Study of the Indian Aviation Industry

- Ashish Dhawan, Nidhi Mishra, Nithya R, Payal Yadav, Rajesh B, Siddharth Dahiya, Siddhartha Butalia

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1. Overview

1.1 Air Traffic: The Airport Authority of India (AAI) manages total 122 Airports in the country, which include 11 International Airports, 94 domestic airports and 28 civil enclaves. Top 5 airports in the country handle 70% of the passenger traffic of which Delhi and Mumbai together alone account for 50%. Passenger and cargo traffic has growth at an average of about 9% over the last 10 years.

1.2 Growth: Estimated domestic passenger segment growth is at 12% per annum. Anticipated growth for International passenger segment is 7% while the growth for International Cargo is likely to grow at a healthy rate of 12%.

1.3 Privatization: Privatization of International Airports is in offing through Joint Venture route. Three Greenfield airports are getting developed at Kochi, Hyderabad and Bangalore with major shareholding of private sector. The work on Bangalore airport is likely to commence shortly. Few selected non-metro airports are likely to be privatized. 100% foreign equity has also been allowed in construction and maintenance of airports with selective approval from Foreign Investment Promotion Board.

1.4 Air movements: The total aircraft movements handled in October 2003 has shown an increase of 15.4 percent as compared to the aircraft movement handled in October 2002. The international and domestic aircraft movements increased by 15.4 percent each during the period under review. The reason for increase in aircraft movements is due to increase of operation of smaller aircraft by airlines and the introduction of new airlines viz., Air Deccan in southern region and international airlines (Air Canada, Polar Air Cargo, Qatar Airways (Freighter), Turkish Airways, Air Slovakia at IGI Airport with effect from October 2003.

1.5 Passenger Traffic: International and Domestic passenger traffic handled in October 2003 has increased by 15.4 percent and 6.7 percent over the period of October 2002 leading to an overall increase of 9.4 percent. The total passenger increased by 9.2 percent, 7.6 percent, 8.9 percent and 17.0 percent respectively at five international airports six developing international airports, eight custom airports and 26 Domestic airports.

1.6 Cargo Traffic: The total cargo traffic handled in October 2003 has shown an increase of 3.5 percent as compared to the cargo handled in October 2002. The international and domestic cargo traffic increased by 4.3 percent and 2.1 percent respectively during the period.
During the month of October 2003, 5346 thousand aircraft movements (excludes defence & other non-commercial movements), 40.33 lakh passengers and 88.59 thousand tones of cargo were handled at all the airports taken together.
2. History

The first commercial flight in India was made on February 18, 1911, when a French pilot Monseigneur Piguet flew airmails from Allahabad to Naini, covering a distance of about 10 km in as many minutes.

Tata Services became Tata Airlines and then Air-India and spread its wings as Air-India International. The domestic aviation scene, however, was chaotic. When the American Tenth Air Force in India disposed of its planes at throwaway prices, 11 domestic airlines sprang up, scrambling for traffic that could sustain only two or three. In 1953, the government nationalized the airlines, merged them, and created Indian Airlines. For the next 25 years JRD Tata remained the chairman of Air-India and a director on the board of Indian Airlines. After JRD left, voracious unions mushroomed, spawned on the pork barrel jobs created by politicians. In 1999, A-I had 700 employees per plane; today it has 474 whereas other airlines have 350.

For many years in India air travel was perceived to be an elitist activity. This view arose from the “Maharajah” syndrome where, due to the prohibitive cost of air travel, the only people who could afford it were the rich and powerful.

In recent years, however, this image of Civil Aviation has undergone a change and aviation is now viewed in a different light - as an essential link not only for international travel and trade but also for providing connectivity to different parts of the country. Aviation is, by its very nature, a critical part of the infrastructure of the country and has important ramifications for the development of tourism and trade, the opening up of inaccessible areas of the country and for providing stimulus to business activity and economic growth.

Until less than a decade ago, all aspects of aviation were firmly controlled by the Government. In the early fifties, all airlines operating in the country were merged into either Indian Airlines or AirIndia and, by virtue of the Air Corporations Act, 1953; this monopoly was perpetuated for the next forty years. The Directorate General of Civil Aviation controlled every aspect of flying including granting flying licenses, pilots, certifying aircrafts for flight and issuing all rules and procedures governing Indian airports and airspace. Finally, the Airports Authority of India was entrusted with the responsibility of managing all national and international air ports and administering every aspect of air transport operation through the Air Traffic Control. With the opening up of the Indian economy in the early Nineties, aviation saw some important changes. Most importantly, the Air Corporation Act was repealed to end the monopoly of the public sector and private airlines were reintroduced.
3. Open skies policy

3.1 Need for Open Skies Policy

A recurring demand often voiced by interested parties is that, in order to promote Travel & Tourism, India should adopt an Open Skies policy. It is argued that the current policy restricts the access of foreign airlines. As a result, potential tourists are not offered a choice of airlines or seats when travelling to India. This problem is exacerbated during the holiday season when it is difficult, if not impossible, to get a seat either into the country or out of it. It is argued, therefore, that India should adopt an Open Skies approach to any foreign carrier wanting to fly into India, which literally means allowing them unlimited service, capacity and points of call.

3.2 Meaning of ‘Open Skies’

At the outset we must point out that the concept of ‘Open Skies’ is much misunderstood in its meaning and implications. Strictly speaking Open Skies means unrestricted access by any carrier into the sovereign territory of a country without any written agreement specifying capacity, ports of call or schedule of services. In other words an Open Skies policy would allow the foreign airline of any country or ownership to land at any port on any number of occasions and with unlimited seat capacity. There would be no restriction on the type of aircraft used, no demand for certification, no regularity of service and no need to specify at which airports they would land. Defined in this manner, it is not surprising that Open Skies policies are adopted only by a handful of countries, most commonly those that have no national carriers of their own and that have only one or two airports. No sovereign country of any eminence practices Open Skies least of all the European Union, UK, USA, Japan, Australia or countries in South East Asia.

3.3 Bilateral Treaties

However, almost 99 per cent of Members of the International Civil Aviation Organization (ICAO) follow the system of negotiated bilateral treaties determining the aviation relations between two sovereign Contracting parties. In fact, the bilateral aviation regime is considered the fundamental basis for a disciplined and regulated aviation system between the nations of the world. It provides not only regularity of operations through scheduled services but also stipulates the basis of ownership, number of seats to be utilized, type and certification of aircraft and visiting ports of call. The Bilateral Agreements also protect the different kinds of aviation Freedoms granted to contracting parties by specifying the reciprocal rights to be enjoyed by each.

3.4 Indian Bilateral Treaties

India has signed over 180 Bilateral Agreements with different countries. In 2002 the total number of seats available was 38.09 million. Of this, the capacity operated was approximately 19.174 million seats. Since the average size of traffic to and from the country is slightly in excess of approximately 14 million passengers, normally the contracted rights should suffice the traffic demand.
3.5 Utilization of Bilateral Treaty Contracts

It is in the actual utilization of the contracted seats that the problem arises. Of the contracted amount, 50 per cent are to be utilized by the national carrier and 50 per cent by the airline owned by the contracting country. However, whilst the foreign carriers are in a position to use over 70 per cent of their entitlement, the national carrier is only able to utilize 29.4 per cent of their share. It is this shortfall that creates pressure on seats, particularly during peak tourism. National carriers do not have sufficient aircraft to be able to utilize the bilateral rights available to the country and enter into commercial and code sharing arrangements to maximize revenue. Whilst this does improve their profitability in the short run, it has a long-term adverse effect in that it deprives the country of much needed air bridges to bring in tourists and carry trade.

Under the present bilateral system, the utilization of the traffic rights on international routes to and from India, as negotiated by the Government of India, is restricted to the two Government owned 'national' carriers - namely, Air India and Indian Airlines and either or both these carriers are the Indian designated carriers under the various Air services Agreements. The Operating Permits restrict the privately owned carriers, such as Jet Airways and Air Sahara, to operate only domestic routes within India.

4. Civil Aviation Policy in India

In the context of a multiplicity of airlines, airport operators (including private sector), and the possibility of oligopolistic practices, there is a need for an autonomous regulatory authority which could work as a watchdog, as well as a facilitator for the sector, prescribe and enforce minimum standards for all agencies, settle disputes with regard to abuse of monopoly and ensure level playing field for all agencies. The CAA was commissioned to maintain a competitive civil aviation environment which ensures safety and security in accordance with international standards, promotes efficient, cost-effective and orderly growth of air transport and contributes to social and economic development of the country.

4.1 Objectives of Civil Aviation Ministry

a) To ensure aviation safety, security
b) Effective regulation of air transport in the country in the liberalized environment
c) Safe, efficient, reliable and widespread quality air transport services are provided at reasonable prices
d) Flexibility to adapt to changing needs and circumstances
e) To provide all players a level-playing field
f) Encourage Private participation
g) Encourage Trade, tourism and overall economic activity and growth
h) Security of civil aviation operations is ensured through appropriate systems, policies, and practices

4.2 Private Sector Participation and the Civil Aviation Policy

Private sector participation will be a major thrust area in the civil aviation sector for promoting investment, improving quality and efficiency and increasing competition.

Competitive regulatory framework with minimal controls encourages entry and operation of private airlines/airports.

Encouragement of private sector investment in the construction, upgradation and operation of new and existing airports including cargo related infrastructure.

Rationalization of various charges and price of ATF/AVGas will be undertaken to render operation of smaller aircraft viable so as to encourage major investment in feeder and regional air services by the private sector.
Training Institutes for pilots, flight engineers, maintenance personnel, air-traffic controller, and security will be encouraged in private sector.

Private sector investment in non-aeronautical activities like shopping complex, golf course, Entertainment Park, aero-sports etc. near airports will be encouraged to increase revenue, improve viability of airports and to promote tourism. CAA will ensure that this is not at the cost of primary aeronautical functions, and is consistent with the security requirements.

Government will gradually reduce its equity in PSUs in the sector.

Government will encourage employee participation through issue of shares and ESOP

### 4.3 Security

Strict national civil aviation security programme to safeguard civil aviation operations against acts of unlawful interference have to be established through regulations, practices and procedures, which take account of the safety, regularity and efficiency of flights. A good safety record is a judgment of past performance but does not guarantee the future, although it is a useful indicator. While pilot error is said to be on the decline, factors of fatigue, weather, congestion and automated systems have complicated safety. Airline operators, pilots, mechanics, flight attendants, government regulators and makers all have a stake in making aviation as safe as possible. The International Air Transport Association (IATA), the International Civil Aviation Organization (ICAO), manufacturers and others bodies cooperate in this aim. As world air traffic is expected to double or more by 2020, the accident rate must be reduced in order to avoid major accidents occurring more frequently around the globe.

### 4.4 Maintenance

Private sector participation is encouraged in existing maintenance infrastructure of Indian Airlines and Air India like Jet Engine Overhaul Complex (JEOC) and new maintenance facilities including engine overhaul and repairs with up to 100 % foreign equity.

Indian Airlines has major maintenance facilities for all the types of aircraft in IAL fleet i.e. Airbus-300, Airbus-320, Boeing-737 and Dornier-228. The Engineering Department is responsible for maintenance of aircraft and is answerable to Director General of Civil Aviation (DGCA) in maintaining the Quality Control. The Maintenance of the aircraft is carried out at four major bases located at Delhi, Mumbai, Calcutta and Hyderabad.

Sahara also has its own NDT Shops, wheels and brake assembly shop, battery charging shop, avionics shop and seat repair shop. It is the only private domestic airline to have its own hangar for aircraft maintenance. It is also the only private domestic airline to have self maintenance capability.

Air Deccan, Bangalore-based airline, has decided to set up its engineering and maintenance facility for Airbus-320 operations, basing two of a fleet of 11 Airbus jets here. They have also sought land from the Airports Authority of India to build an exclusive hangar to carry out 300 and 500-hour checks, apart from C-Checks and line maintenance.
5. Airport infrastructure

In India, airports were totally owned and managed by central government or the armed forces. The Airport Authority of India (AAI), a body functioning under the Ministry of Civil Aviation was responsible for managing the airports in India. It owns 122 airports, 61 of which are operational. The breakdown is as follows:

- 11 international
- 94 civil and
- 27 civil enclaves at defence airfields.

The AAI operate most aspects of the airport (including air traffic control) and procure most of their equipment directly (via global/local tenders). India’s airports handle 42 million passengers, of which the four Metro gateway airports (Delhi, Mumbai, Kolkata and Chennai) account for 47% of revenue and 66% of the passengers.

Until 2000, there were five major international airports—Mumbai, Kolkata, Delhi, Chennai and Trivandrum. But the GoI announced a further six airports including Amritsar, Bangalore, Hyderabad and Cochin during the course of 2002.

According to projections, Indian air passenger traffic was estimated to grow to 100 million passengers by 2012 from 36.98 million in 1998-99. Growth projections in the cargo front were also promising. Airport infrastructure is linked to development of India's international competitiveness and her ability to attract foreign investments. The policy opened the doors of private investment in this sector, including investments from foreign airport authorities.

6. Passenger airlines – The players

6.1 Indian Airlines

Indian Airlines was founded in 1953. Today, together with its fully owned subsidiary Alliance Air, it is one of the largest regional airline systems in Asia with a fleet of 62 aircraft (4 wide bodied Airbus A300s, 41 fly-by-wire Airbus A320s, 11 Boeing 737s, 2 Dornier D-228 aircraft and 4 ATR-42).

It has many firsts to its credit, including introduction of the wide-bodied A300 aircraft on the domestic network, the fly-by-wire A320, Domestic Shuttle Service, Walk-in Flights and Flexi-fares.

The airlines network spans from Kuwait in the west to Singapore in the East and covers 75 destinations - 57 within India and 20 abroad. The Indian Airlines international network covers Kuwait, Oman, UAE, Qatar and Bahrain in West Asia, Thailand, Singapore, Yangon and Malaysia in South East Asia and Pakistan, Nepal, Bangladesh, Myanmar, Sri Lanka and Maldives in the South Asian sub-continent.

Indian Airlines is presently fully owned by the Government of India and has total staff strength of around 18562 employees. Its annual turnover, together with that of its subsidiary Alliance Air, is well over Rs.4000 crores (around US$ 1 billion).
Indian Airlines flight operations centre around its four main hubs - the main metro cities of Delhi, Mumbai, Calcutta and Chennai. Together with its subsidiary Alliance Air, Indian Airlines carries a total of over 7.5 million passengers annually.

6.2 Air Sahara

Air Sahara has established itself as one of the leading players in the Indian Aviation industry. Air Sahara is part of the multi-crore Sahara India Pariwar. Sahara India Pariwar has interests in Public Deposit Mobilization, Media & Entertainment, Housing & Infrastructure, Tourism, Consumer Products and Information Technology. Starting on a modest scale and a capital of only Rs.2000 in 1978, Sahara India Pariwar has traversed a long way to become an icon in Indian entrepreneurship.

Air Sahara began operations on December 3, 1993 following the Indian government's decision to open the skies to the private sector. It operated with a fleet of only two Boeing 737-200s. Today, its fleet includes advanced aviation technology New Generation Boeings 737-700s and 737-800s and Classics 737-400s and a fleet of 7 Canadair Regional Jets. The fleet also includes four highly advanced Helicopters (Dauphin and Ecureuil), which provide efficient charter services. Offering 119 flights with 11800 seats on a daily basis, Air Sahara flies to various destinations in India, which include important cities like Delhi, Bangalore, Mumbai, Kolkata, Lucknow, Hyderabad, Pune, Chennai and others. The airline has recently added Colombo, Srinagar, Coimbatore, Ahmedabad, Jaipur, Gorakhpur, Allahabad, Bhubaneswar, Ranchi and Kochi to its route network. Air Sahara also operates flights to Dibrugarh, Guwahati, Varanasi, Patna and Goa.

The airline is currently undergoing a complete overhaul and restructuring exercise. Air Sahara has redefined itself in terms of an efficient and punctual airline with a high record of on-time-performance and dispatch reliability. Efforts are being made to increase connectivity and offer convenient timings.

A major investment programme has been launched for the modernization and enhancement of its fleet. Fleet review and route rationalization have become the focus points of Air Sahara's strategy. Five new Boeings have been added to the fleet in the last one year. These were used to add new destinations and increase frequency on existing routes. In the second phase of its expansion four Canadair Regional Jets have been added to the fleet this year serve on regional routes.

Air Sahara has introduced initiatives such as Steal-a-seat flexi fare options, Sixer/Super Sixer and Square Drive/Super Four. The Sixer initiative recently won the 'The Pacific Asia Travel Association' (PATA) award for the year 2003, at Bali, Indonesia.

Air Sahara's frequent flyer programme called Cosmos offers faster accruals, lower redemption bars and requires no minimum balance for redemption.

6.3 Jet Airways

In May 1974, Naresh Goyal founded Jetair (Private) Limited with the objective of providing Sales and Marketing representation to foreign airlines in India.

In 1991, as part of the ongoing diversification programme of his business activities, Naresh Goyal took advantage of the opening of the Indian economy and the enunciation of the Open Skies Policy by the Government of India, to set up Jet Airways (India) Private Limited, for the operation of scheduled air services on domestic sectors in India.
Jet Airways has emerged as India's largest private domestic airline and has been acclaimed by frequent travellers as the most preferred carrier offering the highest quality of comfort, courtesy and standards of in flight and ground service and reliability of operations. It currently has a market share of 46.7% per cent and operates a fleet of Boeing and ATR72-500 turbo-prop aircraft.

Jet Airways has been voted India's 'Best Domestic Airline' consecutively and won several national and international awards, including the 'Market Development Award' for 2001 awarded by Air Transport World.

### 6.4 Air Deccan

Air Deccan is a unit of Deccan Aviation Private Limited, India's largest private heli-charter company. Formed in 1995, Deccan Aviation Private Limited has carved a niche for itself in the Indian aviation scene with its reputation for providing speedy and reliable heli-services for company charters, tourism, medical evacuation, off-shore logistics and a host of other services.

The company has a modern fleet of ATR-42-320 aircraft, one of the finest and most efficient Turbo-Prop aircraft flying. ATR is a European joint venture between Alenia Aeronautica and EADS. The ATR 42 has become a reference aircraft amongst airlines around the world, by offering a safe, easy to maintain and comfortable aircraft operating on the regional market with the best economics on short haul sectors. To date, ATR has sold over 650 aircraft to more than 100 operators in 73 countries all around the world.

The company has adopted a 'lean-and-mean' approach to staffing and aims at maintaining a low aircraft-to-employee ratio. A good work culture coupled with a skilled workforce is the backbone of the company.

### 6.5 Investors

While most information about the Indian Carriers, other than the Government owned, is not in public domain, the available information does not tell us much. The Promoters and Key Management persons are not listed nor is their equity ownership pattern provided. Jet Airways' ownership is apparently fully foreign giving rise to the phrase: India based airlines in place of home country airlines. There is a large variation in the financial base of these airlines. While Jet Airways has an equity base of 141.92 crores, Deccan Airways has an equity base of a mere 30 crores.

### 6.6 Fleet Size

![Fleet Size Graph](image)

Fleet-wise also Indian carriers are quite small. Air India has a total fleet size of 33 aircraft; Indian Airlines is somewhat larger, being the size of Singapore Airlines with 62 aircraft. Alliance Air, a wholly owned subsidiary of Indian Airlines has 14 aircraft. Among the private airlines Jet Airways has 41 aircraft, Sahara 19 and Deccan Air 5. This is minimal when compared with American Airlines, one of the world's largest airlines with almost 1000 aircraft.
and carrying over 80,000,000 passengers and 650,000 Tonnes of freight a year. Even Singapore Airlines, a small Nation airline that operates only internationally, has almost twice the number of aircraft than its parallel Air India. This when India is lulled with the images of being a part of the bricks economy, the so-called economies of the future. This makes Indian carriers a small player in the passenger aviation world in general and International travels in particular.
7. Foreign equity participation

The three-member enquiry committee, led by former petroleum secretary T S Vijayaraghavan, has suggested that 100 per cent foreign investment, including by foreign airlines, should be allowed in non-scheduled services such as chartered aircraft and helicopter operations.

As of now, foreign airlines are not permitted to pick up equity directly or indirectly in domestic air companies. Foreign equity upto 40% and NRI/OCB investment upto 100% is permissible in the domestic air transport services.

Under the current policy, if a foreign airline operates in India the responsibility to ensure safety of the aircraft vests with the country in which it is registered and is outside the purview of the Director General of Civil Aviation (DGCA). "Such an operation is termed 'cabotage' and is not permitted anywhere," the report said.

Indian operators can, however, lease aircraft from foreign companies, but the government only permits "dry-lease," which requires the aircraft to be registered in India and certified by the DGCA as airworthy. Wet lease with foreign registration and crew is only allowed in exceptional circumstances.

The US National Commission to Ensure a Strong and Competitive Airline Industry (1993) envisaged the long-term development of more liberal cross border airlines investment. However, as a short-term measure it advocated ‘expanded access to international capital markets by allowing larger investments from foreign investors under the current bilateral system’. It also proposed that foreign investors be able to hold up to 49 per cent of the voting equity in US airlines, up from the then (and still current) limit of 25 per cent.

Any increase in the cost of equity capital flows through to the choice of debt versus equity and thereby distorts capital structures. Airlines should have flexibility in financing their operations and developing their corporate structures. The existence of a cap on foreign ownership limits this flexibility.

8. Factor Inputs

Source: Business World, July 2004
Airfares in India are among the highest in the world. For instance, a typical Delhi-Bangalore round trip costs Rs 18,000 - the same as it would from Delhi to Singapore.

### 8.1 Labour

If regulations or industry policy provide protection to an industry, the value of protection may be dissipated in poor productivity and higher-than-normal returns to labour and capital. Entry limitations and capacity constraints have the potential to allow airlines to earn above normal returns, which may be appropriated by shareholders or paid out in higher than normal costs (including wages, salaries and working conditions).

Given the valuable contribution that aviation and tourism make to national welfare, it is essential that the aviation market is globally competitive and functions in the most efficient way. This means that the inputs that the industry depends on, such as labour and capital, must also be available on an internationally competitive basis.

### 8.2 Fuel Prices

ATF is the major cost for domestic carriers accounting for 30% of the total operating costs in India, which is much higher than around 10-15% for airlines worldwide. The exorbitant sales tax on the ATF, which increases the price of ATF, is the major reason for this higher share in operating cost. The Jet fuel price has increased by 13.1% to USD 424.64/ KL in New Delhi during the period May-Aug ’04. The rise in the first seven months of 2004 stands at 21.5%.

### 8.3 Capital

The relatively capital-intensive nature of the airline industry, combined with the fact that airlines are generally regarded as being inherently risky investments, means that access to large, well-functioning capital markets is an important issue for all airlines. The effects of these restrictions may vary from country to country, but are likely to be greater for countries with small domestic capital markets.

### 8.4 Operating Costs

The regulatory system affects where, how and when airlines can fly. Thus it affects airlines’ ability to operate efficient networks and their revenue. To the extent that airlines cannot use the least cost combinations of aircraft types to carry passengers and freight, the costs of operating existing networks are higher than they otherwise might be (technical inefficiency). Further, they may be prevented from flying the optimum sized and configured
network (allocative inefficiency). Thus, costs may be reduced as airlines are able to operate the right aircraft at the right frequencies on an existing route.

Airlines, by changing the design of a network and increasing its size, may also be able to decrease costs through economies of scale and scope.
8.5 Ownership and control

As airlines strive for greater efficiencies, they consider the benefits of consolidation. However, the normal commercial process of acquisition and/or merger is not available due to restrictions contained in bilateral agreements that are designed to ensure that ownership and control of airlines remain with nationals of the countries where they are based.

Growth through merger or acquisition enables airlines to achieve economies of scale and scope by consolidating airline functions. The merger of two airlines, for example, may allow them to consolidate their ground handling, maintenance, information technology and various managerial functions.

8.6 Airline Acquisition/Leasing Cost

Taking aircraft on lease is one of the preferred modes among the Indian carriers. However, this has suddenly become costlier affair due to changes proposed in Union Budget 2004-05. The budget proposes withdrawal of tax exemption granted to acquire aircraft or an aircraft engine on lease prospectively from September 1, 2004. This has resulted in imposition of withholding tax of 42% on leasing of aircraft. Impediment of this kind at a juncture when almost all, Indian carriers are firming up their expansion plans especially through leasing of aircraft is a setback. But after hard lobbying by the industry the deadline was deferred until April 1, 2005, and would now be withdrawn for lease agreements entered into after April 1, 2004.

All carriers barring Jet Airways will feel the heat of the sudden withdrawal of exemption for taking aircraft for lease as they have significant plans to expand the fleet capacity by leasing route. This includes both state carriers like Air India (AI), Indian Airlines (IA), Alliance Air and private carriers like Air Sahara, Air Deccan. As Jet Airways that has predominantly prefers owning aircraft rather than going for leasing.

As tax exemption will not be available for lease agreements entered on or after April 1, 2005 the Indian carriers who have plans to take aircraft on lease have to sign agreement either on or before the expiry date or they will have to bear additional cost burden. Alternatively, taking aircraft on lease from a country with which India has double taxation treaty or getting lease agreement signed in a third country could help avoid the tax on lease rental. This may not be much helpful to state carriers and to some extent the private players also due to auditing/ accounting procedures.

As leasing route is the most preferred one for a new entrant, the Budget initiatives will prove be a heavy deterrent as they will escalate the effective lease rental cost by almost 42%.

9. Market Structure and Implications
The aviation industry in India, especially with regard to passenger airlines, follows a strictly oligopoly-type structure with the characteristics. (1) an industry dominated by a small number of large firms (see market shares, below) (2) firms sell either identical or differentiated products (the only differentiation here being in service quality and frills offered), and (3) the industry has significant barriers to entry (which holds true both with respect to regulations and huge capital investment required).

One sees the following characteristics with respect to the Indian passenger airlines market –

1. Few number of firms contributing to majority of the market share
2. Products are differentiated in terms of service quality and offerings
3. MR=MC
4. p>MC
5. Entry Barriers
6. Firm is a price-setter
7. Long run profit >= 0
8. Strategy dependent on individual rival firm’s behaviour

9.1 Market share concentration

According to the figures on market share of various scheduled airlines in the same year, Jet Airways topped the list with 46.7% in 2003-04, followed by Indian Airlines (IA) and its subsidiary Alliance Air together at 39.3%, Air Sahara at 13% and Air Deccan 1%.
9.2 Indian Aviation Market – A differentiated Oligopoly

Each seller in an imperfectly competitive market faces a negatively sloped demand curve for his product, permitting him some control of the price of his product. In an oligopoly, a few firms produce the same product, while in monopolistic competition, many firms produce differentiated but similar products. In a differentiated oligopoly, a few firms produce products different enough for each firm to have its own downward sloping demand curve. As with a perfectly competitive firm or a monopoly, the differentiated oligopoly firm produces at a profit maximizing level of output where marginal cost equals marginal revenue. The firm finds the price it will charge customers at the profit maximizing level of output ($Q_m$) from the demand curve, and sets price to $P_m$. As we can see, the firm is earning economic profits since price exceeds average total cost at the profit maximizing level of output.
9.3 Pricing Mechanisms

Price and quantity are determined by the interaction of demand and supply in the market. However, given the large number of buyers, firms can decide prices at which they will sell tickets. In fact, in the airlines sector, firms go in for third degree price discrimination and segment the market, charging a higher price to the market with a relatively inelastic demand (such as fares between business and economy class travellers, or between emergency travel and leisure travel by providing apex fares). The low cost airlines follow this different pricing strategy. Customers booking early with carriers such as Air Deccan will normally find much lower prices if they are prepared to commit themselves to a flight by booking early, on the justification that consumer’s demand for a particular flight becomes more inelastic the nearer to the time of the service.

The term “revenue management” is commonly used to describe most aspects of airlines’ pricing and seat-inventory control decisions, but in reality, revenue managers primarily practice seat-inventory control. Formally, revenue management describes a process of setting fares for each route (origin and destination pair) and each set of restrictions (nonstop, time-of-day, day-of-week, refundable, advance purchase, first class or coach, and Saturday-night stayover) and limiting the number of seats available at each fare. In the language of economics, revenue management increases airlines’ profits in three ways –

- Implements peak-load pricing.
- Implements third-degree price discrimination. That is, fare restrictions screen customers and segment them by their sensitivity to price and potentially by their demand uncertainty. For instance, Indian Airlines apex fares (for booking one week or three weeks in advance).
- Implements an inventory control system for coping with uncertain demand.

9.4 Limited Entry

Virgin Group founder Richard Branson once famously said: "The safest way to become a millionaire is to start as a billionaire and invest in the airline industry."

The mortality rate in the airline business is very high. That's equally true for any low-cost airline model. It requires adequate staying power to buy aircraft and take losses in the initial years. Experts say it takes nearly $60 million-70 million (Rs 270 crore-315 crore) to float a full-service airline.
Entry costs are not recoverable and incumbents have the ability to respond quickly to entry of a new competitor. Capacity constraints, absence of freedoms to compete on a route, investment constraints, and restrictions on codesharing can all be important barriers to entry.

9.5 Market Equilibrium through the Cournot Model

The Cournot model assumes that each firm takes the output of the other firm as given. If Indian Airlines output is assumed to stay the same, Jet will maximize profits by setting MR=MC. The result is shown. In the Cournot framework the equilibrium is at the intersection of the two reaction functions. These are just the profit-maximizing conditions rearranged.

The revenue of both a competitive firm and of a monopolist depends only on the firm's own output: for a competitive firm we assume that the firm's output does not affect the price, and for a monopolist there are no other firms in the market. For a duopolist, however, revenue depends on both its own output and the other firm's output.

We conclude that the firms' outputs and the price are different in Cournot-Nash equilibrium than they are in a competitive equilibrium. As the demand curve slopes down, price exceeds marginal cost, so that, as for a monopoly, the total output produced by the firms is less than the competitive output. An implication is that, as for a monopoly, the Nash equilibrium outcome in a Cournot duopoly is not Pareto efficient.
10. Trends in International and Domestic Civil Aviation and Projected Future Scenario

Trends & Alternatives

In 1998, approximately 500 alliances existed between airline companies. Some of these alliances were to the point of a merger (Market Share of World Airlines Traffic, 2003). The scene today is dominated by a few multilateral alliances. Top three, Star, Skyteam and Oneworld together account for over 60% of the total international traffic.

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<tr>
<th>SkyTeam</th>
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<tr>
<td>Air France, Delta Airlines, Aeromexico, Alitalia, CSA Czech Airlines, Korean Air, Northwest, Continental, KLM</td>
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While so far India has stayed out of these alliances, relying primarily on bilateral agreements, it is merely a matter of time before Indian airlines are drawn in this web and the three blank spots, Russia, China and India are filled in by the International Alliances ((in all three cases, the leading carrier is a government owned/aligned entity which makes decision making a complex politico-economic process). As it is, Nippon, Asiana, Thai and Singapore Airlines are all working to develop an extensive network in China.

In any case India will sooner or later have to review even its bilateral agreements, as currently they are more advantageous to the partners than to India. While bilateral are supposed to be on equal basis, partners are utilizing almost 75% of seat share while India uses, prima facie for lack of capacity, only 25% of seats. Obviously, this cannot be a permanent solution to the capacity issue, dependent though India is on other nations and their manufacturers for an increase in capacity.

Considering the fragmented nature of Indian Aviation Market, at the national level India will require a mixed fleet of wide-bodied, narrow-bodied and small aircraft to be able to service various market segments. Individual airlines, however, may choose a homogeneous fleet to limit their maintenance costs.

11. Study of Consumer Demand in the industry

11.1 The Potential Market

While formulating the national strategy one must remember a few aspects of Indian Passenger Aviation Market -

a. Potentially, India is a very large corporate and luxury travel market.

b. Potentially, it is also a very large low-fare market.

c. India also has largely blocked but significant markets in the north in China.

d. India, unlike other major travel hubs in the region, is an original market both for originating and turnaround traffic.
India is also a potential transit hub in more than one direction.

In Aviation circles India has become Asia's hot growth market and in the words of SIA CEO it is, along with China, one of the two "locomotives" for growth in the continent. Thus to enter into an open skies agreement when India has nothing more to offer than land for airports and the so-called cheap blue and white collar labour will tantamount to accepting a second class economic citizenship in the comity of nations.

11.2 Growing the Market

Airbus Industries Research shows that there is a cut-off point beyond which the preferred mode of travel changes. Thus small distance journeys are convenient by road while longer journeys are preferred by rail and air. The data should actually be viewed in terms of time involved rather than the distance since technological development in any field can impact the time taken for same travel. As has already happened in Europe, high-speed trains have reduced the need for short haul services while the multi-lane smooth highways have similarly increased the distance up to which one can comfortably travel by road.

While data for similar preference change in the mode of travel is not available for India, some assumptions are possible. It can, for example, be safely assumed that in the current Indian context bus journeys of say up to 4-5 hours duration are quite easy even though often stretched up to 10 hours and sometimes even overnight due to non-availability and/or inadequacy of train services.

To a business traveller, overnight journeys by train are quite comfortable although given the economic situation even 24-hour journeys are quite acceptable. Beyond that, given the distances within the country any one would prefer to hop on a flight provided it is offered as an alternate travel service and not something only for the corporate world. For this to succeed, the low-cost travel will have to be both with predictable pricing and longevity of offer beyond the gimmickry of attention-getting news. This is the only way to enlarge the pie and aim at strata beneath the upper crust.

11.3 Other substitutes

The issue of affordability of domestic air travel has been well addressed in the Naresh Chandra Committee Report on Aviation. While the goal of affordability is absolutely well placed, the assumption that the lowering of tariffs, taxes and charges alone; for fuel, landing or travel, is the answer that needs careful examination. Even if these charges constitute a significant part of the fare, they need to be evaluated in the context of competition and monopoly. At home, considering road and rail as the competition, the charges for fuel should be viewed as a similar cost composition for all modes of travel. To reduce fuel charges for any one sector while enhancing or retaining them at the same level for the others will distort the field. This, particularly when airlines have, and can have, the freedom of picking up fuel from other competing nations. Fuel charges at home, therefore, should be viewed as a part of the overall petroleum pricing policy. This is important since petroleum, as fuel is common to many industry groups apart from being a raw material for some. Incidentally, how much of what product is extracted from the available crude is as much a matter of choice as is it a matter of the quality of crude.

11.4 Low-fare Airlines

Despite reports of low-budget airlines losing their momentum due largely to the incumbent firms' crushing the competition with even lower fares whenever a low-cost upstart invaded its market, low-fare will always remain the basic market. This is amply proven by the success of Southwest in the US and Ryanair and Easyjet in Europe.
To any buyer of service or goods, price and quality are always two key considerations. No doubt there is a class of air passengers who will only look at the bonuses, be that in the form of Frequent Flyer Miles during peak season or extra cushioning of the seat. These are generally the corporate travellers where someone else is footing the bill. There is also an occasional traveller who, being in distress will not look at the price during emergency. While the corporate travellers are a distinct segment and will be serviced fully, obviously civil aviation will have to look beyond them if it hopes to expand the market. In the US, the low fare airlines have almost a 30% share of the entire passenger aviation and in the recent past Southwest, the leading Low-fare US airlines has outperformed even the largest US airlines in passenger kilometres.

Latest news reports indicate that the low cost airlines are the price leaders now. Recently, Southwest Airlines initiated a round of fare cuts and the bigger airlines had to respond.

### 11.5 Consumer Perception

We conducted a survey in order to find the consumer perception about airlines. The following results have been culled out from the survey of 116 individuals. The sampling method was a mix of purposive and stratified random sampling and attempted to duplicate the general consumer profiles of the population (as based on preliminary secondary data). The age group of the sample was between 18 and 58, across gender, location, and socio-economic class (mapped on education and occupation, with a majority of the sample in SEC A and B+).

The region-wise split up of the sample is as follows:

<table>
<thead>
<tr>
<th>Region-wise Break-up of the sample</th>
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<tbody>
<tr>
<td>Delhi</td>
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<tr>
<td>Bangalore</td>
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<td>Mumbai</td>
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<td>Lucknow</td>
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<td>Chennai</td>
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<tr>
<td>Other Capitals and cities</td>
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The areas covered in the survey are -

1. **Brand Awareness**
2. **Airlines usage** –
   a. Frequency
   b. Brands
   c. Purpose
   d. Circuits
   e. Class
3. **Factors affecting consumer perception**
4. **Promotional Scheme Preferences**
5. **Brand parameter preferences**
6. **Circuits flown**

**Brand Awareness Study**

Indian Airlines ranks number one in brand awareness. This could be attributed to its long stay in the market and continued support from the government. Today, Indian Airlines has become synonymous with reliability and efficiency. Jet Airways is offering stiff competition and ranks second in the list. Sahara is providing value-add services and is following closely. The concept of a low-cost, no-frills airline is being merged into having high quality, low-cost carriers. Air Deccan, following the low-cost airlines model, being a relatively new entrant in the market, comes in lowest currently on brand awareness.

![Brand Awareness Chart](chart.png)

**Usage of Airlines**

Indian Airlines, mostly used by government employees, recorded the highest usage followed by Jet Airways. Although most consumers rated Jet Airways high on price, it still ranks second in usage and this could be attributed to its excellent service and promotion schemes. Similar data for the entire population reflects a higher usage of Jet Airways than IA, and a lower usage of Sahara, which is a possible implication of the sample location being concentrated in almost equal proportion in Lucknow (which has a higher price sensitive population) as other major metros.
**Frequency of Usage**

As indicated in the graph below, a majority the population flies relatively infrequently (as compared to the developed markets). Passengers travelling on business were found to be more frequent users, while those flying on holidays and emergencies were those that tended to make up the segment that flew less than once a year.  

**Note** – As purposive sampling was undertaken at Lucknow Airport, the sample population of “never” is not representative of the population, even in the given SECs.

**Flight Class and Occasion of use**

Although the occasion of use indicates that maximum usage is for business, the flight class graph indicates that the proportion travelled by business class is very small in comparison to that travelled by economy class. This indicates that most business travellers are flying Economy class as well. Further, the second important occasion of usage is for emergencies and time-critical travels.

**Circuits Flown:** The most frequently flown circuit is that between major metros, followed by other state capitals and Delhi-Mumbai. Delhi and Mumbai airports accounts for roughly half of passengers flown, and metro airports account for 66% of the passengers flown (and 47% of revenues, as per secondary data).
**Scheme Preference:** With the entry of new players in the market, airlines are competing for passengers on non-price parameters. This increases the product differentiation in order to decrease elasticity of demand in the market. Given the key differentiators that substitute for price, consumers have rated Apex fares as their most preferred scheme. Indian Airlines, Jet and Air Sahara offer apex fares. Next most preferred to Apex fares is the frequent flyer program, a trend noticed predictably in the high frequency repeat users and those travelling on business.
Factors affecting consumer perception

We identified the following factors that make the demand function of consumers. Based on our hypothesis, a choice parameter weight was arrived at by asking the sample to rank the following parameters on a Likert scale -

- a) Price
- b) Service
- c) Promotional Schemes
- d) Loyalty programmes
- e) Flight Schedules
- f) Comfort with the brand
- g) Corporate tie-ups

Consumer Choice Parameters

![Bar chart showing consumer choice parameters]

Price appears to be most important factor for the consumer followed by service provided and flight schedules.
Indian Airlines has been rated high on most parameters while Jet Airways, although rated low on price, is rated highest in most other factors. Air Deccan, which has been ranked best on prices, has succeeded in its mission to provide reliable low-cost air-travel to common man by constantly driving down air-fares.

Air Sahara’s many services such as In-flight entertainment and Wings n’ Wheels coach service, exclusive business lounges being operated at departure halls at airports in a number of cities, providing for business and refreshment services has made it second most popular under services. It has taken the lead in introducing novel initiatives such as Steal-a-seat flexi fare options, Sixer/Super Sixer and Square Drive/Super Four.

Air Sahara’s frequent flyer program called Cosmos has also become a great hit with the passengers, though it still ranks almost on par or lower on customer perception than the schemes offered by Jet and IA (see promo schemes and loyalty programs), essentially due to lower customer awareness levels.

Corporate tie-ups were a trend significant by their absence on the brand preference parameters. While the only major tie-ups were by Indian Airlines with government agencies, these were not perceived as strictly ‘corporate’ tie-ups. This segment is hence a possible opportunity which can be explored as a non-price differentiator, given the large frequency of use by business travellers.

12. Case Study - The No frills model

12.1 Analyzing Southwest Airlines and how, in India, Air Deccan is coping with the competition

Southwest Airlines Co., incorporated in 1967, is a US domestic airline that provides predominantly short haul, high-frequency, point-to-point, low-fare service in the United States. The Company focuses principally on point-to-point, rather than hub-and-spoke, service in markets with frequent, conveniently timed flights and low fares.

As of December 31, 2003, Southwest served 337 non-stop city pairs. Examples of markets offering frequent daily flights are Dallas to Houston, 35 weekday roundtrips; Phoenix to Las Vegas, 19 weekday roundtrips, and Los Angeles International to Oakland, 22 weekday roundtrips. Southwest complements these high-frequency short haul routes with long haul non-stop service between markets such as Baltimore and Los Angeles; Phoenix and Tampa Bay; Seattle and Nashville, and Houston and Oakland.

Presently, Southwest is the third largest US airline in number of national passenger flights. Its principal competitors are the so called legacy carriers – Delta, American Airlines, US Airways, United, Continental and Northwest. The company itself has been profitable for 24 consecutive years and is the only major airline in the US to realize a profit in 2001. It has had a perfect safety record and lowest lost-baggage claims.
So what differentiates Southwest from the ‘legacies’?

- Southwest's average aircraft trip stage length in 2003 was 558 miles, with an average duration of approximately 1.5 hours.

- The Company's point-to-point route system, as compared to hub-and-spoke, provides for more direct non-stop routings for customers and, therefore, minimizes connections, delays and total trip time.

- Southwest focuses on non-stop (not-connecting) traffic. As a result, approximately 79% of the Company's customers fly non-stop.

- In addition, Southwest serves many conveniently located satellite or downtown airports such as Dallas Love Field, Houston Hobby, Chicago Midway, Baltimore-Washington International, Burbank, Manchester, Oakland, San Jose, Providence, Ft. Lauderdale/Hollywood and Long Island Islip airports, which are typically less congested than other airlines' hub airports. This enhances the Company's ability to:
  1. sustain high employee productivity
  2. ensure reliable on time performance
  3. lower landing and parking fees
  4. achieve high asset utilization

- Aircraft are scheduled to minimize the amount of time the aircraft are at the gate (approximately 25 minutes), thereby reducing the number of aircraft and gate facilities that would otherwise be required.

- The Company operates only one aircraft type, the Boeing 737, which simplifies scheduling, maintenance, flight operations and training activities.

- Southwest does not interline or offer joint fares with other airlines, nor does it have any commuter feeder relationships.

- Southwest offers a ticketless travel option, eliminating the need to print and process a paper ticket altogether. In 2003, more than 85% of Southwest's customers chose the ticketless travel option and approximately 54% of passenger revenues came through the Internet.

For the past five years, low-cost airlines have been growing at more than 40 per cent a year, while the full-service airlines are yet to recover from the crisis that hit them post 9/11. Taking a cue, Capt. G R Gopinath launched Air Deccan in September 2003, India’s first no-frills airline.

- Airbus 320 can accommodate 180 seats while IA has 145 seats including executive class. The extra 35 seats are in Rs 500-Rs 2,500 bracket.

- In contrast to the hub-and-spoke model, Air Deccan follows the point-to-point concept, which removes hindrances like waiting for connecting flights and through baggage check-in

- Result: greater flexibility. Each Airbus 320 flies for 10-11 hours compared to the 7-8 hours clocked by other airlines

- Air Deccan has just two air hostesses compared to six in other airlines. All this reduces the cost on overheads
The model is akin to any other low-cost carrier. Even the most expensive ticket on offer is 35 percent lower than usual fares on any sector. In the Delhi-Bangalore sector for instance, the first 40 seats are available between Rs 500 - Rs 2,500, the next 110 seats up to Rs 5,000 and the remaining don’t cross Rs 7,000.

Unlike IA, Jet and Sahara who go in for acquisition of new aircraft, Air Deccan has recently taken three Airbus 320 planes on lease from Singapore Aircraft Leasing Enterprise (SALE) to complement its fleet of seven French-made ATR 48-seater aircraft. This has enabled Air Deccan to minimize its debt-to-investment ratio.

But unlike low cost airlines in the US and Europe, Air Deccan and its followers face serious hurdles in the form of abysmal infrastructure and government regulation on private airlines.

Air Deccan cannot shave off costs by using secondary airports. The Naresh Chandra Committee, however, has suggested a compromise – lower landing and parking charges for low-cost airlines. Towards this, the new Hyderabad airport plans to keep aside some space for low cost airlines to get them to fly more often to the airport.

Plans to launch services on trunk routes have been delayed as it has not been allotted parking bays and ticket counters in Mumbai and Delhi airports.

The operations of Air Deccan to Guwahati and Dibrugarh are not by choice but are part of the Category 2 and Category 2A routes which are compulsory for a private airline operating on metro routes. This need for compliance though has bled full-service airlines what with their larger capacity fleets.

13. Potential Market Entrants

Others are just as keen to get India's millions airborne. Liquor king Vijay Mallya in January 2005 plans to launch a low-cost carrier, named after his Kingfisher beer, with $20 million in financing from GE Capital Aviation Services. Following closely will be Go, promoted by textile scion Jehangir Wadia. And charter carrier Jagson Airlines plans to expand as a regional discounter next year. Richard Branson's Virgin Atlantic and Britain’s bmi are hungry for more direct routes from London to major Indian cities, which are restricted under existing agreements. Including these, the potential players in the market could be a double-digit figure, most of them looking at setting-up a low-cost airline, namely - Air-India Express (which will ply between India and the Middle East), AirOne and Visa (both floated by ex-Indian Airlines people), Alliance Air, Go (from the Wadias), Kingfisher (Mallya), Royal (ModiLuft's relaunched avatar), Skylark, Yamuna Air (Gill Brothers, UK-based NRIs), hotelier Lalit Suri, and the Interglobe group (which runs the travel bookings firm, Galileo).

All this activity has spurred India's state-sector airlines to jump into the discount fray. Air-India plans to launch Air-India Express, which will take over routes to the Middle East, where some 4 million Indians hold service jobs. Indian Airlines, meanwhile, is planning to turn money-losing affiliate Alliance Air into a cut-rate carrier.

The new players face some serious hurdles. The biggest is infrastructure. Indian airports are dismal -- when cities are lucky enough to have one. Even cities with millions of inhabitants -- such as Dehra Dun, the capital of the new northern state of Uttaranchal -- have no commercial airport.

High fuel costs and other operating fees such as landing and parking charges, which account for up to 15 percent on an airline's expenditure, have kept air fares high and grounded most carriers which have entered the domestic aviation sector when it opened up nearly a decade ago.

**Defining Low Cost Carriers**

- **Simple Product**
No meals; drinks and snacks for free
Narrow seating (greater capacity)
No seat reservation; free-seating
No frequent-flyer programs

Positioning

- Non-business passengers, leisure traffic, price-conscious business passengers
- Short-haul point-to-point traffic with high frequencies
- Aggressive marketing
- Secondary airports
- Competition with all transportation carriers

Low Operating Costs

- Low wages, low airport fees
- Low costs for maintenance, cockpit training and standby crews due to homogeneous fleet
- High resource productivity: short ground waits due to simple boarding processes, no air freight, no hub services, short cleaning times
- Lean sales (high percentage of online sales)

Attributes of Low-cost Carriers

- Narrower seating (higher capacity: 148 vs. 126)
- Higher plane utilization (10.7h vs. 8.4h) due to shorter turnaround times
- Lower staff costs due to greater productivity, generally lower wages and smaller staff (no service)
- Lower airport fees at secondary airports and smaller cities
- No sales commissions due to web sales
- Low station costs due to simpler handling and more efficient processes
- High number of passengers per employee - 7250 for RyanAir vs 1290 for Lufthansa (2002 data)

14. SWOT of legacy carriers

Strengths

- Passengers will continue to need connecting/network services
- Ensure a leisure travel, especially to the business traveller, like airport lounges
- Enhanced in-flight service and more comfortable seating
- In long-haul markets, where premium service is essential, through higher capacity and long range Boeing 747s and Airbus 340s.
Weakness

- Excess capacity
- Complicated flight operations. Hub-and-spoke networks of legacy carriers were profitable as long as LCCs had low service along heavily travelled routes.
- Mounting debt – Enormous debt to investment ratio (above 90% for most US legacy carriers like US, DL, AA, UL, CO) compared to LCCs (25% for Southwest)
- Cost-to-revenues ratio per seat mile is very high (>13) compared to Southwest’s 7.67

Opportunities

- Maintain short-haul flights only to extent needed to feed the network

Threats

- Labour problems as “legacies” try to streamline in order to compete with LCCs
- Flood of new capacity into the region from LCCs may trigger a competitive bloodbath among the legacies.

No-Frill Airlines Prices

This cut throat competition is at its peak in sector like Delhi-Mumbai where Jet Airways has cut its Apex air fare to Rs 2500 for passengers booking ticket 30 days in advance. This was in response to Indian Airlines concessional fare of Rs 3500 if ticket is booked 21 days in advance and Air Sahara’s special package offer of Rs 4444 for a return ticket basis. The no-frills airline Air Deccan has announced fares as low as Rs 700 if booking is done 90 days ahead. Jet airways has lowered its apex fares by 20% under ‘Monsoon Super Apex Fares’ scheme if the booking is done 30 days in advance in six busy sector including 4 metros.

15. Recommendations

15.1 Government Recommendations

Codesharing

Codesharing is an important tool for airlines to minimise the costs of operating services. By selling seats on a flight operated by another carrier, codesharing enables an airline to make direct cost savings by rationalising services or
establishing market presence on a route without actually operating on it. Thus, both airlines may be able to save on fuel, labour and other variable costs, as well as making more effective use of aircraft and other overheads.

**Cabotage**

Restricting access by foreign carriers to the Indian domestic market gives the Indian carriers a solid base from which to extend into international aviation. The same applies to most other countries, with the exception of city economies such as Singapore and Hong Kong. Restricting cabotage rights for the carriage of passengers and freight to domestic airlines reduces competition on domestic routes. These restrictions help keep fares and freight rates higher than they otherwise might be, boosting domestic airline revenue at the expense of domestic consumers. Allowing foreign carriers some cabotage rights could improve competition in the domestic market. Integrating domestic and international services allows airlines to achieve:

- operational synergies and efficiencies by being able to switch capacity and aircraft between the domestic and international sectors; and
- network advantages such as economies of scope and traffic density as well as the marketing advantages of operating a combined domestic and international network.

The opposition to this recommendation is the view that it is most likely that foreign carriers would engage in ‘cherry picking’ i.e. carry domestic traffic on the most profitable routes. Incumbent airlines would need to counter any loss of profitability on routes affected by cabotage and this could mean a reduction in the number of services provided on these routes, or the reduction or withdrawal of services from less profitable routes, with consequential loss of amenity to passengers, including those making connections to other parts of the domestic network.

**Eliminate Regulatory Structure**

The regulatory structure inhibits competition in many ways. It can prevent or deter entry, constrain capacity, and limit the potential for airlines to win market share. A problem in assessing regulatory impacts is the structure of aviation markets. Economies of scope and traffic density favour large airlines operating many services. On the demand side, a single carrier operating a long thin route with multiple frequencies will attract better business than multiple carriers who each operate one service per week. Thus markets tend to be concentrated with a small numbers of carriers operating on most routes.

It cannot be presumed that these airlines respond to normal commercial incentives. Instead of shareholder value, they may be managed for national prestige, employment enhancement, technology transfer, or defence, which might require government subsidies. Continued use of substantial government subsidies is an obstacle to efficient air services, and has important implications for competition in a less regulated international environment.

**Eliminate the fuel tax**

A most regressive tax whose burden becomes larger as fuel costs increase (and airlines’ ability to pay diminishes). As an interim step – cap tax revenue and determine a better way of obtaining (e.g., a per passenger levy).

**Eliminate category III restrictions**

Eliminate category III restrictions and provide essential air services subsidies where required (with costs shared by national/state/local authorities). Category III mandates that an operator deploy on routes in Category-II (North-Eastern region, Jammu & Kashmir, Andaman & Nicobar and Lakshadweep) at least 10% of the capacity deployed on routes in Category-I and of the capacity thus required to be deployed on Category-II routes, at least 10% would be deployed on service or segments operated exclusively within the North-Eastern region, Jammu & Kashmir, Andaman & Nicobar and Lakshadweep. In the interim, allow airlines to transfer category III obligations to a
competitor or third party operator – who could use a standard, appropriate fleet and be paid by the majors to meet their category III requirements.

*Improve quality of and access to airports and hangars*

Privatize or municipalize. Develop a robust traffic management system that addresses relevant technical issues and meets strategic objectives through rigorous systems engineering and large-scale integration efforts such that rising air traffic demand is supported in a safe, secure and efficient manner.

Today, Indian airlines have difficulty accessing hangars for maintenance. As a result, private operators have to do some maintenance abroad. Airline maintenance and overhaul should be an area where India could develop a major international business, leveraging its low labour costs and world-class engineering to service aircraft for other countries as well as its own.

*Tourism*

An efficient aviation sector is essential to support the tourism industry, which has immense employment opportunities and the tourism and airline industries with a joint proactive approach can foster tourism development and promotion in a big way. One of the prerequisites for developing tourism is 'easy access' to the tourist destinations, in terms of international and domestic connectivity and easy movement within the destination. An efficient aviation sector is essential to support tourism. Air connectivity is integral to the growth of tourism. Airlines and tourism are self-dependent. The tourism market grows by itself with new connections and a popular destination attracts more flight operations. It is a win-win situation.

Direct connections would also give further impetus to tourists’ arrival. Over 40 per cent of the passenger traffic is concentrated in two main international airports namely New Delhi and Mumbai. The increase in connectivity has contributed to domestic and international tourist arrivals. The tourism and airline industries with a joint proactive approach can foster tourism development and promotion in a big way.

15.2 Industry Recommendations

*Reduce labour costs*

All major carriers need to win significant concessions from their workers. Low labour outlays would consist of a mix of reduced wages, more flexible work rules and trimmed benefits including pension.

*Simplify flight operations*

Low-cost carriers use just a few types of aircraft, a strategy that cuts training and maintenance expenses. Larger airlines who fly internationally, to more remote destinations require varied fleets of large and small planes. However, they can and should work toward streamlining the types of planes they fly.

Another way to simplify operations is modifying the hub-and-spoke model, which uses designated headquarter airports for transfers. Traditionally, the big airlines have sent many of their flights through hub airports at peak business-travel hours. That way, since carriers typically charge heaps more for business fares, they can get more revenues per flight. But many experts argue that it’s time to give up on that model - especially as low-cost carriers increase service along heavily travelled routes.

Experts like the idea of so-called rolling hub operations, where flights are scheduled throughout the day so that an airline's assets - from employees to planes to hangars - can be used more efficiently. In a traditional hub system, planes and workers spend more time waiting for connecting flights to come in at peak operating times. With rolling
hubs, travellers may end up waiting a little longer to get a connecting flight, but planes end up in the air for more hours of the day.

**Offer more transparent pricing**

The legacy carriers have long had an exotic, almost incomprehensible pricing system. However, these days, with the Internet allowing travellers to shop for the cheapest tickets easily, and low-cost airlines offering uncomplicated set prices, traditional carriers have to follow suit or risk losing more and more passengers.

**Get smart on fuel**

With oil near $50 a barrel, airlines must be smarter about how they incorporate its price into their costs. Discount carriers such as Southwest hedge as much as 80% of their jet-fuel costs. Essentially, that means that they lock in prices on future fuel when the price drops. Small wonder Southwest is one of the few success stories in the airline business.

**Stop chasing market share**

Airlines need to be savvier about capacity. At the start of 2004, many planned to add more flights amid signs of an improved economy. When it became clear that demand wasn't as strong as originally forecast, most carriers still wouldn't retrench from their plans for fear of losing out if the market snapped back. Rather than scrambling to add seats in fear of missing out on the party, airlines would do well to take a more cautious approach and focus on efficiency and margins.

**From bailouts to government partnership**

Although the Indian airline industry was largely deregulated in 1990, plenty of lingering rules and regulations have made it nearly impossible for carriers to be efficient. Many believe that restrictions on foreign ownership and labour laws have kept the industry from innovating. So instead of lobbying for protective measures like bailouts, airlines need to work with government to tackle longer-term projects like building more runways, running airports more efficiently, and reining in labour costs.

**A new model for premium pricing**

Most of the industry's improvement efforts have focused on whittling down costs. However, boosting revenues also needs to be a priority. After all, people are willing to pay more if they believe they're getting more value. Legacy carriers still offer certain advantages, especially to the business traveller including airport lounges and more comfortable seating.
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