Term Project Milestone 1: Dashboard

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DSC 640 Data Presentation and Visualization

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June 16, 2024

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With the problem of airline sales potentially taking a hit due to the media’s spreading of erroneous claims concerning airline safety at hand, the data surrounding this issue has been perused and transformed into a human-readable, easy-to-understand interactive dashboard in PowerBI that outlines large airline metrics and incident information. The headings of the dashboard have been colored to resemble a traffic light, with green symbolizing a safety aspect which invites viewers to read the dashboard with a positive outlook prior to gleaning meaning from the visualizations. The yellow airline metrics section signifies the statistics that need to be noted as cautionary. The red accident information section is designed for readers to stop and look at the data within as the highest priority, as these observations are to be changed with haste for the better. With the dashboard split into two sections, more meaning can be gleaned from the data as it is broken into smaller, more digestible pieces of information that will come together to form a big-picture concept of how the airline industry is truly doing in the safety sector of the business as opposed to what the media has been perpetuating.

**Dashboard Breakdown**

The airline metrics section of the dashboard contains three visualizations: a clustered column chart, a clustered bar chart, and a scatter chart. These charts are colored so they are easy to read, yet exciting in their delivery of the data so as not to shout monotony to the reader. The clustered column chart highlights the airlines by ranking the kilometers flown per week adjusted for the number of seats in the airplanes flown. This provides an idea of which airlines travel the largest distance in a given time, as longer airtime contributes to an increased chance for a safety incident to occur. The clustered bar chart shows the number of incidents per airline within two fifteen-year periods, the first from 1985 to 1999, and the second from 2000 to 2014. Seeing this chart after the first can help to identify the airlines with the most incidents relative to their kilometers flown. The scatter chart then showcased the number of fatal accidents relating to the number of incidents each airline had during the most recent fifteen-year period of 2000 to 2014. Having the visualizations within the airline metrics section of the dashboard be viewed in this way gives a comprehensive idea of which airlines are facing the most incidents and fatal accidents related to the number of weekly kilometers they cover.

The accident information section of the dashboard houses three more visualizations: a line chart, a table, and a line and stacked column chart. In the first section of the dashboard, we identified a given time for the viewer to focus on: the years ranging from 2000 to 2014. One of the supplemental datasets increases this range to include those years until 2021, which will be expounded on in the second half of the dashboard. The line chart explains the relationship between total accidents and fatal accidents over the course of this increased twenty-two-year stretch, showcasing the airline industry’s decreased number of fatal accidents as seen against the accident totals over time. The table takes the number of fatal accidents from 2000 to 2021 and breaks it down even further to tell us the number of fatal accidents per one hundred thousand departures across all airlines. This shows the reduced chance of a fatal accident involving an airline’s vessels and coincides well with the previous visualization. The final visual aid is a line and stacked column chart simultaneously plotting the number of fatal accidents and the number of fatalities stemming from those accidents over the 2000 to 2021 timeframe. This chart shows a strong declining trend in both fatal accidents and actual fatalities, which drives home that the airline industry has been improving on its ability to keep its customers safe, not the opposite as the media would have it seem.

**Implications of the Data**

Presenting the dashboard from left to right starting with the airline metrics allows the introduction of the airline industry’s most recent standing up to 2014, the identification of key performance indicators, and how the industry has reduced the need for concern with their minimization of fatalities and fatal accidents through 2021. Looking at the data and the resulting visualizations, there are ethical implications that need to be considered. The data takes all causes of an aircraft crash into consideration, even those that may not necessarily be the airline industry’s fault, such as an act of God or natural disaster. This generalization may skew the data to make the airline industry more inept when in reality, nothing could have prevented these unforeseen circumstances. Something else to keep in mind is that the available seat kilometers variable in the primary dataset is derived from figures acquired at the end of 2012, which is over a decade in the past, and assumes that airline seat kilometers do not change. This is an untrue assumption as airlines are not stagnant in their growth and are either overstated or understated by using a static number (Silver, 2014).

**Conclusion**

The trends seen in the dashboard are not reflective of the media’s poor portrayal of the airline industry’s safety. As it stands with the data acquired, the public should be put at ease with the visualizations and story behind the data so that they do not need to shy away from taking a plane to their next dream destination, business meeting, family reunion, or holiday gathering.

**References**

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