

Data Science Project: DS-PT08

Selection criteria for aircraft to purchase and operate with the lowest risk.

Summary

- This project followed four criteria deductive analysis to identify lowest risk aircrafts.
- Criteria; Purpose, Asset risk, User related risks and aggregated/combined risk.
- Visualizations of findings.

Outline

- Business Problem
- Data
- Methods
- Results
- Conclusions

Business Problem

- My company contemplates a dive into aviation industry.
- Challenge; knowledge and experience gap in the sector.
- Objective; to identify the aircraft with the lowest risk
- Scope; analysis is limited to aviation accidents dataset.

Data

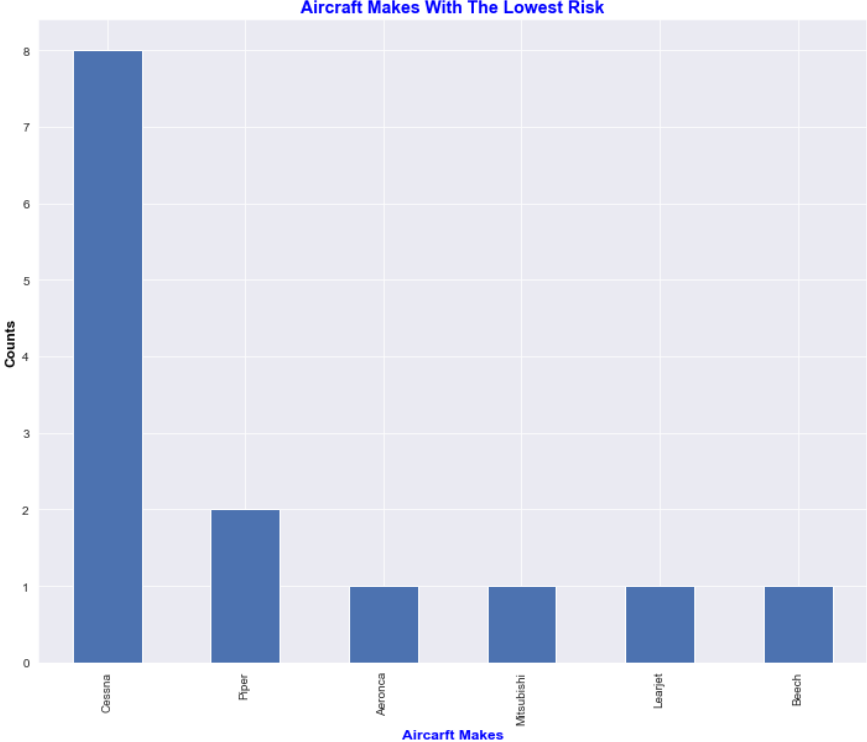
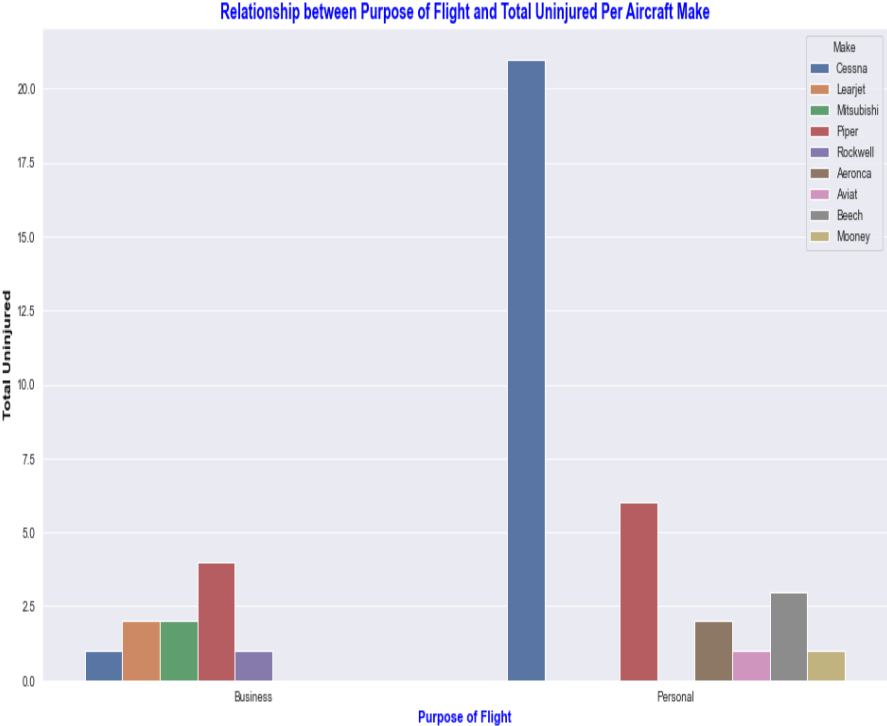
- The dataset obtained from the aviation accident database of National Transportation Safety Board(NTSB) for the period 1962 to 2023 about civil aviation accidents and selected incidents in the United States and international waters.
- 87951 rows and 31 columns of unique records.
- Datatypes; 5 float, 26 object.

Methods

- Project adopted CRISP-DM methodology for aviation industry
- Data preparation; Data Validity, Completeness, Accuracy, Consistency and Uniformity
- Exploratory Data Analysis;
 - Univariate,
 - Bivariate,
 - Multivariate

Results

Visualizations of results



Conclusions

- My company should consider this criteria in its decision to arrive at the aircraft to choose:
 - Asset Risk; aircraft that sustains lowest damage degree
 - User Related Risk; that does not inflict injury
- More aircrafts with low risk are operated for personal enterprises.
- Cessna make posses the lowest aggregated risk, especially those operated for personal enterprises.

Recommendations

- Based on the intended purpose (business or private enterprises), I recommend the company to consider aircrafts operated for private enterprises.
- The company to consider Asset Risks and User Related Risks in choosing the low risk aircrafts. The aircrafts that sustains at most minor damages in the event of accident/incident, and do not cause injury to users.
- I recommend the company to consider choosing Cessna make of aircraft to purchase and operate for private(personal) enterprises. Cessna has the lowest aggregate risk.

Thank You!

Email: f.limofelix@gmail.com/felix.limo@student.moringaschool.com

GitHub: @Felix-87

LinkedIn: [linkedin.com/in/username/](https://www.linkedin.com/in/username/)