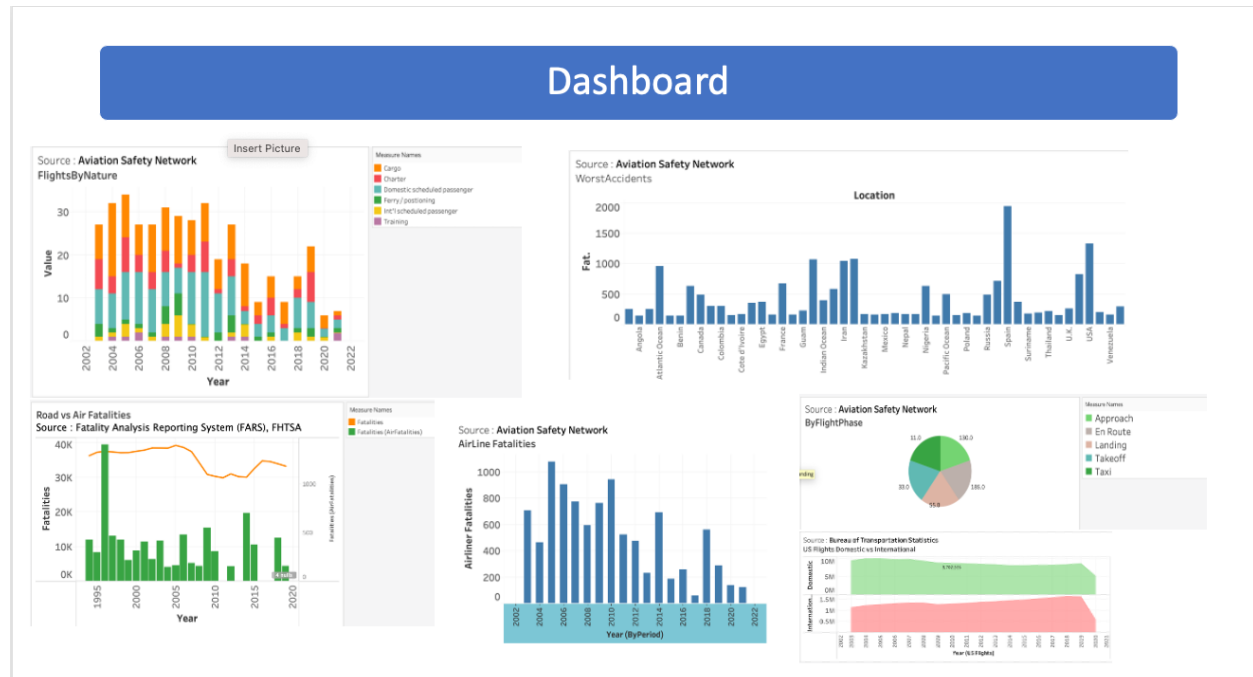Name : Ayachit Madhukar
Course : DSC 640 – T301

Summary

As a part of exercise to present findings and statistics to counter on going media trial, I have made 7 observations out of which 6 are being captured in the dashboard and consequent power point presentation for the executive committee.

Approach

I started with data exploration to understand present facts. I referred core dataset from "Aviation Safety" along with two supplemental source "Transtats".

In the process of data exploration and visualization, I was trying to understand following points:
1. What is the trend of air fatalities / accidents over last 20 years?
2. What are the various categories / mode / nature /location of the flights?
3. What is the actual volume of flights to compare, and bench mark the fatality percentage?
4. Most importantly, frequency/severity in comparison to other means like road travel.

Observation 1: By Nature

Looked into fatalities between year 2003 – 2021 and found that other than passenger carrier, there are other nature of the flights like Cargo/Training/ Charter/ Ferry had more than 50% fatalities. There are 386 fatalities where Cargo/Training/Charter/Ferry contributes to 220 such fatalities.

Observation 2 : By Flight Phase

En-route and Approach phase have maximum accidents.

Observation 3 : By Recent Years

There is an average 500+ air fatalities with significant spike in year 2003,2005,2006 and 2014. However, with the time I would say due to improvement in technology and safety protocol recent years did not touch 500 marks instead they are well below it.

Observation 4 : Flight Volume

There is an average **10 millions**+ per year flights in US region alone (domestic & International combined). I consider it an important data point to factor for air fatality ratio.

Observation 5 : Worst Accidents

Considering top 100 most worst air accidents between 1996 to 2020 , trend suggests recent years are showing very few (under 200) as compare to worst being 1402 in year 1996.

Observation 6 : Air vs Road Accidents

Considering same benchmark between 1995 to 2020 road accidents trend is showing 35K annual road accidents in US alone In comparison to Air accidents remains well under 200-400 range. This is the most important trend to suggest Air travel is comparatively safer and getting better with the time.

What is Next

My assumption is air travel is becoming more safer with the time, I think technology and safety protocols are playing major role. To validate my theory, I would like to explore more in this area especially data points (if available)

Reference
Main Dataset
https://aviation-safety.net/statistics/

Supplemental Datasets
https://www.transtats.bts.gov/Data_Elements.aspx?Data=1

Article
https://www.iata.org/en/pressroom/pr/2021-03-25-01/