Individual Coursework Submission Form

Specialist Masters Programme

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AIR-INDIA International

1932-1960

AIR-INDIA एअर इंडिया

1960-1970

एअर इंडिया AIR INDIA

1971-1972

Reference: Wikipedia.org

1972-2014

एअर इंडिया AIR INDIA

2014-2023

एअर इंडिया AIR INDIA

A STAR ALLIANCE MEMBER

2023-Now

AIR INDIA

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1. Company Background

Air India is the flag carrier of India. It's owned by Air India Limited, which is part of the TATA Group. Air India was founded in the year 1932 by Mr. J.R.D. as an airline, originally named Tata Airlines. Tata holds a significant place in Indian aviation history. Tata Airlines was later renamed Air India in 1932. Air India played an important role in shaping India's global aviation footprint(Air India, 2023). However, a major change in Air India's management and operations occurred in 1977 when Mr. JRD Tata was removed from his position as chairman and the airline was placed under government control. The turn of the century brought a wave of changes. The airline struggled with losses, debt accumulation, and operational complexities. Later, the government tried to privatise Air India by reaching out to private investors, but Air India encountered difficulties because of the unstable financial environment. The defining moment for Air India came in 2022, when the Tata Group successfully reacquired the airline(Tata, 2022). A new era began with the change in ownership from public to private. The objective of Tata's vision is to bring new life to Air India's heritage, make new investments, and guide the airline towards profitability. With an 18.6% market share, Air India is currently India's biggest international airline. Air India serves 102 domestic and international destinations with its fleet of Airbus and Boeing aircraft(Air India fleet, 2023). It has its base in Delhi's Indira Gandhi International Airport and several focus cities across the country, which makes it one of the largest airline companies in India.

2. Business canvas model

With a commitment to providing global connectivity and preserving its legacy as a pioneer in Indian aviation, Air India sets itself apart from the rest with its unique value proposition, which is based on a tradition of excellence and dedication to delivering world-class air travel experiences. Air India, with its position as the Indian National Airline, offers an extensive range of international connections that will guarantee smooth travel to over 100 places on five continents. For discerning travellers worldwide, Air India is the preferred choice because it is a trusted airline that represents the vibrant culture of India and continuously provides excellent service, whether they are travelling for business or pleasure. Air India's commitment to meeting passengers' needs, combined with a taste of modern convenience and the flavour of Indian hospitality, is at the heart of its value proposition. The way Air India creates and delivers such value to its passengers is captured in the Business Model Canvas shown through Figure 1.

However, Air India still has a long way to go before it can be considered the best in the business. Despite its legacy and goodwill, Air India has received criticism regarding its financial instability, operation inefficiencies, and poor customer service (see figure 4), which are discussed below, followed by proposed solutions and the implementation timelines.

3. Revenue optimization strategy

3.1 Financial Challenges(Problem statement)

Every car needs fuel to move. And in business, money is that fuel. Since 2007, the airline hasn’t made a profit; in fact, it reported a loss of £9.59 billion in the financial year 2022 (see figure 3). The total loss for the financial year 2023 is reported at around £11.38 billion(Smith, 2023). And the main reasons for such losses are accumulating a significant amount of debt resulted from long-term loans for aircraft purchases in bulk without doing the proper research of the demand and from a failed merger with Indian Airlines in 2007 due to mismanagement of resources and delay in decision-making(Business today, 2012). Since practically all the airline's revenue is used to pay loan

interest, the cumulative losses are still causing significant disruptions to the business. Nothing remains for expansion and other costs. As the years passed, the domestic market share of Air India dropped from 17.3% in 2014 to 9.7% in 2022(Statista, 2023).

3.1.1 Financial Solutions: Introducing the new, more advanced "revenue management system" that can anticipate demand, find out where passengers want to go, and determine how much they are willing to pay based on this, the system sets air fares to optimise revenue. This system is going to be a revenue management platform for all kinds of airline revenue generation activities based on historical data and predictive analysis by using cloud computing, database management, and machine learning.

Pricing feature: This feature allows airlines to adjust ticket prices based on real-time demand, seat availability, etc. By analysing historical data, booking patterns, and external factors using algorithms and big data analytics, Air India can set flexible ticket prices that maximise revenue during peak demand periods and encourage bookings during low-demand periods. This feature extends beyond basic tickets to include ancillary services. Air India can adjust prices for add-ons like extra baggage, in-flight services, or seat upgrades based on demand and customer preferences.

Aircraft analysis: Data analytics can play a crucial role in assisting Air India in making informed and strategic aircraft purchasing decisions. In the realm of aircraft purchasing decisions, total cost of ownership (TCO) analysis is paramount, and data analytics serves as a linchpin in this process. Through lifecycle cost analysis, Data-driven insights facilitate the assessment of the total cost of aircraft ownership, including acquisition costs, maintenance costs, fuel consumption, and depreciation. This comprehensive approach will help in the selection of aircraft that not only meet operational requirements but also prove to be economically prudent. Analytics could also help in the identification and selection of reputable suppliers and manufacturers by examining historical performance metrics like delivery times, dependability, and specification adherence, ensuring a seamless and reliable supply chain. The amalgamation of these analytical approaches will empower Air India to make informed decisions and financial considerations in its aircraft acquisition endeavours.

3.1.2 Action Plan for Implementing Predictive Pricing and Cost Optimization: To elevate Air India's revenue management, an exhaustive review will be undertaken to pinpoint improvement opportunities and set defined targets. This will be supported by establishing a robust data infrastructure for real-time and historical data management, in collaboration with data experts to create dynamic pricing and demand forecasting algorithms. These algorithms will be integrated into the booking system, factoring in real-time data for seat availability and other variables to dynamically adjust pricing and to enhance forecast accuracy for flight demand. Additionally, the plan includes developing TCO analysis tools and analytics for supplier evaluation, rigorous testing of the system for reliability, staff training on the analytics platform, and establishing a feedback loop for continuous refinement of the system, ensuring it evolves with ongoing insights and user feedback.

3.1.3 Revenue Management System Rollout Schedule: Air India is a very huge company, and making these changes is quite challenging, but with the right plan and execution, anything can be achieved. Data collection and developing the infrastructure would take 3 months, and the experimental period will be for 6-month, so that we can successfully test the system and improve from the feedback. Later on, by evaluating the results of the experimental period, we could determine by what time we could overcome the losses and start showing green in the financial charts.

4. Operational restructuring strategy

4.1 Operational Inefficiencies: (Problem statement)

The company had been operated like any other government agency for a few decades, lacking professional management. It was managed by civil servants, who may or may not have the requisite business acumen and sector expertise. Because of bureaucracy, Air India seems to have become an expert at negotiating a maze of ineffectiveness and red tape. This undoubtedly impairs its capacity to adjust and act quickly in a sector that is changing quickly.

In fact, Air India currently employs more than 16,500 people. Compared to other airlines, Air India employ the most people. Furthermore, over half of these workers are full-time. This implies that their pay will rise by a predetermined percentage, irrespective of the macroeconomic conditions the business faces. Around the world, there are about 120 workers for every aircraft, while with Air India, there are 256. These additional employees and their pay are a major burden. While Jet Airways(competitor airline) spends only 10% of its revenues on salaries and benefits, Air India spends 20%.

A significant portion of Air India's fleet is ageing, resulting in higher maintenance costs and reduced fuel efficiency. Almost 24% of airline expenses constitute fuel prices, and airlines fear the price's impact on their profits annually. Air India also faces a severe shortage of parts and engines for the 787 fleet. At any given time, there are at least five 787s lying unused due to the unavailability of engines (Aero hub, 2023).

4.1.1 Solving Streamlining Operations issues with Data Analytics: To overcome operational inefficiencies, there are some measures that need to be taken using data analytics in the following ways: 1) Data-Driven Decision: Foster a culture of data-driven decision-making to identify and implement cost reduction initiatives across various operational aspects, including staffing, maintenance, and fuel consumption. 2) Workforce Optimisation: Utilise data analytics to assess optimal staffing levels based on flight schedules, peak travel times, and operational requirements. This can help in determining the right balance between permanent and contractual staff to improve cost efficiency. 3) Predictive Analytics for HR: Employ predictive analytics to forecast future workforce needs based on route expansions, seasonal variations, and industry trends. This ensures that Air India can adapt its staffing levels proactively to changing demand. 4) Fleet Maintenance: Implement predictive maintenance analytics to anticipate potential issues in the ageing fleet. This involves analysing historical data to predict when components are likely to fail, allowing for proactive maintenance and minimising downtime. 5) Fuel Efficiency Analytics: Utilise data analytics to optimise fuel consumption by monitoring aircraft performance. Identify areas for improvement, such as more fuel-efficient routes and operational practices, to reduce overall fuel expenses; this could result in an estimated saving of USD 198 million per year for the airline. 6) Inventory Management: Apply data analytics to streamline the supply chain for aircraft parts. Predicting demand for spare parts and engines based on historical usage patterns reduces the risk of delays due to shortages. 7) Supplier Management: Use analytics to evaluate the performance of suppliers and manufacturers. Assess the reliability of engine suppliers and identify alternatives to mitigate the impact of shortages.

By incorporating data analytics into these areas of operation, Air India can make informed decisions, optimise resources, and address the challenges posed by its extensive workforce and ageing fleet, ultimately improving overall efficiency and financial sustainability.

4.1.2 Action Plan for Operational Overhaul and Workforce Optimization Strategy: Air India's action plan

begins with a comprehensive evaluation of its data analytics capabilities to identify and remedy gaps in data management. A cloud infrastructure will be established to store and manage essential data such as: Operational data for flight schedules, maintenance records, and fuel consumption logs; HR data for employee performance, staffing levels, and contractual agreements; Financial data for cost of parts and expenses related to fleet maintenance. Concurrently, employees will undergo training in BI tools such as Tableau or Power BI for superior data analysis and visualization. The plan also includes the deployment of IoT(Internet of Things) devices for real-time aircraft monitoring, while analytics will drive supplier negotiations and assess the viability of investing in a modern, fuel-efficient fleet. Ongoing performance tracking and data-driven strategy adjustments will ensure continuous improvement, leveraging the latest in analytics technology.

4.1.3 Operational Efficiency Improvement Timeline: To provide training to a large workforce like Air India, it

would take some time, but in the long run, it would be worth it. We have to shift the current working culture to a more professional one. So we will start the experimental run with one department first, and based on its results, we will move forward. To collect the required data and develop infrastructure, it would take three months, and to train employees and implement new workforce policies, it would take another six months. Evaluating existing fleet conditions and implementing cost analysis for new fleets would take four months to set up. Then we will evaluate the performance and revenue, based on which it will proceed to other departments.

5. Legacy rebuilding strategy

5.1 Poor customer service (Problem Statement)

As we all know, the customer is the kingpin of the business. Today, Air India's reputation is hitting rock bottom, and customers are not preferring Air India because of their bad experiences in the past. As I read customer reviews, I came to know people are not happy with our services. Even with the low ticket price, customers are willing to pay high ticket prices for other airline services. The main reasons that keep showing up are poor customer support systems, poor baggage handling, unprofessional cabin staff service, cancellations or delays of flights, and inefficient ground operations(Airline quality, 2023).

5.1.1 Solutions for Customer Service Excellence Through Analytics:

"A satisfied customer is the best business strategy of all." Michael LeBoeuf

Air India can leverage data analytics to address and improve various aspects of its customer services, ultimately enhancing customer satisfaction. Here's how data analytics can be applied to address the mentioned issues: 1) Customer Feedback Analysis: Implement sentiment analysis on customer feedback and complaints to identify patterns and trends related to poor customer support. This can help in addressing specific pain points and improving overall customer service. 2) Performance Metrics: Use key performance indicators (KPIs) related to customer service, such as response times, issue resolution rates, and customer satisfaction scores, to continuously monitor and improve the efficiency of the support system. 3) Baggage handling**:** Analyse historical data on baggage handling issues to identify root causes and patterns. Implement corrective measures based on data insights to prevent future occurrences. Use RFID (Radio-Frequency Identification) technology to track baggage in real-time. This technology can significantly reduce instances of lost or mishandled baggage and

enhance overall baggage handling efficiency. 4) Cabin Staff Service**:** Monitor and analyse performance metrics of cabin staff, including customer feedback, to identify and address issues related to unprofessional behaviour. Data can guide performance-improvement initiatives. Conduct staff training programmes and implement analytics to assess the effectiveness of cabin crew training programmes. 5) Flight Delays analysis**:** Implement predictive analytics to forecast potential flight delays. By analysing historical data, weather patterns, and other relevant factors, Air India can proactively manage and communicate potential disruptions to passengers. And accordingly optimise scheduling, maintenance, and other operational processes to reduce the likelihood of disruptions. 6) Cross-Department Collaboration: To tackle ground operations inefficiency will foster collaboration among IT, operations, customer service, and other relevant departments to ensure a seamless integration of data analytics into day-to-day operations.

5.1.2 Action Plan for Enhancing Passenger Experience and Service Quality

To optimize Air India's operational efficiency, a robust data analytics infrastructure will be established, ensuring cross-departmental collaboration and a dedication to continuous improvement informed by data insights. The strategy involves a thorough analysis of customer feedback addressing key areas like support, baggage, staff service, and delays. Gaps in data handling will be identified and bridged, incorporating sentiment analysis and real-time feedback into our analytics system. We'll assess and refine cabin staff training using data insights, implement RFID for baggage tracking, and employ predictive models for managing flight delays, with ongoing assessment to ensure efficacy. Ground operations will also be enhanced with data-driven workflow optimizations. For sustained progress, we will institute real-time tracking of customer service metrics and regular evaluations of staff performance, adjusting training as needed. The impact of these data-driven methods on customer satisfaction will be periodically gauged, and predictive analytics will be extended to other operational areas like maintenance and rostering. Communication channels will be reinforced to keep stakeholders abreast of progress and integrate their feedback for continual advancement of our initiatives.

5.1.3 Customer Service Transformation Timeline

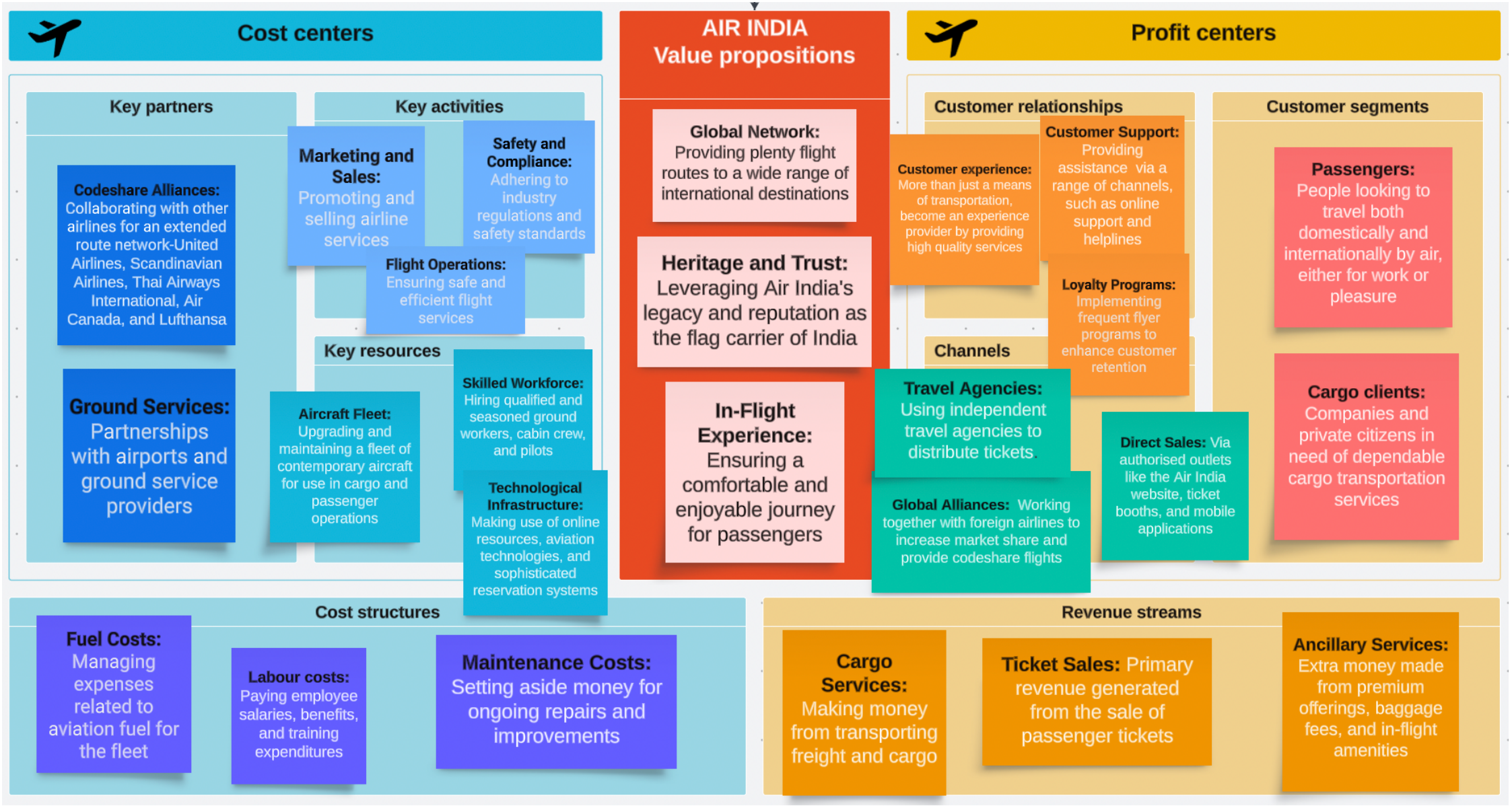
This action plan provides a structured approach for Air India to leverage data analytics to address in-ground challenges, flight delays and cancellations, and enhance the overall passenger experience. For assessing the current state and data infrastructure of Air India, roughly it would take three months, based on which we will implement data-driven solutions as mentioned above, which would take an experimental period of 6 months. Then we would just have to monitor and evaluate the results and improve on the basis of feedback, which is an ongoing process.

6. Conclusion

By adopting data analytics across revenue management, operations, and customer experience, Air India can overcome its challenges, enhance efficiency, and rebuild its legacy (please refer Figure 2). Air India is starting a revolutionary journey by utilizing data analytics to improve the traveler experience and streamline operations. by implementing predictive models and building a strong analytics infrastructure. In addition to addressing present inefficiencies, this strategic reorganization will open the door for an improved Air India that will be able to proudly showcase India's rich cultural legacy on a worldwide scale. In the aviation sector, Air India will establish a standard for growth driven by innovation. A new chapter in Air India's renowned legacy begins as the airline reiterates its commitment to providing an unmatched flying experience as it rises towards a brighter future.

7. Appendix

Figure 1



The Value Proposition Canvas

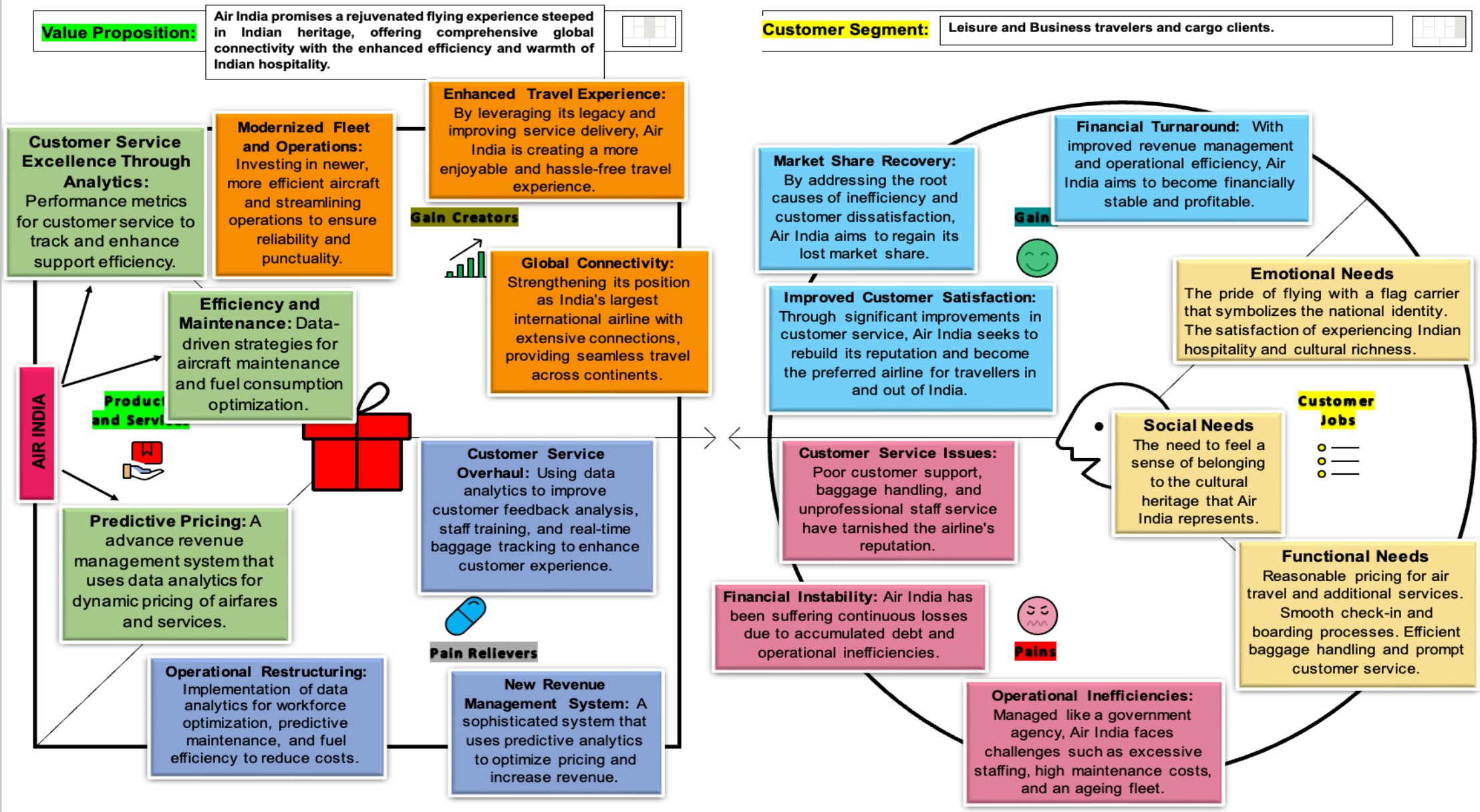
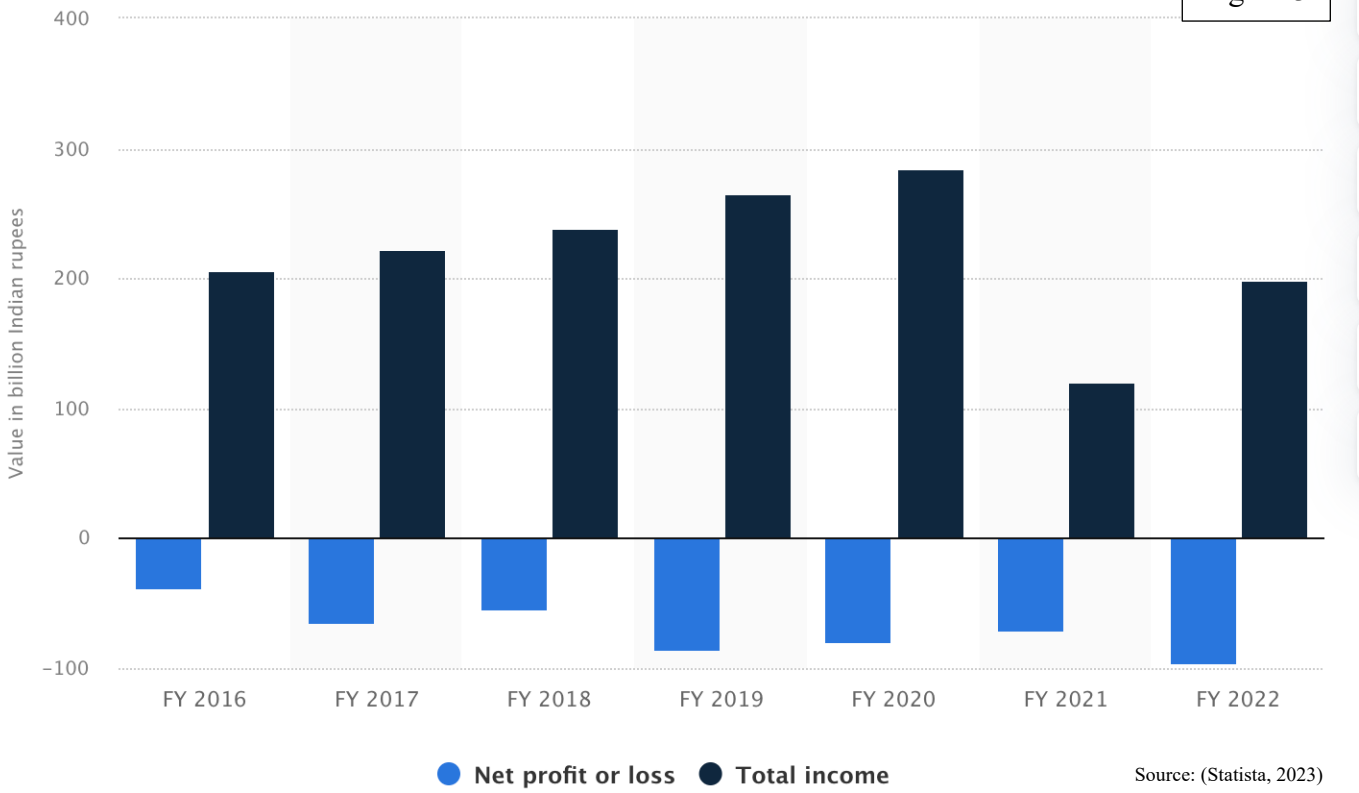


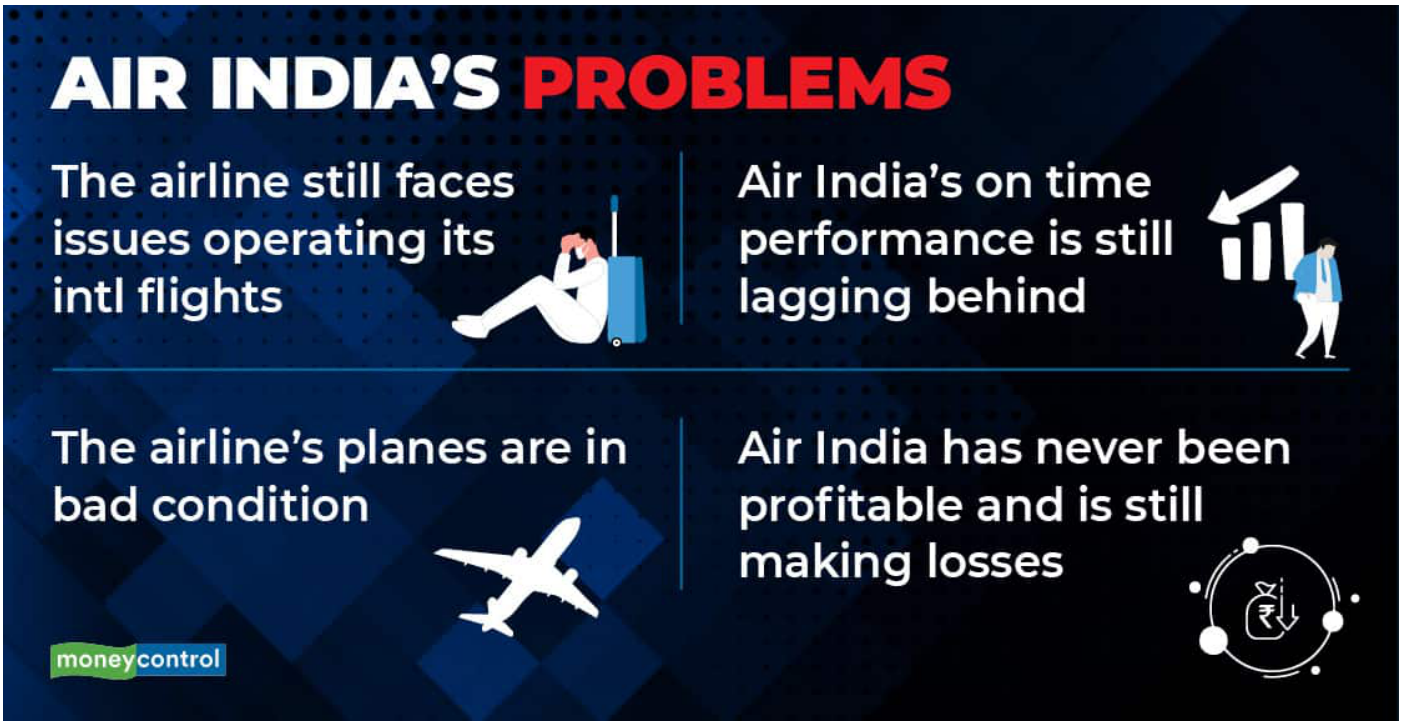
Figure 2

Financial performance of Air India Limited from financial year 2016 to 2022 **(in billion Indian rupees)**

Figure 3



Source: (Statista, 2023)



Source: Money Control, 2023

Figure 4

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