called 'Fit for Five' (moving to Terminal 5), which was estimated to remove an additional €300 million in labour cost[103]. Similar to the strategy adopted at Aer Lingus, Walsh will eliminate more than one-third of all 1,715 management positions by March 2008, including 200 senior and 400 middle level positions, saving the company £50 million by the end of 2006/07 financial year. Productivity has significantly increased as a result of the downsizing as the productivity per employee (ATK) increased by 40% to 53.3 million in 2005/06 from 2001/02.

Overall, British Airways has come a long way in reforming its business model but needs to continuously benchmark its costs against low cost carriers to determine the extent of change required to remain competitive in the short-haul market (British Airways reports and accounts 2002, 2003, 2004, 2005, 2006; Aviation Strategy, April 2004; ATI, January 2006; ATI, May 2003; Pilling, 2006).

[103] British Airways' short haul and long haul aircraft will be positioned at Terminal 5, where economies of scale will reduce costs by basing all staff, equipment and logistics at the new site. T5 is in the middle of both runways enabling taxi and turnaround times to be reduced.

5.5.2 The response of Lufthansa

Lufthansa was the second airline shown in Figure 36 above, to have significantly reacted to low cost carriers but did not internally reform itself as much as some of the other carriers. Lufthansa's capture of a 'bull in a china shop' is reflective of its numerous court battles with Ryanair with regard to its misleading advertising campaigns over the naming of its secondary airports. Lufthansa tried to block Ryanair from adopting Frankfurt Hahn as a designated airport for Frankfurt, and similarly for adopting Niederrhein Airport as a designated Dusseldorf airport. Numerous clashes over fares also evolved. Klingberg (2005) reported that the low cost carriers increased their market share between Germany and the UK by 23% from 2002 to 2003, triggering an average 23% drop in the average fares of Lufthansa. Adding to its problems, Air Berlin raised €235m from an IPO in May 2006 and has accelerated the process of consolidation in Germany by acquiring Germania Express and Deutsche BA. The merger increased the pressure on Lufthansa as its combined fleet had grown to 64 aircraft and was carrying around 20 million passengers by 2006. The following is an outline of the core strategies that Lufthansa changed:

1) Rationalised the network.

i) Lufthansa de-peaked its Frankfurt and Munich hubs by moving around 25 flights per day to off peak times, and has reorganised its regional feeder flights to catch its departing waves of international flights. Subsequently, these hubs have become two of the most punctual hubs in Europe[104] and have allowed the incumbent to reduce its short haul turnaround times to 40 minutes[105], increasing productivity by 11%. Its short-haul flights have also incorporated a 'Ping-pong strategy' that enables crews to fly between two airports all day, minimising pilot planning and scheduling complexity.

ii) Lufthansa's five regional airlines, namely Air Dolomiti, Augsburg Airlines, Contact Air, Eurowings as well as Lufthansa Cityline, mounted a challenge to budget carriers while at the same time constraining their growth. The arrangement between Lufthansa and its regional affiliates stipulates that the commercial side is the responsibility of Lufthansa, while the operations are the responsibility of the regional associates.

2) Germanwings

i) Lufthansa' affiliate Eurowings[106] set up a low cost carrier subsidiary called Germanwings in late 2002. It opened bases at four primary German hubs that partitioned the German market as: Cologne/Bonn covered cities to the west of

[104] Luftansa's punctuality at Munich was 79.9% for 3Q 2005, while Frankfurt was 77.9% (AEA, 2006).
[105] At the decentralised stations Lufthansa turns around aircraft in 25 minutes (30 minutes when crew is changed).
[106] Lufthansa has a 49% equity partnership in Eurowings since April 2004.

Germany; Stuttgart covered the southwest; Berlin Schoenefeld encompassed destinations from the north-east; and Hamburg was serving cities from the north of Germany. However, this strategy must be questionable as it is not directly challenging low cost carriers who were largely operating from secondary airports.

ii) Crew costs were contained by establishing a two-tier pay structure between Lufthansa mainline pilots and Germanwings/Condor flight crews. The structure also allowed mainline pilots to switch to a more senior position at Germanwings, albeit on a lower salary structure.

iii) 100% online booking and has a frequent flyer program linked to the mainline program.

iv) Around 50% of the passengers on Germanwings are travelling for business purposes and the carrier has offered a 'corporate package' that includes reduced fares, ability to change flights and cancel flights. However, this strategy is confusing for companies and it may dilute its own corporate travel policy at the mainline carrier.

3) Product and pricing changes

i) Lufthansa kept its focus on its short haul business passengers by adopting the following strategies: configuring the business cabin[107] to a four-abreast seating configuration; fast-tracking passengers through airport security; more lounges at domestic airports; and "improved onboard service" (i.e. catering). This strategy has been effective in halting the decline of the short-haul business traveller as the number of passengers fell from 32% in 2001 to 18% in 2003, but since the revamped seating arrangement, introduced in April 2004, the numbers have stabilised and, by the end of 2005, the number of business passengers travelling in short-haul business class has remained at 18%.

ii) It simplified its economy fares into two levels of flexibility. Firstly, its flexible ticket does not incur a re-booking charge and allows the ticket to be refunded. Secondly, its inflexible ticket is non-refundable and is subject to a €25 rebooking charge.

iii) It introduced *budget economy* flights, called 'BetterFly' fares, for €99 return inclusive of taxes, and the incumbent reiterated that this has provided real competition to the low cost carriers - and especially to Air Berlin.

4) Airport equity

In October 2005 Lufthansa purchased a 9.1% stake in Fraport, the operator of Frankfurt airport (Lufthansa's biggest hub). The airport group also owns equity in other airports that include Antalya, Hahn, Hannover, Lima and Saarbrucken. Strategically, Fraport owns 73% of Franfurt Hahn, which is the German base of Ryanair, and this equity

[107] Lufthansa is the only European airline that offers four abreast seating in short-haul business class. It also installed new seating on all its 145 short-haul aircraft in both economy and business class.

investment by Lufthansa could lead to higher charges for the budget carrier and a lower charge for the incumbent at the main airport as Ryanair pays €4.35 per passenger at Hahn, while at Frankfurt main a full service airline pays €17 per passenger.

5) Inadequate internal reform of Lufthansa

Table 34 (below) shows that Lufthansa has not restructured its internal process like that of Aer Lingus or British Airways. Comparing 2005 with 2000, the only notable areas of cost success have been in sales commission, which went down by 44% over the period, and its foreign currency translation losses also decreased. Unlike Aer Lingus and British Airways, Lufthansa's staff costs have increased by more than a third and they have also been unable to curtail staff expenses, which increased by 15%. BA had limited the rise in fuel costs to 48% over the period 2000 to 2005, while Lufthansa's fuel costs increased by 78%. Similarly, it did not contain costs with the other expenses. Unlike British Airways, its employee productivity remained relatively level from 2000 to 2006 (increased from 2002 to 2004 and fell again by 2006).

Table 34. Lufthansa's cost breakdown 2000 - 2005

	2000	2001	2002	2003	2004	2005	2005 v 2000
Staff costs	3,625	4,481	4,660	4,612	4,813	4,853	+34%
Staff expenses	503	585	538	524	509	579	+15%
Fuel	1,499	1,621	1,347	1,352	1,819	2,662	+78%
Purchased services	2,869	3,692	3,610	3,563	3,883	3,802	+33%
Rents and maintenance	475	595	648	617	581	594	+25%
EDP Distribution	236	259	245	223	242	240	+2%
Sales commission	1,181	1,078	997	868	790	662	-44%
Advertising	155	146	153	149	203	213	+37%
Foreign currency losses	445	431	535	469	298	345	-22%
Charges	2,250	2,311	2,239	2,290	2,542	2,543	+13%
Depreciation & amortisation	1,022	1,714	1,243	1,930	1,112	1,398	+37%
Other	1,143	1,592	1,282	1,264	1,057	1,127	-1%

Source: Lufthansa annual report, 2000; 2001; 2002; 2003; 2004; 2005

Lufthansa urgently needs to curtail its costs as they will become uncompetitive, and low cost carriers could become a much greater threat (Lufthansa annual report, 2000, 2001, 2002, 2003, 2004, 2005).

5.5.3 The Response of the other European network carriers

Iberia, which is positioned in the 'Co-existence' quadrant in Figure 36, has been in competition with chartered airlines for the last twenty years as UK charters, such as Monarch, Britannia, Air 2000, MyTravel Airways and JMC, and German charters, such

as Condor and LTU, have serviced Spanish beach resorts in competition with the Spanish incumbent. Iberia set up its own chartered carrier, called Viva[108], as a counteroffensive mechanism to gain market share in the Spanish charter market. Iberia also faced competition from Spanish domestic carriers, such as Aviaco, Air Europa and Panair, and set up its own subsidiary, called Air Nostrum, in 1997 to compete more cost effectively on the shorter seat-mile operation. However, low cost carriers have now largely replaced the charters, as Baker (September 2005) stated that 29% of tourists holidaying in Spain in 2004 had used budget carriers. By 2002, Iberia had cut capacity by 5.6% which positively impacted load factors and reduced staff by 2,300 employees. It also reduced its fares by 20-30% on non-peak flights and has tightened its relationship with British Airways by jointly co-operating on matters such as pricing and scheduling on routes between London to Barcelona and Madrid. In addition, Iberia replicated its earlier strategy of addressing competition with a similar airline business model as it took a 20% stake in a new Barcelona-based low-cost carrier, Clickair.

There are few low cost carriers based in France, and a report cited by Anker (2005) indicated that low cost carriers only penetrated 4.4% of French domestic markets by early 2005, while they constituted 18.6% of its intra-European market with Air France and its partners having the remaining share. Flight International (2004) outlined that the incumbent holds 53% of the slots at Paris Orly and 74% at Paris Charles de Gaulle, which represents 60% of the total French airport traffic. This fortress position has caused an imbalance as easyJet carried 3.2 million passengers in 2003 to and from France, compared with 44.1 million carried by Air France and its affiliates. Brit Air (Air France subsidiary) ceased services from Gatwick to Strasbourg, claiming unfair competition from Ryanair by stating that its service was 'subsidised' by Strasbourg's local chamber of commerce and alleging that it constituted illegal state aid (ATI, July 2003). Ryanair subsequently moved its services to Baden Baden just 40km away, and Brit Air recommenced its original services - clearly Air France exerted its political clout in the French courts to limit competition.

Alitalia has been the weakest performer in responding to the low cost carriers. By 2004, there were twenty-five low cost carriers operating to the Italian market and, consequently, it witnessed a 180% increase in low cost seat capacity from 2002-04. Ryanair and VolareWeb accounted for two-thirds of these departures - however, the latter collapsed in 2004. Ryanair has also encroached into the Italian domestic market - the first foreign carrier to do so. It now serves 15 airports with bases at Milan Bergamo, Rome Ciampino and Pisa, and Doganis (2005) noted that Ryanair had captured 43% of the total scheduled traffic between Italy and London by 2004. Alitalia has many problems, including an aging fleet, frequent strikes, management changes, and is burdened with net debts of €1.8 billion, while net losses of €2.4 billion have been

[108] Iberia sold Viva to Iberojet for €18 million in December 2003 (ATI, December 2003).

accumulated to date. It was granted access to a €400 million state-guaranteed bridging loan, which signals that it was unable to secure financing from banking institutions.

However, out of the assorted European incumbents mentioned above, Aer Lingus has been the genuine reformer and has successfully adapted its strategy to produce transformational changes that have been very effective in competing with low cost carriers.

5.6 Changes in Aer Lingus to 2006

Walsh remained aggressive over further cost cuts: he wanted to trim another 1,300 jobs and to privatise the national airline, even proposing a management buyout of Aer Lingus. The government concluded that the direction of the national carrier was no longer in line with the vision of Walsh, and he subsequently left the carrier in February 2005. Mannion replaced Walsh in August of the same year – he was seconded from Emirates which had posted 18 years of consecutive profits and achieved a 14.7% operating margin in 2004/05, which is comparable to the margins attained by the low cost carriers. Table 35 (below) shows that Aer Lingus continued to exert pressure on its unit costs (excluding fuel) as they fell by almost 16% from 2004 to 2006. Walsh's staff attrition process was still taking effect as additional employees left the company and investments in IT substituted the need for staff as passengers increasingly used kiosks and checked in by web. In 2004, Walsh negotiated new work practices with cabin crew that reduced the number of cabin crew per aircraft, and introduced a strategy called 'Fly anywhere', which consisted of clauses that forced cabin crew to transition from a short-haul route to a long-haul route if required. Aer Lingus paid €200 million for airport charges in 2006, down by 2.5% over 2004 levels, and the carrier negotiated more favourable landing charges at primary airports. An increased proportion of its capacity was also serving the Eastern European and Spanish destinations which had lower airport charges than Western Europe. The carrier also achieved economies of scale from expansion of its network while maintaining relatively fixed direct operating costs and overhead costs. It also reduced its ground and catering charges by 27% through outsourcing to third party service providers, which eliminated the associated cost for staff, equipment and rent. It also provided catering to other carriers at Dublin and began turning this cost component into a revenue generator. Maintenance also fell by 25% over the three year period as the carrier transitioned to an all Airbus fleet by 2006 with an average aircraft age of just 3 years. The cost effective maintenance contract that Walsh had successfully secured remains in force until 2008, and this also impacted its reduced maintenance charge. En-route charges increased as a result of the carrier's extending route network and its average stage length was also increasing. Distribution continued to decrease as the number of people booking through the net increased from 66% in 2004 to 73% by 2006. The website had been restructured to accommodate a

truly European audience as it had 8 languages, including Polish and Portuguese. Fuel represented the carriers' largest change in operating cost, growing from €61.7 million in 2004 to €200 million by 2006, but its fuel hedging strategies contained this cost as it secured each barrel at $38 in 2005 and $53 in 2006. It hedged 31% of its fuel requirements at $60 for the last six months of 2007 (Aer Lingus annual reports 2007, 2006, 2005; Mannion 2006).

By 2006, Aer Lingus had developed two other core areas of revenue, which included income from ancillary sources and cargo. Aer Lingus imitated the success of Ryanair's ancillary revenue strategy in order to increase revenues. Ryanair's home page offers a virtual shopping mall experience with offers for car insurance, personal loans, pre-arranged airport parking, airport motor coach transfers, airport lounge access, co-branded credit cards, holiday packages, bed & breakfast stays, and golfing in Ireland. Aer Lingus' ancillary revenue increased from €4.9 per passenger in 2004 to €7.3 per passenger by 2006 (Aer Lingus annual report, 2007). Pilling (2004) stated that Aer Lingus' car hire booking increased by 54% when it integrated this component as part of the transaction flow. The airline has also turned its baggage service into a profit centre as it began charging all short-haul passengers €4 ($5.10) per bag if booked in advance through the website, and €8 per bag if checked-in at the airport (ATI, August 2006). The carrier has retained its 30 minute turnaround times on its short-haul routes and re-introduced cargo on its short-haul routes, concentrating on high value freight, such as software, computer accessories, etc., which are easily loaded/unloaded, but 90% of its cargo revenues are derived from its long-haul operation - cargo overall contributed almost €50 million in 2006.

Table 35. Aer Lingus unit costs (€/ASK) from 2004 - 2006

	2006	2005	2004	% Change 2004 to 2006
Staff	1.57	1.62	1.81	-13.2%
Airport Charges	1.17	1.16	1.20	-2.5%
Ground Operations and Catering	0.53	0.58	0.73	-27.4%
Maintenance	0.42	0.49	0.56	-25.0%
En-route charges	0.29	0.28	0.27	+7.4%
Distribution costs	0.25	0.27	0.32	-21.8%
Other	0.03	0.02	0.02	+50.0%
Total Unit Costs (ex-fuel)	**4.24**	**4.38**	**4.91**	**-15.8%**
Fuel	1.16	0.90	0.78	+48.7%
Total Unit Cost	**5.41**	**5.28**	**5.69**	**-4.9%**

Source: Aer Lingus annual accounts 2004, 2005, 2006

The route structure of Aer Lingus is almost unrecognisable when the network in 2001 is compared against the network in 2006, as shown below in Figure 37 and Figure 38. In 2001 it was operating to 16 European destinations with a mixed fleet of 39 aircraft

that comprised of BAe 146s, Boeing 737s and Airbus 320s. To ensure that it formulated a challenge to Ryanair, management at Aer Lingus opened up 43 extra routes and, by 2006, it was operating to 74 destinations with a standard fleet of 34 Airbus aircraft. Subsequently, its hub at Dublin airport has experienced 15 years of continuous growth and a passenger throughput of 21.1 million passengers in 2006, up by 2.7 extra passengers over the previous year. In response to the growth, the airport is building a low cost terminal to be operational by 2009, and a new runway is also earmarked. Ryanair has firm commitments to acquire 140 more 737-800s (net of five older 737-800 retirements) through to the end of the fiscal period 2012, as well as options for an additional 179 737-800 aircraft. Some of this additional capacity will be deployed at Dublin, taking advantage of the low cost terminal's favourable charges - this mounts increasing pressure on Aer Lingus to sustain its present market share and to find additional strategies that will increase its present customer base. However, Ryanair has now set its sights at Shannon and by mid 2006 it had positioned four aircraft at the base and serviced 24 destinations, while Aer Lingus only operated one short-haul route to Heathrow four times daily from Shannon. The incumbent elected to concentrate its Southern operations at Cork, positioning four A320s serving 16 destinations, thus challenging Ryanair on airport location. However, research by O'Connell and Williams (2005) suggested that Ryanair passengers were travelling 44% further than Aer Lingus passengers to reach their departure airport in order to avail of a lower fare, while Lawton (2002) and Doganis (2001) have also referred to the fact that European passengers flying on low cost carriers are travelling further to reach their departure airport. Thus, Aer Lingus must urge caution and remain competitive at its Cork base as there is evidence that passengers are willing to switch, despite the inconvenience of travelling to Shannon.

Figure 37. Aer Lingus European route structure 2001

Figure 38. Aer Lingus European route structure 2006

Aer Lingus withdrew its membership from the Oneworld alliance as it no longer fitted into its changed business strategy, and replaced it with extensive bilateral agreements

with British Airways and American Airlines, its two primary interline partners. It has also provided a linkup with JetBlue at JFK, allowing passengers to take onward connections with the low fare carrier. Aer Lingus' launched an IPO in October 2006 and the proceeds from the sale of the new shares were intended to be used to finance the airline's fleet expansion, as well as a one-off contribution to its pension fund. After the exercise of the over-allotment option, the government's stake was reduced to 28.29%. Shortly thereafter, Ryanair acquired 16% of the formerly state-run airline which represented a departure from the Group's focus on the low-cost airline sector. The IPO offered shares at €2.80 ($3.56) per share, thus valuing Aer Lingus at €1.5 billion as the carrier was deemed attractive given its net cash post-IPO of around €1.1 billion (before operating leases of €350-400 million), prized landing slots at Heathrow and a fleet of 17 owned aircraft (largely short haul and less than 3 years old). Days later, Ryanair increased its equity in two staged phases totalling 25.22% equity. The Aer Lingus board unanimously rejected Ryanair's takeover proposal, which was blocked by the major shareholders, including: the Government, 28.29%; Aer Lingus Employee Share Ownership Trust, 13%; the Aer Lingus pilots pension fund which increased equity to 2.27%; and Denis O'Brien, a businessman that O'Leary had previously infuriated by advertising a new route from Dublin to Malta to highlight his tax exile status, acquired a further 2.1% of the airline's shares. All refused to sell onwards to Ryanair. However, raising its ownership of Aer Lingus above 25 percent will afford Ryanair increased rights to meddle in the key decision-making of its major Irish competitor. Ryanair could wield a blocking vote at extraordinary general meetings, when Aer Lingus chiefs could be seeking shareholder approval to buy airlines, expand route networks or make other strategic decisions to improve its head-to-head competition with Ryanair.

5.7 The response of the charter airlines to low cost carriers

These airlines usually offer flights as part of a holiday package that also includes transfers and hotels, most of which provided by vertically integrated tour operators. Europe accounts for over 90% of the world's non-scheduled passenger traffic, while vacation traffic in the US and Asia takes place on scheduled carriers. The operating business model of the charter's encompasses very similar concepts to that of the low cost carriers. Charter airlines were the first to operate on low cost principles and they gain their cost efficiencies through the following characteristics:

- Operate high seating capacity aircraft (e.g. A321 with 220 seats; A330-200 with 360 seats; B767-300 with 328 seats).
- High utilisation of aircraft and flight crews (fly throughout the night);

- Capacity closely matches demand. This allows charter airlines to attain very high load factors - in the range of 85-90% (flights are pre-sold to large tour operators) while poor flights are cancelled or consolidated.
- Schedule is optimised as many flights arrive at tourist destinations at unsuitable hours (i.e. 00:00 – 06:00). This is possible because passengers are immediately transferred from the airport to their awaiting hotels by coaches which are part of the vertical integration supplied by the tour operators.
- Charters operate to secondary airports and they avoid peak time operations at primary airports.
- Distribution, administration and finance expenses are undertaken by the tour operator parent company.
- Vertical integration spreads the risk.

Consequently the unit operating costs of charter airlines are around half those of Europe's full service airlines and more closely aligned to that of Ryanair (Williams 2001). Much of the European charter market involves short to medium distance journeys, with the average sector flown by the larger charter carriers being typically around 2,500 km. Low cost scheduled airlines not surprisingly have taken the opportunity to enter the shorter distanced routes and have been able to capture many of these passengers. The greater flexibility offered to the traveller by low cost airlines particularly in respect of service frequency, their easily accessed fares and their success at convincing customers that they offer the lowest prices have been the key factors in bringing about this transformation.

UK CAA data shows that the charter traffic between the UK and Malaga fro example had peaked in 2000 with 2.4 million passengers and by 2006, traffic had fallen to less than 900,000 passengers. By contrast, the scheduled traffic had quadrupled over the same period to over 4 million; nearly all of the increase was attributed to low cost carriers. The majority of charter airlines throughout Europe had witnessed a sharp decline in their short-haul markets as they continued to lose passengers to low cost carriers. In response to this encroachment charter airlines have responded in different ways and the following outlines some of the strategies adopted.

- Monarch, MyTravel and Thomsonfly began operating scheduled services. Monarch has undergone the largest transformation. It began operating scheduled services to a small number of its traditional holiday charter destinations in Spain and Portugal back in 1983, but has considerably expanded its scheduled offerings, doubling the number of scheduled passengers that it carries every three years. By 2006 Monarch was carrying more half of its passengers (3 million) on scheduled services by 2006 and the remaining 2.8 million on charter flights.

- MyTravel and Thomsonfly opted to establish subsidiary companies to operate low cost scheduled services. MyTravel's incursion into the low cost scheduled market began in October 2002 in the guise of MyTravelLite and lasted three years before being subsumed into the charter airline, at a time when the MyTravel Group was experiencing severe financial difficulties. Thomsonfly emerged two years later, the scheduled low cost arm of the Thomson Group, in effect a subsidiary of its charter carrier, Britannia Airways.

- The tour operators have been consolidating the market in order to take advantage of scale economies and control supply. Over a ten year period from 1980s to 1990s there were multiple cross border mergers and acquisitions of charter airlines and Williams (2001) researched that by the late 1990s, there were four major tour operators in the UK and four operating in the German market, accounting for over 80% of the charter market in the UK and Germany. The industry continued to restructure itself and by 2004 there were two tour operating pan-European giants, notably TUI and Thomas Cook. Consolidating the market strengths the brand and increases the market share but purchasing other carriers in order to gain such an advantage is an expensive strategy as it increases costs as a mix of aircraft, staff, computer systems, etc. are combined – adding complexity to the existing airline.

- First Choice's strategy of reducing its dependence on short haul mainstream holiday destinations, developing a better quality long haul product, and acquiring specialist niche market tour operators has proved successful (Air Transport World, 2005). From 2003 – 2006 the carrier reduced its short-haul market by around 10% while it increased its medium and long-haul market by 5.4% and 4.7% respectively. Table 36 below gives details of the company's share of passengers by length of haul between 2003 and 2006. Analysis from UK CAA data indicates that charter airlines have been increasingly adopting First Choice's type of strategy as the charter airlines have been focusing on longer-haul flights. In 2000 around 2.5 million passengers travelled on charter airlines to long-haul destinations from the UK and this doubled to 5 million by 2006. Charter flights to North Africa, predominantly Egypt, and Central America, mainly Cuba, the Dominican Republic and Mexico, have increased substantially and nearly all of the charter traffic to the US is to Florida. These are all destinations that are outside the operating capability of low cost carriers and remain safe unless long-haul low cost carriers begin emerging. Other markets being capitalised be charter airlines include day-return flights to Lapland, away soccer matches, etc., whereby the aircraft waits at the airport for the passengers to return – a strategy which is not compatible with the business model of the low cost carriers.

Table 36 Split of First Choice Charter Airline passengers by length of haul

	Short-haul (%)	Medium-haul (%)	Long-haul (%)	Passengers (Millions)
2003	44.6	49.9	5.6	2.9
2004	41.0	52.8	6.2	2.8
2005	36.5	56.4	7.1	2.7
2006	34.4	55.3	10.3	2.5

Source: First Choice Annual Reports

5.8 Conclusion

In its early days, Aer Lingus had all the symptoms of the 'Distressed State Airline Syndrome' - it was overstaffed, highly unionised, inefficient and over politicised, and charged fares that were beyond the means of the traveller. The licensing of Ryanair changed forever the dynamics of airline competition within Ireland, as fares immediately reduced and the carrier opened up several routes to the UK, based on the success of its Dublin-London route. The minnow continuously clawed market share from the incumbent but its connectivity links at Heathrow and its transatlantic network buffered the severity of Ryanair's advances. The new millennium had a cascading effect on Aer Lingus as its short-haul and long-haul markets were in a downward spiral due to external events completely out of its control, and its strategies to circumnavigate the new problems were outdated, causing it to lose millions every day it operated.

Walsh's innovative and disruptive management approach immediately set about to overhaul and restructure a government owned airline that was not akin to sudden changes. New benchmarks to determine the extent of change required were implemented which produced a series of cascading strategies, such as mass layoffs, a complete overhaul of the distribution system, fleet standardisation, productivity enhancements and imitation of the low cost model as much as possible, while keeping vital product differentiators such as customer service reputation, primary airports, attractive schedules, frequent flyer programs, connectivity, etc. The simple secret to its success was because the fall in turnover over the five year period (as a result low fares) had been less than the fall in its cost base. In addition, it retained vital service differentiators which were increasingly impacting on profitability. By 2004 the carrier was sufficiently restructured to generate three consecutive years of profitability and the company could look forward to expanding its operations under the proven business plan. Other carriers, such as British Airways, are following similar methodologies, while Lufthansa have failed to address unit costs

Aer Lingus' new culture of cost reduction is now ingrained in its new management team, taking the carrier forward and building on revenue opportunities, such as cargo and income from ancillary sources. Its successful IPO signals investors' interest in the proven business model that could be a role model for other carriers severely threatened

by a low cost carrier. Charter airlines are also finding it difficult to compete with low cost carriers and are resctructuring their business model and operate longer sectors and find niche markets, which does not attract the interests of low cost carriers. There is little doubt that the airline business is changing rapidly and that carriers must evolve or risk extinction. In the Darwinian evolutionary race, it is not necessarily the strongest that survive but the most adaptable.

6 Chapter 6: Key Aspects of Airline Marketing

This chapter extrapolates the key aspects of strategic marketing from the literature and it also examines the core marketing principles extracted from within the airline industry and the chapter seeks to intergrate the most important core competencies of both displines. This core competency provides a solid framework of marketing strategies that full service airlines could deploy in order to compete more effectively and gain competitive advantage against low cost carriers in short-haul markets worldwide. This framework was the blueprint to a series of **marketing questions** that made part of a **survey** which was administered to airline executives working at full service network carriers worldwide. It was conducted in association with IATA as shown in Appendix VII. Its aim was to determine which marketing strategies had the highest impact against low cost carriers.

6.1 Introduction to airline marketing

In the early 1990s there were just over one billion passengers travelling by air. A decade later and this had risen to almost two billion. The 2006 Boeing forecast predicted that air travel will grow at 4.9 percent per annum over the next 20 years (Boeing Current Market Outlook, 2006). Clearly, the growth in demand for air travel shows no sign of abating. Airline marketing is largely centralised around the passenger and its core function is to attract new passengers while, at the same time, retaining the loyalty of existing passengers. A Google search for 'customer importance' returned 11.3 million responses giving a clear indication of the depth of the subject area. Drucker (1974, p61) pointed out that it is 'the customer who determines what a business is'. Reichheld and Sasser (1990) suggested that it is the customer who gives the business its foundation and keeps it in existence. Kohli et al. (1990) and Webster (1992) indicated that the customer is the core aspect to marketing, while Wayland and Cole (1994) argued that customer relationships are one of the key assets of a business. Philip Kotler, a well-known academic in the field of marketing, stated that customers are a company's only true 'profit centres' (Kotler and Keller, 2006 p140). In their 2006 annual Press and Analysts conference[109], Lufthansa reiterated that '… passengers are at the core of our business and are the engines for driving the group forward'. Few marketers would dispute the need for developing a sound understanding of customers.

With the above in mind, it is somewhat surprising that airline marketing literature is rather limited and very few books have actually been dedicated to the subject. Well known authors, such as Doganis (2006, 2002, 2001, 1991), Morrell (2002), Williams (2002, 1993), Holloway (2003) and Lawton (2002), have largely avoided the area, while Hanlon (1999) addressed airline marketing through loyalty programmes and gave an excellent in-depth

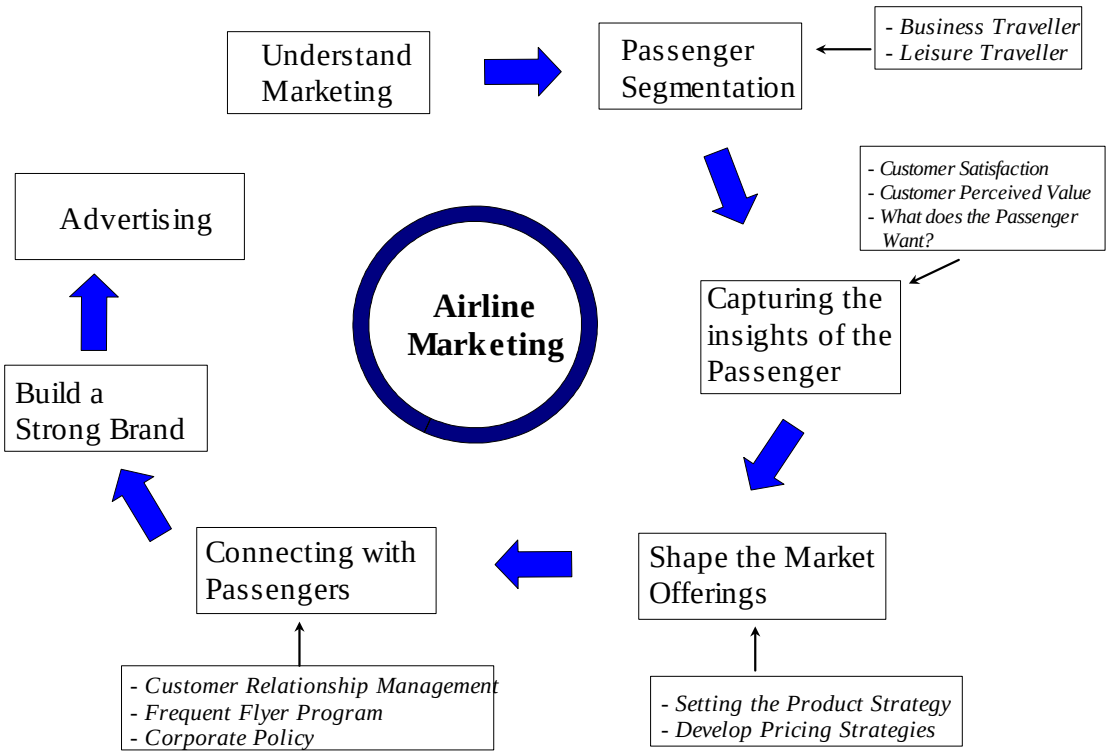
[109] Speech by Wolfgang Mayrhuber, CEO of Lufthansa, accessed at http://konzern.lufthansa.com/en/downloads/presse/downloads/reden/lh_mayrhuber_bpk2006.pdf

analysis on pricing principles. Taneja's book, entitled 'The Passenger is Flying the Plane', only briefly scratched the surface, examining passenger segmentation, customer focus and flight products. Another of Taneja's books, entitled 'Optimising the Airline Business Model', only referred to marketing in terms of branding. However, Stephen Shaw has written five editions of the same book, entitled 'Airline Marketing and Management', and is one of the few authors who have written extensively on the subject matter.

In order to examine the various aspects of marketing, this chapter is structured around the theoretical framework provided by Kotler, one of the world's most esteemed and respected marketing academics. Kotler's latest edition of his renowned marketing book, entitled 'Marketing Management', is co-authored with Keller whose expertise in branding and consumer behaviour provides the marketing literature with further insight.

Figure 39 below extrapolates the core marketing principles from Kotler and Keller (2006) and then overlays these principles onto the airline marketing literature sourced from Shaw (2004). This will form **the framework of marketing strategies** that airlines can use to compete more effectively and gain competitive advantage, while retaining value for the customer. Each of the concepts listed below were incorporated **as part of a survey** that was administered to airline executives worldwide in conjunction with IATA. Each of the concepts listed in figure 39 below are fully described in this chapter.

Figure 39 The Aspects of Airline Marketing



Source: Adapted from the literature of Kotler and Keller (2006) and Shaw (2004)

Section two of this chapter focuses on alternative definitions of marketing in order to provide a solid understanding of its fundamental concepts. Section three then highlights the importance of passenger market segmentation (primarily in leisure and business class), and section four captures passengers' insights in terms of satisfaction and perceived value of the product. Supply-side connotations are then analysed in section five, followed by an examination of customer retention strategies. Section seven focuses on branding, and section eight covers the last aspect of marketing, i.e. advertising. Finally, section nine provides a summary and conclusion.

6.2 Understanding Marketing

Strategic marketing is concerned with ensuring that marketing activities support efforts to fulfil overall organisational objectives with the aim of gaining a competitive advantage over rivals (Burk Wood, 2004; Wilson and Gillingan, 1997). Day (1994) stated that the basic underpinning of marketing is to ensure that organisations stay close to their customers, while Jenkins (1996) argued that customers are a central stakeholder in the strategic behaviour of the organisation. There is no doubt that marketing is directed entirely at the customer: it must reach out to a wide range of customers who are scattered across a wide spectrum of society, consisting of those who may take only a few trips in their lifetime, those who may take a few trips per year to visit friends and family, and business travellers who may take many trips per month. Marketing must try and analyse the needs of each of these customers and then align the internal strategies of the company to satisfy those needs.

Many definitions of marketing have appeared in marketing theory. Kotler in the 7th of 12 editions of Marketing Management uses the following definition of marketing, which was approved in 1985 by the American Marketing Association (Kotler, 1991 p11): '*Marketing is the process of planning and executing the conception, pricing, promotion and distribution of ideas, goods and services to create exchanges that satisfy individual and organisational objectives'*. This definition is often used and quoted in marketing textbooks and is classed as the official definition of marketing.

However, as time moves on conditions change and modern concepts must be incorporated in order to reflect those changes. As marketing was beginning to move into the new millennium, its core principles also needed updating. Hoekstra et al. (1999) confirmed that modern marketing has taken a new direction and companies need to refocus their marketing efforts and keep pace with the shifting pattern in order to sustain competitive advantage. Sheth and Parvatiyar (2000) proposed that '*an alternative paradigm of marketing is needed, a paradigm that can account for the continuous nature of relationships in marketing*.'

Therefore, pressure from industry and academics forced change, and marketing became redefined. The update in marketing theory was reflected in Kotler's 12th edition of Marketing Management, which was also approved by the American Marketing Association in 2004 (Kotler, 2006 p6). Its new definition is as follows: *'Marketing is an organisational function and a set of processes for creating, communicating and delivering value to customers and for managing customer relationships in ways that benefit the organization and its stakeholders'.*

When comparing the 1985 and 2004 definitions, some changes are apparent. Firstly, there is a broadening of the marketing concept as it has now become part of an *organisational function.* The new marketing activities include decisions with regard to the firm's stated vision, objective(s), strategy, organisational structure, culture, information systems, marketing instruments, business processes and human resource management (Hoekstra et al., 1999 p43). Secondly, there is a transition from the contemporary 4 Ps (Price, Product, Place, and Promotion) to '*creating, communicating and delivering customer value*'. Businesses are now concerned with the concept of 'creating value for the customer', which is pivotal to relationship marketing (Grönroos 1997; Gummesson 1996; Christopher et al., 2002). Thirdly, the focus has changed *from transactions to relationships.* This strategy aims at creating long-term profitable relationships with customers (Christopher et al., 2002).

Three conditions have shaped the new marketing world:

1) Carrying out business today has become more difficult because of the increased competition. Many of the barriers have been eliminated and it is easier for firms to enter.

2) The Internet has caused a paradigm shift in the way companies market themselves. Sheth and Sisodia (2001) have strongly argued that the Internet has been the principle force in changing the face of marketing.

3) The expectations of customers are increasing (Doyle, 2000 p9) and it has become much more difficult to satisfy the customer and generate loyalty.

6.3 Passenger Segmentation

The origins of segmentation theory are attributed to Smith (1956), who stated that: *Market segmentation involves viewing a heterogeneous market as a number of smaller homogeneous markets, in response to differing preferences, attributable to the desires of consumers for more precise satisfaction of their varying wants.* Market segmentation quickly grew in popularity both in academic and practical fields and became recognised as one of the most important concepts in marketing (Wind, 1978). The assumption is that customers can be grouped, on the basis of similar needs and buying behaviour, to provide a more homogeneous response to marketing programmes (Choffray and Lilien, 1980). By

dividing customers into homogenous groups, it becomes easier to track their buying behaviours and to ensure that their needs are better served (Blattberg et al., 1978; Wind, 1978; Beane and Ennis, 1987). Once target markets are identified, the organisation develops a product offering (marketing mix) that is designed to be attractive to that particular segment. It can also facilitate the understanding of different elasticities of demand and location of gaps in the market into which a new service can be placed. Kotler (1991) stated that General Motors outpaced Ford because it started designing cars that recognised different income levels. He also indicated that a new company can break into an entrenched market if it discovers new segmentation possibilities in the marketplace.

IBM surveyed over 120 companies (90% of whom had revenues of over $100 million) and discovered that 77% cited segmentation as a valuable part of their marketing strategy, while 97% relied on segmentation in strategy development (IBM, 2003). Market segmentation has both strategic and tactical uses. At a strategic level, segmentation can be used to identify profitable customers, thereby allowing decisions to be made concerning where and how the organization should be competing. At a tactical level, segmentation encourages businesses to develop a deeper understanding of customers, which can be used to enhance the relationship between the parties (Storbacka, 1997). According to Zeithaml and Bitner (2003), market segmentation is the foundation block of relationship marketing. Weinstein (1994) strongly argued that various benefits have been accrued as a result of segmenting a market. The competitive environment becomes more defined as each passenger segment becomes clearly identified. This will lead to better informed and more effective targeting and positioning decisions (Dibb and Simkin, 1996; Kotler, 2000). By allowing a business to focus on the particular needs of well defined customer groups, marketing programmes can be more precisely specified, leading to greater effectiveness (McDonald and Dunbar, 1995). The rationale is that companies should invest in the highest value customers by identifying those who are most profitable and loyal, require less service and prefer stable, long-term relationships (Reichheld, 1993; Blattberg and Deighton, 1996).

Segmentation is often confused with product differentiation - however, Van Raaij and Verhallen (1994) clearly distinguished between the two by referring to market segmentation as the demand side component and product differentiation as the supply side component (Weinstein, 1994). Thus, market segmentation focuses upon differences in customers while product differentiation focuses upon differences in products (and/or the accompanying marketing mix) to meet the needs of these different customers. Datta (1996) argues that both market segmentation and product differentiation have become the battlegrounds for competitive wars. Feldman (2006) joins the two forces and stresses that successful segmentation is achieved when a firm crafts specific products/services for each segmented market.

Shaw (2004, p23) concurs with the earlier authors and defines a market segment from an airline's viewpoint by stating that '*A market segment is a group of customers who have sufficient in common that they form a viable basis for a product/price/promotion combination*'. If surveys were taken on a bi-annual basis, then airlines could easily

determine which passenger segments are gaining from specific marketing programmes and which groups are beginning to shift to other competitors so that corrective strategies could be implemented. Table 37 below shows the segmentation of passengers that were identified in surveys conducted by O'Connell and Williams (2005, 2006). It placed each passenger into a specific group which presented a clear view of the passenger mix.

Table 37 Passenger Market segment (Business and Leisure passengers)

Business Passengers	Leisure Passengers
Meetings Conferences Training Trade Fair Employment	Visiting Friends & Family Holiday Week-end Break Shopping Cultural/Religious Sports Study

Source: O'Connell and Williams 2005, 2006

In fact, an airline's clientele normally consists of leisure and business passengers - both categories being important in terms of revenue. Table 38 below shows the amount of money spent on leisure and business travel. It shows that the world's top five countries spent $1,584 billion in 2004 on personal travel and tourism, while the business community spent $363 billion during the same period. The leisure passengers outspend business passengers by a ratio of 4.3:1 and are an important component of air travel even though they generate low yields. In the UK, for example, the World Travel and Tourism Council estimated that leisure travellers spent $175 billion in 2004; their expenditure is forecasted to rise to $230 billion by 2014. On the other hand, UK business passengers spent $41 billion in 2004 and their expenditure is expected to rise to $52 billion by 2014 (Airline Business, December 2004). By 2014, leisure expenditure by the world's top ten countries is set to rise by nearly 70%, while business spending is forecast to rise by 45%. This predicted growth of leisure and business traffic creates an enormous opportunity for airlines.

Table 38 Leisure and Business spend in the top 5 countries for 2004

Personal Travel and Tourism Expenditure ($ Billions)			Business Travel Expenditure ($ Billions)		
Rank	Country	Expenditure	Rank	Country	Expenditure
1	USA	805	1	USA	168
2	Japan	279	2	Japan	65
3	Germany	182	3	Germany	50
4	UK	175	4	UK	41
5	France	143	5	France	39

Source: World Travel and Tourism Council (Airline Business, December 2004)

Typically an airline derives the bulk of its income from passengers and freight. ICAO calculated that around 87.3% of revenues come from passengers while the remainding 12.7% is derived from freight, mail and express cargo[110]. Table 39 below shows the economic data for leisure, business and first class traffic and the associated revenue attached to each class.

Table 39 Economic data of the different cabin classes (2003)

Class Service	Capacity ASKs %	Load Factor %	Yield per RPK USc	Revenue %	Revenue/Capacity
First	2.4	36	23.4	4.2	1.75
Business	16.1	52	18.9	29.6	1.84
Economy	81.4	77	5.4	66.3	0.81

Source: IATA, Airline Economic Task Force 2003

As expected, yield in first class is very high. The relationship between investment (in terms of allocated capacity) and gross return (in terms of revenue) is very healthy (1.75), but the overall revenue generated by this class is low, primarily due to weak load factors. A small proportion of the cabin is dedicated to this segment, yet it creates a high expense for the carrier as extra cabin crew are assigned (e.g. at Singapore Airlines there is one cabin crew member for every four passengers) and the most sophisticated flight products are installed. Many airlines have addressed the poor net return generated by the first class cabin by incorporating first and business class into one single cabin as a way to improve the overall revenue. The author has established that there are only five full service airlines operating on the North Atlantic that still have a first class option and they include American, United, BA, Virgin Atlantic and Lufthansa. Air France for example has dropped first-class from all its long-haul aircraft except its Boeing 777 (ATI, October 2005).

The business class cabin, however, produces almost 30% of an airline's revenues with a load factor exceeding 50%; moreover, the ratio between revenue and capacity is 1.84. Mason's (2005) research indicated that the business class revenues and load factors have remained stable over the last ten years. Airlines carefully target these passengers because they have a twofold benefit:

i) They are frequent flyers whose fare elasticities are generally low
ii) They generate high yield (18.9 cents per RPK)

[110] ICAO 291-AT/123 – World of Civil Aviation 2001-2004, 279-AT/116, 275-AT/115, 271-AT/112

An IATA survey revealed that business travellers made, on average, 4.6 long-haul trips and 12.8 short-haul journeys in 2004 (IATA, 2004). In the UK, CAA surveys indicated that 36.5 million passengers travelled for business purposes in 2003, which is roughly equal to the total number of passengers carried by BA (Manchester Airports Group, 2005). These business passengers are widely acknowledged as the 'cash cow' of the airline industry, and the extended range of flight products that are offered to business passengers enable the carrier to charge premium fares (Westwood et al., 2000). Shaw (1998, p198) stated that United Airlines earned 45 per cent of its revenues from 9 per cent of its passengers in the mid 1990s. Similarly, a study from the banking industry supports the theory that a small proportion of a company's customers generate the largest returns, as 20% of a bank's customers may account for as much as 100% of its profits (Hartfeil, 1996; McCormick et al., 1996). There can be little dispute, therefore, that the business travel sector is of major importance to the airline industry. However, recent research by Piercy et al. (2006) has indicated that companies who earn the majority of their revenues from a small proportion of their customers now have a high probability of failure. Economy class passengers also contribute to the revenues of an airline in a significant way. Table 39 (above) clearly demonstrates that economy class passengers generate the largest proportion of the income (66.6%), but over 80% of the airline's capacity is dedicated to these low yield travellers (i.e. the ratio is only 0.81). Mason (2005) showed that the revenue from leisure passengers has fluctuated from a high of 70% in 1992 to a low of 63% in 1997, but overall it averaged 67% throughout the last decade. This indicates that airlines have found it difficult to increase the revenue stream derived from leisure passengers; they must become more innovative in finding ways to increase their income from this passenger segment. Low cost carriers have been successful in generating additional revenue through ancillary methods, such as charging for baggage, selling food and beverages, selling insurance, etc. They also get compensated from hotels and car rental companies when passengers make bookings via the host airline's website.

Other forms of airline segmentation include the following categories: Behaviouristic (number of trips per year, loyalty), Demographic (nationality, age, company size, gender), Geographic (long haul, short haul) and Psychological (service seekers, flag supporters, frequent flyer points) (Shaw (1998, p193; Mason 2004). Porter (1998) argued that collecting customer demographics and behavioural data makes precision targeting possible. This type of targeting also helps when devising an effective promotional and marketing plan to meet tough competition. Shaw (2004, p6) pointed out that airlines should identify the requirements of the customers in each segment. Some passenger market segments are growing significantly, such as female business travellers. Women represent a solid and growing percentage of business travellers and account for around 50 per cent of the corporate travel market. In Europe, for example, almost 40 per cent of the business travellers are female (Alamdari and Burrell, 2000; Westwood et al., 2000). The increasing complexity and variety of customer lifestyles are adding a new dimension to the segmentation challenge (Sheth et al., 2000). In consumer markets, demographic changes in

lifestyle, income, ethnic group and age are increasing the diversity of customer needs and buying behaviour. This is generating market fragmentation and consequently, mass marketing will become less effective and efficient. Qantas like many other legacy carriers had a large part of its market captured[111] by a low cost carrier and it discovered that its clients could be segmented into not only domestic versus intercontinental travellers and leisure versus business travellers but also into two additional dimensions: loyal versus opportunistic clients and outbound versus inbound clients (Franke, 2007).

To compete successfully in fast-changing and challenging global markets, airlines should include segmentation as one of their core marketing strategies - this will assist them in becoming competitively advantaged. Segmentation-driven marketing strategy helps companies design responsive products, develop effective promotional tactics and campaigns, gauge competitive positions and fine-tune current marketing initiatives.

6.4 Capturing the Insights of Passengers

Passengers are the lifeblood of every airline: without them airlines would cease to trade and flourish. Risser (2003) indicated that no fewer than 80 of the Fortune 100 companies emphasised the importance of being customer-driven in their 2001 annual reports. Kleymann and Seristo (2004, p125) reported that a study conducted by Ernst & Young found that 77 percent of corporations that it surveyed identified knowledge about its customers as their most important criteria. Airlines must understand the distinctive behaviours, needs and preferences of their passengers to be able to deliver value. However, meeting rising customer expectations has proved to be one of the most difficult challenges to service businesses (Sonnenberg, 1991). Day (1999) argued that customers are becoming ever more demanding in a business environment where competition is getting fiercer. David (2001) offered a solution: he strongly argued that a firm's marketing strategy must involve anticipating, creating and fulfilling customer needs and wants for products and services. Essentially, marketing literature strongly advocates that the customer is pivotal to the entire business process, and strategic marketing literature indicates that companies should place huge emphasis on their customers as they are crucial to strategy formulation.

6.4.1 Customer Satisfaction

Customer satisfaction is becoming the key factor in attracting and retaining customers (Kotler and Keller, 2006; Johnson et al., 2005). It influences future purchase behaviour (Mittal and Kamakura 2001; Voss et al., 1998; Zeithaml, 1996) and has been embraced by practitioners and academics alike as 'the highest order' goal of a company (Peterson and Wilson, 1992). Marketers must constantly seek insights into what constitutes the multifaceted needs of consumers and how to satisfy those needs (Holbrook, 2001). The

[111] 30% of it domestic market was capture by Virgin Blue

concept of customer satisfaction is seen as the core of the post-purchase period (Westbrook and Oliver, 1991). Service satisfaction is assessed via a comparison of what service was expected (predicted) and what was actually perceived (Zeithaml et al., 1998). Fournier and Glenmick (1999) elaborated further and stated that: if performance matches expectations, the customer is satisfied; if performance exceeds expectations, the customer is highly satisfied. Research has indicated that companies that offer superior service are able to charge eight per cent more for their product (Gilbert and Wong, 2003). Lufthansa Consulting (2004, p11) conducted a survey evaluating the primary objectives of airlines worldwide and the results concluded that customer satisfaction was rated the most important objective followed by competitiveness. IATA (2006) strongly emphasised that customer satisfaction is one of the keys to passenger retention and profitability in a competitive marketplace. Lawton (2002, p73) suggested that corporate loyalty is largely dependent on high levels of customer satisfaction. The low cost carriers are noted for their poor customer service and a survey on 16,000 travellers conducted by Carlson Marketing Group in 2003 confirmed that easyJet and Ryanair had the industry's poorest customer relations (Travel Trade Gazette, 2003).

Firms can attempt to satisfy customers in various ways, such as adding features to a product (e.g. flatbed), improving performance of a product through various attributes (e.g. faster Internet connectivity), offering more services to customers and offering better quality services (e.g. friendly and welcoming staff). Also, customer service literature stresses that it is essential to resolve customer complaints quickly. This becomes a powerful strategy in satisfying customers who have experienced difficulties. Albrecht and Zemke (1985) claimed that 54-70 per cent of customers will remain so if their complaint is resolved, and Rust et al. (1992) revealed that up to 95% of customers will remain so if the complaint is resolved quickly. Customers who have complained to an organization and had their complaints satisfactorily resolved tell an average of five people about the good treatment they received (Kotler, 1991, p18).

Literature emphasises three principle reasons why companies should focus on satisfying their customers. Firstly, satisfied customers tend to be loyal and willing to pay higher prices (Reichheld and Sasser, 1990; Finkelman 1993, Johnson et al. 2005); secondly, satisfied customers serve as an advertising medium by positive word of mouth (Howard and Sheth, 1969; Reichheld, 2003) which helps to acquire new customers; and thirdly, customer satisfaction is a significant component of repeat service usage or of repeat purchasing (ISO 9000, 2006; Mittal and Kamakura, 2001; Oliver 1999).

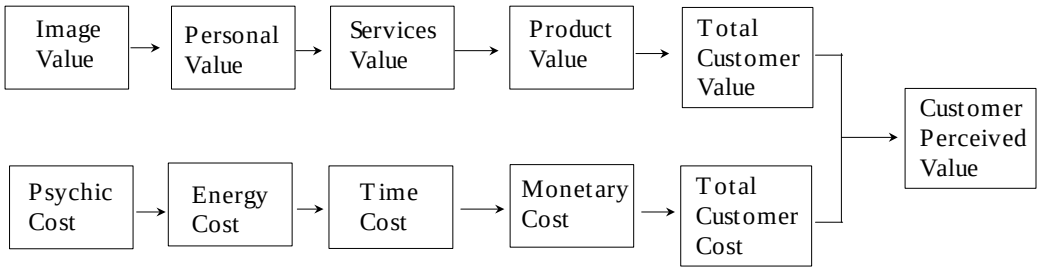
6.4.2 Customer Perceived Value

The construct of perceived value has been identified as one of the most important measures for gaining a competitive edge (Parasuraman, 1997), and has been argued to be the most important indicator of repurchase intentions (Parasuraman & Grewal, 2000). In the past

decade, quality has been recognised as a strategic tool to strengthen a firm's competitive position and improve its profitability (Reicheld and Sasser 1990). However, Woodruff (1997) believed that customer value is the next underlying source of competitive advantage. Consistent with this view, Weinstein and Johnson (1999) considered that customer value is the strategic driver that differentiates a firm's offering in a crowded marketplace.

Perceived value has been defined as 'the consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given' (Zeithaml, 1988 p14). Within this definition, Zeithaml (1988) identified four diverse meanings of value: (1) value is low price, (2) value is whatever one wants in a product, (3) value is the quality that the consumer receives for the price paid and (4) value is what the consumer gets for what they pay. The majority of past research on perceived value has focused on the fourth definition (Bojanic, 1996; Zeithaml, 1985). Woodruff (1997) also stated that 'received value' leads to overall satisfaction, which is the customer's feeling in response to an evaluation from using the product or service. Creating superior customer value is also a key to ensuring a company's long-term survival and success (Slater 1997; Woodruff 1997). The leading marketing academics, Keller and Kotler (2006, p141), stated that customers make decisions based on the perception of how much value the product or service will deliver.

Figure 40 Customer Perceived Value



Source: Keller and Kotler 2006, p141

Figure 40 (above) shows that a prospective customer will make a purchasing decision based on an evaluation of all the perceived benefits and all the associated costs of an offering. The marketer can increase the value being offered to the customer by a combination of raising the functional benefits and/or by reducing one or more of the various types of costs. Anderson and Narus (2004) believed that customer value can be regarded as the cornerstone of the marketing management process.

6.4.3 What does the passenger want?

There is an increasing amount of literature on the need for airlines to better understand their customers. Academics, such as Parasuraman et al. (1985), found that there was a gap between a passenger's expectations and perceptions. Gilbert and Wong (2003) and Aaker

et al. (2003) argued that airlines must accurately perceive what passengers want and expect. Park et al. (2004) confirmed that airlines need to understand their customers and determine what their passengers expect from the service. The McKinsey group also reiterated that airlines must gain a better understanding of their customers (McKinsey Quarterly, 2005 p6). ICAO's scholar Abeyratne (2001) also noted that airline managers needed be aware of passengers needs. Holloway (2002, p230) stated that airlines must bridge the gap between a passenger's expectations and actual delivery. Taneja's book, entitled 'The Passenger is Flying the Plane', stressed that airlines must start prioritising their passengers' needs (Taneja, 2005). Every month, Airline Business conducts an industry interview with an airline CEO, and the majority of them stress that they want to increase passenger numbers and market share. However, they have rarely stated that they will uncover the principle characteristics that their passengers require and, also, they have seldom mentioned the need to understand their customers, which would assist them in increasing passenger numbers. Kotler (1991, p14) pointed out that GM's failure to expand its market was due to the fact that it failed to ask customers what they wanted. Doganis (2002, p237) stated that an airline's potential customers will be influenced by five key product features when choosing between airlines - these are summarised below in Table 40. An airline must then decide how to combine these various product features in order to meet customer needs.

Table 40 Key product features affecting travel decisions and choice of airline

1	Price	Fare levels and conditions
2	Schedule-based	Points served and routings Frequency Timings Connections Punctuality
3	Comfort-based	Type of aircraft Interior configuration Individual space On-board space Ground/terminal service Airline lounge In-flight entertainment
4	Convenience	Distribution/reservation system Capacity management policy Seat availability
5	Image	Reputation for safety Branding Frequent Flyer Program Promotion and advertising Marketing position

Source: Doganis (2002, p237)

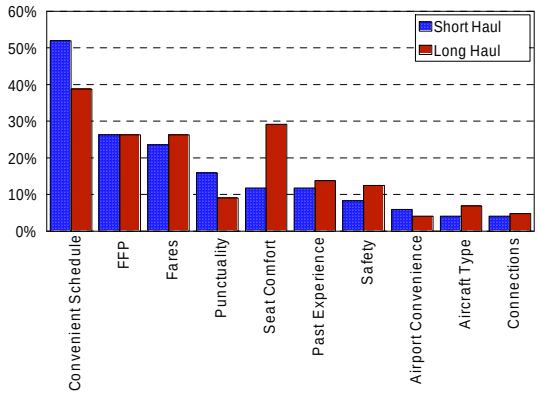
Numerous other authors have cited multiple reasons why passengers choose a particular airline. Table 41 below displays a list of the different reasons why passengers choose a particular airline. It shows the difficulty facing airlines as passengers want a multitude of different attributes - it is impossible to be all things to everyone at the same time.

Table 41 Published work on airline choice by passengers

Author	Reasons for choosing airline
Buzzell and Gale (1987)	Product and service quality
Parasuraman, Zeithaml, & Berry (1988)	Quality
Toh and Hu (1988)	Frequent Flyer Programmes (FFPs)
Zeithaml, Parasurman and Berry (1990)	Reliability
Fick and Ritchie (1991)	Reliability
Dobsen and Lederer (1993)	Fare and Frequency
Truitt & Haynes, 1994; Ostrowski, O'Brien and Gordon (1993)	Airline Service Quality
Proussaloglou and Koppleman (1995)	Schedule, Low Fares, On-time, FFPs
Yoo and Ashford (1997)	Fare, Schedule, Nationality
Tsaur, Chang, and Yen (2002)	Comfort, Reliability, Responsiveness & Courtesy of Attendants
Chang and Yeh (2002)	Comfort, Reliability, Schedule, Attitude of employees, Service
Hsu and Wen (2003)	Frequency and Fare

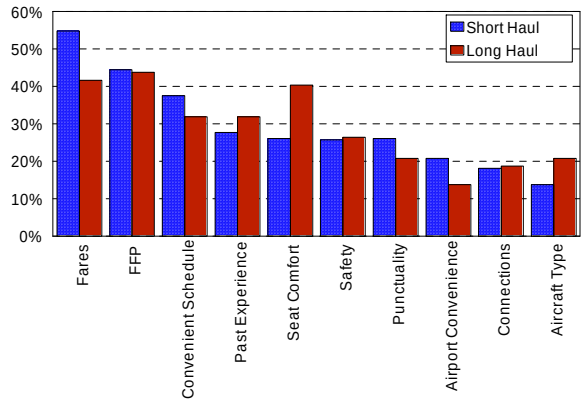
Passengers are also changing their priorities as time evolves. A comparison between IATA's Corporate Air Travel Survey (CATS) taken in 1999 and again in 2004, revealed that business passengers have completely changed their preferences. Figure 41 below shows that business passengers cited schedule as the principle reason why they choose a particular carrier in 1999, for both short haul and long haul travel. However, five years later the priority has completely changed as business passengers have now identified fare as the singularly most important reason for carrier choice, as illustrated in Figure 42. This implies that airlines must constantly adapt and remain agile to react quickly to the constantly evolving market conditions.

Figure 41. Factors influencing carrier choice 1999 of Business Travellers (IATA Survey, 1999)



Source: IATA's Corporate Air Travel Survey, 1999

Figure 42. Factors influencing carrier choice 2004 of Business Travellers (IATA Survey, 2004)



Source: IATA's Corporate Air Travel Survey, 2004

6.5 Shape the Market Offerings

The in-flight experience is the factor which will shape the passenger's perception of an airline, while the fare paid will determine its value for money.

6.5.1 Setting the In-flight Product Strategy

Providing superior product/service quality is critical for a company's long-term survival and success (e.g. Buzzell, Gale, and Sultan 1975; Mittal et al., 2005; Rust, Moorman, and Dickson 2002). Taneja (2005, p79) stated that the products of full service carriers must provide both value for passengers and an adequate return on investment to the airline - however he emphasised that neither has occurred. Franke (2004) and Taneja (2005, p81) both argued that airlines need to produce high level products in order to sustain their competitive advantage. Alamdari (2004) stated that product strategy is one of the most crucial stages of airline marketing and needs to be an accurate reflection of what passengers want. Holloway (2002, p124) and Alamdari (2004) have identified four levels of products that full service airlines can provide, although many airlines fail to fully provide them. They are:

1) Core Services. This is the platform upon which all airlines compete, and passengers expect these attributes as the minimum criteria when selecting a carrier. These may include safety, schedule and reliability.
2) Expected Services. Full service carriers all compete on the expected services, such as FFPs, baggage allowance, wide seat pitch, etc. If an airline decides to reduce/eliminate one of these attributes, then it could quickly lose market share.
3) Augmented Services. These are the extra products that go above and beyond what passengers expect. These may include such items as live TV, Internet access[112], chauffeured limousine service, welcoming and friendly cabin crew, etc. These convey added value and serve as differentiators from competitors. These augmented services can also be achieved by delivering an expected service in a better way than competitors.
4) Potential Products. These are future additional products that may add more value and attract extra passengers. The carrier may allow the passenger to use their mobile phone on-board. Emirates, for example, have already signed a contract to initiate such a service.

Both low cost carriers and full service airlines supply the core products. However, full service airlines need to distance themselves from the low cost carriers by providing an enhanced 'expected service' and value-adding 'augmented service'. This will provide the full service carriers with differentiators which will allow them to charge a fare premium.

[112] Boeings Connexion allowed passengers to send and receive emails inflight and Asset Fleet and Asset Management (2004) estimated that it cost between $25-35 for an eight to 14 hour flight and messages with attachments in excess of 5KB incur an additional cost of 10 cents per KB. Boeing has subsequently withdrawn this service.

Alamdari (2004) outlines a series of flight products that airlines need to focus on in order to become industry leaders and to set themselves apart from other carriers. See Table 42 below.

Table 42 Flight products needed in order to retain leadership

Pre-flight	On-Board	Post-flight
Ticketing arrangement	Seat specification	Arrival lounge
Access to the airport	Interior design	Baggage collection
Parking at the airport	Cabin attendants	Egress from Airport
Check-in facilities	Food and Drink	
Baggage handling	IFE & communications	
Airport lounges	Blankets and pillows	

Source: Alamdari (2004)

However, it is very difficult to determine which flight product features are more important than others, and airlines encounter enormous difficulty in selecting the right balance between product features. Numerous authors have suggested that specific in-flight products are the key differentiators between carriers; for example, Arnaud et al. (1994) suggested that the meal is the only way to differentiate the in-flight experience, while Tsaur et al. (2002) suggested that comfort and cabin crew are the most essential features of the flight experience. Alamdari (2004) stated that all flight related products are an important contributor to the entire flight experience and each airline should retain high standards in all their products. Oxford based Inflight Research Services is a company that investigates, analyses and accesses the prevailing products and customer service quality standards of each airline worldwide. It sub-divides each flight product into specific features and then applies a weighting to each feature. These can be used as benchmarks so that airlines can assign a weight (level of importance) to each particular feature of a flight product, as shown in Table 43 below. Benchmarks such as these will revive an airline's competitive advantage and restore its quality (Inflight Research Services, 2000).

Table 43 Airline product quality grading system (Business passengers)

Cabin Seating Comfort on L-H	Seat Pitch (16%)	Seat Width (10%)	Seat Recline (12%)	Headrest Comfort (12%)	Sleep Position (16%)	Footrest (10%)	Legrest (12%)	Lumbar Support (12%)
Cabin Comfort (comfort)	Air Quality (8%)	Toilet Amenities (10%)	Clean Toilets (18%)	Clean Cabin (18%)	Blanket Quality (13%)	Pillow Quality (13%)	Towel Service (12%)	
Catering (Meal Quality)	Dish Temp (22%)	Menu Quality (10%)	Layout & Standard (12%)	Tableware Standards (16%)	Visual Impact (16%)	Branding & Image (24%)		
IFE (Quality)	Movie Selection (20%)	Screen Quality (18%)	News (20%)	Interactive Facility (12%)	Audio (18%)	Headset Quality (12%)		
Cabin Staff (Friendliness)	Natural Ability (18%)	Sincerity (22%)	Courtesy (18%)	Interaction with Pax (22%)	Enjoy Job (20%)			
Cabin Staff (Service Attention)	Service Dedication (16%)	thru Meal Service (16%)	Call Bell Response (14%)	Helpfulness (14%)	Cabin Presence (20%)	Presence (Sleeping) (20%)		

Source: Inflight Research Services, 2000

6.5.2 Develop a pricing strategy

Holloway (2003, p114) stated that pricing is part of the marketing mix, along with services design. Doganis (2002, p276) argued that the fare is a crucial element for leisure and VFR passengers. In planning the supply of services on each route, an airline must decide on the various fares and product mixes that will generate the greatest level of demand. However, this is a difficult balancing equation as fare is becoming a more important differentiator today. Airlines charge different travellers different prices depending on their demand characteristics, charging higher prices for those with more inelastic demand and lower prices for those with more elastic demand. The fares of full service airlines are very complex. In the United States, the major domestic carriers operate around 5,000 flights per day, serve over 10,000 markets and offer over 4 million tickets. On a typical day they will change 100,000 fares and alter their schedule twice each week (OAG, 2005). The full service airlines must also consider the interconnecting traffic from their partner carriers (such as alliances, code sharing affiliates and interlining carriers), which further increases the complexity of the pricing structure. The full service airlines have multiple fare class structures, with Doganis (2001, p152) quoting as many as twenty four different booking classes, while the low cost carriers generally have around four to six. The latter rely on demand to fill a flight and lower fares are removed as the flight fills up. This approach is different from the network carriers, which attempt to segment the market via fare rules and then sell high and low revenue tickets simultaneously. The cheap fares are very restrictive and passengers are forced to pay higher fares if they travel within the dates of these restrictive rules. The following are some of the conditions that determine the fare in the context of effective yield (or revenue) management:

i) Advance purchase requirements

Airlines require passengers to book tickets in advance if they want to avail of cheaper fares, and the earlier that the ticket is booked, the cheaper the fare. Common periods for taking advantage of cheaper bookings include 7, 14 and 21 days. See Gale and Holmes (1992, 1993) and Dana (1998, 1999) for more information on ‘advanced purchasing’.

ii) *Minimum/maximum stays*

Most low fares carry restrictions such as ‘Saturday night stay required’. The objective is to erect a purchase ‘fence’ whereby business passengers would be forced to pay a higher fare if they returned home before Saturday.

iii) *Peak/off-peak pricing*

Depending on the seasonality of demand in particular markets, as well as the time of day and day-of-week patterns of demand.

iv) *Sales/ticketing/travel windows*

The demand for air transport is cyclical and there are certain months with weak traffic. Airlines counter-measure this by enticing customers to book the ticket by a specific date and then travel by another date.

v) *Fare Penalties*

Business fares are expensive and are justified by the fact that they can be changed at no cost. However, leisure passengers must pay a penalty to change the ticket as a penalty for poor travel planning. Passengers must also pay the difference between the previous fare and the new fare obligation.

vi) *One-way versus round trip purchase requirements*

Up until recently, full service airlines have only been offering return fares - however, the low cost carriers have forced the incumbents to change their practices. Still, some full service carriers charge higher fares for one-way segments.

Table 44 below shows the 'traditional fare' structure offered by legacy network carriers and how the fares are affected by restrictions. The highest fare, in Y class, is unrestricted and does not require any advance purchase. The second highest fare, in B class, includes a Saturday night stay and a seven-day advance purchase requirement, but is cheaper than the full fare. M and Q class fares are increasingly cheap and restricted

Table 44 Fare restrictions imposed by incumbent

Fare Class	Fare ($)	Restriction	Advanced Purchase
Y	400	None	n/a
B	200	Sat	7 days
M	150	Sat, NR	14 days
Q	100	Sat, NR, CF	21 days

Notes: CF = Change Fee, NR = Non-Refundable, Sat = Saturday night
Source: Gorin and Balobaba (2004)

These fare rules have caused many passengers to switch to low cost carriers. Network carriers need to rethink their strategy regarding the fare restrictions that are imposed on tickets. Table 45 (below) shows the fare pricing rules endorsed by Europe's full service airlines as compared to the low cost carriers for March 2005. The majority of the network airlines still require that passengers book a few weeks in advance in order to avail of low fares, while the opposite occurs for the low cost carriers. In addition, all the incumbents still require that passengers must stay over a Saturday night in order to acquire lower fares; they also require that passengers should book a return ticket to secure low fares, which is not the case with low cost carriers. However, the incumbents refund business class fares if they are not used, while the low cost carriers do not segregate between leisure and business passengers, and do not refund tickets as they operate on the basis of 'use it or lose it'. Having all the above facts in mind, it seems that the incumbents must change the way they structure their pricing strategies as passengers find it inconvenient and will switch to low cost carriers which are largely non restrictive. Incumbents should continue to refund unused business fares as this is an attractive magnet for retaining high yield customers who need the inbuilt flexibility.

Table 45 Pricing rules used by European Airlines within the E.U. (March 2005)

	Advanced purchase required for some lower fare	Refundability on some (generally-higher) fares	Saturday night stay required for some lower fares	Round trip travel required for some lower fares
Aer Lingus	No	Yes	No	No
Air France	Yes	Yes	Yes	Yes
Alitalia	Yes	Yes	Yes	Yes
Austrian	Yes	Yes	Yes	Yes
BMI	Yes	Yes	Yes	Yes
BA	Yes	Yes	Partially[1]	Yes
Finnair	Yes (Only for very few fares)	Yes	Yes (Minimum stay of 3-days)	Yes
Iberia	Yes	Yes	Yes	Yes
KLM	Yes	Yes	Yes	Yes
LOT	Yes	Yes	Yes	Yes
Lufthansa	Yes	Yes	Yes	Yes
Olympic	Yes	Yes	Yes	Yes
SAS	Yes	Yes	Yes (Minimum stay of 3-days)	Yes
TAP	Yes	Yes	Yes	Yes
Air Berlin	No	Yes[2]	No	No
Bmibaby	No	No	No	No
Centralwings	No	No	No	No
easyJet	No	No	No	No
Germanwings	No	No	No	No
Ryanair	No	No	No	No
SkyEurope	No	No	No	No
Wizz Air	No	No	No	No

[1] The Saturday night stay is gone for all UK flights and for 35 European cities
[2] Partial refund based on days before departure
Source: Airline weekly (2005, p8)

6.6 Connecting with the Passenger

6.6.1 Customer Relationship Management (CRM)

Since the term relationship marketing was first introduced by Berry (1983), the concept has been continuously growing and developing. Kotler and Keller (2006) explained that the new paradigm shift in marketing was due to relationship marketing. There is no doubt that today's customers are becoming more demanding and less loyal. Companies need to adapt to the changing patterns of customer behaviour or risk them switching to other competitors. Customer Relationship Management (CRM) is now a valuable tool. Jenkins (1999) defines it as '*the process of predicting customer behaviour and selecting actions to influence that behaviour in order to benefit the company*'. CRM uses data mining tools, which Rygielski et al. (2002) described as a sophisticated data search capability, that use statistical algorithms to discover patterns and correlations in data. This aids companies in understanding the specific requirements of customers and provide a framework for creating

a long-term customer relationship. Both Galbreath (1998) and Couldwell (1999) argued that profiling the purchasing behaviour of customers will positively impact the profitability of companies. Ryals and Payne (2001), the world's leading academics in the field, have found that companies are progressively identifying their most profitable customers, as well as their least profitable. In addition, companies are seeking ways to identify, attract and increase the retention of their profitable customers by managing relationships with them (Renner, 2000; Ryals et al., 2000; Lemon et al., 2001). An American Express study, which was quoted in Peppers and Rogers (1996), also confirmed that businesses are identifying their most profitable customers. The study indicated that the best customers outspend others in the ratio of 16 to 1 in retailing, 13 to 1 in restaurants, 12 to 1 in airlines and 5 to 1 in the hotel and motel industry. Field (2003) uncovered that a common industry rule of thumb in the airline industry was that ten percent of the passengers produced half of the overall revenue. Peppers and Rodgers (1999), in their later work, point out that mass marketing is becoming less effective and should be replaced by the concept of one-to-one marketing that responds to an individual customer, based on what that customer requires. An extremely popular form of direct marketing is now conducted through the internet with companies sending personalised e-mails. Nail (2000) described that every Tuesday, United Airlines sends out an email to each of its 2.7 million most loyal users, containing information about discounts and special fares. These passengers are regular flyers on specific routes (e.g. San Francisco – New York) and the airline rewards these travellers with reduced fares on these specific city pairs as a gesture of their appreciation for using United Airlines.

In the nearly 20 years of practice since the first customer databases were built by banks, credit and catalogue sales companies in the mid 1980s, businesses have matured in terms of their knowledge and expertise in collecting, interpreting and using data for decision making and commercial action. Shaw et al. (2001) described the vast quantities of data that companies are acquiring on their customers in order to serve them better. He quotes that Wal-Mart, the largest retailer in the US, has a customer database that contains around 43 tera-bytes of data, which is larger than the database used by the Internal Revenue Services for collecting income taxes. Many authors agree that it is important to understand the customer's needs, as it will allow companies to respond and react, boosting customer satisfaction and retention (Christopher et al., 2002; Ittner and Larcker, 1998; Reichheld, 1996a, b; Jackson, 1994; Levine, 1993). Other authors argue that the relationship between the customer and the company is deemed to be one of the company's most important assets (Srivastava et al., 1998; Hunt, 1997; Peppers and Rogers 1994 and 1997; Flouris and Oswald, 2006 p69).

However, the airline industry is riddled with problems ranging from high labour costs, cyclical revenues, volatile fuel prices, under-funded pensions, low capitalisation and cut-throat competition, all of which have displaced the priority of passengers in today's airline management boards. Subsequently, the carriers have not been able to respond adequately to

understanding the needs of their passengers because of all the other associated problems. McKinsey, the consulting firm, confirmed that this was actually a very big problem throughout the airline industry. It surveyed 17 airlines[113] from around the world in 2001 and revealed that airlines had only a rudimentary understanding of their customers and had little knowledge of their most valuable passengers. The survey also highlighted that the airlines had incomplete and inconsistent data on their passengers (Binggelt et al., 2002). Viaene and Cumps (2005) provided an insight into why KLM had poor data and knowledge on its customers. The Dutch carrier contained over a dozen databases of useful customer data, however none of them were linked. Data on the monetary value of a passenger, for example, was embedded in the Accounting database, data on customer complaints resided in the Sales database and the data for incidents (delays, cancellations, downgrading) resided in the Operations database. Also, the corporate customer data was not linked into the individual customer data[114]. All this useful customer data needs to be linked and integrated so that the airline has all the customer data centralised at one point. It can then provide an integrated and friendly Customer Relationship Management (CRM) solution. Pitta (1998) also confirmed that the data from loyalty programmes was scattered amongst different databases and was not used properly. Adding to the problem is the fact that the airline industry has been continuously reducing their investment in IT over the last number of years. In 2001, the carriers spent 3.5% of their revenues on IT - by 2006 this had been reduced to around 2% (Baker, 2006).

Binggelt et al. (2002) stressed that airlines should implement CRM or make better use of their existing Relational Marketing systems. They suggested that such arrangements could enhance an airline's revenue by as much as 2.4% a year, representing incremental revenues of $100 to $250 million per year for a large carrier. They also claimed that 25% of this incremental revenue could be achieved within one year through campaigns to win back customers who have switched to competitors. Rigby et al. (2002) discussed the effect that CRM had on the New York Times in 2000: since it was implemented, the circulation of the newspaper rose by 2% in a falling market and its customer retention rate rose to 94% against an industry average of 60%.

IBM (2001) outlined how CRM can improve customer service and build customer life-long value from an airline's perspective. It gave an account of a passenger who is checking in and who had previously complained of a broken in-flight entertainment system while travelling on a long-haul flight. CRM allowed the information from the customer service system and the frequent flyer database to become centralised into a data warehouse. Intelligence and data mining tools have categorised the passenger as a "valuable customer"

[113] Nine European, five North American and three Asia-Pacific airlines participated in the survey.

[114] Viaene (2005) cited an example where KLM's most important cargo customer and his family had been denied boarding because the airline overbooked the flight. This cargo executive could have easily shifted his business to another carrier in protest. If the data between the individual and corporate customers had been integrated this would not have occurred.

with a predicted high lifetime value. Due to the status of the passenger and in recognition of the customer services incident, the system decided that the passenger should be upgraded as an apology for the previous mishap. CRM systems can also retain information regarding customised customer preferences. These may include items such as seating arrangement, meal and drink choice, newspaper and use of electronic items (for instance, laptop, phone, PDA, etc.). Peppers and Rogers (1999) stated that the American Airlines website builds customised customer views in real time, allowing two million frequent fliers to have a unique experience each time they log on, thus enriching the relationship. They confirmed that companies must consistently seek to offer individualised relationships, while Coviello et al. (2002) argued that firms are increasingly beginning to move in this direction, and consequently are offering more precision type marketing which is being designed to build strong customer relationships. Companies are now becoming more sophisticated in the way they deal with customers, as they are predicting online buying patterns and enticing customers with special offers or services. They can also calculate the value of each customer and build long-term mutually beneficial relationships. [See Rigby, Reichheld and Schefter (2002) for further information regarding personalised and customised products and services]. Holloway (2002, p303) agrees that full service airlines are very interested in developing long-term relationships and stressed that they also want to strengthen the loyalty of their passengers. Low cost carriers do not practice such one-on-one marketing relationships, and this is an important differentiating feature between full service airlines and their low cost challengers.

By continually offering superior quality to the customer in an extended relationship, the financial or psychological cost to the customer of switching to another supplier rises dramatically. The result is increased levels of customer retention and profitability, and a potential decrease in customer sensitivity to price.

6.6.2 Frequent Flyer Programmes

The Oxford English Dictionary defines loyalty as 'being faithful . . . true to allegiance'. Frequent Flyer Programmes (FFP) are designed as a competitive strategy to build customer loyalty and encourage repeat patronage from passengers. The need to attract, acquire, leverage and retain customers is still of primary concern to most businesses. Revenue growth through customer acquisition and retention remains a major requirement for competing successfully. American Airlines launched the first frequent flyer programme in May 1981 and, by 2006, it had 52 million members. Worldwide, in 2002 there were around 70 different FFP programmes which, combined, had over 100 million members[115], while Ferguson's (2003) research showed that Europe and Asia accounted for approximately 24 and 21 million respectively. The Frequent Flyer website estimated that a business traveller

[115] http://www.frequentflier.com/ffp-005.htm

could spend more than $500,000 on airline ticket purchases over his or her lifetime[116]. This long-term perspective is largely responsible for the new emphasis on "relationships" in today's consumer marketing. Other travel businesses, such as hotels and car rental agencies, soon launched their own frequent-user programmes, and most entered into joint venture programmes with airlines. Today, most loyalty schemes of airlines, hotels, car rental agencies, credit cards and other companies are heavily interlinked. It is expensive, however, to set up and run these programmes. Mason and Barker (1996) established that the setup costs for Frequent Flyer Programmes ranged from US$2 to US$12 million.

The full service airlines do not sell all their seats on every flight and subsequently there is a lot of wastage. IATA World Air Transport Statistics (2006) estimated that the average load factor for incumbent airlines was around 75% in 2005, which indicates that seats go unsold prior to departure. These empty seats are issued to prospective passengers who wish to use their mileage points. Peterson (2006), the Publisher of WebFlyer, has estimated that substituting each empty seat with a passenger who is offloading their frequent flyer mileage points costs the airline an average of at least $23.95. This includes the associated costs of food, beverage, fuel, reservations, liability insurance and other miscellaneous expenses, and also assumes that the occupied seat would have remained unsold. In Europe flying is more expensive, and a study by Aviation Strategy (1997) estimated that a low cost airline serving Paris from London Stansted would incur costs of £27 per seat (at 68% passenger load factor), while a network carrier operating from Heathrow would incur costs of £52. The Economist (January 8th 2005, p14) estimated that, by the end of 2004, almost 14 trillion frequent-flyer miles had been accumulated worldwide. However, not all of this mileage is used - Humphries (1991) stated that only approximately half of European business passengers had actually redeemed their mileage points. Beaver (1996) estimated that around 28% of frequent flyer points are redeemed, while Alamdari (2004) estimated that it was closer to 33%. The majority of the mileage points (90%) are redeemed in the form of free flights (Alamdari, 2004). Most loyalty programmes, however, contain blackout dates such as Christmas, New Year and Easter - this safeguards an airline's capacity for high peak travel periods and acts as a barrier to prevent its members from using their mileage points.

Beaver (1996) estimated that one Frequent Flyer Mile is worth somewhere between 1 cent and 10 cents. The Frequent Flyer magazine, in 2006, confirmed the earlier work by Beaver and stated that a partner company (e.g. hotel) pays the host company (e.g. airline) between 1-2 cents per mile[117]. The USA Today newspaper (2006) reported that the US airlines generated $4 billion in additional revenues in 2005 by selling mileage points to partner companies at prices of up to 2 cents per mile. In 2005 the newspaper also reported that about 54% of frequent-flier miles in the United States were earned from outside the airline industry. Consequently, Frequent Flyer Programmes are high value products. Air Canada's

[116] http://frequentflier.com/ffp-007.htm
[117] http://frequentflier.com/ffp-007.htm

Frequent Flyer Programme, Aeroplan, for example is valued at $2 billion and it recently secured $250 million from an initial public offering (IPO) (ATI, June 2005). Similarly, the Alaska Air Group reported that its Frequent Flyer Program added $8.4 million to its pre-tax revenue for the last quarter of 2003 (ATI, February 2004). Research by Yang and Liu (2003) also confirmed that the frequent flyer programme had a positive impact on the financial performance of Air China, while Gudmundsson (2002) reported that there are even more benefits when member airlines from alliances integrate their loyalty programmes.

The research carried out by Kalakota et al. (2001) showed that the average company loses half of its customers every five years. However, one of marketing's core functions is to attract and retain customers, and it is much more expensive to attract a new customer than to retain an existing one (Christopher *et al*., 1991; Webster, 1992). Reichheld (1996a) explained that it costs five times more to attract a new customer than to keep the loyalty of a current customer. Holloway (2002, p314) confirmed the earlier analysis and cited that American Airlines also believed that it cost five times more to attract a new passenger. Some authors, such as Goetz (2002) and Shaw (1999), have identified that the cost of attracting new customers is high, and deduced that it costs 10 times more to win a new customer than to retain an existing one. Once a customer becomes attached to a loyalty programme, there is a high probability that he/she will take all their additional flights with the same carrier in order to build up loyalty points. These incentive programmes prevent passengers from switching to competitors and therefore have the potential to boost company profits. In fact, the longer the customer stays with a company, the more that customer is worth (Anderson and Sullivan 1993; Mithas, Jones, and Mitchell 2004). Reichheld and Teal (1996) claimed that companies can consecutively generate additional profit year after year if they keep customers loyal to a company. They stated that a company can boost profits by anywhere between 25-85% per year if it increases its customer retention by just 5%, and they also indicated that a 2% increase in customer retention has the potential economic impact of lowering costs by 10%. An earlier study by Reichheld and Sasser (1990) revealed similar results. Thus, building and nurturing customer loyalty is becoming a key element in marketing practice today.

Palmer et al. (1996) identified that two-thirds of airlines who use loyalty programmes declared that the scheme was very effective in targeting high-value customers and that they allow airlines to form deep relationship with their customers. Passengers also value Frequent Flyer Programmes and cite them as being an important part of the overall flight product package. On average 90.8% of all business travellers are members of at least one FFP (IATA's Corporate Air Travel Survey, 2004). Proussaloglou and Koppelman (1999) found that business passengers who travel very frequently place a monetary value on their membership of $72 dollars, while a business passenger who travels less frequently places a lower value of $52. Numerous authors have mentioned the extent to which loyalty programmes influence passengers when they proceed to book with a particular carrier: Toh

and Hu (1988) reported that 67% of passengers declared that such schemes had influenced their choice of carrier and other authors, such as Nako (1990, 1992), found that business passengers were particularly influenced by their frequent flyer programmes. Proussaloglou and Koppelman (1995) found that passengers who are members of a frequent flyer program are 72% more likely to choose that carrier when considering a trip and this increases significantly for passengers who take more than 20 trips per year as they are 92% more likely to choose a particular carrier because of their frequent flyer membership. A survey conducted by the Official Airline Guide, cited in Hanlon (1999, p53), found that 90% of the world's business travellers participated in a FFP, and confirmed the previous findings by indicating that passengers who take more than 20 trips per year are 97% more likely to chose an airline because of their Frequent Flyer Programme. IATA's Corporate Air Travel Survey (2004) stated that fares and frequent flyer programmes were the two most important factors for passengers travelling on both short-haul and long-haul routes.

However, it is increasingly difficult to retain customers as competition in the marketplace provides so many opportunities that may cause the customer to switch. Most business passengers today belong to more than one Frequent Flyer Programme (Doganis, 2006 p277): Uncles (1994) confirmed that Britain's business travellers were loyal to three different FPPs, and in Asia, Chin (2002) conducted a passenger survey on Singapore Airline's business passengers and deduced that on average each traveller belonged to 2 loyalty programmes. This indicates that a lot of today's customers are not loyal and that they tend to shift regularly between different companies. Therefore it becomes important to determine which customers are the most loyal – and thus more valuable. In response, airlines have introduced a range of 'elite' reward levels - most elite programmes have three tiers, and the number of miles that are accrued normally determine which tier the passenger joins. Table 46 below gives an outline of the mileage required to reach certain tier levels for a number of airlines worldwide.

Table 46 Tier levels of a number of full service airlines

Airline	FFP Name	Tier 1 Mileage	Tier 2 Mileage	Tier 3 Mileage
Air Canada	Aeroplan	25,000	35,000	100,000
Air France/KLM	Flying Blue	25,000	40,000	70,000
American Airlines	AAdvantage	25,000	50,000	100,000
Cathay Pacific	Marco Polo	30,000	60,000	120,000
Continental	Onepass	25,000	50,000	75,000
Japan Airlines	JAL Mileage	30,000	50,000	70,000
Qatar Airways	QA Privilege	25,000	50,000	85,000
United Airlines	Mileage Plus	25,000	50,000	100,000

Source: WebFlyer, Japan Airlines, Cathay Pacific and Air Canada

The top tier entitles a traveller to certain privileges regardless of the class that he/she is flying in. These privileges may include access to airport lounges[118], priority check-in at first class desks, preferred boarding, preferred seating, free upgrades, priority on reservation waitlists and airport standby lists, priority check-in, early boarding and mileage bonuses on future flights. These incentives encourage consumers to accumulate all of their points in a single airline's FFP or to fly with a particular alliance where points will also be added. Once consumers start accruing frequent flyer points, any flight not taken with that airline represents foregone FFP points.

A study conducted by Cranfield University in 1996 found that frequent flyer programmes were the industry's second most important barrier to entry after airport slots (Cranfield University, 1996). They are an important differentiating feature when such airlines are competing against low cost carriers which generally do not participate in such loyalty programmes. Klophaus's (2005) research showed that about 20% of European low cost carriers had such schemes, while the majority of these carriers had originated from charter airlines such as Air Berlin. Clearly, this is a competitive advantage for the established network airlines. Table 47 below shows that the incumbents have a clear advantage when compared to the low cost carriers (with the exception of Southwest) and that they should further exploit this advantage by leveraging additional points as a further incentive for choosing to travel on a full service airline. .

Table 47 Frequent Flyer Members for Incumbent and Low Cost Carriers (2006)

North American incumbents	Number of Members (millions)	North American low cost carriers	Number of Members (millions)
American	52	Air Tran	2.0
Delta	38	JetBlue	2.4
United	48	Southwest	40.0
Air Canada	5		
US Airways	32		
European Incumbents		European Low Cost Carriers	
BA	4.5	Air Berlin	0.33
BMI	0.175	HapagFly	0.15
Lufthansa	7.5	Virgin Express	0.12
Air France/KLM	10.0		
Alitalia	1.8		
SAS	2.5		
Asian Incumbents		Asian Low Cost Carriers	
Qantas	4.3	Cebu Pacific	0.075
Singapore Airlines	1.6	Lion Air	0.03
Thai Airways	1.9	Virgin Blue*	1.0
Malaysia Airlines	1.0		

* Virgin Blue figures include those members from Virgin Atlantic
Source: WebFlyer, ATI and Airline Business (March 2006) and Lion Air

[118] If travelling with one of the airlines that belong to the Oneworld alliance, the top tier frequent flyer member (with one guest) gets access to over 400 airline lounges across the Oneworld network.

6.6.3 Corporate Policy

Corporate Policy is another important marketing strategy - yet there is little written on the subject. Most corporations forge relations with airlines because they have a large number of employees who travel very frequently. The corporations leverage a large part of their total travel volume in order to secure discounted air fares and other privileges, such as extra baggage and upgrades. Frontier Airlines, for example, issues a 3% rebate of the cost of the initial airfare, which is then directly debited into the airlines bank account (Frontier Airlines, 2006). These corporations represent a very wide range of businesses, such as finance, manufacturing, oil, computing, retail and pharmaceutical, many of which require frequent air travel. Lian and Denstadi (2004) stated that approximately 40 industrial sectors account for 80% of business air travel volume. Visa's (2004) research showed that corporations in the United States spend around $193 billion every year on travel. To some airlines, income from corporate clients is a very important source of revenue - O'Connell's research (2005), for example, showed that 80% of Jet Airway's revenues came from corporate customers.

Corporate arrangements with airlines are now commonplace. Carlson Wagonlit (1998) estimated that around 79% of companies had a travel policy, and a later study by Mason (2001), indicated that around 50% of business travellers were subject to some form of travel policy which was enforced by the company. This may be due to the fact that corporate discounts of between 30-50% are not uncommon on business class tickets (Fridstrøm et al. 2004). Gilbert and Morris (1995) found that corporations also had travel policies with hotels, and they estimated that 51% of business travellers must use certain hotels. The corporate executive is a business passenger who travels very regularly and, as such, is classed as a high value customer. In addition, these executives are the least price sensitive of all airline passengers (Bender and Stephenson, 1998; Stephenson and Fox, 1993; Mason and Barker, 1996). Mason (2002) surveyed a number of multinational companies in conjunction with the UK's Institute of Management and found that their executives, on average, travelled on 17 short-haul trips and 6 long-haul trips a year. All the companies that he surveyed had a travel policy and the corporations chose the airline without the involvement of their frequently travelling employees. Whyte (2002) confirmed the work of Mason as his research pointed out that almost one-quarter of corporate passengers take more than 20 trips a year. He also stated that almost half of the corporate travellers do not have the freedom to choose their own airline due to corporate policy arrangements.

An airline's marketing department normally assumes the responsibility of managing corporate accounts, negotiating, managing and tracking the contract performance. The corporations require travel agent expertise with a full understanding of travel policy structures, such as visa requirements, vaccines and onward connections. Around half of corporations consider Travel Management Companies to be the most effective way of

managing travel (Alamdari and Mason, 2006). Bender and Stephenson (1998) described the importance of travel managers: they cited that 86% of all companies that had a travel and entertainment budget of over $5 million had a travel manager. Pachon et al. (2006) emphasised the importance and net worth of the corporate contract. The authors cited that British Airways had more than 200 account managers and sales executives who managed over 600 corporate contracts that netted the airline more than $2.7 billion in revenue. The authors used a multinomial logit function to model the effect that the corporate policy had on British Airway's profit, and it showed that total travel demand, service quality and airline competition all impacted on how much the air fare was discounted.

Multinational companies employ thousands of employees who travel regularly, and it is a big revenue spin-off for an airline when such contracts are secured. IATA's Corporate Air Travel Survey (2004) pointed out that over 40% of business travellers (all over the world) work for companies with more than 1,000 employees - work carried out in Ireland and Malaysia by O'Connell and Williams (2005) confirmed the IATA study. This research revealed that companies with increasing numbers of employees are more likely to have secured a corporate contract with an airline. A survey by Mason (2001) of the UK market demonstrated that larger companies are more likely to have a travel policy, as illustrated in Table 48 below (in spite of the small decrease recorded for companies with employee numbers ranging between 1,000 and 5,000). Evangelho et al. (2005) and Mason (2000) also confirmed this hypothesis. It was also noted that self employed business people and those who worked for small companies (i.e. less than 100 employees) were more inclined to use low cost carriers because they were more price sensitive and had smaller travel budgets (O'Connell and Williams 2005; McKinsey 2005).

Table 48 Company travel policy by number of employees

Company size	1-24	25-99	100-999	1000-4999	> 5000
Proportion of companies with travel policies	25.9 %	48.5%	75.0%	67.9%	89.5%

Source: Mason (2001)

IATA's Corporate Air Travel Survey (2004) has indicated that the proportion of business passengers who remain tied to corporate contracts has remained very stable over the last four years. O'Connell and Williams (2005; 2006) showed that the largest low cost carriers (in terms of passenger numbers) in Europe and Asia had no such corporate contract with any company, while all the incumbents had contracts. Research by Alamdari and Mason (2006) pointed out that less than 10% of corporate trips are booked with low cost carriers, and the majority of the corporations do not use them. Similarly, Carlson Wagonlit Travel (2006) confirmed the earlier studies by conducting their own research into the area and found that 81% of travel managers from around the world stated that they rarely booked corporate executives on low cost carriers.

Corporate contracts are a strategic weapon that holds the loyalty of the business passenger, and they are not an evident component with low cost carriers. The McKinsey group stressed that incumbents must focus on corporate contracts in order to secure business travellers from big companies (McKinsey Quarterly, 2005, p6). Incumbents should continue to cement their business-to-business relationships with companies and broker long-term deals that will bind corporate business travellers to a specific airline, thus capturing high yield traffic. This is another marketing strategy that is highly effective against low cost carriers as it captures and then secures high yield business passengers.

6.7 Branding

Branding has been present for centuries and it spans all frontiers of business. In the fine arts, for example, branding began with artists like Leonardo de Vinci signing his works in the early 1500s. Brands today are an important marketing strategy as a successful trade mark is instantly recognised and can significantly enhance the financial value of a firm. The process of branding originated as a means for firms to differentiate their goods and services from those of their competitors (Cowley, 1991). David Aaker is considered the leading academic in branding strategy - he stated that 'A company's brand is the primary source of its competitive advantage and a valuable strategic asset' (Aaker, 1996). He argued that the power of the brand lies in what the customer has seen, read, heard, learned, thought and felt about the brand over time (Aaker, 1997). More recently and along the same lines, Keller (2003) measures the strength of the brand by the customer's perception of the brand through thoughts, feelings, experiences, images, perceptions, beliefs and attitudes, all of which differ from one customer to another. Aaker (1996) aserted that brands consist of 12 dimensions organised around 4 perspectives: *brand as a product* (product scope, product attributes, quality/value, uses, users, country of origin); *brand as an organisation* (organisational attributes, local versus global); *brand as a person* (brand personality, brand consumer relationships); and *brand as a symbol* (visual imagery and brand heritage). Keller and Kotler (2006, p278) integrate and then narrow down the literature to reflect that a brand is a marketer's promise to deliver a predictable product or service performance, and a brand promise is the marketer's vision of what the brand must be and do for consumers. However, around 75-85% of all new brands fail (Kohli, 1997; Murphy 1998).

The airline industry has both strong and weak brands. Dennis and Denton (2004) pointed out that airlines, such as BA and Lufthansa, have developed strong brands which are associated with quality and recognised world-wide. Arnoult (2004), having probed a little deeper, reported that British Airways' brand consists of professionalism, heritage, reliability and quality, while Lufthansa's brand is based more on quality, innovation and trust. The brand strength of British Airways and its consumer pulling power becomes

apparent when one considers the studies conducted by Dumazel and Humphreys (1999). They illustrated that travel agent awareness, or willingness to promote the Manx European service from Cardiff to Brussels was low when compared to the KLM service from Cardiff to Amsterdam. However, once Manx European was later renamed as British Regional and became a BA franchise, recognition grew substantially and passenger numbers soared, primarily because of its association with a strong and well known brand. When Duo left the BA franchise in 2003, it quickly deteriorated and, within six months, it was forced to cease operations. Hanlon (1996) strongly argued that franchising is an excellent marketing tool which can be used by airlines that lack a strong brand name.

Some brands, such as Gillette, Merck, 3M, Sony and others, have been leaders in their product categories for decades, due in part to their continual innovation. In much the same way, British Airways are retaining their leadership in the market because they continuously upgrade their flight products. In 2000, for example, the carrier outfitted its premium class with a new £600 million makeover that included the world's first flatbed on its long-haul aircraft (ATI, January 2000). Six years later it reinvested an additional £100 million in revamping its Club World business class product (ATI, November 2006). Doyle (2001), a noted author in branding, argued that building a successful brand starts by developing an effective product or service. Lufthansa and Air France imitated the BA product in 2004 in order to remain competitive. Lufthansa also became the first airline to install a broadband communication service allowing its passengers to use the internet while in-flight, costing close to $600,000 to install per aircraft (Flight International, 2004). JetBlue has now become synonymous with its in-flight television entertainment system which it pioneered itself. Chernatony and McDonald (1998) have indicated that products which match the consumers' needs most closely become brands. O'Connell (2006) reveals that Emirates is now one of the world's strongest airline brands, and partially attributes its success to its affiliation with multiple high calibre sporting events, such as golf, horse racing, yachting, cricket and rugby; moreover, the airline recently signed a seven-year deal costing $195 million in order to become a FIFA partner, thus giving it global awareness.

Companies enter into sponsorship arrangements for a variety of reasons - two of the most common are: (1) to increase brand awareness, and (2) to establish, strengthen or change brand image (Comwell and Maignan 1998; Gwinner 1997; Crowley 1991). The carrier is also highly innovative as it is one of the first carriers to install mobile phone receivers/transmitters onboard. Qatar Airways has been strongly branding itself as the world's only five-star carrier in an effort to differentiate itself from other carriers in the Arabian Gulf. Meanwhile, Singapore Airlines developed its brand around innovation, technology, genuine quality and excellent customer service - it was the first to introduce hot meals, free alcoholic beverages, hot towels with a unique and patented scent, personal entertainment systems and video-on-demand in all cabins. Kapferer (1997, p5) stated that the brand is not the product but it does give the product meaning. Its brand, however, is largely centred on the iconic 'Singapore Girl': she encapsulates Asian values and

hospitality, and could be described as caring, warm, gentle, elegant and serene (The Brand Channel, 2004). The icon has become so strong that Madame Tussaud's Museum in London started to display the Singapore Girl in 1994 as its first commercial figure.

There are many full service airlines with weak brands, such as Olympic, Alitalia, Malev, Garuda, Aeromexico, PAL and Alaska - they are very vulnerable when low cost carriers enter into their markets as they do not have a good reputation for delivering a top quality airline service. Low cost carriers themselves are quickly developing strong brands: Ryanair is now the fifth most searched website worldwide[119]; it gave away 20% of its flights for free in 2004 and has plans to give away 50% of its flights for free by the end of the decade - therefore, prospective passengers perceive that the brand will deliver very low fares: this is the principle reason why the carrier has become so well known and sought after (O'Connell and Williams, 2005). Southwest is regarded as the leader in low cost travel in the United States and carried 77.7 million passengers in 2005, surpassing United, Continental and Northwest. Air Asia's brand in Asia is strengthening because it has franchised its operations into Thailand and Indonesia. Similarly, the brands of other low cost carriers around the world have been growing quickly, such as India's Air Deccan, Brazil's Gol, Australia's JetStar and Air Arabia in the Middle East.

In an effort to compete with the low cost carriers, the incumbents have changed their short-haul product. Their economy class has become more like that of low cost carriers, as they have been eliminating meal services, reducing the number of cabin crew and equipping the aircraft with a higher seating density - some carriers have even eliminated short-haul business class. All these changes have caused their brands to become diluted. In addition, the full service carriers are faced with the dual marketing dilemma of offering a business class to cater for time sensitive travellers and an economy class to cater for fare sensitive passengers. Trying to brand two important elements of the marketing mix is becoming a major problem for the full service airlines. Taneja (2003, p79) stated that an airline brand can be diminished if it tries 'to be all things to all segments'. He further argued that the full service airlines have failed to establish their brand and their product's unique value. This results in a mismatch between the expectations of passengers and the airline promise, which may frustrate passengers and make them question the integrity and competence of the brand. Porter (1979) stated that consumers tend to be more price sensitive if they are purchasing products that are undifferentiated, thus leading more passengers to take low cost carriers. The United States leading airline branding company, Aerobrand, confirmed that there is very little product differentiation between carriers – thus, marketing efforts to strengthen the brand become paramount (Arnoult, 2004). However, Mercer Consulting (2001) provided evidence that the strength of a brand can become the differentiating factor

[119] The 2003 Year End Google Zeitgeist survey (based on 55 billion searches over the past year), that tracks the most popular sites, ranks Ryanair.com as the fifth most searched for brand across the worldwide web.

when service differentials are close to equal (e.g., price, schedules, in-flight amenities, on-time performance, etc). The consulting company stated that customers were four times more likely to choose the airline with the strongest brand than the airline with the weakest. Teece (2000) also argued that strong brands are key value creating resources and are important in sustaining competitive advantage. He also stated that high-value customers place great importance on brands when making their travel related choices compared to more price-sensitive, lower-value customer groups. In a similar vein, Hanlon (1996) advocated the importance of image: 'the image projected by one airline can be more favourable in marketing terms than that projected by another'. He further suggested that the brand image associated with one carrier can be more saleable than that of another.

Kalligiannis et al. (2006) surveyed 27 airlines that were associated with the Star, Oneworld or SkyTeam alliances, and concluded that 89% of airlines wanted to keep their individual brands and did not want their brands to become absorbed by the alliance brand. This may dilute their originality and would certainly reduce the differentiation between the members in each alliance. Brands, however, erode over time: Swissair, for example, was one of the world's leading airline brands a decade ago, but, since then, it has deteriorated and has now being absorbed into the Lufthansa group but still remains a Swiss flag carrier. Other carriers, such as Malaysia Airlines, Garuda, Gulf Air, SAS and Alitalia, are also experiencing an erosion of their brand value. Forrester Research agreed that airline branding has eroded over the past few years and stated that it is important for carriers to focus on marketing, customer service and the entire flight experience in order to strengthen their brand (Arnoult, 2004). Semans (2004) cited four reasons why brands erode over time: decreased customer loyalty, lack of differentiation, increased price sensitivity and the lack of internal alignment with the brand promise.

Airlines must continue to strengthen their brands and must communicate their brand values to their customers. It is an excellent way to differentiate between their products and services. The economy class cabins of full service carriers must not become mistaken for those of low cost carriers; a fortiori, the brands of full service carriers must reflect the attributes of leaders, such as Singapore Airlines, that portray innovation, technology, genuine quality and excellent customer service. However, a key element in image building is to ensure that what is promised before the flight actually materialises and meets passenger expectations when the flight takes place (Doganis, 2002 p250).

6.8 Advertising

Kotler and Armstrong (2001) define advertising as '*any paid form of non-personal presentation and promotion of ideas, goods, or services by an identified sponsor'*. To advertise means to inform. Advertising is a big industry, and ZenithOptimedia (2004) have estimated that advertising spending worldwide amounted to over $400 billion in 2003. Advertising influences and persuades people to take a desired action - like choosing a

particular airline when there are several available in the market. Therefore, advertising positively impacts on the customers' perception of a brand. Traditionally, academics and practitioners in the field of marketing have supported the view that advertising plays an important role in building the brand and customer equity (Ambler et al., 2002; Duncan 2005; Jones and Blair 1996; Rust et al., 2004).

There is a large void in literature regarding airline advertising, and very little research has been conducted in this important marketing area. Stephen Shaw is one of the few authors who has undertaken research on this subject area. Advertising can be transmitted via several types of media, television generally being acknowledged as the most powerful advertising medium. Airlines spend around 25% of their advertising budgets on television advertising, costing around £70,000 per minute (Alamdari, 2004). Radio is another persuasive medium. Research carried out by Keller and Kotler (2006, p572) showed that around 96% of Americans listen to the radio daily and that it is a very effective media source but lacks the visual image. Radio advertisements are relatively cheap to broadcast, costing around £6,000 per minute on an early morning BBC channel (Alamdari, 2004). Another effective medium is newspaper and magazine advertising as they generally cross-subsidise their income from selling advertising space - this type of advertising can provide detailed product information, generally costing £50,000 per page, however, print media is generally passive and it is more difficult to measure how consumers respond to the advertised message. The top Web portals (e.g. Yahoo, MSN, Google) now reach mass audiences, and Internet advertising is becoming mainstream for airlines. In the United States, the overall advertising industry grew at 7.7% in 2004, while Internet advertising grew by 28.8% during the same year and is a $9.3 billion business (Business Week, 2004). The allocation of an airline's advertising budget among the alternative information media is a very serious task and should consider local consumer preferences and durability of conveyed messages in passengers' minds.

To give an idea of how much airlines spend on advertising, Doganis (2002, p143) revealed that Qantas and Singapore Airlines *annual* advertising spend per flight amounted to £124,000 and £117,000 respectively in 1995, exclusively in the UK marketplace. Consequently, their loads in first and business class were very high. Many airlines spend around 2% of their revenues on an advertising budget every year. They may spend much more than this when they launch new products or when they begin a new service, as they want to create awareness. Lufthansa spends around 1.8% of its revenues on advertising or the equivalent of €4 per passenger. British Airways spends roughly 80 per cent of its advertising budget in the London and New York markets and has allocated a large portion of this money into promoting its flat bed (Sentance, 2004). Emirates spends around 4% of its revenues on advertising each year and subsequently won the Airline Business marketing award in 2006. It stated that this level of investment is required in order for it to develop into a globally recognised premium brand (Airline Business, August 2006). However, the US majors were unable to invest the standard 2% of their revenues on advertising and this may have contributed to their deteriorating performance as their presence on television,

radio and in the newspapers disappeared, thus distancing themselves from the public. In 2003 American Airlines spent 1.21% of its revenues on advertising, while United only spent 0.54%. Meanwhile, low cost carriers such as JetBlue, allocated 3.34% of their revenues to promotion, while Southwest allocated 2.92% (Unisys Transportation Insights, 2003). Thus, the flag carriers were unable to target those passengers who were switching to the low cost carriers partly because of insufficient advertising budgets. This contributed to the majors losing market share to the low cost carriers. For benchmark purposes, BMW spends 8.6% of its revenues on advertising, while McDonalds, the leading fast food franchise, spends around 19%.

Nielsen Media (2005), a UK research company specialising in advertising, estimated that the British travel industry spent around £622 million on advertising in 2004, while retailing spent around £2 billion. Table 49 below shows how much airlines have spent on advertising in the UK market in 1998 and again in 2004. The Nielsen research group indicated that British Airways spent around £45 million on advertising in 2004 in the UK market, while easyJet allocated almost £34.6 million to its advertising budget. Sull (1999) stated that easyJet spent 8% of its revenues on advertising in its early days in order to establish its brand - it has increased its adverting budget by 1050% from 1998 to 2004, while its passenger numbers have increased by 1400% over the same period. The sharp increase in advertising has triggered public awareness of easyJet and has stimulated many passengers to use the carrier. Surprisingly, Virgin Atlantic's adverting budget for 2004 was very low, registering £3.1 million. Branson's charismatic figurehead and brand stunts, such as around-the-world ballooning, give the Virgin group continuous presence in the media, thus reducing its advertising budget. Research by Naghuj (2005) confirmed that airline advertising stimulates people's awareness and encourages more passengers to try out the service. His survey pointed out that customers best remembered British Airways, followed by Emirates and then easyJet. Incidentally, these airlines had the highest advertising expenditures, as shown in Table 49. He also stated that television was the best medium to transmit advertisements, followed by the Internet and magazines.

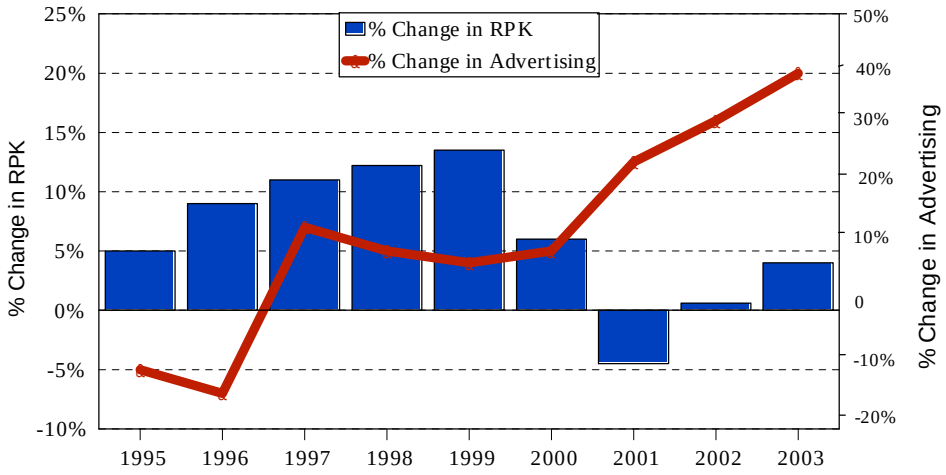
Table 49 Airline Advertising Expenditure by rank in the UK for 1998 & 2004

1998			2004		
Rank	Airline	Expenditure (£ millions)	Rank	Airline	Expenditure (£ millions)
1	BA	25.6	1	BA	45.1
2	Virgin Atlantic	8.9	2	easyJet	34.6
3	British Midland	8.5	3	United Airlines	10.8
4	United Airlines	4.8	4	Emirates	5.4
5	American Airlines	3.8	5	American Airlines	5.2
6	Qantas	3.1	6	Malaysia Airlines	3.8
7	easyJet	3.0	7	Iberia	3.2
8	Singapore	2.8	8	Virgin Atlantic	3.1
9	Emirates	2.7	9	Qantas	2.9
10	Air Canada	2.1	10	Continental	2.6

Source: Nielsen Media Research 2005

Continental Airlines was one of the few US majors that did not enter bankruptcy in recent years. When its revenue traffic began to fall in 2000, it immediately began to increase its advertising expenditure. From 2000 to 2003 it increased its advertising expenditure by 30%, as shown in Figure 43 below. Even after 9/11 it continued to increase its advertising expenditure and was one of the first majors to experience an increase in passenger traffic by 2002/03. The Continental example proves the importance of embedding counter-cyclicality in the advertising process. If an airline applies a counter-cyclical advertising policy, raising its respective expenditure to face negative conditions and reducing it in positive ones (when advertising is needed less), then it may eventually achieve better returns overall.

Figure 43 Continental Airlines advertising shift and traffic impact



Source: BA accounts and Nielsen Media Research

An effective advertising campaign needs to have a clear and well defined set of objectives as an advertisement ultimately portrays the brand image of the company. Shaw (2004, p272) argues that good airline advertising campaigns should contain good quality of production, be well researched and persuasive; advertising portrays the true brand value of the airline and can credibly offer a unique selling proposition to its customer, such as 'The first flight of the day'.

6.9 Concluding Remarks

This chapter has examined various aspects of marketing, highlighting concepts such as passenger segmentation, satisfaction and perceived value, product and pricing strategies, customer retention, branding and advertising. Due to the fierce competition from low cost carriers, full service network airlines should capitalise on these marketing concepts and aspects in order to devise a strategy of efficient and value for money product differentiation in the passenger's mind. Among others, full service carriers should pay particular attention

to the business class passenger as the revenue/capacity ratio of this class is very healthy; they should keep their customers satisfied by innovating and offering better quality of service when and where needed; they should communicate their yield management strategy to the passengers effectively to avoid complaints about excessive pricing; they need to emotionally and financially connect to the passenger by developing a solid customer relationship through the wise and integrated use of databases built around frequent flyer programmes; they must attract corporate customers and travel management companies to sign long-term contracts with them; they should resist reducing costs associated with value-added services as this destroys their brand; and finally, they must spend heavily on advertising, albeit on a selective and counter-cyclical basis. If network carriers follow the above, then they may succeed in proposing an alternative marketing proposition to the aggressive pricing strategies implemented by low cost carriers; this may be the only way forward for full service carriers as the entire replication of the low cost model from a supply-side perspective is neither possible nor sustainable.

7 Chapter 7: Competing Against Low Cost Carriers: A Strategic Management Perspective

This chapter extrapolates the core principles of strategic management from the literature. This core competency provides a solid framework of strategies that full service airlines can use to compete more effectively and gain competitive advantage over low cost cost carriers in short-haul markets worldwide. This framework of '**strategic management principles'** were **added** to the '**marketing principles**' framework, extrapolated from previous chapter (i.e. chapter 6) to form a detailed **questionnaire** on how full service airlines can compete effectively with low cost carriers. This **questionnaire** was administered to airline executives working at full service network carriers worldwide in association with IATA as shown in Appendix VII. Its aim was to determine which marketing and management strategies had the highest impact against low cost carriers.

7.1 Introduction

Traditional airline incumbents have come under attack from a new generation of leaner and more agile types of airline. These low cost carriers are relative newcomers to the industry but they have quickly reshaped the competitive dynamics of the global airline industry and have been responsible for the paradigm shift of passengers who are switching to the low fare carriers. Rather than embrace the full-service, hub-and-spoke strategy of the major airlines, the new-comers introduced a low-cost, point-to-point, no-frills strategy that proved to be a hit with consumers. Before long, they had captured a large segment of the market, and established airlines were searching for answers to the threat. Meanwhile, incumbents from a whole spectrum of other industries were also facing competition from low cost competitors: long established book stores such as Barnes and Noble, were facing new threats from online book distributors like Amazon.com; and stock brokers such as Merrill Lynch, were now competing with online brokers including E*Trade and Ameritrade - which was beginning to impact their business. Many incumbent businesses were coming under attack from newcomers who employed radical, new, low cost strategies and, as a result, established leaders in a variety of industries were asking the same question: What strategies could be implemented in order to successfully challenge these new innovators?

This chapter aims at addressing the above question by adopting an integrated strategic management analytical framework: by firstly defining the concept of strategy; secondly discussing the structural pillars of the contemporary airline business environment; and thirdly, analysing in great detail, alternative competitive strategies for traditional carriers to counter-attack the intrusion of low fare airlines. An initial framework (based on Kotler's five defence modes) provides the foundation for a generic defence mechanism that is used by a wide spectrum of industries in order to oppose competition and guard

markets. Then an additional framework of specifically aviation related strategies were added that would support full service airlines in fending off budget carriers. This additional framework consists of the following strategies: leadership and differentiation; improved competitiveness through collaboration; marketing the flight products to passengers; re-examining strategies that would accentuate profits and spread risk. It would also incorporate various tools of analysis that would access strategies through: strengths that would provide competitive advantages and strategies that would shore up weaknesses; Porter's five forces of competitive rivalry; and the capability of management in dealing with the low cost carrier threat. In essence, this total framework plays a fundamental role in the theoretical argument of this dissertation, which is then tested empirically using a set of questionnaires (analysed in chapter 10).

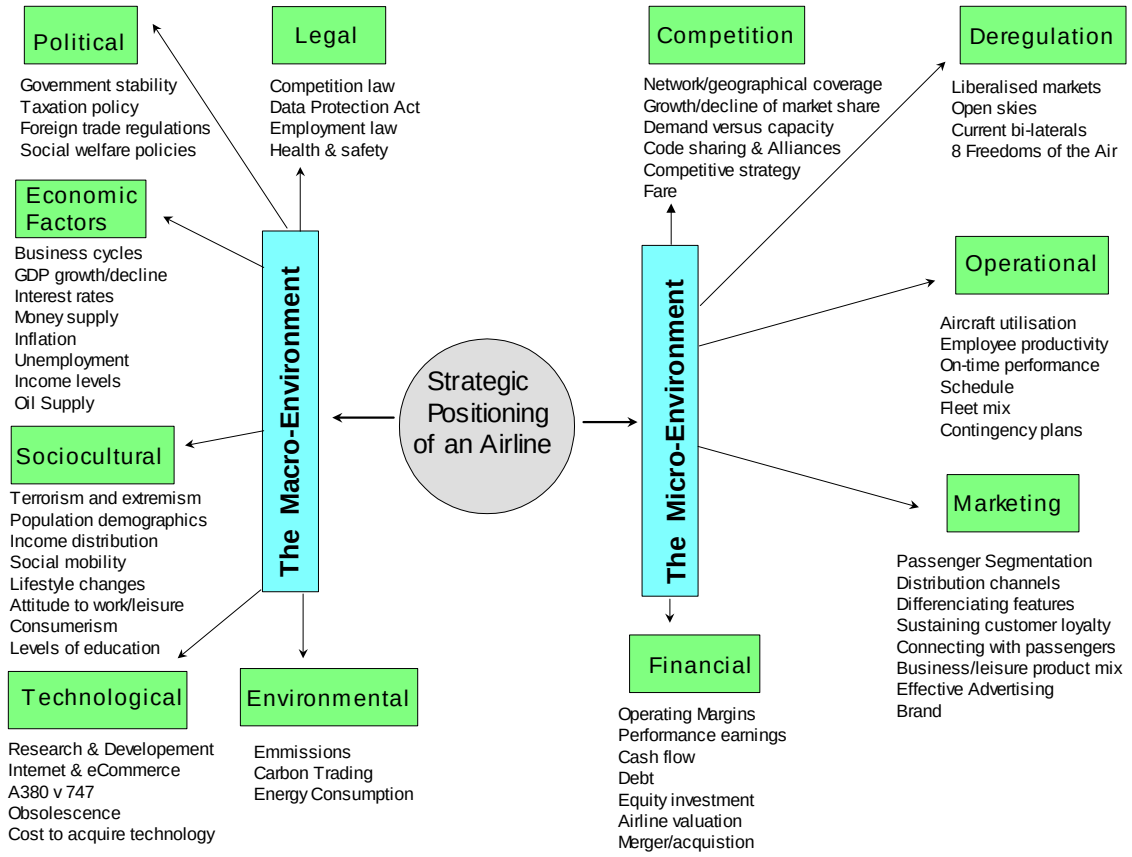
7.2 What is Strategy?

The Oxford dictionary defines strategy as a 'plan of action or planned change'. Porter (1996) described strategy as '*the creation of an unique and valuable position involving a different set of activities'* and added that a company can claim that it has a strategy when it performs different activities from its rivals, or performs similar activities in different ways. In his book entitled 'Competitive Strategy', he linked competitive strategy to thirteen dimensions that could be used when competing with rivals, as follows: brand, specialisation, push verses pull, channel selection, product quality, technological leadership, vertical integration, cost position, service, price policy, leverage, relation with parent company, and the relationship with its home country and government (Porter, 1980 p127-8). Porter later restructured his description of competitive strategy and stated that it consisted of business initiatives to attract new customers, withstand the competitive environment and strengthen competitive market position (Porter, 1996). Rowe et al. (1993) and Grant (2002) indicated that strategy can also be seen as creating opportunities by building on an organisation's resources and competences. Wood (1999) stated that the strategy process enabled an organisation to *focus and sense* (define the organisation and the context in which it is operating with some precision), *anticipate* (develop ways in which the organisation's context changes and how the organisation might respond to those changes), *influence* (develop ways in which the organisation might change context in order to improve its own sustainability), and *act* (motivate intelligent action at the right time in the right place in accordance with the themes of the strategy). Today's leading academics of strategic management, notably Johnson, Scholes and Whittington (2005, p9), defined strategy as '*The direction and scope of an organisation over the long term, which achieves advantages in a changing environment through its configuration of resources and competencies with the aim of fulfilling stakeholder expectations'*. Companies from all types of industries need forward planning to successfully compete - this stems from having an effective strategy in place, giving the company a solid direction.

7.3 The forces that shape the airline industry

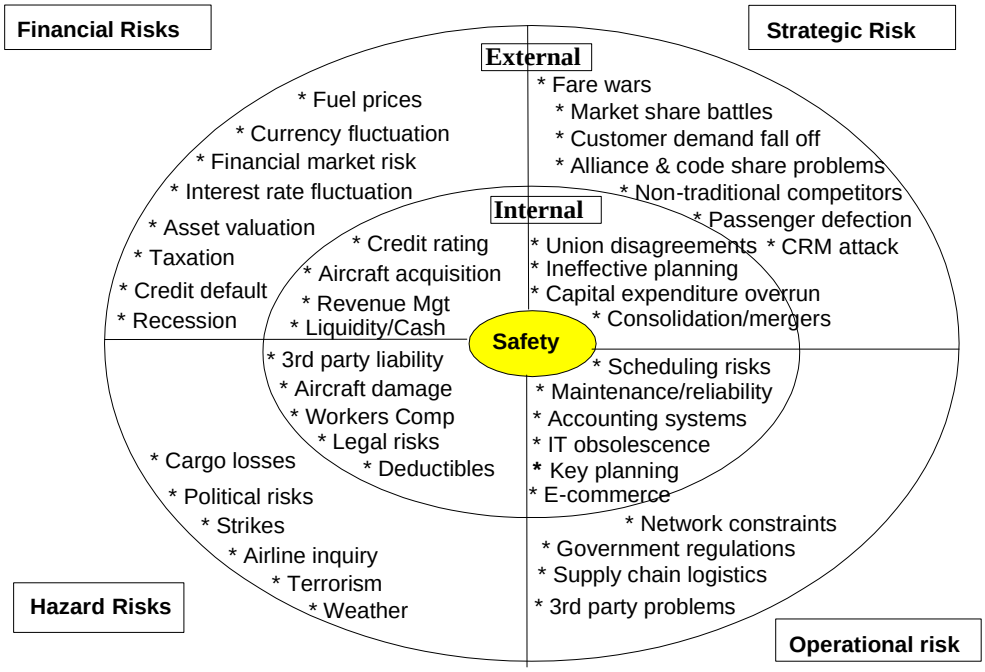
The environment in which airlines operate encapsulates many different influences and interconnecting forces. Understanding the operating environment is important when building a strategic picture of the airline industry. In the contemporary highly competitive marketing environment, there are many forces that shape the structure of the airline industry, and that ultimately affect strategy. The ability of a carrier to compete depends on its strategic capability (resources and competencies) which is affected by its operating environment (both external and internal) (Johnson et al., 2005). Figure 44**,** below, shows the operating environment of today's airline industry, comprising of two mainstreams, namely a macro and micro environment. The macro-environment applied here is a generic type used in multiple industries and is commonly referred to as the PESTEL (Political, Economic, Socio-cultural, Technological, Environmental and Legal elements). These forces have a direct impact on the airline industry but are largely outside of its control. The second operating environment of the airline industry is the micro-environment, which includes all the aviation related forces which have a direct impact on the overall competitive environment and it includes: the level of competition, deregulation, operational capability, and marketing and financial strengths that shape the competitive structure and market conduct of an airline. These factors can also determine a carrier's position in the market as a leader, challenger or follower.

Figure 44. The operating environment of the airline industry



The strategy of an airline also depends on the level of risk that it faces in pursuing a particular strategy. Johnson et al. (2005, p369) stated that risk 'concerns the probability and consequences of the failure of a strategy'. Kichisaburo (2003) classified airline risk into four categories: strategic, operational, financial and hazardous. The level of risk shapes the strategy of an airline and determines its competitive advantage. Figure 45 below, shows the various risks facing the airline industry, both from an internal and external perspective. Central to all airline risk is safety as it has always been a critical element to the economic success of the industry. Although fatal air accidents are extremely rare compared to other transport modes, the rapid growth in the number of commercial flights has resulted in aviation's increased exposure to risk. Mercer Consulting surveyed the aviation industry over a ten year period from April 1991 to April 2001, which captured the full range of an economic cycle including the recession of the early 1990s and the boom of the mid to late 1990s. It found that airlines lost $46 billion in shareholder value because they did not manage the entire spectrum of risk (i.e. strategic, financial, operational and hazardous) during this period. The strategic risks accounted for 49% of the losses, followed by the financial risks at 22%, operational risks at 18% while hazardous risks only accounted for 11% (Mercer Management Consulting, 2002). This implies that strategic management is vital to the success of a carrier as it will steer the company through change and enable corrective adjustments to be made in order to remain competitive and profitable

Figure 45. The risks facing the airline industry



Source: Mercer Consulting (2002)

7.4 Designing a survey to access which marketing and management strategies had the highest impact against low cost carriers.

A **questionnaire** was designed to determine which strategic management concepts could be implemented by the full service airlines to be most effective in competing against the low cost carriers. The design had a two-fold framework. Firstly as a result of a deep-rooted study of the **strategic management** literature, a large number of strategies were selected for the questionnaire in an effort to determine which particular strategies had the greatest impact in competing against budget carriers. Secondly, the **core marketing concepts** extrapolated from the previous chapter (i.e. chapter 6) was added to this design framework to provide a solid set of well structured **questions** on how full service airlines can compete effectively with low cost carriers. This **questionnaire** (see appendix VII) was then sent to airline executives worldwide in collaboration with IATA. The principle concepts of strategy and marketing are extrapolated from the literature and serve as the fundamental underpinning of what airline executives can do to defend and compete against low cost carriers as outlined in Figure 46 below.

Figure 46 below is composed of two parts. Firstly it outlines a series of defensive mechanisms that full serviced airlines can implement in order to defend themselves against low cost carriers. Secondly it consists of a series of strategies that network carriers can implement to gain competitive advantage and build value over encroaching low cost carriers.

The first subsection examines generic defensive strategies. Strategy can be viewed as the building of defences to protect a company from competitive forces or to position the company where competition is weak (Porter, 1979). Knowledge of the company's capabilities and the forces of the surrounding competition will become indicators to a company if it should confront or avoid competition. Kotler (1991, 1994, 1997, 2000) outlines a framework whereby a company can segment its defences depending on the objectives of the encroaching competition. The five types of defence put forward by Kotler are outlined below and are represented diagrammatically (enclosed rectangle) in Figure 46:

1) Flanking Defence. The market leader erects flanks/outposts to protect a weak front

2) Pre-emptive Defence. A more aggressive defence manoeuvre is to launch an attack before competitors launch their offensive.

3) Counter-offensive Defence. Most market leaders when attacked will respond with a counter attack. The leader cannot remain passive in the face of a competitor's price cut, product improvement, promotions or market territory invasion.

4) Mobile Defence. The leader stretches its domain over new territories. It spreads through market broadening and market diversification. Market broadening involves shifting focus from the current product to the underlying generic need. Market diversification involves shifting into other business areas.

5) Contraction Defence. Large companies realise that they can no longer defend all their territory and the best course of action would be a planned contraction or strategic withdrawal. This is where the company gives up weaker territories and reassigns resources to stronger territories.

Kotler's five defences have been taken as the *foundation framework,* which provide a generic defence mechanism to shield against competition and counter-attack low priced entrants.

The second subsection of Figure 46 comprises of an *additional framework* of strategies and analytical tools which are added to Kotler's defense mechanism. These are supplementary strategies or components that network carriers can implement to gain competitive advantage and build value over encroaching low cost carriers. Such strategies include collaboration, marketing, diversification, negotiation and management's ability to implement change, while tools of analysis included bases of competitive strategy, strengths/weaknesses identification and Porter's theory of competitive rivalry.

Both frameworks are shown below in Figure 46. The strategies and analytical tools used by full service airlines to fend off low cost carriers are outlined below:

i) Porter (1985) argued that successful enterprises stem from cost leadership, differentiation or by focusing on a niche market. Bowman and Faulkner (1996) build on Porter's original three generic strategies by developing a 'Strategy Clock' which outlines a range of different strategy options (e.g. strictly low fare, low fare with frills, etc.). Johnson et al. (2005, p245) argues that the strategy clock is an important concept in helping managers understand the changing requirements of their markets and the choices they can make about positioning their companies and their competitive advantage. **The bases of competitive strategy** as outlined in Figure 46 shows this.

ii) Collaboration between incumbents can be crucial in achieving advantage or avoiding competition. Collaboration allows the incumbent to compete in some markets and join forces in others (Doz and Hamel, 1998 and Faulkner, 1995). Goold and Campbell (1998) claimed that extensive synergies exist from pooled resources and give airlines more leverage. Carriers can comfortably coexist by forming partnerships without antitrust immunity, and by developing more common synergies through alliance membership and extensive code sharing agreements.

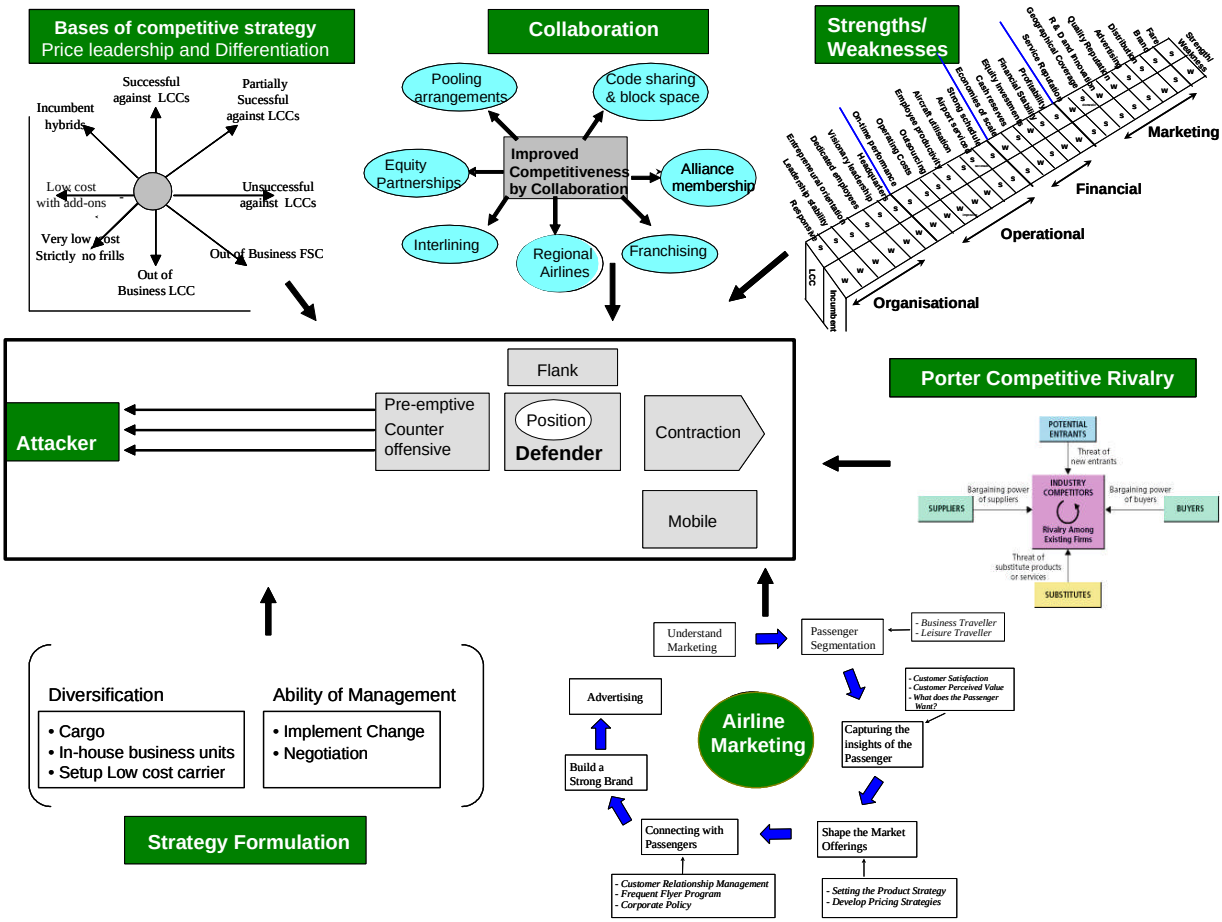
iii) It is important to identify an airline's **strengths and weaknesses** in relation to its business environment. Effective use by management of a company's resources and capabilities will strengthen its competitiveness, and, conversely, ineffective management weakens its position. Feurer and Chaharbaghi (1995) argued that strategy can be defined by a company's strengths and weaknesses. Many other authors such as Schnaars (1998), Thomson and Strickland (2001), McDonald (1999) and Kotler (2000) all indicated that a company's strengths may be leveraged to realise opportunities; they also showed how weaknesses (which exacerbate threats or impede progress) can be strategically strengthened.

iv) Porter's theory of competitive rivalry explores the various forces of competition. Some airlines are more profitable than others because of the dynamics of the competitive structure within which they operate. The most influential analytical model in assessing the nature of competition in an industry is Porter's five forces that shape every industry and every market. These forces determine the intensity of the competition, and include barriers to entry, threat of substitute products, bargaining power of buyers, bargaining power of sellers and the rivalry among existing competitors in the industry (Porter 1985).

v) Marketing strategies incorporates all the various aspects of marketing, highlighting concepts such as passenger segmentation, satisfaction and perceived value, product and pricing strategies, customer retention, branding and advertising These are all very important strategies if an incumbent wants to differentiate its services from those of low cost carriers. **Chapter 6** describes all of these in detail.

vi) Additional strategies in the form of diversification and managerial capability are added here to the overall framework of analyses. Diversification allows a company to expand beyond its core competencies. A number of well known authors have argued that diversification has important influences on the performance of firms (Hitt et al., 1997 and Kim et al., 1989). The ability of management to direct strategy is crucial. An organisation may have the 'right' strategy (content) but, without the appropriate organizational structure and capabilities in place, it will not be able to implement its strategy successfully. These components are addressed as **Strategy Formulation** in Figure 46 below.

Figure 46. Defensive and competitive strategies to compete against low cost carriers



Collectively, these defence and strategic options outlined in Figure 46 above, represent a wide spectrum of possible strategies that the incumbent could implement in order to respond to low cost carriers. **These integrated defence and strategic options were included in a questionnaire which was sent to airline strategy directors worldwide, in collaboration with IATA. The questions are designed to identify an incumbent's capabilities in dealing with low cost carrier competition and also to identify which options prove effective against the low cost carriers. The questionnaire also includes a subsection on air travellers' choice, which lists all the reasons for choosing an incumbent, according to passenger surveys conducted in Ireland, Malaysia and India. The rationale for its inclusion is to investigate if the airlines' perception of passenger requirements synchronises with what the passenger actually wants. The results of the questionnaire are discussed in detail in the empirical part of the thesis in Chapter 10**. A description of each of the strategies listed in Figure 46 follows.

7.5 Bases of competitive strategy (cost leadership & differentiation)

Porter (1985) argued that, in order to succeed in business, a firm needs to adopt one of the three generic competitive strategies, cost leadership, differentiation or market focus, and that the firm's strategic choice ultimately determines its profitability and competitiveness (Porter and Millar, 1986). Porter's framework for competitive strategy is one of the most widely accepted business planning models (Bourgeois, 1996; Pearce, 1994; Thomson 1995). Alamdari and Fagan (2005) stated that the full service airline is essentially one based on a differentiation strategy, in contrast to the low cost carrier approach which is based on cost leadership or cost minimisation. Firstly, a cost-based strategy enables a firm to sell its products either at average industry prices to earn a profit higher than that of rivals, or below the average industry prices to gain market share. In the event of a price war, the firm can maintain some profitability while the competition suffers losses (e.g. Malaysia Airlines and Air Asia). Secondly, a firm differentiates itself from its competitors when it provides something worthwhile that is valuable to buyers beyond simply offering a low price (e.g. Inflight Entertainment[120], LiveTV[121]). The aim is to achieve competitive advantage by offering better products or services at the same price as that of competitors, or by enhancing margins by pricing slightly higher. Differentiation also reduces the price sensitivity of consumers (Porter, 1980; Aaker, 1991; Pearce and Robinson, 1994). Figure 47, below, shows the economic theory behind the strategy of differentiation. Let D denote the demand curve in periods 0 and 1 (D_0 and D_1), and AC the average cost curve (AC_0 and AC_1). It is assumed that increasing economies of scale prevail throughout production because of high fixed costs and low, constant marginal costs. As an airline pursues a differentiation strategy[122], the average cost curve shifts from AC_0 to AC_1. This shift is not parallel as the average cost difference between the two curves becomes lower for higher levels of production. It is also assumed that, as a result of product differentiation, more passengers will become attracted[123]; this will push out the demand curve from D_0 to D_1. Subject to the market conduct of the other incumbents, this differentiation strategy may allow an airline to increase the fare[124] from, for example, P_0 to P_1, while at the same time attracting more passengers, Q_0 to Q_1, as they are prepared to pay a price premium for the added value. Moreover, the price mark-up in

[120] It can cost between $10,000-15,000 per seat to install an audio-video on-demand fully interactive , web-enabled system (Aircraft Economics, 2003). 43% of the world's fleet has an IFE system (ATI, September 2003).

[121] JetBlue's LiveTV cost the company $41 million to acquire but the feature ranks as its second or third most important reason why passengers travel with carrier (Aircraft Economics, 2003).

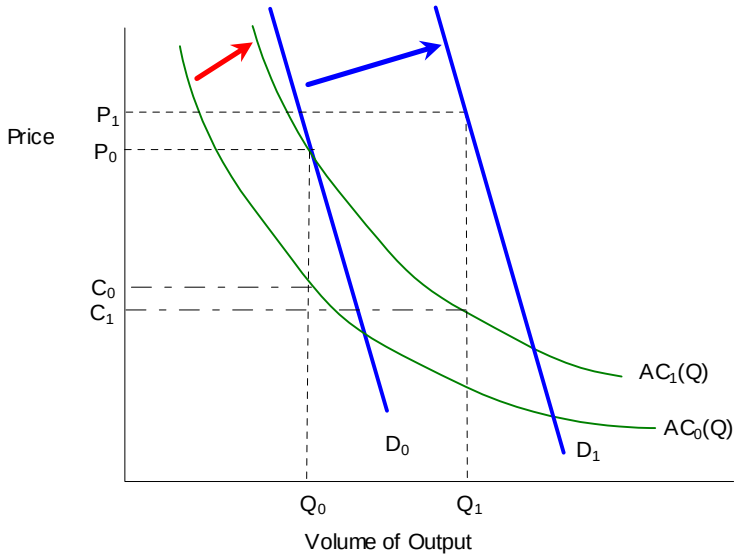
[122] BA for example invested £600 million into the design and development of flatbeds for their premier classes in 2000 (first mover advantage) and six years later it reinvested an additional £100 million into its next generation flat bed.

[123] BA saw its premium business class passengers grow by over 8% in 2005 and consequently it will increase the number of its business class seats by a further 8% (Pilling, 2007).

[124] Singapore Airlines invested $370 million in its flatbeds and will increase business fares by 15-20% as a result of its differentiated strategy (Pilling, 2007).

period 1 after the introduction of product differentiation (equal to P_1C_1) is higher compared to period 0 (P_0C_0, i.e. before differentiation).

Figure 47. Economic theory of differentiating products



Source: Adapted from Besanko et al. (2000) Economics of Strategy, p424

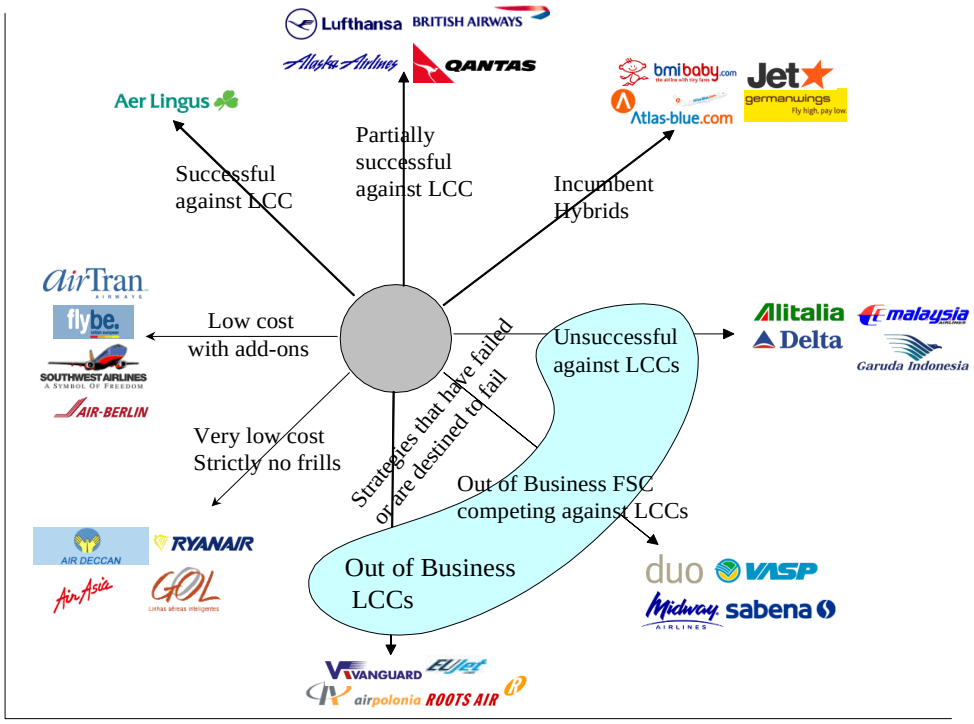
Nowadays, due to the homogeneity of the core product, carriers try to distinguish themselves through secondary services (e.g. wide seat pitch, speciality foods, etc.) or soft factors like the friendliness of staff, which become important differentiators amidst growing competition.

Finally, a company may obtain a strategic advantage by choosing to become specialised and focus on a market niche instead of competing broadly in the market (e.g. Privatair, Maxjet, Air Asia X, Oasis Hong Kong, Silverjet). The idea behind the focus strategy is to serve the particular market more effectively than competitors on the basis of product differentiation, low cost, or both. However, Porter argues that organisations must choose between either a differentiation or a cost leadership strategy, otherwise they become 'stuck in the middle' and will not achieve competitive advantage because, if several airlines compete on the basis of low prices and undifferentiated products, then it is likely that a cut-throat competitive battle will emerge. Markus Franke, a noted airline consultant from Booz Allen Hamilton, has argued that despite cost-cutting efforts, many legacy carriers find themselves 'stuck-in-the-middle' between a number of very successful premium carriers on the one hand, and the low-cost carriers on the other hand (Gillen and Niemeier, 2006). According to Porter, firms become stuck in the middle for three reasons: firstly, they may fail to differentiate themselves from competitors; secondly, they may fail to develop the capabilities or resources needed to be a successful cost leader; and thirdly, they may try to pursue more than one generic strategy simultaneously (Porter, 1985). However, airline competition today is changing because of the effect of low cost carriers, as traditional network carriers pursue an integrated cost leadership/differentiation strategy (Coulter, 2002; Hitt et al., 2003) - that is, network

carriers are striving to reduce costs while at the same time keeping their products differentiated from low cost carriers.

Gursoy et al. (2005) have stated that one of the biggest challenges facing the airline industry today is to determine which strategies are best suited to becoming better positioned in the market. Porter established that an important determinant of a firm's profitability is its position within the industry in which it operates. A firm positions itself by leveraging its strengths or competitive advantage. Strategy itself is conceptualized as a firm's realised position in its competitive marketplace (Mintzberg, 1987; Porter, 1980). Bowman and Faulkner (1996) developed an assessment tool in the form of a 'Strategy Clock' which accesses a company's competitive position in comparison with its rivals based on cost advantage, differentiation or stuck in the middle. This is adapted for specific reference to the airline industry as shown below in Figure 48. Airlines are organised into specific groups because they each have similar characteristics. Each position on the clock represents a unique group of airlines which have similar generic characteristics (i.e. cost leadership, differentiation, stuck in the middle). Johnson et al. (2005, p245) argues that the strategy clock is an important concept in helping managers understand the changing requirements of their markets and the choices they can make about positioning their companies and their competitive advantage.

Figure 48. Strategic positioning of airline groups



Source: Adapted from Bowman and Faulkner (1996)

Figure 48 above begins with low cost carriers, such as Ryanair and Air Deccan, that are cost leaders and thus compete on the basis of low fares and no frills, while a second group of low cost carriers, such as Air Berlin, compete by offering low fares and some frills (e.g.

Frequent Flyer Program, allocated seating, etc.). The figure then categorises the incumbents' attempts to differentiate themselves in order to challenge the low cost carrier threat. Noted academics have stressed that a cut-throat competitive battle will commence if several firms compete on low prices and undifferentiated products (Porter, 1980; Kotler 1991). Incumbents have been unable to compete on cost and their only alternative was to differentiate their products from those of low cost carriers. The actions of Aer Lingus were a noted exception as they reduced cost significantly and retained some of their product differentiators. Other incumbents, such as British Airways, competed on the basis of multiple differentiated flight products (e.g. business class, primary airports, FFPs, onward connectivity, superior inflight products, etc), thus charging a fare premium for these add-ons - these appealed to a large number of passengers but the higher fare caused the price sensitive passengers to switch to a low cost carrier. Network carriers, such as Qantas, created low cost carrier subsidiaries which competed on a similar cost-based platform as that of the low cost carriers. Other incumbents, such as Alitalia, have been unsuccessful in their attempts to compete with LCC because they offered standard products that commanded high prices, and consequently these carriers continue to lose market share. Full service airlines, such as Midway, have been forced out of business because of losses, the result of poor strategies, high fares and blurring boundaries, while a large number of low cost carriers have also failed because of weak brands and cost structures that could not support low fares.

7.6 Collaboration

Airlines, being an international and service business industry, have always been naturally interested in extending their network beyond the markets they serve, improving revenues, reducing costs and enhancing customer services. As international airline traffic has expanded in recent years, a new development has swept the industry: extensive cooperation among international carriers in the provision of service. There has been a steady increase in the number of alliances and cooperative agreements with regional airlines over the last decade. In 1994, an Airline Business magazine survey found over 280 separate alliances involving around 136 airlines (Burton and Hanlon, 1994). By 2006 there were around 500 alliance agreements in force among 120 passenger airlines (Airline Business, September 2006). These alliances were designed to offer international passengers a 'seamless' travel experience. Collaboration between airlines allows passengers and baggage to transfer between carriers as if the passenger was travelling on the same airline, connecting to any city in the world.

There are three categories of collaboration that network carriers have adopted:

- Marketing agreements
- Alliances
- Collaboration with Regional Airlines

7.6.1 Marketing agreements

Airlines that collaborate within a marketing alliance are marketed as an independent entity. Marketing alliances consist of the following types of collaboration:

- Interline/pro rate agreements
- Pooling arrangements
- Code sharing agreements

Interline/pro rate agreements

An interline agreement is an agreement concerning the sale, endorsement and acceptance of tickets between airlines so that passengers can transfer from one airline to another in order to reach their final destination - it also involves the coordination of baggage (Iatrou, 2004). Ito and Lee (2004) subdivided interline agreements into *Non-allied interline agreements* and *Allied interline agreements.* A *Non-allied interline agreement* is a connecting ticket between two carriers that are not part of an alliance, whereas an *Allied interline agreement* is an interline transfer between two carriers that are alliance partners. SITA (2005) indicated that 300 million interline tickets were produced in 2004 and it showed that collaboration is an important part of the strategy of network airlines. Studies have shown that around 30% of all intra-EU passengers had tickets that accommodated interlining and a further 10% had a fully flexible interline ticket in 2001 (DG Competition Consultation Paper, 2001). Passengers travelling on network carriers can use a single ticket that involves multiple airlines to get to any destination in the world, and the revenue earned from the ticket is shared between the carriers on a pro-rata basis depending on distance. However, shorter distances are given greater weight to compensate for the higher costs associated with operating short-haul flights. The interline system used to be a very important constituent of international air transport as it represented as much as a third of an airline's total traffic[125] and was particularly prevalent on routes serving large hub airports.

Pooling Arrangements

This is a unique agreement between two or more carriers in which they share the cost of operating the flight and the associated revenue that it generates. Burton and Hanlon (1994) described that, in some cases, revenues are divided up in proportion to the capacity offered by each carrier. In others, airlines pool revenues only up to a certain percentage of seats sold. Pooling agreements are usually conducted between carriers who operate on the same route, where each carrier charges the same fare and the arrangement reduces the competition. Doganis (2001, p37) found that pooling was

[125] GAO/RCED-95-99.

widespread in Europe until the early 1990s and accounted for 75-80 percent of the intra-European passenger kilometres. However, in recent years they have largely been replaced by code sharing and block space agreements - although pooling still remains commonplace in some Asian, Middle Eastern and African airlines.

Code Sharing Agreements

The most common type of collaboration between airlines today is code sharing[126]. According to ICAO (Circular 296-AT/110, 1997), code share is the practice whereby one airline permits a second airline to use its airline designator code on a flight, or where two airlines share the same airline designator code on a flight. The agreement allows an airline ('ticketing carrier') to market and sell seats on their partners' aircraft ('operating carrier') as if these seats were owned by the ticketing carrier. The common structure of the agreement allows the operating carrier to set the fare, and the operating carrier pays the ticketing carrier a commission for selling seats through its various distribution channels. Upham's (2003) research showed that there were over 2000 code share and franchise agreements worldwide in 2002. Code sharing allows carriers access to the network of numerous airlines, which increases the number of destinations instantaneously. In support of a code sharing agreement, the carriers may adjust schedules and take other steps to foster seamless travel, just as if they were formal alliance partners.

There are a number of distinct advantages gained by network airlines that employ such code share strategies. *Firstly*, code share agreements increase traffic which pushes up load factors and ultimately revenues. A comprehensive worldwide survey conducted by Iatrou (2004, p203) revealed that 65% of airlines indicated that code sharing had a significant impact on increasing traffic, while the remaining carriers (35%) announced that code sharing had some impact. *Secondly*, code-shared flights have certain advantages in CRS display screen listings over other flights: code shared flights are listed twice on the GDS screens because both partners list the same flight as if it were their own (screen padding); and code shared connecting flights get listed ahead of interline flights on the GDS. Strongly branded airlines, such as British Airways, can position weaker brands, such as Aer Lingus, higher up the travel agent screen due to the code share link (Humphreys 1994; Rhoades et al., 1997). *Thirdly*, code sharing allows carriers to circumvent bilateral constraints (Graham, 1995). Airlines operating in international air travel markets are subject to a complex set of bilateral agreements among countries.

Beyhoff (1995) distinguished between five types of code sharing agreements outside of the normal code share arrangement, and concluded that block space was the most common and useful. Block space is an agreement to purchase a fixed number of seats

[126] According to the OECD (2000, p.30), 70% of alliances include a provision for code sharing.

on the operating partner's flights, and to sell them under its own designator. It is the responsibility of the marketing carrier to sell those seats through its own marketing and distribution system (Burton and Hanlon, 1995). Some block space agreements, called 'soft block space', allow the carrier to return any unsold seat inventory. Block space is still widely used by Asian, Middle Eastern and African carriers, and the 2006 Airline Business alliance survey showed that carriers such as Air India and Egyptair, for example, had nearly 50% of their code share agreements in the form of block space agreements in 2006.

However, some low cost carriers are also using code sharing as a tool to extend their global reach: for example, Virgin Blue code shares with United Airlines and Virgin Atlantic, while Jetstar and Qantas are utilising both code share and block space agreements (O'Connell, 2004). In addition, Southwest now code shares with ATA airlines (ATI, January 2005). This is a clear indication that low cost carriers are closing the gap between themselves and the traditional airlines.

7.6.2 Alliances

Airlines that are members of a strategic alliance share resources and activities in order to strengthen their competitive position. Li (2000) argued that airlines which do not belong to an alliance will be severely disadvantaged, while Oum et al. (1996) indicated that such carriers would become marginalised and evolve into niche players in localised markets. Alliances consist of the following types of collaboration:

- Strategic Alliances
- Equity partnerships
- Airline Franchises

Strategic Alliances

Johnson et al. (2005, p353) described strategic alliances as 'two or more organisations that share resources and activities to pursue a strategy'. In May 2001, the editor of Forbes magazine wrote, in a special edition about alliances, that 'Alliances may be the most powerful trend that has swept (global) business in the past 100 years' (Pekar, 2003). Ernst's (2002) research revealed that the top 500 global companies had an average of 60 alliances each. The International Air Transport Association (2001) defined an airline alliance as 'three or more airlines participating in a commercial relationship or joint venture, where a joint and commonly identifiable product is marketed under a single commercial name'.

A vast amount of literature exists on airline alliances, covering areas such as the causes and effects of equity alliances (Youssef, 1992), selection criteria for alliance partners (Harvey and Lusch, 1995), the effect of code sharing on international fare levels (Oum

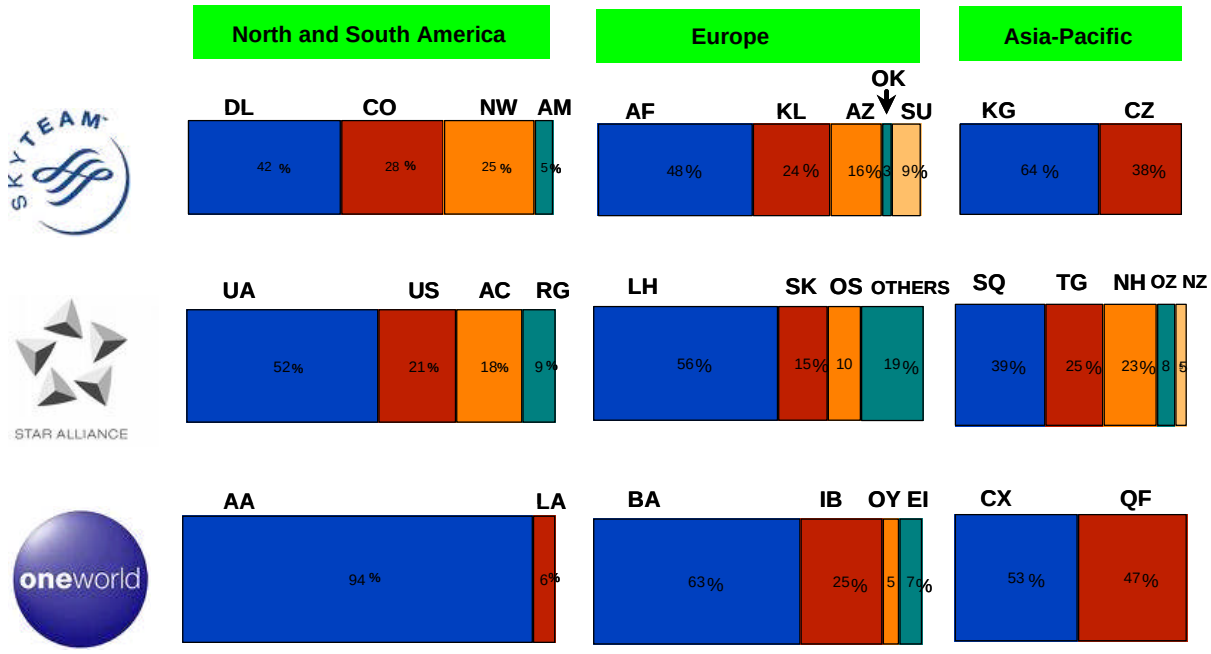
et al., 1998), the factors affecting the operational success of alliances (Bissessur, 1996; Bissessur and Alamdari 1998), performance issues between alliances (Park and Cho, 1997), the price effects of international alliances (Brueckner and Whalen, 1998), key factors for alliance success and demise (Li, 2000), scheduling issues and network strategies for international airline alliances (Dennis, 2000), the regulatory issues concerning global alliances (Oum et al., 2001), and the impact of alliance airlines on partners' traffic (Iatrou, 2004).

By 2006, there were three global alliance partnerships, namely Star, Oneworld and SkyTeam, and there has been a wider ontogenesis between carriers in more recent years. The Star Alliance carried 425 million passengers and served 873 destinations in 147 countries, while Oneworld carried 242 million passengers and served 591 destinations in 128 countries, and SkyTeam carried 373 million passengers and served 730 destinations in 141 countries in 2006 (Star Alliance, 2006; Oneworld, 2006; SkyTeam, 2006). Collectively, the three alliances constitute a significant proportion of the world's passenger market: the Star partnership accounted for 20.6%, while SkyTeam and Oneworld respectively constituted 18.6% and 14.5% in 2006. The remaining 46.3% of the world's passenger market belongs to carriers that are not affiliated to an alliance, and include important carriers such as Emirates, Malaysia Airlines, Gulf Air, Air India and Virgin Atlantic. In the same year, the three alliance partnerships had 72.5% of the European-American capacity, 84.4% of the European-Asia Pacific capacity and 73% of the American-Asia Pacific capacity (Baker, 2006). These alliances also provide around 56% of the IATA freight volume.

Figure 49 (below) shows each alliance partner airline's market share in its regional market. Delta Airlines, for example, has 42% of Skyteam's market share in the North American market, while Continental and Northwest have 28% and 25% respectively. Each of these carriers has huge networks that cover the entire US and Canada, and that serve many cities several times a day. Airlines from Europe and Asia can then feed their traffic into the hubs of Delta, Continental and Northwest, which will enable passengers to access nearly all the cities in the US and Canada. These carriers coordinate schedules, reciprocate FFP privileges and, in some cases, the member airlines can obtain antitrust immunity[127]. This is an important strategy for network carriers as they can interline traffic seamlessly to any destination worldwide, while passengers travelling on a low cost carrier are restricted to destinations within its network.

[127] Antitrust immunity enables airlines to collaborate on fares, schedules and code sharing without being in violation of U.S. laws.

Figure 49 Market strength of the alliance members in their home market (2005 data)



Source: ABN-AMRO

Note: **SkyTeam**: DL=Delta, CO = Continental, NW= Northwest, AM=Aeromexico, AF= Air France, KL=KLM, AZ= Alitalia, OK= CSA, SU= Aeroflof, KG=Korean, CZ=China Southern
Star: UA= United, US=USAir, AC= Air Canada, RG= Varig, LH= Lufthansa, SK= SAS, OS= Austrian, Others include BMI, LOT, Spanair, Swiss and TAP, SQ= Singapore Airlines, TG = Thai, NH= ANA, OZ= Asiana, NZ=Air New Zealand
Oneworld: AA= American, LA= Lanchile, BA= British Airways, IB= Iberia, OY= Finnair, EI= Aer Lingus, CX= Cathay Pacific, QF= Qantas

Airlines throughout the world are increasingly entering into international alliances with foreign carriers in order to extend their networks and gain access to new markets, which will attract more passengers (Park, 1997; Park and Zhang, 1998; Park et al., 2001). In 2003, a comprehensive questionnaire was sent by Iatrou (2004) to the heads of the alliance departments of all airlines that were participating in an alliance. Almost 90% of the respondents stated that traffic had increased because of their collaboration with a corresponding increase in load factors, while all the airlines stated that their revenues also increased. A large number of academics have concluded that alliances, overall, have resulted in lower fares for the consumer, (Oum et al., 1996; Brueckner and Whalen, 2000; Park and Zhang, 2000; Goh and Uncles, 2003; Brueckner, 2001, and Brueckner, 2003). This indicates that airlines which are associated with an alliance have a competitive advantage over a non-aligned carrier. Alliances also allow member airlines to reduce operating costs by integrating and coordinating activities between each other (Park et al., 2001; Pels, 2001). Iatrou (2004) concluded that 80% of the airlines who were members of an alliance had lower costs as a result of the alliance. The lower costs emerged because of joint purchasing programs, coordination of flight

schedules, shared airport facilities[128], joint services (e.g. maintenance and advertising), joint development of systems or systems software, loyalty programmes, etc., which are all long-term sustainable competitive advantages. Some of the newer and more revolutionary synergies that have resulted from alliances include joint purchasing of fuel by the Star partners. Star announced in late 2003 that it planned to form a joint company called Star Alliance FuelCo to manage the procurement of jet fuel at selected airports around the world (ATI, June 2004). Smaller airlines within the alliance can benefit from the higher credit rating of the group in obtaining fuel discounts. Those airlines not associated with the alliance will have to compete out of the same market with higher fuel costs. In a similar strategy, the Star alliance outlined plans to purchase around 200 aircraft in 2003 (Field, 2003), which would enable individual member airlines to procure aircraft at reduced rates and challenge the low cost carriers bulk ordering. In 2005, the Star alliance outlined plans for a unified configuration of their member airlines' new aircraft, which would allow members to easily transfer aircraft and delivery slots (ATI, December 2005). Doganis (2001, p 78) stated that the Star alliance members purchase around $15 billion worth of goods and services each year, and he estimated that joint purchasing could reduce the overall price by 5 to 7 per cent per year (i.e. $1 billion). Similarly, Baker and Field (2003) indicated that the Oneworld member airlines saved around $300 million through joint purchasing schemes between 2000 and 2003. **Appendix III** provides details of the benefits of alliances, showing how alliances can increase traffic, enhance revenues and lower incumbents' costs.

Equity

Equity partnerships represent cross-border acquisitions of other airlines - however, the ability to buy into foreign carriers is still heavily constrained by governments. Ownership laws and nationality clauses in bilateral air services agreements limit cross-border mergers and acquisitions. In Europe, airlines from outside the EU can purchase up to 49% of a European carrier[129], while only 25% equity can be purchased by a foreign airline in an American carrier. Australia, on the other hand, has the most liberal ownership laws as 100% foreign equity can be invested in an Australian domestic carrier (Chang and Williams, 2002). At the end of 2001, over 60 airlines had shareholdings in foreign airlines, while about 200 had equity owned by foreign

[128] British Airways and Iberia, who are both members of the Oneworld alliance, will move their members to the new £4 billion Terminal 5 at Heathrow and to the new €6 billion terminal 4 at Barajas, Madrid, respectively. Similarly, Japan Airlines will house all the Oneworld carriers alongside Japan Airlines in terminal two of Tokyo Narita International Airport. The co-location of all the member airlines at one terminal will enable passengers, baggage, cargo, etc. to be easily transferred and reduces the risk of mismanaged baggage. The connection time between carriers is estimated to be 60 minutes, which is half the normal time that is required.

[129] In Europe, the Third Package (Council Regulation 2407/92) removed the national ownership restrictions for EU carriers who wished to invest in other EU carriers. British Airways for example purchased a 49% shareholding in 1992 in Delta Air, a German regional carrier (later renamed Deutsche BA), increasing this to 100% in 1997.

investors (ICAO, 2000). Full service airlines are also purchasing equity in low cost carriers and visa versa: Icelandair purchased a 10.1% stake in easyJet in October 2004, while Ryanair purchased 25% of Aer Lingus in November 2006.

Purchasing equity in another carrier represents a long-term interest and, if the investment is well managed, the equity will mature and increase in value. British Airways, for example, sold their 18.25% share in Qantas in September 2004 for $800 million, which allowed the British carrier to pursue other strategies, such as financing redundancy payments and upgrading their flatbeds. Table 50 (below) gives an account of the top eight world airlines in terms of RPKs, and their investments in other carriers.

Table 50 Top 8 world airlines (RPKs) and their equity in other airlines (2005)

Rank	Airline	RPKs (millions)	Equity Partnership
1	American Airlines	224,294	1% Iberia
2	Delta	193,006	Comair 100%
3	Air France - KLM Group	189,253	Brit Air 100%, Cityjet 100%, Régional 100%, Air Calidonie 2.1%, Air Ivoire[1], Air Madagascar 3.1%, Air Mauritius 2.7%, Air Tahiti 7.4%, Austrian Airlines 1.5%, Cameroon 3.5%, CCM Airlines 11.9%, Royal Air Maroc 2.8%, Tunisair 5.6% KLM cityhopper 100%, KLM cityhopper UK 100%, Transavia 100%, Kenya Airways 26%
4	United Airlines	183,262	Ted 100%, United Express 100%
5	Northwest	121,994	Compass Airlines 100%
6	Continental	114,659	Continental Micronesia 100%, Copa Airlines 10%, Expressjet 8.6%
7	British Airways	111,859	BA Connect 100%, Manx Airlines 100%, Air Mauritius 3.8%, Comair 18%, Iberia[2] 10%
8	Lufthansa	108,185	Air Dolomiti 100%, Lufthansa CityLine 100%, BMI 30%, BMI Regional 30%, Condor Flugdienst 10%, Eurowings 49%, Luxair 13%

[1] Air France holds 51% of All Africa Airways, which has 76.42% of Air Ivoire
[2] BA increased its equity shareholding in Iberia by 1% and paid £13 million in ’06 (ATI, November 2006)

Source: Airline Business and ATI

The equity that these airlines have purchased gives them a foothold in foreign markets and provides an alternative to setting up expensive bases in other countries. Chang and Williams (2001) outlined a number of reasons why European airlines invested in other European airlines, and these are illustrated in Table 51 below. One of the principle reasons why airlines purchase equity in a foreign carrier is because it provides a significant volume of feeder traffic to the long-haul operations of the investor. Doganis (2001, p74) stated that KLM expanded its European services by purchasing 100% of Air UK, and later re-branded the carrier KLM UK in 1995. At the time, Air UK was the

third-largest short-haul carrier in the UK, serving multiple cities within Europe, however, KLM later rescheduled its operations by using the carrier to connect 13 regional UK airports to its hub at Amsterdam, in effect becoming a feeder for KLM. Another important reason why airlines build up equity in other carriers is to access slots at capacity constrained airports. Airlines, under certain circumstances, can exchange slots and gain a more favourable arrival and departure time slot, which would particularly boost business traffic.

Table 51 Motives for purchasing equity in other airlines

Airline Stakeholder	Partner	Purpose for Ownership
BA	Deutsche BA (100%)	To access the German market
	Air Liberte (70% in 1999)	To access the French market
	Iberia (9%)	To strengthen the Oneworld alliance
KLM	KLM UK (100%)	To feed British passengers into the KLM long-haul network
Lufthansa	Luxair (13%)	To feed the Lufthansa network from Luxemburg
	Lauda Air (20%)	To feed the Lufthansa network from Vienna, Salzburg and Milan
	British Midland (20%)	To acquire Heathrow slots
SAirGroup	Austrian Airlines (10%)	To access slots at Vienna
	Sabena (49.9%)	To obtain Sabena's network from Brussels
SAS	Spanair (49%)	To link over 100 cities to Spanish destinations
	British Midland (20%)	To acquire Heathrow slots

Source: Chang and Williams (2001)

Airline Franchises

Airline franchising essentially involves one airline (the franchisee) gaining the right, in return for a fee, to assume the public face or brand of another (the franchisor), together with the associated intellectual property and know-how, and to receive the services which go with it (Denton and Dennis, 2000). The franchisor (e.g. British Airways) allows the franchisee (e.g. BMED) access to its sales and reservations systems, revenue accounting and yield management systems, and access to its frequent flyer programme. In addition, it gains instant worldwide recognition and becomes associated with a quality carrier. The franchisor also gains advantages as the arrangement spreads its name more widely and generates revenues on thin routes that would have been unprofitable to operate (Button et al., 1998). There is normally an agreement not to compete head-to-head with the franchisor. Iatrou (2004, p111) stated that one of the principle reasons why airlines franchise their brand is because the arrangement generates feeder traffic. Dennis and Denton (2000) pointed out that almost half of BA's short-haul destinations are served by franchise partners at Gatwick, while at Lyon more than half Air France's routes are franchised. Hanlon (1999, p109) stated that British

Airways had nine franchises in 1999, of which seven were UK based, and these collectively carried seven million passengers a year, and that the additional traffic generated the incumbent an additional £105 million in 1998/1999. The Civil Aviation Authority (1998) reported in 1998 that franchising was profitable for both parties (i.e. franchisee and franchisor).

Incumbents can retain unprofitable routes by transferring them to a franchised carrier that has a lower cost structure. Barrett (2001) stated that cityJet, an Air France franchise, had costs that were some 40% below that of the French incumbent. Pagliari (2003) agreed that franchised airlines had a lower cost structure and noted that the British Airways franchise of its Scottish Highland and Island routes came about because the British Regional airline (BRAL) had a lower cost structure and the franchisee used a more appropriate sized aircraft for the operation. Doganis (2001, p118) argued that franchising safeguards valuable airport slots as the route can be operated from secondary airports, freeing up the slots for more lucrative, high-yielding destinations.

7.6.3 Collaboration with Regional Airlines

Services run by regional airlines have become a significant component of the operations of scheduled airlines and are used as a counter offensive strategy in combating low cost carriers. They are an effective force as North America's 27 regional airlines[130] carried 150 million passengers in 2005 (roughly equal to those carried by United, Continental and Northwest combined), while Europe's 42 regional airlines carried 68 million, and Asia's 17 regional airlines transported 27 million passengers (Mountford et al. 2006). In the US domestic market, the regional airline market increased from 5% in 1980 to 21% in 2005 and they now carry around the same number of passengers as the low cost carriers. The capacity (ASMs) of the US regional airlines increased by 67% from 2001 to 2006, while the capacity of the legacy carriers decreased by 20% over the same period. The number of passengers carried by the regional airlines worldwide increases by 11% each year, which represents the highest growth segment of the overall airline industry (Bombardier Aerospace, 2006). These regional airlines provide feed traffic from secondary and tertiary cities into the hubs of majors. In 2003, more than 60% of their flights fed into the hub-and-spoke infrastructure of the US majors (US Bureau of Transportation Statistics, 2004). **Appendix IV** gives a breakdown of the regional airlines which operate services on behalf of the network carriers. In the US market, independently owned regional carriers

[130] The 27 US regional airlines carried roughly the same number of passengers as United, Continental and Northwest combined in 2005 and around one in every five US domestic passengers now fly on a regional airline. Fiorino (2006) stated that regional aircraft constitute one-third of the entire US fleet and that 72% of 655 US airports with scheduled airline service depend exclusively on those carriers.

are contracted by several incumbents: Mesa[131], for example, is used by United, America West and Delta, while American Eagle (100% owned by American Airlines) operates on behalf of Delta and American. Mountford et al. (2006) showed that 53% of the regional passenger traffic is carried by independently owned regional carriers, while the remainder is carried by regional carriers that are owned by the US legacy airlines. The regional carriers that are contracted are heavily restricted by unions as pilot scope clauses[132] restrain the type of regional jet that can be used on a major's network. Aviation Strategy (January 2002) reported that the network airlines pay the regional airlines a fixed fee per seat rather than per passenger. Shrifin (2004) illustrated the importance of the regional airline affiliate to United Airlines by stating that around 45% of its connecting passengers come from its regional partners.

The regional airlines serve a dual role by feeding passenger traffic into the hubs of incumbents and by operating on low-density routes that were unprofitable for the network carriers. Almost one-third of US domestic passengers fly in city-pairs that are deemed too small for point-to-point service, and airlines access these passengers by operating small regional jets (Bombardier Aerospace, 2006). Button (2002) added that the regional airlines enlarged the networks of the legacy carriers and established a solid presence in the short haul market. Dresner et al. (2002) agreed and stressed that the regional airlines were ideal tools in generating additional passengers, while at the same time bypassing the traditional hubs, thus counterattacking competition in secondary and tertiary markets. Taneja (2003, p110) cited a study conducted by Bombardier Aerospace and described that the most important role (44%) of regional jets was to supplement the services provided by the majors.

In contrast, Europe's regional airlines are mostly owned by the network airlines, as seen in **Appendix IV** - subsequently 73% of Europe's regional traffic is carried by incumbent owned regional airlines. Lawton's (2002, p46) research revealed that around 30% of passengers travelling on Europe's regional airlines were making connections, indicating their importance in feeding passengers to hub airports while, at the same time, challenging low cost carriers which operate on a point-to-point basis. Lufthansa owns three regional airlines[133] and the incumbent indicated that it will use these regional carriers together with its turboprop partners, Augsburg Airways and Contact Air, to coordinate its operations and routes in order to protect its non-hub operations and suppress encroaching low cost carriers (Aviation Strategy, March 2005). Unlike

[131] Mesa carried 13 million passengers in 2005 and operates 111 Regional Jets and 43 Turboprops. It generated 35% of its revenues from United, 20% of its revenues from Delta and 40% from America West in 2005, while the remainder were from independent operations (Arnoult, 2006).

[132] Scope clauses are components of U.S. major airline pilot contracts that limit the size and number of regional jets within the airline's network. The following airlines restrict the seat capacity of the regional jet that can operate on their behalf; American Airlines and Delta 70 seats, US Airways and Northwest 69 seats, Continental 59 seats, United 50 seats; America West has no restrictions (Aircraft Commerce, December 2003 – January 2004). The purpose of a scope clause is to protect mainline pilot job security.

[133] Lufthansa's three regional airlines include Air Dolomiti (100%), Cityline (100%) & Eurowings (49%).

the majority of the low cost carriers, the regional airlines code share with most of their partners and they have reciprocal frequent flyer points. In addition, regional airlines are also establishing themselves as members of an alliance, as evidenced by Blue 1's membership of the Star alliance; this broadens their network extensively while it becomes very attractive for passengers.

With increasing competition from low fare carriers, mainline airlines are forced toward further specialisation in order to reduce costs while maintaining their networks. As a result, mainline carriers will continue to outsource short-haul and low-density routes to lower cost operators, currently represented by their regional airline partners. With this partnership approach, mainline airlines can maintain frequency and schedule on routes that are not cost-effective with their own narrow-body equipment.

7.7 Porter's Competitive Rivalry

In his competitive model, Porter (1980) argued that the nature and degree of competition hinged on five forces: the threat of new entrants, the bargaining power of buyers, the bargaining power of suppliers, the threat of substitutes and the rivalry among existing competitors, which are outlined below. According to Porter, the goal of competitive strategy is to find a position in an industry where a company can best defend itself against these five competitive forces or can influence them in its favour. The cumulative strength of these forces determines the ultimate profit potential of an industry, as shown below in Figure 50.

7.7.1 The threat of new entrants

Porter's competitive force 'the threat of new entrants' is particularly relevant to the airline industry, as many new, low cost competitors are entering the established markets of incumbents. There are now around 35 low cost carriers operating in Europe alone, and OAG (December 2006) showed that the total number of low cost carrier seats worldwide was up by 16% over the year 2005/06, which is posing an ever larger threat to incumbents. The seriousness of the threat depends on the barriers to entry and on the reaction from existing competitors that entrants can expect.

In a recent study, the US GAO (2001, p12) found that the following act as a constraint when new carriers enter a market:

- Access to airport facilities, such as gates, ticket counters, baggage handling and storage, take off and landing slots.
- Frequent Flyer Programmes
- Corporate incentive agreements
- Travel agent commission overrides
- Flight frequency
- Network size and breadth

Lin et al. (2002) conducted an investigation into the various responses by incumbents when carriers entered their markets. They used data on the reactions of 889 incumbents to competitors that entered their markets between 1991 and 1997, and found that the responses were very varied and largely depended on the type of competition. Interestingly, the research found no evidence that incumbents responded more aggressively to small, low cost carriers than to other carriers. The research found that incumbents reserved their highest price cuts for larger, new incumbents with higher costs, which indicates that incumbents believed that low cost carriers did not pose a threat. In another study, Ito and Lee (2003) examined incumbent responses to low cost carrier entry and based on their analysis of 370 markets, the authors found that highly aggressive incumbent reactions (with respect to price and capacity) are more the exception rather than the rule. Furthermore, their study showed that the entrant's success or failure on a certain route cannot be explained by the incumbent's capacity or pricing decisions but rather depends on factors such as the entrant's capacity choice, pre-existing market density and the entrant's pre-entry presence at the endpoints of a market. In a study on behalf of United Airlines, Bamberger and Carlton (1999) examined the entry of low cost carriers since 1990, the survival rates of low cost carriers, and the fare and capacity responses of incumbents to the entry of low cost carriers. They concluded that incumbents did not engage in predatory fare wars to force out budget carriers.

7.7.2 The Bargaining Power of Buyers and Suppliers

These two forces can be considered together because they have similar effects. Powerful suppliers can squeeze the profitability out of an airline unable to recover cost increases through its own fares. Airports, for example, are very powerful suppliers and have been raising their charges as demand outstrips runway capacity at primary airports. Baker and Tacoun (2005) described that the average operating margins of the world's top 100 airports were over 20% for 2004/05, while the top 150 airlines in the world were just above breakeven. A study conducted on UK traffic showed that primary airports display almost 'monopolistic' like supply status as a 50% increase in all airport charges would result in only a 7.5% reduction in total demand (DETR, 2000). Pilling (2003) discussed the value of Heathrow's slots and stated that United sold two peak-time slots to BA for $20 million in 2003, while Graham (2003, p125) revealed that the value of a slot at Heathrow is in the region of £50 per passenger per enplanment. According to IATA, airlines pay over US$40 billion annually to airports and air traffic service providers. In 2003 BAA announced that it was introducing a 6.5% annual increase in landing charges at Heathrow airport over the next five years, despite the fact that it had a pre-tax profit of £524 million for that fiscal year. In 2007 it was proposing to raise charges again by between 4-8% annually over the next five years (ATI, December 2006). This shows the strength and power that airport suppliers

have on their most important client (i.e. the airline) and the inability of the client to reduce these charges.

Most of the sources of 'buyer power' can be attributed to the different types of consumers who purchase airline tickets (**see section 6.3**). Figure 50 (below) shows the various consumers (buyers) and it outlines the groups that have the greatest impact on revenues. Consumers tend to be more price sensitive if they are leisure passengers or if they are purchasing products that are undifferentiated. Leisure trips account for the majority of all air travel demand, as 79% of all journeys made by Europeans in 2003 were made for this reason (IPK International, 2004). Mason (2005) stated that the proportion of leisure trips taken by UK residents increased from 50% to 68% - these passengers are low yield but their volume can significantly impact revenues. A changing trend in the holiday market has been the increase in the number of short-breaks taken by UK holidaymakers: they are now 70% more likely to take short breaks than they were 5 years previously (Mintel, 2004). Graham (2006) described that holiday travel is by far the most important type of travel and it represented almost 70% of all travel undertaken by Europeans in 2003. Baker's (2005) research showed that 43% of the tourists that visited Spain in 2004 were on a package holiday, but this is quickly being replaced by the dynamic packaging opportunity which is being offered by low cost carriers. Graham (2006) agreed that there is a clear trend towards booking packages online as holiday makers can assemble their own package (e.g. flight, hotel, car rental) as package holidays sold by travel agents peaked in 1994 to 63% but, by 2004, they had decreased to 48%. This generates a lot of ancillary revenue for airlines as they receive a proportion of each hotel and car rental booking that was completed through the airlines' websites. The highest revenues are generated through business passengers as they are less price sensitive, and Mason (2001) pointed out that around 50% of business travellers are subject to some form of corporate travel policy which requires them to travel with a particular carrier or group of carriers.

7.7.3 The Threat of Substitutes

Substitution reduces demand for a particular service as customers switch to an alternative supplier (Porter, 1980). Substitutes limit the potential of an industry by placing a ceiling on the prices firms can charge. The threat posed by the low cost carriers is indeed very serious, but the incumbent is also threatened by several other types of airline business model, as outlined below in Figure 50. The number of passengers using the business class of incumbents is increasingly coming under threat from substitutes, such as corporate business jets and all business class airlines. At the end of 2003 there were 14,555 corporate jet operators in the world, utilising a fleet of 23,121 aircraft, according to industry research group AvDataInc (General Aviation Manufacturers Association, 2006). More companies are now using fractional

ownership, whereby individual corporations reserve the jet for a fixed number of flying hours each year. In addition, there have been a number of business class carriers, such as PrivatAir, MaxJet and EOS, with Silverjet commencing operations in 2007. PrivatAir now operates a daily service on behalf of KLM, Lufthansa and Swiss to the United States using a Boeing Business Jet, configured with 48 seats (Thomson, 2005). The carrier also ordered a Boeing 787 VIP aircraft, which will be configured in an all–business-class arrangement - this development may change the dynamics at the top end of the air transport market in future years.

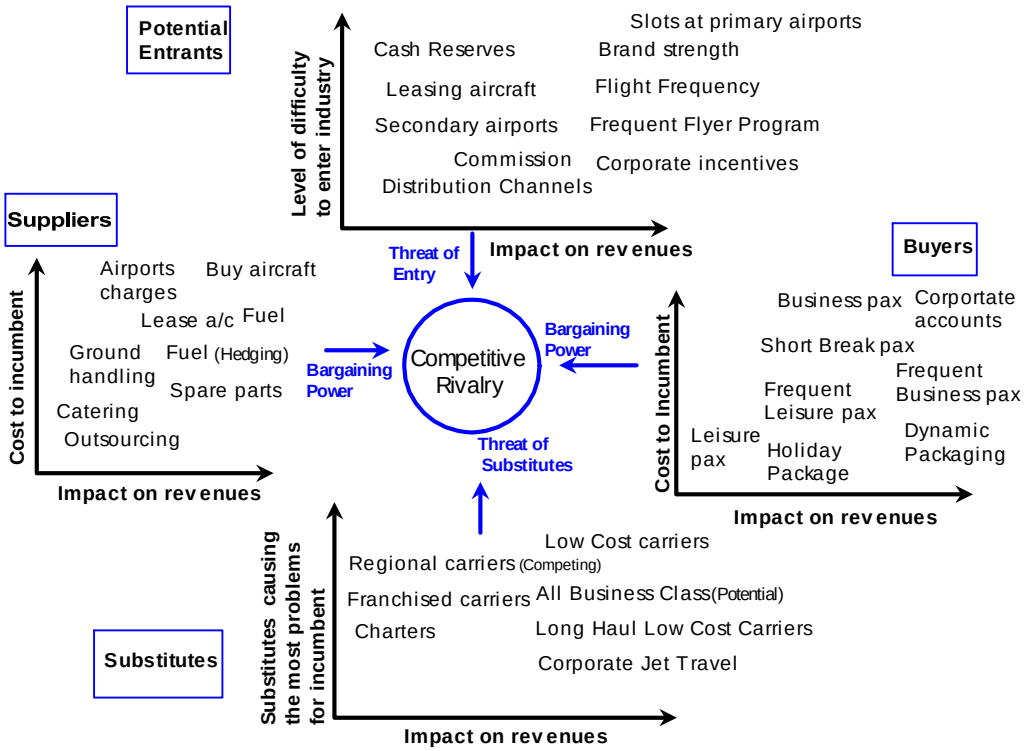
Another recent development is the introduction of long haul, low cost carriers which become a substitute for economy class of traditional airlines[134]. Michael O'Leary, Ryanair's chief executive, stated that it was a 'logical extension' of the airline's business formula (Airliner World, 2005). Francis et al. (2007) stated that a long-haul, low cost model could have a 20% cost advantage over a traditional network carrier, which could trigger passengers to switch if fares were lowered accordingly. Oasis Hong Kong, Jetstar and Air Asia X are the first of the new long-haul low cost operators. Williams (2002, p87) claimed that charter airlines accounted for about 30% of Europe's Revenue Passenger Kilometres (RPK) and transported around 80% of European passengers on holiday packages, even up to the late 1990s. However, charters are now flying longer sectors and are unbundling their package tours and selling seat only fares, directly challenging the network carriers. Similarly, regional airlines that are not affiliated to network carriers also threaten the short-haul operations of network carriers, such as Aer Arran, as well as franchised network airlines, such as CityJet.

7.7.4 Rivalry among existing competitors

Porter's competitive forces (i.e. threat of new entrants, bargaining power of buyers and suppliers, and the threat of substitutes) highlights on the direct competitive rivalry between an organisation and its most immediate rivals. Rivalry is the degree to which companies respond to the competitive moves of other companies in the same industry (e.g., price cutting, new products, advertising etc.). The level of competitive 'rivalry' is one of Porter's key determinants of industry profitability (Porter, 1980: Ch.1): a healthy level of rivalry is presumed to force competitors to be innovative and focus on satisfying customers; and it generates customer satisfaction through differentiated products and rapid adoption of new technology, as firms try to stay ahead of the competition.

[134] Freddie Laker introduced the world's first low haul low fare airline in 1977 called Skytrain and operated to multiple points in the US from London.

Figure 50. Porter's competitive forces on an Incumbent



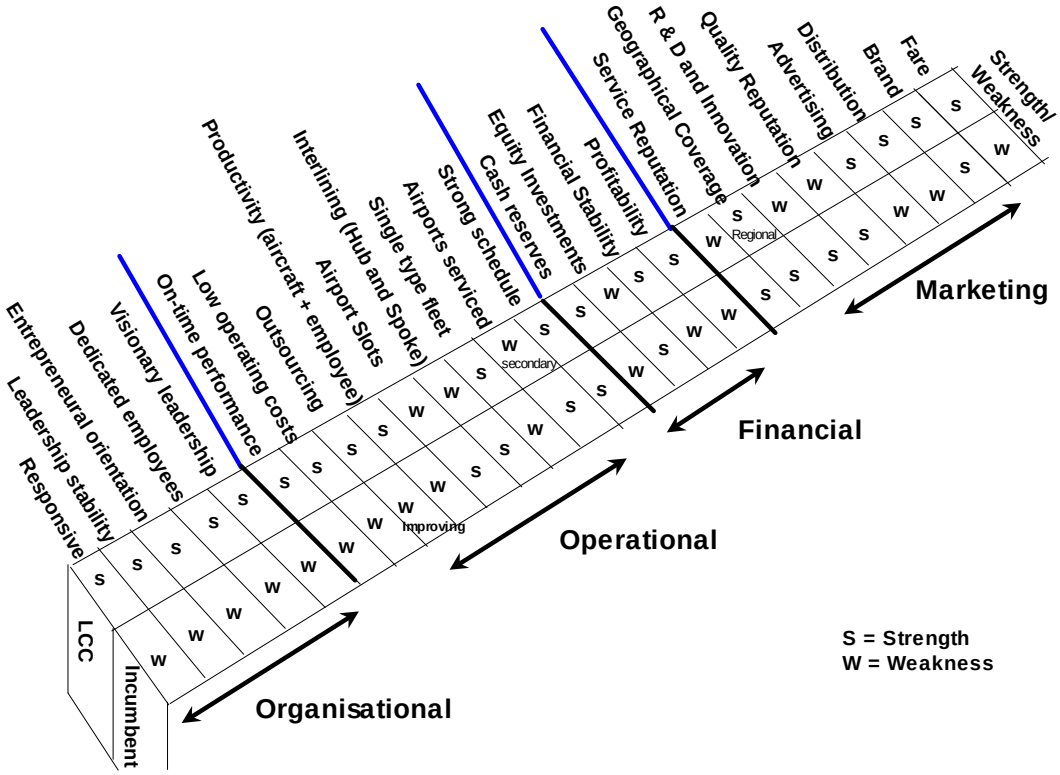
The rivalry between incumbents and low cost carriers is set to continue in favour of the latter. In addition, increasing competition will stem from low cost, long haul airlines and all-business class carriers, creating intense rivalry for the network airlines as there will be an even greater choice of switching between carriers. Incumbents are faced with difficult challenges in attracting both leisure and business passengers as new entrant airlines (incorporating several different airline business model) continually enter the market, while at the same time suppliers, such as airports and ground handling companies, continue to exert high prices, creating a very difficult environment for airlines to generate profits. In order to reduce the competitive rivalry, an airline should seek to avoid a price war, accentuate its differentiation, reduce overcapacity, focus on different segments, increase collaboration with partners, strengthen its brand, reduce the number of intermediaries, increase the switching costs of passengers, increase the value-added options for passengers, and trigger cost savings through economies of scope and density[135]. See Figure 50 above.

[135] Economies of scope occur when the unit costs of the service decrease as the number of markets served by the airline increases. Economies of density occur when the unit cost of serving additional passengers over an existing network decreases with increased traffic.

7.8 Strengths and Weaknesses

Feurer and Chaharbaghi (1995) stated that strategy can be defined by a company's strengths and weaknesses. Johnson et al. (2005, p17) argued that the strategic capability of an organisation is dependent on its strengths and weaknesses, and that a company can become competitively advantaged if its strengths are superior to that of its competitors. Flouris and Oswald (2006, p126) list the sources of strength from an airline's perspective as follows: employees, strong financial position, strong brand name, brand loyalty, quality product, strong knowledge management, international operations, good operating procedures, good supplier/customer relations, and strong promotional practices. They listed the weaknesses as: old facilities, lack of IT integration, unused capacity, high inventory costs and obsolete inventory, no strategic direction, poor quality products, lack of research and development, lack of leadership and vision, and no product recognition. An airline can use its strengths to take advantage of opportunities and to avoid threats, while at the same time taking advantage of opportunities by minimising weaknesses. Johnson et al. (2005, p14) identified British Airways' competitive strengths as: having a strong brand, high standard of quality, comfort, safety, addressing the needs of the long-haul business traveller, membership of the oneworld alliance, Heathrow slots, modern and cost effective fleet, and as being a listed company whereby it must satisfy shareholder expectations. Figure 51 below is a summary of the various strengths and weaknesses of incumbents and low cost carriers that were derived through discussion groups with airline representatives who attended IATA courses which were conducted by the author. The discussions subdivided each airline business model into four primary divisions: Organisational; Operational; Financial; and Marketing from which the various strengths and weaknesses from each division were extrapolated.

Figure 51. Strengths and Weaknesses of incumbents and low cost carriers



The above figure shows that incumbents are weak in terms of organisational and financial aspects of their businesses, while in respect of operations they have strengths in important areas, such as good schedules, slots at primary airports and interlining passengers at their hubs. In addition, network carriers have significant marketing strengths but in critical areas, such as fares, distribution and advertising, they are weak when benchmarked against low cost carriers.

Johnson (1987) showed how the strategy of an organisation is moulded by its culture. Greenwood and Hinings (1996) argued that weakness at the organisational level spreads throughout the entire company, creating a similar type of culture. Lobbenberg et al. (February, 2003) compared British Midland's disadvantaged cost advantage to easyJet and found that the head office expenses were the third largest cost difference (6%) between the carriers. Many of easyJet's offices, for example, are portable cabins where staff sit in open, non-partitioned work settings. Leaders at low cost carriers are visionary as they take full advantage of Europe's deregulated market, while Asia's low cost carriers have begun to set up subsidiaries in other Asian countries (e.g. Jetstar Asia, Thai Air Asia, Air Deccan Lanka) to get around regulatory barriers. They have also ordered much of the production capacity from manufacturers, forcing the incumbents to order later and therefore constraining their growth. In addition, they have been visionary in capitalising on the Internet, which enables carriers to reduce distribution costs significantly. There has been little vision shown by the leaders of flag carriers. The morale of staff working for full service airlines has been tested severely as the industry has encountered thousands of redundancies. There were 125,000 redundancies at the six US major airlines between the latter part of 2000 and the latter part of 2003, while 8,000 were made redundant at the seven largest European incumbents[136]. In addition, there were countless strikes aimed at job security and at stopping management from further reducing employees' pay and pension obligations. In contrast, Gittel (2003) reported that Southwest's employees are the source of its competitive advantage.

Management at incumbent airlines have been imitating the entrepreneurial leadership of the low cost carriers as they changed their focus to online booking (including dynamic packaging), generating higher asset and employee productivity, getting passengers to use kiosks, reducing business class on short-haul routes, etc. The senior management teams at low cost carriers have been relatively stable over the last number of years in comparison to network carriers. Since 1991, Ryanair, for example, has

[136] The staff reductions including the percentage of the total staff that were made redundant at US and European airlines from the end of 2000 to 2004 were as follows: American 35,200 (31%); United 40,600 (40%), Delta 15,000 (21%); Northwest 14,100 (26%); Continental 8,100 (17%); US Airways 16,800 (39%); British Airways 6,600 (12%) KLM 2,800 (10%), SAS (2003) 3,200 (15%); Iberia 500 (2%); Alitalia 1,200 (6%). The following airlines *increased* their staff numbers during this period Air France 2,600 (+5%); Lufthansa 1,300 (3%); Thai, 4,200 (16%); Qantas 2,600 (10%); Malaysian 1,000 (5%); Japan Airlines 1,800 (10%); Cathay Pacific 1,000 (7%); Singapore Airlines 200 (1%). (Source: Air Transport World Statistics 2001 and 2004).

retained its principle management team, while the CEO at Aer Lingus has been changed six times. Ionides (2006) stated that part of Malaysia Airlines' problems were due to its continuous restructuring of its senior management board. When new management comes to the helm of an airline, they give it a different direction, not allowing the existing strategies that are in-place time to reach their objectives. Finally, the incumbents have not been fast enough in their response to the threat of budget airlines and have lost a significant amount of market share. By 2004, there were 35 low cost airlines in Europe, carrying 80 million passengers (up from 47 million in 2003). This involved some 20% of the European market, a figure predicted to rise to 40% by 2010 (Economist, January 27th, 2005). Vlaar et al. (2005) described that incumbents could take up to seven years to respond after the launch of the first new entrant low cost carrier.

Operationally, incumbents' strengths include schedules that have frequent and convenient departures times from airports that are close to downtown centres with good ground transport links. They operate from hubs where they control a large percentage of the total schedule from that airport. In 2004, Delta operated 966 flights a day from Atlanta, thus controlling 77% of its entire capacity, Lufthansa operated 378 flights a day from Frankfurt, thereby commanding 62% of its departures, while BA had 276 flights a day, controlling 43% of all departures at Heathrow (OAG, January 2005). These hubs are also heavily safeguarded because they are slot constrained due to historical grandfather rights, adding enormously to their value. One of the core strengths of a network carrier is its ability to transfer passengers from its short-haul destinations via its hub to its long-haul network (or visa versa). Delta transferred 50% of its passengers through its major hubs in 2004[137], while Lufthansa transferred 65% of its passengers at Frankfurt, and British Airways were able to transfer 34% at Heathrow (MIDT, 2004). Passengers travelling on a low cost carrier cannot generally interline and are restricted to its network, whereas network carriers offer passengers seamless travel via their own network or in collaboration with their alliance or code share members. See **Chapter 4** for a detailed account of the hub and spoke system, and the interline operations of incumbents. However, because of congestion at the hub, a large percentage of flights are delayed: ATKearney (2004) calculated that around 23-24% of all flight arrivals at London Heathrow, Frankfurt and Barcelona were late[138], while low cost carriers that serve uncongested, secondary airports generally have a high percentage of on-time arrivals. One of the core weaknesses of network carriers has been their high operating costs when benchmarked against budget carriers. Darby (2003) estimated that the operating cost differential[139] between a LCC and a typical

[137] US DOT O&D Survey, 2004.
[138] The flights were more than 15 minutes late.
[139] The cost advantages of low cost carriers over full service airlines are as follows: Seating Density (4%-8%), higher load factor (4-8%), crew productivity (2-4%), aircraft utilisation (2-5%), airport charges (10%), inflight service (5%), distribution (10-20%), HQ/IT (5-10%), aircraft ownership & maintenance (5%).

Full-Service airline is at least 40% and may be as high as 60%. Lobbenberg et al. (February, 2003) agreed as they found that easyJet's cost per passenger was half that of British Midland in 2003, while O'Connell and Williams (2005) calculated that Air Asia's costs (CASK) were almost 60% below that of Malaysia Airlines. However, the network carriers are endeavouring to reduce the cost gap - but Hansson et al. (2002) argued that 40-60% of the cost gap between the two business models cannot be closed unless the full service airlines abandon their hub and spoke operations. See **Chapter 4** for a detailed account of the operating costs (including productivity) of both airline business models.

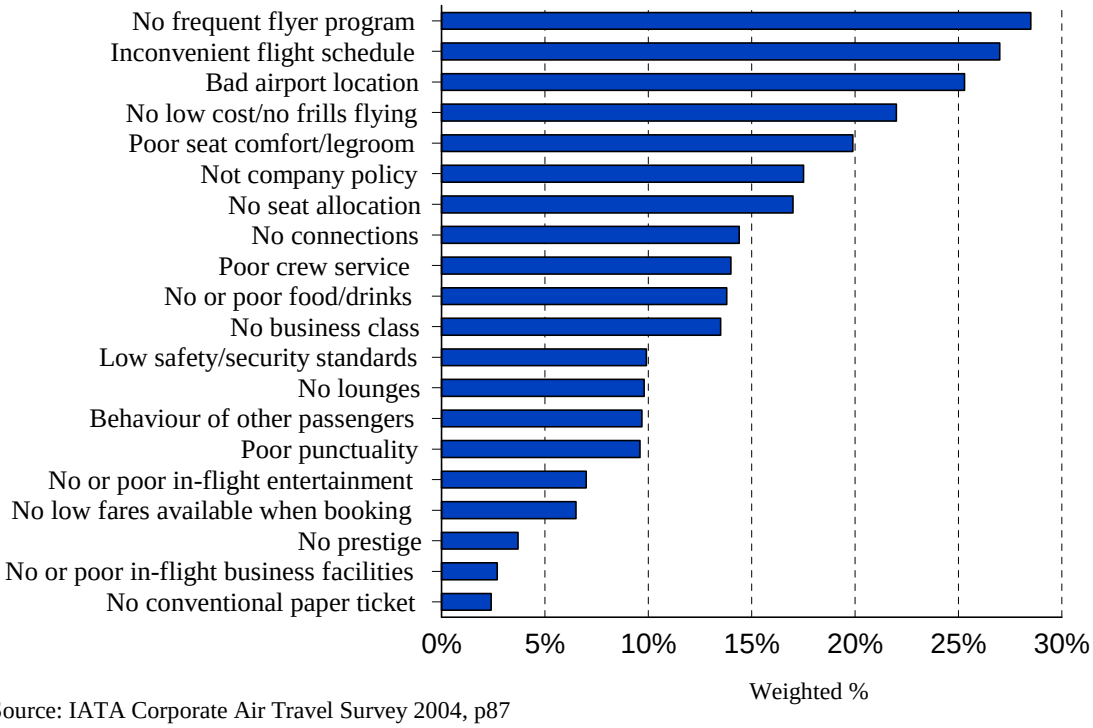
Financially, the low cost carriers have greatly outperformed their counterparts. From 2000 to 2004, Ryanair had an average operating margin of 29.4%, EasyJet 8.9% and all other incumbents had a combined margin of -3.5% (McKinsey Quarterly, August 2005). Similarly in the US, Alamdari and Fagan (2005) reported that Southwest is the only airline in the history of aviation to record 30 years of consecutive profits and, in 2001, it was the most profitable scheduled airline in the world, both in terms of operating profits and net profits. In Asia, Air Asia recorded a net profit of US$31 million for 2005, while Jetstar made $34 million for the same period (m-travel.com, 2006; ATI, August 2005). See **Chapter 2** for a more detailed account of the financial data between low cost carriers and full service airlines.

Finally, the marketing divisions of network airlines have a number of strengths. See **Chapter 6** for a detailed account of an incumbent's marketing principles. Nevertheless, incumbents are disadvantaged when fares are compared between the budget carriers and the full service airlines, even though the latter group are beginning to close the gap on the budget airlines. Lawton (2002) pointed out that the average fares of the no-frills carriers were some 40-60% below that of their full service counterparts. O'Connell and Williams (2005, 2006) have measured the fare differences between low cost carriers and full service airlines through passenger surveys and found that the average one-way fare difference between Ryanair and Aer Lingus (without taxes) was 37%, while another survey conducted in India also confirmed that Air Deccan's fares were 30% lower that its competing network carriers. See **Chapter 4** for an account of the fares charged by both sets of airline groups. Another important weakness of full service airlines is their continued reliance on travel agents and Global Distribution Suppliers, which impacts costs. Alamdari and Mason (2006) reported that British Airways distribution costs were reduced from £20 to £15 per passenger from 1998 to 2004, which was a small reduction considering that the internet has now become a mature IT tool. In addition, network carriers must market themselves through more aggressive advertising promotions in order to sustain their advantage and attract more passengers. It is unlikely, however, that the full service airlines will be able to close the cost gap between themselves and the budget carriers - subsequently it will be difficult to lower fares accordingly and incumbents must find alternative strategies, such as

differentiating their products, which will allow them to charge a price premium, or find core weaknesses in the low cost carriers' business model.

Incumbents should capitalise on the weaknesses of low cost carriers: Figure 52 (below) shows the results of an IATA worldwide survey that was conducted in 2004, and lists the principle reasons why passengers did not travel on a low cost carrier. Flight products such as frequent flyer programs, flight schedules and airport location are the most important criteria why passengers prefer network carriers. Furthermore, passengers also wanted their journeys to be comfortable, and the survey indicated that legroom, crew service, and food and drink are important differentiators between a low cost carrier and a full service airline. Passengers also ranked convenience as being equally as important as comfort, and emphasised that company policy and connections were some of the reasons for not choosing to travel on a low cost carrier.

Figure 52 Reasons for not travelling on low cost airlines (Worldwide)



Source: IATA Corporate Air Travel Survey 2004, p87

Numerous surveys have all pointed to the fact that the principle reason for travelling on a low cost carrier is because of low fares (O'Connell and Williams, 2005, 2006; IATA Corporate Air Travel Survey, 2002, 2004). Incumbents must continue the drive to lower costs and to differentiate their products from low cost carriers, thus enabling them to recapture high value passengers who have switched to the no-frills carriers.

7.9 Strategy Formulation

Strategy formulation is represented here by a series of strategic and management tools used to strengthen an incumbent's overall strategy. These are also integrated into Figure 46 (above) as they are important analytical components for further depicting how an incumbent's strategy is directed. Two areas are applied and consist of:

- Diversification Strategies
- Ability of Management

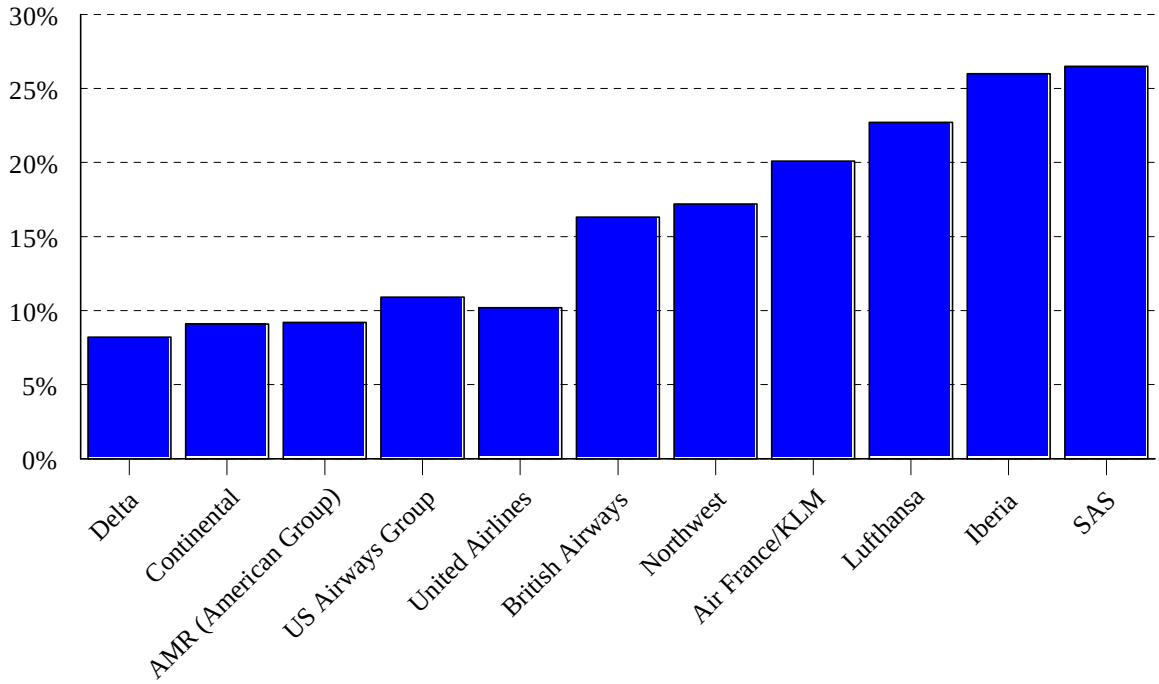
7.9.1 Diversification Strategies

There are two types of diversification that can be identified from the literature: related and unrelated diversification. Related diversification is where firms diversify within the same industry, while unrelated diversification is where firms diversify across industries. Research into related diversification has established that it has a strong effect on a company's performance (e.g. financial and productivity), while undiversified and unrelated diversification had little effect (Palich, Cardinal and Miller, 2000; Geringer et al., 2000). A McKinsey Quarterly (2006) publication of 'A new organisational model for airlines' indicated that airlines should expand into businesses that offer higher margins or require less capital than their core passenger operations. Air Canada's break-even load factor was calculated at 90.9% when passenger (only) revenues was applied, however that figure dropped significantly to 75.8% when the Canadian incumbent applied all other sources of revenues in 2001 (Air Canada annual report 2002). These diversified businesses should be stand-alone divisions that are independently accountable for their own costs, revenues and profits. In addition, they should have their own autonomy, which shortens the decision time through the hierarchical pyramid. Numerous authors have argued that these subsidiaries had the potential to generate strong returns but should be managed as separate business entities and not integrated as part of the airline (Lindstädt and Fauser, 2004; Taneja, 2004, p146; Doganis, 2006, p285).

TREN DG (2002) showed the operating results for Lufthansa's different group divisions for the year 2002 and highlighted that its subsidiaries contributed very positively to its overall financial position. Its cargo division had an operating profit of €168 million, the catering division €7.8 million, while its IT group had an operating profit of €54 million. Mercer Management Consulting (2002) outlined that Lufthansa's revenues from its core business of flying passengers accounted for only 56 percent of its revenues for 2002, down from 70 percent in 1995. The McKinsey Quarterly (January 2006) showed that Lufthansa's share of group revenues from ancillary business units, such as Technik (the maintenance unit) and cargo, increased by 10 percent to 35 percent from 1995 to 2004. While Lufthansa is still reliant on the air

transport sector, it is better positioned to reduce its earnings volatility by spreading risk across multiple divisions. Heracleous et al. (2004) have stated that Singapore Airlines' ancillary divisions (i.e. aircraft maintenance, airport management, catering, etc.) have healthier profit margins than the passenger section of the airline itself. Qantas has recently reorganised its business enterprise by setting up ten independently managed business units[140]. In addition, Virgin Atlantic has four main business divisions and its net earning for 2004 were derived as follows: passengers £912 million, cargo £92.4 million, holidays £312.2 million and travel store £71.5 million (Humphries, 2005). Disney, for example, has expanded its label into theme parks, such as Florida, Paris, Tokyo and later Dubai, and it has also developed television programs (Disney channel) as well as opening stores and publishing books worldwide, and it has also spread its brand to hotels, resorts and holidays. Figure 53 (below) shows an Eclat Consulting study confirming that the European airlines' financial success is partly due to their diverse revenue source, and that they are less dependent on their core passenger revenues (Aviation Week & Space Technology, 2005). The US carriers have divested themselves of peripheral businesses, including their computer reservation divisions, while budget carriers are taking low to medium yield passengers from network airlines but they have an opportunity to replace this lost revenue by retaining and expanding their subsidiaries.

Figure 53. Percentage of Revenue from Non-passenger sources in 2004



Source: Aviation Week and Space Technology (2005)

[140] Qantas' ten business units includes Qantas, Qantas Link, Australian Airlines, JetStar, Engineering-Technical operations, Maintenance Services, Airports and Catering, Freight, Qantas Holidays, Qantas Defense Services and Qantas Consulting (ATWonline, 2003).

Some of the diversification opportunities that can be used by the full service airlines include:

- Cargo,
- In-house business units such as maintenance, holidays, etc.,
- Set up a low cost carrier.

Cargo

According to the Boeing World Air Cargo forecast (2006/07), world air cargo traffic will expand at an average annual rate of 6.1% for the next two decades, outpacing maritime growth. Asia's air cargo market will continue to lead the world's air cargo industry by growing at 8.6% per year. Overall, world air cargo traffic will more than triple during the next 20 years, increasing from 178.1 billion RTKs in 2005 to more than 582.8 RTKs in 2025.

Air Cargo constitutes just 1% of the total volume of cargo that is transported worldwide (Gronlund and Skoog, 2005), which represented around 40 million tonnes in 2005 (IATA WATS, 2006), and it is worth $40 billion to the airline industry each year (Conway, 2005; Morrell 2005). However, its potential is enormous as IATA projections for 2007 indicate that air freight will become a $60 billion business by then (Air Cargo World, 2006): this indicates that the network airlines will get a sizable chunk of this extra revenue, since low cost carriers do not generally carry cargo as it impacts the short turn around times. Otto (2005) stated that the nature of the air cargo business was changing because 82% of the cargo market in 1997 was composed of standard[141] cargo, and this has been forecast to fall to 54% by 2009. It is being replaced by high-value goods, which will comprise 29.6% of special freight goods[142] and 16.4% of express freight by 2009 - these can be easily transported in the bellyholds of passenger aircraft. Express freight extracts a high premium due to its urgent nature and is a lucrative enterprise for incumbents who operate from primary airports close to down-town business centres. Otto (2005) described the volume of intra-European express shipments by indicating that there were 522,000 shipments per day by 2005, considerably up from 138,000 shipments per day in 1993. In addition, mail is relatively cheap to handle and is a valuable contract for airlines: as Conway (2006) explained, American Airlines' contract with the US Postal service was valued at $100 million in 2006. Worldwide, freight, mail and express cargo accounted for 12.7% of the world's scheduled revenues in 2004[143]. Overall, around half of all air cargo is currently transported in the bellyholds of passenger aircraft (Taneja, 2002 p136; Gronlund and

[141] Standard cargo includes all shipments that do not require any specific handling requirements.
[142] Special freight includes goods that need to be temperature controlled, such as pharmaceutical, and goods that are shock sensitive, such as semiconductors.
[143] ICAO 291-AT/123 – World of Civil Aviation 2001-2004, 279-AT/116, 275-AT/115, 271-AT/112.

Skoog 2005), while Boeing estimated that the figure is closer to 60% (Boeing Commercial Airplane Group, 2000/01).

Table 52 (below) gives a comparison of the yield (Revenue per Tonne-KM) between passengers and cargo for the Association of European Airlines in 2003. It shows that the yield of carrying cargo within Europe itself is 50% that of the passenger yield, while the corresponding yields on African/Middle-East/Atlantic are lower. To counter the risk of losing additional low value passengers to the low cost carriers, the network airlines should focus more on carrying cargo within Europe as the potential is apparent. Many airlines in the past have neglected the air cargo segment of their operation because of its small contribution to revenue when compared to passenger traffic, but this is now changing rapidly. Incumbents should avail of this opportunity as their turnaround time is longer than the budget carriers, which gives more time for loading and unloading freight and at the same time it contributes positively to the overall revenues.

Table 52 Association of European Airlines Yields (Revenue per Tonne-KM) for 2003

US Cents	Pax Yield*	Cargo Yield*	Yield Ratio* Pax : Cargo
Domestic	188.5	133.7	1 : 0.71
Total Europe	170.5	83.5	1 : 0.49
Europe/Africa	83.2	27.3	1 : 0.33
Europe/Middle East	96.4	26.5	1 : 0.27
Europe/Far East	70.7	31.1	1 : 0.44
North Atlantic	60.6	22.2	1 : 0.36

* Revenue per Tonne-KM
Source: Association of European Airlines 2004: Summary of traffic and airline results

Some airlines, however, generate much more revenue from cargo than others, particularly those with cargo divisions that have dedicated freighters, such as China Airlines, Korean Airlines, Emirates, etc. - these carriers generated 43.5%, 30.6% and 19.3% of their revenues, respectively, from cargo operations in 2005. The majority of airlines carry cargo in the bellyhold and this contributed 10% to Alitalia's revenues in 2005, while at Malaysia Airlines and Lan Chile, bellyhold cargo contributed 18% and 36% to their respective revenues for the same period (Airline Business, November 2006). Conway (2006) explained the importance of cargo to British Airways. He noted that it invested $500 million in its cargo business over the last 10 years, generating £498 million in 2005/06, up 3.3% over the previous year (BA Reports & Accounts 2005/06). Airlines could also purchase Quick Change (QC) aircraft, whereby they can operate passenger flights by day and then, by changing the aircraft's configuration in just one hour, operate as a freighter by night. Airlines such as China Southern and Hainan frequently use such aircraft and this concept could be implemented in Europe, provided the aircraft departs before the night-time curfew. The Freight Forwarders still

have a great influence on the traditional airfreight industry as they act as an intermediary between airlines and the end supplier (e.g. manufacturing industry), and are used in more than 80% of air cargo transactions (Clancy and Hoppin, 2001). However, the e-commerce platform could replace the freight forwarder, as it did with the travel agent, thus allowing disintermediation, i.e. the airline to deal directly with the end supplier. The competition from low cost carriers has put an enormous strain on generating revenues in the short-haul market for the network carriers; however, carrying cargo has become an important differentiating strategy that has remained unchallenged by the low cost carriers.

In-house business units such as maintenance, holidays, etc

Historically, it was the norm for flag carriers to run several subsidiaries in concurrence with their primary function of providing air transport. These operations were government owned and were bureaucratic, inefficient and poorly managed - subsequently, when airlines became privatised, many of these ancillary divisions were sold off and did not receive the opportunity to be operated under modern business practices, which would have established industry benchmarks of efficiencies and productivity, ultimately focusing on profit.

Maintenance is one such business unit: it represents between 10-15% of an airline's operating costs and a large volume of this work is outsourced, creating opportunities for airlines that have maintenance divisions (Kilpi and Vepsäläinen, 2004). In 2005, the expenditure in commercial aircraft maintenance was estimated to be US$38.8 billion, 56% of which was accounted for by work on engines, 21% for components, 23% for line maintenance and the remainder for heavy modifications (Flint, 2006). Air France and KLM's maintenance divisions, for example, had revenues of more than €2.6 billion in 2005, of which 30% came from outside their own group (Flint, 2005). Many strongly branded airlines throughout the world generate a large amount of revenue from their maintenance divisions[144].

However, more carriers are now outsourcing their maintenance to countries with low labour costs, and almost half of the US carriers' heavy maintenance is now outsourced: a carrier would need a fleet of around 50 aircraft or 150 engines to justify the heavy expenditure required for a heavy maintenance division (Aviation Strategy, 1999). Unlike heavy maintenance, a lot of carriers perform lighter maintenance checks in-house (e.g. A, B and C checks), and Doganis (2006, p287) argued that smaller maintenance checks could be done in-house economically. Some carriers have

[144] The revenue generated by airlines through their maintenance divisions for 2005 were as follows: Lufthansa Technik $5.5 billion, American Airlines $1.9 billion, British Airways and Japan Airlines $1.5 billion, Continental $780 million, SAS $615 million, Thai $614 million, Air Canada $567 million, Iberia $509 million and Singapore Airlines $493 million (Pilling 2005).

developed a market niche and have become the world leaders on specific components, like American Airlines who has become specialised in the overhaul of 757 landing gears, 777 slides and avionics components (Sobie, 2006). This maintenance niche has enormous potential financially: a survey conducted by Aviation Economics in 2000 pointed out that over 70% of airlines contracted out avionics maintenance, while over 80% outsourced landing gear components (Aviation Economics, 2000). Lufthansa has recently won a contract to support the component overhaul of Spirit Airlines in the US, while KLM won a similar contract with Spice Jet of India, and the Dutch carrier recently signed an agreement with SkyEurope for its Total Aircraft Care package on its older generation 737 (Flint 2005). More creative strategies to expand maintenance revenues were implemented by KLM as it provided overnight line checks on A330s belonging to its former alliance partner, Northwest, at Schipol (Flint, 2005).

Many incumbents still have holiday divisions that offer an entire package, consisting of flights, hotels, excursions for sight seeing, etc. Inclusive tours continue their steady growth despite the advent of the internet: from 1997 to 2001, the number of holidays taken by UK residents increased from 29 million to 39 million, of which inclusive tours increased from 52.8 per cent (15.4 million) to 53.4 per cent (20.6 million), representing an annual growth of 7.6 per cent (Lei and Buck, 2004). Mason et al. (2000) stated that the difficulty in finding suitable accommodation and arranging local surface transport will always make inclusive holidays more attractive to some. In addition, the packaged holidays aimed at the mass market invariably have a price advantage over the same holidays organised by individual travellers. Moreover, package holidays are also bonded, at least in some developed countries (e.g. the ATOL system in Britain), which gives consumers more protection in the event of the operator becoming insolvent. Though many of these trips were taken on charter airlines, this division has huge potential to reap ancillary revenue, especially from long haul destinations - Virgin Atlantic's holiday division, for example, earned £312.2 million in 2004 (Humphries, 2005).

The network carriers have begun to imitate the dynamic package strategies that were initiated by the low cost carriers. Dynamic packaging is inherently flexible as it allows the customer to build their own holiday package by assimilating individual components such as flight, accommodation and car hire. Mas Llabres (2003) also pointed out that travel insurance could become an important component of the overall package. Dynamic packaging is dynamic because pricing, constraints and ultimate choice are determined online, based on real-time inventory. In this way, consumers become self appointed travel agents by building a tailor-made package that better suits their individual needs. According to the 2003 Airline Business IT Survey, this is a developing business entity as 33% of interviewed carriers offered hotel bookings, 32% offered excursions and 24% car hire (Airline Business, 2003). Dynamic packaging will become an important tool in generating additional revenues for incumbents as more

people are becoming cash rich and time poor. Mintel's (2006) research showed that the short-break market has increased by an estimated 2.5 million trips in 2001 to 7.8 million by 2006 in the UK alone, while expenditure has risen by a significant 70% to reach nearly £2 billion over the same period as rising levels of disposable income allow holidaymakers to spend more. This market now represents some 16% of the total overseas holiday market in terms of volume, thus making this market segment very lucrative and creating a revenue opportunity at little additional cost, and also becoming an effective strategy against low cost carriers.

There are numerous other subsidiaries[145] that incumbents could implement, such as IT, call centre, flight training, consultancy, aircraft leasing, catering and ground handling. However, incumbents are reverting to their core competencies and selling off many of their ancillary divisions, thereby reducing the potential to earn additional revenues. Reducing the number of business units subsequently reduces the revenue potential of the incumbents, and the competition becomes more intense between incumbents and low cost carriers as they have less differentiating features and compete purely on the basis of passenger revenue.

Set up a low cost carrier

In recent years there has been a notable increase in the number of low cost carrier subsidiary start-ups, indicating that incumbents have considered it a feasible, worth pursuing strategy. History, however, suggests the opposite: Lawton (2002, p199) pointed out that all the US based subsidiaries were dissolved, while Bethune and Huler (1998) stated that Continental Lite was the primary reason why Continental Airlines was losing $55 million per month in 1994. Porter (1996) identified a primary reason for their failure, arguing that running two different and conflicting airline business models simultaneously can result in poor quality, dissatisfied customers, discouraged employees and losses. Graf (2005) provides an insight into the failure of some of the European low cost carrier subsidiaries, and her research concluded that the only carrier remaining (Germanwings) was due to the fact that it was almost entirely independent from the incumbent. Delta's Song was doomed to failure as its pilots were under the same pay scale and benefits as the incumbent but the flight attendants were under different contracts, stipulating that they worked 10-hours longer than their colleagues at Delta. Porter (1996) supported the argument that each business model requires a

[145] Examples of airlines that have such subsidiaries: Jet Airways IT division, Egyptair call centre, SAS flight academy, Singapore Aircraft Leasing Enterprises (SALE), Lufthansa Consulting, Lufthansa LSG Sky Chefs, Singapore Airport Terminal Services (SATS). Others include Czech Airlines duty free business, Thai Airways airport management subsidiary, Royal Air Maroc hotel and service units, Iberia's 11.4% interest in Amadeus, American Airlines helicopter subsidiary connecting JFK to Manhattan.

different set of resources and capabilities, as well as different organisational structures, control and incentive mechanisms.

Morrell (2005) argued that there were three possible objectives in establishing low cost carrier offshoots: to spin off profitable businesses; to see off low cost competition in key markets (e.g. Song vs JetBlue); and to establish a test bed for adapting low cost business practices to their mainline operations. The CEO of British Midland provided another objective, stating that it wanted to diversify away from its core routes and build a presence in secondary markets (ATI, April 2003).

There have been some examples of low cost carrier subsidiaries being very effective in combating encroaching competition from peer groups. Qantas' Jetstar, for example, has changed the dynamics of competition between low cost carriers in the Australian market. By 2004, Virgin Blue had 30% of the Australian domestic market and was aiming for 50% by 2006; however, Jetstar was launched in May 2004, claiming 14% of the market in late 2006 and holding Virgin Blue's market share to 34% (ATI, November 2006). By late 2006, Jetstar operated 24 A320 aircraft configured to carry 177 passengers. Its operation differed from other low cost carrier models because it added its flight code to a limited number of Qantas-operated services in order to expand its reach within Australia and to cover routes that it did not operate itself - Qantas also purchases a fixed block of seats on every JetStar flight. It also carries cargo, which increases its revenue per departure. Importantly, JetStar has adhered to a strict policy of keeping off city-pairs operated by Qantas. Its fare policy also differed from conventional low cost carriers as it offered two types of fares, namely JetSaver and JetFlex, with the latter allowing passengers to make changes without additional fees and earn Qantas Frequent Flyer points (Joyce, 2005). JetStar has now taken its successful model and has established another subsidiary in Singapore, called JetStar Asia, and plans a long-haul, low cost carrier in the near future.

The Polish market was also facing unprecedented competition from low cost carriers as LOT's market share was falling sharply because, in 2004, it had 49% of the market and one year later this was reduced to 36%. Budget airlines were fast establishing and reinforcing their presence: seven out of the top ten airlines, in terms of the number of passengers carried, were in fact low cost carriers. In response, LOT set up its own low cost carrier offshoot, called Centralwings, in early 2005 and, after one year in operation, it claimed 5.7% of Poland's market (ATI, May 2006). In an interesting development to further reduce costs, the low cost carrier subsidiaries of alliance members have joined forces as LOT's Centralwings and Lufthansa's Germanwings co-operate on ground handling and IT. These incumbents are both members of the Star alliance and have innovatively extended their synergies to their low cost subsidiaries in order to further reduce the cost base (Baker, 2005).

These low cost subsidiaries have the advantage of being able to access the incumbent's financial and operational strengths: United Airlines, for example, transferred nine A320s to the carrier's low-cost subsidiary, Ted, in 2005 (ATI, March 2005); and, in another example, Air India applied its purchasing strength to procure 68 aircraft, of which 18 were intended for its low cost subsidiary, Air India Express - they were obtained at a lower price because of the incumbent's bulk order (Ionides, 2006). However, an area of concern for operating a low cost carrier subsidiary is the passenger confusion between the two associated brands and the integrated coordination of both enterprises. **Appendix V** outlines the low cost carrier offshoots that have been dissolved (13), the present number (17) and the carriers that are planned for the near future (8).

7.9.2 Capability of Management

Johnson et al. (2005, p119) stated that the strategic capability of an organisation depends on its organisational competencies, which are ultimately driven by its management. Knowledge of the company's capabilities and of the causes of the competitive forces it faces will highlight the areas where the company should confront competition and where to avoid it. Unclear strategy, conflicting priorities, an ineffective senior team and a leader who is too controlling or too disengaged in management style, can all interact to prevent a company from competing successfully. Thus, companies need to be quick in their innovation strategies (Markides, 1997), consistent in implementation and embrace industry turbulence so as to leap-frog other competitors in the market. Management must interpret confrontation quickly and then exploit the window of opportunity faster than other competitors. Below are two important management components, **implementing change** and **negotiation**, that have a direct impact on the implementation of strategy and were sourced from the literature of Johnson et al. (2005), recognised as the leading strategic management academics, and from Kotler and Keller (2006), the leading marketing academics.

Implementing change

The effect of managers and strategies on a firm's performance is central to the study of strategic management (Child, 1972; Hambrick and Mason, 1984; Amason et al., 2006). Indeed, the literature is replete with models linking manager and strategy characteristics to performance. Harrington et al. (2005) stated that there was little doubt that the airline business is changing rapidly and that carriers must evolve or risk extinction. In the Darwinian evolutionary race, it is not necessarily the strongest that survive but the most adaptable.

Government interference has stifled airline management for decades as they have directed managers to endorse policies that satisfied local and political issues, regardless of their commercial nature. Consequently, the management at Malaysia Airlines have been unable to challenge the low cost carriers and have allowed Air Asia to take over a large number of their domestic routes. It has been one of the few incumbents that has completely failed in competing with low cost carriers, largely because of the strong influence being exerted by its government (Saw, 2003). The government forced it to operate on uncommercial routes and it also insisted that Malaysia Airlines should retain its 23,000 strong workforce, as well as unsustainable operations such as maintaining a first-class configuration on its regional routes, when most of its competitors had abandoned theirs. Doganis (2006, p256) suggested that change could come about if government owned airlines became privatised and lost their political link so that managers could become empowered to make their own decisions based on a commercial strategy.

Privately owned airlines, such as British Airways, have had much more success at implementing change. Management was able to cut costs by £450 million over a five year period, ending in March 2005. Management streamlined its decision flow process through its hierarchy pyramid by eliminating around 600 middle management jobs, in turn saving the company £50 million. It also concentrated on selling direct to the customer by bypassing intermediaries, reducing its distribution[146] cost base by £700 million (60%) over the seven years from 2000 to 2006. As part of a further £450 million cost cutting plan to be completed by March 2008, each department has been given specific cost targets which will force employees to negotiate lower prices from suppliers, including airports. Management also changed its yield management system so that it competed more effectively with low cost carriers by abolishing fare restrictions (with an ability to change an economy ticket for a fee of £30). It also changed the structure of its fares so that they became more closely aligned with the fares offered by budget carriers, by reducing fares on many of its short haul routes by as much as 50% but retaining its high quality products (assigned seating and complementary food and drinks, etc.) and requiring that all domestic UK travellers use the self-service check-in or online check-in mechanism. Management has continued to be innovative in improving its margins and fitted ‘space saver’ thinner seats to all its Heathrow-based aircraft, which allows an extra row of seats to be added to its short haul aircraft - this adjustment will improve capacity out of Heathrow by 2.9%. They have also been able to increase the utilisation of their 87 short-haul aircraft based at Heathrow by 15% by reducing the turnaround time while, at the same time, increasing the productivity of their pilots.

[146] BA reduced its distribution cost per passenger from £30 per passenger in 1997 to around £15 per passenger by 2004.

British Airways' twin hub policy at London has been challenging as connecting traffic through the Gatwick hub was not a positive option. However management's robustness in finding a fast solution has been impressive. It managed to funnel a large part of its leisure passengers through Gatwick and its current fleet (around 33 short-haul aircraft positioned at Gatwick) mostly provides high frequency, point to point leisure services on its 43 routes, with 15% of its short-haul services connecting to BA's long haul network at Gatwick. Management's new focus on profitability is evident by its decision to sell its unprofitable regional affiliate, BA Connect[147], to Flybe in return for 15% equity in that carrier. In addition, management's ability to drop an underperforming route was noted by its decision to close its Gatwick – Vilnius city pair in 2006 after just seven months in operation. Overall, management has implemented numerous changes and their actions have transformed the financial results of BA's short-haul operations from a loss of £172 million in 2001 to a profit of $7 million by 2006. It has also reduced its debt from $5.7 billion in 2001 to below $2 billion by 2006. BA made an operating profit of £705 million for 2006, achieving an impressive operating margin of 8.3%, and rewarded staff with bonuses totalling £48 million (BA Reports & Accounts 2000-01; 2001-02; 2002-03; 2004-05, 2005-06; Buyck, 2006). In contrast, management at Alitalia were unable to offset five sets of strikes in 2005 and numerous strikes in 2006, including a 6-day stoppage in January in protest over the company's restructuring initiatives, indicating management's inability to implement change. Subsequently, the Italian flag carrier is unable to compete with low cost carriers and is expected to post an operating loss of around €380 million for 2006 - a year in which most European network airlines have made substantial profits (ATI, January 2007).

Negotiation

Negotiation is viewed as a process of compromise, involving parties with different sets of objectives and values, based on their different vested interests (Fisher and Ury, 1991). IBM (2006) stated that airlines needed to focus on negotiation in order to maximise profits. Airline managers at scheduled airlines are typically poor in negotiation, while their counterparts at low cost carriers excel in this. The majority of the service providers generate high returns that are primarily derived from incumbents, and this is evident at airports - the operating margins of airports such as BAA, Hong Kong and Atlanta were 31.2%, 60.2% and 65.5% respectively for 2005, while comparable margins at airlines are very substantially weaker (Airline Business, December 2006). Low cost carriers, however, have been able to extract low charges from airports and, in some cases, subsidies. Ryanair negotiated Shannon Airport's passenger charge from €7 per passenger to €1 while the regional authorities in Northern Spain paid Ryanair €3.8 million in 2005 to connect London Stansted to Santiago de

[147] BA connect carried 3.4 million passengers in 2005 but it only managed to reduce its losses from £27 million in 2005 to £20 million in 2006.

Compostela, staggered over a four year period (ATI, March 2005). Aer Lingus, which began operations to the same airport a year later, paid the normal airport charges, which highlights the benefits of successful negotiations and how they can impact operating costs. Fisher and Ury (1991), who are considered to be the academic authorities in negotiation, stated that it is the most effective means to increase profitability.

Management has also found it difficult to successfully negotiate higher productivity deals. In 2002, European low cost airline pilots worked an average of 210 days per annum, whereas full service airline pilots worked an average of only 184 days per annum, the salaries of the low cost carrier pilots still being 27% less than their peers (European Cockpit Association, 2002 p7). By 2006 there was a 25% difference in the productivity of pilots between the two sets of airlines and this reduced the number of flight crews required by the low cost carriers by 20% (European Cockpit Association, 2006 p20). Taneja (2003, p146) also described how management had extracted additional productivity from the Southwest employees by citing that American used four gates to handle 18 flights a day into and out of Hartfort, Connecticut, whereas Southwest used only two gates to accommodate 17 departures.

Despite the escalation in fuel costs, labour remains the highest operating cost in the airline industry. Management's primary function is to retain its cost leadership, and this is achieved via effective and staged negotiations with labour. Doganis (2006, p137) stated that negotiating new terms and conditions is a very effective strategy in reducing labour costs. This was realised by the management at United Airlines when they succumbed to the negotiation pressures of their pilots union in 2000 and awarded them pay increases of between 21.5% and 28.5% with immediate effect, together with annual increments of 4 percent for each of the following four years. Subsequently, this triggered a series of pay increases at other US carriers with Delta's pilots receiving a 23-34% wage hike - Merrill Lynch had estimated that labour costs would rise in the US by 12% in 2001 (Aviation Strategy, March 2001). Clearly, management's poor negotiation skills were at fault for granting such large pay increases. The terrorist attacks, followed by years of huge losses[148], caused United to enter bankruptcy protection from where it was considerably easier to negotiate concessions because of the industries turbulence and uncertainty which resulted in pilots accepting a 30% pay cut. However, management must be more vigilant when negotiating the next round of pay talks, and not succumb to union pressures of granting large salary increases. Meanwhile, Continental Airlines[149] was one of the two legacy carriers that did not enter into chapter 11 bankruptcy and it was able to negotiate a reduction of $500 million in payroll costs because of its transparent and amicable relations

[148] United Airlines had a net loss of $30 billion over the years 2000 to 2005 and creditors and employees had no choice but to make concessions. These concessions were substantial as it cut its annual costs by $7 billion and reduced its balance sheet debt by $13 billion, including a cut of $7 billion in pensions.

[149] Continental Airlines has the lowest CASM of the US legacy airlines at around 9.3 cents verses 11.5 cents at US Airways and 10.7 cents at Delta.

with pilot unions. Its ability to meet the work force half-way eased the negotiation process, as the CEO took a 25% pay cut and the other top executives also took a 20% cut. It developed a relationship based on 'providing each other with accurate, factual information and considering each others input regarding operational issues and seeking common solutions' (Aviation Strategy, December 2004). A more hard line approach in negotiations was used by Lufthansa which indicated that future growth would be concentrated at its low cost subsidiary or with its Star alliance partners if pilots refused to cut their cost base by 6% (€55 million). Management also wanted to alter the pension scheme and add an extra two hours to pilots' flight schedules every month and, in return, management would guarantee the full employment of all its pilot members for the foreseeable future. The negotiation process took one year but it secured all of Lufthansa's objectives (Lufthansa, 2005).

7.10 Concluding comments

This chapter adopted a strategic management perspective in discussing alternative solutions for traditional carriers to compete effectively with low cost carriers. Emphasis was given on the design of a structural analytical framework of complex inter-relationships between the following strategic components: cost leadership and product differentiation; collaboration with other carriers; strengths and weaknesses; Porter's theory of competitive rivalry; key aspects of airline marketing; and enhancement of a business' structural position via possession of a capable management team and by diversification outside an airline's core competency. This overall framework provided a 'blueprint' to a questionnaire that was sent to airline strategy directors worldwide, in collaboration with IATA, to facilitate the assessment of incumbents' capabilities in competing with low cost carriers.

Incumbents must decide if they wish to replicate the low unit costs of the budget carriers or pursue a differentiation strategy - the latter option is evidently more achievable as structural costs at traditional airlines are higher due to unions, pensions, airports, distribution, etc. It is therefore important that full service airlines continue to offer passengers a full range of flight products, which provide a clear delineation between the brands of low cost carriers and full service airlines. The key will be to lower the structural costs of the legacy airlines to within 20% of budget carriers and to retain their full set of flight products which will justify the carrier charging a higher fare premium.

Traditionally, low cost carriers compete on an individual basis with all other airline business models, while the full service airlines are unique because they collaborate with other carriers, thereby stretching their networks into new markets without the associated costs of operating aircraft to those destinations. Full service airlines must continue to partake in a wide range of bipartisan arrangements, such as equity partnerships, pooling

arrangements, code sharing franchising and having regional carriers feed traffic from peripheral regions to their hubs - all these options provide competition to the low cost carriers. Alliances, however, are an important competitive weapon as they allow different carriers to integrate their operational and marketing platforms. This strengthens their competitive positions and provides an opportunity to reduce costs through areas such as joint purchasing, whereby a group of carriers can negotiate much more favourable terms than a single carrier.

Once a company has determined its strengths, it can go about the process of utilising those strengths to improve its position in the marketplace. Conversely, an examination of internal weaknesses (e.g. uninspired products, recalcitrant work force, etc.) should spur initiatives to design long-term strategies to address those shortcomings. Furthermore, incumbents should capitalise on the weaknesses of budget carriers. Michael Porter has repeatedly emphasised that it is very important to interpret how companies will respond to competitive moves made by rivals. This has long been a cornerstone of overall competitive strategy and is key to profitability. Finally, low cost carriers compete purely on the basis of transporting passengers, while incumbents have other aviation-linked businesses which could be restructured, adding to the overall revenue streams. However, the management team will have the overall responsibility in implementing change - this disrupts the previous status-quo and, also, it takes time for the strategy to produce results. Management should resist in reverting to the previous order thinking about the ‘optimality of suboptimal patterns’: new order can only emerge with well defined and structured plans.

8 Chapter 8: The passenger perception of low cost airlines and full service carriers.

A case study of Aer Lingus, Ryanair, Malaysia Airlines and Air Asia

8.1 Introduction

The competition between low cost carriers and network airlines on the Ireland – UK pairing was Europe's most intense battleground as Ryanair armed with low fares, excess capacity and a low cost structure encroached on the market share of the incumbents who also operated on the routes. At the end of 2005, there were 37 airlines operating regular scheduled services to 103 different destinations from Dublin, Cork and Shannon. Traffic from the UK was up 16% for the year 2004/05 while European traffic recorded the strongest growth during this period, rising by an impressive 25% to over 4.4 million passengers. The increase in this market was supported by the launch of over 30 new routes and services into mainland Europe (O'Donoghue, 2006). The annual growth rate of European low cost carriers from 1999 – 2004 was 35% while the incumbents remained relatively flat. Meanwhile in Asia, low cost carriers were just beginning to establish themselves. Prior to 2002 there were no significant low cost airlines operating in the region[150]. By late 2005 Asian based low cost carriers represented 6% of the region's total traffic, although penetration rates were much higher in countries such as Malaysia (30%), Thailand (12-13%), Singapore (11-12%) because the markets had a deregulated domestic and/or liberal international foothold. Air Asia has challenged Malaysia Airlines in much the same way as 'Ryanair/Aer Lingus' and the incumbent lost 30% of its domestic market in just 3 years. As Air Asia expands its borders to intra-Asian markets, it will continue to encroach on Malaysia Airlines market.

The chapter begins by examining the background of the carriers including traffic carried and operating cost performance. The empirical study then concentrates primarily on the surveys that were conducted in Europe and Asia, highlighting key findings such as passenger characteristics, journey purpose, booking methods, fares, connecting traffic, trip description. It concludes with an in-depth analysis of the factors that influence carrier choice and the ranking order of flight products for both leisure and business passengers.

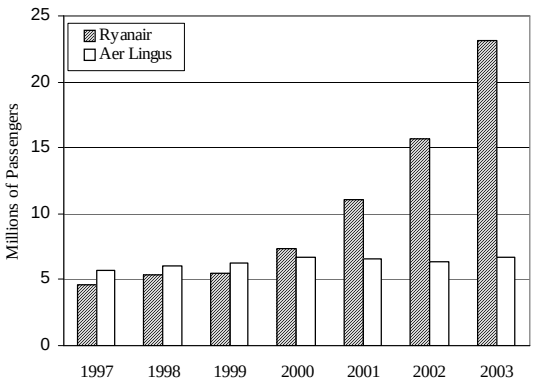
[150] Virgin Blue commenced operations in 2000, and operated within Australia. In February 2004 it set up a subsidiary called Pacific Blue to serve international routes linking Australia, New Zealand and several pacific island destinations.

8.2 Background of the surveyed airlines

8.2.1 Aer Lingus and Ryanair

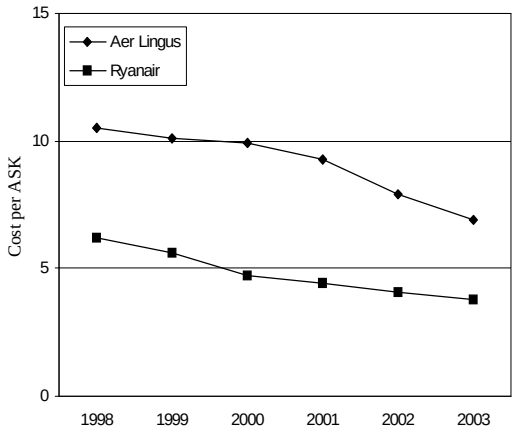
Aer Lingus has been described in detail in **Chapter 5** but a brief descriptive comparison of traffic numbers and operating costs staged over a number of years will set the scene of the contrasting characteristics of both Aer Lingus and Ryanair, each domiciled in Ireland. Figure 54 below shows the annual passenger traffic carried by Ryanair and Aer Lingus between 1997 up to when the survey was conducted in 2003. Aer Lingus continues to serve destinations out of Ireland while Ryanair has taken full advantage of European deregulation to become a pan-European airline. Its creation of multi-hubs across Europe has enabled the carrier to transport an enormous volume of traffic, which is increasing each year. Ryanair's relentless focus on reducing its operating costs has enabled the carrier to pass on these savings to passengers in the form of low fares. Aer Lingus has managed to reduce its unit cost to a level that it can now challenge its low fare rival. Figure 55 below shows how Aer Lingus has been reacting to Ryanair by significantly reducing its operating costs and the difference in operating costs per ASK between the two carriers in 1998 was around 78%, however by 2003 this had been reduced to around 53%. Aer Lingus's structural reformation of its operating costs and its transition to a low fares airline, caused Ryanair's profits on the Dublin to London city pair to fall by 20% in 2003 (O'Connell and Williams, 2005).

Figure 54. Number of passengers carried by Aer Lingus and Ryanair (1997-2003)



Source: Air Transport Intelligence and analysis from company reports.

Figure 55. Units Costs of Aer Lingus and Ryanair (1996 – 2003)



Source: O'Connell, Williams (2005)

8.2.2 Malaysia Airlines and Air Asia

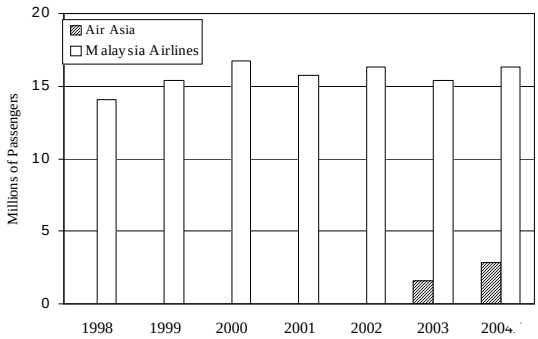
The history of Malaysia's Air Asia is similar to that of Ryanair, as both carriers have transformed themselves from loss making regional operators to profitable low cost airlines. Perhaps this is not surprising, given that Air Asia is managed by Conor

McCarthy, an ex-Ryanair director. Besides attracting passengers from buses and ferries, both carriers have experienced a large proportion of first time flyers, largely attracted by the low fares on offer.

At the time that the survey was conducted Air Asia had a 30% share of the Malaysian domestic market. Since the airline's inception in December 2001, the market has grown from 9 million passengers annually to 13 million. In 2004, bankers had valued Air Asia at between $750 million to $1.2 billion (Ionides, 2004). By late 2005 the carrier had 19 Boeing 737-300s in its fleet and ordered 100 A320s with options for an additional 30 aircraft. The low cost carrier has now franchised its operation into Thailand and Indonesia and is also looking to repeat the business opportunity in Sri Lanka and Bangladesh. **Chapter 3** gives a further description of how these carriers are expanding, despite operating in a highly regulated environment.

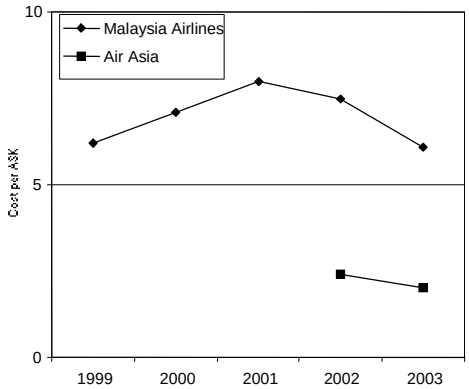
Figure 56 below shows that the passenger enplanements for Malaysia's incumbent has been relatively stagnant over the last number of years. In 2005 domestic operations accounted for 8.9 million passengers (48.7% of Malaysia Airlines total passengers) down from 6.6 million in 2002 (Centre of Asia Pacific Aviation, 2006). Yassin-Knan (2003) stated that Air Asia was beginning to attract passengers from the domiciled incumbent but was also capturing its annual growth in the domestic market of 4-5% and it was also enticing passengers from the arduous train and bus journeys. Figure 57 shows the unit costs for Malaysia Airlines and Air Asia between 1998 and 2004. Air Asia has the world's lowest unit cost of US$0.023/ASK and a passenger break-even load factor of 52% and it is showing all the signs of being a Ryanair clone. This is based on the fact that it has hedged 100% of its fuel requirements for the next three years, produces short turnaround times of 25 minutes, its crew productivity is triple that of Malaysia Airlines and has an average aircraft utilisation rate of 13 hours a day. In comparison, Malaysia Airlines has hedged only 20% of its fuel requirements, takes one hour to turnaround its aircraft and uses its aircraft for just 8 hours a day in its domestic markets. In 2004 the unit cost differential between the carriers was very significant at 268% and is due to Malaysia Airlines excessive labour force, poor productivity, low aircraft utilisation, unprofitable domestic routes and the limitations of intra-Asian bilaterals. The currency crisis of 1997, followed by three successive years of poor revenues and a debt of $2.6 billion forced the Malaysian Government to intervene and rescue the airline. It transferred ownership of 73 aircraft, leases on another 17 and liabilities of $1.8 billion to the Malaysian Finance Ministry (Penerbangan Malaysia Berhad PMB). Ionides (February, 2005) stated that Malaysia Airlines was financially reengineered and converted into a 'virtual airline' with few assets and its liabilities were replaced through debt-for-equity swaps. However in 2005 the incumbent had the world's second worst operating margin at -13.2% with a $421 million net loss.

Figure 56. Number of passengers carried by Malaysia Airlines & Air Asia (1998-2004)



Source: Analysis from company reports.

Figure 57. Unit costs of Malaysia Airlines and Air Asia (1999 – 2003)



Source: O'Connell, Williams (2005)

8.3 Survey Methodology

Two questionnaires were used to gather information on passengers' perceptions of full service airlines and on low cost carriers in Ireland and Malaysia. The passengers were surveyed in the relaxed open landside public area of the airport. The airports where permission was granted to undertake the surveys were Cork and Shannon in Ireland, and Kuala Lumpur International in Malaysia. Small teams of personnel were involved in capturing the data, as pilot studies concluded that the second page of the survey was often omitted and it was important that all questions were understood and fully answered. The personnel also assisted with language barriers and in answering any issues raised regarding the open-ended questions, in which each respondent could give a personal response in his or her own words. A total of 281 responses were collected at the Irish airports, which represented around 22% of the total number of passengers that were travelling to London airports on the day that the survey was administered. Ryanair passengers made up 52% of the sample while the remainder comprised of Aer Lingus passengers. A total of 247 responses were taken at Kuala Lumpur International airport, which represented around 20% of the total number of passengers that were travelling to airports within Malaysia. Air Asia passengers accounted for 48% of the sample and the remainder comprised of Malaysia Airlines passengers.

8.4 Survey Findings

8.4.1 General findings; Demographics, group travel, surface access to airport and accommodation

As expected, the low-cost carriers attracted a high number of younger people, with 24% of the Ryanair passengers surveyed and 47% of Air Asia's being in the under 24 years age group. Eighty-seven percent of this age group on average were travelling for non-business purposes that included visiting friends/family and trips to/from places of education. Parents mostly paid for these trips. For the 25–58 year age group, which represented on average 84% of those surveyed, passenger choice changed considerably in favour of the incumbent carriers. The age segregation between the carrier types is very clear, with the older passengers tending to prefer the incumbent carriers, possibly because these offer additional airline products not offered by the low cost carriers.

Group travel is particularly significant to airline revenues. Business travellers usually tend to travel singularly but leisure travellers often journey in small groups. Low cost airlines carry more passengers who travel as part of a group than do the incumbent airlines, with almost 40% of Ryanair passengers travelling in pairs and 31% of Air Asia's passengers travelling as part of a group of people comprising three or more. It is only in recent years that the incumbent carriers have sold discounted one-way tickets. This has been in response to the provision of such fares accessible via the Internet by the low cost carriers.

The mode of surface access and the distance travelled to the departing airport was also ascertained. The significance of having a frequent high-speed, non-stop train service from the city centre of Kuala Lumpur to the airport was apparent, with one third of the passengers surveyed making use of this. In contrast, there is no such service linking any Irish airport, and on average 76% of passengers accessed their flights by personal car, which provides a significant income to the airport authorities in parking fees. Passengers were also asked how far they had travelled to the airport. In Malaysia, those who were using the national flag carrier travelled an average distance of 50 miles to reach the airport, while Air Asia passengers travelled an average of 77 miles. The distance from Kuala Lumpur to the international airport is approximately 40 miles. In Europe, the survey found that Ryanair passengers travelled 44% further than the incumbent carrier's passengers to reach the airport. Lawton (2002) and Doganis (2001) have referred to the fact that European passengers flying on a low cost carrier are travelling further to reach their departure airport. The positioning of secondary airports long distances from the major cities does not seem to pose a significant barrier to the use of low fare carriers.

Finally, questions were asked about the type of accommodation used. There was a noticeable difference in the type of accommodation used by low cost airline users in Europe and those in Asia. A total of 31% of Ryanair's passengers stayed in hotels, while almost 49% of Air Asia's passengers stayed in places such as inns, guesthouses, bed and breakfast establishments, or hostels. The European travel trade has often suggested that passengers who travel on a low cost carrier tend to use the savings that were derived from the lower fares in staying at more luxurious accommodation, such as a hotel. The incumbent carriers' passengers tended to opt for hotels, which generally reflects their requirement for additional full service attributes, with an average of 39% of them staying in this type of accommodation.

8.4.2 Journey Purpose

Table 53 below shows journey purpose and as expected, the two incumbent airlines carried a significant proportion of business traffic, with meetings being the primary reason for the trip. However, almost 29% of the Ryanair passengers surveyed were also travelling on business, which was only 8.5% less than the equivalent figure for Aer Lingus. Of significance here is the fact that Ryanair is operating to a secondary airport, which adds time and inconvenience for business travellers in getting into central London. Some 40% of the passengers travelling for business purposes with Ryanair were going to events such as conferences and training courses. These journeys would generally be considered as being less urgent business trips and have a higher p-value[151] when compared to Aer Lingus.

In Asia, the amount of business travel on a low cost carrier was previously unknown but this survey reveals that approximately 8% of Air Asia passengers, all of whom were male, were travelling for business purposes. The low p-values for the Asian carriers cited above reflects the fact that passengers are more likely to travel on Malaysia Airlines for meetings and conferences and are more likely to travel on Air Asia for sporting events and that these differences are statistically significant. In more mature European markets however, this trend is somewhat reversed.

[151] The p-value shows the probability of accepting the null hypothesis (i.e. that there is no difference between the carriers).

Table 53 Journey Purpose

	Aer Lingus	Ryanair	*SD*	*p*-value[a]	Malaysia	Air Asia	*SD*	*p*-value[a]
Business	%	%			%	%		
Meeting	24.2	17.2	*0.048*	*0.110*	14.0	5.8	*0.037*	0.03
Conference	5.9	6.9	*0.029*	*0.727*	7.0	0.8	*0.024*	0.01
Training	7.3	4.8	*0.028*	*0.377*	5.4	1.6	*0.023*	0.103
Trade fair	0.0	0.0	–	–	2.3	0.0	*0.013*	0.000
Employment	0.0	0.0	–	–	1.5	0.0	*0.010*	0.000
Total business	37.4	28.9			30.2	8.2		
Non-business								
Sports	10.3	13.1	*0.038*	*0.462*	5.4	13.4	*0.037*	*0.031*
Shopping	0.0	0.0	–	–	5.4	3.3	*0.026*	*0.417*
VFR	20.5	27.7	*0.050*	*0.168*	16.9	23.2	*0.050*	*0.213*
Weekend break	9.5	12.4	*0.037*	*0.443*	10.9	12.6	*0.041*	*0.684*
Holiday	14.7	12.4	*0.040*	*0.575*	10.9	15.1	*0.042*	*0.328*
Studying	6.6	5.5	*0.028*	*0.669*	16.4	22.6	*0.050*	*0.213*
Religious	0.0	0.0	–	–	3.9	1.6	*0.020*	*0.284*
Total Non-business	61.6	71.1			69.8	91.8		
Total	100	100			100	100		

[a]The *p*-value gives the probability that the observed differences in journey purpose is due to chance.

Note: SD refers to Standard Deviation between the incumbent and low cost carrier.
Source: O'Connell, Williams (2005).

Doganis (2001) refers to the fact that 28% of Ryanair's traffic between London and Glasgow (Prestwick) in 1996 was business-related. In a survey undertaken by Turner (2003) at London Gatwick, over 32% of easyJet passengers were travelling for business purposes.

Table 54 below provides details of the sizes of companies that the surveyed business passengers work for. It is perhaps not so surprising that such a high proportion of self employed people choose the low cost carriers. A cross tabulation of self employed passengers and primary reason for choice of a low cost carrier revealed that 91% of these travellers chose the carrier primarily due to the fare and were not attracted by the extended full service products offered by the incumbent airlines. Business passengers travelling on incumbent airlines tend to come from larger companies that employ over 100 people. These companies would generally have larger travel budgets and would adopt corporate travel policies. Mason (2001) states that 73% of business passengers he surveyed at Heathrow had a company corporate travel policy, as opposed to 55% of the travellers using a low cost carrier at Luton airport. Over one third of Aer Lingus and Malaysia Airlines business passengers work for companies that employ over 1000 people, indicating corporate preference for the additional airline products that the full service carriers provide.

Table 54 Company sizes of the surveyed business passengers

	Aer Lingus	Ryanair	Malaysia Airlines	Air Asia
Company size: number of employees	*%*	*%*	*%*	*%*
Self Employed	9.6	32.1	12.3	67.4
1-24	11.3	26.5	8.2	20.7
25-99	18.3	24.3	16.1	11.9
100-999	26.2	17.1	29.2	-
1000-5000	29.2	-	23.7	-
5000 +	5.4	-	10.5	-

The low cost carriers attracted proportionately more leisure traffic, with Ryanair and Air Asia having respectively 10% and 22% higher proportions of their traffic comprising leisure users than their incumbent counterparts. It was also apparent that the biggest leisure market segment comes from those passengers who regularly visit friends and family.

Lehto et al. (2001) confirms from statistical research that Visiting Friends and Family (VFR) is one of the top reasons for international travel. The World Tourism Organisation estimates that 20% of international tourism in 1998 was for VFR, health and religious purposes. As expected, the surveys confirm that low cost carriers attract proportionately more leisure traffic. Ryanair and Air Asia had respectively 10% and 22% higher proportions of traffic comprising leisure users than their incumbent counterparts. The surveys reveal that the biggest leisure market segment comes from those passengers who regularly visit friends and family.

Paci's (1994) research showed that the Asian leisure market, and in particular, the VFR segment was steadily growing and that culturally, time spent with family and friends is a very important leisure activity. The surveys referred to here indicate that Air Asia's VFR traffic represents almost a quarter of its total market, while that of Malaysia Airlines represents fewer than 17%. This segment represented the largest number of passengers carried on both surveyed airlines. Student travel accounted for the second largest non-business market of the surveyed passengers. Cross-referencing indicated that most of this travel was paid for by parents, although the choice of airline was largely selected by the students. Most of these students have migrated from travelling on trains and buses to Air Asia. Overall, a large proportion of Air Asia's passengers are first time flyers (Aviation Strategy, May 2003). The brand perception of lower fares, large network, high advertising awareness campaigns and 24 hour booking via the Internet is certainly pushing the Malaysian low cost carrier's non-business market.

Between 1993 and 1999, which covered the establishment and growth phase of Ryanair, VFR traffic from Ireland to the UK grew from around 500,000 to 835,000. The effect is even more revealing when considering VFR traffic from the UK to Ireland, which grew from 950,000 to 1.8 million over the same period (Mintel 2000). This growth was primarily due to a large second and third generation Irish-British population living in the UK. The surveys referred to here reveal that VFR traffic constituted the largest segment of non-business passengers, with respectively 20.5% of Aer Lingus and 27.7% of Ryanair passengers surveyed travelling for this purpose.

The second biggest non-business segment consisted of passengers travelling for holiday and short break purposes. Both the low cost carriers that were sampled carry more of this type of traffic than the incumbents. In Europe, low cost scheduled carriers are encroaching on the charter market. Williams (2001) argues that package tour charter carriers are vulnerable to low cost airlines on sectors of up to 2.5 hours, given that travellers can now integrate their own flights and accommodation into personalised package holidays via low cost carrier websites. However this is not the case in Malaysia, where there is an absence of such charter airlines. Short holiday breaks have become very significant, representing an important market in the leisure sector. The two low cost carriers attracted slightly more short break travellers than the incumbents, with this sector accounting for an average of 12.5% of their traffic. Mintel (2002) estimated that UK nationals took 5.6 million short breaks in 2002, which represents around 15% of all UK holidays abroad. By 2005 this figure is forecast to increase to 7.2 million, accounting for around one fifth of international holidays. Graham (2000) states that there is a strong relationship between demand for holidays abroad and income levels, with the result that there has been a shift from domestic to international holidays and in particular growth in the short-break travel market.

The low cost airlines are extending their brands to capture this short break market. Air Asia is marketing packages on its website under ‘Go Holiday’, offering a wide range of mini-breaks consisting of 2-3 nights, including activities such as golfing and spa treatments, as well as short stays at beach resorts. The package includes flight, transfer, accommodation, meals and activities (Air Asia, 2004). Ryanair also offers these short breaks and advertises leisure activities on its website as ‘Ryanairbreaks’; an all-inclusive package that includes events such as concerts, football games, Formula One racing, etc., (Ryanair 2004). These packages form an important part of additional ancillary revenue with the low cost airlines integrating package holidays into their core business model. These short break packages were only recently introduced on the Aer Lingus website but remain absent from the Malaysia Airlines’ website. However, Dynamic packaging may also bear risks for passengers too, essentially due to inadequate consumer protection and there should be some sort of insolvency protection like Air Travel Organisers’ Licensing (ATOL) that will safeguard consumer interests.

8.4.3 Booking Methods

Jarach (2002) states that 75% of leisure passengers and 80% of business passengers used travel agents in the mature US market in 1998. In the same year, travel agents in the UK were responsible for 80% of bookings (Dumazel and Humphreys, 1999). The survey conducted in 2003, revealed that the booking dynamics have changed considerably as 58% of Aer Lingus passengers booked through the company's website, while 78% of Ryanair passengers booked online, but would have increased to 93% if one considered the aggregate channels of: website; office booked; and family/friend as shown in Table 55 below**.** However 16% of Aer Lingus' passengers were still using travel agents, which show that they remain an important distribution channel, whereas none of Ryanair's passengers used them. When the survey was commissioned the incumbent's commission to agents in the UK and Ireland was just 1% and in Europe it hovered between 4% and 7%. The contrast in distribution is even more apparent in Malaysia, as passengers used a combination of travel agents and call centres, while Air Asia's passengers predominantly used the Internet. The agents in Asia are still a powerful force and airlines still pay a high commission to encourage the agent to direct passengers in their favour and Yassin-Knan[152] explained that the Malaysian incumbent offers travel agents 5% commission on domestic flights and 7% on international flights, while override commission is also paid as an extra incentive to book high volumes of passengers. Malaysia Airlines was very slow to develop its e-commerce platform and it only introduced its online booking engine in early 2004.

Table 55 Booking profiles (%)

	Website	Travel Agent	Call Centre	Office Booked	Family/ Friends	Purchased Today	Other Website	Statistics significance
Aer Lingus	58.1	16.2	8.1	9.6	2.2	2.9	2.9	$x^2 = 189.66$, df=6, p<0.000
Ryanair	77.9	-	6.3	11.7	3.4	0.7	-	
Malaysia	-	50.8	18.0	14.8	8.6	7.8	-	$x^2 = 868.53$, df = 5, p<0.000
Air Asia	64.4	3.4	13.6	1.7	7.6	9.3	-	

Source: O'Connell, Williams (2005)

8.4.4 Fares

Lawton (2002) pointed out that the average fares of no frills carriers were some 40-60% lower than their full service competitors. Ryanair's one-way fares averaged €50 in 2002 reducing to €40 by 2003/4 and the carrier has become renowned by stimulating traffic as a result of low fares and this has now become known as the 'Ryanair effect'. The carrier

[152] Author interview with Strategy Director at Malaysia Airlines, Kuala Lumpur

gave away 20% of its flights for free in 2003 and the passengers' perception is therefore to expect low fares from the no frills carrier.

The survey was conducted of passengers who were travelling to London based airports from Cork and Shannon and the average Ryanair one-way fare was approximately €45 one-way and €117 for return journeys. The Aer Lingus average one-way fare was approximately €62 one-way and €135 for return journeys. Table 56 below shows the fare differences between the two Malaysian carriers surveyed on a number of routes. Shortly after the government assumed 6.9 billion Ringgits of Malaysia Airlines' debt, the carrier cut fares by 50% on 14,000 seats a week to compete more effectively with Air Asia in the domestic market. The information shown in the table below takes account of these discounted fares.

Table 56. Fares profile of Air Asia and Malaysia Airlines surveyed passengers

	Air Asia		**Malaysia Airlines**		**Difference**	
Route	One-Way	Return	One Way	Return	O/W	Return
KL-Kota Bahru	89.99	179.98	158	316	75	75
KL-Kota Kinabalu	249.99	499.98	437	874	75	75
KL-Kuching	99.99	179.98	262	524	162	191
KL-Labuan	269.99	448.98	437	874	62	94
KL-Langkawi	129.99	275.98	205	410	58	48
KL-Miri	169.99	368.98	422	844	148	129
KL-Penang	69.99	139.98	158	316	125	125

Note 1: KL is Kuala Lumpur
Note 2: All fares are quoted in Malaysian Ringgits

8.4.5 Airline Connections

Figure 58 below shows the percentage of connecting traffic for both groups of carriers. A big feature of a full service carrier is the ability to interline traffic at its hub airport. Slightly over 42% of Aer Lingus passengers surveyed were interlining, as compared to 36.7% of those of Malaysia Airlines. This reflects an incumbent's ability to leverage its 'network benefits' and thus attract a high proportion of passengers who wish to connect seamlessly. In contrast low cost airlines operate mostly on a point-to-point basis only and these carriers emphasise that they will not be responsible if passengers fail to make their connections, even if the onward journey is on the same carrier. The risk of failing to make a connection involves the traveller purchasing another ticket. Data from the surveys indicate that passengers are willing to accept that risk. By mid 2006, Ryanair had eleven bases across Europe and it will continue to expand by 'joining the dots'. The carrier's low fare brand, high frequency operations and the creation of strong European traffic bases, has effectively created an opportunity for its passengers to transfer to any of its destinations. The surveys showed that 17.2% of Ryanair's passengers questioned were connecting at Stansted. Air Asia's transfer traffic was only 5.8%, which is not

surprising as the low cost carrier was only formed in December 2001 with travellers not having been exposed for long to this type of routing possibility. Research indicates that there are a large number of passengers transiting via the hubs of the US based low cost carriers as Taneja (2003) and Lawton (2002) both pointed out that 18.3% of Southwest's passengers made connections in 2001, while Still (2002) claimed that approximately 45% of AirTran Airways' passengers connect at Atlanta. This may extend to low cost carriers elsewhere in the world and Ryanair's bases which are scattered across Europe now has the framework that would facilitate the interlining of passengers.

Figure 58. Percentage of connecting traffic

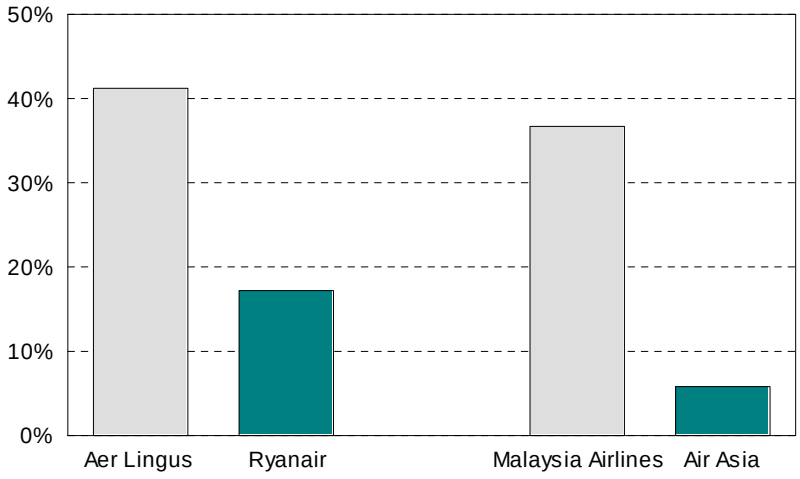
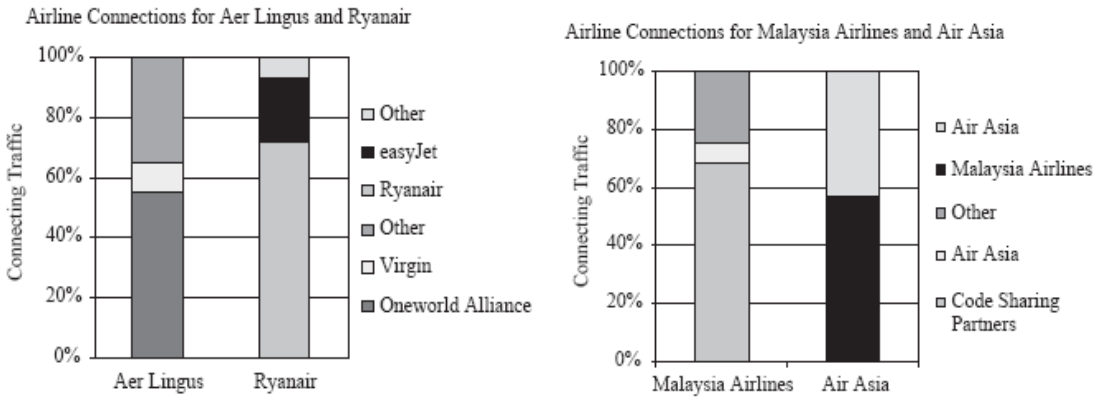


Figure 59 below identifies the principle airlines to which the interlining passengers surveyed were transferring. It is apparent that the incumbent carriers have a significant proportion of their traffic transferring to alliance or code-sharing partners. Aer Lingus has 55.3% of its connecting passengers transferring to other Oneworld alliance partners, of which the majority were transferring to British Airways. By contrast, 72% of Ryanair's passengers surveyed who were making connections continued their journeys from Stansted on other Ryanair flights, while around 20% connected with easyJet services. At the time of the survey, Ryanair operated 130 daily departures out of London Stansted and accounted for 52% of the airports capacity, thus providing numerous permutations of connections and ample opportunity for passengers to transfer to other destinations.

In Malaysia, the incumbent is not part of an alliance, but 68.5% of its connecting passengers surveyed were transferring to other code-share flights. Only 6.6% of Malaysia Airline passengers questioned connected with Air Asia at Kuala Lumpur. In contrast, very few of Air Asia passengers surveyed were transferring: four of these were connecting to a Malaysia Airlines long haul service, while the remaining three were transferring onwards with Air Asia. As the market begins to mature and as Air Asia develops additional hubs, there will be a greater opportunity for passengers to transfer to other flights. The perception is evident in the Asian market that passengers can use a combination of carrier types to reach their destinations, and that interlining via a low cost carrier network is certainly a workable option.

Figure 59. Percentage of traffic transferring to other carriers



8.4.6 Principle Reasons for carrier selection

An important element of this research was to establish the principle reason why each passenger had selected a particular airline. A study undertaken by Proussaloglou and Koppleman (1995) on the demand for air carrier services concluded that carrier selection was based on a combination of factors that included the airline's market presence, schedule convenience, low fares, on time performance, reliability and the availability of frequent flier programs. Figure 60 below provides confirmation of their results, with the evidence from this research showing that passengers choose a full service carrier for a variety of reasons, including: service reliability, service quality, flight schedules, fares, connections, frequent flyer programs, comfort, safety and company policy. Passengers questioned chose an incumbent carrier in order to benefit from the wide range of services available and the high reliability associated with this type of airline. Service reliability was one of the top reasons for choosing an incumbent airline as over 20% of Aer Lingus passengers and 18.7% of Malaysia Airlines passengers questioned selected this as their principle reason for carrier choice.

Figure 60. Question posed to Incumbent passengers to determine their most important reason for choosing an incumbent over a low cost carrier

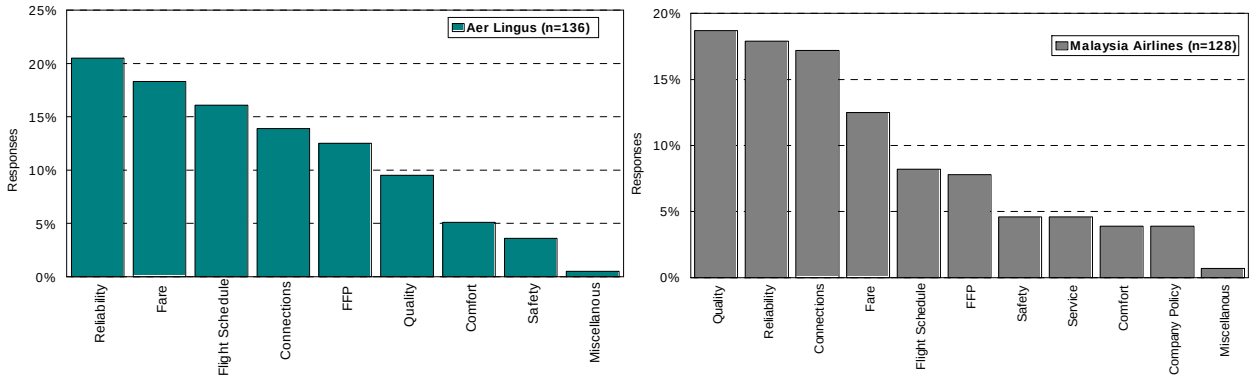
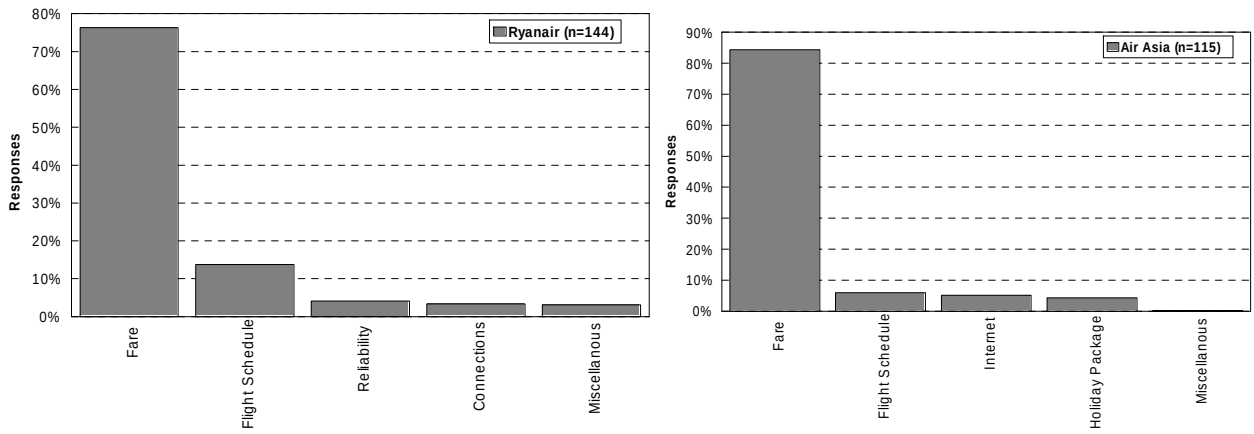


Figure 61 below shows that low cost airlines' passengers questioned had a very different principle reason for carrier selection. The majority replied that fare was by far the most important factor in choosing to fly on a low cost airline, with flight schedules coming a distant second. Turner (2003) also showed that passengers travelling on a low cost carrier selected fare as their principle reason for carrier choice, while passengers travelling on an incumbent carrier indicated flight timings. Ryanair's strategy of issuing free flights encourages passengers to try its website when searching for flights as their general perception is that the carrier offers cheap tickets and Air Asia is also beginning to replicate this tactic.

Figure 61 Question posed to low cost carrier passengers to determine their most important reason for choosing a low cost carrier over an incumbent



The evidence presented above clearly confirms the principle differences in passengers' perceptions between incumbent and low cost airlines. Passengers are selecting low cost carriers primarily because of their low fares, while passengers selecting full service airlines opt for them because of the wide range of products and services that they provide.

8.4.7 Types of Trips Taken by Passengers in the Previous Year

8.4.7.1 Short trips

Table 57 below shows the number of short haul trips taken by the sampled passengers over the 12-month period 2003-04. It shows that around one-third of Aer Lingus passengers and a quarter of Ryanair passengers had travelled frequently (taking between 3-4 trips per year) over the 12-month period, which indicates the maturity of the air transport market in this region. In Asia, the low cost airline business model is not as mature as in Europe/Asia and it appears that the traveller takes fewer trips. However, an alarming number of passengers (56%) travelling on Aer Lingus revealed that they also had travelled on a low cost carrier within the preceding 12 months, while

around one-third of Ryanair passengers disclosed that they had also taken a full service carrier for their travel needs. In Asia however, this had not developed into a problem as only 8.6% of the Malaysia Airlines passengers had opted to use a no-frills carrier within twelve months of when the survey was administered. Mason (2001) also estimated that 48.6% of the incumbent carrier's passengers he surveyed at Heathrow had used a low cost carrier in the previous year. Therefore, these passengers are the likely candidates to regularly switch between carriers as they not swayed by one particular airline and this thesis will further investigate the dynamics of switching via cross-price elasticity.

Table 57. Number of short-haul trips taken over the period 2003-04

	0 Trips	**1-2 Trips**	**3-4 Trips**	**5-7 Trips**	**> 8 Trips**	**Total**
	%	%	%	%	%	%
Aer Lingus Passengers	24.4	33.8	33.1	7.3	1.4	100
Aer Lingus Passengers on a LCC	43.9	32.7	20.5	2.9	-	100
Ryanair Passengers	22.8	45.5	26.2	5.5	-	100
Ryanair Passengers on a FSA	67.8	23.1	9.1	-	-	100
Malaysia Airlines Passengers	31.1	28.1	26.5	12.8	1.5	100
Malaysia Passengers on a LCC	91.4	8.6	-	-	-	100
Air Asia Passengers	72.4	21.0	5.0	1.6	-	100
Air Asia Passengers on a FSA	85.2	13.2	1.6	-	-	100

Note: LCC is Low Cost Carrier and FSA is Full Service Airline

8.4.7.2 Business trips

Mason (2001) estimated that 41% of a network carrier's passengers had used a low cost carrier for business purposes in the UK. A survey conducted by Barclaycard (2002) of 2,500 business travellers in the UK revealed that 62% of them had used a low cost carrier for business purposes. Some three years later, Company Barclaycard (2005) have revised those figures upwards by indicating that 71% of UK business travellers have used low cost carriers for business trips in 2004/05. Table 58 below shows the number of business trips taken by the surveyed passengers. It reveals that 29.1% of Aer Lingus and 6.9% of Malaysia Airline passengers had undertaken business trips on a low cost carrier over the preceding year. Interestingly, 26.1% and 5.9% of Ryanair and Air Asia passengers respectively admitted that they had selected full service airlines for business travel.

These figures confirm that the low cost carriers are indeed taking business traffic away from the incumbents in the short haul market and that business travellers are accepting the no frills product as an alternative means of transport. However the survey also reveals that business passengers are switching between low cost carriers and full service airlines making the operating dynamics more difficult for the latter group. It is

apparent that new innovative and visionary strategies must be found in order to regain and then retain the business passenger as this group believes that short-haul trip taken in business class does not offer value for money. Mason (2001) conducted an empirical investigation into this area and concluded that 75% of passengers travelling on full service airlines at Heathrow did not believe that business class offered value for money. easyJet are now advertising in magazines such as The Economist[153] that passengers can take an earlier flight at no cost, depending on seat availability which encourages business travellers to take the budget carrier.

Table 58. Number of business trips taken on both incumbent airlines and low cost carriers over the period 2003-04.

	0 Trips	1-2 Trips	3-4 Trips	5-7 Trips	> 8 Trips	Total
	%	%	%	%	%	%
Aer Lingus Passengers	59.4	27.4	9.3	2.3	1.6	100
Aer Lingus Passengers on a LCC	70.9	23.8	5.3	-	-	100
Ryanair Passengers	62.0	24.8	13.1	0.1	-	100
Ryanair Passengers on a FSA	73.9	18.6	7.5	-	-	100
Malaysia Passengers	59.5	8.6	19.5	10.1	2.3	100
Malaysia Passengers on a LCC	93.1	5.4	1.5	-	-	100
Air Asia Passengers	90.9	7.5	1.6	-	-	100
Air Asia Passengers on a FSA	94.1	5.9	-	-	-	100

8.4.8 Cross Price Elasticity Analysis

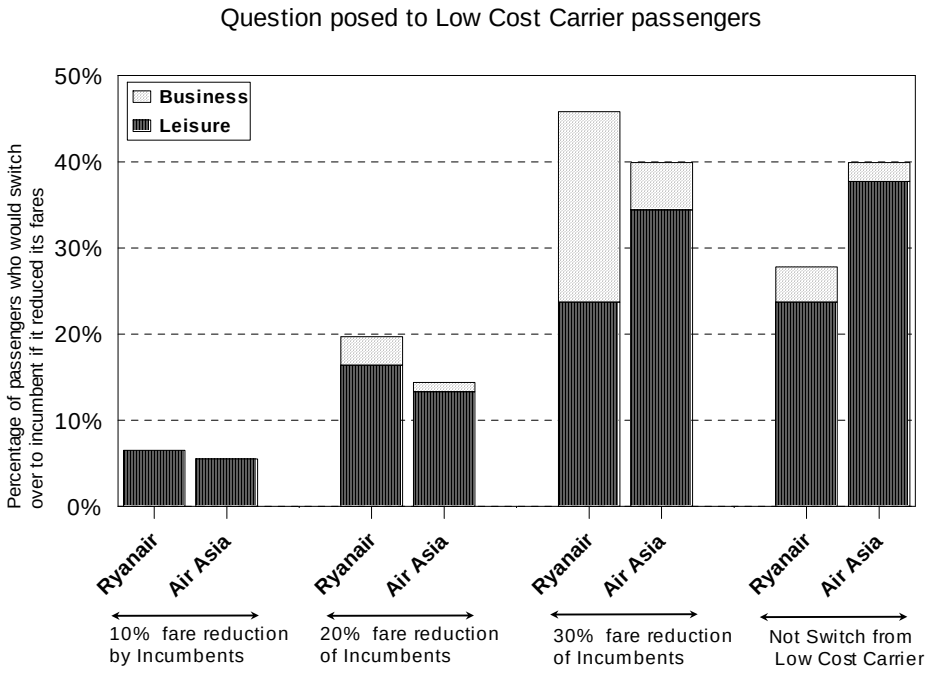
From an academic and commercial point of view, fare is a very important determining criteria for passengers in selecting an airline for travel, especially in short-haul markets. An important part of this research was to measure how many passengers would switch airlines, when there is a change in the fare level and determine what flight products passengers would substitute for higher fares, concluding the section with an analysis of what flight products keep passengers loyal to an airline. Cross price elasticity measures the sensitivity of the quantity demanded by passengers of Airline A due to a change in the fare of Airline B. It thus provides an indication as to what proportion of passengers would most likely switch over to another carrier due to a change in the fare. The research sought to determine what proportion of passengers would begin switch over to another airline when fares were changed in phased intervals of 10%, 20% and 30% (in general) and to determine what proportion of passengers would remain loyal. In the earlier part of this chapter, fares for a low cost carrier and an incumbent were collected and the results concluded that there was a 30% fare difference between Ryanair and

[153] easyJet advertisement on Economist Magazine, September 23-29th 2006, p 29.

Aer Lingus. In addition a different set of fares were also collected for both Ryanair and Aer Lingus over a 3-month period from 2002 thru to 2005 (**See chapter 4, section 4.2.3**), which showed that the fare difference between the carriers on the Dublin to London Gatwick route had narrowed to 30% by 2004, but soon afterwards Aer Lingus withdrew its services. In the Asian market however, there is a much greater discrepancy between the fares of the Malaysia Airlines and Air Asia, because the incumbent had not reacted sufficiently to the low cost carrier threat at the time that the survey was administered. However, fares collected between Air Asia and Malaysia Airlines over a 3-month period from 2002 thru to 2005 indicated that the incumbent was closing the gap on fares and by 2005 there was only a 34% difference between the fares three months prior to departure and a 44% difference on the day of departure (**See chapter 4, section 4.4.2).** Figure 62 below shows the proportion of Ryanair's and Air Asia's leisure and business passengers that would switch over to an incumbent if the full service airline reduced its fares by respectively 10%, 20% and 30% (in general). The results show that if incumbents reduce their fares by 10%, then a very small proportion of leisure passengers would switch, while a reduction of 20% would entice almost 20% of Ryanair passengers to switch carriers, which constitutes 23.2% of Ryanair's leisure passengers and 11.1% of its business passengers (at 20% level) to fly with a full service operator. Similarly a 20% fare reduction by Malaysia Airlines would attract 14.4% of Air Asia's leisure passengers and 12.5% of its business passengers (at 20% level). Air Asia had only been in operation a short time before the survey was administered and had not targeted the business community, consequently only 8.8% of the sample were business passengers. However by 2005, close to 20% of Air Asia's passengers were travelling for business purposes (Azmi, 2005).

A significant objective of the survey was to find the fare levels at which a large number of passengers travelling on a low cost carrier would be willing to switch over to an incumbent airline. The survey indicated that when the incumbents reduced their fare by 30%, it triggered a substantial number of passengers to switch carriers, as 45.9% of Ryanair's passengers which constituted 33.7% of its leisure travellers and 75% of its business travellers would be prepared to switch to an incumbent like Aer Lingus. Similarly 39.4% of Air Asia's passengers which constituted 37.8% of its leisure passengers and 62.5% of its business travellers would be prepared to switch to a full service airline such as Malaysian Airlines for example. However there is also a significant proportion of passengers who would not be enticed to switch airlines and remain loyal subjects. The data shows that around 28% of Ryanair's passengers would not switch their loyalty to another carrier and analysis concludes that 33.7% of Ryanair's leisure passengers and 13.8% of its business travellers would continue to use the low cost carrier, while 44.1% and 25% of Air Asia's leisure and business passengers respectively would remain loyal supporters. This is due to a combination of factors, such as brand development, fares, flight schedule, simplified website, package holidays, etc.

Figure 62 Percentage of low cost carrier passengers who would switch over to incumbent if it reduced its fares



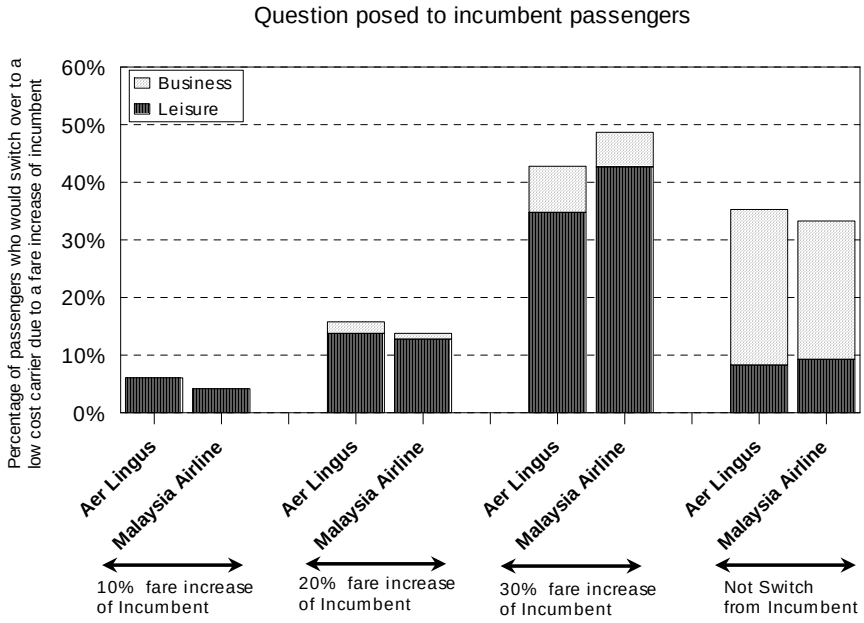
Although low cost airlines are relatively new to Asia, they have already developed very strong low fare brands through strong advertising and clever use of the media. The wide perception of people in Malaysia, when acknowledging Air Asia, is that it represents low fares. Gilbert et al. (2001) argued that branding is becoming increasingly important as a means of product and service differentiation, and that the low cost airlines are building brand recognition to compete in such a competitive environment.

Figure 63 below provides an indication of what proportion of an incumbent carrier's passengers would switch over to low cost airlines if it raised its fares by respectively 10%, 20% and 30%. This information provides an indication of the amount of fare flexibility that incumbent airlines have and identifies the point at which passengers would begin to shift their business to low cost carriers. Given incumbents offer the benefit of full service, including interlining, serving primary airports, business class, frequent flyer mileage, etc., some passengers are clearly willing to pay more for these features.

The data shows that a 20% increase in fare does not impact the business passengers of Aer Lingus and Malaysia Airlines, however leisure passengers have an elastic demand pattern and this sensitivity to a change in fare shows that 16.6% and 15.5% of Aer

Lingus and Malaysia Airlines leisure passengers would consider switching to a low cost carrier if the fare hike was implemented. However there is a paradigm change noticed when the incumbents raised the fare by 30% as 41.6% of Aer Lingus and 51.4% of Malaysia Airlines leisure passengers would shift their travel needs to a low cost carrier, thereby substituting the extensive flight products offered by the full service carriers for a lower fare. The survey also revealed that 44% of Aer Lingus and 35% of Malaysia Airlines business passengers would look for alternative travel options with a 30% fare increase rendering that the service is no longer value for money. Overall, a large proportion of business passengers that were surveyed decided to remain loyal followers as 55% of Aer Lingus and 44% of Malaysia Airline business passengers would not consider switching to a low cost carrier. This was largely due to the frequent flyer programs, schedules and corporate policy arrangements between the airline and industry, whereby contracts enforce and validate an employee to travel with a specific airline.

Figure 63. Percentage of Incumbent passengers who would switch over to a low cost carrier due to a fare increase by Incumbent



It is clear that low cost carriers offer a strong substitute to the full service airline product. Not surprisingly, this has important implications for marketing and advertising-branding, customer loyalty and satisfaction should be carefully considered by every airline. Interestingly, the results of the survey show that cross-price elasticity is not constant. This defies the usual assumption made in various econometric models of constant cross-price elasticity and shows the importance of absolute fare levels in determining customer choice.

8.4.9 Cross-Price Elasticity dynamics and its substitution effect on a passengers' flight products due to a change in fare

This section further investigates what flight products were deemed important by both leisure and business class passengers when the fare was changed at specific increments of 10%, 20% and 30%. This question was broken down by asking the low cost carrier passengers at what point would they switch to incumbents because of a fare reduction of 10%, 20% and 30% or would they prefer not to switch (mutually exclusive), while the full service airline passengers were asked at what point would they switch to a low cost carrier due to a fare increase by the full service airline and also at what point would passengers prefer not to switch. This was then cross referenced with the flight products that each passenger had chosen at the specific sensitivity level that they had chosen i.e. 10%, 20%, 30% and not switch. The result will give a deeper insight into the cross-price elasticity dynamics and identify the point whereby passengers will begin to substitute the various flight products against a change in fare and this is examined for both business and leisure passengers travelling on a full service airline and on a low cost carrier. Firstly, the analysis measures the importance of each flight product by rank-ordering each attribute from most important to least; secondly, it determines the relationships between the product features of full service airlines and low cost carriers at each fare increase increment (i.e. 10%, 20%, 30%); and thirdly, it measures the degree of these relationships.

Each passenger surveyed was asked to rank each flight product (see Figure 60 and 61 above) in terms of importance. Business passengers travelling with the full service airlines were given a list of ten product features, with one less feature listed for leisure passengers[154]; while low cost carrier passengers were asked to rank from only eight flight characteristics[155]. The Hodges-Lehmann[156] estimator, the median value of Walsh pair-wise averages, was chosen for the ranking of these product features, as it is a more robust and stable estimator and is not affected by high outlier numbers (Sprent, 1993; Gardner, 1989). Passengers' preferences for the flight products of various airlines are represented by scatter plots. Statistical correlation between the stated preferences of the passengers from the two air carriers in each case is measured using a variant of Pearson's correlation coefficient that is used with rank data called Spearman's Rho (rs). The application of this analytical technique provides us with a basis to predict traveller choice.

[154] Leisure passengers travelling on a full service airline ranked each flight product from 1 to 9, as corporate policy was not included.
[155] Low cost carrier passengers ranked each flight product from 1 to 8, as Frequent Flyer Programs and Corporate Policy are not included in the low cost airline's business plan. The data associated with Ryanair and Air Asia is rescaled to account for this discrepancy.
[156] The Hodges-Lehmann estimator is the natural measure of central tendency when using rank-order tests, such as Wilcox or Mann-Whitney (Hettmansperger, 1984).

8.4.9.1 Cross-price elasticity and its effect on the flight products of leisure passengers for Aer Lingus and Ryanair.

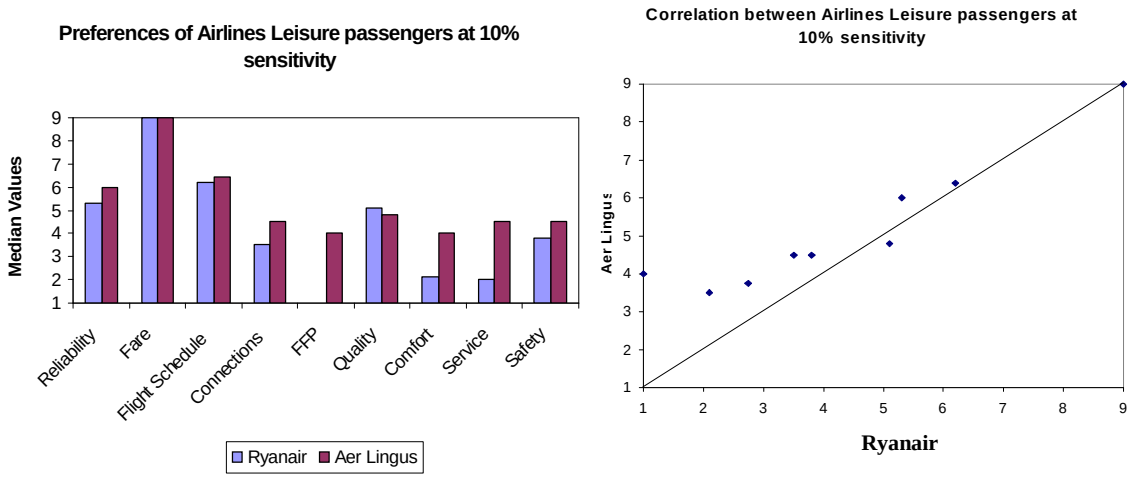
Figure 64 below shows the median values that represent the product rankings of Ryanair and Aer Lingus leisure passengers if fare is raised by 10%. From the histogram it is clear that this particular group of travellers selected fare as the singular most important reason for choosing to travel with their chosen airline, regardless of whether it was a full service carrier or the low cost one. The corresponding scatter plot diagram illustrates the strong correlation that exists between the ranking of the flight products regardless of which airline type passengers choose, while the associated table shows the Spearman Rho coefficient. It evidently quantifies that this specific group of leisure passengers ultimately requested fare as the most important reason for airline choice and that there was a very close correlation between the other flight products, which indicates that this passenger segment require similar flight products. Statistically the similarities did not occur by chance as $p<0.01$ for Aer Lingus and Ryanair. Figure 65 below shows a noticeable change in the ranking of fare and flight schedule by leisure passengers when fares are changed by 20%. While the survey revealed that both full service and low cost airline passengers' product feature rankings are broadly similar, it is apparent that the rankings are beginning to diverge as a higher proportion of Ryanair passengers' weigh fare as the most essential attribute. This represents another segment of travellers who request similar flight attributes, statistically represented by the low p-values ($p<0.01$) and their close correlation on the scatter plot diagram. The passengers represented in Figure 64 and Figure 65 below can easily switch from a full service airline to a low cost carrier and visa versa. The data quantifies that almost one-third of Ryanair and one-quarter of Aer Lingus leisure passengers require similar flight products (primarily fare driven) and therefore have the opportunity to easily switch from one airline to another airline. The full service airlines will find this market segment particularly difficult to retain as low cost carriers further reduce their structural costs enabling them to reduce fares, triggering more passengers to switch away from travelling on an incumbent.

The situation changes when fare is raised by 30%, with a clear disparity between the ranking of flight products required by leisure passengers who travel on a full service airline and those taking a low cost carrier as shown by the different flight product requirements on the scatter plot and statistically represented by the higher p-values which are not correlated at either the 0.01 or 0.05 significance confidence level. Figure 66 below shows that the Aer Lingus passengers have identified that the following flight products are the most important; schedule, reliability, fare and connections. The ranking has entirely changed revealing a new set of leisure passengers whose product requirements are not focused primarily on fare. Meanwhile Ryanair passengers still regard fare as the most important attribute followed by schedule and quality. Figure 67 shows that a number of leisure passengers prefer to remain loyal customers and would

not be tempted to switch to another carrier. The results infer that there is no similarity whatsoever between the requirements of passengers who continue to use a full service airline and those using the low-fare variant. Leisure passengers who remain resolute in using Aer Lingus seek the following attributes in descending order: schedule, reliability, connections and quality; while Ryanair counterparts rank: fare, schedule, quality and reliability.

In concluding the analysis of leisure passengers, it was found that not all leisure passengers who book a ticket on a full service airline regard fare as their primary reason for selecting their airline of choice while all the passengers booking a ticket on Ryanair did so because of the fare. In face to face interviews with the surveyed passengers at Cork and Shannon, many expressed that Aer Lingus was 'superior' when compared to Ryanair as they cited the latter with poor customer service and expressed that it does not look after its customers. If management at Aer Lingus prevails in strengthening its brand and retains a large part of its full service attributes while at the same time continue to reduce its legacy costs, the incumbent will grow its market share and may regain passengers who had switched to Ryanair.

Figure 64. Analysis of the Aer Lingus and Ryanair leisure passengers at 10% sensitivity level

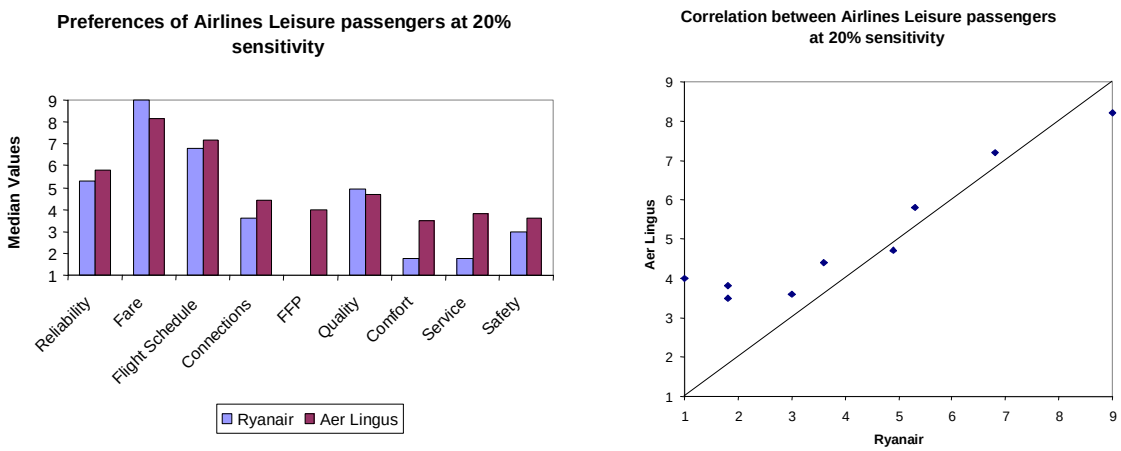


Correlation coefficient, Leisure Travellers, FI=10%

Ryanair Aer Lingus	Pearson's r	*p*	Spearman's r_s	*p*
	0.929**	< **0.001**	0.936**	< **0.001**

**, * Correlation is significant at the 0.01 and 0.05 level (2-tailed).

Figure 65. Analysis of the Aer Lingus and Ryanair leisure passengers at 20% sensitivity level

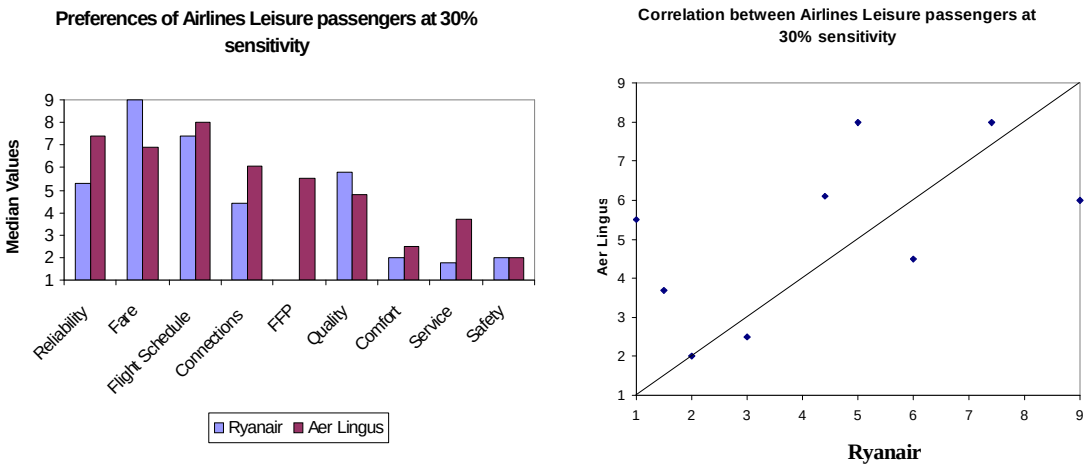


Correlation coefficient, Leisure Travellers, FI=20%

Ryanair Aer Lingus	Pearson's r	*p*	Spearman's r_s	*p*
	0.945**	**0.007**	0.870**	**0.002**

**,* Correlation is significant at the 0.01 and 0.05 level (2 -tailed)

Figure 66. Analysis of the Aer Lingus and Ryanair leisure passengers at 30% sensitivity level

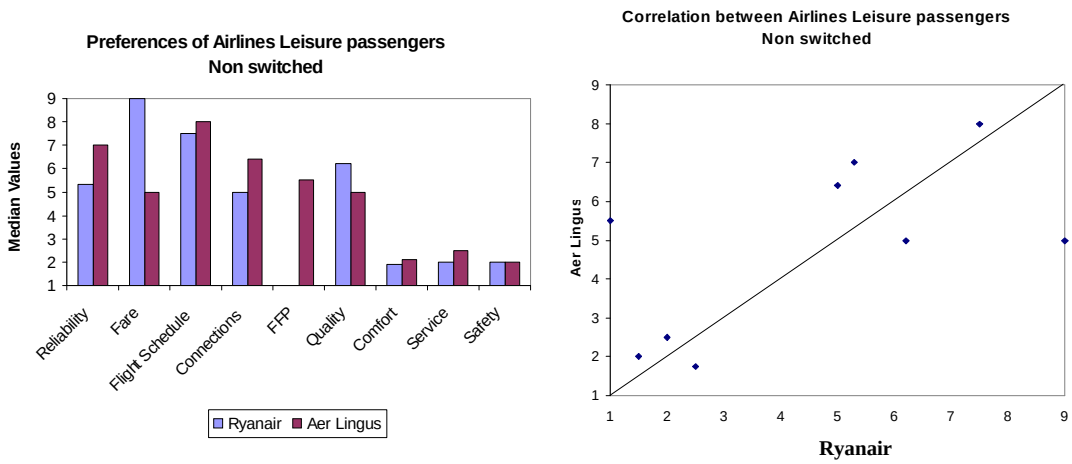


Correlation coefficient, Leisure Travellers, FI=30%

Ryanair Aer Lingus	Pearson's r	*p*	Spearman's r_s	*p*
	0.673	0.068	0.628	0.070

**,* Correlation is significant at the 0.01 and 0.05 level (2-tailed).

Figure 67. Analysis of the Aer Lingus and Ryanair non-switch leisure passengers



Correlation coefficient, Leisure Travellers, Non switched

Ryanair Aer Lingus	Pearson's r	*p*	Spearman's r_s	*p*
	0.616	0.077	0.437	0.240

**, * Correlation is significant at the 0.01 and 0.05 level (2-tailed).

8.4.9.2 Cross-price elasticity and its effect on the flight products of business passengers for Aer Lingus and Ryanair

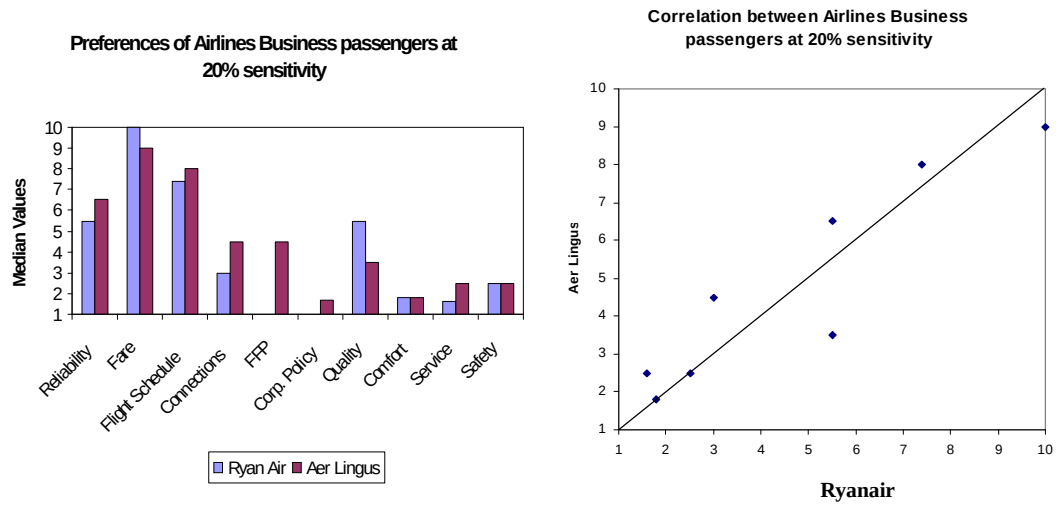
The analysis is then repeated for business class passengers. The questionnaire introduced an additional flight attribute as many business passengers are obligated to take a particular airline due to a corporate policy arrangement. No business class passenger chose to switch airlines when fare was raised by 10%. Figure 68 shows the median values that represent the product rankings by business passengers when the fare was changed by 20%. This small group of business passengers are fare sensitive and are largely self-employed or work for small companies. They have similar flight product requirements and can easily switch between Ryanair and Aer Lingus as they value fare as the most important criteria and similarly ranked the other flight products. The corresponding scatter plot diagram illustrates the strong correlation that exists in the ranking of product features between this group of business passengers who use either a full service airline such as Aer Lingus or a low cost carrier such as Ryanair. This is statistically represented by $p<0.01$ for Aer Lingus and Ryanair, which indicates that the similarities did not occur by chance.

A large proportion of business passengers are attracted to full service airlines because of their extended product offerings. An important reason for the survey was to determine which flight products would continue to entice the business traveller when fare was changed by 30%. Figure 69 shows that the business passenger travelling on

Aer Lingus ranked in order of importance: schedule, reliability, Frequent Flyer Program, connections and corporate policy, while business passengers on Ryanair indicated fare, schedule, quality and reliability. The corresponding scatter plot diagram illustrates that there is little correlation in the ranking of product features between both sets of airlines, statistically represented by the associated high p-values. This clearly illustrates that an entirely different type of business passenger is taking the low cost carrier, with fare being the key-determining factor in carrier choice.

It is apparent that a certain proportion of business passengers would remain loyal regardless of fare changes. Interestingly, a very large proportion of these loyal passengers are largely affiliated to Aer Lingus, while only a very small proportion of business passengers retain such patriotism to Ryanair. Figure 70 shows the rank ordering of Aer Lingus and lists the following attributes as the principle reasons why business passengers prefer to remain travelling with the incumbent. They consist of corporate policy, schedule, frequent flyer program, reliability and connections. Meanwhile Ryanair's business class passengers rank fare, schedule, quality and reliability as their preference in continuing to use the low cost carrier. Again there is no similarity between this segment of business passengers who use a low cost carrier or a full service airline.

Figure 68. Analysis of the Aer Lingus and Ryanair business passengers at 20% sensitivity level

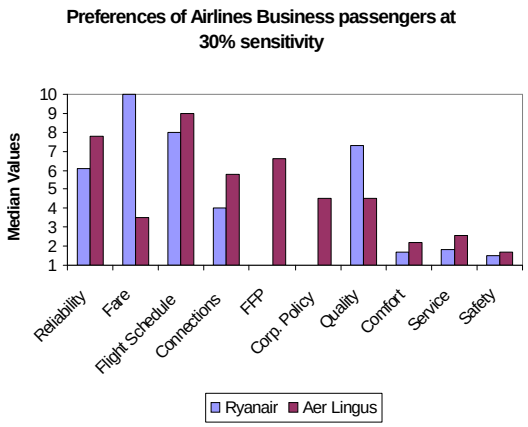


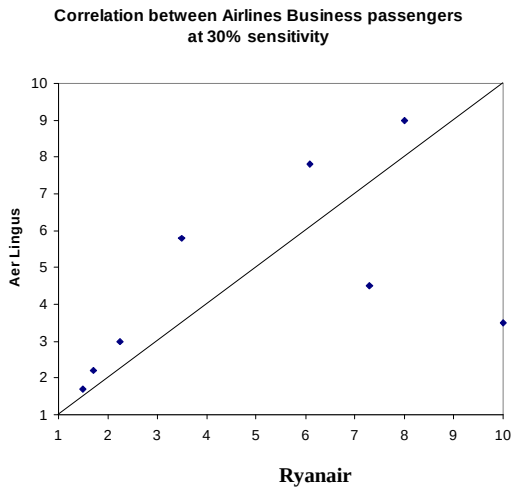
Correlation coefficient, Business Travellers, FI=20%

Ryanair Aer Lingus	Pearson's r	*p*	Spearman's r_s	*p*
	0.887**	**0.001**	0.764*	**0.010**

**, * Correlation is significant at the 0.01 and 0.05 level (2-tailed).

Figure 69. Analysis of the Aer Lingus and Ryanair business passengers at 30% sensitivity level



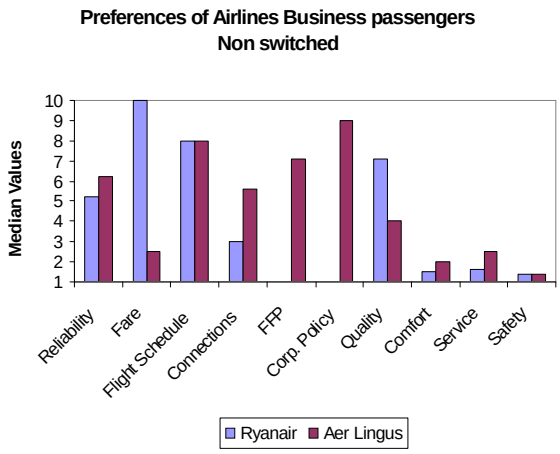


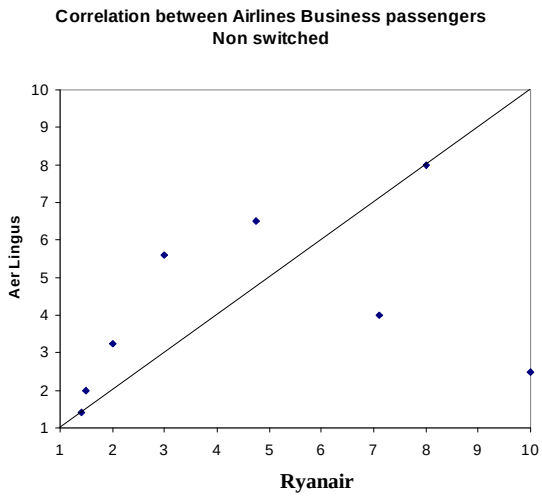
Correlation coefficient, Business Travellers, FI=30%

Ryanair Aer Lingus	Pearson's r	*p*	Spearman's r_s	*p*
	0.406	0.363	0.536	0.215

**, * Correlation is significant at the 0.01 and 0.05 level (2-tailed).

Figure 70. Analysis of the Aer Lingus and Ryanair non-switch business passengers





Correlation coefficient, Business Travellers, Non switched

Ryanair Aer Lingus	Pearson's r	*p*	Spearman's r_s	*p*
	-0.167	0.667	-0.136	0.728

**, * Correlation is significant at the 0.01 and 0.05 level (2-tailed).

8.4.9.3 Cross-price elasticity and its effect on the flight products of leisure passengers for Malaysia Airlines and Air Asia

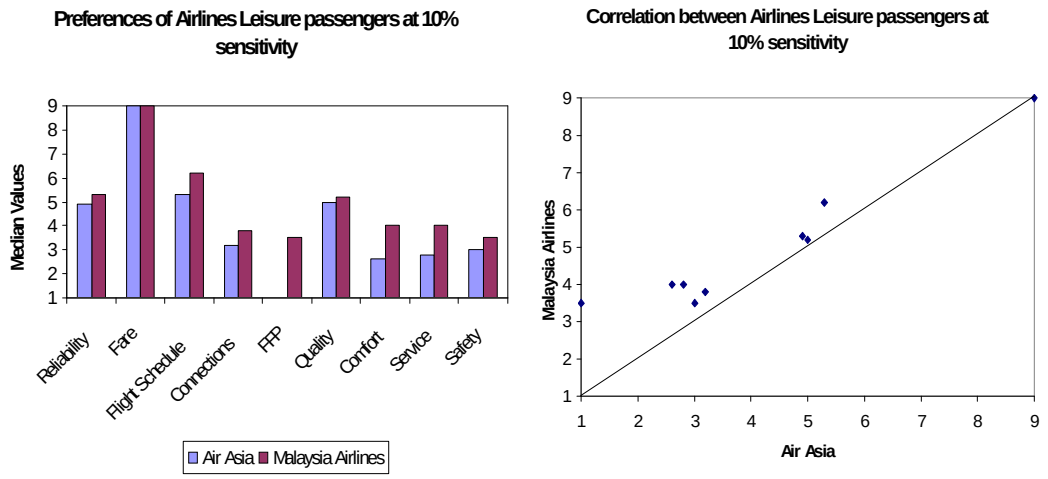
Figure 71 below shows the median values that represent the product rankings of Malaysia Airlines and Air Asia leisure passengers if fare is raised by 10%. From the histogram it is clear that this particular group of travellers have selected fare as the singular most important reason for choosing to travel with their chosen airline, regardless of whether it was a full service carrier or the low cost one. The corresponding scatter plot diagram illustrates the strong correlation that exists between the ranking of the flight products. Statistically the similarities did not occur by chance as $p<0.01$ for Air Asia and Malaysia Airlines. Figure 72 shows a noticeable change in the ranking of the flight products between the low cost and network carriers when the fares are changed by 20%. Air Asia passengers continue to rank fare as the most important reason for selecting the carrier while fare and schedule become more important for the incumbent passenger. The correlation graph shows that overall the passengers of both incumbent and no-frills carriers require similar flight products, statistically represented by the low p-values ($p<0.01$) and their close correlation on the scatter plot diagram. The data collected from the European and Asian surveys point out that a large number of leisure passengers require similar flight characteristics who can easily switch from a full service airline to a low cost carrier and visa versa. In the Asian market the survey shows that around 20% of Air Asia and Malaysia Airlines leisure passengers require similar flight products and therefore could easily switch between carriers and it is this passenger segment that are most difficult to retain and present a big challenge to network carriers.

The situation changes when fare is raised by 30%, with a clear disparity between the ranking of flight products required by leisure passengers who travel on a full service airline and those taking a low cost carrier as shown by the different flight product requirements on the scatter plot and statistically represented by the higher p-values. Figure 73 shows that the Malaysia Airline passengers have identified that the following flight products are the most important; schedule, reliability, fare and quality. The ranking has entirely changed revealing a new set of leisure passengers whose product requirements are not focused primarily on fare. Meanwhile Air Asia passengers still regard fare as the most important attribute followed by quality and schedule. Figure 74 shows that a number of leisure passengers prefer to remain loyal customers and would not be tempted to switch to another carrier. Leisure passengers who would not consider switching from Malaysia Airlines seek the following attributes in descending order: schedule, reliability, frequent flyer program and connections; while Air Asia counterparts rank: fare, quality, schedule and reliability.

In concluding the analysis of leisure passengers, it was again found that not all leisure passengers who book a ticket on a full service airline regard fare as their primary

reason for selecting their airline of choice while all the passengers booking a ticket on Air Asia did so because of the fare. In face to face interviews with the surveyed passengers at Kuala Lumpur, many expressed that the Malaysia Airlines fares were high because they were the sole operator on some of the routes and rated the incumbent as 'excellent' as passengers always had 'good experiences' when travelling on the incumbent and had expressed reservations on the viability of an airline that offered such low fares and indicated that the carrier could enter into liquidation at any time thus leaving them stranded.

Figure 71 Analysis of Malaysia Airlines and Air Asia leisure passengers at 10% sensitivity

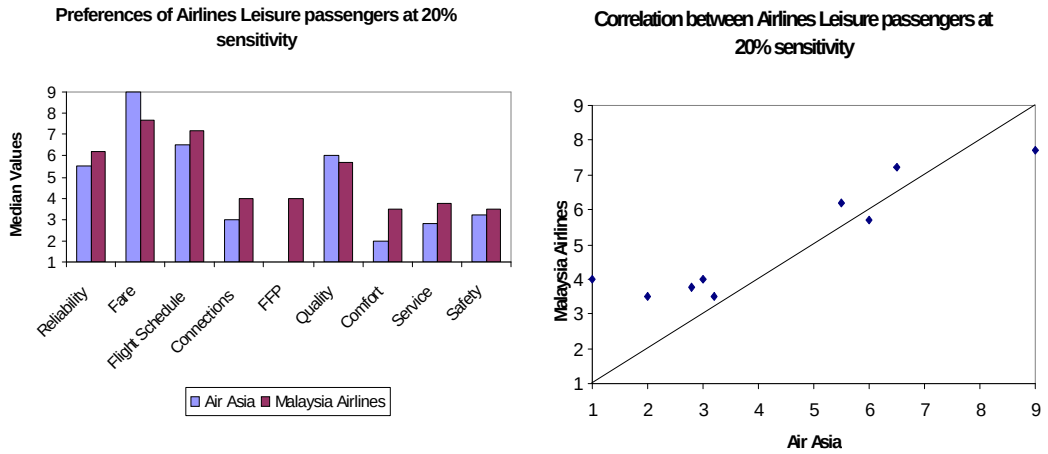


Correlation coefficient, Leisure Travellers, FI=10%

Air Asia - Malaysian Airlines	Pearson's r	*p*	Spearman's r_s	*p*
	0.944**	**< 0.001**	0.840**	**0.005**

**, * Correlation is significant at the 0.01 and 0.05 level (2-tailed).

Figure 72. Analysis of Malaysia Airlines and Air Asia leisure passengers at 20% sensitivity

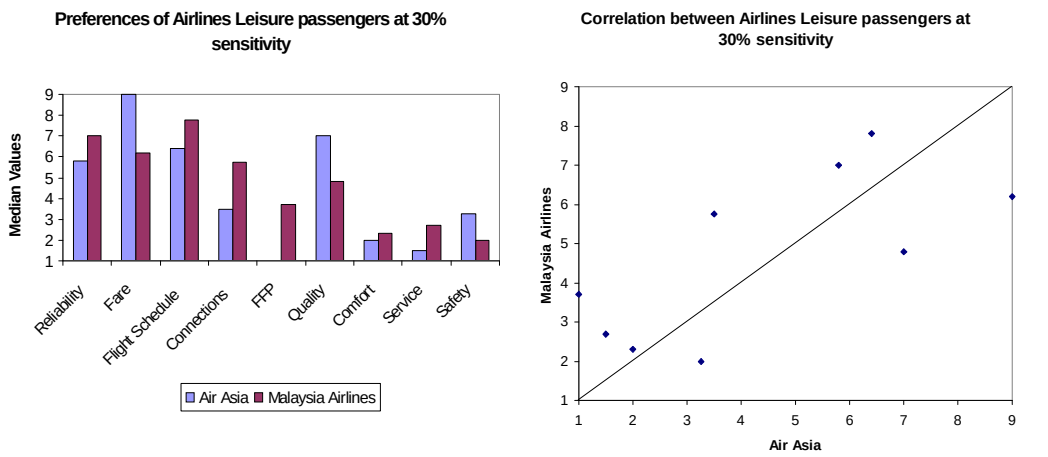


Correlation coefficient, Leisure Travellers, FI=20%

Air Asia - Malaysian Airlines	Pearson's r	*p*	Spearman's r_s	*p*
	0.919**	< **0.001**	0.790*	**0.011**

**,* Correlation is significant at the 0.01 and 0.05 level (2-tailed)

Figure 73. Analysis of the Malaysia Airlines and Air Asia leisure passengers at 30% sensitivity

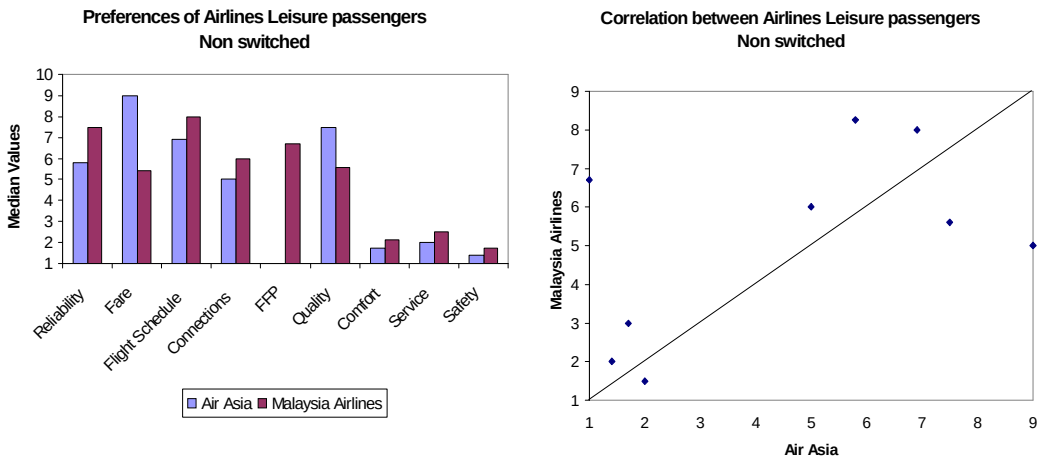


Correlation coefficient, Leisure Travellers, FI=30%

Air Asia - Malaysian Airlines	Pearson's r	*p*	Spearman's r_s	*p*
	0.601	0.087	0.664	0.051

**,* Correlation is significant at the 0.01 and 0.05 level (2-tailed).

Figure 74. Analysis of the Malaysia Airlines and Air Asia non-switch leisure passengers



Correlation coefficient, Leisure Travellers, Non switched

Air Asia - Malaysian Airlines	Pearson's r	*p*	Spearman's r_s	*p*
	0.579	0.103	0.317	0.406

**, * Correlation is significant at the 0.01 and 0.05 level (2-tailed).

8.4.9.4 Cross-price elasticity and its effect on the flight products of business passengers for Malaysia Airlines and Air Asia

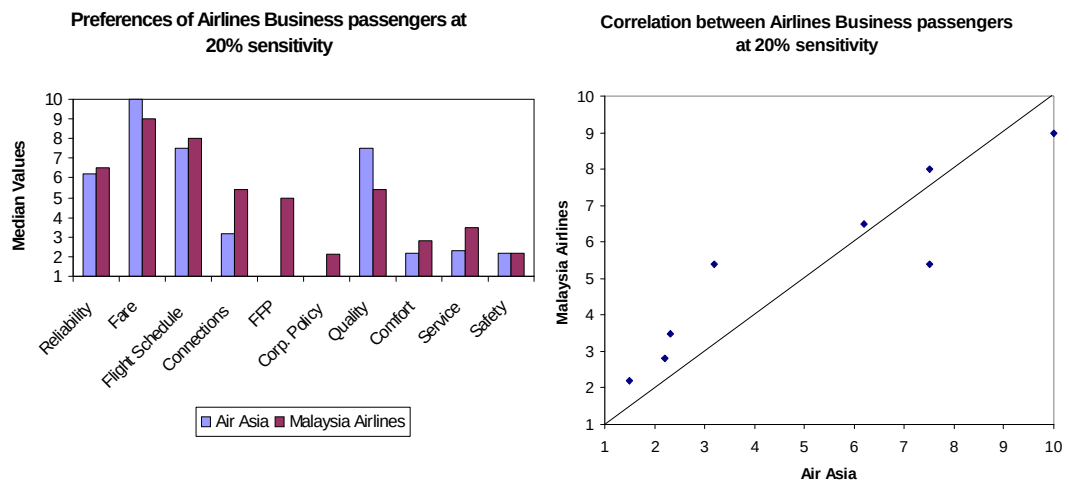
The analysis is then repeated for business class passengers. The questionnaire reintroduces the corporate policy arrangement. No business class passenger chose to switch airlines when fare was raised by 10%. Figure 75 shows the median values that represent the product rankings by business passengers when the fare was changed by 20%. Again, this small group of business passengers are fare sensitive. They have similar flight product requirements and can easily switch between Malaysia Airlines and Air Asia as they value fare as the most important criteria and similarly ranked the other flight products. The corresponding scatter plot diagram illustrates the strong correlation that exists in the ranking of product features between this group of business passenger, statistically represented by $p<0.01$ for Malaysia Airlines and Air Asia, which indicates that the similarities did not occur by chance.

However the pattern of flight products changes between the passengers of Malaysia Airlines and Air Asia when the fare was changed by 30%. Figure 76 shows that the business passenger travelling on Malaysia Airlines ranked in order of importance: schedule, reliability, Frequent Flyer Program, connections and corporate policy, while business passengers on Air Asia indicated fare, quality, schedule and reliability. The

corresponding scatter plot diagram illustrates that there is little correlation in the ranking of product features between both sets of airlines, statistically represented by the associated high p-values. This clearly illustrates that an entirely different type of business passenger is taking the low cost carrier, with fare being the key-determining factor in carrier choice.

The analysis clearly shows that business passengers (particularly those who fly regularly) prefer to remain with incumbent airlines despite its higher fare. Figure 77 shows the rank ordering of Malaysia Airlines and lists the following attributes as the principle reasons why business passengers prefer to remain travelling with the incumbent. They consist of corporate policy, schedule, frequent flyer program, reliability and connections. Meanwhile Air Asia's business class passengers rank fare, quality, schedule and reliability as their preference in continuing to use the low cost carrier. Statistically the negative values of Pearson and Spearman coefficients, indicates that there is almost no correlation at all between the rankings of the flight products between the business passengers of both sets of airline types.

Figure 75. Analysis of the Malaysia Airlines and Air Asia business passengers at 20% sensitivity

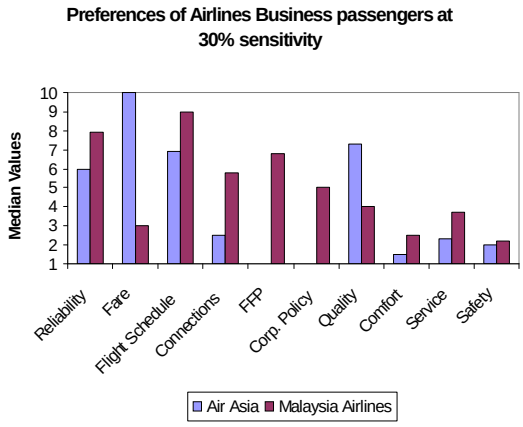


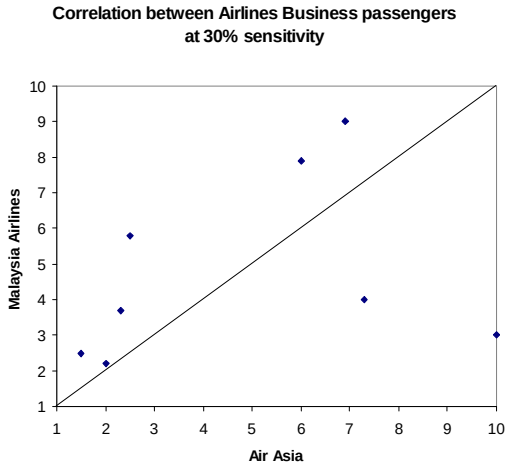
Correlation coefficient, Business Travellers, FI=20%

Air Asia - Malaysian Airlines	Pearson's r	*p*	Spearman's r_s	*p*
	0.871*	**0.001**	0.868**	**0.001**

**,* Correlation is significant at the 0.01 and 0.05 level (2-tailed).

Figure 76. Analysis of the Malaysia Airlines and Air Asia business passengers at 30% sensitivity



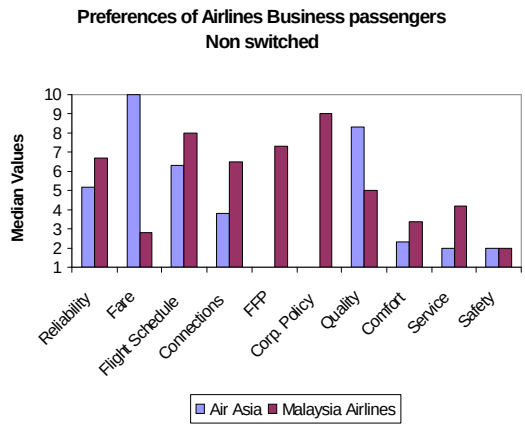


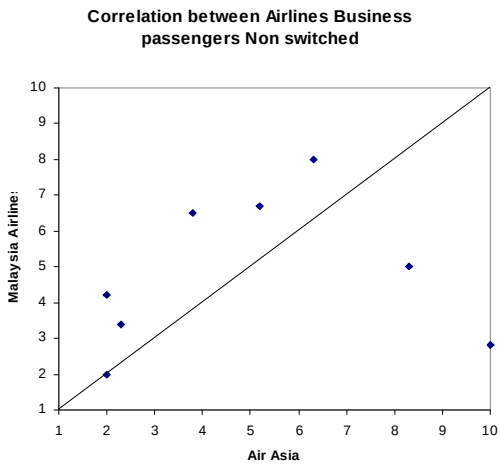
Correlation coefficient, Business Travellers, FI=30%

Air Asia - Malaysian Airlines	Pearson's r	*p*	Spearman's r_s	*p*
	0.134	0.712	0.103	0.776

**, * Correlation is significant at the 0.01 and 0.05 level (2-tailed).

Figure 77. Analysis of the Malaysia Airlines and Air Asia non-switch business passengers





Correlation coefficient, Business Travellers, Non switched

Air Asia - Malaysian Airlines	Pearson's r	*p*	Spearman's r_s	*p*
	-0.176	0.626	-0.256	0.475

**, * Correlation is significant at the 0.01 and 0.05 level (2-tailed).

8.5 Concluding comments

Ryanair is now Europe's third largest airline in terms of the number of passengers carried after Air France/KLM and Lufthansa. Its relentless drive to reduce costs, lower fares and strengthen its brand has enabled the carrier to increase its traffic substantially. Approximately 125 B737-800s will enter into its fleet by 2012. Similarly Air Asia of Malaysia's 100 A20s order reflects the expected significant growth of Intra-Asian traffic. This excess capacity will pose enormous problems for both European and Asian incumbents in the short-haul market. It signals that these low cost carriers are expecting to encroach further into the incumbent's market share and an important part of the survey investigates what would trigger passengers to switch airlines.

Network airlines by their character connect passengers at hubs and the survey found that a large proportion of Aer Lingus passengers connected onwards with its alliance member partners while many of Malaysia Airlines travellers transferred to other code sharing flights, indicating the importance of such marketing agreements. Competition ensures that consumers have a choice of airlines and the survey identified that more than half of Aer Lingus passengers had used a low cost carrier in the last twelve months while one-third of Ryanair passengers used an incumbent in the previous twelve months. This clearly indicates that many passengers regularly switch between airlines. The analysis confirms that passengers who travel on a low cost carrier will switch over to a full service airline when the latter reduces its fare, for example when Aer Lingus aligned its fare close to Ryanair's level around 66% of the latter's leisure passengers and almost all of its business passengers would have considered switching to the incumbent. It is therefore imperative that incumbents reduce their structural and inherited legacy costs, so as to pass on the savings to its customers in the form of lower fares. The survey also found that there are a distinct group of passengers who require similar flight products regardless if they travel on a low cost carrier or on a full service airline and there is also another distinct passenger segment who require a completely different set of attributes. For example the research quantifies that almost one-third of Ryanair and one-quarter of Aer Lingus leisure passengers require similar flight products (primarily fare driven) and therefore have the opportunity to easily switch from one airline to another airline and there is also a small proportion of business passengers that also require the same flight products. Similar dynamics are also evident in the Malaysia Airlines market. Overall this passenger segment more than likely represents that portion of market share that the network carriers are losing to low cost carriers.

The research confirms that a significant proportion of leisure passengers who travel on full service airlines place flight products such as schedule and reliability above fare and they are willing to pay a premium because they value time and airline dependability. The link between business passengers and corporate policy program is very evident and

it is the most principle reason why these travellers are unlikely to switch to another airline. Corporate policy agreements are not an evident component of the low cost carrier business model and network airlines should capitalise on this opportunity.

Therefore, the survey overall indicates that the ideal passenger perception of air travel would be to have a combination of low fares that are generated by the low cost carriers and the full service products offered by the incumbent airlines. Therefore the passenger would like to see the gap between the two airline models close further and the passengers vision for the future is the ability to travel on a carrier that is a full service low cost airline which is the direction where some of today's carriers are heading.

9 Chapter 9: The passenger perception of low cost airlines and full service carriers.

A case study of Indian Airlines, Jet Airways, Air Sahara and Air Deccan

The chapter begins by examining the background of the carriers including traffic carried and operating cost performance. The empirical study then concentrates primarily on the survey that was conducted in Mumbai on passengers using the three network airlines, namely Indian Airlines, Jet Airways and Air Sahara and those passengers using Air Deccan, which was India's only low cost carrier at the time when the survey was conducted. The survey replicated earlier work by O'Connell and Williams (2005) on network and low cost carriers in Asia and Europe. The survey highlights the key findings such as passenger characteristics, journey purpose and fares. It then centres on an in-depth study of the factors that influence carrier choice and the ranking order of flight products for both leisure and business passengers. It concludes with an analysis of cross-price elasticity which measures the sensitivity of passengers of passengers to a change in fare and also its substitution effect on passengers' flight products.

9.1 Introduction

India is a vast country with a land frontier of 15,200km and a coastline of 7500km that is home to over 1 billion people, one-sixth of the world's population. O'Connell (2005) showed that the number of commercial aircraft operating in India has remained basically the same since 1948, with only 170 aircraft currently registered. This compares to 7,000 in the United States. The country handles only a total of 600 commercial flights daily. By comparison, Singapore's Changi airport handles 3,200 flights daily. Between 1989 and 2000, China increased its airline seat capacity by almost 500%, while India's grew by a mere 40%. Less than one per cent of India's population flies each year, with 14 million people relying daily on the cheaper, but outdated 150-year old railway system. Propensity for air travel in India is currently 0.1 trips per person per year, a fraction of the global average of 2.0. In 2003, Indian carriers carried 14.7 million domestic passengers, roughly equal to five days demand in the United States. According to Gopinath (2005), there are 400 airports in India, nearly half of which have no service even including areas such as national parks and world treasures, such as the Taj Mahal.

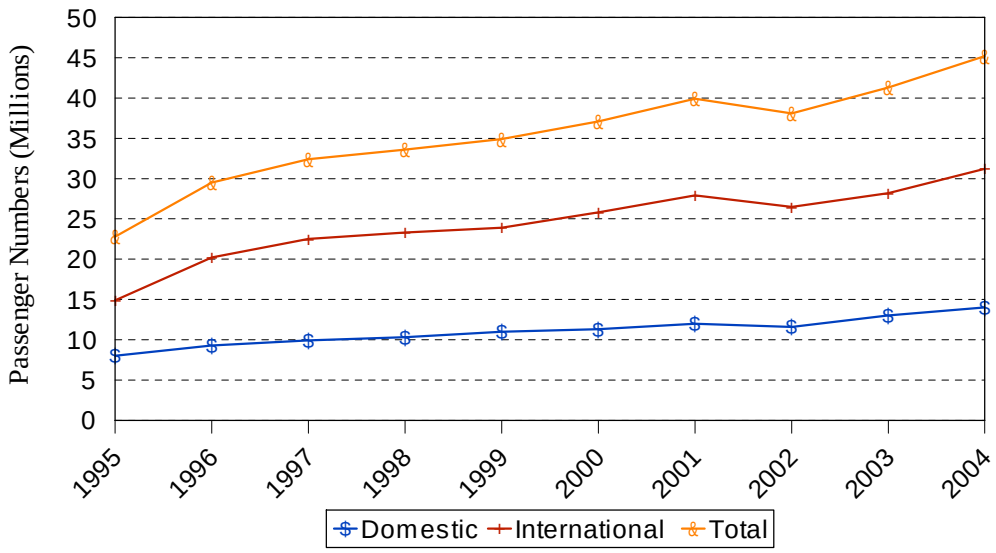
Considerable world aviation attention is now focussed on India, as evidenced by the 150 aircraft order by Indian carriers at the 2005 Paris air show, priced at US$13 billion. According to the Centre for Asia Pacific Aviation (2005), Indian airlines have ordered a total of 490 aircraft over the last 18 months. India is committed to a fleet growth of

164%, compared to a world average of only 2.7%. The sudden surge is the result of three factors: the easing of tight regulatory constraints, a booming economy and the 300 million middle class Indians that can now afford air travel. According to the Centre for Asia Pacific Aviation up to 14 Low Cost Carriers are preparing to launch services in India in 2005 and 2006, with another 5-6 in the planning stage. That is more than the total complement of Low Cost Carriers operating in the whole of the Asia Pacific region and the Middle East in 2004. These start-up carriers have commitments for over 130 aircraft. Kaul (2005), head of the Centre for Asia-Pacific Aviation in India, stated that there would be 5 million new air travellers in India every year, taking the total number of air travellers to around 50 million by 2010. India has now become the next milestone in global airline development and aviation's most dynamic market.

9.2 Background of the surveyed airlines

At the beginning of 2005, there were four principle airlines operating domestically within India. They include three full service airlines, Indian Airlines[157], Air Sahara and Jet Airways, and one low cost carrier, Air Deccan. Air India primarily operates international sectors, with its only domestic flights being part of its international services. It serves only 11 domestic cities and holds just over 5% of the domestic market. Figure 78 shows India's domestic and international passenger growth over the period 1995-2004. The domestic market performed relatively poorly up until 2002, but thereafter it soared with a year-on-year compound growth rate of 10%, while international traffic expanded at a compound annual growth rate of 8.5% between 1995 and 2004.

Figure 78. Passenger growth in India 1995 – 2004



Source: Airports Authority of India

[157] Indian Airlines also has a subsidiary called Alliance Air that operates a fleet of 12 Boeing 737-200s.

9.2.1 Indian Airlines

Indian Airlines currently flies to 32 destinations with its ageing fleet of 47 aircraft. In 2004 it carried a total of 5.9 million passengers and over 97,000 tons of cargo, operating 94,000 flights (DGCA 2003/04). The airline made a net profit of $10 million in 2003/04, as against a net loss of half a million dollars in the previous year. The Directorate General of Civil Aviation[158] (DGCA) estimates that Indian Airlines now has only around 43% of the domestic market down from 67% in 1993. In recent years, Indian Airlines has been paying increasing attention to its international operations, a strategy that is lowering the competition barrier for low cost entry. The airline was allowed in the early 1990s to be the second designated carrier on many routes to South East Asia and the Middle East. As a result, the international network of the airline now extends to sixteen destinations. The international passenger share of its total traffic has grown from 9% in 1994/95 to 17% in 2002/03 (DGCA 2002-03). Hanlon (2000) argued that a merger between Air India and Indian Airlines would allow a thoroughfare between a readymade international network and a vast domestic one and that this would generate extensive economies of scope.

According to Mayes (1996) only 20 of Indian Airlines' 70 routes were profitable, with the core of its business built on the golden quadrangle linking Bombay, New Delhi, Madras and Calcutta. The loss making routes were linked to government legislation that required the carrier to serve the Northeast region, even though it was greatly uneconomic to do so. Although the state-owned carrier has a social responsibility to provide air services to peripheral communities, the Indian Government does not provide support to offset losses on these sectors. The carrier employs 19,500 staff, resulting in a ratio of around 414 employees per aircraft (125 or fewer is a typical Western equivalent for a full service carrier).

9.2.2 Jet Airways

Jet Airways has carried over 55 million passengers since the airline's inception in May 1993. It reported a 140% growth in after-tax profit for the financial year ended 31 March 2004 on the back of healthy revenue growth and efficiency gains (ATI, May 2005). It carried 7 million passengers in 2005 with a fleet of 41 aircraft. In 2005 the airline was estimated to have a 43 per cent share of the domestic market, operating over 275 flights to 42 destinations. Jet was the first Indian carrier to raise funds via an IPO and in 2005 it sold a 20% stake raising $444 million. The stock market had valued the company at $2.2-billion by January 2005 (ATI, February 2005). The productivity of Jet Airways is more than twice that of Indian Airlines, with 168 employees per aircraft. The airline has had the distinction of being repeatedly judged India's 'Best Domestic Airline' and has won several national and international awards. Deregulation has allowed the carrier to operate

[158] http://dgca.nic.in/reports/stat-ind.htm

to the South Asian Association for Regional Cooperation (SAARC) region and now serves the London market as well. Sheety (2004) expects Jet's international routes to account for 10-15 per cent of its turnover in 2005. It has interline agreements with 122 international airlines which allows passengers to use interline documents on Jet Airways for their travel and it currently hosts the youngest fleet in Asia where the average age of its aircraft is four years. To further its expansion strategy, the carrier placed a substantial order for 30 aircraft at the 2005 Paris Air show.

9.2.3 Air Sahara

Sahara Airlines is part of the huge Sahara micro-banking empire that encompasses real estate, consumer products, media, small-scale loans and saving accounts. A former president of United Airlines, Rono Dutta, manages it. In 2003/04 it carried over 1.9 million passengers and 19,700 tons of cargo, operating 33,600 flights. It made a net profit of just over $220,000 (DGCA 2003/04) after consecutive net losses of $8.5 million for 2002-03 and $36 million for 2001-02. The airline operated 20 short haul aircraft by 2006 which connected 24 destinations with 123 daily flights. Unlike Jet Airways, it does not serve as a domestic feeder. Air Sahara has pioneered a number of innovative features for the Indian traveller, including standby fares, extra baggage allowance, airport valet services, etc. It also launched a significantly improved business class product and has managed to entice many business travellers from its competitors, Indian Airlines and Jet Airways (Ionides, 2003).

Its uniqueness is also reflected by the manner in which it sells tickets, as it auctions its surplus capacity through the Internet and gives its customers the opportunity to pay for tickets over 12 monthly instalments at no interest via a local linkup with ICICI Banks. Kumar (2005) stated that Air Sahara's strengths are: efficiency, maintenance outsourcing, high fleet utilisation and backup aircraft which ensures schedule integrity. Air Sahara has also been allowed recently to fly international routes and commenced flights to Colombo in March 2004.

9.2.4 Air Deccan

Air Deccan, India's first low cost carrier, began operations in August 2003 with four turbo-prop ATR-42 aircraft. The carrier is forecast to fly four million passengers in 2005, up fourfold from the previous year. Around 40% of its passengers are first time flyers. In December 2004, the company sold a 26% shareholding to ICICI Venture Funds and US-based Capital International (ATI, April 2005). In addition five leading international banks, Calyon, Grindlays, Barclays, HSBC and StanChart, are also in the race to fund Air Deccan's fleet expansion plan (O'Connell and Williams 2006). However Air Deccan has only posted a small profit in 2004 and ATI (September, 2006) stated that it suffered a net loss of Rs3.4 billion ($74 million) for the 15-month period between April 2005 and June

2006 and it does not expect to post profits until 2008 as a result of intense competition following the launch of several new airlines.

By the end of 2004 Air Deccan had already captured 3.2% of the domestic market. This however had grown to 9-10% by mid 2005 (Economic Times of India, June 2005). By mid-2005 Air Deccan was serving 32 destinations and operating close to 100 flights daily with a fleet of five Airbus A320, 13 ATR 42 and one ATR 72. The A320s each have 180 seats while the ATR-42 turbo-props are equipped with 48 seats. It has ordered a further 63 Airbus 320 and 27 ATR-72 aircraft, valued at $3.8 billion. Kuruvila (2004) states that Air Deccan's turnaround time for its ATR fleet is 15-20 minutes and 30 minutes for the A320, compared to the one hour taken by Jet Airways, this allows it to complete six sectors a day, thereby adding one additional sector, which equates to 20% more block hours per day than the Indian full service airlines. Air Deccan achieves load factors of 80-85% on the ATRs and 90-95% on the A320s. Rather unusually, pilot salaries are linked to the load factor of the aircraft.

9.3 Performance indicators for India's domestic carriers

Table 59 below lists the performance indicators for India's domestic carriers, as well as for Air India. The privately owned airlines show healthy performance indicators in contrast to the poor results of the two state-owned carriers.

Table 59. Indian Carriers: Performance Indicators (2004 data)

	Net Profit (US$M)	Passengers (millions)	No of Pax/ No. of Employees	Block Hours (per day)	Load Factor (%)	Passenger Yield (US cents)	Unit Cost (US cents)
Air India	19.5	3.8	244	9.0	73.3	9.2	9.4
Indian Airlines	10.0	6.9	369	8.8	60.5	12.7	12.3
Alliance Air	0.4	1.5	424	9.3	60.2	13.3	13.2
Jet Airways	37.0	8.1	1,213	9.5	63.0	13.1	11.7
Air Sahara	0.2	1.9	577	10.2	60.8	13.0	12.3
Air Deccan	0.1	1.4	4,895	13.1	61.9	7.1	5.6

Sources: DGCA, JP Morgan, ATI and Air Deccan

9.4 Survey Methodology

Two questionnaires were used to gather information on passengers' perceptions of India's full service airlines and its one low cost carrier. The Indian Airports Authority (IAA) granted permission for a passenger survey to be carried out at Mumbai airport, it being one of the country's four major gateways that collectively handle over 50% of passenger traffic. The airport operates on a 24-hour basis and according to the IAA had a throughput of 13 million passengers in 2004–2005. It has two separate terminals for domestic operations, with Indian Airlines located at Terminal 1-A, and Jet Airways, Air Sahara and Air Deccan operating from Terminal 1-B. The survey was carried out when particular waves of flights departed from each terminal in an effort to maximize the response rate. A structured questionnaire was used to elicit responses in face-to-face interviews with travellers. It was conducted by small teams of personnel in the check-in and adjoining waiting areas prior to passengers boarding their flights. A total number of 754 responses were obtained, representing around 23% of total uplifted passengers during the specific hours that the survey was undertaken.

9.5 Survey Findings

9.5.1 Journey Purpose and Booking Profile

Hanlon (1986) stated that the split between business and non-business passengers was around 75:25 for Indian Airlines. Some twenty years later however, Table 60 below indicates that the current split is around 57:43, as fares have fallen considerably attracting many more leisure passengers. The survey found that business passengers are still predominantly using full service airlines and work for large companies. Indian Airlines, with over fifty-two years of service had very strong relationships with India's large multinationals as almost 30% of their surveyed business customers worked for organisations that employed over 5,000 employees. By comparison, 90% of business passengers travelling on the low cost carrier were either self-employed or worked for companies that employed less than 25 people. A cross tabulation of business passengers surveyed and their primary reason of carrier choice reveals that the vast majority chose the low cost carrier due to its fare. Table 60 also reveals that business passengers are statistically more likely to take full service airlines for events such as meetings rather than use a low cost carrier as these are often classified as important business trips. In fact business travellers overall are more likely to take Indian Airlines or Jet Airways rather than the low cost carrier. However, these passengers are more likely to use the low cost carrier for trips to events such as training. As expected the low cost carrier attracted proportionally more leisure traffic, including a traveller segment in the form of those

attending sporting events that is generally absent from the other surveyed airlines. The survey revealed that these travellers journeyed in small groups representing significant revenue potential for Air Deccan. Indian nationals take almost 250 million trips annually and the survey shows that travelling to meet up with friends and relatives represents an average of around 23% of leisure trips.

Air Deccan has India's largest e-commerce website, followed by Indian railways. The number of people with credit cards and Internet access within India however, remains very low in comparison to western countries. To help overcome this, the carrier has implemented an agreement with HPCL, a large oil company with around 6000 outlets across the country, in which its service stations will sell tickets via dispensing kiosks as they are already wired with Internet connections and customers have the choice of using a credit card or paying cash. The petrol station owners in return earn a five per cent commission. In addition, ATMs at banks will also be wired for airline ticket sales (Economic Times of India, March 2005). The survey indicated that Air Deccan attracted 46% of its passengers via its website, a further 20% was booked through travel agents and 16% purchased their flights via its call centre. The remaining customers booked their seats using dispensing kiosks, mobile phones or at airport sales offices. Travel agents add an additional charge of $2.50 to the fare as a countermeasure for not recuperating any commission from Air Deccan. Air Deccan's emphasis of technology application is further emphasised as it also sells tickets through a mobile phone SMS texting system. Consequently Air Deccan's distribution costs account for only 6% to 7%, while India's full service airlines are much higher at levels close to between 23% and 28%. The websites of Jet Airways and Air Sahara netted 29% and 22% respectively of their total sales. By comparison Indian Airlines, which still does not have a fully enabled website where online tickets can be purchased, sold 84% of its tickets via travel agents.

Table 60 Journey Purpose for Indian Incumbents and low cost carriers

Journey purpose	Air Deccan (n=167)	Indian Airlines (n=248)	Air Deccan-Indian Airlines			Jet Airways (n=173)	Air Deccan-Jet Airways			Air Sahara (n=165)	Air Deccan-Air Sahara		
			Z	S_D	P-value		Z	S_D	P-value		Z	S_D	P-value
Business Reasons	%	%				%				%			
Meeting	15.0	26.7	2.96928	0.03940	**0.0029***	25.4	2.41225	0.04311	**0.0158***	27.9	2.89714	0.04453	**0.0037***
Conference	3.0	9.3	2.77779	0.02268	**0.0054***	8.7	2.26485	0.02517	**0.0235***	3.0	0.0	0.01872	1.0
Training	10.2	4.4	2.16440	0.02680	**0.0304***	3.4	2.50256	0.02717	**0.0123***	5.4	1.63862	0.02929	0.10129
Trade Fair	-	0.3	-	-	-	0.7	-	-	-	-	-	-	-
Employment	3.0	2.4	0.36603	0.01639	0.7143	2.8	0.10984	0.01821	0.91254	3.6	0.30596	0.01961	0.75964
Total Business	31.2	43.1	2.49534	0.04769	**0.0125***	41.0	1.89175	0.05180	**0.0495***	39.9	1.66245	0.05233	0.09642
Non-Business Reasons													
Sports	7.6	-	-	-	-	-	-	-	-	-	-	-	-
Shopping	-	-	-	-	-	-	-	-	-	-	-	-	-
VFR	27.0	21.8	1.20325	0.04322	0.22888	21.7	1.13975	0.04650	0.25439	22.0	1.06113	0.04712	0.28863
Weekend Break	10.2	9.0	0.40481	0.02964	0.68561	9.1	0.34331	0.03204	0.73136	9.9	0.09091	0.033	0.92757
Holiday	17.2	20.3	0.79904	0.03880	0.42427	19.5	0.54822	0.04195	0.58354	22.8	1.27817	0.04381	0.20119
Cultural/Religious	3.2	2.9	0.17349	0.01729	0.86227	8.7	2.16625	0.02539	**0.0302***	4.2	0.48261	0.02072	0.62937
Study	3.6	2.9	0.39049	0.01793	0.69618	-	-	-	-	1.2	1.43514	0.01672	0.15125
Total Non business	68.8	56.9	2.49534	0.04769	**0.0125***	59.0	1.89175	0.05180	0.05852	60.1	1.66245	0.05233	0.09642

* Statistically significant results ($p < \alpha$) at the significance level $\alpha=0.05$.
Z: A measure of the distance in standard deviation of a sample from the mean
S_D: Statistical deviation between the incumbent airline and low cost carrier

9.5.2 Fares

Studies by Hsu and Wen (2003), Dobsen and Lederer (1993), and Hansen (1990) all indicate that frequency and fare constitute two of the most important attributes of an airline's flight products. Table 61 below gives details of the daily frequencies of each carrier on routes served from Mumbai and the average fares paid by those questioned. The survey reveals that the fares charged by the low cost carrier are around 30% lower than the full service airlines. This fare differential is widely referred to in the Indian media circles[159]. Perry (1995) concluded that when new entrant low cost carriers compete against full service airlines average fares fall, thereby increasing overall traffic and raising revenues for both types of carrier. India's incumbent airlines are unable to match the lower fares of Air Deccan and are responding by increasing frequency and offering a multitude of additional marketing incentives, such as holiday packages (both domestic and international), frequent flier programmes, e-auctions, in-flight auctions, and co-branded cards (tie-up with corporates for special discounts). Competition on the major trunk routes between Mumbai, New Delhi and Kolkata is very intense, with fares falling by 20% in 2005 primarily due to Air Deccan's increasing presence. Many authors, such as Vowles (2000), argue that low fare carriers play a significant role in airfare determination and this is confirmed as being the case in the domestic Indian market. Air Deccan allocates its seat inventory at various price categories, with around 25% of its seats in the Rs 500-3,000 range, these being purchased at least 90 days in advance. A further 50% of seats are offered in the Rs 3,000-5,000 range, with the balance sold in the Rs 5,000-7,000 range. The survey revealed that approximately 22% of Air Deccan's passengers booked three months in advance compared to an average of just 5% of the full service airlines' customers. Kuruvila (2004) explains that in order to drive awareness and brand image of a low fares airline, the carrier sells 1000 tickets every month for one Rupee. These special offers are frequently advertised by Air Deccan, while the full service airlines concentrate on marketing international destinations, which tend to suggest that the latter are not optimising their selling efforts in the domestic market and are thus allowing Air Deccan to raise its market share.

[159] http://www.domain-b.com/industry/aviation/20040805_airlines.htm

Table 61 Daily Flight Frequencies and average return fares (Indian Rupees) paid by surveyed passengers.

	Air Deccan		Indian Airlines		Jet Airways		Air Sahara	
	Freq	Av. Fare	Freq	Av. Fare	Freq	Av. Fare	Freq	Av. Fare
Mumbai-Ahmedabad	2	3158	3	4206	4	4085	2	3874
Mumbai-Aurangabad	1	2210	1	2945	2	2685	----	----
Mumbai-Bangalore	2	5640	5	7410	8	7050	3	6192
Mumbai-Belgaum	1	6100	---	----	----	----	----	----
Mumbai-Bhavnagar	1	5150	1	6595	1	6245	----	----
Mumbai-Bhubaneshwar	---	----	1	9110	----	----	----	-----
Mumbai-Bhuj	----	----	----	----	1	8762	----	----
Mumbai-Chennai	1	5120	4	6672	6	6716	2	5922
Mumbai-Coimbatore	1	5085	1	6535	2	6653	1	6702
Mumbai-Delhi	4	5192	11	6464	11	6388	6	6220
Mumbai-Goa	2	4124	4	5026	4	4894	1	4710
Mumbai-Hyderabad	1	4298	3	5628	4	5350	2	5145
Mumbai-Indore*	----	----	2	6997	2	6348	----	----
Mumbai-Jaipur*	----	----	2	6600	2	6680	----	----
Mumbai-Jamnager*	----	----	1	9222	----	----	----	----
Mumbai-Kochi	----	----	----	----	2	8990	----	----
Mumbai-Kolhapur	1	6109	----	----	----	----	----	----
Mumbai-Kolkata	2	4212	3	5470	5	5392	3	5368
Mumbai-Lucknow	----	----	1	7738	1	7600	3	7740
Mumbai-Manglore*			1	7220	1	6897	----	----
Mumbai-Nagpur	1	3980	2	5230	2	5102	----	----
Mumbai-Nashik	1	6122	----	----	----	----	----	----
Mumbai-Patna	----	----	----	----	----	----	2	8590
Mumbai-Pune	1	2710	1	3212	2	3105	----	----
Mumbai-Raipur	----	----	1	7202	1	6470	----	----
Mumbai-Rajkot*	1	5740	----	----	2	7330	----	----
Mumbai-Surat	1	6235	----	----	----	----	----	----
Mumbai-Trivandrum	----	----	1	7690	1	6593	----	----
Mumbai-Udaipur*	----	----	1	6990	2	6920	-----	----
Mumbai-Vadodara	1	3850	1	4720	3	5070	----	----

* Indian Airlines subsidiary Alliance Air operates on this route.
Note: 1 Rupee = $0.02 Natwest Bank, London October 28th 2005. The fare includes taxes, which constitute 422 Rupees per return journey.

9.5.3 Other Influencing Factors

Passengers ultimately base their choice of airline on a variety of factors. While no-frills carriers have capitalised on the branding of low fares with few additional product features, network carriers have sought to differentiate themselves by offering a range of product features. Table 62 below cites the principle reasons why each passenger surveyed chose to travel on their particular airline. Airline managers clearly need to know which features of their product offering are really influencing passengers' choice. The three product features that most influenced passengers travelling on India's full service airlines were flight schedule, service quality and reliability. Jet Airways and Air Sahara however, were preferred over Indian Airlines because of their superior quality, comfort and reliability.

Table 62 Breakdown of the principle reasons why passengers choose each airline

Flight Products	Indian Airlines (n=248) %	Jet Airways (n=173) %	Air Sahara (n=165) %	Air Deccan (n=168) %
Flight Schedule	18.5	17.0	15.8	10.1
Reliability	15.2	18.1	16.4	-----
Quality	15.0	18.7	17.6	2.4
Connections	14.8	10.8	11.5	-----
Fare	11.2	13.2	14.5	87.5
FFP	10.7	8.1	7.9	-----
Company Policy	7.3	6.2	6.0	-----
Safety	3.2	2.6	3.0	-----
Service	2.4	3.2	4.3	-----
Comfort	1.7	2.1	3.0	-----

9.5.4 Cross-price elasticity analysis

The 30% fare differential between the low cost carrier and the incumbents identified from the survey was further analysed to assess the cross price elasticity of demand between the two types of airline business models in an effort to understand the switching sensitivity of passengers due to a change in fare. Figure 79 below shows the proportion of Air Deccan's leisure and business passengers that would switch over to an incumbent if the full service airline reduced its fares by respectively 10%, 20% and 30% or would they prefer not to switch. The results show that if incumbents reduce their fares by 10% then a very small proportion of leisure passengers would switch, while a reduction of 20%

would entice almost 15.1% of Air Deccan's business passengers and 18.2% of its leisure passengers to fly with a full service operator (at 20% level). However if incumbents chose to match the low cost carrier's fares, then the majority of the remaining Air Deccan business travellers (75.4%) would change over to one of the full service airlines. A further 26% of Air Deccan's leisure passengers would switch to full service carriers if their fares were reduced by 30%. However, almost half of Air Deccan's leisure passengers would prefer to remain travelling with the low cost carrier, indicating that the carrier's advertising campaigns have triggered brand loyalty.

Figure 79 Question posed to Air Deccan Passengers.

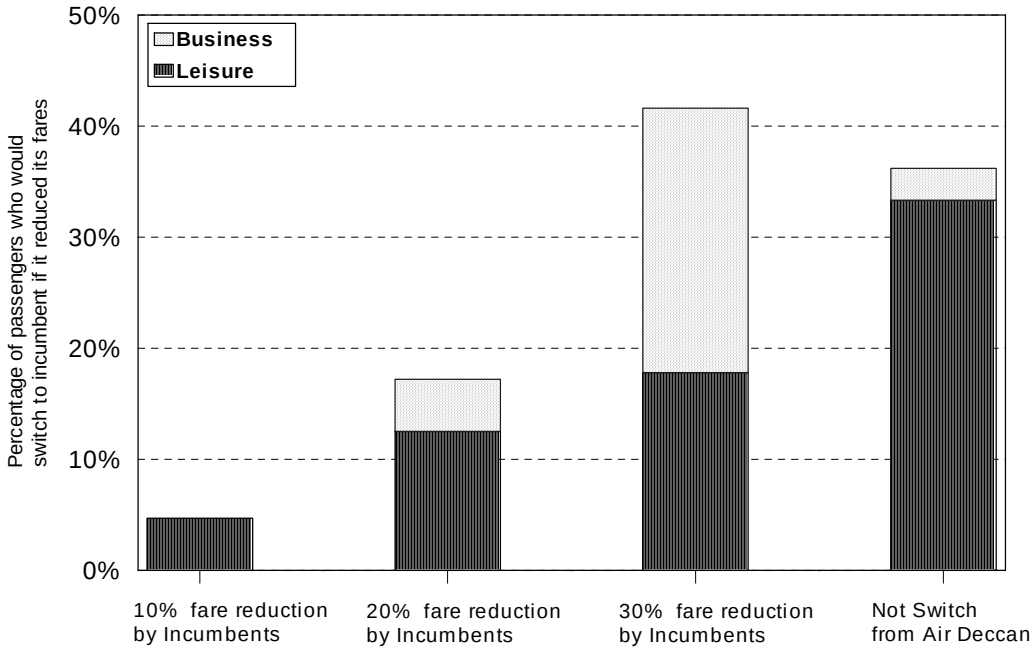
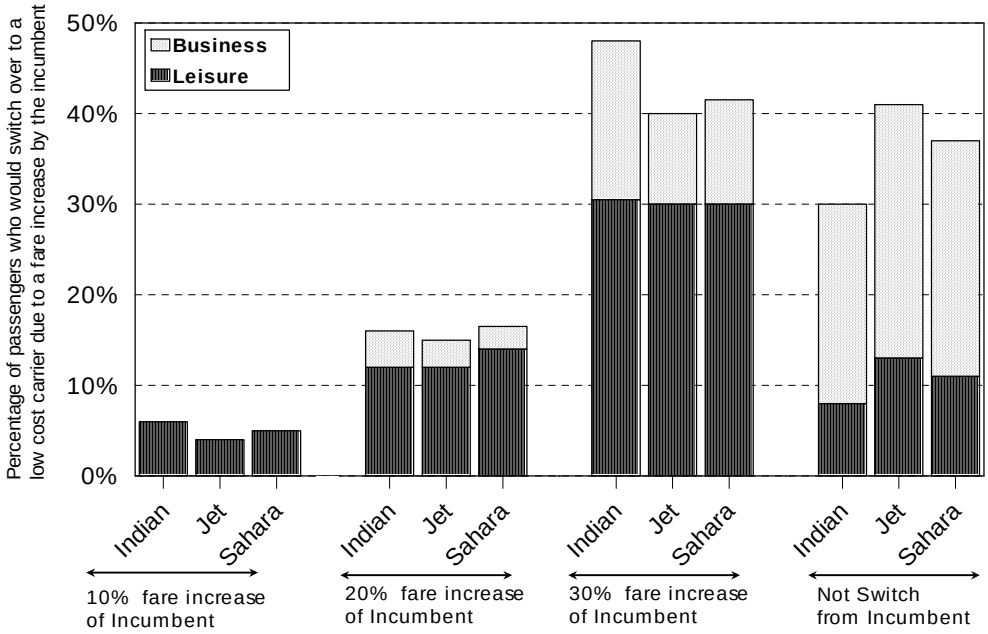


Figure 80 below reveals that only a very small proportion of leisure passengers travelling on the full service airlines would switch to Air Deccan if the fare were raised by 10%. A fare increase of 20% would persuade an average of 18.7% of leisure passengers and 11.4% of business customers to switch. Thus, incumbent airlines would lose very little business traffic by increasing fares by up to 20%. When fare is raised by 30% however, it is again noticed that there is a substantial increase in the number of passengers willing to switch airlines with an average of 45% of leisure passengers willing to substitute the extensive flight products offered by the full service carriers for a lower fare. The survey also revealed that an average of 41% of business passengers would look for alternative travel options with a 30% fare increase. Overall, an average of 47.4% of business passengers journeying with the full service airlines remained loyal. This high proportion is very heavily influenced by corporate policy programs, with a sizable proportion of these passengers ranking corporate policy as their number one reason for selecting the

full service airlines. Empirical studies by Nako (1992), Proussaloglou and Koppelman (1995), and Suzuki et al. (2003), for example, have shown that frequent flyer programs significantly affect travellers' choice of airlines. Palmer and Mayer (1996) argue that the concept of FFPs is considered to be an excellent example of the use of relationship marketing to build customer loyalty. The study identifies that an average of around 17.7% of business passengers travelling on India's full service airlines will not switch to other airlines because of the frequent flyer program. However, it is noticed that Indian Airlines has potential problems, as a larger proportion of its passengers would prefer to switch to another airline signalling widespread dissatisfaction among its customers. An earlier study conducted by O'Connell and Williams (2005) revealed similar findings to these survey results, with a large number of passengers (40%) willing to switch from low cost carriers when an incumbent lowered its fare by 30%. The study also revealed that some 34% of passengers would remain loyal to the full service carriers due to their wide range of product attributes.

Figure 80 Question posed to Incumbents' Passengers



9.5.5 Other factors influencing cross-price elasticity

This section further investigates what flight products were deemed important by both leisure and business class passengers when the fare was changed at specific increments of 10%, 20% and 30%. This question was broken down by asking the low cost carrier passengers at what point would they switch to incumbents because of a fare reduction of 10%, 20% and 30% or would they prefer not to switch (mutually exclusive), while the

full service airline passengers were asked at what point would they switch to a low cost carrier due to a fare increase by the full service airline or again would they prefer not to switch. This was then cross referenced with the flight products that each passenger had chosen at the specific sensitivity level that they had chosen i.e. 10%, 20%, 30% and not switch. To date, pricing issues have been discussed intensively in the aviation literature. Proussaloglou and Koppelman (1999) conducted an econometric analysis to quantify the tradeoffs travellers make when they choose among different carriers, flights and fare classes. There has however, not been any study published analysing cross price elasticity and the impact of a wide range of flight products in response to a range of fare level changes. The analysis here, which has been carried out on both business and leisure travellers using full service airlines and a low cost carrier, firstly, measures the importance of each flight product by rank-ordering each attribute from most important to least; secondly, determines the relationships between the product features of full service airlines and Air Deccan at each fare increase increment; and thirdly, measures the degree of these relationships.

Each passenger surveyed was asked to rank each flight product (see Table above) in terms of importance. Business passengers travelling with the full service airlines were given a list of ten product features, with one less feature listed for leisure passengers[160]; while Air Deccan's passengers were asked to rank from only eight[161]. The Hodges-Lehmann[162] estimator, the median value of Walsh pair wise averages, was chosen for the ranking of these product features, as it is a more robust and stable estimator and is not affected by high outlier numbers (Sprent, 1993; Gardner, 1989). Passengers' preferences for the flight products of various airlines are represented by scatter plots. Statistical correlation between the stated preferences of the passengers from different air carriers is measured using a variant of Pearson's correlation coefficient that is used with rank data called Spearman's Rho (r_s). The application of this analytical technique provides us with a basis to predict traveller choice.

[160] Leisure passengers travelling on a full service airline ranked each flight product from 1 to 9, as corporate policy was not included.
[161] Low cost carrier passengers ranked each flight product from 1 to 8, as Frequent Flyer Programs and Corporate Policy are not included in the low cost airline's business plan. The data associated with Air Deccan is rescaled to account for this discrepancy.
[162] The Hodges-Lehmann estimator is the natural measure of central tendency when using rank-order tests, such as Wilcox or Mann-Whitney (Hettmansperger, 1984).

9.5.6 Cross-price elasticity and its effect on the flight products of leisure passengers

Figure 81 below shows the product feature rankings of leisure passengers if fare is raised by 10%. From the histogram it is clear that this particular group of travellers selected fare as the singular most important reason for choosing to travel with their chosen airline, regardless of whether it was a full service carrier or the low cost one. The corresponding scatter plot diagram illustrates the strong correlation that exists in the ranking of product features regardless of which airline passengers choose, while the associated table shows the Spearman Rho coefficient. It evidently quantifies that this specific group of leisure passengers requested almost identical flight products and that the similarities did not occur by chance as $p<0.01$ for Indian Airlines, Jet Airways, Air Sahara and Air Deccan.

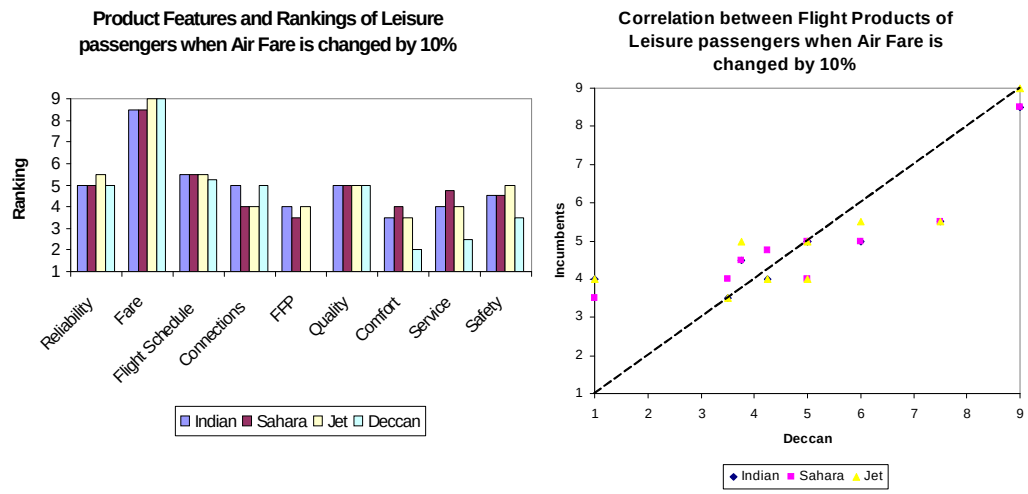
Figure 82 below shows a noticeable change in the ranking of fare and flight schedule by leisure passengers when fares are changed by 20%. While the survey revealed that both full service and low cost airline passengers' product feature rankings are broadly similar, it is apparent that the rankings are beginning to diverge as a higher proportion of low cost carrier passengers' weight fare as the most essential attribute. This represents another segment of travellers who request similar flight attributes, statistically represented by the low p-values ($p<0.01$) and their close correlation on the scatter plot diagram. These passengers can easily switch from a full service airline to a low cost carrier and visa versa. This is the group of passengers that have been leaving the network airlines in favour of the budget carriers and incumbents need to target this market segment and find ways to retain the loyalty of this passenger group, which will make them more competitively advantaged. The data quantifies that an average of 26.2% of the full service airline leisure travellers share the same ranking of flight products as 25% of Air Deccan's leisure passengers. This signals that an average of around one-quarter of leisure passengers who travel on an incumbent may take a low cost carrier which also fulfils their specific requirements. India's low cost carrier capacity is increasing exponentially and the potential to attract one-third of India's incumbents' passengers is a very real threat.

The situation changes when fare is raised by 30%, with a clear disparity between the ranking of flight products required by leisure passengers who travel on a full service airline and those taking a low cost carrier, statistically represented by the higher p-values. Figure 83 below shows that passengers travelling on a network carrier identify schedule, reliability, fare and quality as important. The ranking has entirely changed revealing a new set of leisure passengers whose product requirements are not focused primarily on fare. The majority of passengers who use the low cost carrier still view fare as the deciding factor in carrier selection. The main determinants of low cost carrier

choice are fare, quality and schedule. An interesting observation is that the p-values between Indian Airlines and Air Sahara at 30% interval have stronger flight product convergences than at the 20% interval and the rational behind this is that this particular group of passengers travel very frequently (i.e. more than 8 times per year) and thus have very similar requirements.

Figure 84 below customers and would not be tempted to switch to another carrier. The results infer that there is no similarity whatsoever between the requirements of passengers who continue to use a full service airline and those using the low-fare variant. The requirements of the passengers using the full service airlines are very similar as depicted statistically by the correlation of the low p-values. Leisure passengers who remain resolute in using full service airlines seek the following attributes in descending order: schedule, frequent flyer program, reliability, connections and quality; while their low cost carrier counterparts rank: fare, quality, schedule and reliability. In concluding the analysis of leisure passengers, it is reasonable to conjecture that network airlines can regain a large market share of leisure passengers if management can offer suitable departure timings coupled with high frequency and consistently offer a dependable high quality service. In addition if management can continue to reduce its legacy operating costs enough, it will enable fares to be aligned close to low cost carrier levels thus stimulating passengers to consider switching airlines.

Figure 81. Analysis of the Indian incumbents and Air Deccan leisure passengers at 10% sensitivity



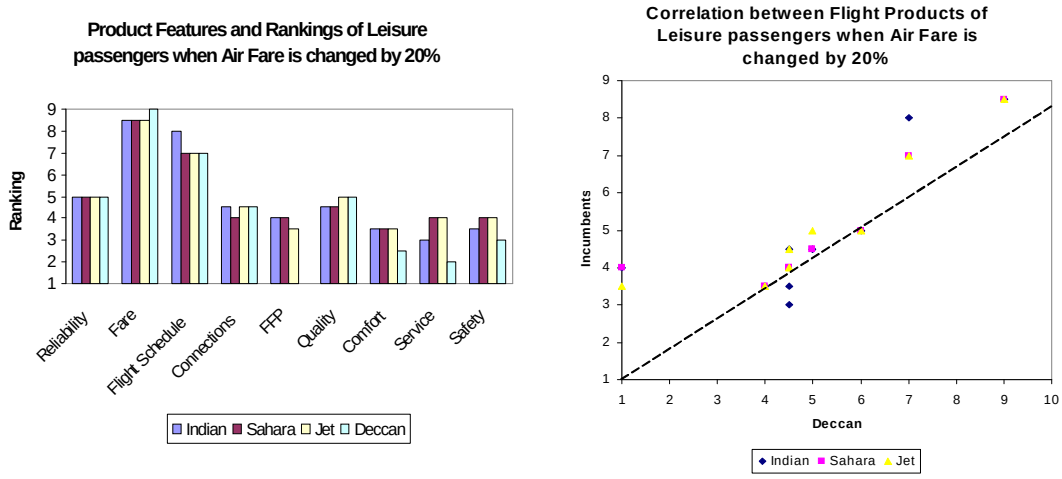
Correlation coefficient, Leisure Travellers, FI=10%

	IA-AS	IA-JA	IA-AD	AS-JA	AS-AD	JA-AD
Spearman's r_s	0.798**	0.873**	0.932**	0.871**	0.895**	0.837**
p	**0.009**	**0.002**	<0.001	**0.002**	**0.001**	**0.005**

**,* Correlation is significant at the 0.01 and 0.05 level (2-tailed).

Note: IA, Indian Airlines; AS, Air Sahara; AD, Air Deccan; JA, Jet Airways.

Figure 82. Analysis of the Indian incumbents and Air Deccan leisure passengers at 20% sensitivity

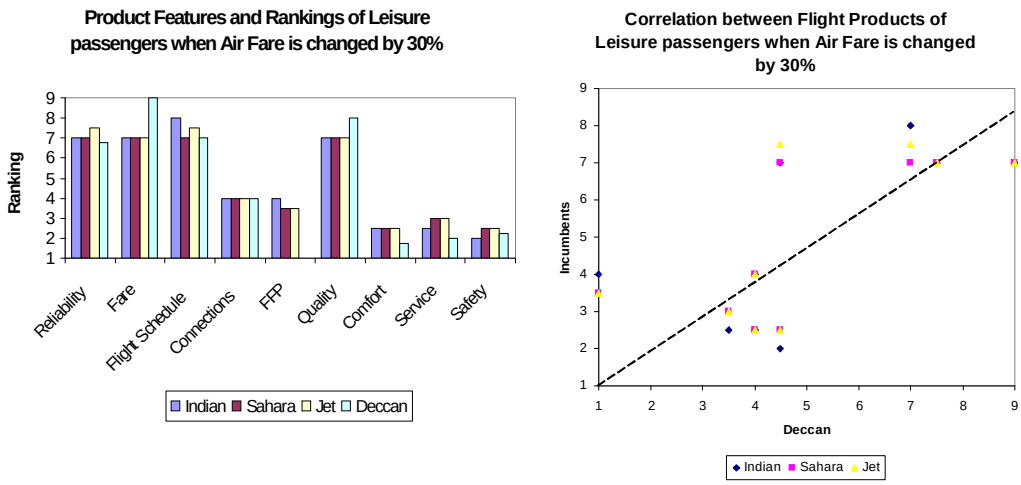


Correlation coefficient, Leisure Travellers, FI=20%

	IA-AS	IA-JA	IA-AD	AS-JA	AS-AD	JA-AD
Spearman's r_s	0.878**	0.864**	0.803**	0.939**	0.930**	0.979**
p	**0.002**	**0.003**	**0.009**	<**0.001**	<**0.001**	<**0.001**

**, * Correlation is significant at the 0.01 and 0.05 level (2-tailed).

Figure 83. Analysis of the Indian incumbents and Air Deccan leisure passengers at 30% sensitivity

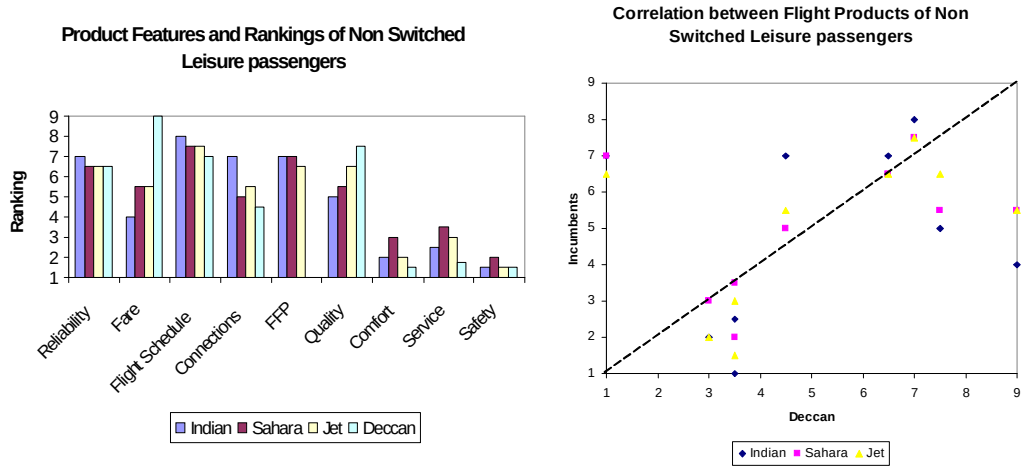


Correlation coefficient, Leisure Travellers, FI=30%

	IA-AS	IA-JA	IA-AD	AS-JA	AS-AD	JA-AD
Spearman's r_s	0.955**	0.957**	0.604	0.965**	0.657	0.557
p	<**0.001**	<**0.001**	0.085	<**0.001**	0.055	0.119

**, * Correlation is significant at the 0.01 and 0.05 level (2-tailed).

Figure 84. Analysis of the Indian incumbents and Air Deccan non-switch leisure passengers



Correlation coefficient, Leisure Travellers, Non switched

	IA-AS	IA-JA	IA-AD	AS-JA	AS-AD	JA-AD
Spearman's r_s	0.894**	0.909**	0.272	0.962	0.328	0.410
p	**0.001**	**0.001**	0.478	**<0.001**	0.389	0.273

**,* Correlation is significant at the 0.01 and 0.05 level (2-tailed).

The analysis is repeated for business class passengers, with it being apparent that the ranking of flight products becomes increasingly uncorrelated. The questionnaire introduced an additional flight attribute as many business passengers are obligated to take a particular airline due to a corporate policy arrangement. Because of the inelastic demand nature of business passengers, none chose to switch airlines when fare was raised by 10%. Figure 85 below shows the ranking of flight products by business passengers when the fare was changed by 20%. Only a small proportion of business passengers who were using the full service airlines were prepared to seek alternative travel arrangements. They stated that fare and schedule were equally as important followed by reliability. It is apparent that a small proportion of business passengers are fare sensitive, with cross tabulation establishing that these customers are largely self-employed or work for small companies. Business passengers flying with the low cost carrier selected only fare as their principle reason of choice. There is no significant correlation (high p-values) between Air Deccan and the full service carriers, which confirms the contrasting flight product requirements of business passengers when selecting between different types of airline.

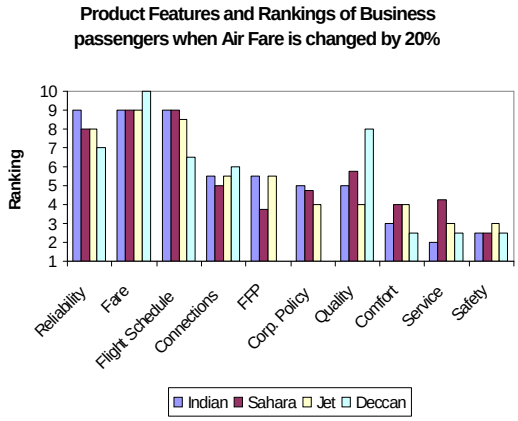
A large proportion of business passengers are attracted to full service airlines because of their extended product offerings. An important reason for the survey was to determine

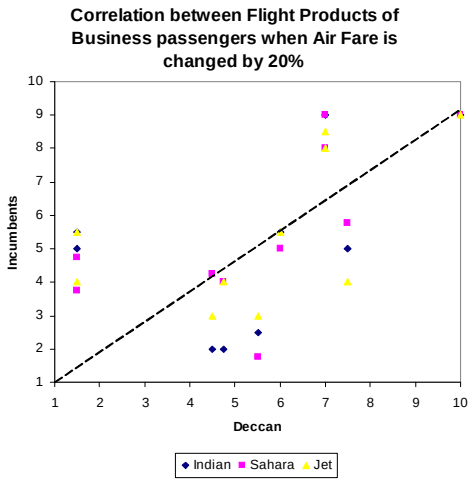
which flight products would continue to entice the business traveller when fare was increased by 30%. Figure 86 below shows that the business passenger travelling on the full service airlines ranked in order of importance: schedule, reliability, Frequent Flyer Program, connections and quality, while business passengers on Air Deccan indicated fare, quality and schedule. This again clearly indicates that an entirely different type of business passenger is taking the low cost carrier, with fare the key-determining factor in carrier choice.

It is apparent that a certain proportion of business passengers would remain loyal regardless of fare changes. Interestingly, a very large proportion of these loyal passengers are largely affiliated to full service carriers while only a very small proportion of business passengers retain allegiance with a low cost carrier. O'Connell (2005) researched that 80% of Jet Airways revenues comes from corporate customers, where price was not the primary driver of airline choice. Figure 87 below shows the characteristics that retain the loyalty of business passengers who travel on a network airline (corporate policy, schedule, FFP, reliability and connections) and outlines the diverse characteristics when compared to the choices made by low cost carrier business passengers (fare, quality, schedule and reliability).

Incumbents worldwide are becoming increasingly concerned over losing business class passengers to low cost carriers. In a hypercompetitive business such as the airline industry customer retention and relationship management are becoming increasingly important. This view is strongly supported by Kalakota and Robinson (2001) who disclose that it costs five to ten times as much to obtain a new customer as to keep an existing one. The survey clearly shows that relationship marketing is becoming an important differentiator between network and no frills carriers. Generous frequent flyer points are retaining the loyalty of both leisure and business passengers as accrued mileage can be redeemed for free flights. Corporate policy contracts specifically target the high yield business passenger who travels frequently and is an effective relationship tool in retaining loyalty.

Figure 85. Analysis of the Indian incumbents and Air Deccan business passengers at 20% sensitivity



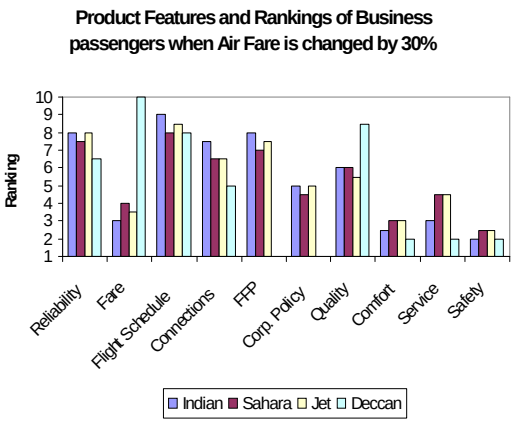


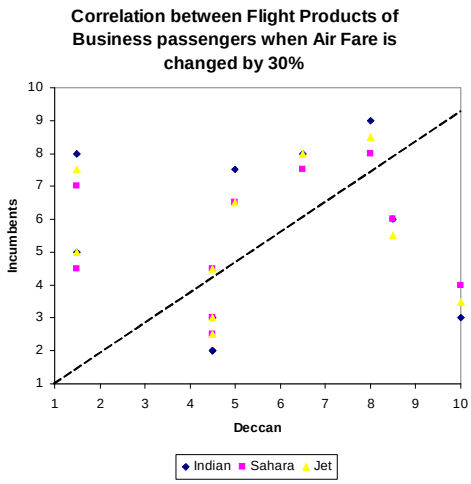
Correlation coefficient, Business Travellers, FI=20%

	IA-AS	IA-JA	IA-AD	AS-JA	AS-AD	JA-AD
Spearman's r_s	0.745*	0.931**	0.502	0.762*	0.659	0.567
p	**0.013**	**<0.001**	0.139	**0.011**	0.058	0.088

**,* Correlation is significant at the 0.01 and 0.05 level (2-tailed).

Figure 86. Analysis of the Indian incumbents and Air Deccan business passengers at 30% sensitivity level



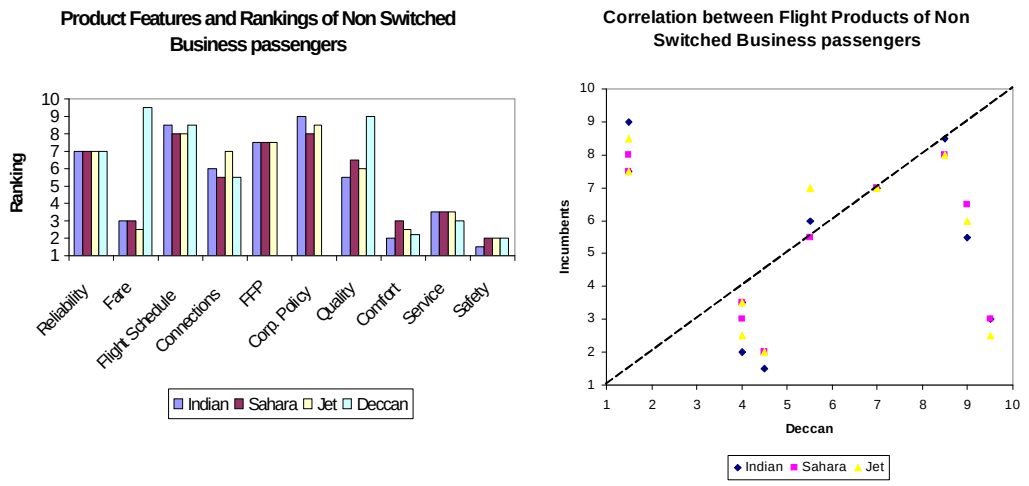


Correlation coefficient, Business Travellers, FI=30%

	IA-AS	IA-JA	IA-AD	AS-JA	AS-AD	JA-AD
Spearman's r_s	0.985**	0.991	0.028	0.997**	0.142	0.018
p	**<0.001**	**<0.001**	0.939	**<0.001**	0.695	0.961

**,* Correlation is significant at the 0.01 and 0.05 level (2-tailed).

Figure 87. Analysis of the Indian incumbents and Air Deccan non-switch business passengers



Correlation coefficient, Business Travellers, Non switched

	IA-AS	IA-JA	IA-AD	AS-JA	AS-AD	JA-AD
Spearman's r_s	0.982**	0.994**	-0.119	0.975	-0.074	-0.142
p	**<0.001**	**<.001**	0.743	**<0.001**	0.840	0.696

**,* Correlation is significant at the 0.01 and 0.05 level (2-tailed).

9.6 Summary

Historically, aviation within India remained stagnant over many decades. Deep-rooted bureaucratic policies and stagnated regulatory policies constrained its growth and development. The Government strongly protected Air India and Indian Airlines by limiting both domestic and international competition. However, the easing of tight regulatory legislation, a strengthening economy coupled with an increasing number of wealthy inhabitants, triggered change with demand for air transport outstripping capacity. Subsequently there has been a three fold increase in the number of scheduled airlines and a five fold increase in the number of aircraft operated. Up to 14 low cost carriers are preparing to launch services and India has become the next milestone in Aviation.

The survey captured the perceptions of passengers who are now travelling in this rapidly changing environment of freer and more competitive markets. The analysis confirms that passengers who travel on a low cost carrier will switch over to a full service airline when the latter reduces its fare, for example when India's incumbents came close to matching the fare of Air Deccan, then over 50% of the low cost carrier's leisure passengers and almost all its business travellers would have considered switching to an incumbent. The survey confirms that passengers want a mix of low fares and to avail of the full service

products offered by the incumbent airlines. Surprisingly a large number of passengers would not consider switching to another airline and low cost passengers were influenced by the carrier's nation-wide advertising campaigns of 'low fares' which have triggered brand loyalty. It was noted that the full service airlines within India had heavily advertised their flight products while Air Deccan only focused their advertising efforts on fare awareness. The network airlines need to bundle fares into their advertising package and show that low fares in association with a large selection of flight products gives passengers greater benefits and value for money.

The survey also confirms the earlier hypothesis that there exists a distinct group of passengers who require similar flight products regardless if they travel on a low cost carrier or on a full service airline and there is also another distinct passenger segment who require a completely different set of attributes. The research found that around one-quarter of the leisure passengers of both full service airlines and low cost carriers wanted similar flight products and therefore can easily interchange between airline types. These incumbent leisure passengers could very well represent the market share that is being lost to low cost carriers. An effective yield management strategy can safeguard losing some of these passengers because it could assign a specific number of seats at fares lower than that of the low cost carrier, which would entice these passengers to take the full service airline. The research extrapolates that a significant proportion of leisure passengers travelling on a full service airline have chosen the carrier because of its superior schedule and reliability and such features are much more important than fare because these passengers' value time and dependability. It is also reasonable to assume that network airlines can then retain a significant portion of the leisure market by offering the following attributes; suitable departure times coupled with high frequency, operating to primary airports, good on-time performance, backup aircraft[163], provide reward points for patronage and consistently offer a dependable high quality service. In addition if management can continue to reduce its legacy operating costs enough, it will enable fares to be aligned close to low cost carrier levels thus stimulating passengers to consider switching airlines. Another worthwhile finding of the research was the confirmation that a large number of business travellers used the network airlines because they were tied to corporate policy programs. These are strategic weapons that hold the loyalty of the business passenger and are not an evident component with low cost carriers. Incumbents should continue to cement their business-to-business relationships with companies and broker long-term deals that will bind corporate business travel to a specific airline, thus capturing high yield traffic. The survey clearly shows that relationship marketing will become an important differentiator between network and no frills carriers.

[163] A backup aircraft is an additional aircraft that is immediately available

10 Chapter 10: Empirical Validation: Results of the Airline Strategy Survey undertaken in collaboration with IATA

10.1 Introduction

There is little doubt, that low cost carriers are changing the dynamics of the short-haul market and they are severely impacting the full service carriers. Doganis (2005) stressed that network airlines have not successfully challenged the budget carriers and they remain a serious threat. Tretheway (2004) described the seriousness of this threat stating that the US market share of full service airlines will be reduced to between 40-50% in the near future, setting the precedence for what could also happen in Europe and Asia. In order to access how network carriers can best respond to low cost carriers, a questionnaire was designed from the marketing and strategy chapters. The questions were designed to identify an incumbent's capabilities in dealing with low cost carrier competition and also to identify which strategies prove effective against the low cost carriers. The questionnaire also includes a subsection on air travellers' choice, which lists all the reasons for choosing an incumbent, which were found through passenger surveys conducted in Ireland, Malaysia and India. The underlying rationale for including this subsection is to determine if a correlation exists between an airlines' view of the requirements of passengers and the passenger survey results.

This chapter presents the survey results with the aim of empirically validating the theoretical framework developed in the marketing and strategy chapters. Section two provides some background information on the survey and section three discusses methodological issues. Then sections 4-6 analyse the findings based on the responses of the European, the Asian – Australasian and the Middle East – Indian – African carriers respectively. Finally section 7 asks strategy directors to harness their collective wisdoms of many years of airline experience and to think 'outside the box' and report strategies that were not in the mainstream but could prove to be beneficial.

10.2 Background to the survey

10.2.1 Questionnaire development, Respondents, Data Collection and Limitations

A survey entitled 'Impact of Low Cost Carriers' was conducted throughout the world with full service airlines with the cooperation of IATA[164] and is shown in **Appendix VII.**

[164] IATA has over 270 members from more than 140 nations, whose main objective is to assist airlines to achieve lawful competition and uniformity in prices. The author conducts regular short airline courses on

The IATA link was pivotal as it ensured the participation of senior strategy directors and a good response rate. It also ensured the relevance and credibility of the responses harnessed the collective wisdom and experiences of the senior executives. The survey itself contained the distinguished 'IATA' label and it was attached as a web-enabled survey, whereby respondents would click on the link activating the questionnaire.

A combination of the **literature review** of marketing (Chapter 6), strategic management (Chapter 7), **Focus Groups, Case Studies** and **Interviews with Airline Staff** structured and calibrated the questionnaire for this research thesis. The questionnaire was developed after intensive discussions[165] and feedback between the author and IATA over a number of months in 2005. The piloting of the survey was two-fold, firstly the focus group (i.e. IATA) administered the questionnaire amoung its own employees and with three undisclosed full service airlines in which the organisation closely works with. Secondly the author piloted the survey with a group of airline strategy directors who undertook a 3-day IATA airline strategy course in Singapore which was conducted by the author. According to Oppenheim (1966, p26) some questions need as many as eight revisions before producing satisfactory results. The strategy section of the survey incorporates a total of 35 closed questions (displayed in questions 1 and 4 in **Appendix VII**). Question 1 in the survey probed the level of difficulty encountered by network airlines in trying to restructure their internal processes to better compete with budget carriers; it also examined the level of difficulty that the network airlines would have on influencing or leveraging external interests (e.g. reducing airport landing charges, targeting customers, etc). Question 4 in the survey investigated the level of importance that a network airline placed on each particular strategy (e.g. frequent flyer program, travel policy agreements, etc) that would assist it in competing more effectively with low cost carriers. Both these parameters (i.e. level of importance of strategies and the level of difficulty in implementing strategies) represent the overall strategic capability of an incumbent, which will have a direct impact on its response to a low cost carrier and it is expressed as a qualitative characteristic.

The air travellers choice part of the questionnaire is comprised of an additional 19 closed statements (displayed in question 5 in **appendix VII**). IATA added their own questions (2, 3, 6) whose results were confidential and were not released to the author. Some questions (i.e. 7, 8 and 9) were open-ended which allowed airlines to describe what particular strategies positively impacted revenues when competing with low cost carriers and what particular strategy negatively affected their bottom line. The analysis on this

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IATA's behalf throughout the world and it was through this collaboration that IATA agreed to sanction this survey.

[165] Numerous round table discussions took place between the author and several IATA representatives via telephone as well as one-to-one correspondence through email, and this continuous dialogue structured the questionnaire. IATA allowed the author to include questions 1, 4, 5, 7, 8 and 9 while the remaining questions were intelligence gathering data for IATA.

section however found that airlines just reiterated their most important strategy and most difficult competitive response and was subsequently excluded from the analysis in this chapter. The last open-ended question in the survey allowed the strategy directors to include other actions that they would consider revolutionary (i.e. outside the box thinking). Given their vast experience and exposure to the industry some of these ideas proved very useful. The results from open-ended questions cannot be statistically analysed but will be qualitatively discussed in the concluding part of this chapter.

An important decision made as a result of the overall collaboration was to change the structure of question five 'Air Travellers Choice', which was a closed question. In the original passenger surveys conducted in Ireland, Malaysia and India, passengers ranked in ascending order (e.g. 1, 2, 3, etc.) the principle reasons why they choose to travel with a particular airline. However the IATA survey sent to network airlines structured this question as a five-point likert scale arrangement (i.e. not at all, not very, some, somewhat, extremely) in order that the results would yield a more precise and valid response from each surveyed airline. The method of linking the passenger ranking to that of the five-point likert scale is discussed later.

In the questionnaire, one flight product was preset by IATA to avoid data distortion. The results from the passenger surveys that were conducted in Ireland, Malaysia and India all cited that 'safety' was one of the least considerations of passengers when choosing a carrier. However, IATA was adamant that terrorist related activities such as: 9/11; plots to place explosives on aircraft at British airports; Spanish bombings; and attempted bombings at Glasgow airports would trigger airlines to place 'Safety' as a very important attribute in the survey, which was not the case. IATA justified their decision to preset the 'Safety' attribute on the grounds of IATA's Operational Safety Audit (IOSA), which is a safety benchmark that all airlines must achieve if they are to retain their IATA membership. IATA stated that the 'safety question' could be misinterpreted by airline executives to be related to its safety audit or more alarmingly it could be misinterpreted as a 'loaded question' to determine how important safety is to each surveyed airline. IATA steadfastly insisted that this methodology had to be rigorously enforced. Salter (2007) stated that IATA and ICAO are the industries experts on issues of safety and security. Thus **safety** was enabled as a 'not at all' important attribute for both *leisure* and *business* passengers. See **Appendix VII**.

IATA emailed the top 150 world airlines (in terms of revenues earned[166]) and the respondents were given a two month window in which to complete the questionnaire and were reminded by another email (sent with a high priority default) two weeks prior to the set deadline. The survey had to be extended for a further six weeks because of the low uptake and airlines were again reminded of the closing date one week prior to the

[166] The airline that generated the highest revenue in 2005 was KLM/Air France, while Air Do (Japan) ranked in 150th position.

deadline. IATA controlled the data and then forwarded the author the responses from questions 1, 4, 5, 7, 8 and 9, while IATA kept the responses from questions 2, 3 and 6 for their own analysis. A total of 41 responses were received, giving the survey a 27.3% response rate which is well above the response rate of IATA's Corporate Air Travel Survey (CATS) of 19.2% reply rate in 2004. The strategic management literature claims that a survey with a '20%+' penetration rate is enough to validate a strategy forming process (Menon, Bharadwaj and Howell, 1996; Slater et al. 2006). Table 63 below shows the airlines that responded to the questionnaire and they were divided into three primary regions namely Europe; Asia including Australasia; and the Middle East, Africa, India, Sri Lanka and Bangladesh[167]. There was no response from any carrier in North America[168] and only AeroMexico from Central America replied. However, Aeromexico had to be eliminated from the analysis as it could not be compared to any other carrier from that region, which lowered the overall response rate to 26.6%.

Table 63. Airline respondents

	European carriers	Asian and Australasian carriers	Middle East/Indian/African carriers[2]
1	Aer Lingus	Air China	Air Sahara
2	Air France	Air New Zealand	Biman Bangladesh
3	Alitalia	ANA	Egyptair
4	British Airways	China Southern	Emirates
5	CSA	Garuda	Gulf Air
6	Finnair	Korean Airlines	Indian Airlines
7	Iberia	Malaysia Airlines	Jet Airways
8	LOT	PAL	Kuwait Airways
9	Lufthansa	Qantas	MEA
10	Malev	Singapore Airlines	Oman Air
11	Olympic	Thai Airways	Royal Jordanian Airlines
12	SAS	Air China	South African Airways
13	Spanair	Air New Zealand	Sri Lankan Airlines
14	TAP	ANA	Yemenia
15	Turkish[1]		

[1] Turkish Airlines was included in the European group because the carrier serves 96 European destinations and approximately 74% of its short-haul revenues (excluding domestic operations) stem from its European operations (Corekci, 2007). Since almost three-quarters of Turkish Airlines short-haul revenues stem from its European operations, it was included under European carriers. In addition Turkey has had several accession talks with the EU to allow it to become a European member.

[2] The Middle East, Africa, India, Sri Lanka and Banglasdesh were ranked together because they are all within a 3 hour flight time of Dubai, Doha, Abu Dhabi, Bahrain and there were not enough carriers in one particular continent to justify separating them. In addition, the region has a similar regulatory process and some of the airlines had similar profiles as the annual revenues and number of passengers uplifted by Biman Bangladesh for example are close to that of Yemenia, which is an Arab based carrier.

[167] From now on we will refer to India, Sri Lanka and Bangladesh as the Indian subcontinent.
[168] IATA provided no suggestion for the low response from this region.

Because of the commercial sensitivity of the data, IATA imposed a restriction on the results and stated that they cannot be published in any format (i.e. conference papers, journal papers, book chapter, etc) till January 1st 2009 and that the thesis must be restricted from public viewing in the university library till that time. Any person who wishes to make a reference to the survey data before this date must contact the author or supervisor for approval. The results from each of the three regions; Europe; Asia; and the Middle East, African and Indian subcontinent will each be discussed later in the chapter.

10.3 Methodology

This section describes the statistical analysis that was applied to the results of the questionnaire. Firstly, it outlines how the strategic capability of each incumbent was measured and secondly it calculates the correlation coefficients of the differences between what passengers' state they require and airlines' views of the requirements of passengers.

10.3.1 The strategic capabilities of incumbents

Johnson et al. (2005, p117) states that the strategic capability is the adequacy and suitability of the resources and competences of an organisation for it to survive and prosper. The strategic capability also depends on its organisational competencies, which are ultimately driven by its management and different capabilities are likely to yield different marginal benefits to the firms. Teece et al. (1997) states that strategic capability is the ultimate driver of competitive advantage because when management reconfigures its resources and operational routines, it can obtain maximum returns. A number of researchers such as Henderson and Cockburn (1994), McGrath et al. (1995) and Ethiraj et al. (2005) have used surveys to measure the strategic capability of companies. The IATA questionnaire sent out to network airlines worldwide included 35 strategy question-statements comprised of two unique divisions. The first probed the **level of difficulty** in implementing strategies, which could be viewed as constraining elements when implementing strategies. Each question measured the dimensions of each specific level of difficulty via a 5 point likert scale. The second investigated the **level of importance** that a network airline placed on each particular strategy (e.g. frequent flyer program, travel policy agreements, etc), the aim being to enable each incumbent to compete more effectively with low cost carriers. Each question again measured the dimensions of each specific level of importance via a five point likert scale.

Hence, the **strategic capability of each airline is determined by the strategies that it deems important** in competing against the low cost carriers which is **subtracted from the difficulties** (constraining elements) that each airline experiences in implementing its strategies. The objective was to provide a methodology which measured the capability

of how much each full service airline could respond to low cost carriers and compare each airline's response strategy.

There were a number of question-statements on the **difficulty** of implementing strategies which were arranged as a Likert scale from 'not at all' through to 'extremely'. The incumbent with the lowest average score (least difficulty in implementing strategies) was classified as the benchmark airline. Benchmarking is the process of comparing a firm's performance against the practices of other peer companies and it evaluates various aspects of their business processes in relation to best practice. Mittelstaedt (1992) stated that companies should replicate as many of these benchmarks as possible to enhance their competitive advantage. According to Wallack (1990) there can be as much as a tenfold difference in the quality, speed and cost performance of a world-class company versus an average company. Francis et al. (2005) indicated that benchmarking was identified as the most used performance improvement technique for airlines with 88% of the researcher's airline survey sample claiming to engage in some form of benchmarking activity.

The risk of respondent bias can distort the results and recently, researchers have been urged to seek **theoretical explanations** for differences in patterns of response rather than immediately conclude that such differences are a result of response bias (Fischer, 2004; Smith, 2004). To determine the impact of informant bias in the study, t-tests were used to examine differences in the degree of airline responses of a specific set of airlines that had relatively strong operating margins (i.e. greater than 5.2%). While slight differences were detected between the groups, this difference was not significant ($t = 0.81$, $p > 0.1$) and on the basis of these tests, informant bias does not appear to be a concern in this study.

There were 14 question-statements on the **difficulty** of implementing strategies and the difference between the benchmark carrier (least difficulty in implementing strategies) and the other sampled airlines (experienced more difficulties in implementing strategies) is statistically represented by the **average deviance**, which is calculated as follows:

$$D(x) = \frac{1}{N}\sum_{j=1}^{N}(x_j - X_j)$$

Where:

$D(x)$ = Difficulty in implementing strategies

N = 14 (number of questions asked on Difficulty)

x_j = Ranking of j category in questionnaire (i.e. difficulties) for a given airline

X_j = Ranking of j category in questionnaire (i.e. difficulties) for a benchmark airline

Since $x_j > X_j$ for every airline (other than the benchmark one) on average, D(x) must be positive. D(x) must be zero if this receives the lowest score in all questions.

There were 21 questions on the various strategies that would prove effective in competing against low cost carriers and these were called **important** strategies and were also arranged as a likert scale from 'not at all' through to 'extremely'. The incumbent with the highest average score was again classified as the benchmark airline and the difference between the benchmark carrier and the other sampled airlines is statistically represented by the **average deviance,** which is calculated as follows:

$$I\ (y) = \frac{1}{M}\sum_{i=1}^{M}(y_i - Y_i)$$

Where:

I = Important strategies for competing against low cost carriers

M = 21 (number of questions asked on Strategic Importance)

y_i = Ranking of i category in questionnaire (i.e. importance) for a given airline

Y_i = Ranking of i category in questionnaire (i.e. difficulties) for a benchmark airline

Since $y_i < Y_i$ for every airline (other than the benchmark one) *on average*, *I(y)* must be negative. I(y) must be zero if this receives the highest score in all questions.

The **strategic capability** of each airline is the difference between the **average deviance** of the strategies that each incumbent deemed important in responding to low cost carriers and the **average deviance** of difficulty that each incumbent experienced in implementing such strategies and is represented below.

$$\boldsymbol{S\ (x)} = \frac{1}{M}\sum_{i=1}^{M}(y_i - Y_i) - \frac{1}{N}\sum_{j=1}^{N}(x_j - X_j)$$

If the same airline is used as the benchmark for both D(x) and I(x) then S(x) is zero. Otherwise, the incumbent with the least negative S(x) is the one with the strongest strategic capability. This airline will represent the new benchmark that will be compared to all other carriers. The incumbent with the strongest strategic capability will represent the new benchmark airline that will be compared to all other airlines.

10.3.2 Incumbents' abilities to meet customer requirements

Johnson et al. (2005, p125) state that a company can build competitive advantage if it meets the needs and expectations of its customers. When applied to the airline industry, academics such as Gilbert and Wong (2003) and Aaker et al. (2003) have also argued that airlines must accurately perceive what passengers want and determine what they expect from the service (Park et al., 2004; Aaker et al., 2003; Gilbert and Wong, 2003). The McKinsey group also reiterated that airlines must gain a better understanding of their customers (McKinsey Quarterly, 2005 p6).

As mentioned previously, the IATA questionnaire sent out to airline incumbents worldwide included a subsection on air traveller's choice. It listed the principle reasons why passengers choose to travel with an airline and this information was amassed from passenger surveys that were conducted in Ireland, Malaysia and India. The aim then was to investigate if the airlines perception of passenger requirements is synchronised with what passengers actually require. The passenger rankings of the flight products (e.g. fare, schedule, frequent flyer program, etc.) from the three surveys conducted in Ireland, Malaysia and India were grouped to represent one common passenger ranking. They were integrated because travel today is highly international and interlining passengers via alliances, code sharing and block space agreements are commonplace. Consequently there is a large mix of nationalities on every flight as British citizens for example travel on India's airlines while United Arab Emirate citizens travel on Malaysia Airlines, etc. and therefore airlines offer similar types of products to make the journey seamless. The rankings of the leisure and business passengers amassed from the three passengers surveys are listed below in Table 64.

Table 64. The rankings of leisure and business passengers that were derived from the passenger surveys conducted in Ireland, Malaysia and India.

	Ranking of the leisure passengers[1]			**Ranking of the business passengers**
1	Fare		1	Schedule
2	Schedule		2	Reliability
3	Reliability		3	Frequent Flyer Programs
4	Quality		4	Quality
5	Connections		5	Connections
6	Frequent Flyer Programs		6	Corporate Policy
7	Service		7	Fare
8	Comfort		8	Service
9	Safety		9	Comfort
			10	Safety

[1] There were 9 characteristics for Leisure passengers as Corporate Policy was **not** included as a flight product.
Note: The questions in the survey were mutually exclusive, i.e. if schedule for example is ranked number 1, then it cannot be ranked number 2, 3 4, 5, 6, 7, 8 or 9.

The same passenger ranking question that was administered to the airline passengers was also posed to each incumbent through the IATA survey and was structured as a five-point Likert scale question (i.e. not at all, not very, some, some-what, extremely) as mentioned earlier.

To correlate the responses of the passenger ranking survey outlined in Table 64 (above) with the airline responses, the information provided by passengers on the array of flight characteristics was rescaled to represent relative cohorts on a five-point Likert scale[169].

The rank correlation of the flight products from the responses of the surveyed airlines and the surveyed passengers are measured using the Spearman rank correlation coefficient[170] and the results were rescaled accordingly[171]. This statistical approach was used because for the following reasons:

- Spearman's rank correlation is a nonparametric technique for evaluating the degree of linear association or correlation between two independent variables;
- It is relatively insensitive to outliers and there is no requirement that the data is collected over regularly spaced intervals;
- It can be used with small sample sizes.

The Spearman rank correlation coefficient is calculated according to the following formula:

$$\rho_s = 1 - \frac{6\sum_{i=1}^{n} d_i^2}{n^3 - n}$$

where d_i is the difference between the rank for each of n x_i and y_i pairs.

The above formula is constructed so that it gives a range of values from +1 (perfect positive[172] correlation), through 0 (no correlation), to -1 (perfect negative[173] correlation). The calculated value of $\rho_{s,}$ is then tested for the significance of the correlation against the Table of Critical Values to determine whether to accept or reject the null hypothesis. It

[169] The array of flight characteristics were rescaled to represent relative cohorts for **Leisure passengers** as follows: all values between 1-2.6 correspond to "extremely", between 2.61-4.2 to "somewhat", between 4.21-5.8 to "some", between 5.81-7.4 to "not very" and between 7.41-9 to "not at all". For **Business passengers** the relative cohorts were as follows: all values between 1-2.8 correspond to "extremely", between 2.81-4.6 to "somewhat", between 4.61-6.4 to "some", between 6.41-8.2 to "not very" and between 8.21-10 to "not at all". Thus if a low ranked statement by a passenger (e.g. 9) matches with a low rated airline answer (e.g. "not at all") the result is correlated.

[170] The Spearman's rank correlation coefficient is a measure of linear relationship between two sets of ranked data.

[171] The rescaling process is based on the implicit assumption that a lowly (highly) ranked statement (e.g. number 9 (number 2)) is also valued as a lowly (highly) rated one (e.g. "not at all important" ("extremely important")) by the same passenger. Since ranking is mutually exclusive (and expressed in relative terms) while rating is not, this is not necessarily the case, i.e. a lowly ranked statement could in theory be highly rated and vice versa.

[172] A positive correlation is one in which the ranks of both variables increase together.

[173] A negative correlation is one in which the ranks of one variable increase as the ranks of the other variable decrease.

tests the probability that the ranking between the data pairs (i.e. response of the requirements of passengers to the response of the airlines' view of passenger requirements) are correlated. The **Table of Critical Values** as outlined in Table 65 below shows a number of data pairs or degrees of freedom (df = n-2; two tail test). There are 9 data pairs used for leisure passengers which include: Frequent Flyer Programme; Fare; Quality; Connections; Reliability; Flight Schedule; Safety, Comfort and Service; while there are 10 data pairs used for business passengers as corporate policy is an added feature specific to these travellers. The table infers a value of 0.70 for the leisure passenger and 0.648 for the business passengers at the 0.05 significance level (most usual statistical level taken). These values are used as the reference points to depict the level of statistically significant positive correlation between the ranking of the passengers' preferences for flight products and airlines' views of the passengers' requirements for the flight products. Any value above 0.70 infers that there is a very strong ranking correlation between leisure passengers and airlines perception of the requirements of leisure passengers. This analysis is conducted through the statistical software package SPSS.

Table 65 Table of critical values of Spearman's Rank Correlation coefficient

Number of data pairs	Level of significance (α) – two tailed test	
	.05	.01
5	1.	-
6	0.886	1
7	0.786	0.943
8	0.738	0.893
9	**0.700**	**0.783**
10	**0.648**	**0.745**
12	0.587	0.671
…	…	…
30	0.364	0.478

10.4 General Findings in respect of the European carriers

European network airlines such as British Airways, Aer Lingus and British Midland have been exposed to low cost carriers for over a decade, as around 46% of all seats from the UK to intra-European destinations were on budget carriers in 2005, while Ryanair was carrying 41% of Ireland's intra-European seats; throughout Europe as a whole, low cost carrier penetration had reached around 24% by the same date (**See Chapter 4, section 4.2.1**). This has occurred because of two primary reasons, namely new passengers who have been attracted by the cheap fares and from passengers who have switched from network airlines to budget carriers. Studies have indicated that between 37 – 40% of passengers travelling on full service airlines have switched to low cost carriers (Hapag-

Lloyd Express 2004; ELFAA, 2002). Consequently, this has been partly responsible for the underperforming financial results of the AEA member airlines, as they lost a total of US$6.3 billion from 2000 to 2005 (Operating economy of AEA airlines, 2004, 2005; AEA Market Research Quarterly, 2005). See **Chapter 4** for a full account of the problems that low cost carriers have created for full service airlines: it is apparent that that this new generation of leaner and more agile airline business model was causing major difficulties for the traditional full service carriers. One of the objectives of this Thesis was to find out the principle difficulties that the European full service airlines encounter when faced with the threat from low cost carriers and what strategies from their perspective would prove effective in competing against them.

10.4.1 The level of difficulty for European carriers

The network carriers were asked to identify the level of difficulty that they had encountered when responding to low cost carriers and the results are shown below in Figure 88; the attributes that caused the most difficulties for the network carriers are illustrated with the highest average scores. The data concluded that the greatest difficulty facing Europe's incumbents were their inability to increase yield in the short-haul market: this is a well known problem but it does emphasise that incumbents are extremely concerned about falling revenues: they need to find alternate sources of revenue such as from dynamic packaging or carrying more cargo in order to offset further yield erosion. The survey has uncovered that unions have significantly impacted the ability of European incumbents to respond to the low cost carrier threat. Some of the unions are very powerful hard-line organisations. Overstaffed airlines who wish to reduce their number of employees or improve the productivity of their employees and aircraft are all subject to union agreement. These talks may proceed for many months and may end up in gridlock, which may eventually lead to strike action. A proposed one day strike at British Airways in 2007 for example was estimated to cost the company £15 million and it would have also caused serious damage to its reputation (The Telegraph, 2007). It was claimed that Alitalia would have been profitable by 2006 if management at the airline had been able to offset five sets of strikes in 2005 and numerous strikes in 2006, including a 6-day stoppage in January (ATI, January 2007).

The survey also found that management does not find it particularly difficult to implement changes and this was confirmed by its speedy ability to drop an unprofitable route, which suggests that unions may be a key barrier in implementing strategies at European incumbents. It is vital that unions understand that the competitive dynamics between full service airlines and low cost carriers are completely different than rivalry among network carriers. Unions need to be open to the idea that incumbent carriers need to structurally change if they are to sustain financially successful operations in the short-haul market. Management need to make unions and employees aware of the continuing

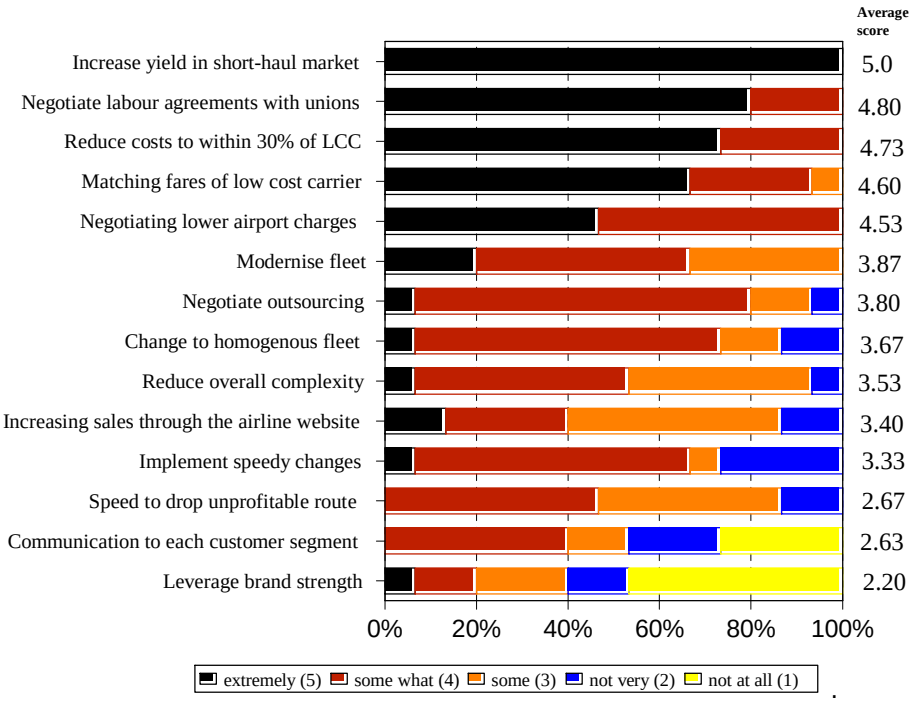
growth and market penetration of budget carriers. Unions must also be made aware that there is a large gap in the salaries, productivity, aircraft utilisation, etc., between a full service airline and a low cost carrier.

Another major difficulty cited by the survey is high airport costs. The IATA Airline Cost Performance report (March 2007) shows that this cost represents almost one-third of the cost difference between European incumbents and Ryanair (**see chapter 4 section 4.5.3**). Airlines serving primary airports have been subject to continuous hikes in airport charges, despite the fact that the latter continually generate high annual profits[174] and full service carriers must protest more forcibly either through international organisations such as ICAO, IATA, AACO, etc or by lobbying through their respective alliances (where a number of airlines collude in order) to voice their opposition against the increased charges and push airports to develop revenues from other sources such as shopping, car rental and so forth. The Boston Consulting Group (2004) extensively studied airport costs, revealing that these could be reduced by an average of 20-30% and passed on as savings to airlines. Two other major difficulties facing incumbents are reducing their cost base to within 30% of low cost carriers and matching their fares. Due to the poor financial returns of the European network carriers, they have been unable to modernise their fleets and data indicates that they had only ordered 26 narrow-body aircraft as of March 2005 while the budget carriers ordered 332. This impacts their ability to compete and the survey discovers that this is another immediate difficulty as future profits may have to be set aside to procure aircraft,[175] which reduces investments in other areas, such as upgrading IT systems for example.

The results also conclude that European incumbents have little difficulty in increasing sales through the internet, yet Pilling (2006) states that only one-third of British Airways passengers booked tickets online by 2006 and 15% of Iberia's passengers did so, in contrast to the 97% of Ryanairs' passengers who book online. This implies that management needs to act faster and find innovative ways to encourage passengers to book online rather than through traditional channels and could be done by promoting the concept that an airline's lowest fares are only available through its website. Finally to conclude this section the survey reported that a network carrier has the least difficulty in leveraging its brand, yet the media is flooded with advertisements from low cost carriers. Incumbents are well established flag carriers and they should capitalise on their legacy of trust, quality, customer service and dependability, with Mercer Consulting (2001) stating that customers were four times more likely to choose the airline with the strongest brand than the airline with the weakest.

[174] The operating margins of airports such as BAA, Hong Kong and Atlanta were 31.2%, 60.2% and 65.5% respectively in 2005 (Airline Business, December 2006).
[175] Aircraft prices are currently peaking as demand for aircraft far outstrips production capacity.

Figure 88. The principle difficulties encountered by the European full service airlines when responding to the low cost carriers.



10.4.2 Important strategies employed by European incumbents to compete against low cost carriers

Another set of questions posed to the network carriers probed which strategies would prove effective in competing against low cost carriers as shown below in Figure 89. The survey revealed that the most important strategy for European network carriers is to serve primary or hub airports and become market leaders at their home base. Hub airports facilitate the interlining of passengers and the incumbents have indicated that this remains an important part of their business plan, a 58% of KLM's traffic for example transfers at Schipol, while 65% of Lufthansa's passengers transfer at Frankfurt (Fuhr and Beckers, 2006). Hubs are important transit points for passengers from alliance or code share flights and the survey has highlighted that this is an important contributor to the revenues of an incumbent and is a valuable differentiator between the business models of a network and low cost carrier. European incumbents consider that practices common to low cost carriers such as operating on a point-to-point basis or using secondary airports would be unsustainable or weak strategies and prefer to remain serving primary airports, which may be considered short-sighted as low cost carriers will remain unchallenged in these markets.

Further analysis of the survey concluded that European full service airlines placed 'satisfying the needs of the passenger' as the second most important strategy in

overcoming the low cost carrier threat. Evidence had suggested that a large number of passengers travelling on incumbents were switching to low cost carriers and that network carriers were not addressing the needs of their passengers. Aaker et al. (2003) has long argued that airlines must perceive what passengers want and expect, while Holloway (2002, p230) stated that airlines must bridge the gap between a passenger's expectations and actual delivery. However this survey has clearly demonstrated that there has been a paradigm shift in the way that legacy carriers now wish to accommodate the needs of their passengers and they have prioritised this requirement. Other strategies given high priority by the network carriers include frequent flyer programs and product differentiation, which are both aimed at passengers, proving that network carriers are refocusing their efforts on satisfying the needs of passengers. Frequent flyer programs are beneficial in two ways because firstly, they keep passengers loyal, as Kalakota et al. (2001) have showed that the average company loses half of its customers every five years, and secondly they generate additional revenues because service providers such as car rental companies for example give mileage points to their customers and subsequently pay the airline between 1-2 cents for each mile awarded. In addition, network carriers believe that they can offset higher fares by offering differentiated products with Porter (1979) stating that consumers tend to be more price sensitive if they are purchasing products that are undifferentiated. The results of the questionnaire concluded that product differentiation is paramount in offsetting the higher fares charged by incumbents as they add significant value for the passenger. The survey outlines that network carriers are also emphasising Customer Relationship Management (CRM) as a tool to identify the value (profitability) of passengers and wish to establish long-term mutually beneficial relationships. Earlier, unions were cited as being a major difficulty for network carriers and they have indicated here that it is essential that management is fully open and transparent with unions as this will reduce confrontation while implementing changes.

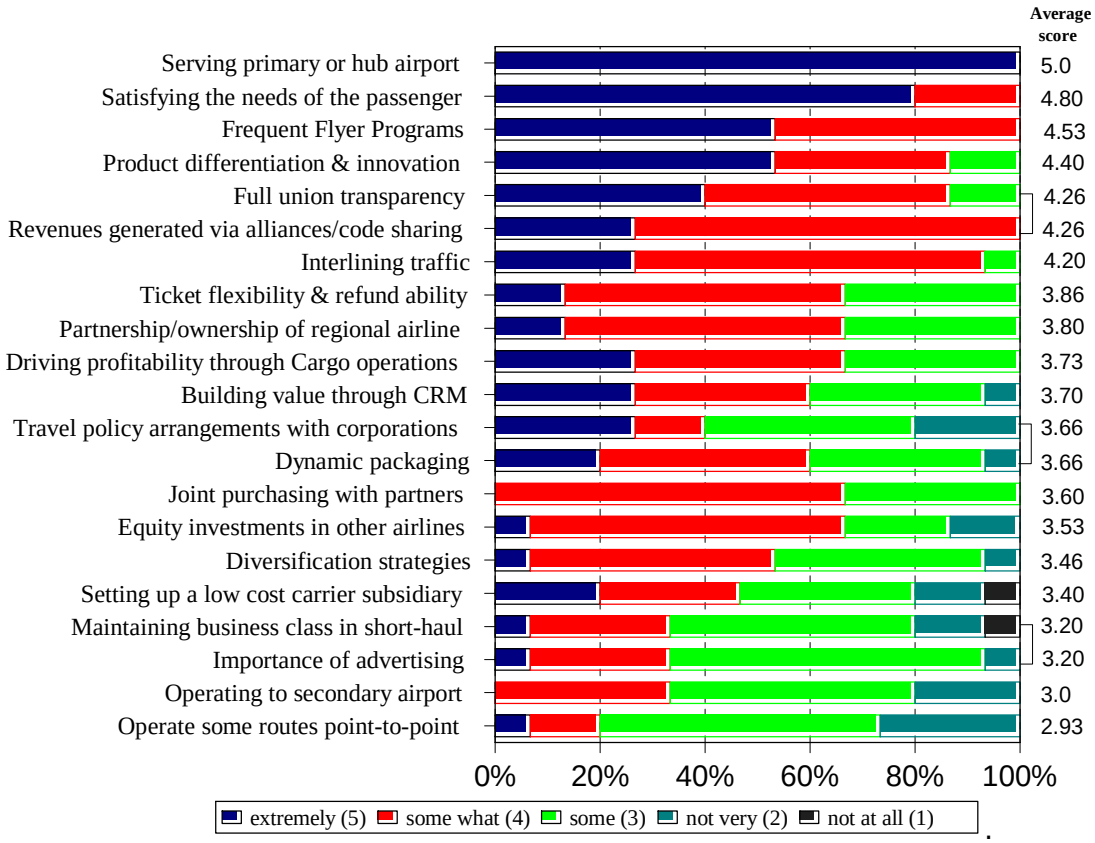
Interestingly, European full service airlines equally value the importance of travel policy arrangements with corporations and dynamic packaging, as they are low cost methods to secure additional revenues. Travel policy arrangements are unique to network airlines and are a win-win strategy because corporate travellers get access to multiple flight products at discounted prices, while airlines secure exclusive agreements with companies whose executives travel extensively. Research by Carlson Wagonlit Travel (2006) found that 81% of travel managers from around the world had rarely booked corporate executives on low cost carriers and corporate policy will remain an important differentiator between airline business models and it is a strategy that network carriers should develop further. European incumbents have also targeted dynamic packaging as an important strategy, believing that it will become an important tool for generating revenues, which indicates that they are closely analysing various components of the low cost model that add value and that could be easily incorporated into the full service airline business model. Ryanair

for example, generated 15% of its revenues through dynamic packaging in 2004/05 and so the potential for incumbents to increase revenues by this method is apparent. British Airways chief of IT Paul Dolby stated that 'it will become a very useful channel for us' (Pilling, 2006).

The questionnaire also found that certain strategies were not as effective and included; maintaining business class, advertising and setting up low cost carriers. The general view among the sampled European airlines is that the short-haul business passenger market is in jeopardy as passengers can easily transition to an economy class seat for the short journey or switch to a low cost carrier. However this strategy remains blurred because they have travel policy contracts which ensure that executives travel in business class and business travellers transferring from a flight offering business class (e.g. alliance, code share or an airline's own long haul flight) would prefer to conclude their journey in business class and maintain a seamless journey. Clearly incumbents need to make a permanent and decisive evaluation about short-haul business class and its implication if it is removed from the cabin. European incumbents also do not consider that advertising is an important strategy. Sentance (2004) stated that British Airways spends roughly 80 per cent of its advertising budget in the London and New York markets; surely this expenditure is misbalanced as one of the greatest competitive threats now facing BA is its under performing intra-European routes where advertising could influence a passenger's decision on choosing a carrier. Both Ryanair and easyJet consistently promote their fares in the UK, while the British incumbent has polarised its advertising budget elsewhere, losing the opportunity to demonstrate to customers that it offers a whole range of value adding products, such as low fares, primary airports, food and beverages, ability to interline, comfortable seats, generous baggage allowance, frequent flyer points, etc., and this is certainly an area of weakness for incumbents. Finally, the general conclusion of Europe's full service airlines is that setting up a low cost carrier subsidiary is not an effective strategy, as witnessed by KLM and BA. Graf (2005) concluded that the failure of Europe's low cost carrier subsidiaries in the past was because they were not independent from the incumbent. However, 4[176] out of the 15 sampled European airlines have introduced budget carrier offshoots, but as yet, they have not been as effective as Qantas' JetStar and the general consensus among European network carriers is that other strategies can prove to be a more effective weapon against low cost carriers.

[176] European incumbents sampled in the survey that have set up low cost carriers, which are still in operation include: Lufthansa/Eurowings (Germanwings); LOT Polish Airlines (Centralwings); Iberia (Click Air).

Figure 89. Important strategies used by European network airlines to respond to low cost carriers.



10.4.3 The strategic capability of European incumbents and its relationship to operating margin

The results of the survey concluded that Aer Lingus has the strongest strategic capability[177] of the European carriers in competing against the low cost carriers, followed by British Airways. Aer Lingus has been widely acknowledged as a traditional carrier that revamped itself in order to survive low cost competition. See **Chapter 5** for a full account of how Aer Lingus restructured itself in order to compete against the low cost carriers. O'Toole (2004) pointed out that Aer Lingus benchmarked itself against Ryanair, which showed the extent of change that was required if it were to challenge the budget carrier; its subsequent reformation caused Ryanair's profits on the Dublin-London city pair to fall by 20% in 2003 (Aviation Strategy, May 2004). ABN AMRO (2005) also concluded that Aer Lingus had been the most successful European carrier in responding to the low cost carriers, followed by British Airways, which confirms the results of this survey.

[177] This was calculated by subtracting the 'average deviance' of strategies that were deemed important from the 'average deviance' of difficulty experienced by each incumbent.

Figure 90 below shows the strategic capability of each airline, which is represented by the size of each circle, and Aer Lingus is positioned as the benchmark airline as the data concluded that it had the strongest capability (based on aggregate terms of least difficulty and importance placed on strategies), yet British Airways and Lufthansa placed more emphasis on some strategies than Aer Lingus. The airlines are positioned relative to their deviances from the benchmarked incumbent. It is interesting to note that all the Eastern European airlines in the sample (i.e. LOT, Czech and Malev) have very weak strategic capabilities to compete against the low cost carriers. This may be due to the fact that airlines from Eastern Europe had previously operated on the traditional bilateral arrangement, which had little competition from budget carriers. However, upon joining the EU in May 2004 the Eastern European network carriers entered into an open skies policy that instantly allowed multiple airlines to enter their markets and they were not prepared for the sudden onslaught of competition that included budget carriers. The survey revealed that these carriers found it difficult to implement strategic change, for example they encountered enormous difficulty in being able to make speedy changes and were unable to quickly drop an unprofitable route in contrast to their western counterparts. However, their culture appears intolerant of slow progress as LOT Polish Airlines for example had recently dismissed two CEO's within twelve months while a similar event transpired at Czech Airlines and this type of behaviour has a very disruptive effect because when new management comes to the helm of an airline, they give it a different direction, not allowing the existing strategies that are in-place time to reach their objectives. They also found it difficult[178] to increase sales through the internet and must therefore continue selling a large part of their seat inventory through travel agents, which significantly increases the cost of distribution.

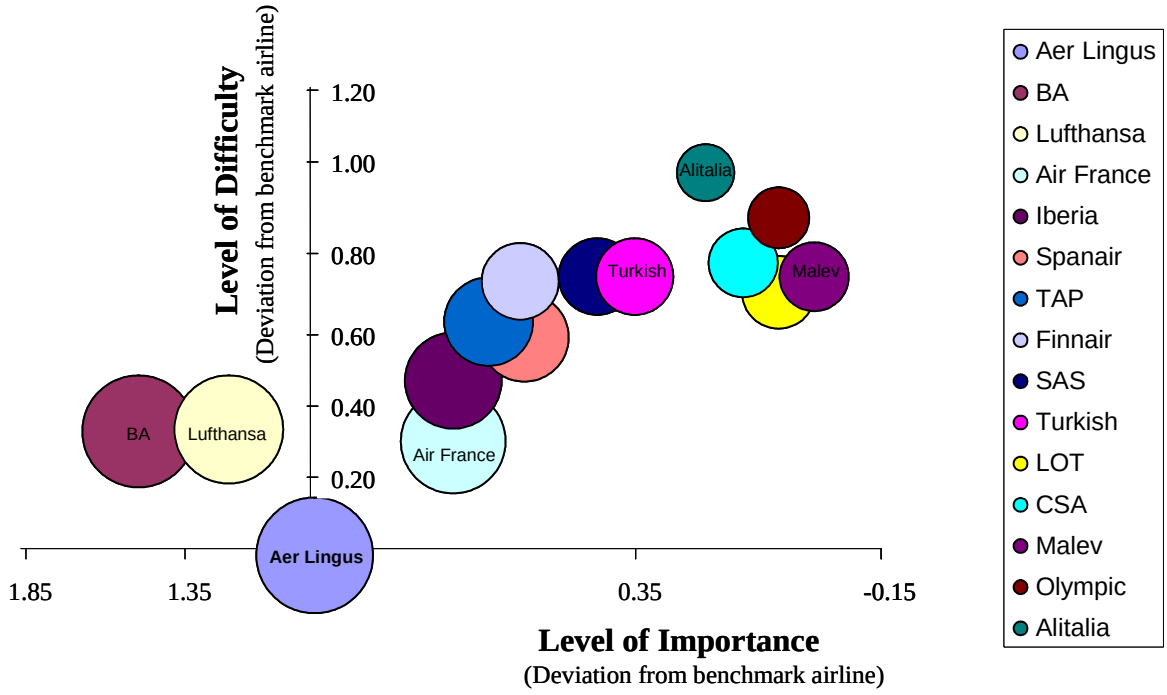
The Eastern bloc carriers were the only airlines stating that satisfying the needs of passengers was only 'some what important' while *all* the other airlines in the sample were of the view that it was 'extremely important'. Other underperforming airlines in this sample were Olympic and Alitalia which comes as no surprise. Doganis (2006, p253) gave a concise account of the bureaucratic on-goings at Olympic stating the carrier was an appendage of the government who had not collected any taxes and refused to recover payments of $212 million by late 2002, which were now classified as state aid. In addition it had repeatedly changed management which led to further losses. The results from the survey show both Olympic and Alitalia have found it 'extremely difficult' to make changes, reduce the complexity, modernize their fleets and change to homogenous fleets[179]. In contrast to other European network carriers, both Olympic and Alitalia did

[178] Each of the Eastern European carriers had expressed that it was either 'extremely difficult' or 'somewhat difficult' to make speedy changes, be able to drop an unprofitable route quickly and sell though the internet while most of the other European carriers had much less difficulty.

[179] By early 2007, Olympic had 6 different types of aircraft operating in their fleet, while Alitalia had 5 different types.

not consider that the following strategies were particularly effective against low cost carriers; union transparency, dynamic packaging, travel policy arrangements with corporations, cargo[180], equity investments, advertising and building value through CRM, while the majority of the other western European airlines rated them highly.

Figure 90. The strategic capability of the European incumbents



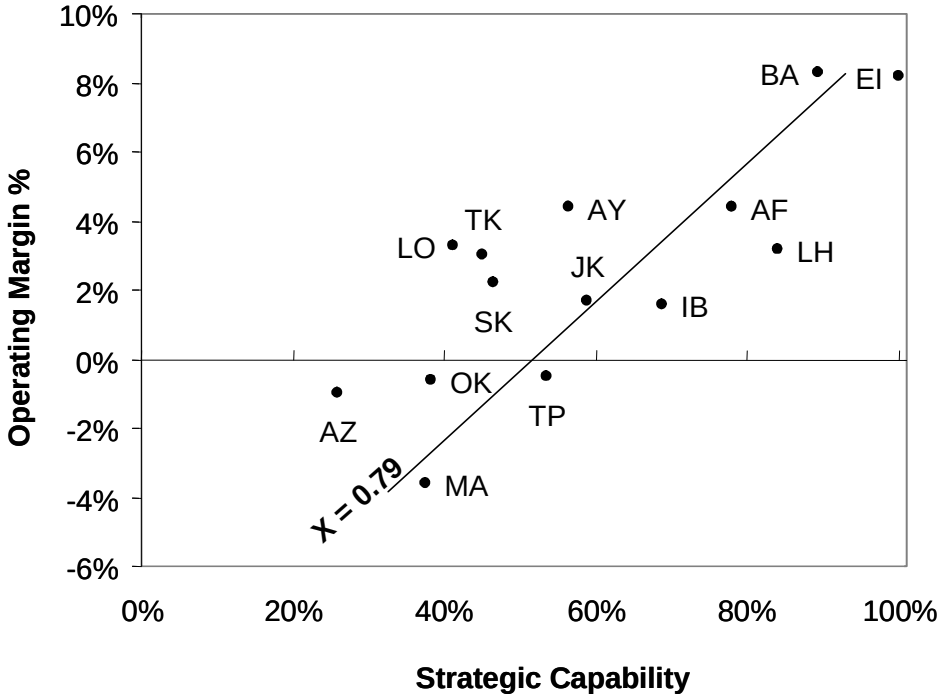
The strategic capability of each carrier is measured against their 2005 operating margin and the results are shown below in Figure 91. Aer Lingus was measured as the benchmark airline as it had the strongest overall strategic capability[181] and all the other data points for the other incumbents were then rescaled accordingly. It is noticed that there is a direct correlation between the operating margins and the strategic capability of incumbents. Aer Lingus and British Airways for example had operating margins of 8.2% and 8.3% respectively in 2005, which represented the highest for network airlines in Europe and the survey revealed that they also had the strongest strategic capability. In contrast, both Alitalia and Malev had operating margins of -1% and -3.6% respectively in 2005, which was reflected in their weak strategic capability. The correlation coefficient

[180] Cargo contributed 10% to Alitalia's revenues in 2005, yet the carrier rated cargo as only of 'some' importance in terms of strategy. Ryanair for example gets 15% of its revenues from dynamic packaging and classifies it as revolutionary.

[181] Aer Lingus' aggregate of least difficulty and importance placed on strategy made it the incumbent with the strongest overall strategic capability. The benchmark airline is set to 100% because otherwise all the data points would become clustered to the centre of the diagram and would be impossible to decipher.

between the operating margin and the strategic capability is 0.79 which is high (1.0 is perfect correlation) and it implies that airlines with a strong strategic strength can expect high operating margins and those with low strengths, low margins.

Figure 91. Comparison of the 2005 operating margins and strategic capability of the European incumbents



Note 1 : AF, Air France; AY, Finnair; AZ, Alitalia; BA, British Airways; EI, Aer Lngus; IB, Iberia; JK, Spanair; LH, Lufthansa; LO, LOT Polish Airlines; MA, Malev; OK, Czech Airlines; TK, Turkish; TP, TAP; SK, SAS.
Note 2: OA, Olympic (operating margin not available)

10.4.4 European incumbents' ability to meet the requirements of their leisure passengers

The IATA sponsored questionnaire sent to incumbents asked each carrier to rank its perception of what **leisure passengers** wanted when selecting a carrier, which was statistically compared to the actual requirements of passengers, gathered from surveys conducted in Ireland, Malaysia and India. The data was statistically analysed in SPSS using the Spearman rank correlation coefficient, which is a measure of the linear relationship between two sets of ranked data, and the results are shown below in Table 66. It is clear that Aer Lingus, British Airways, Lufthansa, Spanair and TAP (shown in bold) have very strong positive[182] correlations in the ranking of flight products as those expressed by leisure passengers. The results for these incumbents indicate that the

[182] A positive correlation is one in which the rankings of both variables increase together.

correlation is statistically significant as represented by the associated low p-values[183] at the 5% significance level. Another cluster of incumbents that include Air France, Iberia, Finnair, SAS, LOT and Olympic reveals that these carriers have some correlation in the ranking of product features as those expressed by leisure passengers, but this is much weaker than the earlier group. Olympic and LOT shows the lowest positive correlation and this indicates that there is a large gap between the airlines' view of leisure passenger demands and the actual requirements of passengers (as indicated by the low Spearman rho values). Holloway (2002, p230) stated that airlines must bridge the gap between a passenger's expectations and actual delivery. There is a more alarming revelation however, as Turkish, CSA, Malev and Alitalia have negative[184] correlations in the ranking of flight products required by leisure passengers, which implies that these airlines are completely out of touch with what the leisure passenger wants. Passengers travelling on these incumbents would quickly switch to low cost carriers as they do not deliver what is wanted. This may explain why low cost carriers had captured over half of the 12 densest routes between London and Italy by 2005, causing Alitalia to retract and it now only flies between two points in Italy (i.e. Rome and Milan) and London.

Table 66. Statistical analysis of European leisure passengers using the Spearman rank coefficient.

	Ability to meet Pax preferences (Spearman ρ)	Statistical significance (P value)
Aer Lingus (EI)	**0.91****	**<0.001**
British Airways (BA)	**0.87****	**<0.001**
Lufthansa (LH)	**0.80***	**0.011**
Air France (AF)	0.62	0.076
Iberia (IB)	0.62	0.077
Spanair (JK)	**0.81****	**0.008**
TAP (TP)	**0.84****	**<0.001**
Finnair (AY)	0.43	0.250
SAS (SK)	0.50	0.174
Turkish (TK)	-0.56	0.121
LOT (LO)	0.28	0.474
CSA (OK)	-0.28	0.458
Malev (MA)	-0.35	0.360
Olympic (OA)	0.28	0.458
Alitalia (AZ)	-0.16	0.684

**,* Correlation is significant at the 0.01 and 0.05 level (2-tailed).

Figure 92. Descriptive analysis showing the ability of European airlines to match the requirements of leisure passengers.

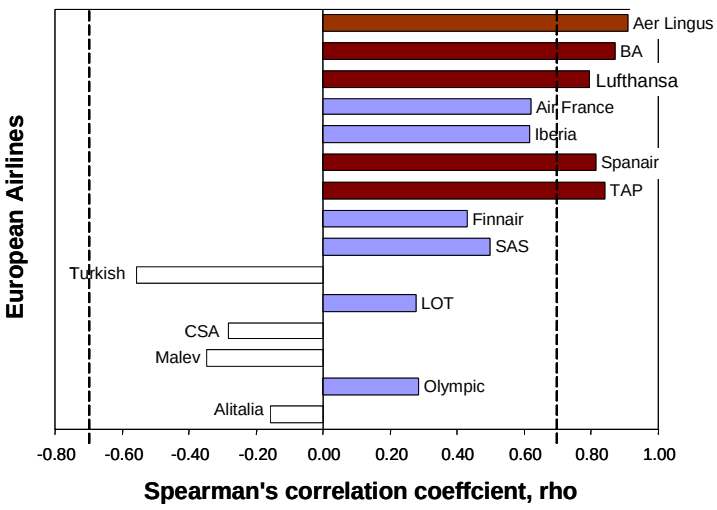


Figure 92 above gives a graphical representation of each incumbent's ability to match the flight product preferences of leisure passengers using the Spearman rho correlation

[183] P-values between the ranges of 0 - 0.05 are statistically significant. At the 1% significance level, there is a 99% chance that the results are correlated and at the 5% significance level there is a 95% chance that the results are correlated. P-values > 0.05 are not statistically significant.

[184] Negative correlation is where the rankings of one variable increase as the rankings of the other variable decrease.

coefficient. Leisure passengers ranked 9 flight products[185] and the Table of Critical Values (Table 65 above) was used to test statistical significance of the ranking correlation between the response of leisure passengers' requirements and each airline's view of leisure passenger requirements. The Table of Critical Values shows that the 9 data pair groupings were statistically significant at the 5% confidence level, measuring **0.700.** Therefore Aer Lingus, British Airways, Lufthansa, Spanair and TAP, which showed a very strong positive correlation at the 5% significance level, are included in this group of airlines as being the most closely aligned matching the requirements of leisure passengers.

10.4.5 European incumbents' ability to meet the requirements of their business passengers

The results for the business passengers are shown below in Table 67. Incumbents such as British Airways, Lufthansa, Air France, Iberia and TAP have a very strong positive correlation in the ranking of product features as those expressed by **business passengers**. The results for these incumbents indicate that the correlation is statistically significant at the 5% significance level and the data shows that these airlines closely match the requirements of business passengers, which would imply that many business passengers will remain travelling with these airlines as their needs are fully satisfied. They are also excellent airlines to collaborate with (i.e. through alliance or code share) as they can assure passengers that the onward flight will maintain high standards. Lufthansa Consulting (2004, p11) concluded that customer satisfaction was rated as one of the most important objectives of airlines worldwide, while IATA (2006) strongly emphasised that customer satisfaction is one of the keys to passenger retention and profitability in a competitive marketplace. Other carriers such as Finnair, Alitalia and SAS have some correlation in the ranking of product features as those expressed by business passengers but fall short of being able to meet their entire demands. However, less than 50% of the European incumbents do not match the demands of the business passenger and of particular significance is Olympic Airlines, which operates a large part of its network within Europe and subsequently are most at risk from low cost airlines. The data indicates that these carriers have completely mismatched the requirements of business passengers and these high yield, frequent travellers may already have shifted to other carriers and this may also be partly responsible for their underperforming financial results. The Aer Lingus example is noteworthy because it showed a very strong positive correlation for leisure passengers but the opposite occurs for business passengers and this is largely due to the fact that it has eliminated the business class product from all its

[185] Flight products for leisure passengers included: Frequent Flyer Programme; Fare; Quality; Connections; Reliability; Flight Schedule; Safety, Comfort and Service.

short-haul flights and this is not appreciated by the business travellers. A business traveller interlining onwards with Aer Lingus for example will not encounter a seamless trip as they are forced to take this segment in economy class and may substitute for a carrier who provides a business class and a business lounge.

Table 67. Statistical analysis of European business passengers using the Spearman rank coefficient

	Ability to meet Pax preferences (Spearman ρ)	Statistical significance (P value)
Aer Lingus (EI)	-0.25	0.34
British Airways (BA)	**0.89****	**<0.001**
Lufthansa (LH)	**0.87****	**<0.001**
Air France (AF)	**0.82****	**<0.001**
Iberia (IB)	**0.71***	**0.014**
Spanair (JK)	-0.32	0.37
TAP (TP)	**0.80****	**<0.001**
Finnair (AY)	0.38	0.30
SAS (SK)	0.02	0.94
Turkish (TK)	-0.55	0.11
LOT (LO)	-0.40	0.36
CSA (OK)	-0.38	0.33
Malev (MA)	-0.55	0.11
Olympic (OA)	-0.11	0.77
Alitalia (AZ)	0.12	0.72

**,* Correlation is significant at the 0.01 and 0.05 level

Figure 93. Descriptive analysis showing the ability of European airlines to match the requirements of business passengers.

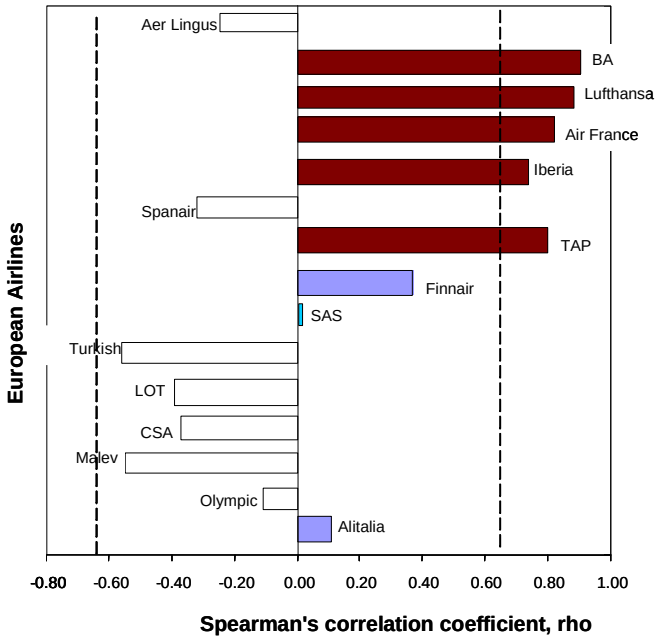


Figure 93 above gives a graphical representation of each incumbent's ability to match the flight product preferences of leisure passengers using the Spearman rho correlation coefficient. Business passengers ranked 10 flight products[186] and the Table of Critical Values (Table 65 above) was used to test statistical significance of the ranking correlation between the response of business passengers' requirements and each airline's view of business passenger requirements. The Table of Critical Values shows that the 10 data pair groupings were statistically significant at the 5% confidence level, measuring **0.648.** British Airways, Lufthansa, Air France, Iberia and TAP show a very strong positive correlation at the 5% significance level and are included in this group of airlines as being the most closely aligned in matching the requirements of business passengers.

[186] Flight products for business passengers included: Frequent Flyer Programme; Fare; Quality; Connections; Reliability; **Corporate Company Policy**, Flight Schedule; Safety, Comfort and Service.

10.4.6 Overview of the strategic capability and ability of European incumbents to meet the requirements of their leisure and business passengers

The strategic capability of each incumbent and its ability to meet passengers' preferences are plotted below in Figure 94 and Figure 95. Both Alitalia and Olympic have weak strategic strength[187] and are marred by management changes, strikes, inefficiencies and high costs, while the survey reveals that they have mixed understandings of the requirements of passengers which has impacted their declining passenger market share. Alitalia for example has completely misjudged the demands of the leisure passenger, while it has a weak understanding of the wants of business passengers, which contributes to its continued poor performance. The Eastern European Airlines could also be facing a similar fate as Alitalia and Olympic, as their ability to compete with low cost carriers is diluted by their misjudgement of the requirements of their leisure and business passengers and in addition top level management is regularly changed which disrupts the implementation of previous strategies that have been set in place.

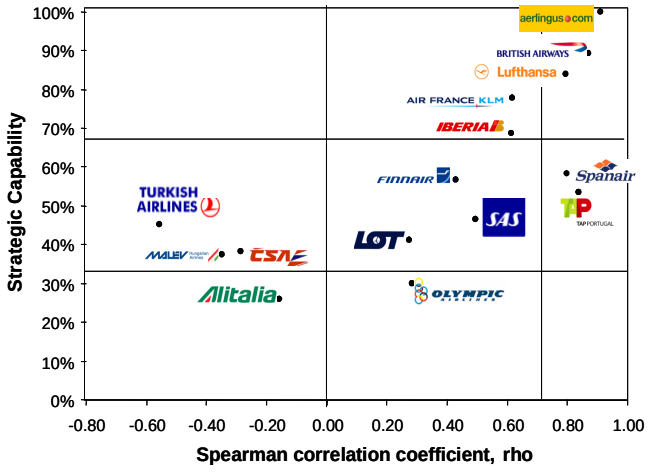
Other incumbents, such as Finnair, SAS and Spanair, could be classified as 'stuck in the middle', as they have a medium strategic capability and are not synchronised with the requirements of passengers, with business passengers in particular prefering to use other competitors, including low cost carriers. Porter (1985) described that such companies remain in this way because they may fail to differentiate themselves from competitors and they may have failed to develop the capabilities or resources needed to be a successful leader. TAP is unique as it has yet to encounter the full impact of budget carriers and the associated problems of overcapacity, however it appears well structured to defend itself.

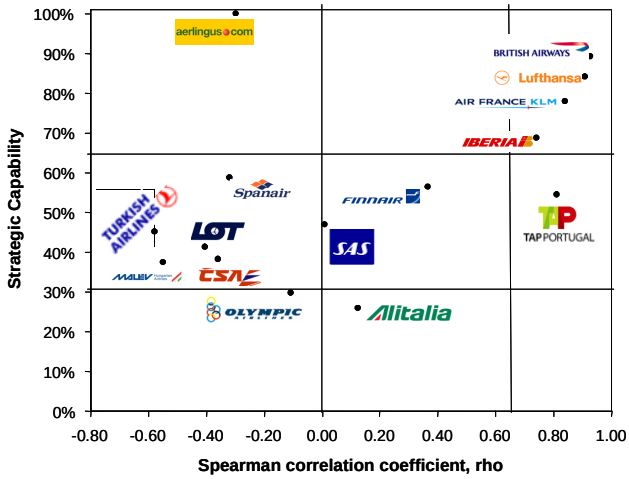
The outright leaders in challenging the low cost carriers are British Airways and Lufthansa, as they have a twin edged advantage over the other leading incumbents such as Aer Lingus, Air France and Iberia because they have a strong strategic capability and an excellent understanding of the requirements of both leisure and business passengers. Sentance (2004) stated that British Airways had lost 11% of its UK market (i.e. inbound, outbound and domestic) to Ryanair and easyJet from 1999 to 2004, but the British incumbent may now be in a position to halt its declining market share and rebuild. The market in France remains relatively protected from budget carriers, which helps Air France, but Iberia is very close to becoming a 'stuck in the middle' full service airline and it needs to carefully refocus its direction. Iberia has recently put forward that it wishes to sell a large part of its equity and this might be an excellent time in which to

[187] Strategic strength is classified as the following; Weak 0 – 0.33; Medium 0.34 – 0.66; Strong 0.67 – 1.00

pursue such a strategy as it is not as competitively advantaged as the other premium European full service carriers.

Figure 94. Relationship between strategic capability and ability to meet leisure passenger requirements.	**Figure 95. Relationship between strategic capability and ability to meet business passenger requirements.**





The five incumbents with the overall strongest strategic capability to compete effectively with low cost carriers are Aer Lingus (EI), British airways (BA), Lufthansa (LH), Air France (AF) and Iberia (IB), measured in terms of the strategies that have proved most effective in competing against budget carriers and the constraining elements that these incumbents faced when implementing these strategies. If other carriers that operate within Europe can match or exceed these attributes, which are listed below in Table 68, then they can mount a strategic counterattack on low cost carriers that should prove to be effective in competing against them. British Airways emphasised the greatest number of strategies that it deemed were most important in competing against low cost carriers from the sampled European incumbents and listed 13 ‘extremely important’ and 3 ‘somewhat important’ strategies. Its emphasis on e-commerce (60% of short-haul booking is now online), brand and revenues from alliance/code share partners (including equity investments in other carriers) however, sets it apart from the other European network carriers and are vital components in assisting it to compete with budget carriers. It identified that CRM and dynamic packaging were ‘extremely important’, while Iberia for example considered CRM as ‘somewhat important’ and excluded dynamic packaging altogether from its list of important strategies, which clearly disadvantages the Spanish incumbent. In addition British Airways has not encountered that much difficulty in persuading customers to use its website, while Iberia experienced a lot of difficulty.

All the carriers noted that it was problematic to increase yield in the short-haul market, yet they have failed to counterbalance this loss of revenue by not developing their e-commerce platforms. European incumbents must urgently restructure their IT departments and allocate funds in order for these laggards to leapfrog to the latest technologies or else outsource IT departments to third parties that have the expertise to position carriers on a similar technological platform as low cost carriers. British Airways also believes that its brand is an important differentiator and is the only carrier that has listed advertising as 'extremely important'. Another characteristic proving valuable to British Airways is revenues generated from alliance, code share and equity partners that provide feed traffic at its home base and at international gateways. The recent speculation in the media that it may be putting forward a bid for Iberia (valued at around $4.7 billion) proves that British Airways may wish to strengthen its European and international presence and the critical mass of two European incumbents may mount a stronger challenge to budget carriers. The British and German incumbents also believe that the following attributes: flexible tickets; interlining traffic; cargo; and corporate travel policy arrangements give them a distinct competitive advantage over Aer Lingus, Air France and Iberia when confronting low cost carriers. British Airways, Lufthansa, Air France and Iberia all believe that regional airlines and cargo have greatly benefited their efforts in competing against low cost carriers, as regional carriers challenge the dominance of budget carriers at regional or secondary airports while at the same time providing feed to international routes through hubs.

The world's supply chain is becoming more dependent on 'time' as products need to get to the market place faster and this provides an opportunity for network carriers to capitalise on their longer turnaround times to load and unload freight, which improves overall RTK yields. Aer Lingus encountered the least number of difficulties in implementing their proposed strategies when compared to the other European incumbents and this has enabled the carrier to post the strongest strategic capability among its peers. If incumbents from this region can improve on their own difficulties and overcome the major difficulties encountered by Aer Lingus as shown in Table 69, then they will improve their overall capability in competing with budget carriers. Yield, complexity, unions, high airport charges and inability to reduce costs are all major difficulties facing European incumbents and are viewed by Ryanair and easyJet as weaknesses, which they will exploit in order to gain further inroads into intra-European and domestic markets. Furthermore, the majority of European carriers are unable to modernise their fleets but have stressed that joint purchasing is a valuable strategy worth exploring and this could be achieved by procuring aircraft through an alliance. This would enable individual member airlines to obtain aircraft at reduced rates and challenge the low cost carriers bulk ordering. Field (2003) stated that the Star alliance had plans to purchase around 200 aircraft in 2003, but this subsequently did not materialise.

Table 68. Important strategies implemented by British Airways, Lufthansa, Aer Lingus, Air France and Iberia, which proved effective in competing against low cost carriers.

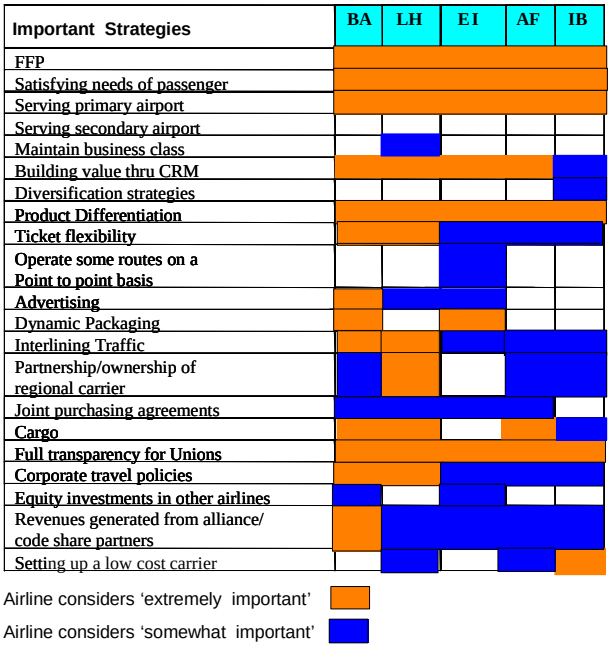
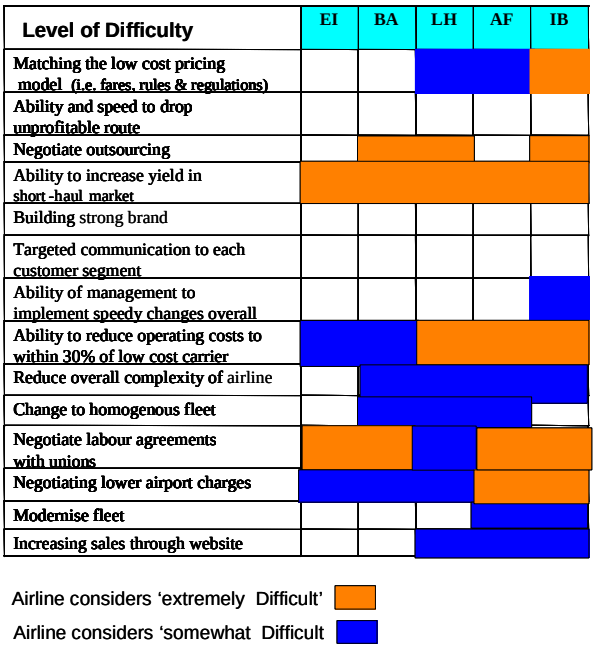


Table 69. Difficulties encountered by Aer Lingus, British Airways, Lufthansa, Air France and Iberia in implementing their strategies.



10.5 General Findings of the Asian and Australasian carriers

Asia has a population of 3.8 billion people and the flying time between most Asian cities is within 3 to 4 hours. Consequently, it has been the fastest growing air travel market in the world during the last two decades. Asia has a doubled edged regulatory system whereby its long haul routes to the US have very liberal open skies agreements, but, for intra-Asian services, there remains in place a restrictive, bilateral agreement. However, OAG (April, 2006) showed that the region is beginning to liberalise and expand its boundaries as it declared that there were nearly 95,000 more flights within the Asia-Pacific region in April 2006 as compared to three years earlier. In the US and Europe, low cost carriers have reached a mature platform as they have been competing against incumbents for a long time, but in Asia they are regarded as a relatively new entrant. However, the Centre of Asia Pacific Aviation (February 2006) indicated that the region's low cost carriers accounted for 10% of the region's total capacity in 2006. This meteoric growth in Asia shows how successful the low cost carrier model has become. Some Asian nations have experienced a paradigm shift in their domestic markets as low cost carriers captured 50%, 30% and 45% of the home markets of Malaysia, Indonesia and Australia respectively by mid 2006. One of the objectives of the research was to find out the principle difficulties facing the full service airlines in Asia when faced with the threat

from low cost carriers, and what strategies from their perspective would prove effective in competing against budget carriers.

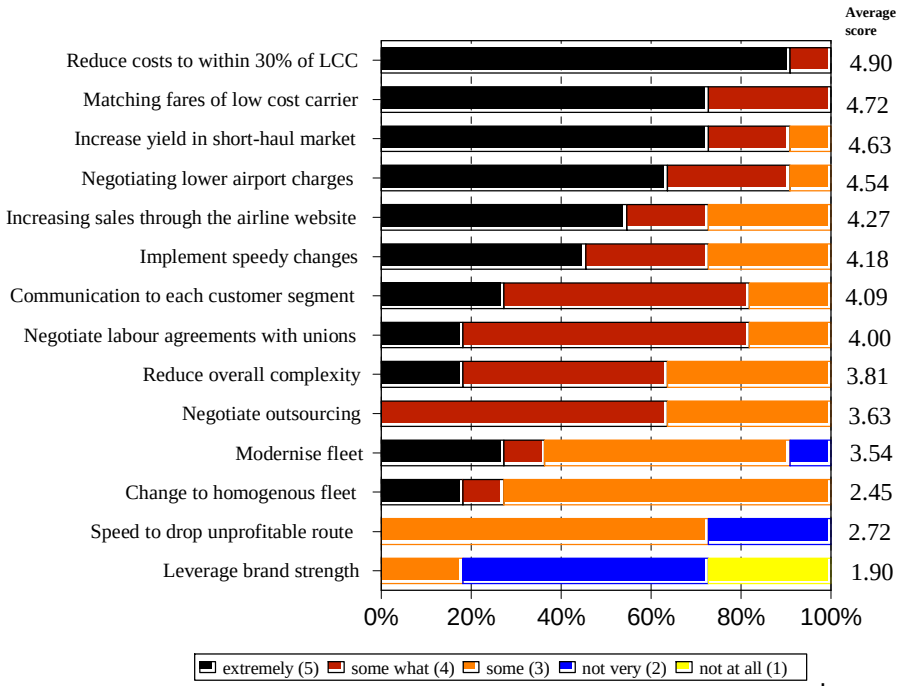
10.5.1 The level of difficulty for Asian carriers

The network carriers were asked to identify the level of difficulty that each airline encountered in responding to low cost carriers, and the results are shown below in Figure 96. The greatest difficulty facing Asian incumbents is their inability to reduce their costs to within 30% of a low cost carrier, while O'Connell and Williams (2005) showed that the unit cost difference between Malaysia Airlines and Air Asia, for example, was around 60% in 2004. Lawton and Solomko (2005) explained that Air Asia's low unit costs are primarily attributable to its low labour expenses and lean workforce. In comparison, the Asian incumbents are overstaffed as exemplified by Malaysia Airlines complement of 228 employees per aircraft, while Air Asia had 72% less in 2005. The shortage of pilots in the region is also exacerbating the high cost structure as the average pilot salary at ANA, for example, is $182,700 per year (ICAO, 2002). The second biggest difficulty facing incumbents is that they are unable to match the fares of the budget carriers. Air Asia is now replicating Ryanair's strategy of offering millions of seats at RM 1 (US$0.27), while Ionides (2006) points out that Indonesia's low cost carrier, Lion Air, regularly sells two-hour flights for US$55 and one-hour flights for US$22 - this has triggered the Asian incumbent to reduce fares thereby impacting the overall yield, which was cited as another major difficulty. The high airport charges[188] in Asia have been widely publicised and they were again addressed in the survey. However, this may become even more problematic for the Asian network carriers as airports have been accommodating the growth of low cost carriers by building low cost terminals. Kuala Lumpur and Changi in Singapore, for example, have already established such terminals, while other airports in Jakarta and Bangkok have also announced similar construction projects. These terminals will charge rates that are 60% lower than those charged at the main terminal and they will not accommodate the transfer of passengers or baggage, thereby forcing network carriers to continue using the more expensive main terminal (ATI, April 2006). The questionnaire confirmed the difficulty that Asian network carriers had in persuading customers to use the airline's website. The annual Airline Business IT trends survey confirmed the difficulty that Asian carriers encountered in selling tickets online as it found that only 7.6% of total sales in 2003/04 were in fact online, while a survey by Mastercard at around the same time concluded that around 90% of bookings in Asia are still conducted via travel agents, which significantly impacts distributions costs (O'Toole and Pilling, 2004; Mastercard Asian Lifestyles Survey, 2003). In parallel, the Asian incumbents also find it difficult to build up a relationship with their customers as most purchase through intermediaries, thus making it increasingly arduous to retain passengers and get a

[188] The aeronautical charges for 737-800 turnaround at the following Asian airports are as follows; Hong Kong €2,300; Singapore €2,460; Seoul €2,660; Kansai €6,200 (Graham, 2003 p105).

complete understanding of their requirements. It is clear that Asian incumbents must focus their advertising campaigns to encourage customers to book through the airlines website whose users get exclusive access to the lowest fares. Asian incumbents also find it more difficult than their European counterparts to make speedy changes as many are still government influenced and are top heavy with management. In contrast to Europe, unions in Asia appear to be less of a barrier and this was evident when Air New Zealand found that it could save NZ$48 million by outsourcing its heavy maintenance division - the unions involved did not launch an objection because it was beneficial to the long-term prospects of the airline (Airline Business, February 2006). Asian incumbents believe, however, that their brands are very strong and have little difficulty in leveraging their strengths, but Lawton and Solomko (2005) described that Air Asia's brand emphasises customer service and people, which sends strong signals to the network carriers that budget carriers can challenge their legacy of 'renowned hospitability', while at the same time offer significantly reduced fares, which will dilute the strength of their brands.

Figure 96. The principle difficulties encountered by the Asian full service airlines when responding to the low cost carriers.



10.5.2 Important strategies used by Asian network airlines to respond to low cost carriers.

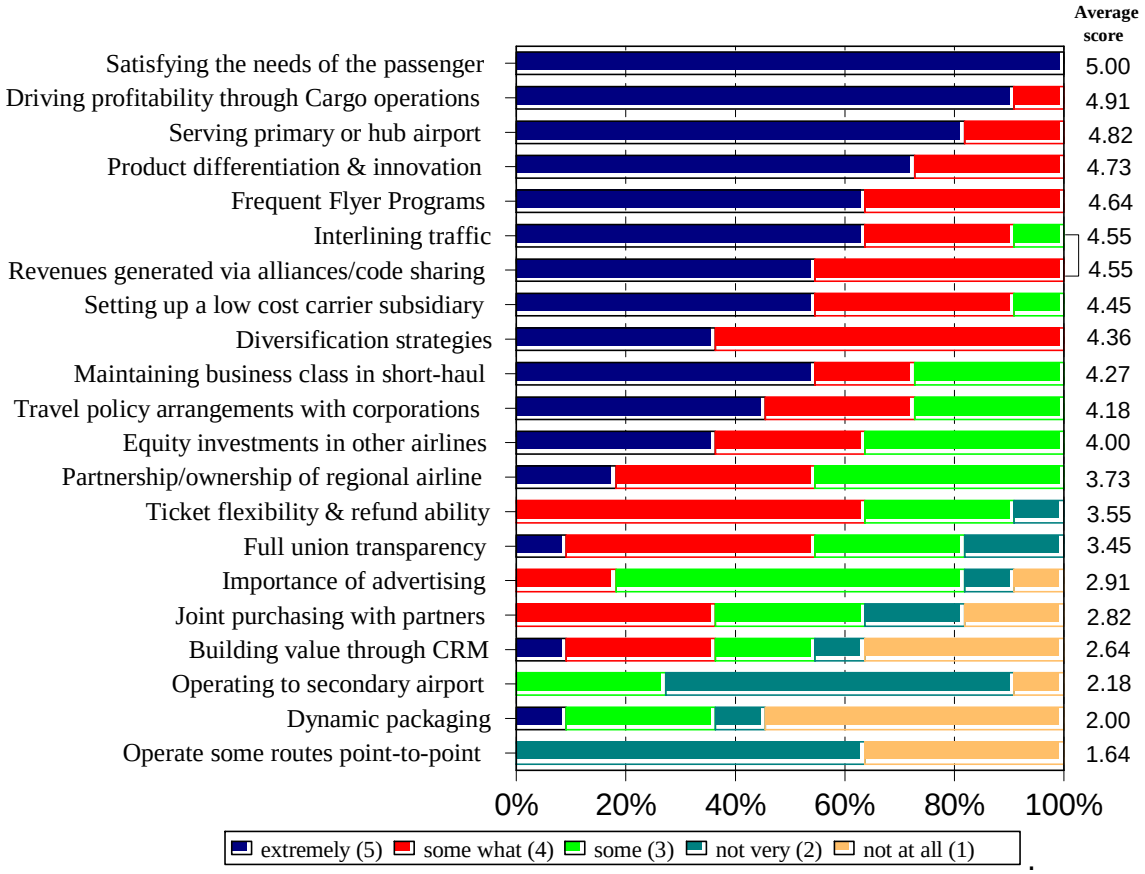
The responses of the Asian incumbents concerning which strategies they would deem important in competing against low cost carriers is listed below in Figure 97. The Asian carriers listed that satisfying the needs of their passengers was of paramount importance. Noted academics have specifically stated that customer satisfaction is becoming the key

factor in attracting and retaining customers (Kotler and Keller, 2006; Johnson et al., 2005). Satisfied customers tend to be loyal and willing to pay higher prices (Reichheld and Sasser, 1990; Finkelman 1993, Johnson et al. 2005.). Asian based airlines have traditionally prided themselves on delivering 'service excellence' to passengers, and they have repeatedly outperformed other airlines in global survey rankings. Skytrax, a leading research group on airline products and services, for example, has listed 7 Asian carriers in their top 10 world airline rankings for best airlines for 2006, while Air Transport World ranked Cathay Pacific and All Nippon Airways as their choice for airline of the year for 2005 and 2006 respectively (Skytrax, 2007). A surprise finding from the survey data is that Asian carriers considered cargo to be their second most important component in competing against low cost carriers, and is a key revenue differentiator between both carriers, which is in contrast to the European incumbents. Air cargo is growing at the rate of 8.6% per annum and, in 2006, it contributed $13.1 billion, representing 17.8% to the total revenues of the AAPA member airlines, of which around 60% is carried in the bellyholds of network airlines, so its potential is evident. The region is unique because it has a number of airlines that have dedicated freighter divisions, such as Korean Airlines that operates 19 747 freighters, but its entire freight division (including dedicated freighters and bellyhold capacity) contributes 30% to Korean Airlines group revenues every year, while other incumbents, such as Malaysia Airlines for example, carry the bulk of their cargo in the bellyhold of their passenger aircraft - yet this contributed 18% to its overall revenues in 2005 (Airline Business, November 2006; Conway, 2006; Herdman, 2007). Other important strategies used by Asian incumbents that were also highly ranked by European carriers include: serving primary airports, product differentiation, frequent flyer programs, interlining traffic, code sharing and alliance membership. A noteworthy distinguishing feature found among Asian carriers is their vehemence in setting up low cost carrier subsidiaries. Their enthusiasm may have been ignited by the success of Qantas' Jetstar, which has been very effective in competing against Virgin Blue in the Australian domestic market because, within 18 months after introducing the subsidiary, it clawed back 14% of the market and held Virgin Blue's market share to 34% (ATI, November 2006). Low cost carriers are a new phenomenon in Asia, yet incumbents have been extremely fast to set up their own low budget carriers[189]. They have had the time to observe the primary failures of the low cost carrier subsidiaries in the US and Europe, and have accordingly readjusted the business model so that it incorporates the earlier failings. They strongly believe that this will prove to be an effective strategy in counteracting the low cost carrier threat. Another interesting revelation is that Asian carriers consider that business class in short-haul markets is an important attribute and is a strong reflection of the region's culture and that maintaining business class will remain an important differentiator. Skytrax noted in its 2004 global survey that the Asian

[189] The following Asian incumbents have set up their own low cost carrier subsidiaries and include: Air New Zealand (Freedom Air), Singapore Airlines (Tiger Airways) and Thai Airways (Nok Air), while All Nippon and Korean Airlines have also plans to develop low cost carrier offshoots.

passenger is the most satisfied with their home carriers when compared to passengers from other regions, and if the carriers eliminated business class in the short-haul market, it would up-heave the status quo, inducing major disruption and potential loss of passenger loyalty (Skytrax, 2004). In contrast to Europe, governments in Asia have the authority to override strike action[190] which makes it easier to implement strategies, and consequently, unions appear to be more manageable than their counterparts in Europe and the US.

Figure 97. Important strategies used by Asian network airlines to respond to low cost carriers.



Another interesting finding from the survey illustrates that the majority of Asian network carriers do not consider CRM to be an important attribute, which is alarming as Kotler and Keller (2006) explained that the new paradigm shift in marketing is towards relationship marketing. This is primarily linked to their weak e-commerce platform as travel agents[191] remain the dominant force in booking passengers in Asia. Because of the high-touch service culture, the relationship subsequently is between the passenger and

[190] In 2006, pilots at Korean Airlines for example went on strike demanding a 6.5% pay increase as well as a 50% increase in bonus pay, while management offered a 2.5% pay increase plus the 50% increase in bonus pay. Subsequently the Korean Government sided with management stating that the offer was fair and ordered the pilots to accept the offer and return to work immediately (ATI, January 2006).
[191] There are 20,000 travel agents in Asia (O'Toole and Ionides, 2005)

travel agent, and not between the passenger and the airline. The low numbers of customers booking tickets through the websites of Asian incumbents have spurred them to rank dynamic packaging as a relatively unimportant strategy; however, Qantas rated it as extremely important since it has already experienced its benefits through its low cost subsidiary, Jetstar, and this may yet prove to be a very important strategy for the Asian incumbents in time.

10.5.3 The strategic capability of Asian incumbents and its relationship to operating margin

The results of the survey concluded that Singapore Airlines had the strongest strategic capability[192] of the Asian carriers in competing against the low cost carriers, while Qantas gained second position. Singapore Airlines was not subject to competition from low cost carriers when they started to flourish in Asia and carefully observed the demise of Malaysia Airline's domestic traffic and the response of Qantas to Virgin Blue in Australia. At the time, Asia's fastest growing airline, notably Air Asia, was prohibited from operating from Kuala Lumpur to Singapore because of a restrictive bilateral, while Jetstar's operations concentrated in Australia. This gave the Singaporean incumbent time to develop strategies to counterattack budget carriers. By the time Valuair, Jetstar Asia and franchises of Air Asia had arrived at Singapore, the incumbent had already set up a subsidiary called Tiger Airways, which was able to take advantage of Changi's new low cost terminal. Tiger has subsequently repeated the strategies of Air Asia and Jetstar by setting up bases in Australia and in the Philippines.

Singapore Airlines was one of the few Asian incumbents that strongly recommended CRM as an extremely important tool for developing life-long relationships with its frequent flyer members. The incumbent paid particular reference to the success of its corporate travel policy in question 7, which was an open-ended section of the survey that allowed executives to expand on the various attributes that had positively contributed to threat posed by low cost carriers and that impacted its financial position. Singapore Airlines stated that the corporate agreements had retained the high yield business traveller in the short-haul market, and this was an important differentiator between the two airline business models. Singapore Airlines' other strategies that pushed it into pole position included: a superior in-flight differentiated product, strong brand, generous frequent flyer program and alliance membership that allowed its patrons access to 841 destinations in 157 countries through its 17 member carriers. It also places a strong emphasis on continuous advertising and it has remained focused on promoting the icon, 'Singapore Girl', which has proved to be a successful strategy as it has won the award for 'World's Best Cabin Crew Service' by the Business Traveller Asia-Pacific Awards for 17

[192] This was calculated by subtracting the 'average deviance' of strategies that were deemed important from the 'average deviance' of difficulty experienced by each incumbent.

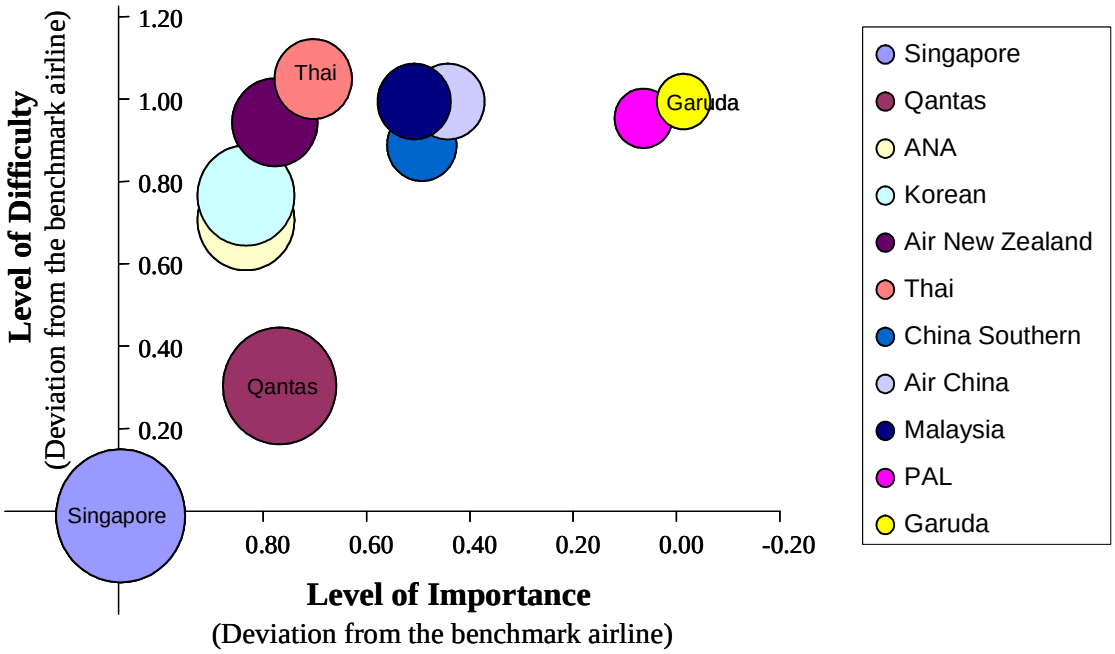
consecutive years (Singapore Airlines achievements 2007). Singapore Airlines has diversified from its core business of flying and it stated (analysis from question 7) that this had positively impacted its revenues and spread its risk. It has heavily invested in over 50 subsidiaries, which generate substantial revenues for the overall group.

The survey has found that Singapore Airlines did not experience as many difficulties in implementing its strategies as observers might infer. The closed regulatory system in Asia had protected the intra-Asian market, as many regions still require bilateral agreements which constrains the growth of low cost carriers. Air Asia Indonesia (Air Asia franchise), for example, was forced to cancel its planned inaugural international service between Jakarta and Singapore after it failed to secure final regulatory approval, however, this is set to change rapidly in the coming years (ATI, January 2005). Singapore Airlines has been able to compete on a similar unit cost platform as other budget carriers through Tiger Airways, while it has also kept the unit costs of its mainline fleet low by having a young fleet with an average age of just 6 years. The greatest difficulty cited by Singapore airlines were airport charges, yet Changi Airport only charged US$542 to turnaround a B737-800 and US$2,607 for B747-400 in 2007, which are some of the lowest charges in the Asia-pacific region - this gives the incumbent a strong competitive advantage (Changi Airport, 2007). The survey found that the strategic capability of Qantas was close to that of Singapore Airlines but it experienced more difficulties in implementing the following: increasing yield, making speedy changes, targeted communication to passengers and unions. Qantas also pointed out that certain strategies were less important than those cited by Singapore Airlines, and it believed that regional airlines were not an effective strategy to compete against low cost carriers as well as advertising, CRM and diversifying from its core airline operation. Other Asian incumbents, such as ANA, Korean, Air New Zealand and Thai, all placed similar levels of importance on their strategies but all differed in the levels of difficulties that they encountered in implementing their strategies - thus each experienced a larger deviation from that of Singapore Airlines. There is a distinct cluster of airlines, namely China Southern, Air China and Malaysian, that had similar levels of strategic strength and the positioning of this group, as shown in Figure 98, illustrates that they have placed less emphasis on implementing strategies when compared to the earlier group of carriers. These poorly developed strategies are partly due to the influence of their respective governments who partake in commercial decision making because the government has retained a large controlling interest[193] in each of these incumbents. Each of these carriers has encountered a lot of problems in each of the following areas: ability to drop a route, make speedy changes, reduce the complexity of the carrier - which are all characteristics of bureaucratic governments that interfere with commercial decisions. However, Philippine Airline and Garuda in particular are two carriers which are completely isolated from the other incumbents and face the greatest threat from low cost carriers. If the region becomes fully deregulated, these incumbents do not have the strategic capability

[193] Government owns 100% of Air China; 68.1% of China Southern; 69.3% of Malaysian

to compete and may dissolve or would be prime candidates for merging with another carrier. They are not members of any alliance nor do they operate any regional feeders and are heavily reliant on code share partners. They have indicated that many of the core marketing strategies, such as online selling, CRM, ticket flexibility, dynamic packaging, advertising and corporate travel policy arrangements, are not very important. They also encountered a lot of difficulty in implementing a large number of strategies, including leveraging their brand strength, which indicates that these incumbents realise that their brands within Asia are weak. They also inferred that it was extremely difficult to reduce the complexity of their business model, which exasperates their ability to reform.

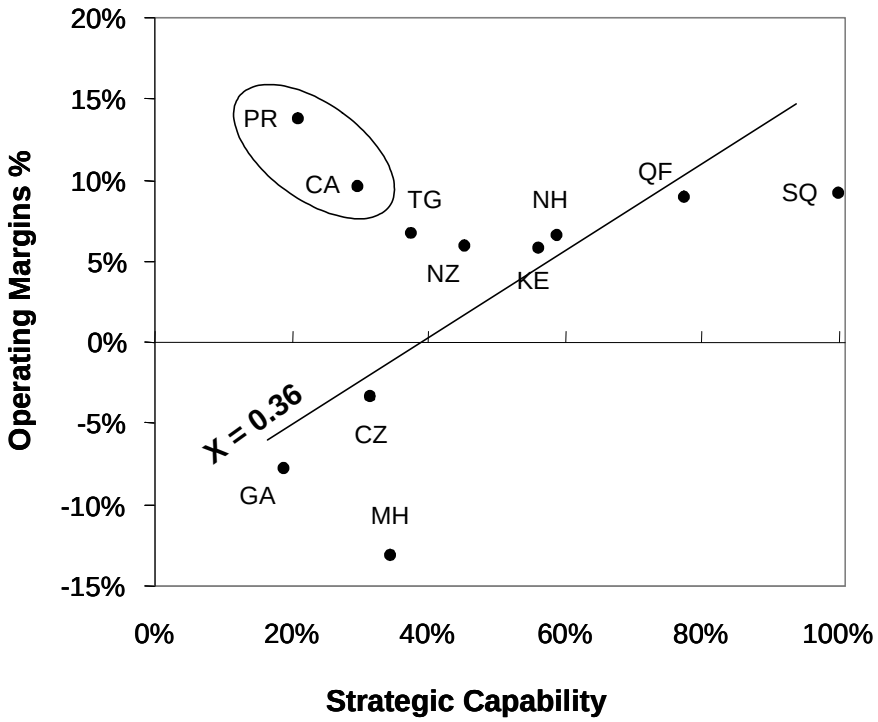
Figure 98. The strategic capability of the Asian incumbents



The strategic capability of each carrier was then measured against their 2005 operating margins and the results are shown below in Figure 99. Singapore Airlines was measured as the benchmark airline and all the other data points for the other incumbents were rescaled accordingly. Similar to Europe, there is also a direct correlation (trend line) between the operating margins and the strategic capability of Asian incumbents. However, Philippine Airlines and Air China (circled in Figure 99 below) are the exceptions as the survey pointed out that they had weak strategic capability but that they had strong financial results as represented by their high operating margins. These countries have retained tight regulatory controls which have protected their markets, which may have added to the enhanced margins. In addition, Air China remains heavily subsidised by its government, and ATI (January, 2007) reported that it received $385 million in 2007 and these payments have distorted its operating margins, as seen in the figure below. Malaysia Airlines' (MH) weak position is particularly concerning and its

future is unclear - it has already retracted from its domestic market because it was unable to compete with Air Asia and it is also probable that it may also withdraw from intra-Asian markets as low cost carriers begin infiltrating this market (**See section 4.4.1**). The correlation coefficient between the operating margin and the strategic capability is 0.36 which is low and it implies that Asian based airlines with strong strategic capabilities does not necessarily extract high operating margins unlike their European counterparts.

Figure 99. Comparison of the 2005 operating margins and strategic capability of the Asian incumbents



Air China (CA), Air New Zealand (NZ), All Nippon Airways (NH), China Southern (CZ), Garuda (GA), Korean (KE), Malaysia (MH), PAL (PR), Qantas (QF), Singapore (SQ) and Thai (TG).

10.5.4 Asian incumbents' ability to meet the requirements of their leisure passenger

The Asian incumbents were asked to rank their perception of what leisure passengers required and this was then statistically compared to the actual requirements of passengers which were gathered from surveys conducted in Ireland, Malaysia and India. Table 70 (below) shows the statistical results of the Spearman rank correlation coefficient as calculated by SPSS. It shows that Singapore Airlines, Qantas, ANA, Korean, Air New Zealand and Thai have a very strong positive correlation in the ranking of product features as those expressed by **leisure passengers**. However, Qantas, Singapore and Air New Zealand are more strongly correlated because they are statistically significant at the

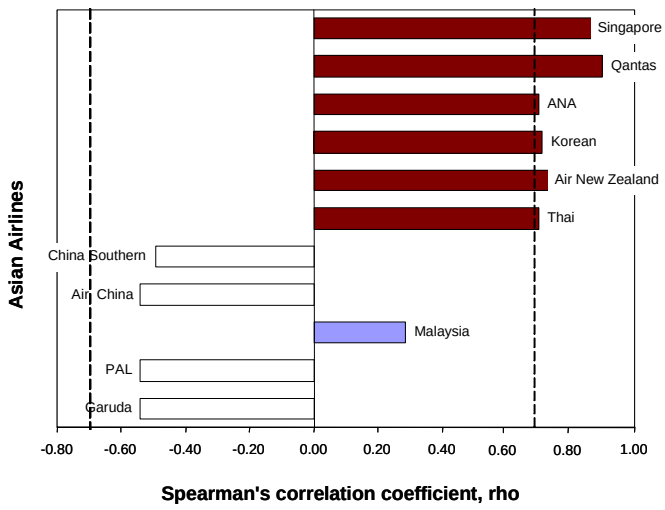
1% confidence level. It is interesting to note that Qantas is more correlated than Singapore Airlines, which perhaps may be due to the fact that Qantas conducted a lot of research on the leisure passenger market prior to setting up its low cost affiliate, Jetstar. Malaysia Airlines shows that is has some familiarity with the requirements of leisure passengers, but clearly it has not grasped the full concept of what leisure passengers are searching for when choosing an incumbent. It is very possible that the Malaysian incumbent has not taken account of the changing requirements of passengers since Air Asia entered the market, and is retaining its outdated perceptions of the requirements of leisure passengers. However, China Southern, Air China, Philippine Airlines and Garuda all have negative correlations in the flight products that are required by leisure passengers, which implies that they are completely unsynchronised with leisure passengers. The passenger surveys were conducted in a Western cultural environment and this may have impacted the results of the Chinese incumbents as there is an evident culture clash between the east and the west - but China is quickly developing into a very strong global economy and it needs to re-examine the requirements of its leisure passengers. Philippine Airlines and Garuda have also reported a negative correlation and these incumbents now need to urgently address this problem as low cost carriers are increasingly entering into these markets, enticing passengers to switch to the low cost carriers because they offer flight products that correspond more agreeably with leisure passengers. The threat to these carriers is already apparent, as Air Asia has already franchised its operation in Indonesia under a brand called 'Indonesia AirAsia' which operates six 737-300s, while Tiger Airways announced in January 2007 that it will set up a base in the Philippines. Figure 100 (below) shows the graphical representation using data from the Table of Critical Values as outlined in the previous section.

Table 70. Statistical analysis of Asian leisure passengers using the Spearman rank coefficient.

	Ability to meet Pax preferences (Spearman ρ)	Statistical significance (P value)
Singapore	**0.87****	**<0.001**
Qantas	**0.90****	**<0.001**
ANA	**0.70***	**0.03**
Korean	**0.71***	**0.03**
Air New Zealand	**0.74***	**0.02**
Thai	**0.70***	**0.04**
China Southern	-0.49	0.18
Air China	-0.54	0.13
Malaysia	0.28	0.46
PAL	-0.54	0.13
Garuda	-0.54	0.13

**,* Correlation is significant at the 0.01 and 0.05 level

Figure 100. Descriptive analysis showing the ability of Asian based airlines to match the requirements of leisure passengers.



10.5.5 Asian incumbent's ability to meet the requirements of their business passenger

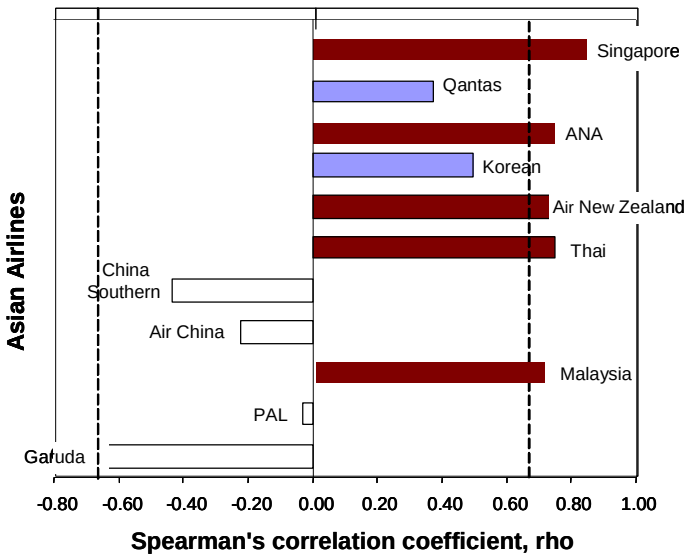
The results of the business passengers are shown below in Table 71 and Figure 101. They show that Singapore Airlines, All Nippon, Air New Zealand, Thai and Malaysia Airlines all have a strong positive correlation with the requirements of the business passengers, while Qantas and Korean have expressed different opinions than those of the previous group. The data suggests that Qantas is neglecting the requirements of its business class passengers as it is increasingly focusing on its leisure market through its Jetstar operations[194], and that the carrier should urge caution as Arabian Gulf based carriers who are noted for their superior business class service are obtaining additional traffic rights to Australia - which may entice passengers to switch because Qantas has failed to address the needs of its business passengers. Korean Airlines has also been disregarding the requirements of its business passengers. The literature suggests that Korean Airlines is very focused on its freight, as this division accounts for almost one-third of its revenues, and that it has inadvertently neglected its business travellers. Another group of Asian airlines, notably China Southern, Air China, Philippine Airlines and Garuda, have reported a negative correlation with respect to their business passengers, and the Indonesian incumbent in particular has completely misjudged its perception of the requirements of business passengers. Garuda's debt is extremely crippling as it owed US$794 million in 2006 (down from US$1.2 billion in 2001) and it is financially incapable of investing capital into its flight products, which makes it competitively disadvantaged when compared to other Asian incumbents (ATI, March 2006). Garuda is very vulnerable and its best possible outcome may be to merge with another carrier.

Table 71. Statistical analysis of Asian business passengers using the Spearman rank coefficient.

	Ability to meet Pax preferences (Spearman ρ)	Statistical significance (P value)
Singapore	**0.81****	**<0.001**
Qantas	0.34	0.29
ANA	**0.73***	**0.01**
Korean	0.52	0.14
Air New Zealand	**0.70***	**0.03**
Thai	**0.74***	**0.03**
China Southern	-0.43	0.21
Air China	-0.24	0.54
Malaysia	**0.69***	**0.04**
PAL	-0.02	0.92
Garuda	-0.64	0.05

*, ** Correlation is significant at the 0.01 and 0.05 level

Figure 101. Descriptive analysis showing the ability of Asian based airlines to match the requirements of business passengers.



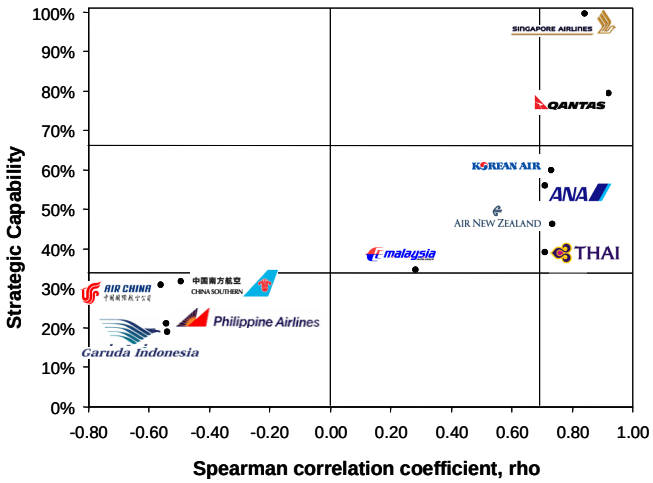
[194] Jetstar has now expanded its operations to include a Singapore franchise and a newly proposed low cost long-haul carrier that will serve markets such as Sydney-Honolulu.

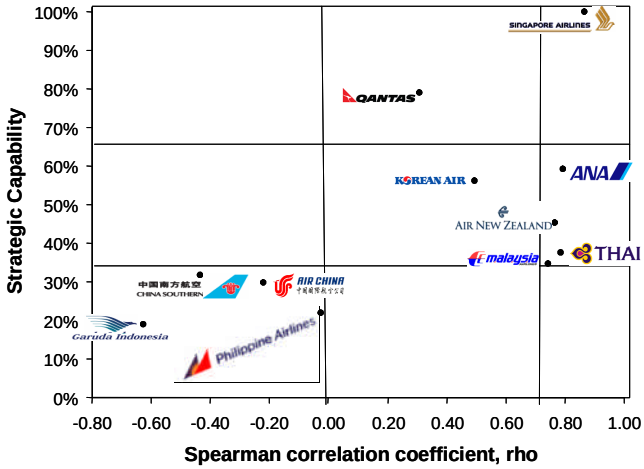
10.5.6 Overview of the strategic capability and ability of Asian incumbents to meet the requirements of their leisure and business passengers

The strategic capability of each Asian incumbent and its ability to meet passengers' preferences (Spearman coefficient) are plotted below. Figure 102 and Figure 103 below show that there is a link between Asian incumbents that have a weak strategic capability[195] and the poor understanding of passenger requirements, and this is evident with Philippine Airlines, Garuda and the two Chinese incumbents. These carriers are struggling financially and government interference adds to their difficulties. Low cost carriers are now beginning to mount additional challenges for Philippine Airlines and Garuda, and the evidence shows that they are not prepared and could quickly lose a large portion of their market share unless they restructure their strategic capability and realign their marketing focus to incorporate the present day requirements of two distinct passenger segments, notably leisure and business. Asian incumbents with a medium strategic strength appear to have a correlation with the demands of both leisure and business passengers. Malaysia Airlines, however, shows a two sided view of its understanding of passengers as it excels in its ability to fully meet the expectations of its business passengers but falls far short when leisure travellers are considered - and this may have been in part responsible for its withdrawal from the Malaysian domestic market. It may also face problems in its intra-Asian leisure markets as Air Asia is increasingly penetrating this market, triggering passengers to switch from the incumbent which will impact its ability to feed short haul traffic to its long haul operations via its hub at Kuala Lumpur. Clearly, the Malaysian incumbent urgently needs to amend and transform its outdated perception of leisure passengers. Many of the Asian incumbents, such as Thai, All Nippon Airlines, Air New Zealand and Singapore Airlines, have correctly identified the principle characteristics that satisfy both leisure and business passengers regardless of their strategic capability. Asian carriers are noted for their outstanding hospitality and service, which is a cultural trait of these nations, and numerous incumbents have repeatedly won multiple accolades relating to such service standards. Skytrax (2007) for example has rated Thai Airways, Malaysia Airlines, ANA and Singapore Airlines as the first, third, fourth and fifth best cabin crew in the world respectively for 2006, which shows the emphasis that these incumbents place on hospitality, and this is reflected in the survey, particularly with regard to the business passengers.

[195] The strategic capability is divided into three sections; low, 0-0.33; medium, 0.34-0.66; and high, 0.67-1.

Figure 102. Relationship between strategic capability and ability to meet leisure passenger requirements.	Figure 103. Relationship between strategic capability and ability to meet business passenger requirements.





The two incumbents with the strongest strategic capability to compete effectively with low cost carriers are Singapore Airlines (SQ) and Qantas (QF) - this was measured by investigating the strategies that proved most effective in competing against budget carriers, but also factored the constraining elements that these incumbents faced when implementing these strategies. If other carriers that operate within Asia can match or exceed these attributes, which are listed below in Table 72, then they can mount a strategic counterattack on low cost carriers that should prove to be effective in competing against them. Singapore Airlines and Qantas encountered the least number of difficulties in implementing their proposed strategies when compared to the other Asian incumbents. If incumbents from this region can improve on their own difficulties and overcome the major difficulties encountered by Singapore Airlines and Qantas, as shown in Table 73, then it will improve their overall capabilities in competing with budget carriers. Singapore Airlines emphasis on partnering with other airlines is especially striking because it has indicated that the following attributes were very effective: interlining with other carriers, partnership/ownership with regional carriers, equity in other airlines, revenues generated from alliance or code share partners and setting up a low cost subsidiary. It believes that partnering with other carriers can provide a stronger defense from the advancements of budget carriers than acting alone, as collectively they act as a more powerful defence mechanism. The partners also provide a mechanism that reaches out to multiple passenger segments, which poses as a counter-threat to budget carriers. Singapore Airlines difficulties overall are viewed by Air Asia and Jetstar Asia as weaknesses that could be exploited in order to gain further inroads into the intra-Asian markets of the Singaporean incumbent. Interestingly, many incumbents found it difficult to increase yield in the short-haul market, but Singapore Airlines was not as concerned because its differentiated and superior in-flight products allowed it to charge a fare premium and thus retain its yield, which indicates that the Asian market requires airlines

that can offer such products. Management at Singapore Airlines and Qantas appears to be well organised and structured as the incumbent has had little difficulty in implementing certain strategies that were extremely difficult at other Asian carriers - these included: reducing the complexity, implement speedy changes and matching the low cost pricing structure. This shows that different departments are working as a cohesive unit to quickly overcome problems under the close guidance of management. Both incumbents are making provisions against future low cost carrier entrants and management has a clear understanding of the impending threats posed by existing and future budget carriers. Management have set out well structured plans that will protect their home markets and expand into others. The employees appear willing and motivated to assist in the restructuring of the airline, and they are interested in its long-term future and success. Qantas has been highly innovative by setting up a long-haul low cost carrier, while Singapore Airlines has been more conservative and cautious in expanding its markets than the Australian incumbent and has been replicating the earlier strategies of Air Asia and Jetstar by setting up low cost carrier bases in other countries. Singapore Airlines may have problems in the future with operating its three airline divisions[196] as it may dilute its brand and confuse passengers. However, Singapore Airlines and Qantas have carved out solid strategies that have made them leaders in reprieving budget carriers within Asia.

Table 72. Important strategies implemented by Singapore Airlines and Qantas, which proved effective in competing against low cost carriers.

Important Strategies	SQ	QF
FFP		
Satisfying needs of passenger		
Serving primary airport		
Serving secondary airport		
Maintain business class		
Building value thru CRM		
Diversification strategies		
Product Differentiation		
Ticket flexibility		
Operate some routes on a point to point basis		
Advertising		
Dynamic Packaging		
Interlining Traffic		
Partnership/ownership of a regional carrier		
Joint purchasing agreements		
Cargo		
Full transparency for Unions		
Corporate travel policies		
Equity investments in other airlines		
Revenues generated from alliance/ code share partners		
Setting up low cost carrier		

Airline considers 'extremely important'

Airline considers 'somewhat important'

Table 73. Difficulties encountered by Singapore Airlines and Qantas in implementing their strategies.

Difficulty	SQ	QF
Matching the low cost pricing model (i.e. fares, rules & regulations)		
Ability and speed to drop unprofitable route		
Negotiate outsourcing		
Ability to increase yield in short-haul market		
Building strong brand		
Targeted communication to each customer segment		
Ability of management to implement speedy changes overall		
Ability to reduce operating costs to within 30% of low cost carrier		
Reduce overall complexity of airline		
Change to homogenous fleet		
Negotiate labour agreements with unions		
Negotiating lower airport charges		
Modernise fleet		
Increasing sales through website		

Airline considers 'extremely difficult'

Airline considers 'somewhat difficult'

[196] Singapore Airlines also operates two other airline subsidiaries which include Silkair and Tiger Airways

10.6 General Findings of the Middle East/Indian/African carriers

The Middle East is leading the world in aircraft orders as $60 billion has been invested by just three airlines with $27 billion ordered in 2005 alone. Governments have also committed a further $30 billion for aeronautical infrastructural developments that will enable the region to become a global competitor within the next decade and equal its peers in the USA, Asia and Europe (O'Connell, 2006). There are already two established low cost carriers operating in this region, Air Arabia and Jazeera Airways, while Saudi Arabia, a country well known for its closed regulatory environment, has allowed two low cost carriers, Sama and NAS, to begin operations from the Kingdom, which has set a new momentum of change for the region. Another dynamic market that is witnessing a meteoric rise in low cost seat capacity is India, which has completely metamorphosed its outdated regulatory policy, resulting in a three-fold increase in the number of scheduled airlines and a five-fold increase in the number of aircraft operated. O'Connell and Williams (2006) stated that there were 14 low cost carriers that were preparing to launch services in India in 2005 and 2006, with another 5–6 in the planning stage, which is more than the total complement of such airlines operating in the whole of the Asia Pacific region and the Middle East in 2004. By November 2006, the four low-cost airlines - Air Deccan, SpiceJet, Indigo Airline and Go Air - had ammased 27.1% of India's domestic market, which severely threatens the home market of the incumbents (The Hindu Businessline 2006). Africa experienced the second highest passenger growth rate in the world after the Middle East at 10.1% in 2005 and it is a slowly developing continent where low cost carriers could thrive. In South Africa for example, low-cost carriers accounted for a quarter of South Africa's domestic traffic in 2006 and double-digit annual growth is expected to continue through to 2010 (Sobie, 2007). South African Airways set up its own low cost carrier subsidiary, called Mango, in November 2006 to counteract losing additional domestic passengers to budget carriers such as Kulula and 1Time. Other markets from this region that were included in the study include Sri Lanka and Bangladesh. The Sri Lanka government has restructured its regulatory framework to allow Air Deccan to establish a franchise at Colombo, while Air Asia is planning to take a 49% stake in Sri Lanka's Holiday Air and rename it AirAsia Lanka (ATI, August 2006). In response, the Sri Lankan incumbent is setting up its own low cost carrier subsidiary, which shows the urgency and potential dangers envisioned by the incumbent. Air Asia is planning another franchise in Bangladesh, which is the world's most densely populated country, with the Bangladeshi conglomerate, Orion Group, who will retain 51% of the ownership rights.

10.6.1 The level of difficulty for Middle East/Indian/African carriers

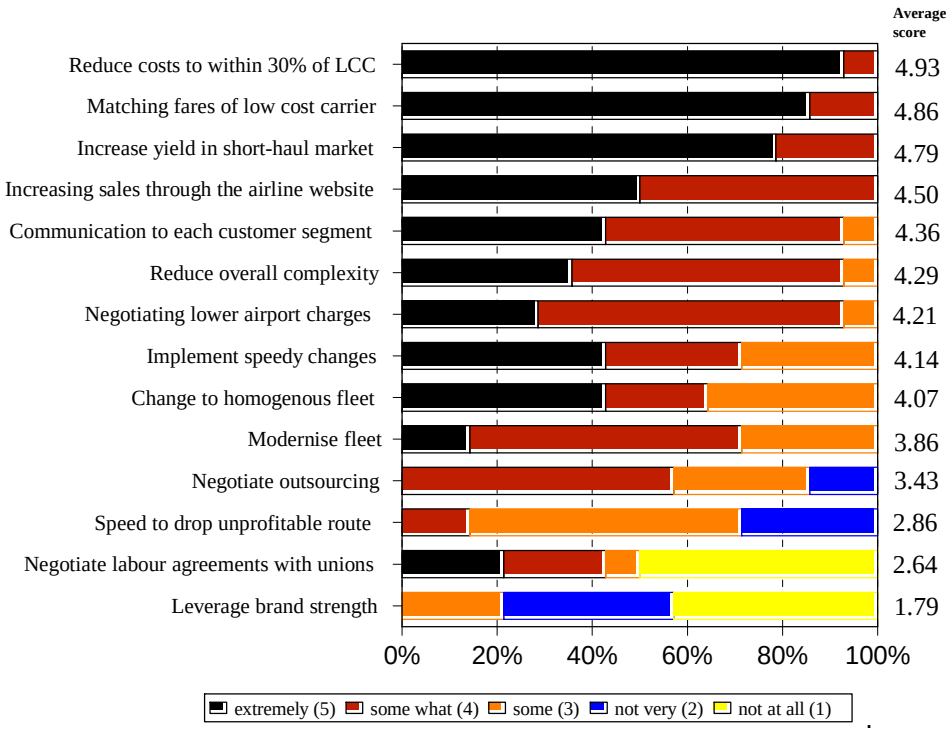
The network carriers were asked to identify the level of difficulty that each airline experienced in being able to respond to low cost carriers and the results are shown below

in Figure 104. This group of airlines ranked reducing costs to within 30% of a low cost carrier, matching fares and increasing yield in the short haul market as the three primary difficulties, which is exactly similar to the views expressed by Asian incumbents. According to an equity research report for Air Arabia's pre IPO offering, its unit costs are 50.4% lower than that of Emirates, and its four primary cost advantages stem from the following: fuel and oil, 20%; labour, 18.4%; sales and marketing, 16.4% and catering 9.3%. These cost savings allow Air Arabia to offer fares that are on average 27% lower than other competing incumbents in the Middle East (Shuaa Capital, 2007). In India, O'Connell and Williams (2006) found that Air Deccan had an average unit cost advantage of 51.7% over the full service carriers of Indian Airlines, Jet Airways and Air Sahara, and its fares were 30% lower than the incumbents. Consequently, it was extremely difficult for network carriers in this region to increase yields in the short haul market, which was the third most difficult task facing the incumbents, as shown below in Figure 104. These airlines also found that it was very difficult to increase sales through the internet and are still heavily reliant on the travel agent. The annual Airline Business IT survey found that only 7% of passengers in the Middle East and Africa were using e-tickets in 2006 while the online sales through its websites were even lower (Baker, 2006). In India, O'Connell and Williams (2006) pointed out that the state owned incumbent, Indian Airlines, did not have a fully enabled website where online tickets could be purchased in 2005 and subsequently it had to sell 84% of its tickets through travel agents. Similarly, South African Airways, which is a financially strong carrier with annual revenues of US$3.3 billion, also relies on intermediaries to sell tickets and its IT platform is outdated as it is unable to read frequent flyer cards at check-in and award points accordingly (Sobie and Yazbek, 2007). Overall, this inadequate IT infrastructure, which is evident in all the carriers in the Middle East/Indian/African region, makes it very difficult for these airlines to communicate directly with their customers.

Many authors argue that the relationship between the customer and the company is deemed to be one of its most important assets as it is an effective tool in retaining the loyalty of existing passengers and impressing those passengers that have recently joined (Peppers and Rogers 1994 and 1997; Flouris and Oswald, 2006 p69). Interestingly, the survey detects that airports and airlines have a cooperative type relationship, unlike their counterparts in Europe and Asia, where airport authorities are more prepared to offer incentive packages to carriers that are mutually beneficial to both parties. In the UAE for example, the airline, airport and the region's aviation policy are all governed by the same department and this partnership pressurises airports to act in the commercial interests of airlines. O'Connell (2006) showed that Emirates airport and ATC charges were 70% lower than British Airways in 2006. In addition, all the airports in the Middle East, Africa and India operate on a 24-hour basis which allows airlines to smooth out the schedule so that there is reduced congestion and fewer delays. The survey further uncovered that unions in this region are not an obstacle in implementing strategies as they are forbidden

in the Arab states, including the North African Arab states, but they remain problematic for carriers in the Indian subcontinent and in South Africa. However, all the airlines in this region find it somewhat difficult to outsource business functions, such as ground handling, catering, maintenance, etc., because they prefer to retain these divisions in-house as part of the core competency of the incumbent, and it is also a cultural etiquette of these nations to provide employment for their citizens. In conclusion to this section, the majority of these incumbents believe that their brands are very strong, but they should be cautious as Air Arabia, for example, was awarded the 'Low Cost Airline of the Year, 2006' by the Centre of Asia Pacific Aviation, outperforming Southwest, Ryanair, etc., and it may become a formidable challenger in the near future, as seen by developments in the US and Europe.

Figure 104. The principle difficulties encountered by the Middle East /Indian/ African airlines when responding to low cost carriers.



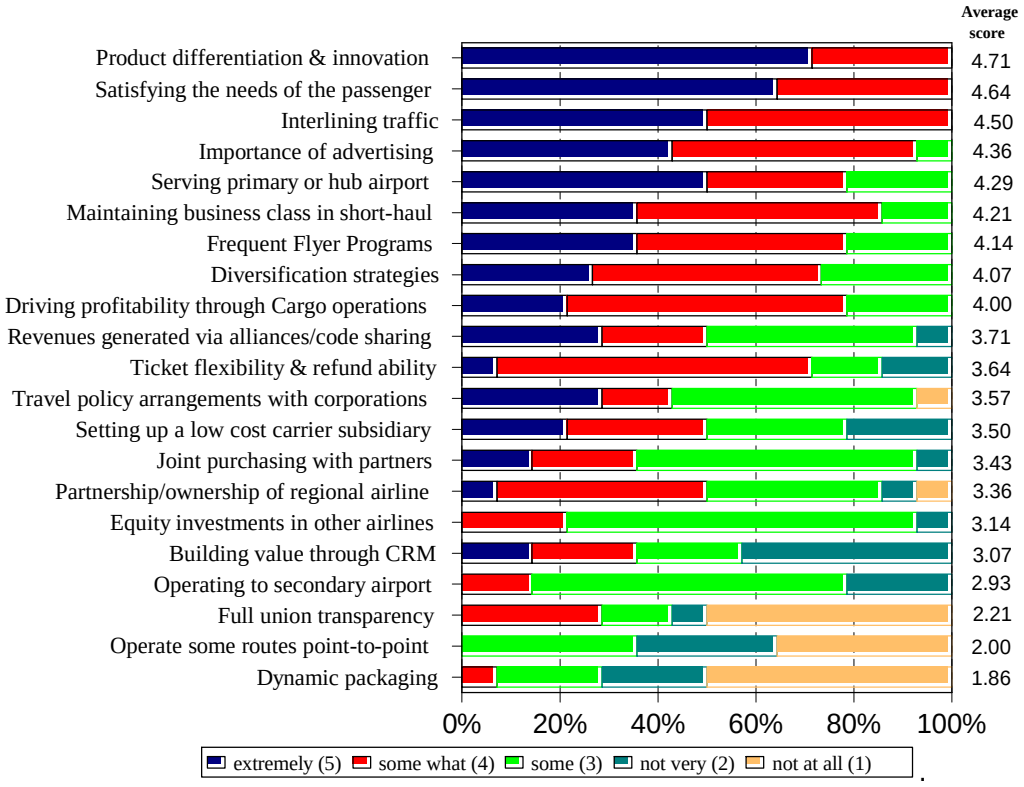
10.6.2 Important strategies employed by Middle East/Indian/African incumbents to compete against low cost carriers.

The responses of the Middle East/Indian/African incumbents on various strategies that would prove effective in competing with low cost carriers are outlined below in Figure 105. These carriers have expressed that product differentiation and innovation sets them apart from low cost carrier competition. Holloway (2002, p.395) and Shaw (2004, p.103) both agreed that the success of the Emirates was partially attributed to its superior in-

flight products and its innovative characteristics. Its in-flight entertainment system, which is equipped with E-mail and SMS messaging service, for example, won SkyTrax's award for the world's best in-flight entertainment for the fourth consecutive year. It also introduced a revolutionary mood-lighting that adjusts the cabin lighting to reflect the time of day and reduces the effects of jetlag. In India for example, research by O'Connell and Williams (2006) showed that Air Sahara has pioneered a number of innovative features for the Indian traveller, including standby fares, extra baggage allowance, airport valet services, etc. Its uniqueness is also reflected by the manner in which it sells tickets, as it auctions its surplus capacity through the Internet and gives its customers the opportunity to pay for tickets over 12 monthly instalments at no interest via a linkup with ICICI Banks. Royal Jordanian and Egyptair are now some of the few remaining carriers that give gifts to their business passengers, while South African Airways offers 24-hour customer service to passengers. The welfare of passengers has now become paramount for the carriers in this region as the IATA Corporate Travel Survey (2004, p46) identified that 60% of the most frequently encountered problems experienced by Middle East residents were in-flight service and crew, but this survey has identified that this weakness is being addressed by management - because the airlines polled that satisfying the needs of their passengers is now the second most important strategy among these airlines. In contrast to Europe and Asia, the survey reveals that network carriers in the Middle East-India-Africa find that interlining is an extremely important strategy. Doganis (2006, p.290) emphasises that the business plans of Emirates, Qatar Airways, Etihad and Gulf Air are largely focused on transferring long-haul traffic between Europe, Asia, India and Australasia via an operating hub. Taneja (2003, p.88; 2004, p.181; 2005, p.28) shows that part of the success of Emirates is attributable to the hub and spoke system that it created in Dubai. Clark (2007) described that more than 50% of Emirates passengers make a connection at Dubai airport. Similarly in India, O'Connell and Williams (2006) pointed out that Jet airways has interline agreements with 122 international airlines which allows passengers to travel onwards from the international gateways of Jet Airways' hubs. Interlining is in fact one of the principle reasons for the merger between Indian Airlines and Air India as it would bind the vast domestic networks of Indian Airlines to the readymade international network of Air India. South African Airways also reiterated that interlining agreements through its code share and alliance partners was its most important strategy (Sobie, 2007). Advertising is also a very important strategy among these surveyed airlines, which is unique as the European and Asian carriers had not considered it as an effective strategic tool. O'Connell (2006) reported that Emirates, for example, spends around 4% of its income on corporate communications each year. In addition to its own advertising department (comprised of 250 full time staff), it also uses around 100 advertising agencies which altogether are accountable for around 1,200 campaigns. This will strengthen the perceived image of the airline in the mindset of the public who may consider switching from their regular carrier in order to 'try it out' and discover if the

experience is reflective of the advertisements. Research conducted by Mercer Research (2002) showed that prolonged advertising campaigns significantly impact the decisions of passengers and that they were four times more likely to choose the airline with the strongest brand than the airline with the weakest. Another differentiating feature of airlines in this region is that they still consider business class in short-haul markets to be an important consideration. The IATA Corporate Travel Survey (2004, p27) confirmed that 50% and 60% of the business passengers in the Middle East and South Africa, respectively, found that business and first class offered value for money. The earlier difficulty cited by these carriers in attracting passengers to book through the website has significantly impacted their ability to develop strong relationships with their passengers and subsequently they have rated CRM as an ineffective tool. Similarly, dynamic packaging was considered as the least important strategy because it is a web enabled tool. Clearly these incumbents must focus part of their advertising budget on encouraging passengers to use the website.

Figure 105. Important strategies used by the Middle East /Indian/ African airlines to respond to low cost carriers



10.6.3 The strategic capability of Middle East/Indian/African incumbents and its relationship to operating margin

Similar to Asia, the region has been unexposed to the consequences of deregulation and subsequently the majority of the Middle East/Indian/African markets are protected from the onslaught of full open competition. However, changes are infiltrating through the

region as the UAE and Lebanon have signed up for an open skies policy - but the survey shows that Emirates is best positioned to take on the low cost carriers as it had the strongest strategic capability, while South African Airways had the next strongest capability, as outlined below in Figure 106. Emirates was one of the few carriers that found the following strategies 'somewhat difficult' to implement, while the majority of the other incumbents found these tasks 'extremely difficult'. The strategies include: matching the fares of low cost carriers; increasing the yield in the short-haul market; communicating with passengers; reducing the complexity; and increasing sales through the internet. O'Connell (2006) gave an insight into the strategies that have allowed Emirates to become competitively advantaged, which has positively impacted its strategic capability. He stated that Emirates' labour costs constituted only 18% of its operating costs as labour intensive tasks, such as ground handling, maintenance, catering, call centres etc., are sourced from the cheap labour markets of India and Pakistan, while the majority of its revenue accounting and IT requirements are outsourced to India. The airline's fuel costs are lower than other carriers because of its proximity to oil production and refining facilities, which have ultimately reduced its supply chain costs - and it also hedges its fuel requirements, which saved it $189 million in 2005. Bureaucratic complexities are reduced because the airline, airport and UAE aviation policy are all governed by the same administration department. A study by Cranfield University on the landing charges at 24 airports from around the world for B737-800 aircraft in 2002 established that Dubai had the cheapest landing fee at less than $300, while Paris' Charles de Gaulle airport was close to $3,300 (including taxes). Emirates shows a pattern of acquiring large blocks of production capacity from both Boeing and Airbus, and this was an effective strategy to leverage the list price of the aircraft as well as securing large volume discounts. In addition, its long-term loans are underwritten by the country's proven oil reserves, a measure that secures favourable interest charges on borrowings. Its operating expenses are paid in US dollars, while the majority of its income comes from other currencies in Europe, Asia and the Middle East. However, its UAE Dirham currency is pegged to the US dollar, whose recent weakness has accentuated the carrier's cost advantage (O'Connell, 2006). Oman Air placed a higher level of importance on particular strategies than Emirates had emphasised, and particularly stressed that its code share partners were a valuable revenue generator and allowed it to offer multiple frequencies on dense routes, especially to India. In addition, it was the only carrier declaring that serving secondary airports was an 'extremely important' strategy in competing head-to-head with budget carriers. The carrier however, has been very slow to make changes to its organisation, as its online booking engine, for example, was implemented in mid 2006 and the carrier has never dropped a route, indicating that it will remain with the destination until it becomes profitable, ultimately diluting its profitability. The survey shows that MEA, Egyptair, Jet Airways, Air Sahara and Gulf Air have all placed similar weight on the importance of strategies that would be effective in competing with low cost carriers but have a lot of difficulty in implementing them. Gulf Air, for example, is headquartered in Bahrain and the survey uncovered that it was unable to implement speedy changes, reduce the complexity, modernise its fleet, target passengers and increase sales through the internet. It is jointly owned by two

governments (Bahrain and Oman) and subsequently operates on a complex two-tier hub system and changes are slow to occur because they must be approved by both governments. Gulf Air only launched its first e-ticket in late 2005, which shows the tardy nature that this carrier has placed on IT development - this has had a cascading effect on its weak CRM strategy (ATI, November 2005). Another group of incumbents that are clustered together include Sri Lankan and Indian Airlines, each of which have experienced similar difficulties as the earlier group, but they have also experienced additional problems because of unions. However, the group placed a weak emphasis on certain strategies, which include flexible tickets, product differentiation, travel policy agreements, cargo, joint purchasing, frequent flyer programs, code sharing, satisfying the needs of the passenger and advertising, which has negatively impacted their positioning in Figure 106 below. The Indian incumbents in particular have been experiencing excessive competition from low cost carriers and they must strengthen these strategies if they are to gain back market share and become competitively advantaged. Biman Bangladesh had the lowest strategic capability of all the airlines surveyed and face multiple problems. The BBC News (2006) reported that the average age of its aircraft is almost 20 years and that the airline is close to bankruptcy because it has been unable to pay for fuel at many of the airports that it serves, while it has also been prohibited from operating to the US because of its poor maintenance standards. The report also states that the carrier suffers from chronic delays, to the extent that its pays an average of $20 to each passenger in compensation for the poor on-time performance. The survey found that Biman Bangladesh had 'extreme difficulty' with all the questions and the fact that it has only one code share partner (Qatar Airways code shares from Doha to Dhaka - Qatar Airways operates) gives an indication of its poor situation. This incumbent clearly faces an unclear future.

Figure 106. The strategic capability of the Middle East/Indian/African incumbents.

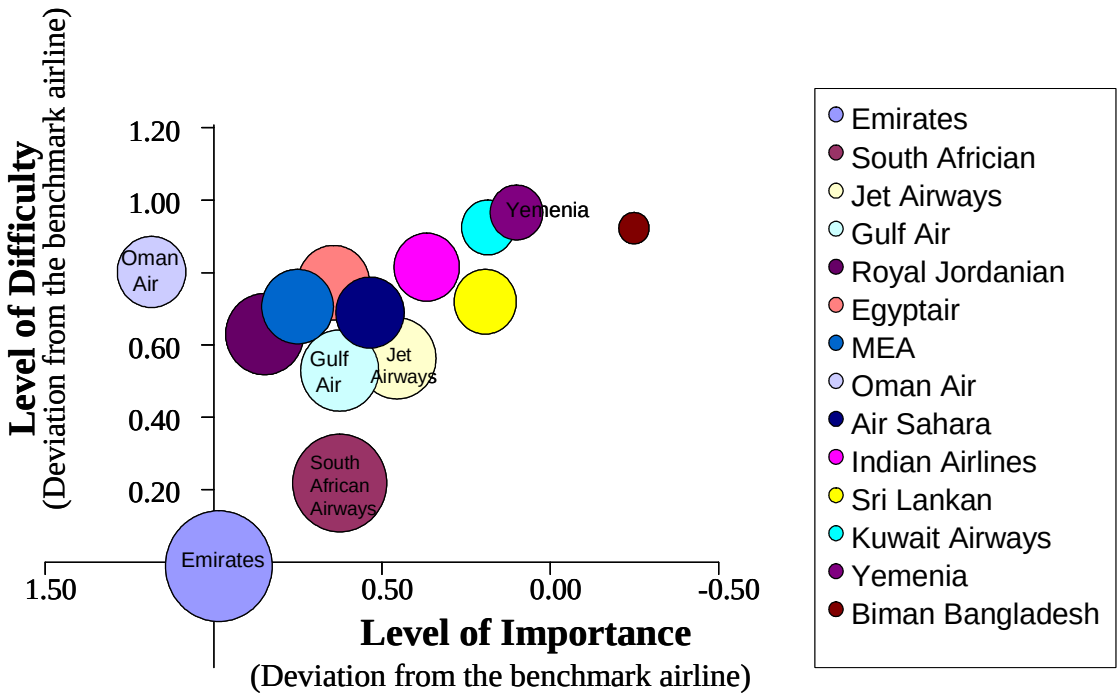
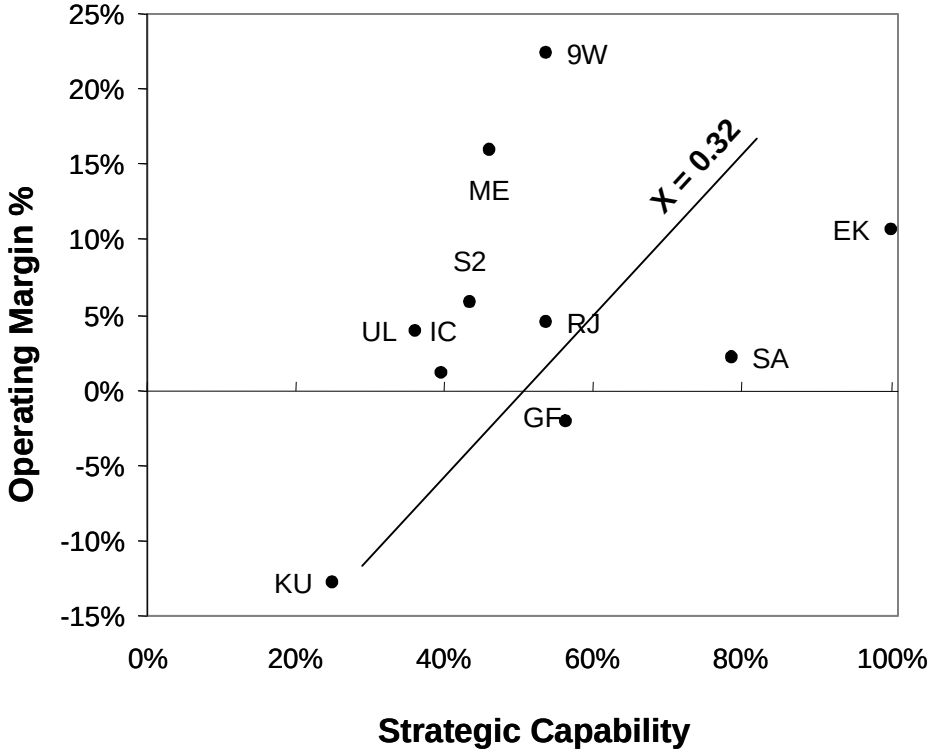


Figure 107 (below) compares the operating margins of the Middle East /Indian/African incumbents to that of its strategic strength. The operating margin of India's Jet Airways (9W) is particularly impressive but it was achieved by measures outside of its strategic capability because the carrier initiated a sale-and-leaseback on five of its Boeing 737 aircraft, which contributed to its enhanced profit margin. However, the weak strategic capability encountered by Air Sahara, Gulf Air, Indian Airlines, Royal Jordanian and Sri Lankan (see above) has impacted the ability of these carriers to produce strong operating margins. Kuwait Airways is another problematic carrier as it produced a 12.8% negative operating margin for 2005. Its government invested around $1 billion in 2005 in order to keep the flag carrier solvent and these handouts have been continuously mismanaged as the carrier is overstaffed and the government interferes in commercial decisions (Shaar, 2006). The correlation coefficient between the operating margin and the strategic capability is 0.32 which is low and it implies that Middle East/Indian/African based airlines with strong strategic capabilities does not necessarily extract high operating margins and is similar to that noted with the Asian based carriers.

Figure 107. Comparison of the 2005 operating margins and strategic capability of the Middle East /Indian/ African incumbents.



Note 1: Emirates (EK), South African (SA), Jet Airways (9W), Gulf Air (GF), Royal Jordanian (RJ), MEA (ME), Air Sahara (S2), Indian Airlines (IC), Sri Lankan (UL), Kuwait Airways (KU), Yemenia (IY)

Note 2: There were no operating margins available for Biman Bangladesh (BG); Egyptair (MS); Oman Air (WY).

10.6.4 Middle East /Indian/African incumbents' ability to meet the requirements of their leisure passenger

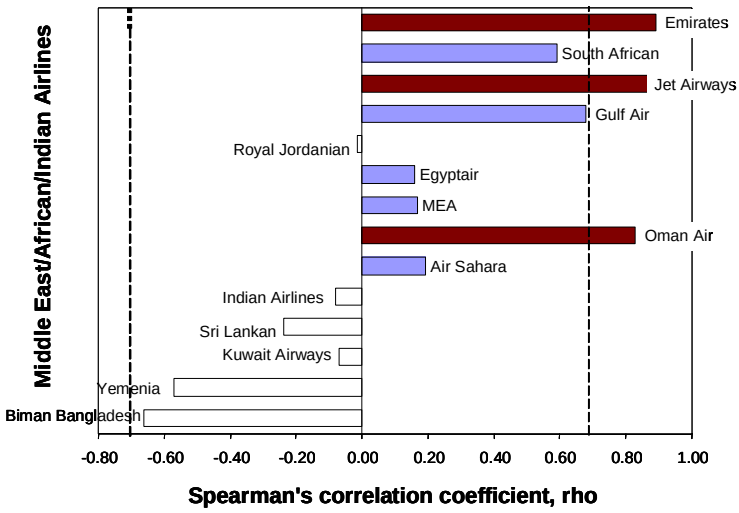
The airlines that best matched the ranking of flight products of leisure passengers are shown statistically in Table 74 and diagrammatically in Figure 108 below. They show that Emirates, Jet Airways and Oman Air have an excellent understanding of their leisure passenger requirements, as indicated by the results produced through SPSS. Statistically, these carriers have very high values for the spearman rank correlation coefficient and are significant at the 0.01 confidence level, while Emirates registered that strongest correlation. O'Connell (2006) stated that Emirates has received more than 270 accolades and awards globally, and one of the most notable of these accolades has been the Skytrax Airline of the Year award, which is the global barometer of passenger opinions about airlines around the world - the research company has consistently placed Emirates in the top five world rankings from 2001 to the present day. Similarly in India, O'Connell and Williams (2006) noted that Jet Airways had the distinction of being repeatedly judged India's 'Best Domestic Airline' and has won several national and international awards. Oman Air operates a small fleet of 9 short-haul aircraft with 1,100 employees and this small operation with its high aircraft/employee ratio allows the carrier to focus specifically on its passengers. South African Airways and Gulf Air are very close to understanding their leisure passengers but statistically they are not significant. Egyptair, MEA and Air Sahara have a much weaker understanding of their leisure passengers' requirements and may lose passengers to other competitors. However, six incumbents from the Middle East/Indian/ African region, which represents 42% of the sampled airlines, have negative correlations in the ranking of flight products, which is alarming - these include Royal Jordanian, Indian Airlines, Sri Lankan Airlines, Kuwait Airways, Yemenia and Biman Bangladesh. O'Connell and Williams (2006) pointed out that Indian Airlines' domestic market share fell from 67% in 1993 to 43% by 2005 and this misunderstanding of passenger's requirements may be partly responsible for the decline. Yemenia and Biman Bangladesh have completely misjudged their leisure passengers and urgently need to readdress this issue. It is surprising to note that there is no low cost carrier yet serving these two markets but they will certainly experience a rapid decline in their market share when budget carriers begin to invade their markets.

Table 74. Statistical analysis of Middle East/Indian/African leisure passengers using the Spearman rank coefficient.

	Ability to meet Pax preferences (Spearman ρ)	Statistical significance (P value)
Emirates	**0.90****	**<0.001**
South African	0.59	0.24
Jet Airways	**0.87****	**<0.001**
Gulf Air	0.68	0.54
Royal Jordanian	-0.01	0.97
Egyptair	0.16	0.68
MEA	0.17	0.67
Oman Air	**0.86****	**<0.001**
Air Sahara	0.19	0.62
Indian Airlines	-0.08	0.84
Sri Lankan	-0.24	0.54
Kuwait Airways	-0.07	0.86
Yemenia	-0.57	0.11
Biman Bangladesh	-0.66	0.05

**,* Correlation is significant at the 0.01 and 0.05 level

Figure 108. Descriptive analysis showing the ability of Middle East/Indian/African airlines to match the requirements of leisure passengers.



10.6.5 Middle East /Indian/ African incumbents' ability to meet the requirements of their business passenger

The analysis is repeated for business passengers, shown below in Table 75 and Figure 109, and again Emirates emerges as the clear leader. They show that the incumbent has successfully shaped its business class product to reflect the needs of business class passengers and that it pays close attention to the changing demands of its customers. Other carriers, such as Jet Airways, Gulf Air and Oman Air, have also closely aligned their flight products to match the requirements of their business passengers and could challenge Emirates on this front. However, South African Airlines, MEA and Air Sahara have again misjudged the needs of passengers and they need to restructure their marketing approach as they have miscalculated the expectations of both leisure and business passengers. In fact, 50% of the surveyed incumbents have completely misaligned the requirements of business passengers (negative correlation) and this may explain why Emirates has become a strong incumbent in the Middle East/Indian/African region - because it meets the expectations of business passengers. The danger facing carriers such as Royal Jordanian, Egyptair, Indian Airlines, Sri Lankan, Kuwait Airways, Yemenia and Biman Bangladesh is that their business passengers may switch to Emirates and compare services, which may persuade them to permanently switch carriers, further impacting these weak carriers.

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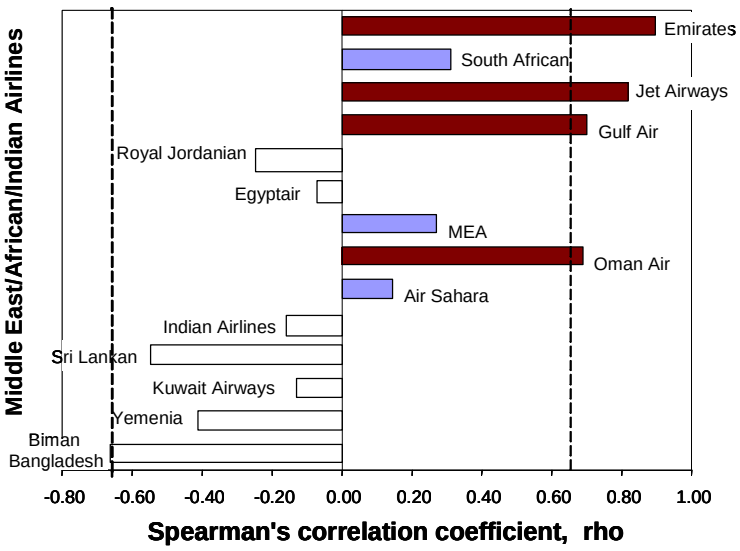
Table 75. Statistical analysis of Middle East/Indian/African business passengers using the Spearman rank coefficient.	Figure 109. Descriptive analysis showing the ability of Middle East/Indian/African airlines to match the requirements of business passengers.

	Ability to meet Pax preferences (Spearman ρ)	Statistical significance (P value)
Emirates	**0.92****	**<0.001**
South African	0.33	0.41
Jet Airways	**0.85****	**<0.001**
Gulf Air	**0.68***	**0.02**
Royal Jordanian	-0.23	0.42
Egyptair	-0.06	0.87
MEA	0.27	0.45
Oman Air	**0.73***	**0.04**
Air Sahara	0.18	0.73
Indian Airlines	-0.14	0.80
Sri Lankan	-0.58	0.10
Kuwait Airways	-0.10	0.74
Yemenia	-0.38	0.20
Biman Bangladesh	-0.66	0.04

**,* Correlation is significant at the 0.01 and 0.05 level



10.6.6 Overview of the strategic capability and ability of Middle East /Indian/ African incumbents to meet the requirements of their leisure and business passengers.

The strategic capability of each incumbent and its ability to meet passengers' preferences (Spearman coefficient) for both leisure and business passengers are plotted below in Figure 110 and Figure 111. These incumbents are unique because they have almost similar understandings of the needs of both leisure and business passengers, regardless of their strategic capability. Kuwait Airways, MEA and South African Airways, for example, have low, medium and high strategic capabilities[197], yet they have each equally miscalculated the requirements of both leisure and business passengers. Analysis of the diagrams below shows that incumbents with a medium strategic capability can have an excellent understanding of their passengers, as seen with Oman Air, Gulf Air and Jet Airways. Oman Air is the smallest incumbent from the entire survey in terms of passengers carried and fleet size, yet it has managed to have a full comprehension of the requirements of both its leisure and business class passengers, and the survey shows that this airline could easily increase the size of its passenger base at a far faster rate than larger incumbents such as Egyptair or Indian Airlines. Oman Air is now expanding its short haul fleet to include widebody A330s and it may become the Gulf's new leading carrier and present other competitors with a formidable challenge. The proposed merger

[197] The strategic capabilities are rated from the following; 0 – 0.33, low; 0.34 – 0.66, medium; 0.67 – 1, high.

between Jet Airways and Air Sahara may be very successful as both carriers have a medium strategic capability and Jet Airways could restructure Air Sahara's weaker marketing perspective on its passengers by incorporating its own enhanced understanding of passenger requirements, which would challenge the recent market share gains of Air Deccan. The underperforming carriers of Biman Bangladesh, Yemenia and Kuwait Airways, together with their complete misinterpretation of both leisure and business passengers, will compound their ability to compete in the market place and the revenues of these incumbents may continue to fall, triggering increased losses and forcing their respective governments to offset the losses by injecting additional subsidies. However, the dominant leader from this group is Emirates as it has the strongest strategic capability and has an excellent perception of passengers - this analysis shows that this incumbent should not encounter a lot of difficulty in filling the seats of its 120 aircraft that it has on order, which will intensify the competition between budget carriers and the network incumbents alike. Emirates is unique as it operates a fleet of all widebody aircraft, which are deployed in the short haul markets and consequently accrue higher unit operating costs compared to airlines that operate short haul narrowbody equipment, but its increased seat and freight capacity will offset some of the higher costs. Once this region is fully deregulated, then the true effect of low cost carriers will emerge, but Air Arabia has the first mover advantage and will be well positioned in the marketplace to be a formidable competitor to Emirates. The two incumbents with the strongest strategic capability to compete effectively with the low cost carriers are Emirates (EK) and South African Airlines (SA) - this was measured by investigating the strategies that these incumbents found most effective in competing against budget carriers but also factored the constraining elements that these incumbents had in implementing their strategies.

Figure 110. Relationship between strategic capability and ability to meet leisure passenger requirements.

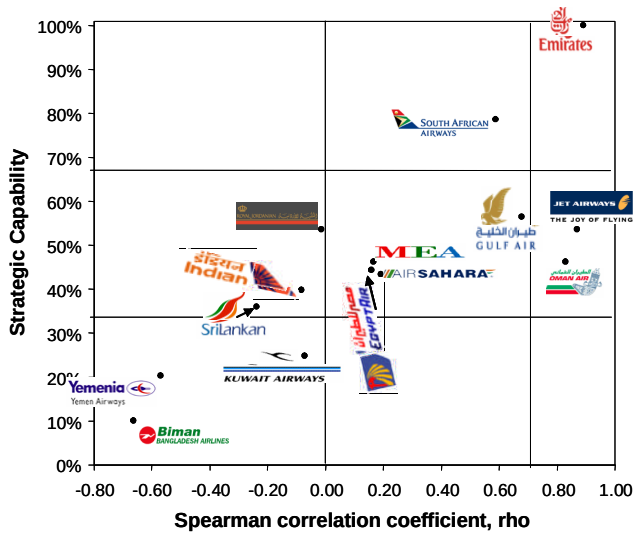
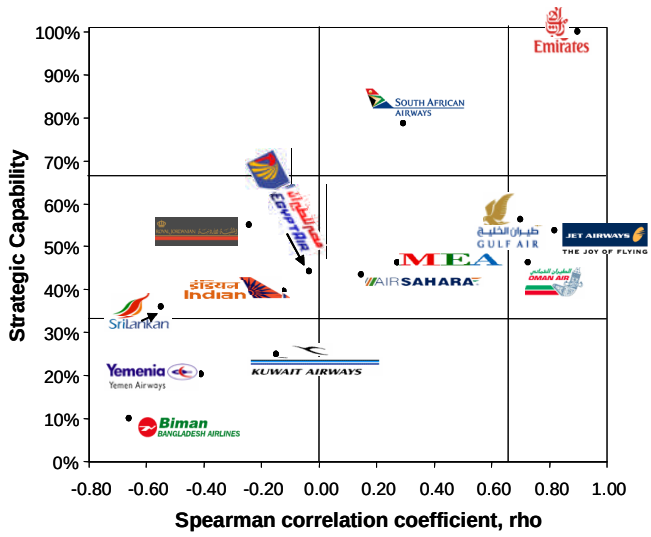


Figure 111. Relationship between strategic capability and ability to meet business passenger requirements.



If other carriers that operate within the Middle East, India and Africa can match or exceed these attributes, which are listed below in Table 76, then they can mount a strategic counterattack on low cost carriers that should prove to be effective. If incumbents from this region can improve on their own difficulties and overcome the major difficulties encountered by Emirates or South African Airlines, as shown in Table 77, then they will improve their capabilities in competing with budget carriers and it should halt the decline in their market share. Emirates for example, has listed 12 'extremely important' and 1 'somewhat important' strategies that they consider to be efficacious and hard hitting. Emirates emphasis on passengers, however, sets it apart from other carriers in the region and is a vital component in assisting it to compete with low cost carriers. It has listed that satisfying the needs of the passenger, frequent flyer programs, CRM, ticket flexibility and corporate travel policy are 'extremely important', while Jet Airways and MEA, for example, listed all these as less important and South African Airways had completely disregarded the importance of CRM and ticket flexibility. Emirates paid particular reference to satisfying the needs of its passenger in the open-ended question 7 of the survey. This quartion asked each carrier to list its most important attribute that positively impacted its financial position when competing with budget carriers - Emirates strongly believed that passengers would be willing to pay a price premium for superior flight products and that its strong customer service presence gives the passenger reassurance that any obstacle endured with the service will be quickly resolved. The Middle East region is also unique because it has little difficulty in implementing strategies - there is no resistance from employees as the region's commercial climate forbids strikes and there are no unions allowed. It can be clearly seen from Table 77 that Emirates has no difficulty in implementing speedy changes, negotiating labour agreements and negotiating outsourcing, while the Indian incumbents and South African Airways experienced major problems with unions and outsourcing. As the Middle East/Indian/African region becomes deregulated, there will be an exponential growth in low cost carriers as more entrants will emerge and existing carriers will expand their operations. Emirates is clearly poised to mount a strong challenge against budget carriers and the evidence suggests that it should continue to be a leader in the region.

Table 76. Important strategies implemented by Emirates and South African Airlines which proved effective in competing against low cost carriers.	Table 77 Difficulties encountered by Emirates and South African Airlines in implementing their strategies.

Important Strategies	EK	SA
FFP		
Satisfying needs of passenger		
Serving primary airport		
Serving secondary airport		
Maintain business class		
Building value thru CRM		
Diversification strategies		
Product Differentiation		
Ticket flexibility		
Operate some routes on a point to point basis		
Advertising		
Dynamic Packaging		
Interlining Traffic		
Partnership/ownership of a regional carrier		
Joint purchasing agreements		
Cargo		
Full transparency for Unions		
Corporate travel policies		
Equity investments in other airlines		
Revenues generated from alliance/ code share partners		
Setting up low cost carrier		

Airline considers 'extremely Important'

Airline considers 'somewhat Important'

Difficulty	EK	SA
Matching the low cost pricing model (i.e. fares, rules & regulations)		
Ability and speed to drop unprofitable route		
Negotiate outsourcing		
Ability to increase yield in short-haul market		
Building strong brand		
Targeted communication to each customer segment		
Ability of management to implement speedy changes overall		
Ability to reduce operating costs to within 30% of low cost carrier		
Reduce overall complexity of airline		
Change to homogenous fleet		
Negotiate labour agreements with unions		
Negotiating lower airport charges		
Modernise fleet		
Increasing sales through website		

Airline considers 'extremely Difficult'

Airline considers 'somewhat Difficult

10.7 Strategies that are effective in competing with low cost carriers.

The last question in the survey asked each strategy director to 'think outside the box' and report strategies that were not in the mainstream, but could prove to be beneficial in competing with low cost carriers and the responses are listed below.

- Divide the cabin into three sections: business class, premium economy and economy
- Install a premium economy (more leg room) on all short-haul aircraft and charge a premium to use it
- Schedule flights at peak times (i.e. early morning and late afternoon) from secondary airports to provide more competition for low cost carriers
- Show the true statistics on how many passengers were left stranded by low cost carriers
- The cost of food, beverages and newspapers can be offset by accompanying advertisements
- Charge passengers for the privilege to connect to other carriers
- Joint purchasing has enormous potential in reducing costs
- IATA should collaborate and invest in the Global New Entrants (GNEs) technology and bypass the GDSs altogether as their fees are exorbitant
- Remunerate passengers financially through the frequent flyer program when they reach a particular number of miles
- Airlines should take the email address and mobile number of all its passengers at check-in and incorporate them into its e-commerce platform
- Triple the frequent flyer points on all short-haul flights
- On every short-haul flight give every passenger a discount voucher to use on future flights
- Increase the baggage allowance for both carry-on and check-in and install RFID technology to reduce the risk of losing luggage
- Train all staff to be friendly, courteous, hospitable and sincere
- Have more staff at important customer contact points such as check-in, boarding, on-board and at disembarkation
- Cross train all service related personnel to perform multiple tasks i.e. cabin crew, check-in, call centre, etc
- Bring back the style, glamour and class that was once associated with network airlines
- Install entertainment pods at every seat, which are free to customers and use advertising revenues to offset the expense
- Educate passengers on board to use the airline's website via an IFE system
- Replace all seat covers, carpets and impregnate all interior cabin panels with perfumes to replicate the interior of a new aircraft.
- Reduce the weight of all aircraft furnishings through composites
- Maintain an aircraft on standby at all times, as this ensures reliability
- It should be mandatory that all pilots perform training duties in the simulators as part of their work function and this will not impact their flight hours
- Cargo must be considered as a critical element and carriers should become subcontractors for express freight operators such as FedEx, DHL, etc.

10.8 Concluding comments

This chapter discusses the results of the IATA survey undertaken as part of the empirical validation of this Thesis. Major network airlines across the continents participated in the survey, which aimed at highlighting the strategic capabilities of incumbents to face the challenges posed by low cost carriers. Emphasis was also put on the ability of traditional airlines to meet customer requirements; the most efficient carrier in each geographical group was used as the benchmark against which the relative position of all other airlines was assessed. The results were derived from structured questions using Likert opinion scales. A recurring theme was the major problems that were listed by all the incumbents, namely: reducing costs to within 30% of the low cost carrier, matching low cost carrier fares and increasing yield in the short-haul markets. The operating cost gap has been closing over recent years between the two airline business models, but the survey indicates that network carriers now firmly believe that they will not be able to achieve the same unit costs as low cost carriers and must find other ways to offset this disparity, such as finding alternate revenue streams that will improve the overall margin between revenues and costs. The high cost structure of the network carriers significantly impacts their ability to offer fares comparable to low cost carriers, and they also believe that differentiated flight products allows them to offer a fare premium - but this method has not triggered mass volumes of passengers to travel, unlike with the budget carriers. Network airlines worldwide have considerably lowered fares and, consequently, they are extremely concerned about the continuous decline of yields, which has now become a permanent problem in short-haul markets. In Europe, unions remain a difficult obstacle to overcome as they disrupt the restructuring process of airlines and have strongly resisted change. The inadequate e-commerce platform is another strongly echoed difficulty facing network carriers worldwide: travel agents still appear to be in control and the network carriers have not capitalised on the potential of Customer Relationship Management processing which would allow them to communicate directly to passengers and harness knowledge on the value (low, medium, high) of the passengers. This has also impacted on their opportunity to generate additional revenues from dynamic packaging - Ryanair, for example, currently generates 15% of its turnover from this activity.

The recurring message of the most important strategies gathered from the network airlines worldwide were as follows: satisfying the needs of the customer, serving primary airports, product differentiation and innovation, and frequent flyer programs. The high growth of low cost carriers worldwide has triggered network carriers to re-evaluate why so many passengers have been switching, and they have made satisfying the needs of passengers a priority – this has now become the most important objective of the network carriers. Serving primary airports will remain a core part of the overall strategy of network carriers, despite their high charges, as they allow carriers to interline their own traffic (short-haul to long-haul) as well as being profit centres that accommodate the interlining of traffic from code share and alliance partners. Product differentiation and

innovation remain paramount in the armoury of network carriers when confronting budget carriers and they are trying to widen the gap between the two airline business models in this area in order to further delineate the different products that network carriers offer passengers. Frequent flyer points are an important trait, synonymous with the legacy of network carriers, and provide a bolt-on incentive for passengers to reuse a particular carrier while also generating revenues from other service providers, such as hotels who buy mileage from airlines and give it to customers as a loyalty gesture. Cargo is an important attribute of Asian carriers in particular, and one that should be considered by other incumbents, as they have developed long term relationships with freight forwarders over the last few decades – the other incumbents should capitalise on this market as the operational constraints at primary airports make it difficult anyhow to pursue fast turnarounds. In the Middle East/Indian/African market, advertising was considered as a core feature - while the media in Europe and Asia is flooded with advertisements from low cost carriers, the full service airlines have not informed the general public of the value-adding differentiated products that they have deemed so important.

Incumbents with a strong strategic capability of competing with low cost carriers generally have a good perception of the requirements of both leisure and business passengers, while the network carriers with weak strategic capabilities generally have a poor perception of the requirements of passengers, and it is these carriers that are most at risk from the no-frills carriers as they could lose market share very quickly. However, there are a large number of incumbents that have a medium strategic capability: they have a mixed perception of the demands of both leisure and business passengers and could be classed as 'stuck in the middle' airlines - these carriers need to refocus their overall direction and re-assess the requirements of their passengers. The incumbents with a medium strategic capability and poor understanding of the requirements of passengers are also at most risk from budget carriers, while similar airlines with a good understanding of the demands of passengers are in an excellent position to defend their market share and counterattack the advancements of low cost carriers. Overall, there remains a large number of different characteristics between the network and low cost carrier models, such as: corporate business passengers, business class, cargo, alliances, joint purchasing opportunities, interlining, regional airline affiliates, equity investments, diversified sub-industries (e.g. maintenance, catering, etc), frequent flyer programs (however this is now becoming an integral part of many low cost carriers), as well as their brands that portray the legacy of trust, quality, dependability and unparalleled customer service. Network carriers must capitalise on these strengths.

The survey concluded by asking management to 'think outside the box' and report unique strategies that might prove beneficial, and it seems that the airline sector is neither short of ideas nor innovation. What matters, however, is efficient implementation in a thought-provoking manner. After all, restructuring is deemed successful only if it manages to deliver concrete results and raise profitability.

11 Chapter 11: Conclusion and Recommendations

11.1 Introduction

The reason for endeavouring on this research path was because there had been little academic discourse on the response of network airlines to low cost carriers and what they could do or, more to the point, their capability in being able to respond, which will ultimately become the main drivers to challenge the budget carriers. The voice from industry is loud and clear: the short-haul operations of network carriers are in trouble and there is a real need to identify worthwhile strategies and take note of actions of carriers that have been successful in their attempts to counter budget carriers. By March 2006 for example, low cost carriers had secured 8% of the intra-Asian market and 23% and 27% of the intra-European and US domestic markets respectively. In other parts of the world low cost carriers have also being growing quickly: Gol gained 25% of the Brazilian market, Air Deccan claimed 10% in India, Virgin Blue acquired 30% in Australia, while Air Arabia had taken 6% of the Intra Gulf market by 2006. OAG (December, 2006) calculated that the total number of low cost carrier seats worldwide was up by 16% over the year 2005/06 and there appears to be no stopping the continuous growth, year after year, of these budget carriers, which are increasingly impacting the network airlines.

The impetus for this research centred on finding successful strategies that are within the capability of the full service airlines to compete effectively against low cost carriers which are now becoming a major threat. The aims of the research given in **chapter 1** were:

- To uncover the key factors which have been responsible for the continued growth and success of low cost carriers, and to assess their impact on the full service airline business model.
- To obtain insights into the perceptions of passengers to a change in fare between low cost carriers and full service airlines, while determining which flight products are most important to passengers travelling on each type of carrier.
- To measure the strategic capability of full service airlines in responding to low cost carriers and to ascertain the former's understanding of the requirements of passengers.

11.2 Discussion

11.2.1 To uncover the main drivers that have contributed to the success of low cost carriers and to assess their impact on full service airlines.

- Deregulation allowed airlines the freedom to enter markets and to launch routes where they identified a market opportunity, and the freedom to set fares at whatever level they deemed appropriate. Low cost carriers in the US and EU flourished after deregulation and they have unambiguously increased the level of competition in the industry. They have done this in three main ways: firstly, by reducing the level and changing the structure of fares; secondly, by offering new destinations or operating to alternative airports that serve the same ultimate destination already served by existing carriers; and thirdly (a later development), by offering high levels of frequency on the denser routes. However, Europe's incumbents have been short-sighted because they have not taken full advantage of the liberalised conditions that prevailed after deregulation and consequently, they remained entrenched in their respective markets while the low cost carriers took full advantage by developing multiple hubs across the continent. In Asia, liberalisation is creeping across the region as its domestic markets are now almost all deregulated and the budget carriers are already circumnavigating the remaining intra-Asian restrictive bi-laterals by developing franchises, which are likely to accelerate the move towards the dismantling of regulatory barriers as respective governments recognise that they are becoming ineffective and that low cost carriers will economically benefit the region. This is certain to become the world's next biggest market for low cost carriers.

- Network airlines are saddled with both legacy and high operating costs which are limiting their ability to compete. Academics have proclaimed that 60-80% of the cost gap can be closed, yet Aer Lingus is one of the few incumbents that have achieved such a radical transformation. Legacy costs, such as pension payments, overstaffing, labour inefficiencies, old generation aircraft, etc., have now become a major legacy cost issue. Low cost carriers, such as Southwest, Ryanair and Air Asia, have been prospering by exploiting a huge cost of operations advantage, outlined below, which is subsequently passed to consumers as lower fares.

    - Simplified fleet structure which reduces maintenance and pilot costs, and makes scheduling aircraft easier.
    - Fast turnaround times, which increases aircraft utilisation and therefore the productive flying time of the aircraft.
    - Use of secondary airports, which are generally cheaper, and also emptier, allowing quicker operations than the main hub airports.
    - Low cost carriers focus on shorter routes, allowing them to maximise the number of trips made by each aircraft.

- Ticket sales are carried out directly by the airline, reducing the costs of sales.
- Single class allowing for a dense seating configuration.
- Flights are normally only available on a point-to-point basis, with the carriers not providing for connecting services (European and Asian low cost carriers).

- Low cost carriers have also devised alternative ways to increase revenues by such methods as selling on-board and through dynamic packaging whereby the consumer combines individual travel components online to create a customized package - it is quickly replacing both online and offline purchases of traditional vacation packages. Ryanair, for example, secured additional revenues of $9.80 per passenger in 2006, which accounted for 18% of its overall revenues.

- The impact of low cost carriers on full service airlines has been very significant indeed. By 2005 around 35 low cost carriers were operating in Europe but the alarming statistic was that over 50% of all low cost carrier routes had been started in the previous two years, signalling major problems ahead for incumbents. Losses of US$6.3 billion were accumulated by the members of the Association of European Airlines on their intra-European routes during 2000 – 2005, which indicates that low cost carriers are significantly impacting the losses. In the UK, for example, up to 46% of the intra-European market and around half of the domestic market is now under threat from budget carriers, and this sends a strong signal to other European incumbents who have not yet been threatened significantly by budget carriers. Similarly, in the US more than 60% of all passengers had the option of taking either a low cost carrier or one of the Major network airlines by 2005, which again has impacted the latter's ability to generate revenues in the domestic market. United Airlines, for example, had lost over $7 billion from its North American operation over the five year period 2001-2005. Subsequently, the US Majors began transferring domestic capacity to international operations, which is escaping from the problem at hand. In Asia, where low cost carriers have been in operation for a short period, substantial change has already taken place. Malaysia Airlines, for example, became the regions' first causality as it could not compete on the domestic sectors with Air Asia. Low cost carriers such as Jetstar, Tiger Airways and Air Asia, are beginning to develop multiple bases across Asia and the pace of low cost carrier growth in the region is reaching significant levels.

- Another major threat that will have a significant impact on the future of network carriers is the number of aircraft ordered by low cost carriers. They have secured the majority of the short-haul narrow body aircraft production slots for the next few years, which will provide the necessary capacity for these carriers to continue to expand. Europe's four leading budget carriers had firm orders for over 330 aircraft by mid 2005 while the combined backlog of the traditional network carriers was only 26 narrowbody aircraft. Similarly in the US, Southwest, Jetblue and Air Tran had collectively ordered 323 aircraft, while very few orders were placed by Majors, and

the same type of story also unfolds in Asia. However, this forces network airlines to order later into the economic cycle, as aircraft prices soar and move ever closer to an economic downturn. Management at full service airlines inadvertently failed to capitalise and take advantage of the lower aircraft prices after 9/11 events - generally they are not as visionary as their low cost carrier counterparts.

11.2.2 Insights into the perceptions of passengers to a change in fare between network and low cost airlines while determining which flight products are most important to passengers.

The results from the three passenger surveys conducted in India, Ireland and Malaysia are aggregated to reflect an overall worldwide picture of the passengers travelling both full service airlines and low cost carriers worldwide. The literature heavily inferred that fare was the primary constituent of why passengers had chosen to journey with low cost carriers. The passenger surveys all supported this theory, that fare was in fact the primary reason for selecting low cost carriers. Fares were collected for low cost carriers and full service airlines from Australia, Ireland, Malaysia, UK and US over a three month period in 2002/03, 2003/04 and 2004/05, and the general view was that network airlines were closing the gap in fares between the two groups of airlines. Fare data collected for 2004/05 indicated that the average fare difference (weekend return) between network and budget carriers had reduced to around 30%.

The analysis of the passenger surveys comprises two elements. The first investigates how many of passengers travelling on low cost carriers would switch, or not switch, to full service airlines if the fare of the latter was reduced by increments of 10%, 20%, 30%. The following represents the aggregated average responses of passengers travelling on Ryanair, Air Asia and Air Deccan, which are regarded as the low cost airline leaders in Europe, Asia and India respectively. The results give an overall representation of the passenger dynamics that researchers should expect to find in any passenger market worldwide, but particularly in Europe and Asia.

- If the fare was reduced by 10%, then a very small proportion of leisure passengers travelling on low cost carriers would switch to a network airline as it would not constitute enough of an incentive.
- If the fare was reduced by 20%, it would trigger an average of around 18.6% of leisure passengers and almost 13% of the business passengers to switch to the competing network carriers.
- If the fare was reduced by 30%, then there would be a significant shift in the competition between network and budget carriers, as an average of 32.5% of leisure passengers travelling on low cost carriers would to switch to network carriers,

including almost 71% of their business passengers. The latter become increasingly attracted to the network airlines because of their range of additional flight products such as use of primary airports, reliability, connections, stronger schedule, frequent flyer points, increased levels of service and comfort, etc.

- Overall, this indicates that the incumbents can significantly influence passengers who travel today on low cost carriers. If the network carriers can align fares close to that of low cost carriers then they will entice on average of around 60% of the latter's leisure passengers and a staggering 84% of their business passengers, which will then significantly threaten the low cost airlines and reverse the competitive dynamics between both carrier types. Therefore, it is critical that network carriers reduce costs and find alternative solutions to generating revenues which will cross subsidise lower fares and thus mount an aggressive counterassault on low cost carriers.
- However, many passengers travelling on low cost carriers would like to remain loyal and would not be persuaded to travel with a full service airline. Budget carriers worldwide now regularly offer promotions whereby they sell millions of seats at very low prices and sometimes give away free seats, which stimulate many passengers to book tickets with the underlying perception that the flight will be cheap. An apparent marketing weakness associated with the full service airline model is that they have not advertised their extensive portfolio of airline products (including low fares) on their short-haul routes and this has not aroused the attention of the general public to consider network carriers when booking. An average of around 40% of leisure passengers who travel on low cost carriers would prefer not to switch to a full service airline and 16% of the business passengers.

The second element of the passenger survey investigated the requirements of passengers who travel on full service airlines and low cost carriers. As mentioned earlier, low cost carrier passengers are primarily influenced by fare, but there are particular segments of full service airline passengers that require different flight products. The following represents the average aggregate response of the passengers who travelled on full service airlines including Aer Lingus, Air Sahara, Indian Airlines, Jet Airways and Malaysia Airlines. These airlines are operating in a very difficult environment as they face excessive competition from respectively Ryanair, Air Deccan and Air Asia. The survey captures the requirements of these passengers and gives an overall representation of the dynamics that researchers should expect to find in any passenger market worldwide, but especially in Europe and Asia.

- The surveys concluded that on average 26% of passengers travelling on low cost airlines and 23.7% of leisure passengers journeying on full service airlines require the same primary flight product, as they have selected fare as the most important characteristic for choosing each carrier. Therefore, it can be inferred that almost one-

quarter of leisure passengers travelling on full service airlines (worldwide) could very easily have chosen a low cost carrier to take their trip. However, the study indicated that these travellers are low value passengers as they take infrequent trips - but incumbents still need to target this passenger segment. An effective yield management strategy can safeguard losing some of these passengers because it could assign a specific number of seats at fares lower than those of the low cost carrier, which would entice these passengers to take the full service airline.

- The analysis also found that there is another distinct group of leisure passengers who travel on full service airlines that require a different set of flight products than the group mentioned above. The study found that just over three-quarters of leisure passengers place less emphasis on fare because they have a higher value other flight products such as schedule and reliability - this segment clearly values time and dependability. Many leisure passengers today are 'cash rich but time poor' or want to reduce inconvenience (e.g. secondary airports) by as much as possible. This suggests that network carriers can retain a large portion of leisure passengers if they offer good schedules that have suitable departure timings, serve primary airports and offer high frequency on the route, while at the same time keeping the service highly differentiated from low cost carriers by offering dependable high quality service. However, fare is still an important characteristic to these passengers and network airlines must also keep fares relatively close to those being offered by low cost carriers. Other characteristics, such as quality, connections and frequent flyer programs, also have an influence on the decision to book with the full service airlines. Network airlines also should build long-term mutually beneficial relationships by using tools such as Customer Relationship Management (CRM) which analyse the demand patterns of passengers and can target their specific needs on a one-to-one basis. Generous bonus points should also be awarded to this specific group of passengers as it allows airlines to develop a deeper relationship.

- The business passenger market however, was more segmented than the leisure market. The aggregated surveys concluded that an average of around 12% of the business passengers who travel on either a full service airline or a low cost carrier (Europe and Asia) share the same flight product requirements, as they valued fare as the most important criteria for selecting both carriers - this group of business passengers represents those people that can easily switch between airlines. Most of these passengers are either self employed or work for small companies and are infrequent travellers and thus are classified as low value business passengers. Incumbents should not ignore small businesses and forge relationships with them by offering value-building incentives such as ticket flexibility, because many small businesses later develop into powerful and leading enterprises, and they may retain the services of companies that assisted them during their growth years.

- Business passengers taking low cost carriers remain steadfast in pointing out that fare is the principle motivator for choosing the carrier. However, a different type of business passenger travels on full service airlines as they offer an extended range of flight products that specifically targets the business passengers' needs. The study indicates that an average of 40% of business passengers required a specific set of flight products that were ranked in order of importance as follows: schedule, reliability, frequent flyer program, connections and corporate policy/quality. These passengers are generally travelling to events such as meetings or conferences, which would be considered to be more important in nature than other business trips, while the majority work for very large companies that employ over 100 people, with a substantial number working for companies that employ over 1,000 workers. This group are frequent travellers and consequently they generate a lot of revenue for incumbents and are classified as high value - high yield passengers. Network airlines must target this specific group and build a long-term mutually beneficial relationship through corporate travel policies (see below), CRM and frequent flyer programs. Many of these passengers will be members of the 'top tier' of a frequent flyer program and their status should be instantly acknowledged and given priority at every opportunity. If these passengers are travelling for leisure purposes, then every advantage should be given to them by awarding upgrades, priority boarding, priority waitlist, invitation to business lounges, etc.

- On average, 48.2% of business passengers who were travelling on the full service airlines would remain loyal and would not be persuaded to switch to another airline, regardless of fare changes. This passenger segment is tied to a corporate travel policy agreement between their company and the airline. They tend to work for very large organisations that predominantly employ over 1,000 people, and they are high yield - high value, least price sensitive passengers. Airlines should have dedicated marketing teams that go onsite to these corporations brokering long term deals, and their requirements should be prioritised when travelling. In addition, any problems encountered by this passenger group should be prioritised and resolved immediately. Tools, such as CRM and frequent flyer mileage points, will further deepen the relationship between the business executive and the airline, while they also will reduce the risk of dissatisfying the customer. The airline should also provide extra incentives to deepen the relationship between the airline and corporation by providing a number of free holidays, for example, that can subsequently be offered as prizes.

11.2.3 To measure the strategic capability of full service airlines and to ascertain their understanding of the requirements of passengers.

A survey, entitled 'Impact of Low Cost Carriers', was conducted throughout the world with full service airlines and with the cooperation of IATA. A brief outline of the results are shown below in Table 78, which identify the major difficulties that were encountered by European, Asian and Middle East/African/Indian incumbents as well as the strategies that they deemed important while competing against low cost carriers. The recurring major difficulties encountered by the incumbent airlines across all three regions is their inability to reduce costs to within 30% of a budget carrier, matching the fares of low cost carriers and increasing yield in the short-haul market. It appears likely that network carriers will not be able to bridge the cost gap between themselves and low cost carriers, which will significantly impact on their ability to offer low fares. This problem needs to be urgently addressed as it is of paramount importance. The key will be to lower the operating costs of the legacy airlines to within 30% of budget carriers and to retain their full set of flight products which will justify the carrier charging a fare premium. Network carriers must look for alternative sources of revenue generating opportunities (e.g. dynamic packaging, cargo, ancillary businesses, etc) whereby they can cross-subsidise lower fares. The recurring message of the most important strategies gathered from the network airlines worldwide were as follows: satisfying the needs of the customer, serving primary airports and product differentiation. The high growth of low cost carriers worldwide has triggered network carriers to re-evaluate why so many passengers have been switching, and they have made satisfying the needs of passengers a priority – this has now become the most important objective of the network carriers. Serving primary airports will remain a core part of the overall strategy of network carriers, despite their high charges, as they allow carriers to interline their own traffic (short-haul to long-haul) as well as being profit centres that accommodate the interlining of traffic from code share and alliance partners. Product differentiation also remains paramount as network airlines must continue to widen the differences between the two airline business models.

Generally the incumbents who have a better understanding of the requirements of passengers also have a strong strategic capability. Understanding the needs of passengers will enable the network carrier to retain the existing ones and encourage new passengers to try out the service which will result in higher load factors, higher yields and overall revenues. The higher revenues would then allow the carrier to 'try out' more strategies and to imitate the successful strategies (e.g. differentiated products) of other carriers. However, there are many network airlines that have a medium strategic strength and have a mixed perception of the demands of both leisure and business passengers, and these carriers are so called 'stuck in the middle' airlines that have potential but need to restructure internally. An examination of their internal weaknesses (e.g. uninspired products, recalcitrant work force, etc.) should spur initiatives to design long-term

strategies to address those shortcomings. In addition, they should look at the strategies adopted by more successful incumbents as well as re-assess the requirements of their passengers. However, there are a specific group of network airlines, such as Air China, Alitalia, Biman Bangladesh, China Southern, Garuda, Kuwait Airways, Olympic, Philippine Airlines, and Yemenia, that have a weak strategic strength coupled with a poor perception of the requirements of passengers. These carriers are marred in a combination of high costs, inefficiencies, frequent management changes, strikes, bureaucracy, government influence, unproductive workforce, overstaffing, unclear direction, etc. These incumbents with an unclear future are most at risk from low cost carriers and it may be a wise strategy for these to merge with stronger incumbents as they (in their present form) are unable to compete with budget carriers and it also appears that they are unlikely to change.

Table 78 Difficulties and capabilities of European, Asian and Middle East/African/ Indian incumbents.

	European incumbents	**Asian incumbents**	**Middle East/African/Indian incumbents**
Major Difficulties	• Increasing yield • Unions • Reducing Costs • Matching fares of LCC • Airport charges	• Reducing costs • Matching fares of LCC • Increasing yield • Airport charges • Sales through website	• Reducing costs • Matching fares of LCC • Increasing yield • Sales through website • Communicate to customer
Important Strategies	• Serving primary airport • Satisfying passengers • Frequent Flyer Programs • Product differentiation • Union transparency • Revenues from alliance /code share partners	• Satisfying passengers • Cargo • Serving primary airport • Product differentiation • Frequent Flyer Program • Interlining traffic	• Product differentiation • Satisfying passenger needs • Interlining traffic • Advertising • Serving primary airport • Business class
Strategic Leaders (leisure passengers)	▪ Aer Lingus ▪ British Airways ▪ Lufthansa	▪ Singapore Airlines ▪ Qantas	▪ Emirates
Strategic Leaders (business passengers)	▪ British Airways ▪ Lufthansa ▪ Air France ▪ Iberia	▪ Singapore Airlines	▪ Emirates

11.3 Research limitations and recommendations for future research

11.3.1 Research limitations

- Gaining authorisation to conduct passenger surveys from airlines generally was a difficult process - it took 3 months of negotiation with Ryanair, for example, before they allowed the researcher to proceed. This type of limitation prohibited other passenger surveys from being undertaken as a more aggregate collection of passenger surveys from around the world would have provided a truer reflection of the perception of passengers who travel on low cost and full service airlines. In addition, no data was collected from the North American market, which narrowed the scope of the research.
- The preferred solution to reducing or minimising interpretation errors would have been to personally interview senior airline management as this process would have allowed the researcher to obtain greater insights into the dynamics of the competition between low cost and network airlines. This was not possible as the research was self funded. However, the second best solution of interpreting the results from the written completed questionnaires was to have 'brainstorming sessions' with IATA staff members by telephone and email, but this was limited as they were not specialists in airline strategy or competition and therefore were somewhat detached from the subject area.
- IATA imposed a restriction on the survey by requiring that the results cannot be published in any format (i.e. conference papers, journal papers, book chapter, etc) until January 1st 2009 - subsequently the thesis must be restricted from public viewing in the university library until that time.

11.3.2 Recommendations for future research

- The response of regional airlines to low cost carriers is another area where there is a gap in the academic literature. These regional airlines comprise of either full service airline subsidiaries or independent standalone airlines where the latter are often contracted by network carriers to provide feed traffic from secondary markets and therefore compete more vigorously with low cost carriers. There are many areas to explore, such as: what strategies are proving to be effective against budget carriers?; are they impacting the market share of low cost carriers?; to operate turboprop or jet services?; the benefit of regional carriers to full service airlines?; and which type of regional airline (e.g. stand alone enterprises like Aer Arran, Flybe or regional feeders like Augsburg Airways, Contact Air) is in a better position to compete with low cost carriers?

- Along the same lines, there is also a gap in the research to determine how the Charter airlines are responding to the low cost carriers and to assess the future of this niche group.
- Another interesting area that has not been researched recently is the re-emergence of low cost carrier subsidiaries and their impact on challenging low cost carriers. History has indicated that this was not an effective strategy as they were all dissolved, but in recent years there has been a notable increase in the number of low cost carrier subsidiary start-ups, indicating that incumbents have seriously reconsidered it as a feasible, worthwhile strategy to pursue. Qantas' Jetstar, for example, has been very successful - it quickly clawed back 14% of the Australian domestic market within 18 months of starting operations, which shows the potential for such activity.
- Another very important area that urgently needs research is the impact of long-haul low cost carriers (e.g. Oasis Hong Kong, Jetstar and Air Asia X) and all-business class carriers (e.g. MaxJet and EOS) on network airlines. This will be the next extension of the air transport industry and they could pose enormous problems to the full service airlines as their economy-class and business-class sections are being threatened at the same time. However, the long-haul low cost carriers in particular are very dangerous, as research has already formulated that they have a 20% cost advantage over a traditional network carrier, which will trigger fares to fall significantly and result in huge fare wars between the carriers. The study would endeavour to seek answers on how the network carriers could respond to this threat.

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APPENDICES

Appendix I. Top 25 Airlines by Operating Profitability
(Fiscal Year, 2005)

Total Operating Profit			Operating Profit Margin		
Rank	Airline	US$m	Rank	Airline	%
1	Fedex*	1,414	1	*GOL Airlines*	23.3
2	British Airways	1,330	2	*Ryanair*	21.8
3	Air France-KLM	1,200	3	*Air Asia*	18.9
4	Lufthansa	877	4	COPA	17.3
5	*Southwest*	820	5	Kenya Airlines	15.6
6	Emirates	786	6	Phillipine Airlines	13.7
7	All Nippon	776	7	DHL International*	12.5
8	Qantas*	775	8	Kalitta Air	12.3
9	Singapore Airlines	590	9	Emirates	11.9
10	Cathay Pacific	533	10	Mesa Airlines	11.7
11	*Ryanair*	459	11	American Eagle	11.3
12	Air China	458	12	SkyWest	11.2
13	Iberia	457	13	*Southwest*	10.8
14	Air Canada	388	14	Jet Airways*	10.3
15	UPS	293	15	Air China	9.6
16	Thai Airways	269	16	*Virgin Blue*	9.6
17	*GOL Airlines*	266	17	TAM	9.5
18	TAM	232	18	Singapore Airlines	9.1
19	American Eagle	225	19	Royal Jordanian	9.0
20	SkyWest	220	20	Qantas*	8.9
21	Korean Airlines	207	21	Atlantic Southeast	8.5
22	*Virgin Blue*	184	22	British Airways	8.3
23	China Eastern*	179	23	Aer Lingus	8.2
24	Lan Chile	142	24	Cathay Pacific	8.1
25	Asiana	136	25	Fedex*	7.2

Note 1: *Fiscal Year 2004
Note 2: Low cost carriers are in Italics

Source: Airclaims Financial Database

Appendix II. Fare collection data

Table 1. Fares for London Gatwick to Dublin: 3 month booking profile for a return trip, leaving on Friday (evening time) and returning on Sunday (evening time) for Ryanair and Aer Lingus: (all prices are in £ Sterling and excludes taxes)

		Week 1 Dec 13	Week 2 Dec 20	Week 3 Dec 27	Week 4 Jan 3	Week 5 Jan 10	Week 6 Jan 17	Week 7 Jan 24	Week 8 Jan 31	Week 9 Feb 7	Week 10 Feb 14	Week 11 Feb 21	Week 12 Feb 28*
2002/03	Ryanair[1]	55.98	55.98	50.98	50.98	54.98	54.98	59.98	65.98	69.99	69.98	99.98	119.98
	Aer Lingus[2]	76.00	76.00	76.00	79.50	79.50	85.50	85.50	85.50	89.00	93.00	152.00	178.50
		Week 1 Dec 12	Week 2 Dec 19	Week 3 Dec 26	Week 4 Jan 2	Week 5 Jan 9	Week 6 Jan 16	Week 7 Jan 23	Week 8 Jan 30	Week 9 Feb 6	Week 10 Feb 13	Week 11 Feb 20	Week 12 Feb 27*
2003/04	Ryanair[3]	39.98	39.98	39.98	39.98	46.98	46.98	46.98	49.98	52.46	57.98	79.00	86.00
	Aer Lingus[4]	45.50	45.50	45.50	49.50	54.00	58.00	62.00	62.00	68.00	68.00	88.00	110.00
		Week 1 Dec 10	Week 2 Dec 17	Week 3 Dec 24	Week 4 Dec 31	Week 5 Jan 7	Week 6 Jan 14	Week 7 Jan 21	Week 8 Jan 28	Week 9 Feb 4	Week 10 Feb 11	Week 11 Feb 18	Week 12 Feb 25*
2004/05	Ryanair[5]	65.80	65.80	65.80	79.80	79.80	79.80	79.80	79.80	79.80	99.90	115.00	125.00
	Aer Lingus	Cancelled all Flights from Gatwick to Dublin											

* Booking on day of departure

[1] Ryanair had 4 flights a day in 2002/03 using B737s
[2] Aer Lingus had 6 daily flights in 2002/03 using BAe146
[3] Ryanair had 5 flights a day in 2003/04 using B737s
[4] Aer Lingus had 4 flights a day in 2003/04 using A320s
[5] Ryanair had 6 flights a day in 2004/05

Table 2. Fares for London Gatwick to Barcelona: 3 month booking profile for a week-end return trip, leaving on Friday (evening time) and returning on Sunday (evening time) for easyJet and British Airways: (all prices are in £ Sterling, excludes taxes)

		Week 1 Dec 13	Week 2 Dec 20	Week 3 Dec 27	Week 4 Jan 3	Week 5 Jan 10	Week 6 Jan 17	Week 7 Jan 24	Week 8 Jan 31	Week 9 Feb 7	Week 10 Feb 14	Week 11 Feb 21	Week 12 Feb 28*
2002/03	easyJet[1]	62.54	62.55	62.54	72.54	92.54	92.50	112.50	140.50	140.50	165.50	165.50	210.00
	BA[2]	86.00	86.00	86.00	98.00	130.00	136.00	148.0	184.00	198.00	234.00	296.00	404.00
		Week 1 Dec 12	Week 2 Dec 19	Week 3 Dec 26	Week 4 Jan 2	Week 5 Jan 9	Week 6 Jan 16	Week 7 Jan 23	Week 8 Jan 30	Week 9 Feb 6	Week 10 Feb 13	Week 11 Feb 20	Week 12 Feb 27*
2003/04	easyJet[1]	64.98	64.98	66.98	66. 98	66.98	66.58	90.58	118.58	135.98	135.98	160.98	188.98
	BA[2]	88.00	88.00	98.00	98.00	108.00	108.00	136.00	156.00	175.00	175.00	198.00	310.00
		Week 1 Dec 10	Week 2 Dec 17	Week 3 Dec 24	Week 4 Dec 31	Week 5 Jan 7	Week 6 Jan 14	Week 7 Jan 21	Week 8 Jan 28	Week 9 Feb 4	Week 10 Feb 11	Week 11 Feb 18	Week 12 Feb 25*
2004/05	easyJet[1]	45.92	45.92	52.98	63.98	63.98	63.98	76.98	92.98	92.98	115.75	127.5	167.98
	BA[2]	59	59	59	59	69	69	94	119	130	144	168	224

* Booking on day of departure

[1]easyJet had 3 flights a day in 2002/03/04/05 operating B737s
[2]BA had 3 flights a day in 2002/03/04/05 operating B737s

Table 3. Fares from London airports to Glasgow: Analysis conducted for a one-day return trip leaving on Monday in mid March (first flight out) and returning on the same day (between 18:00 – 19:00) for Ryanair, easyJet, BA and BMI. (All prices are in £ Sterling, excludes taxes)

		Week 1 Jan 26	Week 2 Feb 2	Week 3 Feb 9	Week 4 Feb 16	Week5 Feb 23	Week 6 Mar 2	Week7 Mar 9	Week 8 Mar 16*
2003	Ryanair[1]	9.98	9.98	9.98	9.98	9.98	39.98	79.98	92.98
	easyJet[2]	12.50	12.50	12.50	12.50	27.50	37.50	57.50	112.40
	BMI[3]	50.00	50.00	65.00	65.00	82.50	145.00	195.00	365.00
	BA[4]	56.00	56.00	56.00	85.00	95.00	142.00	230.00	390.00
	BA[5]	45.00	45.00	45.00	65.00	65.00	95.00	155.00	380.00
		Week 1 Jan 25	Week 2 Feb 1	Week 3 Feb 8	Week 4 Feb 15	Week 5 Feb 22	Week 6 Feb 29	Week 7 Mar 7	Week 8 Mar 14*
2004	Ryanair[1]	4.48	4.48	4.48	9.98	9.98	38.98	69.98	94.98
	easyJet[2]	3.48	3.48	3.48	3.48	3.48	45.48	113.48	145.48
	BMI[3]	36.00	36.00	36.00	54.00	62.00	96.00	190.00	336.00
	BA[4]	50.00	50.00	50.00	50.00	64.00	110.00	188.00	360.00
	BA[5]	40.00	40.00	40.00	44.00	52.00	66.00	180.00	320.00
		Week 1 Jan 30	Week 2 Feb 6	Week 3 Feb 13	Week 4 Feb 20	Week 5 Feb 27	Week 6 Mar 6	Week 7 Mar 13	Week 8 Mar 20*
2005	Ryanair[1]	1.38	1.38	10.68	10.68	32.68	32.98	49.98	69.98
	easyJet[2]	25.98	25.98	25.98	39.98	56.98	56.98	65.98	95.98
	BMI[3]	18.00	18.00	35.00	35.00	70.00	89.00	122.00	290.00
	BA[4]	44.00	44.00	44.00	79.00	99.00	120.00	190.00	320.00
	BA[5]	27.00	27.00	72.00	96.00	146.00	146.00	208.00	288.00

* Booking day before departure

[1] Ryanair flies from London Stansted to Glasgow (Preswick). It had 10 flights a day in 2003, 8 flights a day in 2004 and 5 flights a day in 2005.

[2] easyJet flies from London Luton to Glasgow International. It had 7 flights a day in 2003, 5 flights a day in 2004 and also 5 flights a day in 2005.

[3] BMI flies from London Heathrow to Glasgow International. It had 8 flights a day in 2003/04/05

[4] BA flies from London Heathrow to Glasgow International. It had 9 flights a day in 2003/04/05

[5] BA flies from London Gatwick to Glasgow International. It had 4 flights a day in 200304/05

Table 4. Fares for Oakland to Los Angeles: 3 month booking profile for a return trip, leaving on the last Friday in February (evening time) and returning on the first Sunday in March (evening time) for Southwest and United Airlines (all prices are shown in US Dollars, excludes taxes)

		Week 1 Dec 13	Week 2 Dec 20	Week 3 Dec 27	Week 4 Jan 3	Week 5 Jan 10	Week 6 Jan 17	Week 7 Jan 24	Week 8 Jan 31	Week 9 Feb 7	Week 10 Feb 14	Week 11 Feb 21	Week 12 Feb 28*
2002/ 03	Southwest[1]	79.0	76.0	85.0	92.0	92.0	92.0	92.0	109.0	109.0	115.0	140.0	165.0
	United Airlines[2]	108.4	108.4	108.4	108.4	112.8	112.8	119.8	129.8	129.8	149.8	189.8	247.4
		Week 1 Dec 12	Week 2 Dec 19	Week 3 Dec 26	Week 4 Jan 2	Week 5 Jan 9	Week 6 Jan 16	Week 7 Jan 23	Week 8 Jan 30	Week 9 Feb 6	Week 10 Feb 13	Week 11 Feb 20	Week 12 Feb 27*
2003/04	Southwest[1]	78.0	78.0	78.0	78.0	78.0	84.0	86.0	94.0	94.0	109.0	124.0	154.0
	United Airlines[2]	99.0	99.6	99.6	105.6	105.2	105.2	114.8	114.8	114.4	121.8	159.2	199.8
		Week 1 Dec 10	Week 2 Dec 17	Week 3 Dec 24	Week 4 Dec 31	Week 5 Jan 7	Week 6 Jan 14	Week 7 Jan 21	Week 8 Jan 28	Week 9 Feb 4	Week 10 Feb 11	Week 11 Feb 18	Week 12 Feb 25*
2004/05	Southwest[1]	72.0	72.0	72.0	76.0	76.0	76.0	84.0	92.0	92.0	103.0	121.0	145.0
	United Airlines[2]	90.4	90.4	94.4	94.6	94.6	101.8	101.4	109.8	116.8	116.8	148.2	172.4

* Booking on day of departure

[1] Southwest operated 22 flights a day in 2002/03/04/05 using 737s.

[2] United operated 6 flights a day using A319s and 320s and used Skywest which is a regional feeder to United who operated CRJ 700s in 2002/03/04. By 2005 United was using Skywest for all their flights between Oakland and Los Angeles

Table 5. Fares for Sydney to Brisbane: 3 month booking profile for a return trip, leaving on the last Friday in February (evening time) and returning on the first Sunday in March (evening time) for Virgin Blue and Qantas (all prices are in Australian Dollars, excluding tax)

		Week 1 Dec 13	Week 2 Dec 20	Week 3 Dec 27	Week 4 Jan 3	Week 5 Jan 10	Week 6 Jan 17	Week 7 Jan 24	Week 8 Jan 31	Week 9 Feb 7	Week 10 Feb 14	Week 11 Feb 21	Week 12 Feb 28*
2002/ 03	Virgin Blue[1]	207	207	207	236	236	236	266	266	296	296	356	398
	Qantas[2]	458. 42	448. 79	448.79	448.79	449.21	449.21	449.21	449.21	449.21	513.01	583.91	770.41
		Week 1 Dec 12	Week 2 Dec 19	Week 3 Dec 26	Week 4 Jan 2	Week 5 Jan 9	Week 6 Jan 16	Week 7 Jan 23	Week 8 Jan 30	Week 9 Feb 6	Week 10 Feb 13	Week 11 Feb 20	Week 12 Feb 27*
2003/04	Virgin Blue[1]	232	234	234	258	292	292	348	312	312	354	388	410
	Qantas[2]	319.39	319.39	332.79	332.79	348.69	348.69	348.69	378.79	378.79	402.80	498.64	604.08
		Week 1 Dec 10	Week 2 Dec 17	Week 3 Dec 24	Week 4 Dec 31	Week 5 Jan 7	Week 6 Jan 14	Week 7 Jan 21	Week 8 Jan 28	Week 9 Feb 4	Week 10 Feb 11	Week 11 Feb 18	Week 12 Feb 25*
2004/05	Virgin Blue[1]	198	1998	198	240	268	268	272	278	278	302	322	318
	Qantas[2]	279.42	279.42	279.42	284.56	284.56	294.69	294.69	300.05	300.05	308.79	352.83	410.26

* Booking on day of departure

[1] Virgin Blue had 16 flights a day in 2002/03/04/05 operating 737s

[2] Qantas had 26 flights a day in 2002/03 using a combination of 737s and 767s. In 2003/04/05 Qantas operated 20 flights a day with A330s, 767s and 737s.

Table 6. Fares for Kuala Lumpur to Kuching: 3 month booking profile for a return trip, leaving on the last Friday in February (evening time) and returning on the first Sunday in March (evening time) for Air Asia and Malaysia Airlines (all prices are shown in Malaysian Rinngits)

		Week 1 Dec 13	Week 2 Dec 20	Week 3 Dec 27	Week 4 Jan 3	Week 5 Jan 10	Week 6 Jan 17	Week 7 Jan 24	Week 8 Jan 31	Week 9 Feb 7	Week 10 Feb 14	Week 11 Feb 21	Week 12 Feb 28*
2002/ 03	Air Asia[1]	184.98	184.98	184.98	184.98	184.98	184.98	214.98	214.98	254.98	254.98	274.98	299.98
	Malaysia Airlines[2]	524	524	524	524	524	524	524	524	524	524	524	524
		Week 1 Dec 12	Week 2 Dec 19	Week 3 Dec 26	Week 4 Jan 2	Week 5 Jan 9	Week 6 Jan 16	Week 7 Jan 23	Week 8 Jan 30	Week 9 Feb 6	Week 10 Feb 13	Week 11 Feb 20	Week 12 Feb 27*
2003/04	Air Asia[1]	192.98	192.98	192.98	199.98	236.98	236.98	236.98	236.98	248.98	248.98	294.98	308.98
	Malaysia Airlines[2]	524	524	524	524	524	524	524	524	524	524	524	524
		Week 1 Dec 10	Week 2 Dec 17	Week 3 Dec 24	Week 4 Dec 31	Week 5 Jan 7	Week 6 Jan 14	Week 7 Jan 21	Week 8 Jan 28	Week 9 Feb 4	Week 10 Feb 11	Week 11 Feb 18	Week 12 Feb 25*
2004/05	Air Asia[1]	219.98	219.98	229.98	229.98	265.98	265.98	285.98	285.98	308.98	308.98	335.98	365.98
	Malaysia Airlines[3]	294	294	294	342	342	386	386	386	395	395	440	526

* Booking on day of departure

[1] Air Asia operated 6 flights a day in 2002/03 using 737s

[2] Malaysia Airlines operated 10 flights a day in 2002/03/04 using a combination of 737s and A330s.

[3] In 2004/05 Malaysia Airlines initiated their own booking engine and operated 12 flights a day using 737s.

Appendix III. Impact of Airline Alliances

Traffic Increase

- Iatrou (2004) researched from an econometric model that global traffic increased by 9.7% as a result of airline alliances, which creates an additional 1.5 million passengers.
- Oum et al. (2000) indicated that traffic could increase by 6.8% for allied partners and by up to 66.8% for non-allied partners.
- Park (1997) indicated from econometric modeling that alliances increased traffic at the expense of rival airlines.
- A report published by the US General Accounting Office (1995) study based on interviews with key airline and government officials. This study found that the carriers in the five alliances studied (Northwest/KLM; USAir/British Airways; United Airlines/Lufthansa; United Airlines/Ansett Australia and United Airlines/British Midland) all experienced increased traffic and revenues, which were directly attributed to the alliance.
- Northwest and KLM each generated an extra 200,000 and 150,000 passengers respectively per year from their alliance partnership (Doganis, 2001, p75).
- Transatlantic passengers at Austrian Airlines jumped from 150,000 in 1995 to 265,000 in 1998 as a result of joining the Star alliance (Flint, 1998).
- The average number of passengers on United Airline's Chicago-Frankfurt flights increased from 110 passengers to 212 passengers as a result of its linkup with Lufthansa. Consequently, Lufthansa's average boardings per flight increased from 134 passengers to 186 in 1998 (Air Transport Week, April 1999).

Revenue Enhancement

- Oum et al. (2004) found that strategic alliances made a significant contributions to partner firms' overall productivity gains and positively contributed to profitability
- Park et al. (2001) found that airlines who belong to an alliance, positively contributes to its revenue.
- Oum and Zhang (2001) researched that alliances enabled partner airlines to increase total productivity by an average of 5%
- Oum et al. (2000) conducted an empirical study of 22 international carriers. Using data from eight North American carriers, seven from the Asia-Pacific region and seven from Europe, they found that airline alliances reported significant positive effects on economic performance.

- Holloway (2003, p384) reported that $500 million of Delta's $16 billion in revenues in 2000 was attributed to the alliance
- Gellman Research Associates (1994) conducted an econometric model on the profitability of the alliance between BA/USAir and KLM/Northwest and found that each produced substantial profits as a result of their hookup
- Based on data from the first quarter of 1994, the study adopted an econometric model that attempted to reflect the way consumers select an airline using a discrete choice framework. It found increases in profitability for all parties to the alliance although BA and Northwest gained more than their partners. BA was found to have gained almost five times more than USAir, while Northwest gained just over 50% more than KLM in terms of net profit.
- Aeroflot has estimated that on joining SkyTeam it could earn an extra $200 million a year from its membership (Field and Pilling, 2004).
- Air France's association with the SkyTeam alliance could net the carrier $100 million in additional revenues from the scheduling, marketing and sales departments from 2002 to 2005 (Sparaco, 2003).
- The Delta and Air France led alliance brought Delta $400 million in extra revenues in
  2000 (ATI, April 2000).
- Air France and Delta stated that the alliance improved profits to each group by around $165 million in 1999 (Sparaco, 2003).
- All Nippon Airways estimated that it benefited by $100 million in additional revenues by its membership in the Star Alliance (Aviation Economist, 1999).
- United Airlines stated that the Star alliance added around $250 million to its bottom line each year (Field and Pilling, 2004)
- United, Lufthansa and Air Canada estimated that the Star Alliance accounted for 10% of the airlines' profits in 1998 (Zehle, 1999).
- US Airways claimed that Star alliance increased its revenues by $75 million in incremental revenue each year (Baker and Field, 2003)
- The Oneworld Alliance has stated that it has added around $2 billion in value over the lifetime of the alliance (Field and Pilling, 2004).
- The cooperation between SkyTeam members is expected to save around $100m per year on the transatlantic market from 2003 to 2006 (Baker and Field, 2003).
- Doganis (2001, p75) stated that Lufthansa was producing benefits of DM 250-270 million a year because of its marketing alliance with United, SAS, Thai, South African Airways and Varig in the late 1990s.

Cost Reduction

- Iatrou (2004) surveyed all the airlines that participated in the three alliances and concluded that 80% of them found that their costs were reduced as a result of the alliance.
- Li (2001) stated that cost reductions become very apparent as the alliance matures
- The cooperation between SkyTeam members was expected to save around $100m per year on the transatlantic market from 2003 to 2006 (Baker and Field, 2003).
- Baker and Field (2003) indicated that the Oneworld member airlines saved around $300 million through joint purchasing schemes from 2000 to 2003.
- Kleymann and Seristo (2001) stated that significant cost savings can be accrued when airlines pool their resources in marketing, maintenance, ground handling and flight operations.
- Alitalia and KLM cut their combined annual operating costs by $400 million in 1999 (Sparaco, 1999).
- Lufthansa estimated that the cost reduction program within the Star alliance saved the carrier $200 million in 1998. (Sparco, 1999)

Appendix IV Regional Airline

Table 1. Details of US regional airline (2005 data)

Regional Airline	Provides service for the following incumbents	% Equity/ Independent	Passengers carried (millions)
Comair	Delta	100% equity (Delta)	11.1
Atlantic Southeast	Delta	Independent	12.0
SkyWest	Delta, United	Independent	20.3
Chautauqua	Delta, United, American, US Airways	Independent	7.8
American Eagle	Delta, American	100% equity (American Airlines)	17.5
Shuttle America	Delta, United	Independent	1.2
Air Wisconsin	United, US Airways	Independent	6.8
Colgan Air	United, US Airways	Independent	1.0
Piedmont	US Airways	100% equity (US Airways)	3.3
Executive	American	Independent	2.6
Mesa Airlines	United, Delta, America West	Independent	13.0
PSA	US Airways	Independent	4.1
Trans States	US Airways	Independent	4.0
Air Midwest	US Airways	Independent	0.3
ExpressJet	Continental	8.6% equity (Continental)	15.9
Mesaba Airlines	Northwest	Independent	5.7
Pinnacle	Northwest	Independent	8.1
Horizon Air	Alaska Airlines	100% equity (Alaska Airlines)	6.4
Air Canada	Jazz	100% equity (Air Canada)	6.0

Source: Company reports, ATI, Airline Business

Table 2. Details of regional airline in Europe, Asia, rest of world (2005 data)

Incumbent	Regional Affiliate	% Equity/ Independent	Passengers carried (millions)
Lufthansa	Cityline	100% equity (Lufthansa)	5.9
	Eurowings	49% equity (Lufthansa)	7.6
	Air Dolomiti	100% equity (Lufthansa)	1.3
	Augsburg	Independent	0.7
	Contact Air	Independent	0.4
Air France	Regional	100% equity (Air France)	3.7
	Brit Air	100% equity (Air France)	3.5
	CityJet	100% equity (Air France)	1.5
	CCM Airlines	11.9% equity (Air France)	1.5
SAS	Wideroe	100% equity (SAS)	1.8
	Blue 1	100% equity (SAS)	1.4
	Air Baltic	47.2% equity (SAS)	1.0
	Skyways	25% equity (SAS)	0.9
BA	BA Connect	100% equity (BA)	3.4
Iberia	Air Nostrum	Independent	4.6
KLM	Citihopper	100% equity (KLM)	2.9
Austrian	Austrian Arrows	100% equity (Austrian)	4.1
Alitalia	Alitalia Express	100% equity (Alitalia)	2.1
JAL	J-Air	100% equity (JAL)	0.5
	Ryukyu Air Commuter	70.3% equity (JAL)	0.3
	Japan Air Commuter	60% equity (JAL)	1.3
	Hokkaido Air System	51% equity (JAL)	0.2
Qantas	Airlink	100% equity (Qantas)	0.7
	Eastern Australia	100% equity (Qantas)	1.5
	Sunstate Airlines	100% equity (Qantas)	0.8
Air New Zealand	Mount Cook Airlines	100% equity (ANZ)	1.5
	Air Nelson	100% equity (ANZ)	1.2
	Eagle Airways	100% equity (ANZ)	0.8
China Airlines	Mandarin Airlines	93.9% equity (China Airlines)	1.8
South African Airways	South African Airlink	10% equity (SAA)	0.6
	SA Express Airways	Independent	1.1

Source: Company reports, ATI, Airline Business

Appendix V. Low Cost Carrier Subsidiaries

<u>Dissolved operations:</u> (by January 1, 2007)

Low cost carrier	*Entrepreneurial system*
Buzz	KLM
GO	BA
Shuttle by United	United Airlines
Delta Express	Delta
MetroJet	US Airways
Continental Lite	Continental Airlines
Lufthansa Express	Lufthansa
People Express	Frontier
Basiq Air	KLM
Zip	Air Canada
Tango	Air Canada
Song	Delta
Snowflake	SAS

<u>Active Operations</u> (January 1, 2007)

Low cost carrier	*Entrepreneurial system*
Germanwings	Lufthansa/Eurowings
SAS Braathens	SAS
Bmibaby	BMI
Freedom Air	Air New Zealand
Australian Airlines	Qantas
JetStar	Qantas
JetStar Asia	Qantas
Nok Air	Thai Airways
Tiger Airways	Singapore Airlines
Ted	United Airlines
Atlas Blue	Royal Air Maroc
Hapag Lloyd Express	TUI/Hapag Llyod
Air India Express	Air India
Centralwings	LOT Polish Airlines
Click Air	Iberia
Gulf Traveler	Gulf Air
Click Mexicana	Mexicana
Mango	South African Airways

<u>Planned Operations</u> (as at January 2007)

Low cost carrier	*Entrepreneurial system*
Turkish Express	Turkish
Nordic Airlink	Finnair
Transavia	Air France
Austrian Bratislava	Austrian Airlines
Travel Service	CSA
Unknown	ANA
Unknown	Sri Lanka
Unknown	Egyptair
Unknown	All Nippon Airways

Source: Analysis from Air Transport Intelligence news

Appendix VI. Passenger questionnaire (Full service airlines)

1. Where is your final destination? _____

2. Is your journey ☐ Return ☐ One way

3. If you are connecting to another airline, please name it _____

4. Where will you/did you stay on your trip? (Please tick one)

☐ Hotel ☐ Bed & Breakfast ☐ Hostel ☐ Family/Friends

5. How did you travel to the airport today? (Please tick one)

☐ Aircraft ☐ Car ☐ Taxi ☐ Bus ☐ Train + Bus

How many miles have you traveled today to reach the airport? _____

6. How many people are travelling in your group _____

7. What is the main purpose of your visit (Please tick one)

Business	**Leisure**
☐ Meeting	☐ Sports
☐ Conference	☐ Shopping
☐ Training	☐ Visit Friends and Family
☐ Trade fair	☐ Weekend break
☐ Employment	☐ Holiday
☐ Other _____	☐ Studying
	☐ Cultural/Religious
	☐ Other _____

8. How many **short haul** flights did you take last year? (please circle)

Short haul flights (up to 3 hours)	1-2	3-4	5-7	> 8
How many of these short haul flights were on a Full Service Airline such as Jet Airways?	1-2	3-4	5-7	> 8

9. a) If you sometimes travel for **Business** purposes (please circle)

How many *business trips* did you take last year?	1-2	3-4	5-7	> 8
How many *business trips* did you take last year on a low cost carrier such as Air Deccan?	1-2	3-4	5-7	> 8

b) If you are travelling for Business Purposes
How many people work in your Organisation (Please Tick)

☐ Self Employed ☐ 1-24 ☐ 25-99 ☐ 100- 999 ☐ 1000-5000 ☐ 5000+

10. Please identify your **top 10 reasons** for choosing this airline today? (rank First = 1, Second = 2, etc)

☐ Frequent Flyer Programme
☐ Fare
☐ Quality
☐ Connections
☐ Reliability
☐ Flight Schedule
☐ Safety
☐ Comfort
☐ Service
☐ Company Policy
☐ Other _____
☐

11. If Jet Airways for example **increased** its fare
At what interval would you consider switching to a low cost carrier (Please tick one)

☐ 10% Fare Increase ☐ 20% Fare Increase ☐ 30% Fare Increase ☐ Not Switch

12. How did you book your airline ticket (Please tick one).

☐ Travel agent
☐ Purchased today
☐ Telephoned airline Call Centre
☐ Friend/family member booked my ticket
☐ Airline website
☐ Other travel website
☐ Office booked ticket
☐ Other _____

13. How long ago did you book your ticket? _____

14. How much did you pay for your ticket? _____

15. Was your trip influenced by the fare? ☐ Yes ☐ No

16. Who paid for the ticket? ☐ Self ☐ Work ☐ Gift ☐ Parent ☐ Other ___

17. Are you: ☐ Male ☐ Female

Are you aged between ☐ 0-18 ☐ 19-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+

Appendix VI. Passenger questionnaire (Low cost airlines)

1. Where is your final destination? _____

2. Is your journey ☐ Return ☐ One way

3. If you are connecting to another airline, please name it _____

4. Where will you/did you stay on your trip? (Please tick one)

☐ Hotel ☐ Bed & Breakfast ☐ Hostel ☐ Family/Friends

5. How did you travel to the airport today? (Please tick one)

☐ Aircraft ☐ Car ☐ Taxi ☐ Bus ☐ Train + Bus

How many miles have you travelled today to reach the airport? _____

6. How many people are travelling in your group _____

7. What is the main purpose of your visit (Please tick one)

Business	**Leisure**
☐ Meeting	☐ Sports
☐ Conference	☐ Shopping
☐ Training	☐ Visit Friends and Family
☐ Trade fair	☐ Weekend break
☐ Employment	☐ Holiday
☐ Other _____	☐ Studying
	☐ Cultural/Religious
	☐ Other _____

8. How many **short haul** flights did you take last year? (please circle)

Short haul flights (up to 3 hours)	1-2	3-4	5-7	> 8
How many of these short haul flights were on a Full Service Airline such as Jet Airways?	1-2	3-4	5-7	> 8

9. a) If you sometimes travel for **Business** purposes (please circle)

How many *business trips* did you take last year?	1-2	3-4	5-7	> 8
How many *business trips* did you take last year on a full service airline such as Jet Airways?	1-2	3-4	5-7	> 8

b) If you are travelling for Business Purposes
How many people work in your Organisation (Please Tick)

☐ Self Employed ☐ 1-24 ☐ 25-99 ☐ 100- 999 ☐ 1000-5000 ☐ 5000+

10. Please identify your **top 8 reasons** for choosing this airline today? (rank First = 1, Second = 2, etc)

☐ Reliability
☐ Fare
☐ Quality
☐ Connections
☐ Flight Schedule
☐ Safety
☐ Comfort
☐ Service
☐ Other
_____

11. If Jet Airways for example **reduced** its fare
At what interval would you consider switching to this full service airline (Please tick one)

☐ 10% Fare Reduction ☐ 20% Fare Reduction ☐ 30% Fare Reduction ☐Not Switch

12. How did you book your airline ticket (Please tick one).

☐ Travel agent
☐ Purchased today
☐ Telephoned airline Call Centre
☐ Friend/family member booked my ticket
☐ Airline website
☐ Other travel website
☐ Office booked ticket
☐ Other _____

13. How long ago did you book your ticket? _____

14. How much did you pay for your ticket? _____

15. Was your trip influenced by the fare? ☐ Yes ☐ No

16. Who paid for the ticket? ☐ Self ☐ Work ☐ Gift ☐ Parent ☐ Other __

17. Are you: ☐Male ☐ Female

Are you aged between ☐ 0-18 ☐ 19-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+

Appendix VII. Airline questionnaire

IATA

NETWORK AIRLINES QUESTIONNAIRE: IMPACT OF LOW-COST AIRLINES

Airline Name:

Established airlines can make use of various scenarios within their business model when responding to the market entry of low-cost airlines. The following series of questions will assist **IATA** in assessing how to better service our partner airlines in light of the Low Cost Carrier reality. Please note, unless otherwise stated, all questions pertain to your **short haul** operations.

Question 1: Competitive responses to low-cost airlines

For each item identified below, circle the number to the right that best fits your judgment of the scale of difficulty for implantation of this competitive response. Use the scale above to select the qualitative number.

Competitive response within the Business design:	Scale of Difficulty				
	Not at all	Not very	Some	Some-what	Extremely
Matching the 'low-cost' pricing model (i.e. fares, rules and regulations)	○	○	○	○	○
Ability and speed to drop an unprofitable route	○	○	○	○	○
Negotiate 'outsourcing' service agreements (i.e. maintenance or ground handling)	○	○	○	○	○
Ability to increase yield in the short-haul market	○	○	○	○	○
Building a strong brand	○	○	○	○	○
Targeted communication to each customer segment (i.e. leisure, price sensitive business or quality business segments)	○	○	○	○	○
Ability of Management to implement speedy strategy changes overall	○	○	○	○	○

Competitive response within the cost model:	Scale of Difficulty				
	Not at all	Not very	Some	Some-what	Extremely
Ability to reduce operating costs to within 30% of LCC unit costs (i.e. unit cost US$ cents per ASK: Southwest 4.8; Ryanair, 4.5; Air Asia, 2.3; Air Arabia, 3.3; Air Deccan 4.6)	○	○	○	○	○
Reduce overall complexity of the airline	○	○	○	○	○
Change to a homogeneous fleet type (e.g. all 737s or A320s)	○	○	○	○	○
Negotiating labour agreements with unions	○	○	○	○	○
Negotiating with airports and other service providers to reduce landing and passenger charges, ground and other service charges	○	○	○	○	○
Modernise the fleet	○	○	○	○	○
Increase sales through Airline website	○	○	○	○	○

Question 2: Domestic Market Profile

Please identify below the percentage range that best represents the proportion of your short-haul traffic that connects to long haul traffic at the main hub?

○ < 15% ○ 15 - 24% ○ 25 - 34% ○ 35 - 45% ○ > 45%

Question 3: Aircraft Utilization Variables and Market Share Analysis

Please provide below a value that best represents your aircraft utilization variables for the periods 'pre low-cost carrier market entry' and 'post low-cost carrier market entry'. (Enter number only)

	Pre low-cost carrier entry	Post low-cost carrier entry (present day)
Utilization of short-haul aircraft (i.e. average hours per day) - ENTER IN HOURS		
Average turnaround time for short-haul aircraft in minutes - ENTER IN MINUTES		
Total number of short haul aircraft types used in the domestic market - ENTER NUMBER		
Short haul market share (%) out of total market share - ENTER A PERCENTAGE		
% of short haul revenue out of total revenue - ENTER A PERCENTAGE		

Question 4: Business Strategy for competition against Low-Cost Carriers

For each item identified below, circle the number to the right that best fits your judgment of the scale of importance for each parameter's role in competition with low-cost operators. Use the scale above to select the qualitative number.

Competitive response within the Business design:	Scale of Importance				
	Not at all	Not very	Some	Some-what	Extremely
Frequent Flyer Programs	○	○	○	○	○
Satisfying the needs of the passenger	○	○	○	○	○
Serving 'Primary' or hub airports	○	○	○	○	○
Serving secondary airports	○	○	○	○	○
Maintaining business class in short-haul market	○	○	○	○	○
Building value through Customer Relationship Management	○	○	○	○	○
Diversification strategies (e.g. maintenance, holiday division, hotels, flight training academy, catering, etc.)	○	○	○	○	○
Product differentiation and innovation	○	○	○	○	○
Ticket flexibility and refund ability	○	○	○	○	○
Operating some routes on a Point to Point basis only	○	○	○	○	○
Importance of Advertising	○	○	○	○	○
Dynamic Packaging	○	○	○	○	○
Interlining traffic	○	○	○	○	○
Partnership/Ownership with a Regional airline feeder	○	○	○	○	○
Joint purchasing agreements between Alliance partners	○	○	○	○	○
Driving profitability through Cargo Operations	○	○	○	○	○
Unionized labor environment (full transparent communication)	○	○	○	○	○
Travel Policy Agreements with Corporations	○	○	○	○	○
Equity investments in other airlines	○	○	○	○	○
Revenues generated from alliance or code share partners	○	○	○	○	○
Setting up a low cost airline subsidiary	○	○	○	○	○

Question 5: Air Travelers Choice

Please circle the number that best fits your judgment of the scale of importance for each parameter's role in an air traveler's choice of airline. Please view the question from both a leisure and business passenger viewpoint

Possible air travelers decision factors: (Business)	Scale of Importance				
	Not at all	Not very	Some	Some-what	Extremely
Airline reliability	○	○	○	○	○
Fare	○	○	○	○	○
Flight schedule	○	○	○	○	○
Service standards (in-flight)	○	○	○	○	○
Corporate company policy agreement	○	○	○	○	○
Quality of Airline	○	○	○	○	○
Connections	○	○	○	○	○
Comfort	○	○	○	○	○
Frequent flyer program	○	○	○	○	○
Safety aspects	○	○	○	○	○

Possible air travelers decision factors: (Leisure)	Scale of Importance				
	Not at all	Not very	Some	Some-what	Extremely
Airline reliability	○	○	○	○	○
Fare	○	○	○	○	○
Flight schedule	○	○	○	○	○
Service standards (in-flight)	○	○	○	○	○
Quality of Airline	○	○	○	○	○
Connections	○	○	○	○	○
Comfort	○	○	○	○	○
Frequent flyer program	○	○	○	○	○
Safety aspects	○	○	○	○	○

Question 6: Impact of Low-Cost Carrier competition

For each item identified below, circle the number to the right that best fits your judgment of the scale of impact low-cost carrier operations have had on your airline's performance as a whole (not just markets with parallel flying)

	<-15%	-10%	-5%	Nil	+5%
Traffic	○	○	○	○	○
Load Factor	○	○	○	○	○
Total Revenue	○	○	○	○	○
Total Operating Costs	○	○	○	○	○
Fare pricing	○	○	○	○	○
Ticket sales (economy class)	○	○	○	○	○

Question 7: Best demonstrated market practices

Please outline the most important attribute or change that your airline has implemented in response to low cost carriers which had a significant POSITIVE impact in improving the airline's financial position IN GENERAL.

Question 8: Revenue negative market practices

Please outline the most important attribute or change that your airline has implemented in response to low cost carriers which had a significant NEGATIVE impact in improving the airline's financial position IN GENERAL.

Question 9: Your Opinion

Please feel free to list or discuss any strategies that you would consider to be of prime importance (out of the box thinking) when competing with low-cost carriers.