

Due to the recent unfortunate airline crashes and the news and media bombarding the public with reports and figures about airline safety trends to prove air is no longer a safe way to travel. As a data science student, I have completed a literature review on this topic using six different matrices with tableau software to find insights and inferences.

Let's dig into it. To make findings more readable and understandable to audiences, I have used different colors such as fatalities as red, decreasing fatalities as light red, increasing revenue, and airlines' seats as green). Similarly, to make the presentation more effective, chosen best-fit visual methods based on the available datasets such as bar chart, area chart, treemap, and a line chart, and used six matrices.

Statistics:

- 1) **Revenue:** Revenue is the best matrix to see the increasing popularity of air travel. The revenue statistics show revenue is increasing each year; means airlines are making more profit.
- 2) **Departed seats:** Due to the increasing popularity and safety measure, more people are traveling through airlines so they are increasing available seats each year. It was 642k in 2010 but gradually increased and became 732 in 2018, which means more people trust and believe in the airlines' safety.
- 3) **Safety record:** The fatal accidents per 1000000 departures are significantly decreasing, and after 2010 to 2017, it was almost 0. It was a significant improvement in the airline's safety.
- 4) **Airline fatalities:** Although one fatality is not even acceptable, however, fatalities are decreasing each year from a statistical point of view. It was only 399 in 2017, which is an excellent sign of airline safety.
- 5) **Road accidents versus Air:** According to the statistics, road accidents are far more than air accidents. The curve shows road fatalities are consistent around 35 to 40 thousand each year, while airline fatalities are decreasing each year by around 500.
- 6) **Operating profit and operating revenue:** This is another way of measuring the safety and popularity of airlines. Operating profit and operating revenue are increasing over the year. It indicates, more people are traveling through airlines, so more profit is gaining, and more revenue is collecting.

Discussion:

Finally, I have used six different matrices to show the safety measure of airlines. The level of data understanding is different in different people. So far, what I got is that the internal team has better knowledge of data understanding, data visualization, presentation, and storytelling. So, after presenting them, we can get feedback to improve our presentation and visualization for audiences. Therefore, for better data visualization, presentation, and storytelling, we should know who we are presenting, what we are presenting and why we are presenting. This process is a little easier for the internal team.

Data visualization and presentation is a crucial part of communication. Only the best visual method and data story can make our presentation understandable and readable. So choosing the best visual way among them and adding the data story is always essential.

Indeed, I have already completed this project and learned many visualization methods, presentations, data story. If I had to do it again, I would choose a few new datasets and add moving visualization, feedbacks, and aesthetics.

Conclusion or findings:

Hence, despite having a few accidents and fatalities, air travel is extremely safe and has been consistently safe due to the following finding.

- 1) Airline revenues are continuously growing.
- 2) Airline fatalities and incidents are far lower than a motor vehicle.

- 3) Airline fatalities decreasing over time.
- 4) Airline departed seats are continuously growing.
- 5) More operating profit and revenue are gaining each year.

References:

- 1) Airline Safety, Aviation Safety Network
- 2) Crash Datasets, <https://data.world/datasets/crash>
- 3) Traffic and Capacity by Operating Region, Airline data project.
- 4) Revenue data (https://www.transtats.bts.gov/Data_Elements.aspx?Data=3)
- 5) US (<https://www.airlines.org/dataset/safety-record-of-u-s-air-carriers/#>)