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DSC640- Project 2

The intent of this executive summary is to provide senior leadership with the data that helps illustrate how the market is trending and what actions need to be made based on the information we have about how safe air travel continues to be. We are looking to dispel the notion that air travel is no longer safe and we do so by providing visuals that compare other industry numbers with our own. We also highlight that air travel has never been safer and our numbers back up that notion.

The following data sources were used:

- Airline Safety, dataset from the Aviation Safety Network
- Fatality Analysis Reporting System (FARS), NHTSA
- Statistics, Bureau of Aircraft Accident Archives

Once the appropriate datasets were selected, I wanted to select information that reflected how much safer air travel is now, than it was in the past. I wanted blue to be the main color of each visualization and of the dashboard due to its calming effect and ability to be seen by all, including those with some level of colorblindness. Our team chose a minimalist format since we wanted the data and visualizations to speak for themselves. We aimed to limit the number of words on each slide and wanted the metrics to be the story.

Below is a summary of each visual and why that type of chart was chosen:

Chart 1: Domestic Airline Carriers by Seat Availability

- Tree map- Included this type of chart to highlight which carriers would be impacted the most if we don't regain the trust of the public. The bigger squares represent a bigger market share in the industry since they have a larger fleet of planes. Each square is a different color so that the audience can differentiate another company is being referenced.

Chart 2: Domestic Airlines Fatalities vs. Incidents from 2000-2014

- Stacked bar chart- This chart was chosen because it enabled me to highlight how few incidents there are, especially relative to such a large time frame. This chart also allowed us to easily compare all the US domestic carriers with each other. I kept the same color scheme of blue to remain consistent.

Chart 3: Fatal Automobile Accidents by Year

- Column chart- This chart was selected because the numbers in question were large and there was a 15-year time frame we were capturing. A column chart allowed me the ability to display the data and for it to have the impact that I wanted. The numbers are staggering, and the column chart can quickly provide the audience with that impact. The numbers reflect just how much safer air travel is than traveling by automobiles.

Chart 4: Airline Fatalities from 2005-2019

- Line chart- This chart was used because I was dealing with a continuous variable. When dealing with time, line charts do a great job of displaying trends over time and patterns. The numbers show just how drastically fatalities have dropped since 2005. I kept the color blue to remain consistent with the rest of the presentation.

Chart 5: Percentage of US Airline Incidents that Contain Fatalities

- Stacked Column Chart- This chart enabled me to display percentages of just how many incidents lead to fatalities. This chart exemplifies that most incidents do not lead to deaths, which is a good sign. I used two different shades of blue to keep the color scheme consistent, but also allowing the audience to notice a difference between what is being presented.

Chart 6: Domestic Airlines Matrix 1985-1999 vs. 2000-2014 Comparison

- Matrix- I wanted to use a matrix to present the raw data to the audience. This matrix was an organized way to do that and provided senior leadership with an accurate breakdown of where the numbers are and how they have declined from what they used to be.

Chart 7: 1970-2019 Domestic Airlines Total Fatalities and Fatal Accidents

- Stacked Area Chart- This chart was useful because it can highlight the trends that make line charts useful to use while also showing just how few fatal accidents there have been since 2000. Stacked area charts help engage the reader since it contains more color than a regular area or line chart, while also getting the message across clearly.

Overall, these visualizations prove that traveling by air is a safe and has gotten even safer over time. Domestic carriers are especially safe as evidenced by only American showing up in the top 5 fatalities in the past 14 years. These charts should be used to provide the public with enough information to give the consumer confidence when traveling by air. I also included how much the market size has changed due to the Covid-19 Pandemic and how important it will be to regain the trust of the customer. The airline industry has lost a lot of money and there is no reason why people should be apprehensive about traveling through the air.