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Course: DSC640 Data Presentation & Visualizations
Assignment: Project Task 1 – Dashboard Supporting Documentation
Github Link: https://github.com/madelinebauer/DSC640DataVisualization/tree/master/Project

I created a dashboard to examine trends in airline fatalities. I used the Airline Safety dataset provided as well as the Annual Financial Results: U.S. Passenger Airlines and U.S. Airline Traffic and Capacity datasets.

The first graph on my dashboard is a bar chart. It shows the number of fatalities from 1985-1999 compared to 2000-2014. I chose to create this bar chart to illustrate that the number of airline fatalities is clearly decreasing during the more modern era. I chose blue and orange for the bar colors because they contrast one another nicely. The years are clearly labeled under each bar and the y-axis starts at zero to ensure proper comparison.

The next two pieces of the dashboard are scatterplots that compare all airline incidents reported versus fatal incidents (within the respective timeframes). I kept the colors coordinated with the bar graph to ensure no confusion from one chart to the next. The titles include the corresponding colors as well as the individual data points. These two scatterplots illustrate that not only does the more recent time period have fewer total incidents, but also that the incidents are less likely to be fatal. I chose to scale both graphs the exact same way on the x and y axes so that there was no misleading information between the graphs. It's easier to compare graphs when they have the same axes.

The next graphic is a packed bubbles chart which shows the number of fatalities by airline for the years 2000-2014. I chose to use the most recent years because they are more relevant. The larger the bubble, the more fatalities there were for that airline. This chart

illustrates that Malaysia Airlines and American Airlines had the most fatalities during these years. I chose to change the color from blue (default) to green so that it didn't coordinate with the other graphs since the focus switched from the number of fatalities to the airline names.

I also included two line graphs on my dashboard. One shows the revenue for all airline companies and the other shows the total number of passengers who flew during the years 2000-2020. In both scenarios the trends are mostly consistently increasing over time. Once the year 2020 hits, both revenue and passengers drop quite low due to the Coronavirus pandemic. If the pandemic did not hit, it would be safe to say that the trends would have continued increasing. Since both of these trends are increasing in nature, we can conclude that people are not afraid to travel by air even if there's a risk of fatal incidents occurring. I chose to bold the words "revenue" and "airline passengers" so that they stood out to the viewer and to ease their interpretation. I also chose to use gray as the line color as these graphs are not the main focus of this dashboard, but rather supporting evidence.

Data Sources:

1. Airline Safety
   https://github.com/fivethirtyeight/data/tree/master/airline-safety
2. Annual Financial Results: U.S. Passenger Airlines
   https://www.airlines.org/dataset/annual-results-u-s-passenger-airlines/#
3. U.S. Airline Traffic and Capacity
   https://www.airlines.org/dataset/annual-results-u-s-airlines-2/#