Airline Pricing and Performance Optimization

Team Members

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1. Introduction

The purpose of the dashboard is to analyze international flights data to uncover patterns in ticket pricing, travel time, and airline performance. It helps provide interactive insights that help users evaluate the cost effective and time efficient airline options.

2. Dataset Summary

The dataset, provided in .xlsx format and packaged into Tableau, contains flight-level information including ticket price, number of stops, travel time, waiting time at stopovers, and more.
The following Tableau techniques were used:

- Data cleaning: Removed nulls, converted string-based ticket prices to numeric, fixed time fields.
- Row-level calculations: Used for cleaning and parsing fields like ticket price and arrival hour.
- Aggregate functions: Used to compute averages across airlines and routes.
- Filters and parameters: Added to make the dashboard interactive.
- Chart types: A variety of charts were used to make the insights visually accessible and dynamic.

3. Charts Created

Sheet Title	Chart Type
Flight Volume By Airline	Packed Bubble Chart
Avg Ticket price By Number of stops	Bar Chart
Travel time Vs Ticket Price	Scatter plot

Sheet Title	Chart Type
Avg Travel time by Airline	Bar Chart
1st Stoppage waiting time by Airline	Heat Map
Avg Price by Departure & Destination	Highlight Table
Interactive Dashboard	Combination of 6 Charts

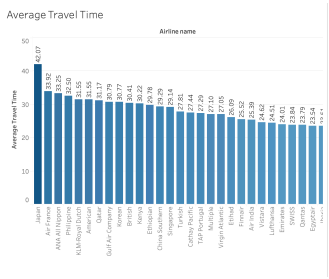
4. Business Questions

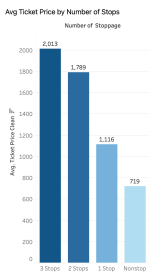
1.Which airlines offer the shortest average travel time?
2.How does the number of stops affect ticket prices?
3.Is there a correlation between travel time and ticket price?
4.How do ticket prices vary based on arrival hour?
5.Which routes and airlines have the longest waiting times at the first stop?

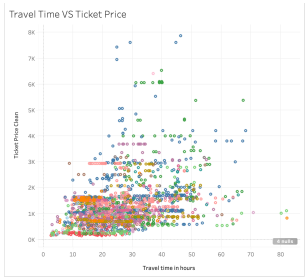
5. Calculations Done

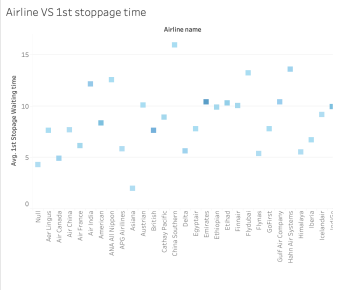
- Ticket Price Cleaned: INT([Ticket price(Dollar)])
- Average Travel Time: AVG([Travel time in hours])
- Rank by Airline Revenue: RANK(SUM([Ticket Price Cleaned]))
- Max Wait Time per Airline: { FIXED [Airline name] : MAX([1st stoppage waiting time total]) }

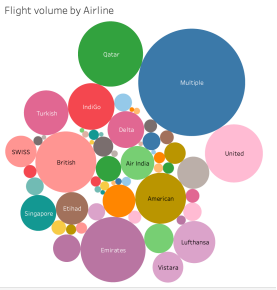
6. Visualization

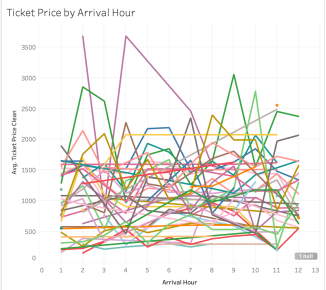












7. Conclusion

This project effectively demonstrates how Tableau can be used to answer real-world airline travel questions. The dashboard provides clear, interactive insights into how flight characteristics like stops, time, and price are connected.
Based on the findings:
•Customers should aim for nonstop or 1-stop flights to reduce both time and cost.
•Airlines with longer layovers may require process optimization.
•Price-conscious travelers should avoid early-morning arrivals and multi-stop routes.