

DSC-640 Data Presentation & Visualization

Project Task 1: Dashboard

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The scenario:

Due to recent unfortunate airline crashes, the media has been promoting statistics stating air is no longer a safe way to travel. The news and media outlets have been bombarding the public with reports and figures about the trends of airline safety and that things are not looking good. What was previously thought as the safest way to travel, especially when compared to automobiles, is now being presented as one of the most dangerous to the public. But are any of these claims based on facts?

Data Sources:

Airline Safety: <https://github.com/fivethirtyeight/data/tree/master/airline-safety>

Aviation Safety (2000-2020): <https://aviation-safety.net/database/>

Bureau of Aircraft Accident Archives: <https://www.baaa-acro.com/statistics/death-rate-per-year>

Airline of America: <https://www.airlines.org/dataset/safety-record-of-u-s-air-carriers/#>

Analysis:

To verify the media claims, I have analyzed above data sources for different statistics about airline accidents and fatalities. There is plenty of data available about all the accidents and incidents happened in aviation industry since 1960s. After initial analysis is done, I have created the following dashboard depicting various stats in the form of the charts. To help offset the overstated reports, a color palette of blue was chosen. I selected the palette as this color is easily identifiable by all and blue is known to have a soothing effect.

Figure-1: World-wide fatalities per Million Passengers: This chart shows us the fatalities per million passengers. The chart shows number of passengers used the air travel from 2000 through 2019. The red line shown chart clearly indicates that the fatalities per million travelers is going down with every year. The number of air travelers is increasing every year.

Figure-2: World-wide fatalities by year (2000-2020): This chart shows the actual number of fatalities by each year from 2000 through 2020. Though there are some spikes in year 2014 and 2018 the overall fatalities trend is going down.

Figure-3: World-wide Accidents/Fatal Accidents per 100,000 departures: This chart shows that the accidents and fatal accidents are consistent with number of departures. It also confirms that in past few years though the number of departures is increasing the accidents and fatal accidents are going down.

Figure-4: Fatalities by accident location country (2000-2020): This chart shows countries where more than 300 fatalities occurred. US is at the top of list with 4007 fatalities from period 2000 through 2020. The reason is the number of departures happened in US is more than any of the country.

Figure-5: U.S. Carriers Accidents and fatal accidents per 100,000 departures: This chart shows the accidents and fatal accidents for US carriers per 100,000 departures. The overall accident and fatal accidents trend with US carriers are also consistent with world-wide numbers.

Figure-6: Fatalities by Accident categories (2000-2020): This chart shows the accident categories from period 2000 through 2020. The chart shows that there are 20% incidents happened are due to hijacking and other criminal activities.

After considering all the above stats I think that the aviation industry is still safe as before as a mode of transport. All the trends in stats indicates that there is no rise in risks in aviation industry. To further strengthen this, we can also study various stats supported by different media sources before publishing this report to media.