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08/09/2024
Applied Data Science
DSC680-T302 (2247-1)

Summary - Air Line Safety

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DSC640 - Data Presentation & Visualization

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Air Line Safety Summary

What and Why I choose to present:

I have chosen to present airline safety through different visualizations to make the external audience comfortable traveling in our airline. Since the recent aviation accidents have aroused public concern, I wanted to show the statistical data on how airline incidents have reduced over time.

I have taken the data from the Kaggle website and cleaned and transformed it to show the trends of airline incidents over the past few years.

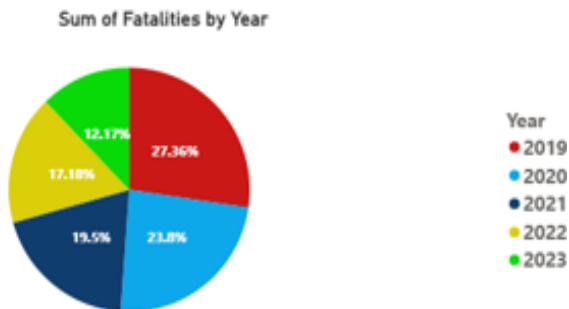I created a bar chart, pie chart, donut chart, and interactive maps as shown below.

Chart 1 - Bar chart:
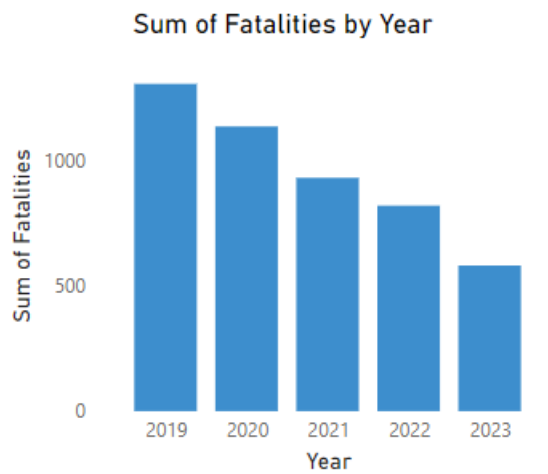
The above Bar graph shows that the number of fatalities was more than 1300 and has decreased

over the years to less than 500.

This was possible because of the safety precautions taken to reduce accidents and fatalities.

Chart 2– Pie chart:

Sum of Fatalities by Year

The above Pie chart shows that the number of fatalities was around 27% in 2019 and reduced to

around 12% in 2023, which makes airlines a safer option for travel.

Chart 3 – Donut Chart:

Sum of Fatalities by Year
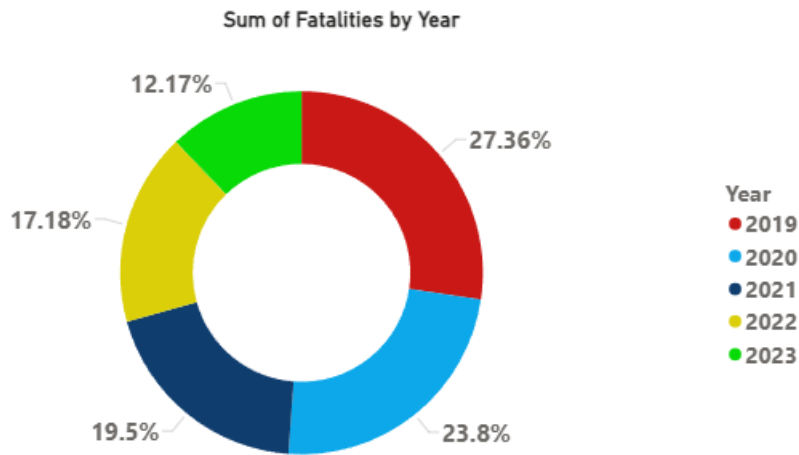
The above Donut Chart shows similar to the above Pie chart, that the number of fatalities was around 27% in 2019 and reduced to around 12% in 2023. A significant improvement in flight safety helped the number of fatalities to reduce by 15% in the last 5 years.

I have used different colors for both the Pie chart and the Donut chart to show some variation for different years.
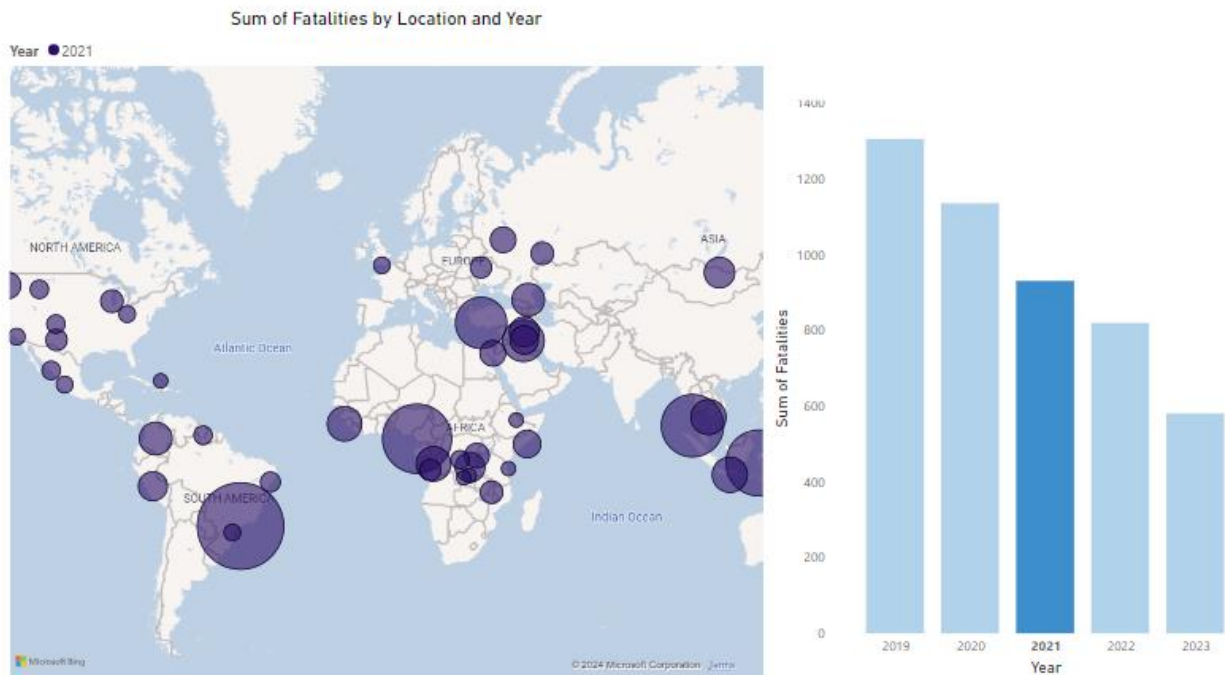
Chart 4 – Interactive Map with Bar chart:

Airline Fatalities Data
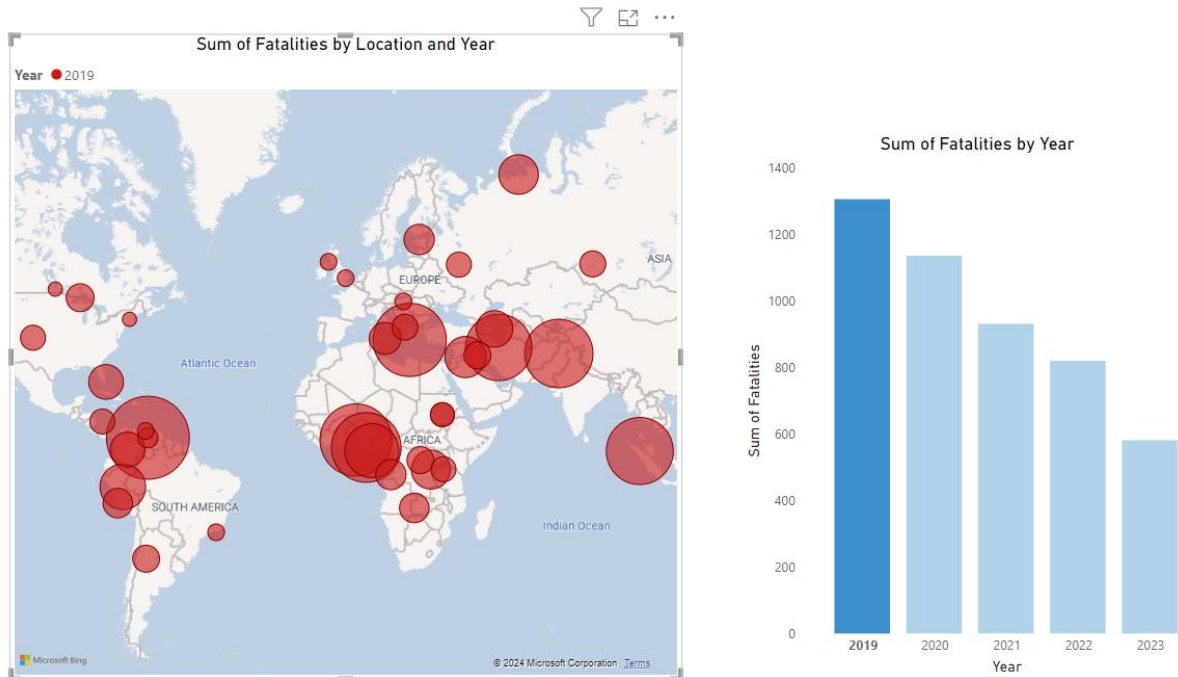
The number of fatalities in the year 2019 is depicted with red dots and the size shows the relative number of fatalities that occurred in various regions.

Chart 5 – Interactive Map with Bar chart:

Sum of Fatalities by Location and Year

The number of fatalities in the year 2021 is depicted with blue dots and the size shows the

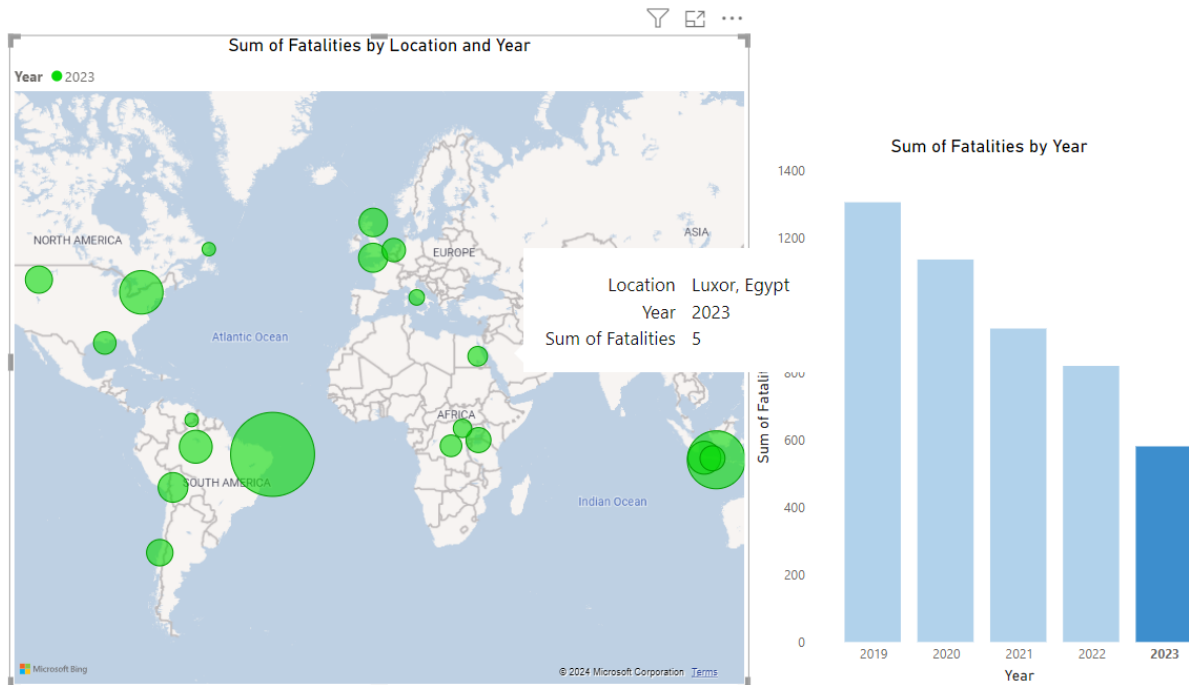relative number of fatalities that occurred in various regions.

Chart 6 – Interactive Map with Bar chart:

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Airline Fatalities Data

Here the green dots show the number of fatalities in various regions for the year 2023, where we see the amount and size of the green dots are drastically reduced when compared to the red dots in the chart for 2019. Also, if we hovered over the dots, it shows the information on a particular location, and how many fatalities occurred for that year. Also, the right-side bar chart clearly shows the yearly decrease in fatalities.

Focus on External Audience

The internal audience may have familiarity with the data and may be well-versed in technical or domain-specific terms but for the Public, it should be more intuitive and easily understandable. While preparing this I made sure not to overwhelm the audience with excessive

detail and focus on only presenting the most important information. I ensured that Visualizations shared with the public need to be mindful of privacy concerns and should avoid disclosing personally identifiable information or sensitive data without proper consent.

Script:

Yes, I prepared the script outlining the key points and evidence and ensured my language was clear, engaging, and appropriate to the audience. I practiced my presentation multiple times to familiarize myself with the content and delivery.

Ethical Considerations

Ethical considerations are integral to ensuring the safety and well-being of all stakeholders involved in airline operations. By prioritizing safety, transparency, accountability, and continuous improvement, airlines can maintain the highest ethical standards and the trust and confidence of the individuals. Ethical considerations extend beyond safety to encompass broader societal concerns. Airlines should consider their impact on communities, economies, and the environment and take proactive measures to fulfill their corporate social responsibility obligations.

References

- *The Airline Crashes dataset is retrieved from the Kaggle website:*

  Airplane Crashes [Data Visualization] (kaggle.com)

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- ***Airplane Crashes 1908-2009:*** *[Airplane Crashes 1908-2009 - dataset by hhaveliw | data.world](data.world)*