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# Factors Affecting the Performance of Aviation Sector in India

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## ABSTRACT

*Indian Civil Aviation is the world's third-largest civil aviation market which was started way back in 1911. Air India is the key player and the national flag carrier of the country. Other airlines include Indigo, SpiceJet, GoAir, Vistara, and Air Asia India in order of their respective market share. Despite India being one of the biggest aviation markets in the world, many of its pockets remain untapped. Many tiers 1 and tier 2 cities of the nation are still not well connected via air.*

*Thus, the number of aircraft flying in the country is quite less in contrast with the enormous population of the country. To give a clear picture the total number of aircraft combined in India is lesser than the number of aircraft owned by one carrier in the United States.*

*For some people in India traveling via air is still a luxury. Low-cost carriers such as Indigo, GoAir, and AirAsia are trying hard to bring down the prices but due to the ever-increasing fuel prices and other operational expenses, they are still struggling to gain some ground. Jet fuel is heavily taxed in India which is one of the main reasons why flying is not so affordable here.*

## I. INTRODUCTION

### (A) REVIEW OF LITERATURE

**Perdiguero (2014)** The paper analyses the effects of a merger amongst three airline companies on two types of routes. The first route is where low-cost carriers operate and the second one being the ones where a network carrier and one of the low-cost carriers were previously operating. It is found that there is a reduction in flight frequencies but no effect on the prices of these flights in the first scenario. Whereas, in the second case there is a notable increase in prices but no change in the number of flights operating in those routes. The results would be attributable to the difference in the types of passengers flying these routes.

In the Aviation market, the post-liberalization period has seen an increase in the number of

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mergers and alliances. Mergers are critical for consumer safety, as they can lead to higher fares and lower flight schedules, effectively obtaining a monopolistic market approach.

Numerous reports analyzed the pre-and post-fusion findings in the aviation industry, but these reviews are generally skewed towards network operators rather than low-cost carriers.

This paper helps one examines the impact of integration based on costs and flight schedules between one network and two low-cost airlines. It is observed that the merger was very favorable to the consumers, but the overall effect of the merger was based on different variables, such as pre-merger rivalry between carriers on specific routes.

The merger resulted in a significant decrease in flight duration, but there was no major change in the carriers' costs where the low-cost airlines had historically been based. Whereas in the routes where the network operators have historically served but at the same time no improvement in flight frequency is observed in those routes, a price increase has been reported.

To sum up, the variations in the effect of the merger depend greatly on the types of airlines concerned. Therefore, it is safe to say that any study of mergers in the airline industry must take into account the distinction between the network and low-cost airlines in the company.

**Rhoades (2014)** article examines the post-merger effects of three major US airlines mergers, America West and US Airways, Delta and Northwest, and United and Continental.

Rather than missing prospects left on the table, companies prefer Mergers and Acquisitions. Companies are trying on both sides to create a balance. They focus on increasing sales through a larger market and customer base and, on the other hand, through achieving operational efficiencies through the mergers, we try to reduce their costs.

Airlines operate with a fine margin and making profits from pressure from international carriers is very challenging for them. American domestic airlines have limited growth in capacity and started charging more for all the frills and services previously provided free of cost. This further sales boost has allowed them to thrive in the declining aviation market.

The article describes the different effects on the share prices of 6 Airlines in the United States at the time of the announcement of the acquisition, and also by the time the transaction was concluded. Such share prices allow us to assess the confidence investors have in these acquisition synergies. At that time, the airline business was in the doldrums, the alliance between these airlines allowed them to increase their income through sharing customer base and also lower their costs through acquiring operating leverage by sharing approaches,

technologies, and other tools. The price changes for both the aim and the contracting companies were mixed. So, it is still uncertain whether the cycle of mergers and acquisitions is benefiting businesses in the short or long term.

**Zhang (2014)** This paper analyses the permutation and combination of the flight frequency and civil aircraft capacity when passenger demand increases gradually. The study shows that airline companies would increase the number of flights when there are advantages of operating large aircraft but not generally increase the size of aircraft to meet traffic growth. On the other hand, if there are no savings on the use of larger aircraft, airlines tend to fly larger aircraft rather than increase the number of flights. The effect is greater if aircraft size savings are higher. Both tests decide whether the weight or flight charges are dependent on airports and are exogenous or endogenous.

**Escoban (2013)** This paper talks about the existence of asymmetric pricing in the airline industry. The prices in the market respond more quickly to cost increases than to cost decreases. The primary objective of this paper is to use prior literature and adding to it by looking for the existence of asymmetric pricing in the airline industry.

In the airline industry, they set capacity in advance for the flights. Hence, higher demand forecasts lead to less available seats, which converts into higher opportunity costs for the airlines. Therefore, it is assumed that several examples of asymmetrical pricing in other industries can also apply to the airline sector.

The paper studies prime airlines' prices and demand to check for asymmetric pricing to occur. It is found that the rise in cost results in the positive movement of the ticket price, but this adjustment does not occur when the cost is down.

**Button (2012)** The financial performance of airlines has not been well for the past few years. This is not just the case in India, but in various western countries as well. The author brings to light the low-cost approach followed by many carriers and how they are unable to cover their operational costs let alone make profits.

There is a lot of competition in airlines but at the same time, there are many fixed costs, which are enormous financial burdens and are usually the primary reason for bankruptcy. The sector is not defined by fixed costs such as brick and mortar, but by the duty to provide scheduled service. The fact that an airline must own or lease an aircraft is immaterial. At a particular time, flights with different services at the origin and destination required are a fixed cost. Sources of fixed costs services are full crew and fuel and other materials onboard and ground staff involved in booking, ticketing, boarding, and handling of luggage for the trip.

Whether the flight is fully booked or empty, the company has to pay these fixed costs. The tickets are booked months in advance and therefore, it is very difficult to manage future expenses in this business, whether normal or unexpected.

**Mentzer (2002)** This article aims to determine whether the presence of a low-fare carrier on a domestic Canadian route has an impact on the fares of the major airlines.

The Canadian airline industry is highly concentrated. It has two major players who have the majority monopoly in the airline space, Air Canada and Canadian Airlines. They are responsible for 80% of the air traffic in Canada. This article conducts an empirical test to check whether the presence of low-cost domestic airlines such as WestJet and Canada 3000 have an impact on the fares or not.

The study shows that domestic carriers such as WestJet and Canada 3000 have a competitive impact on Canadian Airlines. Passengers are shifting towards these airlines as they offer services for aggressively lower rates, with some compromises on additional features during the flight.

However, WestJet CEO said in a public announcement that they weren't directly targeting Air Canada, as a major chunk of their traffic is passengers who travel on company expense accounts. These corporate travelers are insensitive to price reductions as the ticket fares are born by their companies. Though the study suggests that even some of these travelers are gradually shifting towards the low-price alternatives.

**Saraswati (2001)** The Indian civil aviation sector that showed impressive profits in the pre-liberalization has been adversely affected since the onset of the government's open-sky policy in the late 1980s. Despite numerous efforts from both state owned and private players, the industry is going downhill ever since.

Air India International was founded in 1948 as a JRD Tata initiative which was later nationalized. Indian Airlines operated in a very safe and comfortable atmosphere with no competition from foreign companies until the early 1990s. But the situation changed immediately after liberalization, with the government announcing open sky policy, rivalry in the foreign market suddenly improved.

Their sales soon started to decline as a result of Air India's poor economic and management policies. Airlines used to experience competition that far outnumbered the supply, and could set rates at their will and make adequate money.

The author describes how Indian businesses lack the resources needed to set up a successful

model for the airline. Compared to western countries, due to the lack of flight airlines are unable to push down the prices. In India, the employee-aircraft ratio is much greater than the 200/250:1 industry average. While Indian labor costs are much lower than other nations, the lower rate of productivity balances the price difference.

While geographic location and availability of expertise are in favor of developing a strong aviation industry in India, lack of consistency in sound management and financial planning has contributed to the degeneration of the aviation industry.

**Sankaran (2001)** This article throws light on the changing mindset of the Union Government and Management of Air India, formerly known as Indian Airlines. In 1974, when the former chief of the Indian Air Force took charge of Indian Airlines he made several harsh decisions to beat down the employees.

Earlier Indian Airlines was considered to have a social agenda attached to its mission and vision. But their principles have seen a paradigm shift this time. Previously, the airlines operated multiple routes linking destinations backward and out of the way even with significantly low traffic such as Port Blair. But with the management's latest philosophies these loss-making destinations were excluded from the charter at once.

Besides cutting down routes, the airlines also cut down on frills that it provided its passengers with. They began to cut back on the meals served on the flights. Just saving Rs. 10 per passenger could contribute to saving corers, as Indian Airlines handled millions of passengers annually. Indian Airlines was about to hold the world record for giving its customers the least attention. The administration adopted a stringent cut in 'wasteful' spending.

This pattern may be linked to present-day activities. Many airlines operating in India follow the low-cost no-frills approach to cut their expenses and generate as much benefit from each flight as they can.

**Cunningham (2001)** This article suggests that deregulation of the airlines has succeeded in reducing airfares for the vast majority of passengers. Through these reduced fares, customers have saved billions of dollars. The advent of low-cost airlines has made air travel easy for many people who normally had no access to air travel. Nonetheless, there is still cause for concern that the big carriers impose unfair pressure on low-cost carriers by way of predatory pricing.

**Kumar (1996)** This article analyses the effects of liberalization on the national carriers of India. The private competitors haven't received proper critical scrutiny yet. Air India and Indian Airlines witnessed a tremendous loss of revenue due to the fierce competition from

private players in the market.

Earlier, Indian Airlines had a compensation system in which high-traffic route profits covered the losses from loss causing routes. For socio-political reasons, Indian Airlines must continue to operate on these low profit/loss-making routes to cover the remote areas of the country. However, private players are not required to operate in loss-making routes, so they are directing their entire fleet on the high traffic profit-making routes. This severely damaged Indian Airlines as they lost the majority of their traffic to those private operators who priced their fares unfairly and pretended to provide better service than Indian Airlines.

**Morrison (1996)** This paper presents a long-run analysis of three airline mergers. This article is different from all other short term analyses done. Usually, articles speak about the change in stock prices and effects of a merger taking data for 1-2 years pre and post-merger. This takes a long-term view of the impact of mergers in the airline industry, taking several years of data before and after the merger. It is not realistic to evaluate the effect or the true result of a merger within 1-2 years of the conclusion of the transaction, this takes longer for the merged entity to achieve the desired cohesion and meet the targets set during the merger process. The findings, which need to be viewed with caution, show that some mergers have positive consequences while others can lead to significant increases in the fare.

The US aviation industry's restructuring has undergone several mergers. Nevertheless, the mergers between Northwest Airlines and Republic Airlines were not as effective. Before the merger, these two carriers served many common routes so it was called one of the most important mergers at the time. Although research has been done on these airlines before it becomes apparent that it takes years to fully work out yourself in the airline industry.

One of the study's key conclusions is that the rivalry in the routes where the merged entity operated dropped significantly afterward. The merged entity gained a lot more market base and gained synergies that helped them lower their price. Therefore, most of the rivalry in those routes is washed out.

Besides this, it is noted that the tariffs on these routes have risen by around 30% largely because they have emerged as the pioneers on these routes. In a long term perspective, this integration thus proves a victory.

It is quite difficult to assess the impact of mergers after the process is completed and to do the same before the transaction takes place involves a lot of hypotheses and speculations. Nonetheless, in a highly risky business, such as airlines, pre-merger research, and review was considered to be very significant. Carriers must perform proper due diligence and conduct a

detailed study before taking merger decisions as it majorly affects the future sustainability of the company.

**Nay (1991)** This study is one of the first attempts to empirically test the hypothesis of strategic choice. This focuses on only one aspect of strategic choice, the relationship between product market strategies, and concession negotiation outcomes. This research does not endorse the "new era" theory of negotiated results in which only market characteristics decide negotiated results. The study shows that the companies operate within the framework of economic parameters, and this parameter decreases significantly during financial backlashes.

**Lawrence F. Cunningham (1988)** The objective of this article is to analyze the impact of deregulation on the systematic risk of firms by considering the case of the airline industry. Because the airline industry has been working in an uncontrolled setting for several years now, there are sufficient data available to show the variations in the carriers' operational vulnerability over a regulatory cycle, a transition period to reform, and a post-transition period. Since scheduled airlines are big, publicly listed firms, there is an abundance of information on the financial market that can be used to determine the relationship between deregulation and capital costs.

**Golbe (1986)** It has always been a topic of debate whether there is a relationship between profitability and safety in the transportation industry. This paper tests this notion using data from the US airline industry. The report brings more insight into the idea that there is no meaningful link between health and income. As per data collected from the US airline industry, the competitiveness aspect is not responsible for less clean flights.

The study also talks about how several high-profit airlines had frequent incidents and add to the fact that a company's profitability has very little to do with flight safety standards. On the contrary, some studies show that more accidents occur on profitable airlines. Likewise, more accidents occur on profitable roads and highways than in losses or lower profits. Finally, the evidence presented in the paper suggests that it is incorrect to say that regulatory changes that minimize income would result in fewer healthy airlines.

**Schefczyk (1993)** This study uses a new approach for measuring the operation efficiency of the airline carriers. Previous literature lacks empirical analysis of the operational performance because most of the airlines lease most of their aircraft and different companies across different countries use different accounting methods. Thus collecting data from various countries is very difficult and so is analyzing data in different formats and consolidating it.

This study uses Data Envelopment Analysis to determine the airline carriers' operating

efficiency around the globe. Analysis of Data Envelopment (DEA) is a nonparametric approach for estimating production frontiers in operations research and economics. It is used to empirically calculate the efficient efficiency of units for decision-making.

Airlines' business is operating on a very narrow line, that is. Airlines need to reduce their costs and perform as efficiently as possible to achieve productivity. Like most service industries, the airline industry needs businesses to perform tasks within the time limits or otherwise, there is a high chance of incurring huge losses per delayed flight.

To assess carriers' operating efficiency, a model that relates an airline's finished product and services to the tools it uses. This helps to obtain a common view of airline operations, and also helps to assess the artifacts that are suitable for success assessment in the airline industry. For performance analysis, an input efficiency value was determined based on available ton-km, running expense, and non-flight properties as inputs and revenue passenger-km and non-passenger profits as outputs. The analysis indicates that a key factor for high productivity is good operating efficiency.

### **(B) Research Gap**

From the above literature review, it can be concluded that there are very few empirical studies on the performance of the Indian Airlines sector, i.e. the gap found here is the geographic location (India) which is considered as one of the largest civil aviation markets in the globe. Previous literature has considered many variables for the study of the aviation industry. However, fuel costs which account for nearly 40% of the operating expenses have not been considered. Until now, the data set taken up for analysis represents the short-term performance of airlines, i.e. the dataset is limited to a few years.

## **II. RESEARCH DESIGN**

### **(A) Research Objective**

To establish the relationship between Fuel Prices, Employee Benefits, Finance Cost and Fleet Strength, and the performance of Airlines in India.

To ascertain the impact of factors such as Fuel Prices, Employee Benefits, Finance Cost, and Fleet Strength on the performance of Airlines in India.

### **(B) Hypothesis**

H0: Various factors (like Fuel Price, Employee Benefit Expenses, Finance Cost, Fleet Strength) have no significant impact on the performance of Airlines (PAT and ROIC).

H1: Various factors (like Fuel Price, Employee Benefit Expenses, Finance Cost, Fleet Strength) have a significant impact on the performance of Airlines (PAT and ROIC).

### **(C) Data and Methodology**

The research uses regression to estimate the coefficients for independent variables, to test the hypotheses, and analyze the relationship between the independent and dependent variables.

The performance is determined by ROIC(Return on Invested Capital) and PAT(Profit After Tax) of three Airlines namely Indigo, Jet Airways, SpiceJet.

The data is collected from secondary sources namely the financial reports of the individual airlines, BSE data, and Department of Indian Aviation Websites.

#### **Variables**

##### **Dependent Variables:**

PAT of the companies

Return on Invested Capital

##### **Independent Variables:**

Fuel Price History

Employee Benefit Expenses

Finance Cost

### **(D) Limitations**

This study has considered only three major Airlines in the country. To get a more holistic view an analysis of other small airlines must be done as well.

This study focuses on four independent variables. However, there can be other factors affecting the performance of airlines in the country.

The study was limited to one specific domestic market, i.e. India.

## **III. INTRODUCTION AND INDUSTRY PROFILE**

Airlines are an important part of the Infrastructure of any economy. Air travel continues to be a vast and growing industry. This stimulates economic growth, world trade, international investment, and tourism and thus is fundamental to the globalization of many other sectors. In the last decade, air travel has grown by 7% annually.

Business travel has also expanded as companies become more international in their production, supply, and distribution chains and customers.

The Indian Airport Authority (AAI)<sup>2</sup> operates a total of 122 country airports, including 11 international airports, 94 domestic airports, and 28 civil enclaves. The top 5 airports in the country account for 70% of passenger traffic, which accounts for 50% of Delhi and Mumbai together alone. Traffic in passengers and cargo has risen by around 9 percent on average over the last 10 years.

The expected growth of the domestic passenger segment is 12% per year. The expected growth of the international passenger segment is 7%, while International Cargo demand is expected to grow at a healthy rate of 12%.

Privatization of international airports is being offered via the joint venture route. Three Greenfield airports with major private-sector shareholdings are being built in Kochi, Hyderabad, and Bangalore. Research on the Bangalore airport will probably start early. Few chosen non-metro airports would possibly be privatized. The approval of the Foreign Investment Promotion Board has also approved 100% foreign ownership of airports in construction and maintenance.

The overall movement of the aircraft handled in October 2002 showed a 15,4 percent increase in the overall movement of the aircraft handled in October 2003. During the report, international and domestic aircraft movements increased by 15.4 percent each. The reason behind the rise in aircraft movements is the South Air Deccan and the international airlines (Air Canada, Polar Air Cargo, Qatar Airways (Freighter), Turkish Airways and Air Slovakia at IGI Airport with effect from October 2003.

#### **IV. SECTOR STRUCTURE/MARKET SIZE<sup>3</sup>**

India is one of the fastest-growing aviation industries in the world. The government's open skies policy has brought many players from abroad into the country, and the industry has grown both in terms of players and aircraft number. Private airlines currently make up about 75% of the domestic aviation industry.

India is the world's ninth-largest aviation market. According to the Minister of Civil Aviation, in 2008, approximately 29.8 million passengers flew to/from India, an increase of 30% over the previous year. It is expected that international passengers will rise to 50 million by 2015. However, 69 foreign airlines from 49 countries travel to India because of improved opportunities and international connectivity.

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<sup>2</sup> Airports Authority of India, <https://www.aai.aero>

<sup>3</sup> *Discover the Best eBooks, Audiobooks, Magazines, Sheet Music, and More*, SCRIBD, <https://www.scribd.com/> (last visited Nov 23, 2020).

## **V. GROWTH**

The Indian Civil Aviation industry grew by 18 percent annually at CAGR and by US\$ 5.6 billion in 2008. Airlines registered double-digit growth in air traffic in August 2009, according to data published by the DGCA, the industry's regulator.

Domestic airlines flew 3.67 million passengers in August 2009, up from 2.92 million last year up 26 percent. The Asia Pacific Aviation Center (CAPA) predicted that domestic traffic would increase by 25 percent to 30 percent by 2010 and international traffic would increase by 15 percent, adding more than 100 million passengers in 2010.

## **VI. AVIATION POLICY**

- Many policies supporting infrastructure are now in place.
- 100% automatic path FDI is allowed for Greenfield airports.
- FDIs are allowed up to 74% at existing airports by automatic approvals and up to 100% by special authorization (from FIPB).
- Private developers have allowed captive airstrips and airports to be built 150 km away from the current airport.
- 00 percent tax exemption for 10-year airport programs.
- 49% FDI is allowed for domestic airlines on automatic routes but not for foreign airlines. 100% ownership of shares by Non-resident Indians (NRIs) is permitted.
- 74% FDI is permitted for freight and non-scheduled airlines.
- The government of India aims to create an Economic Regulatory Authority for Airports to provide all players with a level playing field.

## **VII. MAJOR INVESTMENTS**

In the last year, various companies have shown interest in the Indian aviation industry. According to the research firm Frost & Sullivan survey, investments in airport infrastructure in 2008 amounted to over 5 trillion dollars and in 2013 they are expected to increase by 9 trillion dollars, nearly 6.8 trillion of them through public-private partnerships (PPPs) model.

- Tata Advanced System Limited (TAS)<sup>4</sup>, a subsidiary of the Tatas Group, is constructing a US\$ 113.63 million helicopter factory in Adhibitla, a village near

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<sup>4</sup>*Cms For Mrsam*, TATA ADVANCED SYSTEMS, <https://www.tataadvancedsystems.com/> (last visited Nov 23, 2020).

Hyderabad's international airport, in the Special Economic Zone for Aerospace (SEZ). However, the company has formed a joint venture with US-based Sikorsky Aircraft to produce aerospace components in India.

- Boeing Co, the US aircraft manufacturer will supply India with 100 aircraft worth \$17 trillion in the next four to five years.
- Changi International Airports is prepared to sign joint ventures with several Indian airport development companies. Certain prospects are being explored by the firm, which has acquired a 26% stake in Bengal Aerotropolis Pvt Ltd. (BAPL) for US\$ 20 million.
- Hindustan Aeronautics Limited (HAL)<sup>5</sup>, a state-owned aerospace company, has signed an agreement with Boeing to supply flaperons to Boeing 777 commercial jetliners. HAL supplies 600 flaperon units to Boeing, to be shipped in phases by 2019, is known.
- By 2012, the European Airbus SAS passenger aircraft manufacturer will transfer 20% of its development and planning activities to low-cost countries, most of them to India.

### **VIII. AIRPORT INFRASTRUCTURE**

- Mumbai and Delhi airports have already been privatized and are upgraded to an expected US\$ 4 billion investment between 2006-16. Greenfield airports operate in Bangalore and Hyderabad. These are based on a total investment of over US\$ 800 million by private consortia.
- A second Greenfield airport proposed for Navi Mumbai will be built using the Public-Private Partnership (PPP) mode, at an estimated cost of US\$ 2.5 billion.
- It is recommended that 35 other City airports be renovated. Construction on the side of town will be pursued through PPP mode.
- AAI has proposed a massive investment of US\$ 3.07 billion over the next five years, of which 43 percent will go to three metro airports in Kolkata, Chennai, and Trivandrum, while the remaining will go to expand other non-metro airports and upgrade existing aircraft facilities.

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<sup>5</sup>*About Us*, India, <https://hal-india.co.in/> (last visited Nov 23, 2020).

- Industries in the Aerospace and Precision Engineering Special Economic Zone in Adibatla, Ranga Reddy district will invest US\$ 623 million.

## **IX. PORTER'S FIVE FORCES ANALYSIS**

### **The threat of New Entrants**

The aviation industry is highly expensive. In fact, before issuing an excusatory order, it must pass several rules. Factors making it difficult to enter new entrants of the Indian Aviation industry-

- Capital Requirement-An airline must make use of at least 30 crores without which take-off is not allowed.

- Expected reprisals-The market focuses on several players, ensuring that any new player is faced with intense competition.
- Inadequate airport infrastructure also makes it difficult for new entrants to have the correct flying time.
- Pilot shortages and high costs of fuel are also a threat, as existing demands are not met on their own.
- Exit barriers— high capital requirements make it difficult for companies to leave the market, but as the industry grows, existing players are willing to buy and make the operator's exit less difficult.

## **X. POWER OF BUYERS**

- The power of buyers is small, as they are highly fragmented and wide in number. Higher GDP and low-cost airlines not only increased the number of current purchasers, but they also opened the doors for a huge growth chance.
- The capacity, however, is not as low as it can be due to the minimum exchange costs and alternatives available. If the customer has signed the contract otherwise no expense to increase the power of the customer will incur to switch from one airline to another. Also, the different options available between airlines and even other modes of transportation benefit customers.

## **XI. POWER OF SUPPLIERS**

The power of the suppliers is limited and thus their power is high.

- Supplier concentration-The pilot and ATF supplies are highly concentrated, increasing their strength.

- Swapping costs-If we look at the planes, there are only two Boeing and AirBus vendors, so the choices for swapping between airlines are very small and therefore the switching costs are high, but sometimes the competition between the two manufacturers lowers the costs to some degree.
- Brand-value-Less manufacturers result in a strong brand-value that works for them and increase their bargaining power.
- Advance Integration-Airlines are also facing a threat of forwarding integration. Although such an incident has not occurred in the past, it may occur in the future because vendors have or learn most of the industry's technical aspects.
- There is an acute pilot shortage which makes the industry dependent on pilots.
- High fuel prices-Fuel accounts for almost 40 percent of the total expense and fuel costs are increasing rapidly reducing the company's profits.

## **XII. AVAILABILITY OF SUBSTITUTE**

- Product substitution-Consumers have different options to choose from in terms of airlines. They may also switch to other transport modes, such as roads and railways.
- Substitution for the need-The advent of technology options such as video conferencing and conference calls reduces the need to travel, thereby reducing the possibility of substituting for the need at present but is marginal as it is not possible to eliminate travel.

### **Competitive Rivalry**

Competition in the high sector however competition volume has been limited as it is an expanding market.

- The number of airlines is growing, thus increasing competition for airlines. When one spoke about airlines earlier, Indian Airlines was the only brand, but now the list is long and up with new carriers like Goair trying to make a mark in the industry.
- High fixed costs and supply constraints also lead to rising global pressures.
- This also increases competition between airlines, as with all business mergers and acquisitions, which in turn forces more airlines to make up for mergers and takeovers, creating a vicious market loop.

### **XIII. SWOT**

#### **Strengths**

- Lower airfares.
- Tourism in India.
- Growing outbound travel in India.
- Growth potential Liberalization of the sector.
- Modernization of nonmetro airports.
- The rising share of low-cost carriers.
- Fleet expansion by state-owned carriers.
- The opening up of new international routes by the Indian government.

#### **Weakness**

- Poor infrastructure at airports.
- Acute shortage of trained pilots and technicians.
- Stiff rules and regulations for operation.
- High operational cost for airlines.
- High-security threats in the subcontinent.
- Training infrastructure incompatible both in terms of quality and quantity.
- Shortage of qualified instructors due to migration to schedule operation.
- Pressure on the quality standard of inducted pilots.
- Infrastructural constraints.

#### **Opportunities**

- The number of air travelers is about 0.8 percent of the population
- India's civil aviation passenger growth, at 20 percent, is among the highest in the world.
- India's civil aviation ministry expects 100 million passengers by 2020.
- India anticipates doubling of passenger traffic over the next decade.
- Economic Growth

- Vibrant middle class: Increasing Consumerism and Affordability
- under-penetrated markets
- Growth in Tourism
- Currently domestic passenger market is growing at 50%

### **Threats**

- Government Regulations; though the govt. is making changes in the regulations, it needs to move at a much faster pace on this.
- Aviation in India is over regulated and needs to free itself from govt. shackles.
- Inadequate infrastructure.
- Acute shortage of Pilots and maintenance engineers.
- Security and safety.
- Low profit margins and high operating costs.
- Other faster means of transportation.

## **XIV. COMPANY PROFILE**

### **(A) Indigo:**

Indigo<sup>6</sup> is a low-cost domestic private airline based in Gurgaon, Haryana, India. It operates domestic services connecting 17 destinations. The principal hub is Delhi's Indira Gandhi International Airport. IndiGo Air is owned by the local Indian Mr Rahul Bhatia. The airline started operations on 4 August 2006 and today has 23 aircraft.

- **Strategies:**

Indigo's strategies bind all of India to 17 destinations. We have Airbus A320–200 only under their fleet to take advantage of the learning and experiencing curve. As of April 2009, they have the youngest ships in India with an average age of only 2 years. The big plan is on anvil to expand. IndiGo placed an order for 100 Airbus A320 family aircraft during the Paris Air Show 2005. The total order during the show was \$6 billion, one of the biggest in any domestic airline. Via 2010 the carrier set a service goal for around 30 Indian cities with 40 aircraft fleet sizes A320 and A321. For 2016, all 100 Family A320 aircraft will be acquired by the airline. The Indian government "theoretically" approved the request of the airline to import aircraft. This is much more based on the East than others.

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<sup>6</sup>Indigo Strategies, <http://www.indigostrategies.com/>, (Last visited on Nov 23, 2020)

- **Services**

Because IndiGo is a low-cost airline, its passengers are not offered a free meal service. It does, however, offer a buy-in food service that allows you to purchase items like burgers, parathas, cookies, snacks and soft drinks. Mineral water is provided free of charge. It emphasizes timeliness.

**(B) SPICEJET**

SpiceJet is an airline with low cost place in Delhi, India. It commenced operation in May 2005 and was India's second-largest low-cost carrier in terms of market share by 2008. SpiceJet originally was known as Royal Airways, a ModiLuft reincarnation. It is supported by the Kansagra family and by Ajay Singh. With its fleet of 21 planes, the Airlines has its base at Delhi and serves the main 18 airports across the country's length and breadth. In 2007 SpiceJet was named by Skytrax as the best low-cost carrier in the field of South Asia and Central Asia. SpiceJet also wins 2009 award for the World Travel Business.

- **Strategies**

SpiceJet has marked the first 99 days of its foray into service with Rs. 99 fares, with 9,000 seats available at this cost. This offering was followed up on select routes with a discount offer for Rs. 999. Their brand strategy is 'offering low, spicy regular fares' and great guest services for travelers who are conscious of quality. Our goal is to deal with travelers traveling in air-conditioned coaches on the Indian Railways. SpiceJet also follows the pattern of the hub and spoke.

Billionaire Wilbur Ross on July 15, 2008 proposed that he spend \$80 million (about Rs 345 crore) in the low cost airline. SpiceJet's board of directors accepted an offer in theory from the US-based PE company which would make SpiceJet, a joint statement released by SpiceJet and WL Ross & Co, available on Rs 345 crore. Through quickly immersing the learning curve and skill curve among the crew, they have tried to achieve greater effectiveness. They used the operation of only one aircraft type, namely Boeing 737, for the same reason.

Spicejet's on-time performance is one of the best in India, coupled with a 99.6 percent Technical Dispatch Reliability, making it a least cancelled airline. SpiceJet passengers are covered with the Tata AIG against a fee (included in the fare) of Rs 129 for any injuries, flight delays, luggage loses, flight cancellations, involuntary medical reimbursements, etc. This has helped the company minimize the losses due to the above circumstances.

### (C) Jet Airways:

Jet Airways<sup>7</sup> is a Mumbai-based airline sponsored by Mr. Naresh Goyal and is the country's second-largest carrier after the government owned Air India and the domestic airways market leader. It operates more than 400 flights daily to 65 destinations around the world. It caters to all categories, including Jet Konnect and Jet Lite (formerly Air Sahara).

- **Strategies**

Beginning as Jetair private limited, it earned the status of scheduled airlines in 1995 by leasing 4 Boeing 737-300. Through purchasing Air Sahara for 14.5 billion rupees on April 12, 2007, it went for inorganic expansion, and renamed it Jet Lite. It also helped penetrate the market, as Jet Lite was directed to serve segments of the lower class. It has 84 planes under its service today. The airline is based on hub and the designer has spoken.

Since March 2004, when it had its first international flight between Chennai and Colombo, Jet began operations on international routes. Jet Airways currently serves 21 Asian, European and North American destinations in 17 countries.

The company entered into an alliance with Kingfisher Airlines during the recent recession in 2008, agreed on code sharing on domestic and international flights, joint fuel management to reduce expenses, common ground handling, joint crew utilization and sharing of similar frequent flyer programs.

## XV. ANALYSIS AND INTERPRETATION

### (A) Regression

#### Indigo ROIC

**Table 17.1:**

SUMMARY OUTPUT					
<i>Regression Statistics</i>					
Multiple R	0.97186126				
R Square	0.94451431				

<sup>7</sup>Sridhar Rao, *Competitive Strategies – Some takeaways from the Jet Airways collapse* <https://www.infinumgrowth.com/competitive-strategies-jet-airways-collapse/> (Last visited on 24<sup>th</sup> Nov, 2020)

Adjusted R Square	0.88902862				
Standard Error	4.70740498				
Observations	9				
ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	4	1508.86595	377.2164884	17.0226646	0.00889434
Residual	4	88.6386466	22.15966164		
Total	8	1597.5046			
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>
Intercept	-76.942763	49.5543916	-1.552693128	0.1954523	-214.52781
FUEL PRICES	1.36113792	0.57059301	2.385479459	0.07553788	-0.2230823
EMPLOYEE BENEFITS	-0.1063531	0.03562043	-2.985734037	0.04050851	-0.2052513
FINANCE COST	0.24815938	0.09994163	2.483043047	0.06798905	-0.0293231
FLEET STRENGTH	0.07899109	0.07511749	1.051567108	0.35232861	-0.1295685

- Fuel Prices has p value equal to 0.0755 i.e.  $p > 0.05$ , meaning there is no significant impact on ROIC. So,  $H_0$  is accepted and  $H_1$  is rejected.
- Employee Benefits has p value equal to 0.0405 i.e.  $p < 0.05$ , meaning there is a significant impact on ROIC. So,  $H_0$  is rejected and  $H_1$  is accepted. Further the Negative coefficient indicates that 0.1063531 increase in Employee Benefits will

result in 1 unit decrease in ROIC. The standard error of coefficient estimates is 0.03562043.

- Finance Cost has p value equal to 0.0679 i.e.  $p > 0.05$ , meaning there is no significant impact on ROIC. So,  $H_0$  is accepted and  $H_1$  is rejected.
- Fleet Strength has p value equal to 0.3523 i.e.  $p > 0.05$ , meaning there is no significant impact on ROIC. So,  $H_0$  is accepted and  $H_1$  is rejected.

Based on multiple regression, it is found that there is significant dependence of Employee Benefit expenses on the performance of the company. Here, the performance of the airlines is measured using the yearly Return on Invested Capital.

However, no significant dependence of Fuel Prices, Finance Costs and Fleet Strength is found on the ROIC of the Airlines. Hence, three out of four null hypotheses are accepted stating that there is no significant dependence of the respective variables on the ROIC. Also, the null hypothesis is rejected stating that there is no significant impact of Employee Benefits on the ROIC and the alternate hypothesis is accepted stating that there is a significant impact of Employee Benefits on the ROIC.

### Indigo PAT

**Table 17.2<sup>8</sup>:**

SUMMARY OUTPUT					
<i>Regression Statistics</i>					
Multiple R	0.85945769				
R Square	0.73866752				
Adjusted R Square	0.47733503				
Standard Error	563.701336				
Observations	9				
ANOVA					

<sup>8</sup> Handle Proxy, <http://hdl.handle.net/> (Last visited on Nov 23, 2020)

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	4	3592640.21	898160.053	2.826543066	0.16918877
Residual	4	1271036.78	317759.196		
Total	8	4863677			
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>
Intercept	8284.63301	3874.68848	2.1381417	0.099294908	-2473.2269
FUEL PRICES	7.68417018	35.076672	0.21906782	0.837321392	-89.704284
EMPLOYEE BENEFITS	4.71622055	2.17977246	2.16362975	0.0964959	-1.335798
FINANCE COST	-9.7753826	6.74057494	-1.4502298	0.220602943	-28.490219
FLEET STRENGTH	-28.616092	9.11769646	-3.1385222	0.034897377	-53.930876

- Fuel Prices has p value equal to 0.8373 i.e.  $p > 0.05$ , meaning there is no significant impact on PAT. So, H<sub>0</sub> is accepted and H<sub>1</sub> is rejected.
- Employee Benefits has p value equal to 0.0964 i.e.  $p > 0.05$ , meaning there is no significant impact on PAT. So, H<sub>0</sub> is accepted and H<sub>1</sub> is rejected.
- Finance Cost has p value equal to 0.2206 i.e.  $p > 0.05$ , meaning there is no significant impact on PAT. So, H<sub>0</sub> is accepted and H<sub>1</sub> is rejected.
- Fleet Strength has p value equal to 0.03489 i.e.  $p < 0.05$ , meaning there is a significant impact on PAT. So, H<sub>0</sub> is rejected and H<sub>1</sub> is accepted. Further, the Negative coefficient indicates that 28.616 increase in Fleet Strength will result in 1 unit decrease in ROIC. The standard error of coefficient estimates is 9.1176.

Based on multiple regression, it is found that there is significant dependence of Fleet Strength on the performance of the company. Here, the performance of the airlines is measured using the yearly Profit After Tax.

However, no significant dependence of Fuel Prices, Employee Benefit and Finance Cost is found on the Profit After Tax of the Airlines. Hence, three out of four null hypotheses are accepted stating that there is no significant dependence of the respective variables on the PAT. Also, the null hypothesis stating that there is no significant impact of Fleet Strength on the PAT is rejected and the alternate hypothesis stating that there is a significant impact of Fleet Strength on the PAT is accepted.

### Jet Airways ROIC

**Table 17.3:**

SUMMARY OUTPUT					
<i>Regression Statistics</i>					
Multiple R	0.66672228				
R Square	0.44451859				
Adjusted R Square	-0.1109628				
Standard Error	61.0067793				
Observations	9				
ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	4	11913.4239	2978.35596	0.80024028	0.58288055
Residual	4	14887.3085	3721.82713		
Total	8	26800.7324			
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>
Intercept	304.502911	488.703722	0.62308286	0.56699582	-1052.3561

FUEL PRICES	3.98142372	3.69978625	1.07612263	0.34244992	-6.2908297
EMPLOYEE BENEFITS	-0.1399068	0.25362827	-0.5516213	0.61057373	-0.8440917
FINANCE COST	-0.2857009	0.4133003	-0.691267	0.5274232	-1.4332064
FLEET STRENGTH	-0.4474382	0.78798915	-0.5678228	0.60051039	-2.6352468

- Fuel Prices has p value equal to 0.3424 i.e.  $p > 0.05$ , meaning there is no significant impact on ROIC. So, H0 is accepted and H1 is rejected.
- Employee Benefits has p value equal to 0.6105 i.e.  $p > 0.05$ , meaning there is no significant impact on ROIC. So, H0 is accepted and H1 is rejected.
- Finance Cost has p value equal to 0.5274 i.e.  $p > 0.05$ , meaning there is no significant impact on ROIC. So, H0 is accepted and H1 is rejected.
- Fleet Strength has p value equal to 0.6005 i.e.  $p > 0.05$ , meaning there is no significant impact on ROIC. So, H0 is accepted and H1 is rejected.

On the basis of multiple regression test no significant dependence of Fuel Prices, Employee Benefits, Finance Cost and Fleet Strength is found on the Return on Invested Capital of the Airlines. Hence, four out of four null hypotheses are accepted stating that there is no significant dependence of the above variables on the ROIC.

### Jet Airways PAT<sup>9</sup>

**Table 17.4:**

SUMMARY OUTPUT					
<i>Regression Statistics</i>					
Multiple R	0.98223858				
R Square	0.96479263				

<sup>9</sup>*Insolvency Proceedings, JET AIRWAYS*, <http://www.jetairways.com/insolvencyproceedings/>. (last visited Nov 23, 2020).

Adjusted R Square	0.92958526				
Standard Error	534.235054				
Observations	9				
ANOVA					
	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	4	31284208.4	7821052.11	27.4031456	0.00363139
Residual	4	1141628.37	285407.093		
Total	8	32425836.8			
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>
Intercept	9574.51406	4279.56798	2.23726182	0.08889152	-2307.4715
FUEL PRICES	22.0389292	32.3989486	0.68023594	0.5336893	-67.914973
EMPLOYEE BENEFITS	1.69229657	2.2210173	0.76194659	0.48854277	-4.474236
FINANCE COST	0.16848843	3.61926181	0.04655326	0.96510081	-9.8801933
FLEET STRENGTH	-33.316782	6.900404	-4.8282364	0.00847213	-52.475375

- Fuel Prices has p value equal to 0.5336 i.e.  $p > 0.05$ , meaning there is no significant impact on PAT. So,  $H_0$  is accepted and  $H_1$  is rejected.
- Employee Benefits has p value equal to 0.4885 i.e.  $p > 0.05$ , meaning there is no significant impact on PAT. So,  $H_0$  is accepted and  $H_1$  is rejected.
- Finance Cost has p value equal to 0.9651 i.e.  $p > 0.05$ , meaning there is no significant impact on PAT. So,  $H_0$  is accepted and  $H_1$  is rejected.
- Fleet Strength has p value equal to 0.00847 i.e.  $p < 0.05$ , meaning there is a significant impact on PAT. So,  $H_0$  is rejected and  $H_1$  is accepted. Further the Negative

coefficient indicates that 33.316 increase in Fleet Strength will result in 1 unit decrease in ROIC. The standard error of coefficient estimates is 6.9004.

On the basis of multiple regression, it is found that there is significant dependence of Fleet Strength on the performance of the company. Here, the performance of the airlines is measured using the yearly Profit After Tax.

However, no significant dependence of Fuel Prices, Employee Benefit and Finance Cost is found on the Profit After Tax of the Airlines. Hence, three out of four null hypotheses are accepted stating that there is no significant dependence of the respective variables on the PAT. Also, the null hypothesis stating that there is no significant impact of Fleet Strength on the PAT is rejected and the alternate hypothesis stating that there is a significant impact of Fleet Strength on the PAT is accepted.

### SpiceJet ROIC

**Table 17.5:**

SUMMARY OUTPUT					
<i>Regression Statistics</i>					
Multiple R	0.98396519				
R Square	0.9681875				
Adjusted R Square	0.93637501				
Standard Error	71.3982581				
Observations	9				
<i>ANOVA</i>					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	4	620578.834	155144.709	30.4341892	0.00297171
Residual	4	20390.845	5097.71125		
Total	8	640969.679			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>
Intercept	1020.1514	459.948587	2.21796833	0.09081722	-256.8706
FUEL PRICES	-9.0003045	2.49421296	-3.6084748	0.02258721	-15.92535
EMPLOYEE BENEFITS	-0.6685267	0.89810077	-0.7443783	0.49800084	-3.1620542
FINANCE COST	-0.3597191	0.84575725	-0.4253219	0.69248598	-2.7079177
FLEET STRENGTH	1.81076268	2.12392979	0.85255298	0.44194675	-4.0862118

- Fuel Prices has p value equal to 0.02258 i.e.  $p < 0.05$ , meaning there is a significant impact on ROIC. So,  $H_0$  is rejected and  $H_1$  is accepted. Further the Negative coefficient indicates that 9.0003 increase in Fuel Prices will result in 1 unit decrease in ROIC. The standard error of coefficient estimates is 2.4942.
- Employee Benefits has p value equal to 0.4980 i.e.  $p > 0.05$ , meaning there is no significant impact on ROIC. So,  $H_0$  is accepted and  $H_1$  is rejected.
- Finance Cost has p value equal to 0.6924 i.e.  $p > 0.05$ , meaning there is no significant impact on ROIC. So,  $H_0$  is accepted and  $H_1$  is rejected.
- Fleet Strength has p value equal to 0.4419 i.e.  $p > 0.05$ , meaning there is no significant impact on ROIC. So,  $H_0$  is accepted and  $H_1$  is rejected.

Based on multiple regression, it is found that there is significant dependence of Fuel Prices expenses on the performance of the company. Here, the performance of the airlines is measured using the yearly Return on Invested Capital.

However, no significant dependence of Employee Benefits, Finance Costs and Fleet Strength is found on the ROIC of the Airlines. Hence, three out of four null hypotheses are accepted stating that there is no significant dependence of the respective variables on the ROIC. Also, the null hypothesis stating that there is no significant impact of Fuel Prices on the ROIC is rejected and alternate hypothesis stating that there is a significant impact of Fuel Prices on the ROIC is accepted.

**SpiceJet PAT****Table 17.6:**

SUMMARY OUTPUT					
<i>Regression Statistics</i>					
Multiple R	0.80810732				
R Square	0.65303743				
Adjusted R Square	0.30607487				
Standard Error	467.558367				
Observations	9				
<i>ANOVA</i>					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	4	1645838.1	411459.526	1.8821553	0.277612263
Residual	4	874443.306	218610.826		
Total	8	2520281.41			
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>
Intercept	1065.50531	3571.59368	0.29832769	0.78030816	-8850.828476
FUEL PRICES	-12.274694	9.04236818	-1.3574646	0.24617045	-37.38033314
EMPLOYEE BENEFITS	-1.4320569	4.42617573	-0.3235427	0.76249345	-13.72109088
FINANCE COST	0.79157721	6.31124096	0.12542339	0.90623948	-16.73123687
FLEET	2.99025803	10.4350782	0.28655828	0.78868045	-25.98216364

STRENGTH					
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- Fuel Prices has p value equal to 0.2461 i.e.  $p > 0.05$ , meaning there is no significant impact on PAT. So, H0 is accepted and H1 is rejected.
- Employee Benefits has p value equal to 0.7624 i.e.  $p > 0.05$ , meaning there is no significant impact on PAT. So, H0 is accepted and H1 is rejected.
- Finance Cost has p value equal to 0.9062 i.e.  $p > 0.05$ , meaning there is no significant impact on PAT. So, H0 is accepted and H1 is rejected.
- Fleet Strength has p value equal to 0.7886 i.e.  $p > 0.05$ , meaning there is no significant impact on PAT. So, H0 is accepted and H1 is rejected.

On the basis of multiple regression test no significant dependence of Fuel Prices, Employee Benefits, Finance Cost and Fleet Strength is found on the Profit After Tax of the Airlines. Hence, four out of four null hypotheses are accepted stating that there is no significant dependence of the above variables on the PAT.

## XVI. SUMMARY OF FINDINGS

The findings of the study successfully fulfil the objectives and the statement of the problem of the study. In conclusion, the following null hypothesis is accepted:

- Finance Cost has no significant impact on the performance of Airlines.

And following null hypotheses are rejected:

- Fuel Prices has no significant impact on the performance of Airlines.
- Employee Benefit Expenses has no significant impact on the performance of Airlines.
- Fleet Strength has no significant impact on the performance of Airlines.

The first objective of the study was to find if various factors like Fuel Prices, Employee Benefit Expenses, Finance Cost and Fleet Strength affect the performance of Airlines (ROIC & PAT) in India and the findings suggest that:

- Finance Costs has no significant impact in the performance of the Airlines in India.
- While Fuel prices, Employee Benefit Expenses, Finance Cost and Fleet Strength do effect the performance of the major airlines in the Indian Aviation sector.

The second objective of the study was to find the impact of the factors that affect the performance of the Airlines Sector in India.

The Return on Invested Capital and Profit After Tax of three major Indian Airlines (Indigo, Jet Airways, SpiceJet) have been taken into account to analyse the impact of factors such as Fuel Prices, Employee Benefit Expenses, Finance Cost and Fleet Strength.

Effect of Operating Costs on individual Airlines in India:

Indigo: In the case of Indigo or InterGlobe Aviation Limited, it is found that there is no significant relation between the Performance of the Airlines and the independent factors such as Fuel Prices and Finance Cost

However, it is found that there is a significant relationship between the performance of the Airlines and the independent factors such as Employee Benefit Expenses and Fleet Strength. An inverse relationship is found between the two, that is, the profitability of Indigo has reduced due to increased operational costs such as employee salaries and considerations and fleet maintenance charges.

Jet Airways: In the case of Jet Airways, it is found that there is no significant relation between the Performance of the Airlines and the independent factors such as Fuel Prices, Employee Benefit Expenses and Finance Cost.

However, it is found that there is a significant relationship between the performance of the Airlines and the Fleet Strength. An inverse relationship is found between the two, that is, the profitability of Jet Airways has reduced due to increased operational costs in the form of fleet maintenance charges.

SpiceJet: In the case of Jet Airways, it is found that there is no significant relation between the Performance of the Airlines and the independent factors such as Employee Benefit Expenses, Finance Cost and Fleet Strength. However, it is found that there is a significant relationship between the performance of the Airlines and the Fuel Prices. An inverse relationship is found between the two, that is, the profitability of SpiceJet has reduced due to increased Fuel Prices.

## **XVII. RECOMMENDATIONS AND CONCLUSION**

### **(A) Conclusion**

Indian Aviation Sector is going through a rough patch right now. Two of the major players in the market have lost tremendously and are almost extinct. Jet Airways which was once considered to be an elite airline company of the country now has at least ₹ 15,000 crore in dues and around 15,000 unpaid staff members. Jet Airways is the most critical case so far in

the Airlines Industry.

Apart from Jet Airways, Air India has loans outstanding of around ₹ 9,000 crores. The government backed airlines is looking for a new buyer. However there are very few interested parties in the horizon. the increasing operational costs have made it very difficult for the players to survive in the market.

Airlines in India has become a high cost and low yield prospect. Thus, only the budget airlines in the country that can minimise their costs in the best way possible are able to survive the turbulence in the sector.

Low cost carriers such as Indigo and SpiceJet have been purchasing new aircrafts over the recent years and have many more pending deliveries. Most of these aircrafts are powered by Pratt & Whitney engines. These engines have caused numerous issues time and again. Due to lack of better alternatives the aircraft companies need to stick to these engines. Through the regression tests carried out in this paper it is found that the profitability is getting effected due to the increasing number of aircrafts purchased by these airlines.

Jet Fuel prices contribute around 40% to the total costs of Indian Airline Companies. Moreover, jet fuel in India is taxed more than any other country in the world. The regression analysis shows that the increasing fuel prices has a negative effect on the profitability of the carriers.

Some of the burden can be addressed by the Central Government in the form of tax cuts on aviation turbine fuel. A direct impact on the performance of the airlines can be noticed with a marginally smaller dent in the governments accounts.

For a decade, airlines in India have in vain appealed to the government to reduce taxes on fuel. Jet fuel in India is 35%-40% higher than in the rest of the world, owing to its relatively high taxes.

India's airlines are plagued by many old and new issues. During difficult times, damages are expected to rise and stresses to stack up. The government has not addressed the fundamental aspect of the business. India is a market pricing prone. If the fuel price is low, even at current revenue rates, airlines will make money.

### **(B) Scope for Further Study**

A further study can be conducted keeping comparing the Indian Airlines scenario with other countries. This would help us analyse the drawbacks in the current processes and strategies. It would also give a holistic view of the performance of the airlines.

A study taking the predatory pricing techniques in account can be conducted to analyse its impact on the performance of airlines. The low-cost carriers sell their tickets below the cost price in order to drive the competition out of the market. However, these strategies greatly impact short term performance of the airlines. Thus, it might be a value addition to the study.

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