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DSC640

Course Project: Milestone 5

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Presentation Design

I chose to present the data reading from top to bottom by importance. At the top are large numbers and a pie chart which I believe have a very straightforward interpretation in comparing airline fatalities to automobile. This is the main argument of the presentation.

Below this is a different view of comparing fatality rates, over time through a line graph. There is also a yearly income graph for US carriers to make the financial argument. Even though the financial data is a completely separate point from the fatality discussion, I think the two yearly views being next to each other on the same vertical plane improves the flow of the dashboard.

Finally at the bottom is a table breaking out fatality rate by airlines. This contains several different numbers which could take a bit of time to interpret, and it is also just a minor supporting point of the presentation. This is why I chose to place the fatality rate by ASK table at the bottom of the dashboard.

With audio and video portion of this presentation, I tried to be more descriptive on terminology compared to if this were to an internal audience. For example, describing what ASK was or describing specific airlines which an internal audience wouldn't need explaining for.

Data Preparation and Visualization

Airplane Safety

To make an argument towards airplane safety, I imported airplane and automobile fatality numbers. The automobile numbers were in miles and per 100M population, while the airline numbers were in kilometers and per week. Both of these were therefore converted to 100M population and kilometers. The airplane fatality numbers were worldwide as well, so I needed to import the world population by year for that conversion. The airplane fatality statistics were also grouped from 2000 to 2014, so the automobile fatalities were then summed over that same timeframe to get the ending fatality numbers of 243 for airplanes and 3143 for automobiles.

Beside these numbers is a pie chart to better show the proportions between airplane and automobile fatalities, along with text stating the ratio between the two.

The fatalities were also compared on another graph by year per 100k population. These numbers have decreased over the years for both automobiles and airplanes, but airplane fatalities per population is several times lower.

A table breaks out the airlines sorted by fatalities per 100M Available Seat Kilometers (ASK). This shows that the top-10 airlines with the highest fatality rate are all outside of the US.

Finances

I looked into the Bureau of Transportation and was able to find net income by year for US carriers. This had a ten year streak of being positive from 2010 through 2019 until the massive losses in 2020 from COVID-19.

Color

I decided to use yellow for airplane statistics and orange for automobile statistics. These colors are maintained throughout the dashboard on the pie chart and corresponding text, line graphs, and table grand totals for easy referral. The US airlines net income being green for positive and red for negative I believe is standard for financial data.

Conclusion

If I had to do this project over again from scratch, I think it would go a bit differently. Going through different visualizations in this course helped my design thought process. For example, I believe my final dashboard is better than my first dashboard. If I was starting from my endpoint now, that future final presentation would probably be even more advanced.

Sources

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