CHAPTER - I

INTRODUCTION

Indian aviation industry is one of the fastest growing sectors in the world. In 1991, the only public airlines in India enjoyed monopoly in its operations and businesses therefore it could dictate its own terms to its passengers who had no other choice but to accept whatever had been available irrespective of quality of service, pricing, hospitality and comfort. The scenario changed following globalization and air space having opened to competitions. The subsequent events moved very fast as more and more new players entered with lot of advantages of being new operators as compared to the airlines, which had been in operation since independence and therefore accumulated lot of fat, which needed to be immediately dispensed with to face the emergent competition that posed as threats to its existence and substance. On the other hand, some of the private players are very much concerned about their passengers as well, for some of them are implementing low price strategy to attract the passengers.

Now as passengers are playing the key role in aviation industry, all the airlines are trying to capture the lion share of the market. However, most of the airlines are introducing various lucrative strategies to retain their own passengers and they attract tried to more new passengers towards them, but still brand switching is increasing day by day. So in this aggressive competitive situation, the success of Airlines are very much dependent on the passenger service provided at all levels before, after (at airport) and during the journey (in the air as air-borne), to make their passengers satisfied. Now a days, passengers have become very choosy about where they spend their hard-earned money. If they decided to take a trip, they
want it to be great, the Airlines need to get along with the program and look at the experience from the passenger’s perspective.

It could be just a simple thing to solve the difference, but both the public as well as private airlines need to get into a conversation with their passengers in order to figure this problem out. The present study aims to identify the most important factors in passenger service of the private airlines.

AIRLINE MARKETING

In the context of contemporary competitive market knowing the details of marketing becomes and more essential and airlines marketing is a fascinating subject. The market share which an airline holds depends largely on how effectively can market product. The aim of this Unit is to familiarize with the unique characteristics of airline’s product and the various constituents of airlines marketing. This Unit deals with marketing planning, scheduling, pricing, distribution and promotion of an airline’s product.

There are certain common components in marketing services or product. However, in marketing it is essential to know the characteristics of product before for determining marketing strategy. Thus, have to first understand the special features of airlines marketing. Some of these are as follows:

i) Highly Perishable Product

The airlines product is extremely perishable as it cannot be stored for future sales. Once boarding is closed on a particular flight, all the unutilized seats on that flights go completely waste. Airlines profitability and success of marketing functions depends greatly on its ability to fill-up the available capacity with revenue generating traffic viz. passenger and cargo.
ii) Need for Fine Market Segmentation

An airline's market consists of various market segments with different service expectations, different price sensitivities, different travel motivations, etc. Examples of such market segments are first class passengers, who do not care about the price of an market but expect only the best and most luxurious service standards and need to be pampered by the airline's staff every inch of the way. Another example is business traveler, who mostly travels on an expense account and expects good schedules and connections, efficient ground service and comfortable on-board service. Family holiday traffic is more concerned with discounts in air fares than the schedules or service standards, etc. For labour traffic or shoppers traffic, price is the most important factor. It is vital for an airline to optimize its yields and revenue from various market segments by positioning itself correctly in the market place.

iii) Dynamic Market

Since airline's product is a service consisting basically of an experience for the passenger, it has to result in various degrees of satisfaction or dissatisfaction from that experience. This in turn affects perception about the product. Besides, competition among airlines is hard and the market dynamics of pricing, promotion and distribution are liable to change very rapidly.

The challenge for an airline in marketing lies in manipulating its marketing mix viz. product, price, promotion and distribution. This is done to get a passenger in front of its checking-in counter ready and willing to fly that particular airlines after paying good money; and then sending him or her away happily to the destination so that the passenger is willing to come back another time and always to the same airline on any route. This is the essence of airline's marketing.
Whatever an airline's marketing manager does, he cannot afford to lose sight of the basic purpose of the marketing function, which is to optimize the yield and make an airline's operation profitable. Whatever do for product improvement, for sales promotion, publicity and advertising, for distribution of product in the market place, by giving discounts and incentives - ultimately it all has to result in generation of income for the airline in excess of its cost of operation of air services.

iv) Dependency

The airlines product is dependent on certain external factors like facilities, rules, regulations and security check ups etc. at the airports. Though these are same for the passengers of all the airlines but the customers often associate them with the airline they are flying with.

Marketing Planning

Strategic planning is one of the most important stages in the application of the principles of marketing within the airline industry. It is: "the analysis of alternative opportunities and risk to the firm, informed by environmental (for example, competitive, social) and internal (for example, production abilities) information, which leads management to choose a particular set of market, product and customer goals."

And other words the main function of strategic is to highlight for the airline which of its marketing strengths can best be used to take advantage of opportunities which may arise in the environment. Essentially, strategic planning involves make advance decisions relating to courses of action which the airlines marketing department will take in the future. The strategic is long-range and comprehensive.

The main aim of strategic planning is now seen to be the identification of attractive areas, of new opportunities and the formulation of programmes for developing these areas and opportunities. The facilities, finances and resources required to can out
this development are now considered secondary to the basic identification of the opportunities. Long range strategic planning should include the following elements: a definition of goals and objectives, a determination of where company stands that is, a position audit, including strengths and whereas, opportunities and threats an assessment of the resources available to put the strategic plan into action an assessment of alternative courses of action and the strategic options available decisions regarding avenues likely to be subsequently pursued a preparation of plans to be conducted that consideration must also be given to the number of subsequent years over which planning is to take place. There is a tendency in the airline industry to shorten. This is because of both increased competition and the process of deregulation. These factors also require flexibility in order that plans can be rapidly adjusted to meet changes in the environment.

The factors involved in Marketing Planning are as follows:

1. A basic strategy must be defined for the airline in terms its goals/objectives. The best option for achieving these must be oriented.

2. Management must take a number of inter-related decisions, concerning what to do, how to do it and who should do it, in order to achieve these objectives.

Such tactical planning is contained in the short-range marketing Plan, which covers any period up to one year. As has been seen, the Marketing Plan is used to implement parts at the airline's marketing strategy. This implementation contributes to the achievement of the organization's overall goals.

The purpose of the marketing plan is to set out marketing objectives, strategies, and resources in such a way that they can be easily and quickly understood, eliminate confusion and misunderstanding among groups involved in the marketing function - for
example, Product Development, Field Sales, Publicity, Standards, Research, Public Relations, Distribution and so on, establish who will carry out what task, when why and where, ensure as far as possible that all phases of the overall marketing operation are working towards achieving common goals, provide a permanent record of the marketing planning and the rationale behind it, develop a continuity of thought and effort from one year to the next, check that the annual marketing activity is in line with long term planning, provide a better basis for monitoring performance and analysing variations on target.

Airlines business involves heavy investments and appropriate marketing planning can bring certain benefits like, the marketing plan provides through analysis of situation, opportunities, options, and so on as a result of disciplined thinking and commitment of ideas to paper, it results in clearly stated objectives and well thought-out strategies in advance of the time period covered, it demands consideration of all problems and opportunities and by anticipating events ' reduces the risk of having to suddenly deal with random problems, marketing goals contained within the plan give guidelines for profitable development and provide a better basis for measuring performance than simply revenue done, and the marketing plan results in activities being geared towards important issues and plans are always established well in advance.

The airline's overall strategic plan studies the total market and then segments it into those sections which it has highlighted as being potentially the most profitable to enter. Once it has done this, it must decide what position it wants to occupy in the ask segments. This process is known as marketing positioning. It is not enough for an airline to have understanding or an excellently airline product, if it is incorrectly positioned in its target market segments. Market positioning, at its most basic level, involves the effective communication of the airline's corporate image to the customers identified as
key contributors to market development. It must ensure that customers appreciate the advantages of the airline's service over that of its competitors. Market positioning, like every other marketing activity, should contribute to the airline's achievement of the overall objectives. It does this by highlighting the most, appropriate areas of investment and identifying those market segments which will yield the highest return on investment.

**Definition Airline Product**

The airline product is not a physical item at all, but services that consumers find useful that there was a general understanding for goods but that there was no clear description defining services. The goods as a thing and services as an act and five characteristics of services, namely intangibility, inseparability, variability; perish ability and no ownership which is perfectly applicable for the service that passengers receive from airlines and additionally pointed out that the service provided by airlines is personalized meaning that each passenger might perceive and experience it in a completely different way.

The basic analysis includes four components known as “4 Ps” consisting of product, place, promotion and price. For services people, physical environment and process have extended these dimension. The following chapter aims to describe the features of the airline service by considering all components of the extended marketing mix analysis for services in detail.

**Marketing Mix**

The analysis of the expanded marketing mix for services performed by considering literature dealing with service management in general and by reviewing marketing mix analyses, which already been developed especially for the airline industry. In this sense, it is possible to distinguish from the airline product and services.
**Product**

Analysis typically starts with product dimension, as the service product is the heart of a company's marketing strategy. Even if all other dimensions of the marketing mix designed and executed in excellent manner, a company could not be successful with a poorly developed core product. The airline product consists of aspects like, safety reliability in terms of punctual departure and arrival, services provided prior to the flight which are mostly experienced at the airport, in-flight services. In-flight services including food and beverages, In-Flight Entertainment and Communication (IFEC), convenience regarding the seat itself and the available seat pitch, handling baggage, type of aircraft and equipment and the interaction with staff which will be analyzed in detailed. Also includes the brand, which makes sense as the reputation of an airline definitely depends on their brand image. Even though the product is many-faceted that there is hardly space for product differentiation. He points out that especially on short-haul flights airlines mostly provide standardized products.

Assuming that airline A and airline B provide the same service, for instance a light-meal service on a specific route; passengers are likely not to deduct a difference between the two products. Consequently, they may choose the carrier, which offers most flights at a convenient time and mentions that in order to get a competitive advantage due to differentiation airlines have to be innovative.

These services are not likely to be adapted by other carriers and the companies managed to obtain public awareness and to show their willingness to innovate their products. In this case, the new product features might not be a competitive advantage in terms of the fact that customers prefer the two companies only because they actually find it as important to sleep in double beds and take a shower during their flight.
However, customers might connect these attributes with the brand and see those companies as more innovative and attractive in comparison to competitors.

**Price**

Price is the most flexible element of the marketing mix and the most problematic one asserts that since the deregulation of the market price is the main competitive element for any airline. The price reflects the costs, which arise for delivering a certain service. Marketers in general choose between various pricing strategies, which follow a cost-based, or value-based strategy. Following a cost-based approach, the price is determined by investigating the costs that occur for the company, a value-based strategy is not solely concerned about production costs, but takes the perceived value that customers have of a product or service into consideration for making pricing decisions. As customers are very price sensitive airlines might find a cost-based strategy more appropriate.

When customers evaluate whether a service is “worth” buying they might however not solely consider the monetary outlay but also consider time and effort. Therefore, marketers should consider how much time a passenger has to spend and which efforts to purchasing and experiencing the service of his or her company when setting prices. The pricing process is actually among the most complex tasks to handle in nowadays airline industry. Problems can arise as complicated fare structures with complex rules may not understood by intermediaries as travel agents. Carriers with a complex fare structure are likely to have to invest more money in training intermediaries.

If this not done in a proper way, agents would need extensive help from the airline, which again costs money in terms of working hours paid to staff at the agency support center or they could even avoid selling tickets from particular carriers. Negative
feedback may also collect from customers as they probably expect to get the cheapest fair, which very often communicated. Furthermore loyal customers who are willing to pay a “high” fare may find it distracting if the airline targets low-budget travelers and sells tickets at a significantly lower level. The disparity between product and price might cause a confused image. As outlined in Section 1 the product dimension is the heart of the marketing strategy and therefore prices should be set in a way that they are consistent with the product or service provided.

**Place**

The third dimension of the marketing mix comprises the process of making the service available to customers. In the airline industry, this dimension covers the selection of the right distribution channels, which enable the company to reach their target market. The impact of Information and Communication Technologies (ICT) on airlines has always been predominant and strengthens this statement by stating that selling air transport tickets online is among the most successful e-commerce activities. Today there are four main GDS called Amadeus, Sabre, Galileo and World span. In the mid-1990s, the importance of intermediaries and GDS however decreased as more and more people gained access to the internet.

The internet created countless new opportunities to maximize the performance and minimize costs by enabling customers to directly book on the company’s website. Airlines try to support this development by constantly increasing the attractiveness of their electronic services. To increase the profitability airlines try to switch business from indirect to direct channels. Moreover, they pay lower commission to intermediaries to save money. Besides trying to switch sales from indirect to direct channels airlines tend to lower commissions rates paid to travel agents significantly in order to increase profits.
The process of selling tickets directly to customers without having to pay commissions to intermediaries or GDS providers is called disintermediation. The term re-intermediation refers to travel agencies, which conduct their business only online. The airlines will also try to shift business from online agencies to their corporate website. These include that intermediaries make the purchasing process much more convenient for customers and innovations regarding selling packages and distinct ways of marketing discounts. That selling products via intermediaries is more efficient and however, concludes that the importance of travel agents for the airline industry will decrease rapidly. It is notable that even though passengers increasingly use online channels for information search, offline distribution channels are selected for the booking process due to privacy concerns to advice companies to ensure that customers perceive their website as trustworthy and user-friendly in order to motivate them to book online.

**Promotion**

One of the main purposes of promotional activities is persuading potential customers to choose the product of the own company and not products from competitors. Encountered the relevance of customer involvement in services, which can be vital before, during and after the service concluded that since the impact of customers as co-produced is vital, promotional activities should also provide education to customers. This education can ensure an improved and smooth operation as customers will be likely to know and follow procedures fostering a smooth service process. In the airline industry promotional activities are mainly about advertising, personal selling, loyalty programs, sweepstakes, raffles and give away items. Nevertheless a company should not only focus on the communication with customers. The marketing communication system is the communication and interactivity of all parties including the company, intermediaries, consumers and publics.
People

As already mentioned in Section 1, it is a challenging task for airlines to differentiate their product. There are cases where the only difference between two service providers lies in the way the staff interacts with customers. Therefore emphasize should be put on carefully recruiting, training, motivating and rewarding staff and additionally highlight the impact of the behavior, number of staff and their uniform on the image of the company. A uniform plays a crucial role in how a customer perceives individual staff members and the company as a whole. Airlines understood the importance of their staff members and built a so-called multi-sensual image around their flight attendants. The company thereby wants their customers to experience their brand with all senses to establish emotional relationships between them and their brand. Similar to Singapore Airlines Emirates also aims to attract attention by a unique uniform, which includes red hats and white scarves for female flight attendants.

Physical Environment

The physical environment covers any tangible evidence of the image or service of a company. As the main service takes place on board of the aircraft the aircraft type, cabin design and equipment play an important role. Moreover any printed material or report can be described as a physical evidence of a company. Marketers found out that the packaging of tangible products is extremely important as it visualizes the product. In the service industry evidence plays the same role as packaging does for physical products. Thus airlines should use physical evidence in a way that it accurately describes and successfully distinguishes their product.

Process

There is a strong interdependence between the process dimension and the dimensions people and promotion. Especially in face-to-face service settings, routine service steps might never be executed in the same way, which amongst other factors is due to different staff members. This refers clearly to the people dimension but also
covers the fact that customers have an inhomogeneous ability or willingness to cooperate due to their knowledge about the service procedure which is linked to the promotion dimension. Vital aspects which have to be considered are the effective flow of activities, the standardization of procedures aiming at reducing the disparity between services and the need for making customers familiar with service procedures.

1.01. International Airlines

The International aviation has more than two thousand years from the initial attempts in kites and glider to power-driven ones heavier than air, supersonic and hypersonic flight.1 The first forms of man manufactured flying objects were kites. 2The earliest identified in the record of kite flying was around 200 BC in China, after a General flew a kite over opponent area to calculate, the length of passageway required to enter the area. 3 Leonardo da Vinci's (15th c.) dream of flight found expression in several designs, but he did not attempt to demonstrate his ideas by actually constructing them.

The 17th and 18th century, gases such as hydrogen exposed, which in turn led to the invention of hydrogen balloons. Various theories in mechanics by physicists during the same period of time, notably fluid dynamics and Newton’s laws of motion, led to the foundation of modern aerodynamics. Tethered balloons filled with hot air were used in the first half of the 19th century and saw considerable action in several mid century wars, most notably the American civil war, where balloons provided observation during the Battle of Petersburg. Experiments with gliders provided the groundwork for heavier-than-air craft, and by the early 20th

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1. www.en.wikipedia.org/wiki/aviation_history
century advances in engine technology and aerodynamics made controlled, power flight possible for the first time.

The first aircrafts to make routine controlled flights were non-rigid airships; it has been later called as “Blimps”. The most successful early pioneering pilot of this type of aircraft was the Brazilian Alberto Santos-Dumont who effectively combined a balloon with an internal combustion engine. On October 19, 1901 he flew his airship "Number 6" over Paris from the Parc desaint Cloud around the Eiffel Tower and back, in less than 30 minutes to win the Deutsch de la Meur the prize.

The years between World War I and World War II saw great advancements in aircraft technology. Aeroplanes evolved from low-powered biplanes made from wood and fabric to sleek, high-powered monoplanes made of aluminium, based primarily on the founding work of Hugo Junkers during the World War I period and its adoption by American designer William Bushnell Stout and Soviet designer Andrei Tupolev. The age of the great rigid airships came and went. In the 1930s development of the jet engine began in Germany and in Britain - both countries went on to develop jet aircraft by the end of World War II. The first functional jet plane was the Heinkel He 178 (Germany), flown by Erich Warsitz in 1939, followed by the world's first operational jet aircraft, the Me -262, in July 1942 and world's first jet-powered bomber, the Arado Ar-234, in June 1943. British developments, like the Gloster Meteor, followed afterwards, but saw only brief use in World War II.

In October 1947, Chuck Yeager took the rocket-powered Bell X-1 through the sound barrier. Although anecdotal evidence exists that some fighter pilots may have done so while dive-bombing ground targets during the war, this was the first controlled, level flight to exceed the speed of sound. Further barriers of distance fell
in 1948 and 1952 with the first jet crossing of the Atlantic and the first nonstop flight to Australia. The 1945 invention of nuclear bombs briefly increased the strategic importance of military aircraft in the Cold War between East and West. Even a moderate fleet of long-range bombers could deliver a deadly blow to the enemy, so great efforts were developed to countermeasures.

At first, the supersonic interceptor aircrafts were produced in considerable numbers. By 1955, most development efforts shifted to guided surface-to-air missiles. However, the approach diametrically changed when a new type of nuclear-carrying platform appeared, that could not be stopped any feasible way intercontinental ballistic missiles. These possibilities were demonstrated in 1957 with the launch of Sputnik by the Soviet Union. It started the Space Race between the nations.

In 1961, the sky was no longer the limit for manned flight, as Yuri Gagarin orbited once around the planet within 108 minutes, and then used the descent module of Vostok to safely enter the atmosphere and reduces speed from Mach 25 using friction and converting velocity into heat. The United States responded by launching Alan Sheppard into space on a suborbital flight in a Mercury space capsule. With the launch of the LaTourette in 1963, Canada became the third country to send a satellite in space. The space race between the United States and the Soviet Union ultimately lead to the landing of men on the moon in 1969.

In 1967, the X-15 set the air speed record for an aircraft at 4,534 mph (7,297 km/h) or Mach 6.1 (7,297 km/h). For vehicles designed to fly in outer space, this record renewed by X-43 in the 21st century. The Harrier Jump Jet, often referred to as just "Harrier" or "the Jump Jet", is a British designed military jet
aircraft capable of Vertical/Short Takeoff and Landing (V/STOL) via drive vectoring. It first flew in 1969. The same year that Neil Armstrong and Buzz Aldrin set foot on the moon, and Boeing unveiled the Boeing 747 and the Aerospatiale-BAC Concorde supersonic passenger airliner made its maiden flight. The Boeing 747 was the largest commercial passenger aircraft ever to fly, and still carries millions of passengers each year, though the Airbus A380 capable of carrying up to 853 passengers. In 1975 Aeroflot started regular service on the Tu-144—the first supersonic passenger plane. In 1976, British Airways and Air France began supersonic service across the Atlantic, with Concorde. A few years earlier the SR-71 Blackbird had set the record for crossing the Atlantic in less than 2 hours, and Concorde too assumed its role.

The last quarter of the 20th century saw a slowing down in the pace of advancement. No longer revolutionary progress was made in flight speeds, distances and technology. This part of the century saw the steady improvement of flight avionics, and a few minor milestones in flight progress, example, in 1979, the Gossamer Albatross become the first human powered aircraft to cross the English Channel, the realization of centuries of dreams achievement of human flight.

The United State Centennial of Flight Commission was established in 1999 to encourage the broadest national and international participation in the celebration of 100 years of powered flight. It publicized and encouraged a number of programs, projects and events intended to educate people about the history of aviation. Major disruptions to air travel in the 21st century included the closing of United State airspace due to the September 11 attacks, and the closing of most of European airspace after the 2010.

4. Executive summary, United Stated centennial of flight commission
1.02. Indian Airlines

Aviation Industry in India started in 1912 when the first flight took off from Karachi to Delhi. Indian State Air Services initiated it in partnership with Imperial Airways UK. However, the real initiation for Aviation Industry in India began in 1932 when Mr. JRD Tata started Tata Airline. In 1946, Tata Airlines was renamed as Air India. After Independence, nine air transport companies transporting both cargo and passenger traffic began their services in India. In 1953, the Indian government nationalized all the existing airline assets. Indian Airline was set up to cater to the domestic market, while Air India was set up to take care of the International sector. Both Indian Airline and Air India enjoyed monopoly over the Indian skies. Service was poor, flights often delayed and frequently travellers had to face enumerable hardships. However, the scenario changed in post liberalization. In post liberalization, the Aviation industry has witnessed unprecedented growth in both domestic and foreign passenger sector. The monopoly of Indian Airlines and Air India over the Indian skies came to an end. The substantial growth in the Aviation industry post liberalization was due to the entry of private players, increased competition ensured better service to the customers.

The entry of low cost carriers like Deccan, Spice jet, Go Air changed the landscape of the aviation industry. The number of first time fliers in both urban and rural India increased dramatically. The first move towards liberalization was initiated in 1986 when private airlines were permitted to start charter and non-scheduled services to all authorized airports under the Air Taxi Scheme. They were permitted to make their own decisions with regard to fares and schedules. A major step towards liberalization was in 1990 when India initiated an open sky policy for cargo that gave permission for foreign airlines to adopt cargo flights without
restrictions and to charge rate uncontrolled by the Director General of Civil Aviation (DGCA). In 1994, Air Corporation Act was passed to streamline the private service providers were enabled now to operate both scheduled and non-scheduled services in the domestic sector without any constraints on the size or type of aircraft.

However, to guarantee the passenger safety, security, proper growth of air transport services and overcome infrastructural constraints in many airports, the government offered permission for addition to capacity based on increase in air traffic forecast. In 1994-95, the government granted permission to direct import in Aviation Turbine Fuel (ATF). In 1997-98, towards the process of liberalization one-step further, foreign equity participation up to 40 per cent (100 per cent for NRI's) was allowed in the domestic airline segment. However, International service providers could not take stakes either directly or indirectly without approval from the Director General of Civil Aviation (DGCA).

i. Foreign investments in Indian Domestic Airlines

Air Transport Services (Domestic Airlines) has gone up from 40 per cent to 49 per cent. NRI's (Non Resident of Indian) and Persons of Indian Origin were allowed. Private Service providers with five years experience in domestic sector and having fleet size of twenty aircraft were given license to operate in International routes. Jet airways and Kingfisher airlines have started operations to International destinations. The aircraft rules were amended to ensure the Aviation industry to keep pace with international standards and developments. Air India and Indian Airlines merged to make themselves more efficient, Greenfield airports at Bangalore and Hyderabad were completed and Delhi and Mumbai airports, restructured.
ii. Entry of Low Cost Carriers (LCC)

The LCC growth in India was in the form of low price tags, apex fares, and bulk purchases and last day fares. However, the reason for the growth of LCC is low entry barrier, attraction of foreign shares, increased permitted foreign equity, rising income levels and demographic profile, high load efficiency. The operations to far-flung areas in low cost, low Frill business model, Staff strength kept to a minimum, Operations to neighbouring countries like Sri Lanka and successfully penetrated rising middle class and first time fliers.

iii. Airline Industry from 1986-2003: The second phase of the sector began in the year 1986. In this period, the private sector players granted permission to operate as air taxi operators. These private players who were allowed to operate as air taxi operators included Air Sahara, Jet Airways, Damania Airways, East West Airlines, Modiluft and NEPC Airways. In 1994, government of India revoked the Air Corporation Act. Consequently, in 1995, government granted scheduled carrier status to six private air taxi operators. However, only four operators Jet Airways, Air Sahara, Jagsons and Spicejet (previously operated as Modiluft) started operations by 1997 and continued to operate. Eventually, by 1998, at least six private airlines, East-West, Modi-Luft, NEPC, Damania, Gujarat Airways and Span Air were closed and according to an estimate, the capital losses implicated after these closures were to the tune of Rs 10 billion.

iv. Airline Industry from 2003 – 2006: In 2003, only two private carriers survived to see the sunrise of the new century, i.e. Jet and Sahara. However, Air Deccan challenged the duopoly of Jet and Sahara as private carrier in 2003. Air Deccan gave India its first Low Cost Carrier (LCC) or no frills Airline that was a turning point in the history of Indian Aviation Sector. It marked a shift from the stereotypic
economy fares and business fares to the era of check fares, web fares, APEX fares, special discounts, corporate plans, last day fares, promotional fares and the like. With the arrival of Deccan, reformation and innovation began in the aviation sector. Air traffic since then had tremendous growth rates. On witnessing the success of LCC Model, other airlines also started to operate in the sector and opted for No-Frill Model. These airlines included, Kingfisher, Indigo, Paramount and Go Air, which began operations in India. Some new carriers such as Star Airlines, Skylark, Magic Air, Air one and some others also were licensed to operate in the sector.

v. Aviation from 2006 onwards: Another milestone in the history of the Indian Aviation sector came into being in the year 2007. This was the year of mergers and collaborations in the Indian skies. In the year 2006, the merger of Jet-Sahara Indian Airways and Air India has announced but it materialized only in 2007. After this, the Indian aviation sector was witnessed a series of Merger and Acquisition of airlines namely Indian Air ways-Air India, the Jet-Sahara deal, and the Kingfisher-Deccan deal.

1.03. Growth of the Indian Aviation Industry

i. Moderately competitive landscape: The competition in the domestic airlines industry was low with 2 players dominating the industry: Jet Airways and Indian airlines group (which comprised of Air India, Alliance Air and Indian Airlines) together enjoyed 88 per cent market share. Sahara airlines also operated at this time and had a smaller share of the overall domestic market. The players did not undercut each other on ticket prices to grab market share and concentrated on profitability.

ii. Competition intensifies: Low-fare carriers (LFCs) forayed into the industry, beginning with the launch of Air Deccan in 2003-04. Subsequently, three more - Spice Jet, Go Air and Indigo - began operations between 2005-06 and 2006-07. Two
full-service carriers (FSCs) - Kingfisher and Paramount - also entered the market in 2005-06. Thus, the number of carriers in the domestic airlines industry trebled from 3 in 2002-03 to 9 in 2006-07. LFCs offered tickets at much lower prices as compared to FSCs and hence, managed to capture 42 per cent of the domestic market share in 2006-07.

iii. Extremely competitive landscape: With competition rising rapidly, the new entrants and incumbent players rapidly expanded their fleet, in a bid to capture market share. The share of LFCs rose to 47 per cent in 2007-08 from 42 per cent in 2006-07. However, this expansion heavily eroded players’ profitability. Costs incurred by airlines on Airline Transport Fuel (ATF), workers, etc, rose sharply, but companies were unable to hike fares due to intense competition. This led to pressure on realizations, and profit margins of most airlines slid into the red. The industry's incurred losses amounted to Rs 49 billion in 2007-08. The capital structure of most airlines deteriorated, while some carriers faced a liquidity crunch and had to raise further debt to meet capital expenditure requirements.

iv. The consolidation phase: Steadily increasing losses eroded the net worth of airline companies, forcing financially weak companies to sell out or merge with stronger companies. This led to consolidation in the industry, wherein Jet Airways acquired Jet Lite (erstwhile Air Sahara), while Kingfisher bought Air Deccan. The government decided to merge Indian Airlines with Air India to form a new entity, National Aviation Company of India Limited (NACIL). The move was taking, due to the steadily mounting losses of Air India and Indian Airlines. Because of such consolidation, the market share of the top three players, (NACIL, Jet Airways group and Kingfisher airlines) rose to around 70 per cent at the end of 2008-09.
v. Growing of Low Fare Carriers (LFC): LFCs such as Go Air, Indigo and Spice Jet continued to gain market share by expanding their fleet. As a result, the share of the top three players (Jet Airways, Kingfisher and NACIL) dropped to around 60 per cent in 2009-10. To sustain and expand their market share, Jet Airways and Kingfisher introduced low-fare operations under the Jet Konnect and Kingfisher Red brands, respectively. Jet Airways converted two-thirds of its seating capacity to Jet Konnect by the end of the second half of 2009-10. Consequently, more airlines shifted to the LFC model from the Full Service Carriers (FSC) model.

vi. Private Low Fare carriers (PLF): Entry of LFCs, higher household income, strong economic growth, surging tourist inflow, increased air cargo movement, sustained business growth and supportive government policies were major drivers for the growth in the domestic aviation industry in 2010-11. During the year, Private Low Fare (PLFs) reached record heights due to limited fleet addition and strong demand from business and leisure travellers. Few efficient airlines with better operating cost structure and financials turned profitable. The market share of the top three players (Jet Airways+ Jetlite, Kingfisher and Indigo) in the industry was about 61 per cent in 2010-11. PLFs increased to 77 per cent in 2010-11 from 72 per cent in 2009-10.

vii. Pricing Discipline post Kingfisher Exit: The period saw a marked decrease in passenger traffic due to the ongoing economic slowdown and high airfares. Kingfisher exited domestic operations beginning in the 3rd quarter on account of its financial crisis, leading to about 13 per cent of total domestic capacity going out of market. The remaining six players namely Indigo, Air India, Jet Airways, Jet lite, Spice jet and Go air registered marginally better PLFs of 77 per cent and higher
realizations post kingfisher's exit. Indigo, Jet group (Jet airways+ Jet Lite) and Spice jet together captured close to 73 per cent of the domestic market.

viii. Deals and Discounts: This period saw discounting on ticket prices during the peak seasons too. Overall, both the international and domestic realizations declined during this year. In addition, Abu Dhabi based Etihad Airways bought 24 per cent minority stake in Jet Airways for Rs 20.6 billion during the year. As a part of the deal, Jet also sold three of its flying slots at London's Heathrow Airport for a sum of USD 70 million to Etihad. The entry of Air Asia India, a three-way venture between the Malaysia-based low-cost airline, the Tata Group and investment firm Tele Star Trade place, in June 2014 is expected to further increase pricing competition among existing LFCs. Another joint venture between Tata Group and Singapore Airlines awaits operating permit, which will further intensify the competition in the industry.

ix. Future Trends: The Centre for Asia Pacific Aviation (CAPA) has predicted that domestic traffic will increase by 25 to 30 per cent, until 2010 and International traffic growth by 15 per cent by 2010. By 2020, 400 million Indian passengers are likely to be flying and Indian airports would be dealing with more than 100 million passengers. The Aviation industry has in the direction of guarded against foreign carriers especially from the Middle East. The global meltdown and decrease in air travel due to terrorist activity have eroded the profitability of the aircraft operators in India.
Picture – 1
Indian Airports and Routes

Source: www.mapsofindia.com
1.04. Chennai Airport

The Chennai Airport earlier known as Madras International Airport and Madras airport is one of the busiest airports in India. The first flight was operated from Bombay (Mumbai) via Belgaum in 1954. The airport has been built on land donated by the former governor of Madras Presidency, L. Sriramulu Naidu. Although the first aircraft “Puss Moth” started its operation at Chennai in 1932, the usage was confined only to military operations during the World War II. In 1952, the Civil Aviation department took over its operations followed by the Airport Authority India in 1972.

The first passenger terminal was built at the northeast side of the airfield, which lies in the suburb of Meenambakkam, due to which it is referred to as Meenambakkam Airport. A new terminal complex was subsequently built at Tirusulam, further south near Pallavaram to which, passenger operations were shifted. The new domestic terminal has been commissioned in 1985 and the international terminal has commissioned in 1989. The old terminal building is used as a cargo terminal and is the base for the Indian courier company Blue Dart. The new international departure terminal has been commissioned in 2003. In 2001, Chennai Airport became the first international airport in the country to receive ISO 9001-2000 certification.

i. Structure of the Chennai Airport

It is the primary Airport serving the southern Indian metropolis of Chennai. It is the third busiest airport in India in terms of passenger traffic. The International Air Transport Association (IATA) code MAA for the airport, derived from the

5. Airport authority of India, retrieved 30 Dec 2012
6. Airport authority of India, retrieved 13 Jan 2012
former name of Chennai (Madras). The domestic and the international terminals has been named after the former chief ministers of Tamil Nadu, K. Kamaraj and C. N. Annadurai respectively. It is the first airport in India to have international and domestic terminals adjacent to each other.

Picture – 2
Front view of Chennai Domestic Airport
(K. Kamaraj Airport)

Chennai International Airport consists of three terminals, the old terminal at Meenambakkam is used for cargo, while the new passenger terminal complex at Tirusulam is used for passenger operations. The passenger terminal complex consists of the domestic and international terminals interconnected by a link building, which houses administrative offices and a restaurant\(^7\). Although the complex is one continuous structure, it was built incrementally, with the Kamaraj and Anna terminals added in 1988 to the pre-existing Meenambakkam terminal.

\(^7\) www.wikipedia/history of Chennai airport
The Chennai airport is the regional headquarter of the Airport authority of the southern region of India comprising the states of Tamil Nadu, Andhra Pradesh, Karnataka, Kerala and union territories of Puducherry and Lakshadweep. As of 2012, the airport handles 13.5 million passengers annually and 325 aircraft movements a day. The airport is expected to reach saturation by 2016–17, necessitating the construction of a second international airport.8

Chennai airport is the centre of the southern Flight Information Region (FIR), one of the four FIRs. The Indian air space is divided into The Regional Executive Director (RED) is responsible for the air traffic services over the Chennai FIR and airport management on ground at the airports in South India. The Chennai FIR includes terrestrial air space above the four southern states and two southern union territories and the oceanic air space of the southern part of the Bay of Bengal and the eastern part of the Arabian Sea. Coordination with the neighbouring national FIRs of Kolkata and Mumbai with the neighbouring international FIRs of SirLanka, Kolalampur and Yangon for air traffic control has purposes made with telecommunication links (both voice and data). Immigration services at the airport and the Foreigners Regional Registration Office (FRRO), which is the office of the field officers in charge of immigration and registration activities,9 are adjacent.

The international and the domestic terminals cover an area of 1.5 km² and 1.8 km², respectively. The airport has been divided into two circles, with five zones each, for administrative conveniences. Around 550 acres of the airport premises fall within the St. Thomas Mount and Pallavaram Cantonment Board's limits. The rest of the area comes under the Meenambakkam town panchayat's jurisdiction. The Kamaraj (domestic) terminal occupies on an area of 19,250 m² (207,200 sq ft) with

9. AAI report of various retrieved
48 check-in counters and handles 4.74 million passengers a year. The Anna (International) terminal spreads an area of 42,870 m² (461,400 sq ft) with 45 check-in counters, 38 immigration counters, including 16 as the departure terminal and 22 as the arrival terminal, and 18 as customs counter, including 2 at the departure terminal and 16 at the arrival terminal.

There are four entry gates at the airport, two each at both the terminals. There are 5 x-ray baggage facilities at the domestic terminal, including 3 provided by the AAI and one each by Air India and Jet Airways. X-ray baggage facilities at international terminal includes 2 provided by the Airport Authority of India (AAI). The total area of retail space at the existing domestic and international terminals is 3,250 sq m, comprising 60 concessions including duty-free, retail shops, restaurants, snack bars and executive lounges. The Anna international terminal has 6 boarding gates on the first floor. The Kamaraj domestic terminal has nine boarding gates, six on the ground floor and three on the first floor.

**Picture – 3**

**Entry Terminal in Chennai Airport**

Source: www.aero.org/image/
The airport currently has 70 parking areas, one of which can accommodate the superjumbo Airbus A380, the parking areas at the domestic terminal include one in-contact area for Airbus A300 sized aircraft, nine in-contact areas for Airbus A320/Boeing 737 sized aircraft, and 49 remote areas for Airbus A320/737-sized aircraft. Parking areas at the international terminal include seven in-contact areas for Boeing 747 sized aircraft, 13 remote areas for 747-sized aircraft, one remote bay for an A380 aircraft, and three cargo areas for 747-sized aircraft. Works on the 24 new night parking areas get completed in the apron area. With the new parking bays, the Chennai airport would have 81 parking bays. Chennai airport is the first airport in India to have aerobridges at the domestic terminal.

ii. Cargo Complex

The Air Cargo Complex at the Chennai Airport was established in 1st February 1978, when all regulatory and facilitating agencies were brought under one roof for faster processing clearance of international cargo, to cater for air cargo movement in the southern region. Chennai is the home to India’s biggest Air Traffic Control (ATC) centre. The ATC tower is located at the Air Traffic Services Complex (ATSC). There are two radars in Chennai—the mono-pulse secondary surveillance radar at Porur and the Chennai Westing House (terminal) radar. An ATC tower\(^\text{10}\) monitors the Advance surface movement guidance and control system.

iii. Runways

Chennai airport has two runways—the 3,658 m (12,001 ft) long primary runway No. 07/25 (east-northeast–west-southwest orientation) and the 2,925 m (9,596 ft) long secondary runway No. 12/30. Approach lights include CAT-1 category at runway 07 and CAT-1 type at runway 25 for 510 m. PAPI-type landing

\(^{10}\) www.aero.com/chennai_airport/cargo
aids are available in all the runways. The second runway remains closed from 2009. The second airport near Sriperumbudur is under consideration, the project for a parallel runway has put on hold and the total land required for the airport expansion has been reduced from 1069.99 acres to 800 acres. The AAI has made it clear that without the removal of obstructions like houses, water tanks and trees, it cannot open the full-portion of the secondary runway. In addition, with metro rail works also expected to begin at the airport stretch, the full use of the secondary runway is not possible. It is requires 2,400 m for operation even after all the obstructions are removed and proper security arrangements made for the bridge over the river. About 2,085 m of the runway is used in landing only smaller aircraft.

**Picture - 4**

**Chennai Airport Runway**

In February 2012, airport authorities announced that only about 2,160 m of the secondary runway would be operationalized, as there will be 330 m permanent displacement at GST roadside and 780 m displacement at the other end. This restricted length would be enough to operate Airbus A320 and Boeing 737 aircraft.
without load penalty. Unwise planning by the airport authorities has resulted in the removal of the Very-high-frequency Omni Range equipment (VOR) from its original location where a link way is there between the main and the secondary runways that delays further development. As of 2012, Chennai airport has less than 50 percent of the total sanctioned immigration, customs and security officers, against the need of 300 immigration officers. However, it suffers from an acute staff shortage and managers only with 70 immigration staff.

1.05. Domestic Airline Service

An Indian airline enjoys the monopoly in domestic service in India. After the liberalization of Indian Economy in 1990s, many foreign airlines have started their operations in India. In 1993, launch of Jet Airways and Air Sahara is the significant event in the history of Indian. After that Aviation Sector experienced phenomenal growth and many other airlines started their operations, but years later, due to the highly competitive aviation sector, many of those airlines either merged with the another or closed their operations and exited from its business. However, Indian domestic market remains a playground of at least nine major airlines, which includes Jet Airways, Kingfisher Airlines, Indi Go, Spice Jet, Go Air, Air Costa and Air Asia and Air India Limited.

1.06. Types of Domestic Airline

Domestic Airlines can be divided into two categories based on service

A. Passenger Services
   a). Full service Carrier
   b). Low cost Carrier

B. Cargo services
A. Passenger Services: The passenger airlines are divided into two categories on the bases of its operations strategy and in-flight facilities, as Full Service Carriers and Low-Cost Carriers.

a). Full Service Carriers:

It means traditional airlines, which operate for decades worldwide. They have 2-3 categories of seating configuration like First Class, Business Class and Economy Class. They provide on-board meals, tea, water etc. They do not charge fees for amenities such as baggage, carry-on luggage, booking charges etc. The carrier ticket prices are generally high. There are three major full service-carriers offering services in India. They are Air India Limited, Jet Airways and Kingfisher Airlines.

Air India Limited: The oldest airlines in India have encountered many difficulties in its 80 years old legacy. Started by legendary J.R.D.Tata as Tata Airlines, this airline became the national carrier of India. Present days Air India Limited is the combination of four entities - Air India, Indian Airlines, Air India Express and Air India Regional. Air India primarily serves the international routes, while Indian Airlines mainly focus on domestic sector along with some operations in Middle East as well as in South East Asia. Air India Express is a low-cost airline and primarily operates from the state of Tamil Nadu and Kerala to Middle East and South East Asia. Air India regional is a network of small planes. Earlier, all these airlines existed either independently or in the form of subsidiaries, but now they have all merged in to a single entity known as Air India Limited. This airline mainly serves nearly 65 domestic destinations within India

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**Jet Airways:** After the liberalization of Indian Economy in 1993, two new airlines, Jet Airways and Air Sahara entered in the domestic market. 15 years later, in 2008, Air Sahara has acquired by Jet Airways and renamed as JetLite. Now Jet Airways and JetLite together share 23.8 % of the domestic market in India and this airline remained as the market leader in Indian Domestic Sector for many years until recently toppled by Indigo to number 2 spot. From the beginning of its operations, this airline earlier remained as the hot choice of customers due to its excellent on-time performances and in-flight services. It is a full-service carrier and also offers low-cost services under the name of Jet Konnect. This airline serves approximately 52 destinations within India.\(^\text{12}\)

**Kingfisher Airlines:** Mr. Vijay Mallya (The liquor barren) has presented this airline to his son on his 18th birthday as a birthday gift in 2005, it was deemed that the passengers would fly in the sky with a style. For next six years, it indeed treated its customers in style. Even the airlines served on-board meals on its low-cost wing Kingfisher Red, against the trend. Then, the dream collapsed somewhere in the sky and today, the aviation regulator has cancelled the flying license of the Kingfisher Airlines. From the beginning of its operations, this airline never came under profit. But the bad day started from 2007, when two years old Kingfisher Airlines acquired four years old Air Deccan, so that it could fulfil the criteria of five years of domestic operations to start on international routes. It renamed Air Deccan as Kingfisher Red and promoted it as low cost airlines. Soon, this low-cost airline deviated from the path of low-cost and started offering in-flight luxuries to its passengers in the form of on-board meal and in-flight entertainment. Kingfisher was the first Indian airline to have in-flight entertainment systems on every seat even on domestic flights.

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These factors increased operating cost of airline and then the bubble bursted. Once the Indian answer of Richard Branson’s Virgin Atlantic is now struggling for its survival.\textsuperscript{13}

b). Low-Cost Carriers:

These airlines only offer a flight from one point to another point. They do not offer any in-flight services even bottle of water. They charge extra for check-in baggage and other related services. However, this model of airlines operations is growing stronger day by day and low-cost carriers are now the major shareholder of the domestic market. There are three major low cost carriers offering services in India. They are Indi Go, Spice Jet and Go Air.

**Indi Go:** It is operating from 2006, and the last competitor of the Indian market is now the market leader. This airline known as the best in on-time performance in the market and it performs consistently to reach the number one position in the domestic market profit-making airlines in India. Indi Go has strong adherence to the low cost model, buying only one type of aircraft to keep lower maintenance and training. The costs and keeping operational costs as low as possible along with heavy emphasis on punctuality are some of the reasons for its success even when the airline industry in India is currently going through a bad patch. After completing five years of domestic operations, Airline currently operates to 33 destinations in India and abroad with its main hub at Delhi International Airport\textsuperscript{14}.

**Spice Jet:** This airline started and its operation in May 2005 operates on nearly 40 domestic routes and international destinations including Dubai, Kathmandu and Colombo. Recently, it acquired new Bombardier Q-400 to serves the smaller routes to tier-2 and tier-3 cities. It’s headquarter is at Chennai with its major hub at Delhi

\textsuperscript{13} http://iloveindia.com/airlines_in_india/domestic/kingfisher
\textsuperscript{14} http://iloveindia.com/airlines_in_india/domestic/indigo
and Hyderabad airport. Kalanidhimaran owns majority of stake in the airline. The price policy of Spice Jet is usually very dynamic, with discounts and tickets in promotion. As many as ten percent of the seats on any flight are offered at the lowest price, and are the first to sell. The prices steadily rise thereafter to a point where they can be comparable or more expensive than a flight on a full-service carrier like Air India. No in-flight entertainment systems are available\(^{15}\).

**Go Air:** Mumbai-based Wadia group promotes it, this is the smallest airline in terms of airline market. Its main hub is at Mumbai International airport and it serves to 22 cities with 92 daily flights. It is the only passenger airline in India, which does not operate on international route. It is being the no-frills airlines, Go Air does not offer a complimentary meal service to its passengers. However, they are free to buy available on-board meals, cookies, soft drinks, mineral water, beverages and other duty free products are available in board\(^{16}\).

**B. Cargo Services**

The **Blue Dart** is India’s largest domestic cargo airlines and now a part of DHL Express. It is based in Chennai and operates as scheduled night express cargo flights to seven domestic destinations. It also has an in-house maintenance capability and provides aircraft maintenance and engineering support to other airlines. A special mention here about the Blue Dart, as the India’s largest domestic cargo airlines is to our credit. With the presence of so many airlines in the domestic market, competition increases and pressure also increases to reduce the airfare to attract more customers. With the induction of low-cost airlines, air tickets have became cheaper and flights more affordable to a common man of India. This created a new travel culture in India beyond the typical Local Transport Corporation (LTC).

\(^{15}\) http://iloveindia.com/airlines_in_india/domestic/Spice Jet
\(^{16}\) http://iloveindia.com/airlines_in_india/domestic/Goair
- holiday or Char Dham Yatra. With the boom in aviation sector, another boom came in the travel industry.\(^{17}\)

**1.07. Operational Definitions**

i). **Airline:** The term "airline" is the passenger and/or his baggage or to perform any other services related to such air carriage. The term "airline" is also used for carrier.

ii). **Aircraft:** A transport vehicle gets certified as airworthy by a competent aeronautical authority. As used herein, the definition may include surface vehicles, in which the bookings and traffic handling are dealt with in a similar manner as in rail or ferry.

iii). **Airport and Terminal:** refers to the building used for arrival and departure handling of aircraft, multiple terminal airports, and the terminal identification used for a flight. An individual airline will operate flights into/out of specific terminals in a multiple terminal airport.

iv). **Passenger:** Any person, except members of the crew is carried or to be carried in an aircraft with the consent of carrier. A record of each passenger’s travel requirements which contains all information necessary to enable reservations to be processed and controlled by the booking and participating airlines; is a must.

v). **Ticket:** The document entitled “Passenger Ticket and Baggage Check” is issued by or on behalf of the carrier and includes Notice of Contract Terms Incorporated by Reference and notices and the flight and passenger coupons contained therein. The document may be paper or electronic.

vi). **Fare:** The amount charged by carrier for the carriage of a passenger and allowable free baggage is the current fare. It has a member, in the publication and it

\(^{17}\) http://iloveindia.com/airlines_in_india/domestic/blue_dart
normally uses to publish fares, holds out to the public, or the appropriate segment of the public, as being applicable to the class of service to be furnished.

vii). Reservation: The term reservation means the allotment in advance of seating or sleeping accommodation for a passenger or of space or weight capacity for baggage, cargo or mail. This term is used to hotel, car and other types of travel services too.

viii). Cancellation: The service charge made, by reason of failure, of a passenger to use reserved accommodation without having cancelled such accommodation, prior to the latest appropriate time for cancellation specified by the carrier.

ix). Class: Section of seats on any particular flight and a specific grade code implies carriage in a particular compartment of an aircraft, with a corresponding standard of in-flight service.

x). Scheduled Air Service: The planned operation of an airline flights called as scheduled air services. A service offered by an airline, displayed in an official airline guide, has a two-character or three-letter airline designator, and operates between points having three-letter city/airport codes.

xi). Schedule Change: Any modification to the operation of a flight, which may require passenger notification. This may be a change in arrival or departure times, flight number or class of service, frequency of operation or airports served, etc. A change in arrival or departure time, because of a city’s conversion to or from daylight time also constitutes a schedule change. There is no change when only factor is conversion to or from daylight time, with departure and arrival times remaining the same in terms of local time.
xii). **Charge**: An amount to be paid for carriage of excess baggage based on the applicable rate for such carriage, or an amount to be paid for a special or incidental service in connection with the carriage of a passenger or baggage.

xiii). **Alliance**: It means three or more airlines participating in a commercial relationship or joint venture. Where i) a joint and commonly identifiable product was marketed under a single commercial name or brand ii) this commercial name or brand was promoted to the public through the airlines participating in the alliance and its agents and iii) the commercial name or brand was used to identify the alliance services at airports and other service delivery points.

xiv). **Agent**: Any person who interacts with the system to facilitate airline operational activities. Depending on business process area, agents may interact directly with customers (reservations, ticket counter and gate agents) or may operate in a back-office environment (load planning, schedules and inventory). Use of a computer system and this generic term includes both retail travel agents and the staff of airlines' own reservations, ticket, airport personnel or their handler.

xv). **Boarding Pass**: All documents issued to a passenger to enable access to an aircraft and these may be issued at airports by Airports Council International (ACI) or Departure Control Systems (DCS), in advance by travel agencies or airlines, or by other means such as kiosks, internet or mobile devices. Industry standards control the content and format of a boarding pass.

xvi). **Check-in**: The check-in process involves those activities necessary to evaluate passengers and make them ready to board flights. It also includes management of flight activities immediately before and after a flight has been dispatched from a gate and other tasks associated with the passengers in transit. Check-in activities
can be performing at airports or at a remote location by humans or by machines (self-service devices such as kiosks).

xvii). International Civil Aviation Organization: The ICAO airline designator is a code assigned by the International Civil Aviation Organization (ICAO) to aircraft operating agencies, aeronautical authorities and services. The codes are unique of airline. Each aircraft operating agency, aeronautical authority and services related to international aviation has allocated both a three-alpha designator and a telephony designator.

xviii). International Air Transport Association: IATA airline designators are two or three character codes assigned by the International Air Transport Association (IATA). Designator are used to identify an airline for all commercial purposes, including reservations, timetables, tickets, tariffs, air waybills and in airline interline telecommunications. In the case of two-character designators, they may consist of two alpha characters, one alpha with one numeric, or one numeric with one alpha. In the case of Computer Reservation System (CRS) Suppliers, may only consist of one numeric (number “1” only) and one alpha. In the case of three-character designators, they must always contain three alpha characters.

1.08. REVIEW OF LITERATURE

The researcher has reviewed the articles in journals, magazines (national and international), newspapers, reports from Directorate General of Civil Aviation (DGCA), Ministry of Civil Aviation, International Air Transport Association (IATA), International Civil Aviation Organisation (ICAO), Airport Authority of India (AAI) and Various Air Traffic Annual reports, Aviation related newsletters, doctoral thesis and books. The researcher has reviewed more than 125 articles
including websites and books. Although certain reviews belong to 2000 to 2014, the study has been made on the chosen field of study.

01. Abhijit Gosav & Etal. (2001) have considered an important problem faced by the airline industry, namely that of revenue management. The revenue management being essential aspect of airlines business, the ticket pricing, seat or discount allocation, and overbooking are some of the important aspects of a revenue management problem. However, ticket pricing usually greatly predisposed by factors beyond the control of an airline company; significant amount of control can be exercised over the seat allocation and the overbooking aspects, etc.18

The researcher has studied the factors of revenue in domestic airline with low cost fare and problems of low cost like, offers, discount of ticket price etc., to fill up the existing research gap.

02. Torsten Fahle & Etal. (2002) have studied the Airline crew assignment problem and it is the large-scale problem and additionally focus constrained shortest passageway problem, and solved by energetic training. On the other hand, airline complex regulations arising frequently cannot be expressed entirely in this framework, limit the use of pure column generation, and make the sub-problem as a constraint satisfaction problem, thus gaining high expressiveness. Each airline regulation has encoded by one or several constraints.19

The researcher has studied the Crew Assignment for domestic airline in India for the research link.


03. Vibhukalyan (2002) has studied in manufacturing decision support. It represents a very productive area of application of airline yield management with enormous potentials, particularly with the advent of e-commerce where such tools will become increasingly important. Retail industry is another area that will profit from revenue management as a flurry of recent activity shows and demonstrates close links between yield management and these areas. By way of several areas within manufacturing and one in retail indentified where this technology can be applied. The success of yield management for the airlines and the fact that it is a well nature discipline in the airline, the manufacturing area can collect additional benefits at lower technological development costs and reduced business, but we believe that early implementers will gain substantial advantage over late entrants.

The researcher has studied the passenger services related various income factors like, sale of tickets and other income source for the research continuity.

04. Fariba Alamdari (2002) has studied the operating cost distribution of the third largest airline operating cost and associated with commissions to travel agents, ticketing, credit card fees, Computer Reservation System (CRS) fees, and promotion and they are questioning the role of travel agents in the distribution chain and commission fee structures. The services providing up-to-the minute of reports on the travel patterns of employees. The effectiveness of travel policies, advice on complicated situations in the journey, etc.

The researcher has studied the barriers, between the agent and airlines besides the commission paid by the company and earned by the agents, analysed for


filling up the research gap.

05. **David Gilberta & Robin K.C. Wongb (2003)** have measured and compared the differences in passengers’ expectations of the desired airline service quality in terms of the dimensions of reliability, assurance, facilities, employees, flight patterns, customization and responsiveness. Understanding the relationship between airline service quality and profitability is important. The study has found that there are significant differences in service expectations among passengers of different ethnic groups/nationalities as well as different purposes of travel. However, there was no significant difference in service expectations between decision-makers and non-decision-makers in choosing airlines.  

The researcher has studied the passenger services like, route of airline, frequency of flights, in-flight services, and responsibility of airline employees for filling up the research gap.

06. **Christopher Findlay and Andrea Goldstein (2004)** have focused on how the Foreign direct investment would provide the managerial and technical skills needed to improve productivity. Paradoxically, however, this industry combines extensive cross-border activities with almost insurmountable obstacles to foreign investment. Airline alliances and marketing arrangements have emerged as an imperfect substitute to consolidation through (cross-border) mergers and acquisition. This sketches the main features of international air transport, focusing in particular on the bilateral and multilateral regimes, and presents the main characteristics of the developing Asia market.

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The article has founded only on Foreign Direct Investments (FDI) and Policy liberalizations. There are two variables purely based on government policy. Hence, the researcher does not dwell on these factors.

**07. Bhagyalakshmi Venkatesh & R. Nargundkar (2006)** have examined the service quality in air transport four major airlines in India on the environment of inflexible competition in the airline service sector. The procedure of traveling in domestic airline is divided into three stages as pre-flight, in-flight and post-flight. A survey was conducted to find out the professed service quality of everyday leaflet on each of the four airlines across a series of service performance variables. In addition, the airline brands in a perceptual gap, where the professed service quality also is recorded. The obvious diversity comes out among the airlines, with two of them professed as being comparable to each other, and the other two differing in many respects.24

The researcher has studied in the airline service like, cheek-in and cheek-out, pre-boarding services internet/email/fax/phone services available being maters of relevance filling up the research gap.

**08. AMADEUS (2007)** has studied about reduction in commission paid by airlines, which has prompted travel agencies to streamline their business and adapt new business models in order to guarantee their long-term profitability. This was accomplished by shifting their commission-revenue model to a service-fee revenue model. Indeed service fees are not only a way to compensate for the loss of airline commissions but also a way to generate new revenue sources for travel agencies. As a result, many of them are expanding their service-fee models both in terms of the

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amounts charged and in terms of the number of services for which they charge fees.\textsuperscript{25}

The researcher has studied the method for generating revenue for travels agent’s from service fees, commission and other incomes like, tours, cars, cruises, etc for additional informations.

\textbf{09. David Hodgkinson Alex Coram Renee Garner (2007)} have studied the possible strategies for airlines on aircraft emissions and climate change, including emissions trading. They have furnished valuable details on the nature of the problem airlines face in this regard, and conclude that airlines should seriously consider supporting mandatory participation in an emissions offset market as part of a long-term strategy package (including technological, operational and management elements) and as a sustainable solution to deal with the climate impacts of aviation. This solution does not preclude other, complementary measures and has a number of advantages such as flexibility.\textsuperscript{26}

The researcher has studied the business ups and downs especially flights cancellation by climate changes.

\textbf{10. Benny Mantina and Eran Rubinb (2007)} have analysed the effect at the route level and find significant price differences between routes for which airfare prediction information is available, and routes without airfare prediction information. They find the availability of information about future fare distributions is associated with lower transacted airfares. This effect was consistent across the different fare percentiles and amounted to transactions with prices approximately


lower. Further, they realised that the magnitude of the effect is most profound shortly after route fare prediction and information introduced; the negative effect on transacted airfares persists in the end. The results lend support to the notion that price prediction decision, tools make a statistically significant economic impact. Presumably, consumers are able to exploit the information available online and behave more strategically.  

The researcher realises the air route and price of domestic airline affect the customer behaviour to fill up the research gap.

11. Peterforsyth (2008) has studied the impacts of climate change policies, such as carbon taxes or requirements to purchase emissions permits, airline competition, prices and profitability and found impacts differ according to market structure-whether airline, city pair markets are competitive, monopolistic or oligopolistic. They also depend on the time scale- airlines are unlikely to be able to pass on the fill cost of their permits to their passengers in the short run, though in the end, it is likely that airlines will exit from some city pairs, and this will enable to remaining airlines to raise their fares and restore their profitability. This may not occur in markets constrained by airport slots or capacity limits imposed in air services agreements on international routes, though the airlines’ problems are not likely to be as severe as has been suggested.


The researcher has studied the variables that the information furtherance affects the airline market like, fuel cost, ticket price, crew pair for fill the research gap.

12. Germa Bel & Xavier Fageda (2009) have focused on the factors determining airport charges in Europe, they feel the number of passengers as the deciding factors. Additionally, competitions from other transport modes and nearby airports impose some discipline on the pricing behavior of airports. Low-cost carriers and airlines with a high market share seem to have a stronger countervailing power. Moreover, the private airport does not regulate the charges. They charge higher than public airports in Europe. Finally, the regulation mechanism does not seem to influence substantially the level of airport charges.\(^\text{29}\) To furnish additional information the researcher has studied the airport charges and prices too.

13. Millay’s & Tokhi’s (2009) study on today’s competitive field, suggest that organizations must use all possible means to maximize growth and profitability by focusing on strategic marketing. Classic Airlines has an opportunity to alter the landscape of the airlines industry. In order to succeed, Classic Airlines must be able to correctly forecast market potential and future demand, by establishing long-term marketing objectives.\(^\text{30}\)

The researcher has studied the strategic market potential and future like, low cost fare of domestic airline industry in India towards the enrichment of the same.

14. Shady G. Abdelaziz & Etl. (2010) have concentrated on Common Use self-service technology (CUSS) and compared with a corresponding system in the


function, called Common User Terminal Equipment (CUTE). This comparison shows the difference between them and proves that self-service technology helps to raise the efficiency and performance of airports and airlines. In addition, this technology helps to reduce costs in terms of staff and the provision of time and effort, etc., as well as the study shows the feasibility of replacing the CUTE system with the CUSS system, not in the near future, where CUSS is already in use in some international airports.  

The researcher’s focus on the effectiveness of self-service technology in airport besides, Schedule of Flights (Departure), Processing Times, and Queuing Time for additional information.

15. White Paper reviews (2011) has studied to understand the ethnic travel agencies, analyze ethnic travel agencies’ business models, processes, cost of drivers and productivity levels identify opportunities to add value and optimize the business. The review papers communicate the results of the research, and offer recommendation as how ethnic travel agencies can improve their margins and better meet the needs of their customers. Average agency revenue structure shows the revenue mix for both types of agencies; the cost structure studied from both a traditional costing and an activity based costing viewpoint where traditional accounts (personnel, marketing, etc.) are broken down and allocated to an agency’s core activities Profitability and productivity analysis.


The researcher has studied the travel agencies behavior, agency returns like, forms, and cost structure in domestic services for the enrichment of informations.

16. **Stratham Court & Etl. (2011)** has studied the advocated as vital for the future management and governance of the sustainable tourism destinations, yet extensive empirical research of specific stakeholders is lacking. This addresses knowledge gap by examining corporate compassion practices among low-fares airlines. An analytical framework is developed and applied. Corporate compassion practiced more widely than may have been anticipated by the frills-adverse, supports low-fares business model.  

The researcher has studied the problems of domestic airline market like, fuel cost, ticket price for better knowledge.

17. **Colin Cafferty’s (2011)** study on the Air travel has significant impacts on global climate with few options for reducing those impacts at present. Carbon offsetting is a service offered by certain airlines in order to allow passengers to compensate for the carbon emissions generated during their flight thereby cancelling out negative impacts on climate. An increasing number of consumers are now booking their flights directly on-line rather than for example, through a tour operator. This has created an opportunity for passengers to take greater responsibility for their carbon footprint.

Additional study on the environmental factors namely carbon emission like, airline services for self better equipment.

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34 Colin Cafferty “Is the sky the limit for carbon offsetting? Corporate responsibility, consumer sovereignty and commitment in the airline industry,” Dissertation for School of Oriental and African Studies, University of London, September 2011
18. Siddhartha & Tomar’s (2011) was the study of advanced analytics for leveraged airlines to address these challenges by improving their customer centricity. It looks at customer behaviour in the airlines industry from three aspects. They start with the hypothesis that any numeric heterogeneity of customer behaviour. This can be achieved using a multi-dimensional customer index, what we call the Customer Composite Vector (CCV). Numeric customer index (single aggregated score or multi-dimensional vector) is not only a way of understanding customer behaviour, but it also has the potential to be used by airlines as a lever to shape and drive customer behaviour in a manner that increases customer yield and profitability.\(^3\)

Study on the customers’ satisfaction regards passengers handling, response to request for self-comprehensive understanding.

19. Dolnicar.S & Et al’s (2011) is a study on the drivers of airline loyalty, it contributes to the body of knowledge in the area by investigating loyalty for a number of a priori market segments identified by airline management and by using the method, which accounts for the multi-step nature of the airline choice process. It indicates that, at aggregate level, frequent flyer membership, price, the status of being a national carrier and the reputation of the airline as perceived by friends as the variables, which best discriminates between travellers loyal to the airline and those who are not. The author’s focus in this study’s of loyalty of different airlines and market segments is concise.\(^4\)

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35 Siddhartha & Tomar “Leveraging Advanced Analytics to Drive Customer Behaviours in the Airline Industry,” cognizant 20-20 insights, September 2011(PP1-14)
The researcher studied the customers’ confidence factors like, availability of fights, connectivity, timing; complaint handling etc. in domestic airlines is for the research advantage.

20. R. Archana & Dr. M.V. Subha (2012) have studied the underlying forces of service quality influences on passenger’s satisfaction in aircraft transport with dimensions having a positive influence on service quality with the most and least important impact on service quality in international air travel, as perceived by airline passengers. This study is based on the analysis of three classes, economy, business and premium. The results indicate that there are different factors of in-flight service quality that are important according to the customer seating preference. The dimensionality of perceived service quality in international air travel has explored and three dimensions identified. These dimensions include in-flight service, in-flight digital service and back-office operations.

Personal study on the airline service quality on domestic air travel like, seat comfort, safety and in-flight entertainment like, video, audio, games, journals, magazine and Online ticket booking for the research vantage.

21. Dr. Ulrike Bauernfeind & Robert Wilfing (2012) have studied to explore how passengers prefer to obtain information, which Information sources they perceive as trust worthy, which distribution channels used for bookings and the evaluation of distinct product attributes. The results show that passengers carry out extensive information searches and stress the need for integrated marketing communication. A trend towards disintermediation and re-intermediation observed. As far as specific attributes, are concerned and importance of understanding how passengers make

37 R. Archana & Dr. M.V. Subha37 “A Study on Service Quality and Passenger Satisfaction on Indian Airlines” -, International Journal of Multidisciplinary Research, Vol.2 Issue 2, February 2012, ISSN 2231 5780
decisions outlined in this paper and detailed insights on the process obtained from the survey.\textsuperscript{38}

The researcher has studied the decision of passenger like, choice of the airline with travel facility of ticket booking, boarding process and time besides the existing ones is for equipment on self-interest.

\textbf{22. Dragan Mestrovic (2012)} speculates on the market of leading airlines and the private air charter market in a very competitive business. Private air charter companies need to be in front of their audience when they want to increase their business and revenue, by talk may amount to spread the word about their brand. As long as their recent and future clients are talking about them, they have real chances to visit and to increase their business prospects.\textsuperscript{39}

The researcher has studied for the competition of private air charter in domestic airline industry in India like, customer, price, etc., to enrich the research project with relevant informations.

\textbf{23. Dr. Komal Nagar (2013)} has studied the Direct competition between full service airlines and no frill carriers for intensifying across the globe and contributes to literature by examining the consumer’s perspective of the service component of the two carriers both low cost and fill service carriers. Results of the study reveal that although there have been significant changes in the aviation industry, which is currently in confusion, yet the emergence of low fare carriers has been successful in making inroads in this sector. The findings provide evidence for the importance of service quality in both low cost and full cost airlines. Results show that passengers

\textsuperscript{38} Dr. Ulrike Bauernfeind & Robert Wilfing “Passenger Decision Making Behaviour and Implications for Airline Marketing: Case Emirates”- research thesis submitted in Department of Tourism and Hospitality Management, Modoul university at Vienna, 2012. (pp 1-70).

\textsuperscript{39} Dragan Mestrovic “How Private Air Charter companies can gain a competitive advantage and increase their revenue the smart way.” An in Blurbs White Paper, 22nd March 2012.
consider significant difference in the tangible features of full service carriers in that
they consider it an important aspect of service quality, whereas low cost carriers
have become attractive by their low fares; passengers still consider tangibles to be
an effective source of service quality perceptions.\textsuperscript{40}

Personal interest motivated study reveals further the difference in consumer’s trend to complain a service failure in the airline services.

\textbf{24. Okeudo Geraldine and Chikwendu David U (2013)} have studied the service quality rendered to the customers or passengers since the study has proved beyond reasonable doubt that there exists a positive significant relation between the quality of the service rendered in all the dimensions and the image of the airline. If the quality of the service is good, invariably a strong image of the airline gets formed. This can further also bring about a positive behavior of the passengers in terms of repeated support and even talking to other passengers of other airlines about the positive image of the airline, which we understand constitute what forms the passengers view or perception of the airline. When a good image has formed by Passenger’s behavioral intention, represented by way of repeated patronage and further marketing of the airlines brand to other passengers’ intending to travel using air.\textsuperscript{41}

The researcher has analyzed the passenger airline services like, passenger safety, seating comfortability, ravelling of airways to meet out the customer requirements besides flights comfortability for filling up the research.

\textsuperscript{40} “Perceived Service Quality with Frill and No-Frill Airlines: An Exploratory Research Among Indian Passengers” - Prestige International Journal of Management & IT- Sanchayan -Vol. 2(1), 2013, ISSN: 2277-1689 (Print), 2278 – 8441 (Online)

25. **JOHN C. DRIVER, (1999)** has discusses the marketing practice is competitively evolving as airlines, in a code-sharing environment, seek to be more effective, efficient and profitable. It complements changes to airline structures in routeing, staffing levels and technology, and by establishing strong brand presence is a means for customer attraction, retention and network expansion. Distribution channels are changing as travel agencies are affected by airlines’ direct sales and Internet-based interactive communication. Traditional segmentation tactics directed to business travellers, through frequent flyer programmes and premium services, are threatened by businesses economising, staff reductions and the increasing importance of the leisure traveller. An overview of international practice is taken and points illustrated, where appropriate, by examples of specific airlines¹.

The researcher has studied the marketing practice in different private airlines by different factors.

26. **SAIBAL K. PAL & Et al (2013)** has studied in poor performance of the airline industry for last many years, a select number of no-frills airlines have successfully stood out of the crowd due to their innovative service quality management and unique marketing strategies. These efforts have led to higher customer satisfaction and stronger brand image of the companies. A study was recently conducted to capture the customer expectations from Low Cost Carrier (LCC) companies and identify service excellence parameters as tools for marketing. Based on standard service quality and performance parameters adapted to the low-

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cost airlines in India, a set of basic as well as desirable parameters were identified that LCC companies should address to be competitive and successful. It was also apparent that the airline should be clear about what it wants to offer to its customers and should communicate and deliver what it has promised. Role of technology in improving customer satisfaction and brand image has been explored. Marketing communication strategies that are practically feasible and work best for such airlines have been identified. Case let of Indigo Airlines as a successful LCC in India has also been taken up. This paper presents facts mainly based on qualitative analysis and basic statistical computations on the collected primary data.

The researcher has studied the performance of Private Low Cost Carrier in Chennai Airport.

27. HEINRICH C. BOFINGER (JUNE 2008) has focused his study air transport market in sub-urban area in Africa. He concentrate the study has many unviable small state owned operations depending on subsidy and a monopoly in the domestic market. There are some promising signs and growth in air traffic has been buoyant. The number of routes and size of aircraft are being adapted to the market and a number of large carriers are viable and expanding. However, in spite of this overall connectivity has been declining. As oil prices rise, the role of air transportation will be looked at even more critically. Africa is a poor continent, and some countries face the potential of further isolation as the cost of flying increases. Infrastructure is not at the heart of the problems of the sector. The number of airports is stable and there are enough runways to handle traffic in the near future with better scheduling and relatively modest investment in parallel taxiways and some terminal facilities. The safety problem is more one of pilot capability and

safety administration than unsafe aircraft, though air traffic control facilities are admittedly poor. Revenues from airports and air traffic are probably high enough to finance the necessary investments, but are not currently captured by the sector\(^3\).

The researcher has studied various factors relating to domestic airlines in Chennai Airport.

28. **PETER P. BELOBABA (2006)** has clearly, assignment of a bigger aircraft results in higher loads (but lower load factors), increased revenues, and reduced spill and spill rate, as expected. With such high variation of demand relative to the mean even a 15-seat increase in capacity does not eliminate spill. The fleet assignment question for the airline is whether the increase in revenue from the increased capacity to accommodate on average 6 additional passengers per flight exceeds the additional operating cost of the 140-seat aircraft compared to the 125-seat aircraft used currently. If so, then the airline will increase its operating profit by assigning the larger aircraft to this particular flight leg\(^4\).

The researcher has studied various issues relating to domestic airlines in Chennai Airport.

29. **PARAMITA DASGUPTA & ETL. (2009)** the study will look at the issue of competition at two levels – air transport and airports. The two issues will be dealt with separately in the study. Broadly, the study will provide a market overview, discuss any significant anti-competitive practices by various players and their effects, address implications of this study for Competition Policy and Law in India, and outline issues for advocacy for India’s Competition Commission. The role of

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the Competition Commission becomes important in the current scenario in this sector in the sense, that there is need for assessing whether the changing market scenario, and the benefits of the combinations in terms of ‘efficiency mergers’ outweigh the costs or adverse effects in terms of anti competitiveness⁵.

The researcher has studied various issues in domestic airlines and Airport management. 

30. GERALD L. DILLINGHAM (2008) has studied in major ATC acquisition programs are being managed within the established cost and time estimates since the creation of its performance-based Air Traffic Organization (ATO) in 2004. These positive cost and schedule outcomes have occurred, in part, as a result of FAA’s sustained executive-level commitment and improved acquisition management practices that include establishing a capital investment team to review financial performance data and provide early warnings of potential problems as well as corrective actions. FAA plans to report annually to Congress on the original budget and schedule baselines for each rebaselined program and the reasons for the rebasing. The result of the continuing need for runway development, some of the planning for Next Gen includes reducing the environmental impact of aviation because of local community concerns about aviation emissions and noise⁶.

The researcher has studied Air Traffic Organization functions relating in domestic airlines.

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31. **David GILLEN (2009)** has suggested the international air passenger travel will look like in five, ten or fifteen years. This requires answering two ways that is it will be the principal determinants of the growth in international air travel, and impact will each of these drivers have on the growth rate. An imbedded does history have anything to teach us or are there new forces at work. Canvassing the current aviation trade press finds two schools of thought, one taking the position that this is a deep recession but a recession nonetheless and once world economies start recovering air traffic will go back to the typical growth of 4-5 percent annually. A second school is less sanguine, taking the position that it will not be business as usual when economies stop sinking and move to recovery. Any economic recovery is going to involve fundamental changes in institutions, rethinking policies regarding government participation in economies and changes in economic leadership in the world. There is also the hydra of protectionism, most prominent now in the US but certainly being practiced elsewhere, and what will happen to foreign ownership restrictions that, prior to 2009, were being seen as hurting rather than helping world airlines. All of this will change international aviation going forward\(^7\).

The researcher has studied as economic growth and impact of the domestic airlines.

32. **A.P. SHAH & ETL. (2008)** have presented the viewpoint that an air traffic management system is emergent, i.e., exhibiting behaviours at the system-wide level that emerge from the combined actions of individuals within the system. Emergence carries with it the additional implication that these phenomena typically

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cannot be predicted by examining the individuals’ behaviour alone. The paper proposes agent-based simulation as a method of predicting the impact of revolutionary changes to an air transportation system. Agent based simulation can integrate cognitive models of human performance, physical models of technology behaviour and description of their operating environment. Simulation of these individual models acting together can predict the result of completely new transformations in procedures and technologies. While agent-based simulations cannot include every aspect of system behaviour, they can provide quick, cost-effective insights that can supplement other forms of analysis.8

The researcher has studied agent-based functions of air traffic management system in domestic airlines.

33. R. JHOPN MILNE & Etl. (2014) have described a new method to assign seats and to board passengers on an airplane that minimizes the total time to board. An optimum boarding method that assigns passengers to a special numerical position in line that depends upon their ticketed seat location. Our method builds upon Steffen by assigning individual passengers to seats based on the amount of luggage they carry. Our heuristic method assigns passengers to seats so that their luggage is tribute evenly throughout the plane. Simulation results indicate that with the total time to board all passengers on a fully loaded airplane is shorter than that of Steffen.9 The researcher has studied boarding factors of airlines in the domestic airlines for the new passengers.


34. Shady G. Abdelaziz & Etl. (2010) This intensive and extensive study as the relevance and impact of self-service technology to consumers in general and especially to passengers since they have many uses in international airports, Therefore I have prepared a model that includes all applications of self-service technology in all international airports and specifically focused on the Common Use self-service technology (CUSS) and compared with a corresponding system in the function is called Common User Terminal Equipment (CUTE) This comparison shows the difference between them and proves that self-service technology help to raise the efficiency and performance of airports and airlines. Also this technology help to reduce costs in terms of staff and the provision of time and effort, etc., as well as the study shows the feasibility of replacing the CUTE system with the CUSS system or not in the near future, this has already been used in some international airports and I hope to apply it in Cairo International Airport and all this supported the output of the case study that I made this research and the output will be the beginning of the development or to change the current model of the traditional check-in and this is the objective of the research, when completed, namely, re-engineering or restructuring of the traditional check-in model which uses the CUTE system and so by replacing this system with CUSS system10.

35. A.A. Alroqi and Wijiwang (2015) have analysed in their paper the landing impact of an aircraft. It is described using a physical model of a single wheel in the main landing gear. The purpose of this study is to understand possible tire-life improvement made by reducing rough slip between aircraft tires and runway surfaces immediately after touchdown. This study has recommended that a wheel spin-up device can improve the life of heavy aircraft main landing gear tires. The authors additional study in pursuing the probability in terms of mechanical difficulty monetary costs and profit of executing pre-spinning technologies of commercial aircraft. Simulation of the technologies highlighted in the literature review would be useful in identifying the characteristics of a pre-opening device that performs most effectively.42

The researcher has studied in the airline services like, security position, check in, and check out process in Chennai airport for the additional informations.

1.09. STATEMENT OF THE PROBLEMS

The problems examined in the charges collected by the Chennai airport, the new airports have been charging user development fee resulting in increase of fares, which are already rather high. Location of the airport on the outskirts of the city has made the commuters to spend more time for travelling to the airports for the shorter duration routes and this has led to the commuters preferring for the shorter routes43.

The next problem focus in the marketing strategies in domestic private airlines like, seat allocation and overbooking, are the collective problems for the airlines. It has the description in single flight leg with multiple fare class, demand

43. “The challenges and issues faced by the Indian aviation industry” - www.slideshare.net/ppt/avaition
of fare and cancelations. The customers are of multiple types, who request reservations for the seats available in the coach cabin of the aircraft serving the flight leg. Whenever a customer requests a reservation, the airline needs to make a decision whether to accept or reject the request. Because, the requests for tickets are different fare classes assume to arrive according to independent fervour process. The passengers are cancelling their reservations with fixed probability. Hence, the time of cancellation is uniformly distributed between the time of purchase and flight take-off. If the passenger with a confirmed ticket not allowed boarding the flights due to overbooking, the airline incurs a financial and good will loss. \textsuperscript{44}

Another problem identified by the researcher is the passenger’s satisfactions and service quality for the airline services. It arises when a company can provide passengers with benefits that exceed passenger’s expectation and this is considered value-added. If customers are satisfied with the service, they will enjoy the more and more time repeatedly. Passenger satisfaction is an essential goal for each airline providing passengers services and the on-board experience is still something special for the customer. The customer has wide choice to select the suitable services according to requirements. The key factors of service quality of travellers are multi-attribute of service based upon the frequency of flights, timing, punctuality, in-flight services and facilities of on-ground services. In addition, non-stop services, safety, reservation of tickets, correct and prompt handling of baggage and friendly are helpful by employees \textsuperscript{45}.

Finally, the last problem has its focus on the air travel agents service and their relationship with airline, the fares of airlines display in automatic system like,

\textsuperscript{44} “Service quality perfection of domestic airlines consumers in India – An empirical study” – Bakiyalashmi.v & R.Nargundkar
\textsuperscript{45} “A study on service quality and passenger satisfactions on Indian airlines” – R. Arachana & Dr. M..V. Subha
Global Distribution System (GDS). The issue that frustrates travel agents, business travellers and personal consumers, is the difference between the fare shown in the GDS and those available on the web. The web’s fares are often lower than the published fare available on the GDS. While these fares are not necessary, the lowest fare visible makes them desirable.46

1.10. OBJECTIVES OF THE STUDY

1. To study the trends of Chennai air traffic during the study period
2. To analyse the private airlines marketing strategies in Chennai Airport
3. To analyse the domestic airlines customer’s satisfaction in Chennai Airport
4. To study the services of air travel agents in Chennai

1.11. HYPOTHESIS

1. The level of satisfactions in various service factors of passengers’ services is independent of different airlines.
2. The average level of passengers’ satisfaction is the same for all the domestic private airlines.
3. To test whether, the average level of satisfaction differs significantly between travel agents with different years of experience.
4. To test whether, the average level of satisfaction in travel agents differ significantly between private airlines agents and both of private and government airlines agents.

1.12. METHODOLOGY

The methodology used in this research contains the use of primary and the secondary data. The primary data was collecting from Airline Companies

46 “Travel agents access to airline fare”. Research report prepared by transportation group of international
concerning their use marketing strategy with the aim of reaching the customers satisfaction. Customer opinion are collected and fully incorporated throughout the research process. Various views of different travel agents have also been put into consideration. The questionnaire or schedule have been formulated and administrated for collection of primary data. The questionnaire can designed in three different types, which covered private airlines and airlines customers and air travel agents. The above questionnaires are given in Appendix A, Appendix B and Appendix C. The following sampling methods were adopted for the research study, these are judgement sample (non-probability sampling) for airlines companies, Simple random sampling was used for airline customers and stratified sampling method was used for air travel agents. The secondary data were collected from different published and unpublished data like, national and international journals, magazines, airport annual reports, IATA reports, reviews, unpublished PhD reports, AAI reports and DGCA reports. All the put together 125 articles collected and reviewed by the researcher for his study.

1.13. DATA RELEVANCE

The researcher has used primary and secondary data for his study, hence, it is empirical. The researcher has collected primary data from the private airline authorities; airlines’ customers form the Chennai Airport and air travel agents in and around Chennai airport. The secondary data were collected from Chennai airport website and various private airlines websites, published and unpublished dissertations, Airport Authority of India website, Government reports, airport reviews of national and international journals. The researcher has met the respondents at their respective places with their time conception and convenient for response.
1.14. CHALLENGES

The researcher had to overcome the challenges faced, while collecting primary data at Chennai airport. The Chennai airport is a highly protected area and it is under the control by international security force. Therefore, nobody can enter into the airport without prior permission. The researcher approached the airport authorities for getting permission for data collection. Initially, permission was rejected. Later understanding the genuineness, finally, after the long struggling permission was granted to collect the relevant data. Initial non-cooperation from passenger, travel agents and authorities subjected researcher into the ordeals and it was time consuming. All put together 60 per cent of respondents were rejected by the researcher requisitions (Approximately). The responses given by respondent were correct, complete and honest without any completions and hesitation. The data which were given by the respondent may or may not relevant to other periods or other study.

1.15. PILOT STUDY

The pilot study was conducted in Chennai with 15 respondents airline customer and air travel agents. Using questionnaire collection of data, on the basis of response, then the questionnaire suitably modified for the final survey.

1.16. SAMPLE DESIGN

Chennai airport, being one of the busiest in India, occupies third rank in international passengers’ services and fourth place in domestic passengers’ services; it enabled a lot for the research relevance and progress. There are twelve airports in Tamil Nadu out of these airports only four (Chennai, Madurai, Trichy and Coimbatore airports) are providing passengers service. Remaining airports are utilised only during emergency. Therefore, the researcher has selected the Chennai airport as a sample.
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<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Populations Categories</th>
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<td>Domestic Private Airlines</td>
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<td>5</td>
<td>All</td>
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<tr>
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<td>Airline Customers</td>
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<td>100</td>
<td>All</td>
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<tr>
<td>3</td>
<td>Air Travel Agents</td>
<td>133</td>
<td>65</td>
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1.16. i. Airlines

There are seven (7) airlines providing domestic services in Chennai airport. Out of the seven airlines, one (Air India) airline is a public undertaking company and another (Air Asia) airline has newly entered into the market. Therefore, the researcher has selected the five airline companies for the research study. Judgement samples (non-probability sampling) were adopted for collection of respondents.

1.16. ii. Customers

The researcher has selected 100 customers as sample respondents. The data collected from the customers in Chennai International Airport was domestic terminal arrival and departure. The researcher has adopted simple random sampling method for selection of customers.

1.16. iii. Air travel Agents

There are 133 air travel agents in Chennai providing services, with their offices spread over. They are IATA accreditation agents. Out of these, 50 per cent of agents i.e., 65 (rounded off) agents have been taken by the researcher for sample respondent for his stratified sample method of selection of travel agents (List of agents Annexure D).
1.17. SIGNIFICANCE OF THE STUDY

The airline services are of great importance with their inseparability and intangibility features. The airline services has increased manifold according to its significance. Before 1990s the airline services had their monopoly market like the services has provided by public sector. After 1990s, when the Liberation Privation Globalization (LPG) was implemented by the government of India, the airline services have competitive and more private players entered in the services. The airline services growth purely depends on delivery (Quality) of customers’ relationship and customer’s satisfactions.

1.18. SCOPE OF THE STUDY

The study is relevant to the present business environment especially, private airline services and its needs to the public. The private airline services, which provide the different services (facilities) to the customers like, in-flights services and in-flights environment. The study has been made on customers’ stratification, air traffic and business offering factors like ticket pricing, fuel pricing, basis besides overbooking etc. Finally, the air travel agents’ services in Chennai also essential for success of the concern. Each services has its own uniqueness that improves the quality of the services in the global environment.

1.19. LIMITATIONS OF THE STUDY

The study is related to international services marketing, especially, air transport services, which is in the offering and enjoying the services by providers as well as services beneficiates round the clock. The study has its own limitations:

1. The researcher has not considered the international passengers services and cargo services.
2. The researcher does not studied international aircraft traffic.
3. The researcher has considered only IATA agents, not non-IATA agents and sub-agents.
4. The researcher does not include public sector undertaking and newly promoted airlines companies

1.20. PERIOD OF THE STUDY

The period of the study is ten years from 2004 to 2014. The primary data was collected on May – September 2014. The researcher began the secondary data collection from 2001 onwards. However, air traffic, passenger traffic and type of aircrafts used by the Chennai airport are analysed during the year from 2004 - 2014.

1.21. TOOLS FOR ANALYSIS

The researcher has used the following tools for his analysis for the betterment of domestic private airlines services for passengers’ satisfactions in Chennai airport and Chennai based travel agents’ satisfaction in private airlines services. The tools for analysis are:

1. Kruskal-Willis ranked variance analysis test and
2. Kolmogorov-Smirnov ranked variance analysis test

1.22. CHAPTERISATION

The First chapter starts with Introduction, Review of literature, Statement of the problems, Objectives of study, Period of the study, Data collection, Hypothesis, Tools for analysis and Chapterisation. The second chapter deals with the Chennai airport traffic performance and its trends. The third chapter is on the domestic airlines marketing strategies. The fourth chapter analyses the air travel customers satisfaction and their view. Air travel agents features and their services are analysed
in the fifth chapter. The sixth chapter ends with summary, findings of the study, and suggestions for the better performance of services given besides conclusion.

The first chapter ends with the above introduction while the second deals with Chennai Airport traffic performance and its trends.