

DSC-640 Data Presentation & Visualization

Project Task 2: Executive Summary

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Summary:

The design for the executive summary is selected in accordance with the design of the initial dashboard. The colors were selected to not outperform the data and information being shared. First few slides focus on fatal accidents with global and U.S. airline operators. One slide focus on fatal road accidents. Rest of the slides focuses on the analysis about number passengers and profit loss statistics. I tried to keep the charts as simple as possible and only used simple charts like bar charts and tree-map charts. I also added few notes with slides wherever required.

Figure-1: Air Travel Fatalities – U.S. & International Operators (2000-2020): This chart shows the annual number of fatalities with global airline operators. This chart highlights the downward trend in air travel fatalities for the period 2000-2020 with the help of trend line. There are some ups and downs in numbers however the overall trend is downward.

Figure-2: Fatalities and Fatal Accidents U.S. & International Operators (2000-2014): This chart shows the actual number of fatalities and number of fatal accidents by worldwide airlines. Color palette transition from blue to red by increasing number of fatalities. While size of the block indicates the number of fatal accidents airline involved in.

Figure-3: Accidents & Fatal Accidents by U.S. Operators (2000-2019): This chart shows total accidents and number of fatal accidents U.S. airline operators involved in. This chart also highlights downward trend in number of accidents with trend line. It char also shows that there is some increase in accidents in year 2019.

Figure-4: Fatal Road Accidents in U.S. (2005-2019): This chart shows annual fatal road accidents happened in U.S. for the period of 2005-2019. On an average 33,387 fatal road accidents happened in U.S. in the period 2005-2019 per year. While Air-travel has only 0.95 fatal accidents per year with U.S. operators.

Figure-5: U.S. Worldwide Air passengers (2000-2020): This chart shows the number of passengers using airline travel worldwide. The number of passengers increased from 1.77 billion to 4.723 billion with a growth of 166% since the year 2000. This chart also highlights covid impact. Before covid there were 4.7 billion passengers were scheduled for travel in the year 2020 however, only 1.8 billion passengers used air travel.

Figure-6: U.S. Airline operators Revenue (2004-2019): This chart shows the annual operating revenue for U.S. airline operators for the period 2004-2019. Till 2019 U.S. operators are seeing consistent growth in operating revenue. It was \$134 billion in the year 2004 and increased to \$247 billion in the year 2019.

Figure-7: Worldwide Airline Operators Profit/Loss (2004-2020): This chart shows the annual net profit/loss for global airline operators. From the year 2010 through 2019 global operators saw consistent growth and profit around \$30 billion. In the year 2020 global airline industry saw loss of \$89 billions due to covid.

After considering all the above stats I think that the aviation industry is still reliable as before as a mode of transport as compared to road travel. All statistics shows the downtrend in fatalities though there is some increase in accidents with U.S. airline operators. Till 2019 global airline operators were seeing consistent annual profit around \$30 billion. Covid has impacted airline industry severely with loss of \$89 billion in year 2020. The recovery of industry is dependent on how quick world comes out of covid situation.

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/#>

Industry Statistics: <https://www.iata.org/en/iata-repository/publications/economic-reports/>

National Highway Traffic Safety Administration Industry Statistics: <https://cdan.dot.gov/>

Github link: <https://github.com/sanjayjaras/DSC-640-Presentaion-and-Visualization>