

# Aviation Industry Evaluation

*Analysis of the various risks in the aviation industry*

# Overview

The aviation industry has seen significant growth, particularly in the private and commercial sectors. The aviation industry market size is projected to grow from \$198 billion to \$300 billion shillings in 2030. Considering this market size, it is a tempting industry for a business to venture in.

Considering its huge market size, the aviation industry has a huge barrier of entry in terms of the cost of purchasing aeroplanes and the operations of the aeroplanes.

Therefore it is important for a company to analyse the risks that accompany the aviation industry and leverage it with their appetite to accept those risks.

This analysis therefore analysed a database from the National Transport Safety Board that has data from 1962 to 2023 to figure out what risks a company that wants to venture into the aviation industry may face

# Business Understanding

Pencil's company is seeking to diversify its portfolio and has seen the aviation industry as a promising industry to enter. The industry is very new to the company and it's seeking to gather information on the potential risks it may face before entering the industry.

This analysis seeks to answer that question and also provide insights on the potential risks the company may face in the industry.

# Data Understanding

The data is from National Transport Safety Board and contains information on the number of accidents in the aviation industry from the year 1962 to 2023.

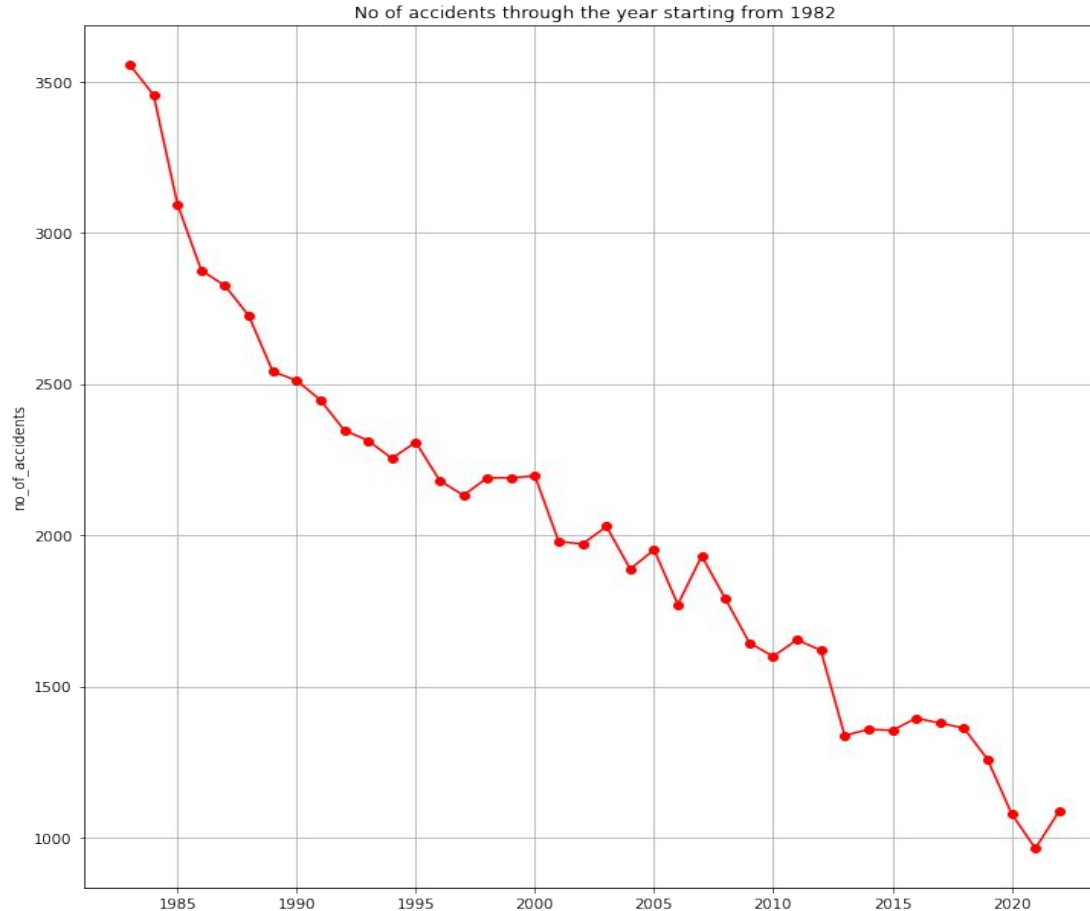
The dataset contains 31 column which provides various information on the recorded accident. From the 31 columns this analysis took great emphasis on the

a) make of the aircraft i.e aircraft name,

b) the model of the aircraft

The data contained mostly categorical data and where there was missing values it proved to be helpful for the analysis to drop the rows with the missing values

# Number of accidents through the years

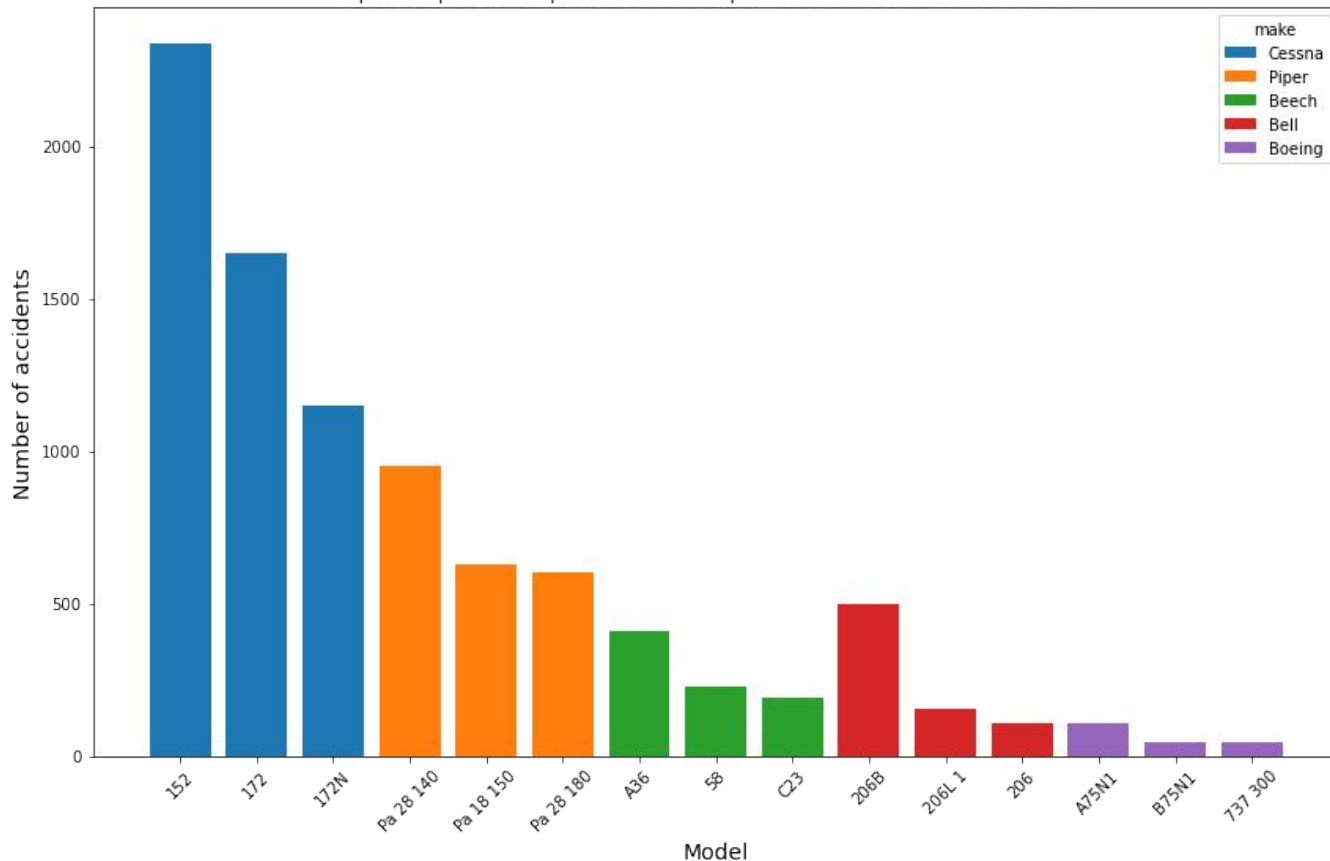


The diagram shows the number of accidents through the years.

From the graph it shows that the number of accidents in the aviation industry has reduced dramatically through the years

# Aircraft make and model and number of accidents

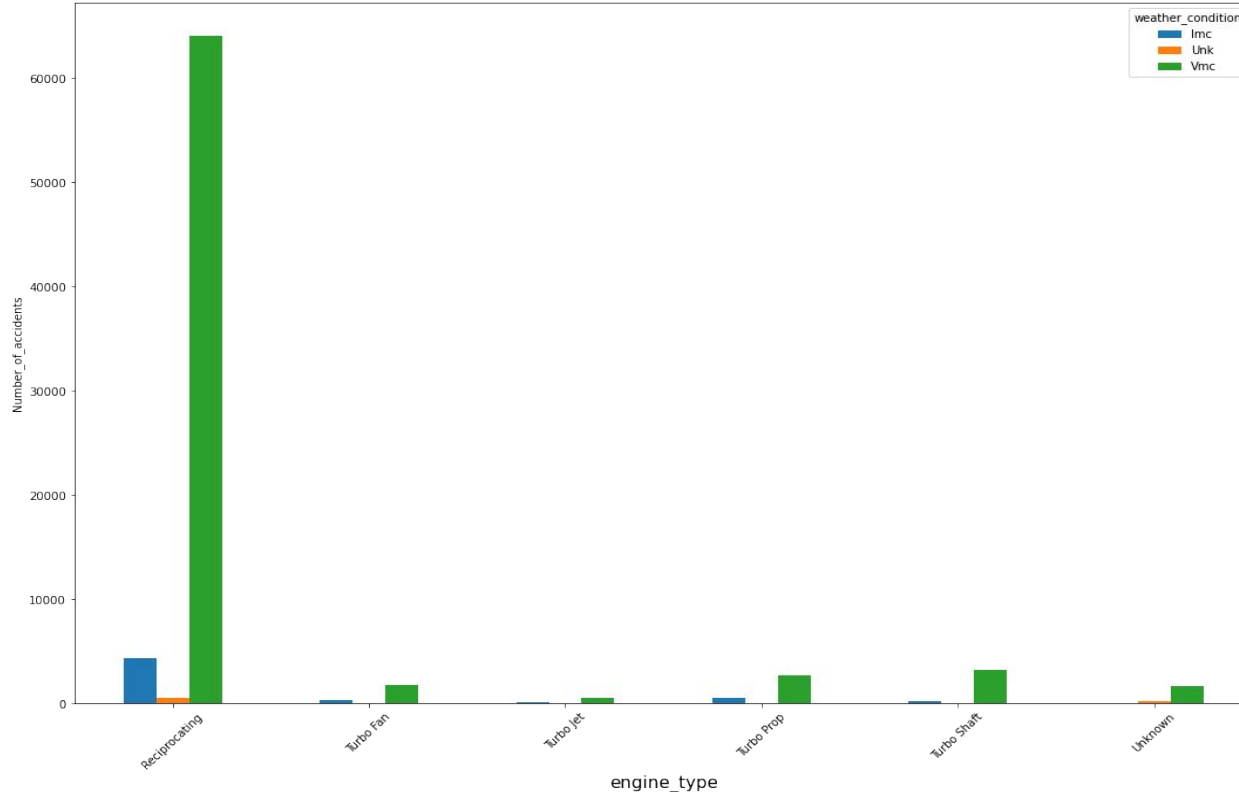
Top 5 Aeroplanes Companies and their top 3 Models involved in most accidents



The figure shows a bar plot in which it shows the top aircrafts makes and their models involved in the most number of accidents

The figure shows that cessna has been involved in the most accidents while boeing has been involved in the least number of accidents

# Number of accidents vs the type of engine and weather condition



The figure shows the distribution of accidents to the type of engine and weather condition.

The figure shows that the reciprocating engine is not a good engine on different weather conditions so it should be avoided when purchasing an aircraft

# Recommendations

From the above analysis we have figured out the number of accidents in the aviation industry has been reducing. This shows there is reduced risk of an accident occurring. This trend is majorly because of the laws that govern the aviation industry and the improved technology in making of aeroplanes

The analysis was not able to recommend a particular aeroplane for purchase but it can recommend that the aeroplane make cessna and aeroplanes with reciprocating engines should be avoided in the consideration of purchase



# Additional links

Tableau: [Analysis of aeroplanes accidents | Tableau Public](#)

Github repo: [https://github.com/stephenmungai/phase1\\_project.git](https://github.com/stephenmungai/phase1_project.git)

# **Thank you**

This is the end of the presentation

Any questions