BUSINESS PROPOSAL FOR AIRCRAFTMODELS

BY GEORGE NYANDUSI

problem

Your company is expanding in to new industries to diversify its portfolio. Specifically, they are interested in purchasing and operating airplanes for commercial and private enterprises, but do not know anything about the potential risks of aircraft. You are charged with determining which aircraft are the lowest risk for the company to start this new business endeavor. You must then translate your findings into actionable insights that the head of the new aviation division can use to help decide which aircraft to purchase.

overview

- The company wanted to venture into aircraft business and we were tasked to look for the best aircraft for the company to start the business with.
- Heres how we came up with the best craft.

Objectives

- These were the objectives of the analysis

1. 1. Identify Aircraft with the lowest accident rate - helps to identify aircrafts with highest and lowest accident rate
2. Examine number of accidents by engine type - to determine which type of engine experiences accidents a lot
3. Analyze the trends of accidents over time - this helps to show the time stamp when accidents occurred the most
4. Evaluate accidents by geographic location - this helps to show which locations experience the most accidents

Data understanding

- The data that was used was sourced from the NTSA portal on accidents.
- The data entailed categories such as injury severity, total fatalities, model, make , aircraft damage and about 90000accidents that have occurred from 1982 onwards.
- The data was incomplete so we had to do some cleaningand this is how we did it

Data cleaning

- I first looked for duplicates and removed them
- I checked the data for missing values and found that there were several rows and columns with missing values and removed them accordingly.
- I then removed extraneous columns that were not relevant to my analysis
- I then saved the data and started the analysis

Analysis

I did the analysis by comparing the categories of the cleaned data so as to find the final objectives.

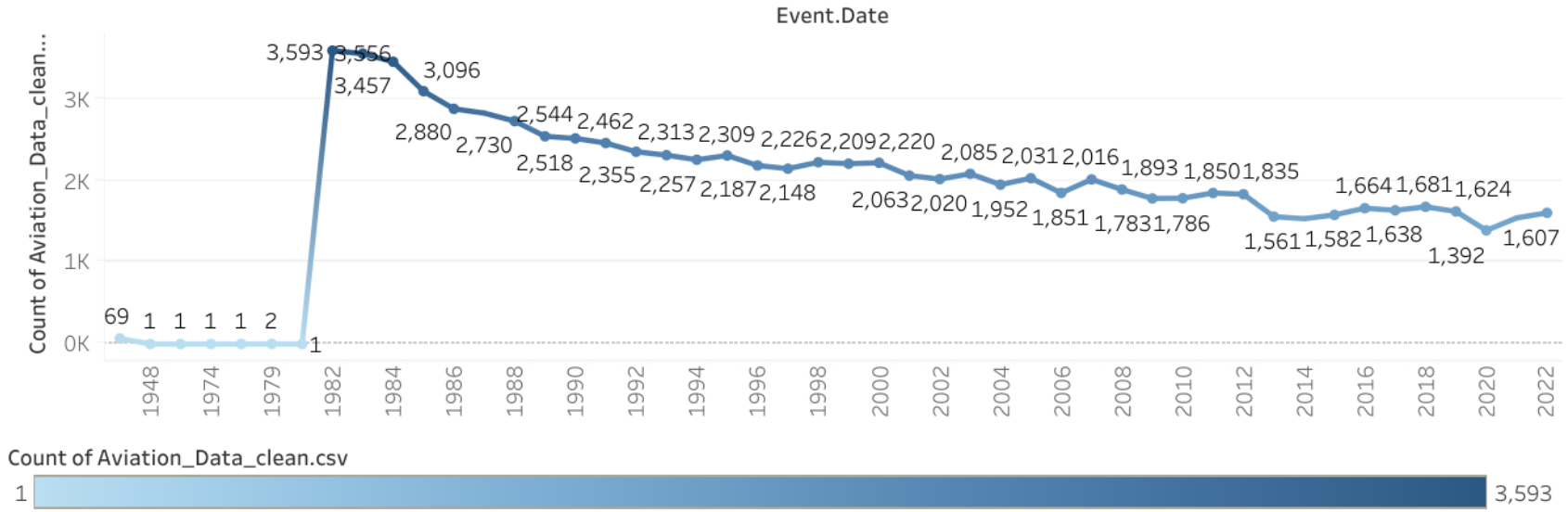
1.I looked at the model craft against the number of accidents to find the safest craft.

2.I compared the engine type against the number of accidents to find the best type of engine for the craft.

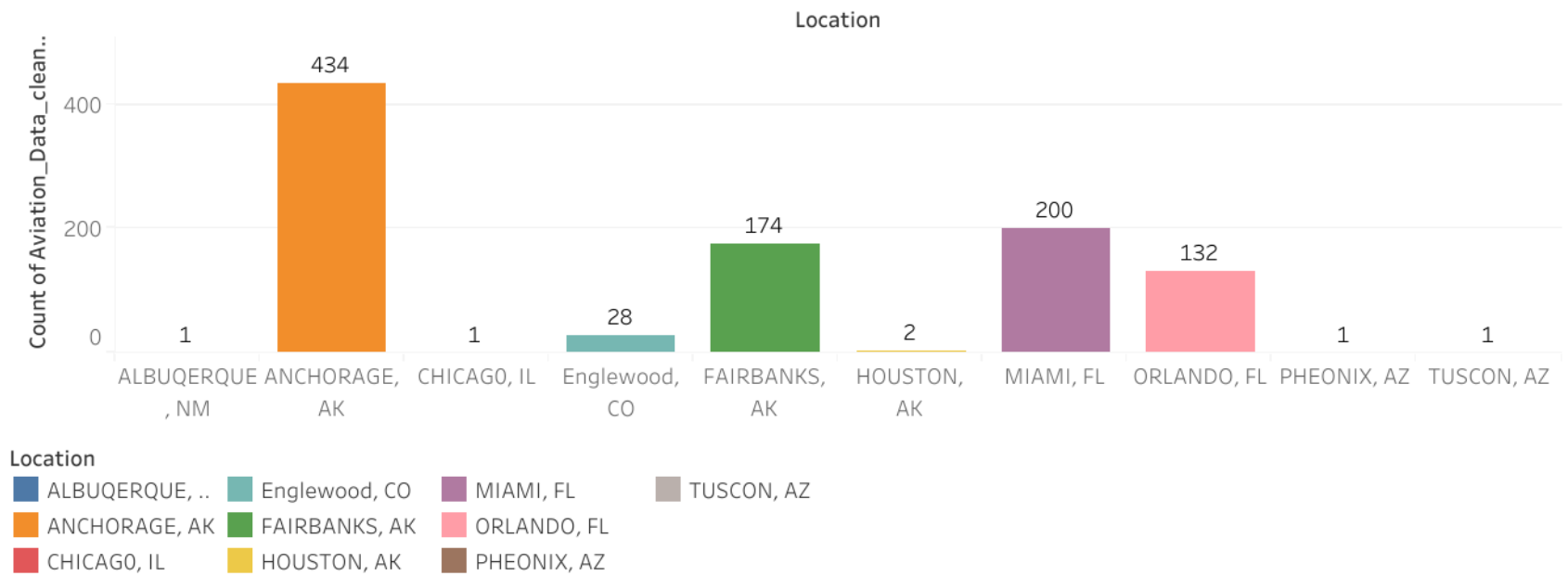
3.I evaluated the date of the accident together with the accident count to enable me understand what period had the most accidents

4. I analyzed the accidents by the locationthey occurred to further understand why they occurred.

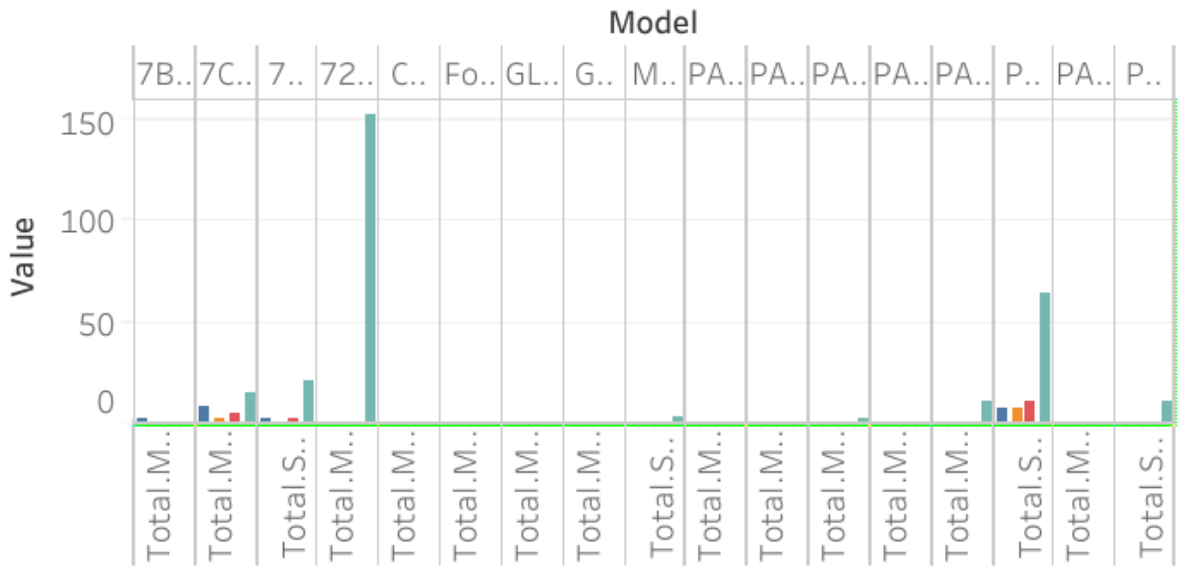
Trend of accidents over time



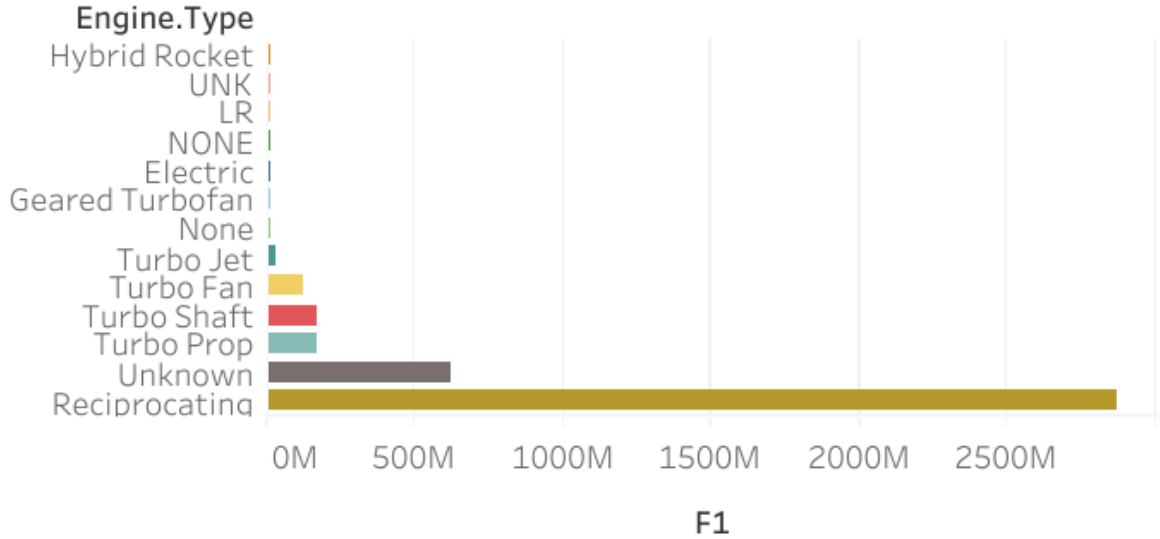
Geographic distribution

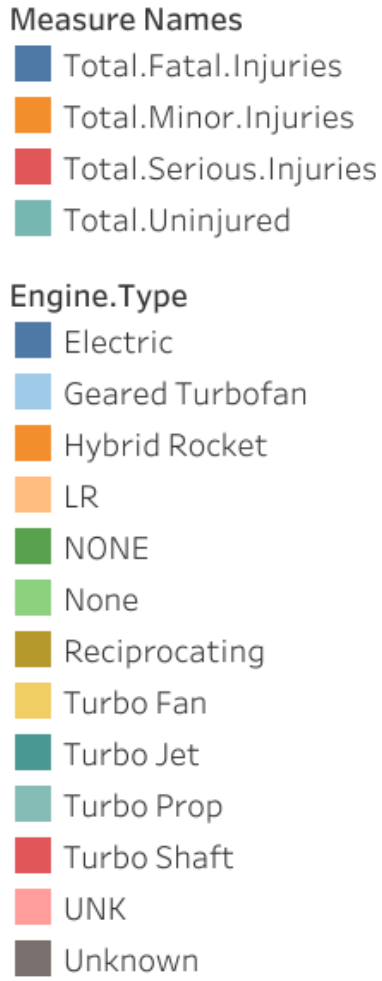


safest models



Accidents by engine type





Findings

- I found out that the safest crafts are the ones with these engine types

1. Electric engines
2. Geared turbofans
3. Hybrid rockets
4. Unk
5. Lr

Conclusion

- I concluded that the company should put these engine types into consideration when they purchase their desired crafts.