Exploring Aircrafts and their risks

Summary

Choosing aircrafts for investment purposes is difficult due to the many risks that a particular aircraft encompasses. The aim of this project is to explore various aircrafts and the accompanied risks, in order to make a learned approach of choosing an aircraft with the lowest risk and to be aware of information on aircraft related accidents. The dataset is from the National Transportation Safety Board that includes aviation accident data from 1962 to 2023 about civil aviation accidents and selected incidents in the United States and international waters.

Outline

- Business Problem
- Data
- Methods
- Results
- Conclusions

Business Problem

The company wants expand to new industries to diversify its portfolio. Specifically, they are interested in purchasing and operating airplanes for commercial and private enterprises, but they don’t know anything about the potential risks of aircraft. They want to determine which aircraft is the lowest risk for the company to start this new business endeavor.

Data

The dataset consists of accidents that happened between 1962-2023. It encompasses important data such as the Purpose of flight, the aircraft makes and models, the total number of fatalities in each accident, the phase of flight in which the accident happened, the damage that the aircraft took and the total number of uninjured people in each accident.

Methods

In data preparation, I omitted data that were either irrelevant or were incomplete (missing values). I also removed duplicates that were in the data.

I used visualizations such as bar charts to show the various information that I would like to analyse and communicate.

Results

Present the results of your analysis or modeling here. Should include evaluation of how well your results solve the business problem.

My analysis showed that either of these ten aircrafts would be good to invest in as they were involved in as little as one accidents per aircraft:

1. Eurocopter Deutschland BO-105 CBS 5
2. Eurocopter Deutschland EC 135 P2
3. Eurocopter Deutschland EC-135 P1
4. Eurocopter Deutschland EC135T1
5. Eurocopter Deutschland EC135T2
6. Eurocopter Deutschland Gmbh MBB BK-117 A4
7. Eurocopter France AS 350 B2
8. Eurocopter France AS 350 B3
9. Eurocopter France AS 350 BA
10. Zwart KIT FOX VIXEN

Conclusions

Project limitations: Some of the data presented might have an underlying factor, which is popularity. For example, way more people would want to use aircrafts for Personal use rather than Firefighting, which can therefore increase the number of accidents involving aircraft that is used for personal use.

Thank You!

Email: ctkimondo@gmail.com
GitHub: @feeblegeneral
LinkedIn: https://ke.linkedin.com/in/caleb-kimondo-6932b9289