Business Problem:

Our company operates a diverse fleet of aircraft ranging from small business jets to medium-sized machines. We have been providing high-quality air transportation services to our clients for several years, andour primary focus is to ensure a safe, comfortable, and convenient journeyfor our passengers. However, we are currently facing challenges due to several factors such as stricter environmental regulations, higher flight taxes, increased interest rates, rising fuel prices, and a tight labor market resulting in increased labor costs. As a result, the company's profitability isunder pressure, and they are seeking ways to address this issue. To tacklethis challenge, they are looking to conduct an analysis of their database tofind ways to increase their occupancy rate, which can help boost the average profit earned per seat.

Main Challenges:

Stricter environmental regulations: The demand on the airlines industry to decrease its carbon footprint is growing, which has resulted in more stringent environmental laws that raise operating costs and restrict expansion potential.

Higher flight taxes: To solve environmental issues and increase money, governments all around the world are taxiing aircraft more heavily, which raises the cost of flying and decreases demand.

Tight labor market resulting in increased labor costs: The lack of trained people in the aviation sector has increased labor costs and increased turnover rates.

Objectives:

Improve pricing strategy: We need to develop a pricing strategy that takes into account the changing market conditions and customerpreferences to attract and retain customers.

Enhance customer experience: We need to focus on providing a seamless and convenient experience for our customers, from booking to arrival, to differentiate ourselves in a highly competitive industry and increase customer loyalty.

Basic Analysis:

The basic analysis of data provides insights into the number of planes withmore than 100 seats, how the number of tickets booked, and total amount earned changed over time, and the average fare for each aircraft with different fare conditions. These findings will be useful in developing strategies to increase occupancy rates and optimize pricing for each aircraft. **Table 1** shows the aircraft with more than 100 seats and the actualcount of the seats.

Aircraft code	Number of Seats

319	116
320	140
321	170
733	130
763	222
773	402

Table 1

In order to gain a deeper understanding of the trend of ticket bookings andrevenue earned through those bookings, we have utilized a line chart visualization. Upon analysis of the chart, we observe that the number of tickets booked exhibits a gradual increase from June 22nd to July 7th, followed by a relatively stable pattern from July 8th until August, with a noticeable peak in ticket bookings where the highest number of tickets were booked on a single day. It is important to note that the revenue earnedby the company from these bookings is closely tied to the number of tickets booked. Therefore, we can see a similar trend in the total revenue earned by the company throughout the analyzed time period. These findings suggest that further exploration of the factors contributing to the peak in ticket bookings may be beneficial for increasing overall revenue and optimizing operational strategies.

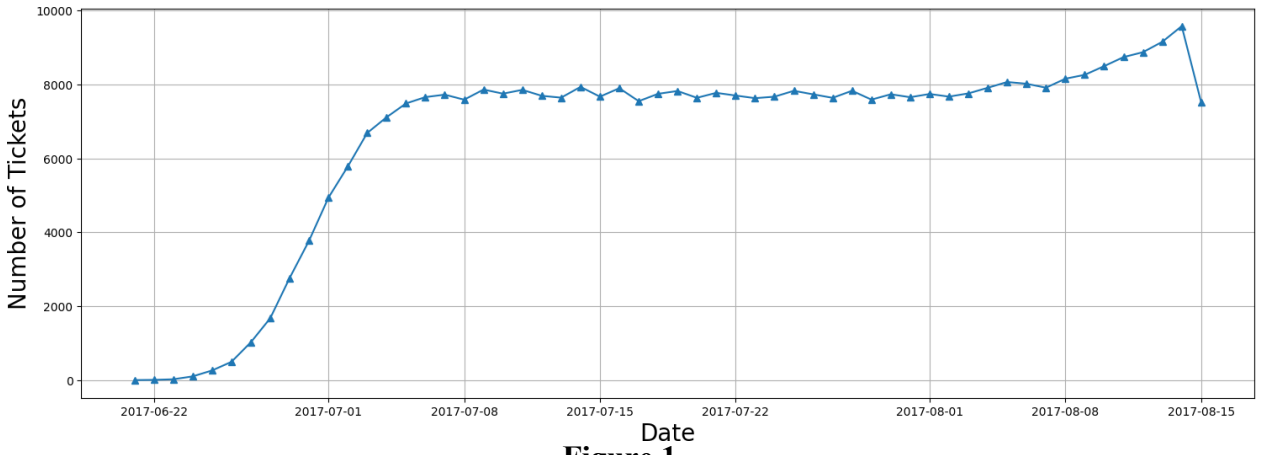

Figure 1

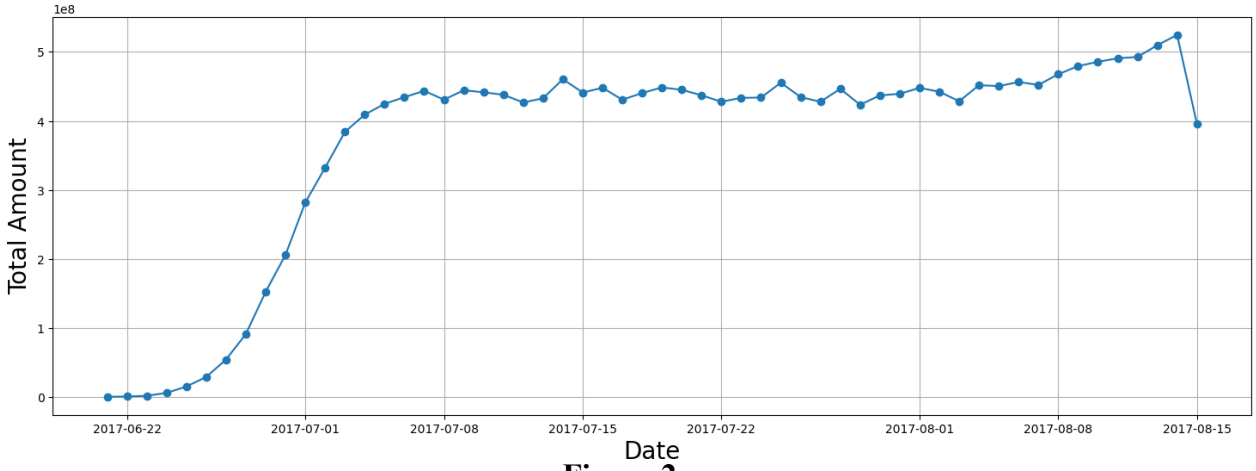

Figure 2

We were able to generate a bar graph to graphically compare the data afterwe completed the computations for the average costs associated with different fare conditions for each aircraft. The graph Figure 3 shows data for three types of fares: business, economy, and comfort. It is worth mentioning that the comfort class is available on only one aircraft, the 773.The CN1 and CR2 planes, on the other hand, only provide the economy class. When different pricing circumstances within each aircraft are compared, the charges for business class are consistently greater than those for economy class. This trend may be seen across all planes, regardless of fare conditions.

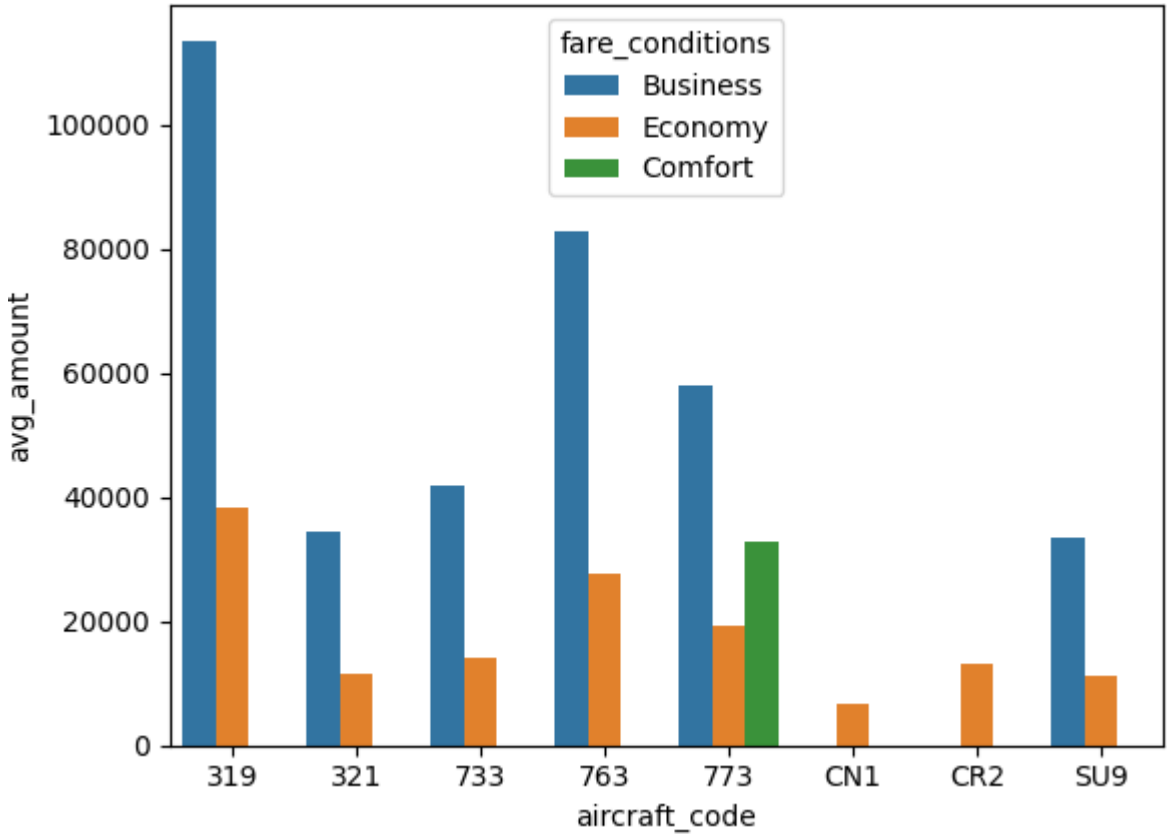

Figure 3

Conclusion:

To summarize, analyzing revenue data such as total revenue per year, average revenue per ticket, and average occupancy per aircraft is critical for airlines seeking to maximize profitability. Airlines can find areas for improvement and modify their pricing and route plans as a result of assessing these indicators. A greater occupancy rate is one important feature that can enhance profitability since it allows airlines to maximize revenue while minimizing costs associated with vacant seats. The airline should revise the price for each aircraft as the lower price and high price is also the factor that people are not buying tickets from those aircrafts. They should decide the reasonable price according to the condition and facility of the aircraft and it should not be very cheap or high. Airlines may achieve long-term success in a highly competitive business by adopting a data-driven strategy to revenue analysis and optimization.