

# Evaluation of Growth in Air Passenger Traffic in India

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## ABSTRACT

Indian Aviation Industry is one of the fastest-growing aviation industries in the world. As per the International Air Transport Association (IATA) forecasts, India is likely to surpass the United Kingdom and will become the 3rd largest aviation market in the world by 2024-25. In India, during FY 2006-2019, the passenger traffic (domestic and international) grew at CAGR of 12.64% and with growth in the middle-class population, it is expected to grow exponentially shortly. In this paper, we have examined the reasons responsible for the rise in passenger traffic in India. We have also attempted to study past growth trends in air passenger traffic (domestic and international). We will examine factors such as an increase in the middle-class population, an increase in disposable income of individuals, aspiration of population, growth in tourism, better airport infrastructure, favorable investment policies including RCS-UDAN by Government of India (GoI), and their impact on growth in air passenger traffic. We will also attempt to investigate the impact of the recent COVID-19 pandemic on the growth of air passenger traffic and other major issues or challenges affecting the growth in passenger traffic in India.

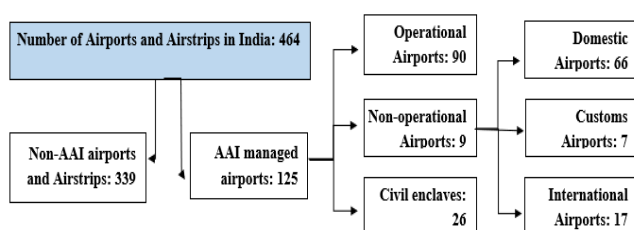
## Keywords

Aviation Sector, Passenger traffic, Infrastructure, Middle-class population.

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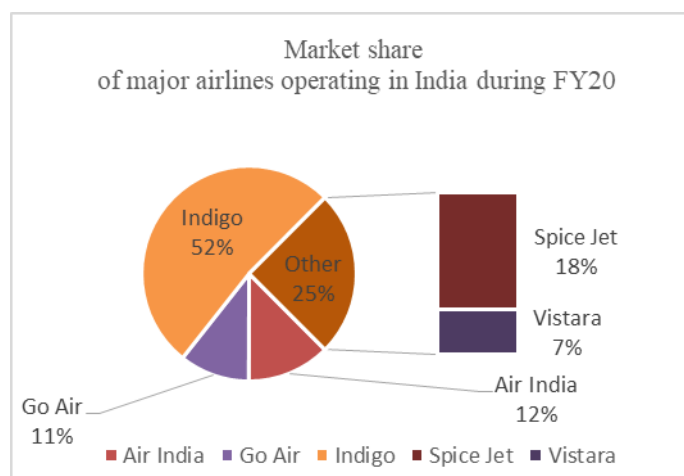
## Introduction

Aviation Industry of India is one of the fastest-growing aviation industries in the world. During the past decades, the airline industry has witnessed tremendous growth along with ups and downs within aviation sectors and among aviation players. As per IATA forecasts, India will surpass the United Kingdom and will be the 3rd largest aviation market in the world. Indian domestic aviation market is the 3rd largest market in the world. The chart mentioned below depicts the categories and number of airports and airstrips in India:

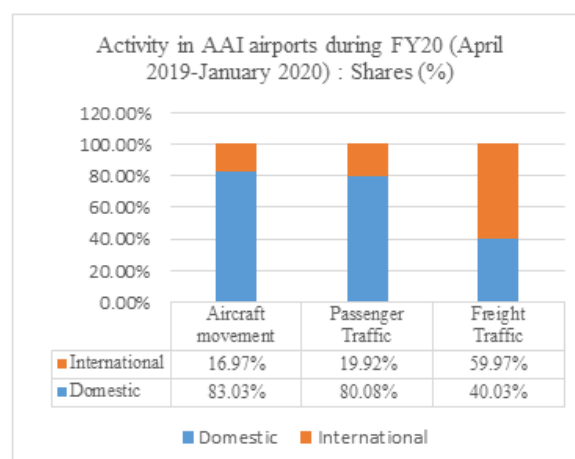


**Figure 1.** Categories and number of airports and airstrips in India

India's airline industry is growing continuously due to the large and increasingly middle-class India, increased disposable income, and better infrastructure along with investment policies. The Indian aviation industry is dominated by full private-owned service providing airlines with a 75% share of the total domestic Indian aviation market and is expected to cater 520 million passengers.



**Figure 2.** Market share of Major airlines operating in India during FY 20



**Figure 3.** Activity in AAI Airports during 2020

The Indian aviation service is broadly divided into transport service and cargo service. Under the transport service, these are categorized as Scheduled and non-Scheduled. Scheduled transport service provides airlines service whether it is domestic or international while, Non-scheduled transport service includes Air taxi and Charter operator. Cargo and mail transport come under cargo service.

According to the study and research papers, the growth in the air passenger traffic in India is deeply affected by these major factors: Increase in the middle-class population and increase in disposable income of individuals, Growth in tourism, better airport infrastructure and Favorable investment policies by the Government of India. Detailed theoretical analysis has been done followed by conclusion and recommendation.

With the rising working population in corporate sectors and widening middle-class demography, India is expected to raise the number of the operational airports for better connectivity to 190-200 by FY 2039-40 and Indian aviation sector will need 2380 new commercial airplanes to boost demand with expected investments of Rs 420-450 billion in Indian airport infrastructure between FY18 to FY23. (Source: CRISIL) The government of India has encouraged private player's participation through the PPP route and allowed 49% of foreign investment in regional & scheduled airways services in transportation and domestic scheduled airlines for passengers under the automatic route.

The Aviation sector in India currently contributes \$72 bn to GDP with the growth of 11% in passenger traffic, 15.9% in foreign traffic arrival, 3.6 MMT in total freight traffic, and 14.4% in domestic aircraft movement this FY. Based on the data provided by AAI, APAO, DGCA, and Ministry of Civil Aviation, following analysis about growth in passenger traffic, freight traffic and aircrafts movement have been drawn: (Figure 4)

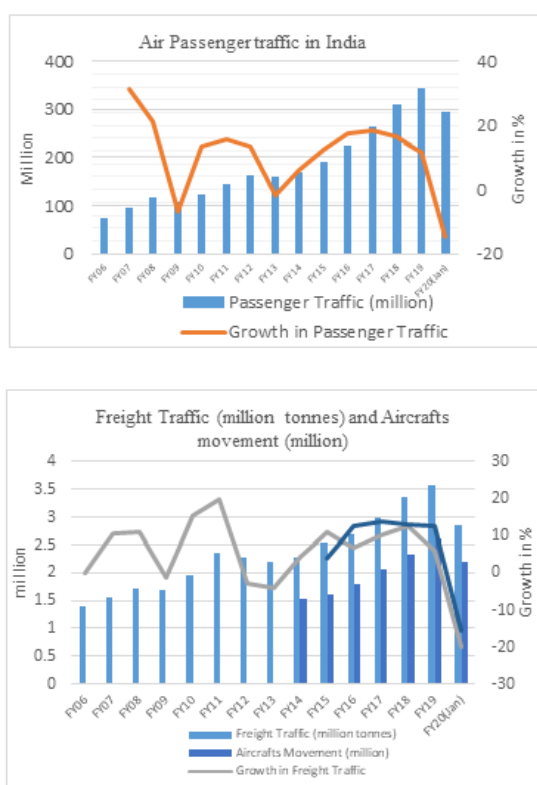
**Figure 4.** Air passenger Traffic and Freight Traffic & Aircrafts movements in India

India's passenger's (Domestic and International) grew at 11.64% Y-O-Y to reach approximately 345 million in FY19. During FY06-FY19, Passenger traffic and Freight traffic in India grew at a CAGR of 12.64% and 7.44% respectively while aircraft movement in India has seen the growth at a CAGR of 5.91 % from 1.31 million to 2.61 million during FY07-FY19.

## Literature Review

Through several policies, the GOI has encouraged private and foreign investments in the aviation sector to achieve technology transfer and smooth functioning of airport services. With the continuous increase in the percentage of middle-class population year by year and their willingness to travel by air has caused a significant growth in air passenger traffic. Based on the income of customers, Indian airline offers low-cost service carrier and full-service carrier. [1] Low-cost service carrier provides limited services at low ticket price resulting in the growth of air passenger traffic, while full-service carrier provides best services along with extra services i.e. food, entertainment, etc at higher ticket price. Despite being one of the largest aviation markets in the world by 2020 and statistical figures depicting tremendous growth of the passenger traffic, and various sections in the aviation sector, the sector has been facing issues and has witnessed parallel falls in the industry and major factors are 1. High taxation, 2. Infrastructure constraints, 3. Low-cost carriers 4. Regulations, reforms, and interference, 5. Depreciating value of the Indian currency compared to Dollar and, 6. Lack of buyers. [2] It has been found that the rise in the air passenger traffic was major because of expansion in the middle-class population along with growth in disposable income, urbanization & demographics, and government efforts in tourism, initiatives, investments, and policy support. [3] With the growth in the above-stated factors, many airports are facing passenger traffic above the saturation point and expansion of such airports is an important constraint. [4]

Liberalization has led to tremendous growth in the economy and in traffic. These positive results are largely because of competition and growth in the number of aviation players, lowering costs and boosts traffic growth; more efficiency because of network operations and pricing strategies. Growing competitive demand often pushes airlines to boost efficiency, removing inefficient carriers from the market; beneficial results to the economy as a whole, including growth in employment, export, improved transport and logistics facilities, etc. Liberalization has allowed carriers to expand their networks to serve markets within / intercontinental. Airlines have used network model i.e. hub-and-spoke networks widely to gain cost advantages in manufacturing (density economies) and/or sales advantage. The success of Low-Cost Carriers has had major impacts on the airline industry. There is a two-way relationship between the LCC extension & deregulation versus liberalization. Low-Cost Carriers' rapid growth leads to increased competition among aviation players and reduced price, which greatly increases traffic. [5]



Most developing countries face major difficulties in increasing airport capacities in their main cities. The airports in North America and Europe were facing congestion due to capital plunged into this mega infrastructural network, it would be expensive to turn to an alternative to build a new airport. Reducing airport congestion and delays through the short-term plan and long-term plan and congestion charging system for peaks and off-peaks, using the Marginal and Average cost pricing structure is still a major problem that these countries are facing. 'Congestion is a result of the relationship between demand and airport capacity causing delays longer than the 15-minute threshold, i.e. if the demand / capacity ratio reaches or exceeds one.' [4]

According to the World Travel and Tourism Council (WTTC), India was ranked 3rd among 185 countries because of the significant direct contribution of its travel and tourism to GDP and is expected to grow by 7.1% per year during the decade. [6] i.e. 2018-28. Domestic as well as international tourist traffic has grown significantly due to growth in low-cost Indian airlines. These airlines have lowered the price and hence, increased domestic spending on travel and tourism. UDAN Scheme and low-cost airlines have promoted domestic tourism by connecting the underserved regions i.e. North-East India. 10.9 million Foreign tourists visited during 2019. Under this scheme, 335 routes were awarded covering 33 airports by 2019 and approximately 34 lakhs passengers traveled during 2019. [7] It is expected that the count of international tourists will reach 30.5 million by 2028 causing growth in the passenger traffic. According to the RCS "UDAN- Ude Desh ka Aam Nagarik" launched by the GOI, it has been aimed to provide safe, secure, comfortable, and affordable access to air connectivity services through development and customization in the operation of 425 underserved, smaller regional or unserved airports along with the development in aviation infrastructure to provide faster connectivity in remote areas.

[7] The development process under this scheme for 10 years, is funded by the GOI and the state government jointly. UDAN Scheme is a part of National Civil Aviation Policy-NCAP, has envisioned to enable Thirty crore domestic tickets by 2022 and 50 crores by 2017 along with increment in the number of international tickets to 20 crores by 2027. IATA report estimates that the COVID-19 crisis has a worsening impact on the aviation industry, with a significant decline of 47%, compared to baseline (2020 vs 2019) has to be observed in passenger traffic by airlines. [8]

### Research Methodology

This paper deals with the evaluation of growth in air passenger traffic in India and the factors affecting the passenger traffic. Approach to study the evaluation is based on quantitative as well as qualitative analysis. Quantitative analysis has been done through the existing data i.e. numbers, graphs and trends, gathered from the publications, research papers, and reports while qualitative analysis has been drawn with the help of literature reviews. The paper discusses the theoretical analysis of the factors. In this paper, data used are primary and secondary data available on public platforms, various sources, studies and reports by ministries and domestic and international airlines

organizations such as Ministry of Tourism, Incredible India, Airport Authority of India, Ministry of Civil Aviation, Ministry of Statistics and Programme Implementation, Directorate General of Civil Aviation, and Association of Private Airport Operator and research papers published by scholars interested in aviation sector or sector related to factors responsible for the growth in the air passenger traffic.

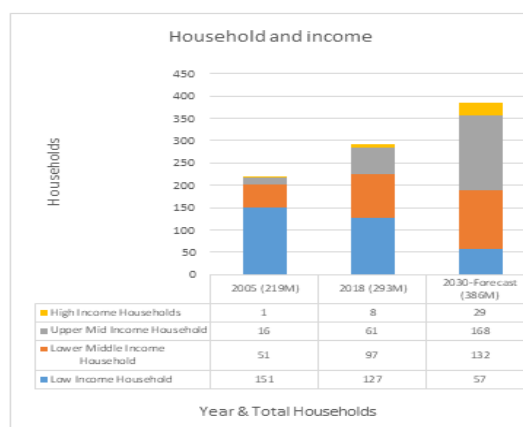
### A. Research Analysis: Evaluation of Growth in Air Passenger Traffic in India

#### Middle-class population and Income growth in India:

Growth in middle-class population and disposable income will accelerate the growth in the passenger traffic in Indian civil aviation. With a gradual exponential growth in passenger's spending will be primarily driven by the projection that there will be an expansion in middle-class households with a sizeable high-income class segment emergence, which will grow to one in two households by 2030, from being one in four households today. The middle class is at the very center of the hierarchy of the society and plays a hierarchical role between the upper class and the working class and it varies greatly among nations having cultural, structural, and economic differences. Defining criteria for the constituents of the "middle class" in the country depend on factors such as the definition of being wealthy, levels specifying the support from the society, purchasing capacity of the middle class, educational qualifications, and several other factors. According to the organizations, such as the OECD and World Bank, individual living on less than USD 2 per day is considered poor. Among individuals in the middle class, earnings usually range from USD 10 to USD 100 per day, as considered in the parities among purchasing capacity in 2015. The lower threshold for the middle class of USD 10 is considered because USD 10 is five times USD 2 specifying the poverty line and from this income level, people are less likely to fall below the poverty line.

As per below projection drawn by the ICE 360 Survey (2014, 2016, 2018), India will witness the addition of 21 million high income and approximate 140 million middle-income households by 2030.

In 2017-18, Poverty line per day per person was decided as ₹125 and for different segments, household income per annum was as follow:



**Figure 5.** Household and Income

- Low Income Household: < ₹ 2.5 lakhs (\$4k)
- Lower Mid Income Household: ₹ 2.5-5.5 lakhs (\$4k-8.5k)
- Upper Mid Income Household: ₹ 5.5-27.5 lakhs (\$8.5k-40k)
- High Income Household: > ₹ 27.5 lakhs (\$40k).

By 2030, There will be an addition of approximately 140 million middle and 21 million high-income households in India, and the sum of shares of upper-middle and high-income households is expected to be half of the overall share of these groups, and 2.85 times of upper-middle-income households in 2018. With this rapid increase in these households, on domestic or foreign airlines, air passenger traffic in India will increase rapidly.

During the eight years of 2004-2012 in India, the middle class grew from 300 million to 600 million. In 2015, fewer than 19% of the total population of India were below the poverty line. The household savings rate in India rose between 2005 and 2015 resulting in a significant rise in the count of households earning significant disposable income. As shown in Fig, In India, the count of households in 2015 having disposable income greater than USD10,000 has increased 20 times in 25 years, from two and half million in 1990 to approximately fifty million in 2015. (*Euromonitor International*, accessed October 5, 2017, on the WEF website, <https://tinyurl.com/79xgdch>)

At Mumbai University, Economists: "Sandhya Krishnan and Neeraj Hatekar" have described the income level of the middle class in India as consumer spending between USD 2 and USD 10 per capita per day. Using this definition, roughly half of the 1.3 billion Indians now belong to the middle class. The highest growth has been seen in the lower middle classes, spending 4-6 US dollars per day. This class includes carpenters, Barbers, vendors (Street), decorators, drivers, and individuals belonging to others. Many of them have found barriers to entry while many of them have opportunities to step up to the next category. The lower middle class has about a third of their total income left for the discretionary expenses after spending on necessities such as food and housing and remaining get spent in purchasing consumer goods, gain access to health care and children's education.

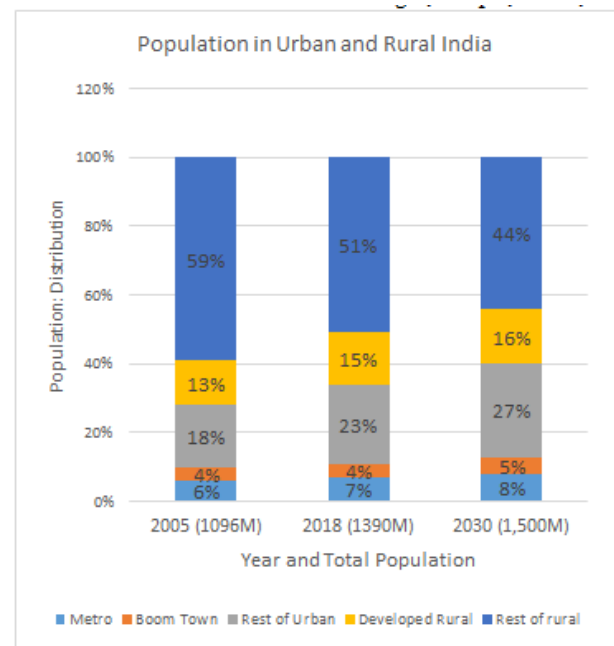
Indian middle-class population's expansion will not only affect the rise in passenger traffic but will also continue to increase outbound tourism in the region. This year the tourism sector is projected to reach USD 40 billion, and by 2022, up to USD 45 billion. (Source: India Outbound Tourism Market: Outbound Tourists, Visit Intent, Tourist Spending and Forecasts, "Renub Report, 3rd edition, 13 Sep 2017) This implies a double-digit CAGR of ten percent over the next 5 years. The Renub Research Report also stated Indian tourists as the largest spenders on their U.S. Trips, largely due to development in the Indian middle class, attracting major countries to invest and open their tourism offices in India.

The population of India continues to rise rapidly and it is expected that it will outperform China's population by 2022, according to the UN report. The middle-class of the Indian population is projected to rise steadily over the next 10 years and by 2027, the size of the middle class of India is projected to be greater than that of Europe, China, and the U.S.

The Economist has also estimated that over the next few decades, more people will be coming out of below poverty class. The middle class in the world is projected to expand significantly, with a large number of Indians entering into the middle-income class by 2030. Indian civil aviation and passenger traffic will continue to see demand rising, led by a greater impact from middle-class people.

## B. Urbanization

With rapid urbanization, metro cities and emerging boom towns are growing faster and continue to drive growth in the economy as well as passenger traffic through the development of aviation infrastructure and its policies. Because of rapid urbanization, migration from rural to the urban part of the nation had a significant effect on the increase in the income level, and expansion of the middle-class population. According to the projection shared by Oxford Economics, Euromonitor, ICE 360 Surveys, 40% of the total Indian Population will be staying in Urban India by 2030. India will have more than 5000 Indian small urban towns having population 50k-100k each and top 9 metro cities: Ahmedabad, Bangalore, Chennai, Delhi, Hyderabad, Kolkata, Mumbai, Pune & Surat having population greater than 50 lakhs and 30 boomtowns i.e. Agra, Bhopal, Kochi, Kozhikode, Lucknow, Nasik and Ranchi with population 20-50 lakhs will be richer than other cities in India.

**Figure 6.** Population in Urban and Rural India.

## C. Indian Demographics

Travelers in the 18-35 age group dominate the Indian travel scene with this young tech-savvy crowd conducting almost 66 percent of the overall trips, according to the report 'India Travel Report 2016' published by MakeMyTrip. They prefer to travel by air and with the rise in millennials and Generation Z population in India and their desire to travel by Air is also incorporating with the rise in the air passenger traffic in India. In 2030, India will continue to be one of the world's youngest nations with one of the highest young age working for populations with 31 as median age (compared



to 42 in China, 40 in the USA), relative to other aging nations in the West and East. India would add more Working Age Citizens worldwide than any other nation. India is going to introduce nearly ninety million new millennials households. India will have around 370 million users from Generation-Z (10-25 years old) by 2030, who would have grown up in Digital India with accessible internet and affordable smartphones. Digital platforms have influenced these millennials and Generation-Z users to be more enthusiastic about tourism and air travel to save their time during leisure or business trips as well. According to the “Euromonitor and Report by WEF: January 2019” report, 77% of the total population in 2030 will belong to Millennials (Age: 25-49) and Generation Z (Age: Less than 24).

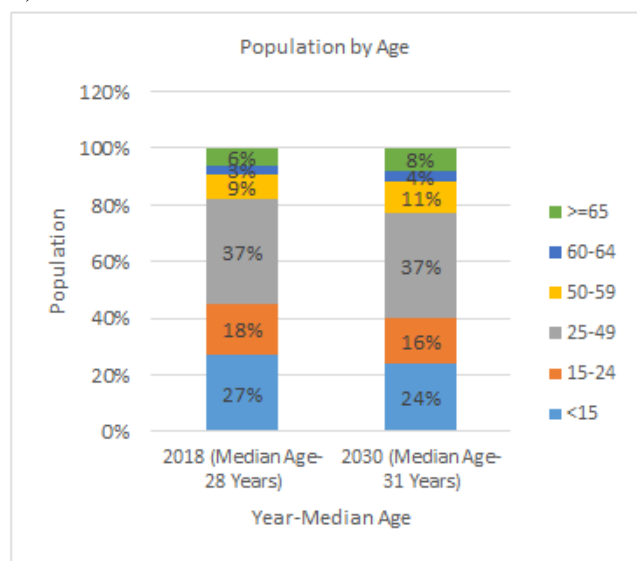


Figure 7. Population by age.

#### D. Growth in Tourism

With robust demand in Indian Tourism because of attractive opportunities, diverse attractions and policy support has increased the air passenger traffic in Indian Civil aviation. The Government of India has taken significant steps to promote the tourism industry which is also cooperating with a rise in the passenger's traffic i.e. Buddhist Circuit by the Ministry of Tourism. Our country has rural, luxury, Eco-tourism, Medical, Heritage, adventure, and pilgrimage tourism offering thirty World Heritage sites, geo-diversity, twenty-five biogeographic zones, and beaches.

As per the World Travel & Tourism Council's economic report, 2019 and Ministry of Finance, 10.9 million international tourists visited India last year and it is expected that 30.5 million international tourists to reach by 2028. Different policy supports have been provided by the Government of India such as: for the development of tourism in India, 15 Indian thematic circuits have been identified and selected under the Scheme called as “Swadesh Darshan Scheme”, for the hotels situated around World heritage sites identified by UNESCO excluding Mumbai and Delhi, a 5-year tax holiday has been provided to 3 & 4 star category hotels and 169 countries were offered e-Tourist visa facility till Dec 2019. So, factors such as affordable accommodation, Safety, Attractions & tour benefits, and utilities play a vital role in the booming of the tourism sector.[6]

Air transport has been a boon to international and domestic tourism in India. The key reasons for the tourists to patronize aviation were saving time and air travel experience. Because of its direct impact on the social, political, educational, and economic fields of national societies and their foreign relations, tourism is seen as an activity central to the life of nations. Its growth is tied to nations' social and economic progress. Tourism is a source of (FOREX) foreign exchange, acts as a catalyst for growth, protection against volatile commodity price fluctuations. Tourism is today recognized as a significant economic activity. It also has socio-cultural, educational, and political importance, in addition to economic importance.

In India, more than 1.85 billion visits among total tourist visits were domestic tourists in 2018, but this year because of the COVID-19 Pandemic, it is going downwards and affected the tourism industry adversely. Moreover, from the year 2000 to 2019, an exponential increase in domestic tourist visits has been observed across the world. Throughout improving domestic tourism, the use of social media played a significant role. Kerala Tourism was one of Twitter's top travel profiles as of 2019, the most prominent among Indians. The number of domestic tourists in 2018-19 visited was 1855 million approximately, with a yearly growth rate of 11.9%, according to statistics released by the Ministry of Tourism. (Statista. 2020) [9].

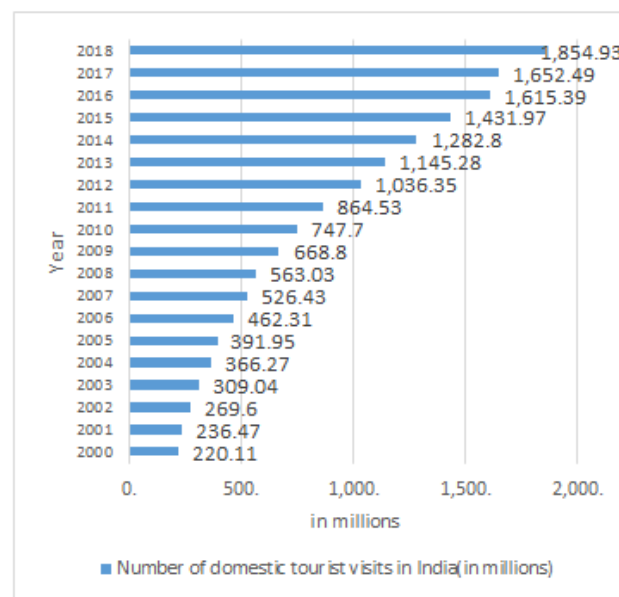


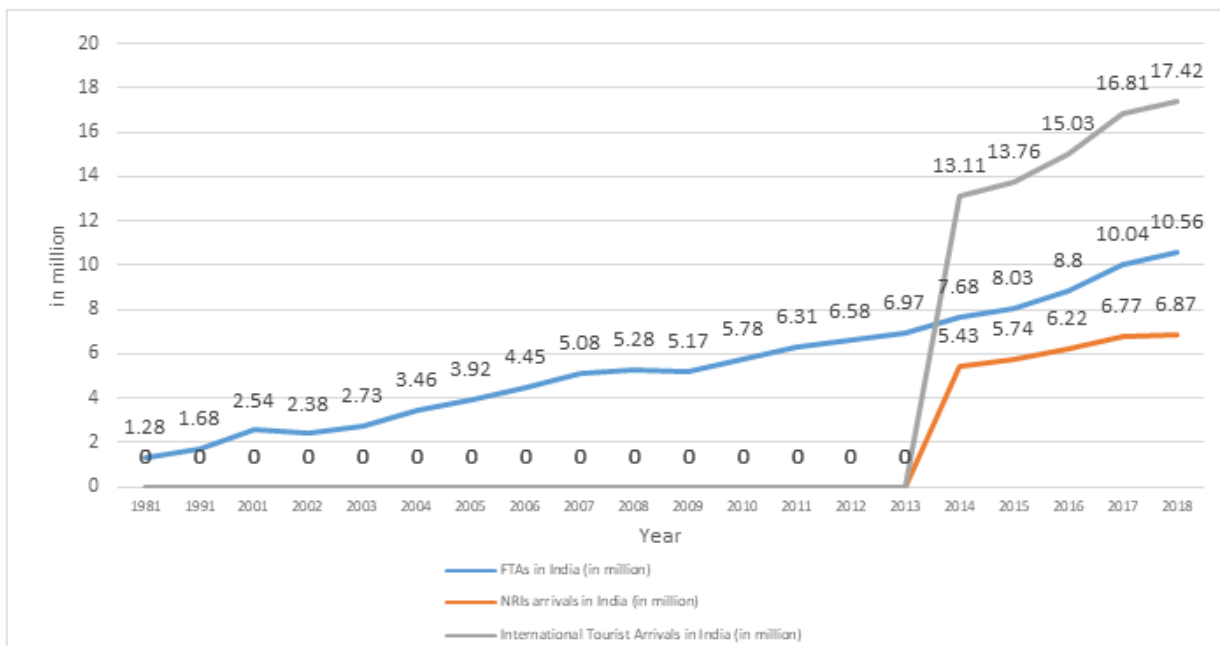
Figure 8. Number of domestic tourist visits in India in millions.

79.6% of FTAs (Foreign tourist arrivals) visited India through the air, 19.6% via land, and 0.8% via sea. Delhi airport and Mumbai airports shared about 45% of India's total foreign tourist arrivals. Bangladesh, led by the U.S., Germany, Sri Lanka, China, Japan, Canada, Australia, Thailand, Malaysia, Russian, Singapore, France, and Nepal in 2018 where India's top fifteen source markets for FTAs. As of 2018, the top 15 countries reported about 75% of India's total FTAs. In 2018, the Tourism sector in India accounted for 1.2% and 5.0% of FTAs in the world and the Asia Pacific region respectively, ranking 17th. FTAs proceeded to grow to 10.56 million in 2018 from 1.28

million in 1981 to 1.68 million in 1991 and 2.54 million in 2001.

In India, during 2018, Foreign Tourist Arrivals (FTAs) recorded an increase of 5.2 percent over 2017. The CAGR for FTAs in India was 8.75 percent from 2001 to 2018. The

Ministry also started collecting and disseminating from 2014 onward the arrivals of NRIs and ITAs. Source: Bureau of Immigration, Govt. of India.



**Figure 9.** FTAs, ITAs and NRIs arrivals in India

(Note: International Tourist Arrivals in India is the summation of Foreign Tourist Arrivals and NRIs in India)

During the eighties & nineties, growth in FTAs did not keep any uniform pattern i.e. positive growth (Double-digit) from 2003 to 2007, 2010, 2014, and 2017, negative growth 1991, 2001, 2002 and 2009 respectively. In 2018, NRI arrivals reported a growth of 1.4 percent over 2017. The ITAs have witnessed a positive yearly growth of 11.8 percent in 2017 & 3.7 percent in 2018 in India. FTAs were 10.9 million in 2019, hitting a 3.20% Y-O-Y growth rate. Growth in tourist arrivals for international visitors was due to flexible favorable government policies, established infrastructure, and easy access to e-Tourist Visa. e-Tourist Visa supported arrivals increased by 23.6% Y-O-Y to approximately 3 million in 2019. The GoI is working towards achieving a 2% share of the world's ITAs by 2025.

The Aviation Administration played a major role in supporting tourism as the bulk of visitors traveled the international as well as the domestic industry by air everywhere. To attract a constant flow of tourists to the region, special discount fares had been introduced by Indian Airlines, the private carriers, tour operators, and online booking websites. The recent youth tariffs have also helped to unlock the untapped potential in this market. Field studies show that youth travel in the world developed very rapidly. The airlines have introduced many special group fare schemes to cater to the needs of all age groups. Such schemes or tools have allowed Airlines to increase its net profit and also to assist in promoting tourism and tourism trades in all parts of the country. Tourism is the world's largest industry alongside oil. This requires a huge movement from one end of the globe to another involving millions and millions of people. The civil aviation

infrastructure has the most important role to play in making this transition possible, efficient, and fast.

The post-war years witnessed a remarkable growth of tourism and international tourism in India. Aviation is a powerful tourism tool that is the most important source of income for many countries, especially in terms of foreign exchange. Tourism is sensitive to economic activity for the tourism-enriched countries and it generates more stable income as compared to primary products. Tourism attracting international tourists provide a valuable source of earnings for developed and developing countries. In many countries, revenue from tourism has tended to rise at a higher rate than merchandise exports. The sum paid in foreign currency per tourist varies greatly from place to place, the value of tourism receipts in the balance of payments and tourism activities in the national income has become considerable. International tourism income in the form of foreign exchange earnings contributes to national income. The invisible earnings from tourism are of immense significance and have a very significant positive impact on the balance of payments. As a major foreign-exchange (FOREX) earner for the nation, National tourism continues to play an important role. In 2018, tourism FOREX earnings (FEE) amounted to USD 28.59 billion with a 4.7% increase compared to USD 27.31 billion in 2017.

There are different strategies adopted to promote tourism in India which are also responsible for the rise in the air passenger traffic in India.

- **Branding Initiative:** The GOI's launch of initiatives, such as Atithi Devo Bhava & Atulya Bharat, provides a concentrated impetus for growth. Incredible India 2.0 campaign was initiated by the government to market a unique promotional strategy.

- *Medical Visa*: The GOI has allowed releasing a fresh M(Medical)-visa category to facilitate Indian medical tourism.

- *Sales channel for One-stop solution*: Players seek to make their customers happier by offering all of the services available on the single and easy to operate the platform. For example, MMT (MakeMyTrip) and similar websites have tour specific packages of deals including an outbound-inbound tour for leisure as well as business vacations, hotel and cab rentals, Indian and international holiday packages, etc. Players opt for all platforms to optimize their profits and ensure their customers' convenience.

- *Tourism*: India has been recognized as the nation of spiritualism for a long time with Indian centers of pilgrimage expressing the cosmopolitan culture of India. India is famous for its spiritual and cultural tourism for visitors.

According to the gathered information and reports published by DPIIT and Make in India initiative, these four major growth drivers: FDI, Policy, Demand, and Infrastructure, are promoting the tourism market and rise in the air passenger's traffic in India. Around April 2000 and December 2019, the tourism and hospitality sector had received total foreign direct investments of US\$ 13.21 billion. Global hotel brands have planned to target India. Hospitality offering majors enter into tie-ups to reach the Indian market more profoundly. To boost their scope and market share, Taj & Shangri-La entered into a strategic partnership by launching the loyalty services aimed at attracting rewarding customers staying in any of these two hotels. The Tourism Ministry had launched an online PSDS (Public Service Delivery System) to allow the applicants to ask for hospitality projects approvals and to make the real-time tracking of their applications online. Domestic tourism spending is expected to rise because of increasing household income. Many niche offerings are expected to generate more competition, such as medical tourism & eco-tourism. More than half of the budget of the Tourism ministry is channelized to fund the growth of world-class destinations, theme-based tourist circuits, mega-tour projects, and infrastructure projects for rural tourism. Tourism Ministry is presently developing many theme-based circuits for the promotion of tourism under the scheme called as Swadesh Darshan.

## E. Better Airport Infrastructure

Airport infrastructure and market has been the most crucial factor in national economic growth. It has a crucial role in people's mobility and movement of products among different domestic and international destinations, especially in the case of distant distances and shortage of time and it contributes to the rise in the air passenger traffic. Stiff rivalry and the Government of India's favorable policies provided support for increasing the number of flights and fleets. Air Deccan was the leading Indian airline offering both domestic and international destinations low tariffs and creating a new landmark in India's aviation sector and now, there are other airlines offering tickets at low tariffs. Now regular people have been able to access air service conveniently from their respective air terminals. Providing high-quality services to customers in a highly competitive setting is the key competitive advantage for the competitiveness and sustainable development of an airline.

With the air transport market becoming ever more competitive in the last decade, many airlines have switched to emphasis on airline service efficiency to improve customer satisfaction leading to a rise in passenger traffic. Conditions for service quality affect the competitive advantage of a company by maintaining consumer loyalty, which in turn results in a rise in market share. The delivery of high-quality passenger services is key to the survival of airlines, so airlines need to consider what passengers want from them.

By 2040, India is set to double its airport infrastructure, as the Indian civil aviation sector is projected to have the world's 3rd largest passenger traffic market by 2024.

From 2005-06 (April-March) to 2017-18 (April-March) passenger traffic in India grew at a healthy rate of over 12 percent. Eclipsing all previous records, traffic grew by more than 16% Y-O-Y in 2017-18 to cross the 300 million mark. In FY-18 there was a growth of 18% in domestic passenger traffic, while international traffic grew by more than 10 percent year-on-year over the same period. There's also a significant growth in air freight traffic in the region. DFT in FY18 stood at 1,213 million tons while IFT stood at 2,144 million tonnes. According to a local media survey, international freight handling in the country increased by 15% on the year ended March 31, 2018, while domestic freight handling increased by 8%.

According to the data collected from IBEF Aviation reports:[10] Rise in the traffic is driven by factors and reasons such as robust demand, Policy support by government, increase in the investments, maintenance, repairs, and overhaul opportunities, etc. It is anticipated that rising working groups and expanding middle-class demography would fuel demand. India is expected to increase the number of operating airports to 190-200 by FY-40. By 2038, India will need 2,380 new commercial aircraft. The Government has been promoting the participation of the private sector. Foreign investment is allowed up to 49% in domestic scheduled passenger airline, regional, and scheduled air transport services under the automatic route. Investment of Rs 420-450 billion is expected between FY18-23 in airport infrastructure as per CRISIL.

According to the IBEF report, In FY19, India's airports have seen DFT of about 275.21 million people. By 2024, India aims to open a hundred more airports. In 5 years, investment of 6 billion dollars is planned in the airport sector of the country. Aircraft numbers are projected to rise to 1,100 by 2027. The number of operational airports has risen from 50 in 2000 to 137 in 2019.

The civil aviation sector has developed over the past two decades from a closed, unmanaged, and over-regulated industry to an open, liberalized, and investor-friendly one. With the arrival of private airlines in 1994, it had seen development in phases. Despite the completion of Cochin airport in 1999, the sector remained inactive until 2002 due to uncertain policy regulations. Around 2003 and 2007, however, there was a dramatic shift in the sector soon after Air Deccan launched its services. The arrival of other low-cost airlines such as IndiGo in 2006 and the rise in passenger traffic set the tone for improvement in the existing airport infrastructures. Several regulatory reforms implemented between 2005 and 2016 have complemented this with. Many such measures included opening up foreign

direct investment (FDI); the customs and excise duties on aviation turbine fuel (ATF); and introducing the 2016 New Civil Aviation Policy (NCAP), including the ambitious RCS (Regional connectivity scheme).

Likewise, airlines and airports need large volumes of traffic to support their companies. Since the bulk of passenger growth is confined to the few selected airports of the country, it is compelling to link the interiors and put them onto the air grid of the country. Nonetheless, it can be expected that a growing regional market would serve as a strong buffer against any of the inevitable headwinds that the industry could ever face. Considering the situation, the biggest program initiated by the Civil Aviation Ministry for the implementation of the Regional Connectivity Scheme, widely popular as UDAN. The main goal of the RCS scheme is to turn into practice a common man's vision of flying by airlines at a pocket-friendly price. This is a system in which airlines are allowed to pay discounts for seats. Nearly 50 percent of seats will be subsidies on each flight, and per seat will cost about Rs.2500/- where the distance to be traveled is less than 500 km and that flight duration is 1 hour with subsidy seat minimum 9 and maximum 40 and the scheme will be operational for a 10-year duration. According to this arrangement, airlines will be given discounts on the routes specified under RCS and these airlines will also be benefitted from various benefits such as a 3-year route monopoly and many other landing airport concessions. Under the UDAN scheme, Alliance Air subsidiary of Air India, Spice Jet, Air Odisha, Air Deccan, etc will operate respective flights from airports.

Before the introduction and implementation of UDAN, India had seventy-six operating airports and, via 27 UDAN plans, 27 airports currently served, 12 underserved airports, and 31 unserved airports will be linked in one go. In this scheme, the provisions in the UDAN scheme are 50 airports to be upgraded. Under the UDAN scheme, the government will play a facilitator role in helping the industry to fulfill the common public's dream of flying. UDAN will improve regional connectivity and enhance India's general aviation industry at a modest price discovered in the industry.

UDAN's objectives are to flourish the regional aviation sector & market and integrate it with the rest of the aviation network. It aims to provide low (cheap) tariffs so that even common people can take advantage of flights and it also aims to encourage tourism in previously less explored areas because of less or poor connectivity and hence encouraging more traffic in the areas of low connectivity.

#### **F. Investments, Favourable policies, and Initiatives responsible for the rise in air passenger traffic**

The key initiatives regarding Aviation sectors responsible for the rise in the passenger traffic are the quantification of the traffic & capacity, promoting Public-private partnership, AERA Amendment Bill, Greenfield Airport, NCAP, ATF Cost, Relaxation in FDI and several other initiatives were taken. With the expansion of the middle-class population along with growth in the population have disposable income, the majority of Indian airports have crossed the saturation level of capacity. There are many non-metro Indian airports such as Patna, Nagpur airports which are getting over-utilized beyond their limits. [4] Thus, the

Government is working actively to increase the number of airports to 200 by 2040 from 103 airports as per March 2019. The aviation industry is expected to get an investment of approximately \$5 billion till 2022 and the Indian Government was expected to invest \$2 billion to enhance and develop the airports. PPP model was introduced to bring the private players into development, operations, and maintenance of the airport infrastructure, and hence, it is also helpful in attracting foreign airline players and providing satisfactory services to the customers. AERA Amendment Bill, 2017 decides the tariffs for operational airports or projects under pipelines. Under FDI policies, the Indian Government has provided an automatic route to foreign investors to invest up to 100% in domestic scheduled passenger airline, scheduled, and regional air transport service. In low-cost airlines, the absence of meals has reduced the tariffs. By 2027, Fleet capacity will be doubled from the existing capacity to 1100 aircraft under the expansion plan. During COVID-19 Pandemic (April 2019), 465 flights have been operated in one month to fight against the pandemic.

With growing demand because of the expansion of the middle-income class, growth in trade, and rise in tourists, there has been a need for policy support and investments to boost the airlines. Government being more focussed on boosting infrastructure, supporting open sky policy, liberalization, and encouraging FDI increased PPP promotion, Greenfield projects, and low-cost airport infrastructure development. There are many airports in the Northeast region under progress which upon successfully construction and operation will attract the tourists more and will cause a rise in the traffic.

The government of India has encouraged the FDI policy by allowing 100% and 74% FDI for Greenfield and brownfield projects respectively under automatic route and government approval is needed for more than 49% FDI. In the Indian aviation sector, FDI inflows between 2000-19 have crossed the mark of USD 2025.4 million.

The government of India has provided airport projects 100% tax exemption for 10 years and it has also allocated USD 710.4 million to DGCA to execute schemes such as modernization and up-gradation of non-metro airport projects. 22 Indian airports will be connected under the RCS scheme.

Various initiatives were taken in airlines to promote the tourism sector leading the rise in the domestic and international passenger traffic at 14.1% and 3.4% Y-O-Y respectively and these initiatives are: Low-cost airlines, increase in the number of airports, and growth international flight operators. Because of the RCS scheme in 2019, awarding 335 routes and air travel by 34,74,000 passengers were made possible, and improved and satisfactory services to the travelers are being provided by the domestic airlines to compete with international players.

The Indian government has promoted the initiative usually referred to as Swadesh darshan in which 15 tourist circuits such as Krishna or Coastal circuits and Rs 1200 crore have been allotted under the 2020-21 union budget for the development of Northeast circuits and in last 5 years, approx. Rs 6000 crore has been sanctioned on 77 tourism projects. Under PRASHAD- Pilgrimage Rejuvenation and Spiritual, Heritage Augmentation Drive initiative, Rs 840



crore has been allotted till now for 28 sanctioned projects. According to the National Tourism Policy (2015), Rs 590 crores has been allotted for various schemes, promotions, and encouraging Indian citizens to explore different destinations in India. Reduction in GST has been offered various tariff structures in 2019 and various safety and security initiatives such as 24 hours toll-free helpline and police have been taken to ensure that travelers or tourists won't feel unsafe.

### G. Covid-19 Pandemic

COVID-19 pandemic has harmed our economy. The government had to declare the emergency or lockdown as a safety measure to avoid the spread of the Corona Virus disrupting economy including manufacturing, operations, transportation, etc. The government of Indian had to stop the operations of domestic and international airways and passengers were not allowed to commute causing a sharp decline in the number of passengers traveling through airways. With large scale cancellation of tickets post-government ban on traveling, it is estimated that this year India will witness a drop of 45-50% in the number of passengers as compared to the last year. Post normalization, non-tourist passenger traffic will be normal but tourists visit will be impacted adversely up to a certain number of months.

## Conclusion and Recommendations

The paper has described the concept and theoretical aspects of the factors responsible for the rise in the air passenger traffic in India and these factors are an expansion of middle-class population in India, Disposable income of the middle-class population, Urbanization, Migration from rural to an urban area, Demographic shift, promoting tourism, better airport infrastructure, and investment policies. India will witness the addition of 21 million high income and approximately 140 million middle-income households by 2030. The number of households in India with disposable incomes of more than \$10,000 has increased 20 times in 25 years, from 2.5 million in 1990 to nearly fifty million in 2015 and it will continue to grow. The expansion of the middle class in India will not only affect the rise in passenger traffic but will also continue to increase outbound tourism in the region. Controlling the addition of middle-class population and its disposable income is not a possible solution to control the rise in the air passenger traffic, instead, government and ministry need to introduce different models to make the airport infrastructure better such as introducing Hub and Spoke model, strengthening PPP model, introducing more relaxations in FDI policies or introducing high-speed trains/bullet trains to curb the issues of air passenger traffic in the busy route connecting major cities. India has considerable difficulties in the expansion of the airport capacities in the major cities. The Indian aviation sector is one of the severely impacted sectors because of the COVID-19 pandemic and according to ICRA, it has been estimated that air passenger traffic will see a drop of 45-50% in FY 2020-21. Post normalization of COVID-19 pandemic, recovery at a global level in the next 2-3 decades will be dependent not only on the demands made by the

consumers in developed countries but also on the consumer demand by the expanded middle-class population.

UDAN being an impactful scheme launched by the Government of India with the purpose to fulfil the dreams of a common man to fly. Its progress depends on its introduction, guidelines being followed, and, if so, being supervised under close supervision. That scheme would certainly give the local or regional connectivity a great boost. It will help link the people alongside connecting the regions. The plan would also help to shorten the travel time. The success of the UDAN Scheme depends upon the support and strict supervision by the state and government such as providing free land or at cheaper/subsidized rates, affordable utility rates, and lowering the tax on ATF or other fuels being used in aviation.

Increasing the limit of foreign direct investment for airlines including regional operators for whom 100% FDI has been allowed, with automatic approval of foreign ownership up to 49%, sounds good on the face of it. But it will not attract new foreign players because International airline players continue to be encircled in by the 49% ownership limit set by the government and securing a permit for a scheduled operation still requires the chairman of airline and at least two-thirds of the directors of the airline to be the citizens of India along with the effective control and substantial ownership to be entrusted in Indian nationals. This is why a foreign airline will be least entertained by this policy to invest in any joint venture having limitations in management control. It has also been found that India doesn't have a favorable rank in Ease of Doing Business list, it clearly shows the hindrances that foreign players face in India during FDI implementation.

## Limitations

India is capable of handling the rise in passenger traffic in the next few decades. Nation will see the rapid increase in the growth of the passenger traffic post-COVID-19 normalization. Research says that India lacks effective and efficient government initiatives and proper infrastructure to deal with the traffic crossing the saturation level of the airport capacity in non-metro cities and brownfield airport expansion. There is a lack of previous studies in the research area of factors affecting passenger traffic. Detailed research studies show that growth in the profitability of aviation sector to expand the airport infrastructure is majorly affected by the price of crude oil, ATF, freight traffic, depreciating value of rupee and passenger traffic, whereas passenger traffic is affected by expansion in middle-class population, rise in disposable income, urbanization, the shift in demographics, better airport infrastructure, and initiatives. But, to determine the effect of these factors on the profitability of aviation and passenger traffic, Regression, correlation, T-test, and F-test need to be done to check the extent of their effects. The sample size being provided by the government website or resources doesn't satisfy the need. Due to insufficient and lack of sample size, statistical tests could not be carried out to justify the relationships. Due to COVID-19 Pandemic, there is a lack of information, reports, and efficient estimation tools to forecast the extent of the effect of the pandemic on tourism and passenger traffic in India.

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