Airline Delay and Performance Analysis Using Tableau

Insight 1: Airline Performance and Cancellations

Link: Here
Summary: The dashboard highlights NK Airlines as the worst-performing airline, with an average departure delay of 17.37 minutes. Weather accounts for 54% of cancellations, making it the most common reason among other causes. Notably, airlines have mitigated delays effectively, reducing arrival delays to 50% of the departure delays.
Design: The dashboard includes three visualizations:
1. A bar chart ranking the average departure delays for all airlines, with a drill-down hierarchy for aircraft details and filters for specific airlines.
2. A pie chart showing the percentage distribution of cancellation reasons, also filterable by airline.
3. A dual-axis line chart comparing average departure and arrival delays over months, which can also be filtered by airline.

The airline filter applies universally across all charts, ensuring an interactive experience.
Resource: N/A

Insight 2: Aircraft Performance Analysis

Link: Here
Summary: The bar chart ranks aircraft based on their average delays, identifying N389AA as the worst-performing aircraft with an average delay of 305 minutes, followed by N354AA with 271.3 minutes.
Design: The bar chart presents average delays for all aircraft across airlines, with a drill-down hierarchy enabling exploration of delays by airline. This design emphasizes the importance of considering individual aircraft performance, as focusing solely on airlines may provide misleading conclusions. The chart also includes filters for specific airlines.
Resource: N/A

Insight 3: Distance and Delay Correlation

Link: Here
Summary: The scatter chart reveals a weak positive relationship between departure delays and distance, with an R-squared value of 0.047. This indicates that distance has minimal influence on departure delays.
Design: The scatter chart visualizes the relationship between airline departure delays and distance. Each airline is represented using customized shapes, and a trend line illustrates the weak correlation. This design helps identify any outliers or patterns despite the low overall correlation.
Resource: N/A

Tool used:

Tableau.