

# ASSESSMENT OF RISKS ASSOCIATED WITH VENTURING INTO AVIATION MARKET



# INTRODUCTION

The company is in the process of entering into the aviation industry and requires a detailed analysis of the various risk associated with this industry, historical data for previous years with different categories of aircraft and different level of risks has been shared for analysis of trends. This will in the end guide the management in decision making on whether to venture or not. This project therefore aims to evaluate the viability of entering the aviation industry and provide strategic recommendations to management based on comprehensive research and analysis.

# Background

- ▶ The company is exploring diversification opportunities to strengthen its market position and unlock new revenue streams.
- ▶ The aviation industry presents both attractive growth prospects and significant operational, financial, and regulatory risks.

## **Industry Overview**

- ▶ The global aviation market is valued at over \$850 billion, with expected steady growth fueled by increased travel demand and global trade expansion.
- ▶ However, the industry is highly sensitive to economic cycles, fuel price volatility, regulatory shifts, and safety standards

# Background

## Objectives

- ▶ Assess the feasibility of entering the aviation sector based on historical risk patterns, market trends, and operational requirements.
- ▶ Leverage insights from data analysis to inform a go/no-go decision for executive management.

# Source of Data

Data has been generated 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.

# Data Tools

- Pandas
- ▶ Numpy
- ▶ Matplotlib
- ▶ Seaborn
- ▶ Statistical tools

# Data Cleaning and Analysis

- The data generated from the source indicated above was cleaned in order to generate a data frame for relevant columns that were only needed for analysis.
- A threshold for null values was set as a percentage of the totals of data frame to filter out data that was viewed to be critical.
- The threshold was set at 30%
- The columns which were considered not to be critical as per the threshold was dropped.
- The critical columns was stored in a data frame called `df_filtered`.

# Bar charts and Line graph

## Bar Charts

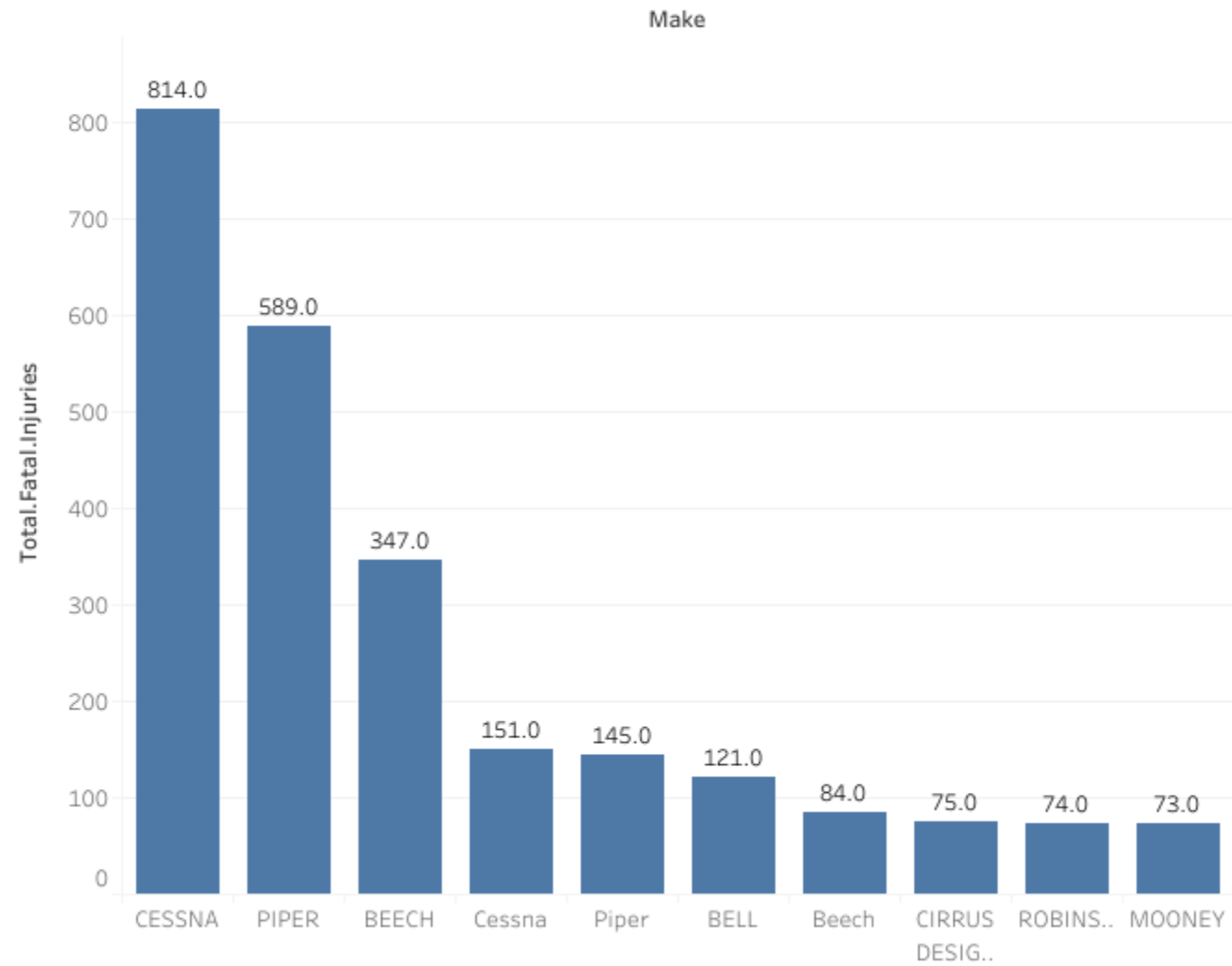
- Total Fatal Injuries against Model
- Total Fatal Injuries against Weather Condition

## Line Graph

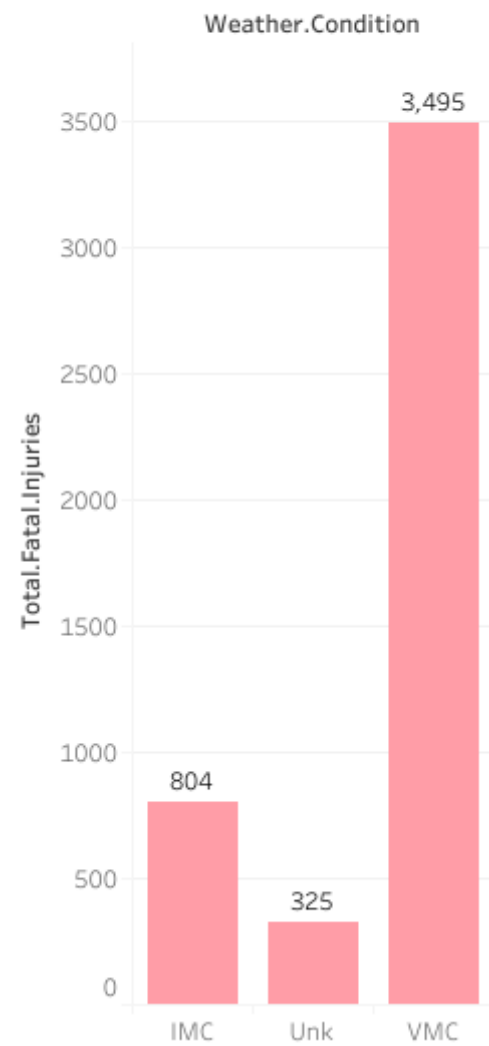
- Total Fatal Injuries against event date



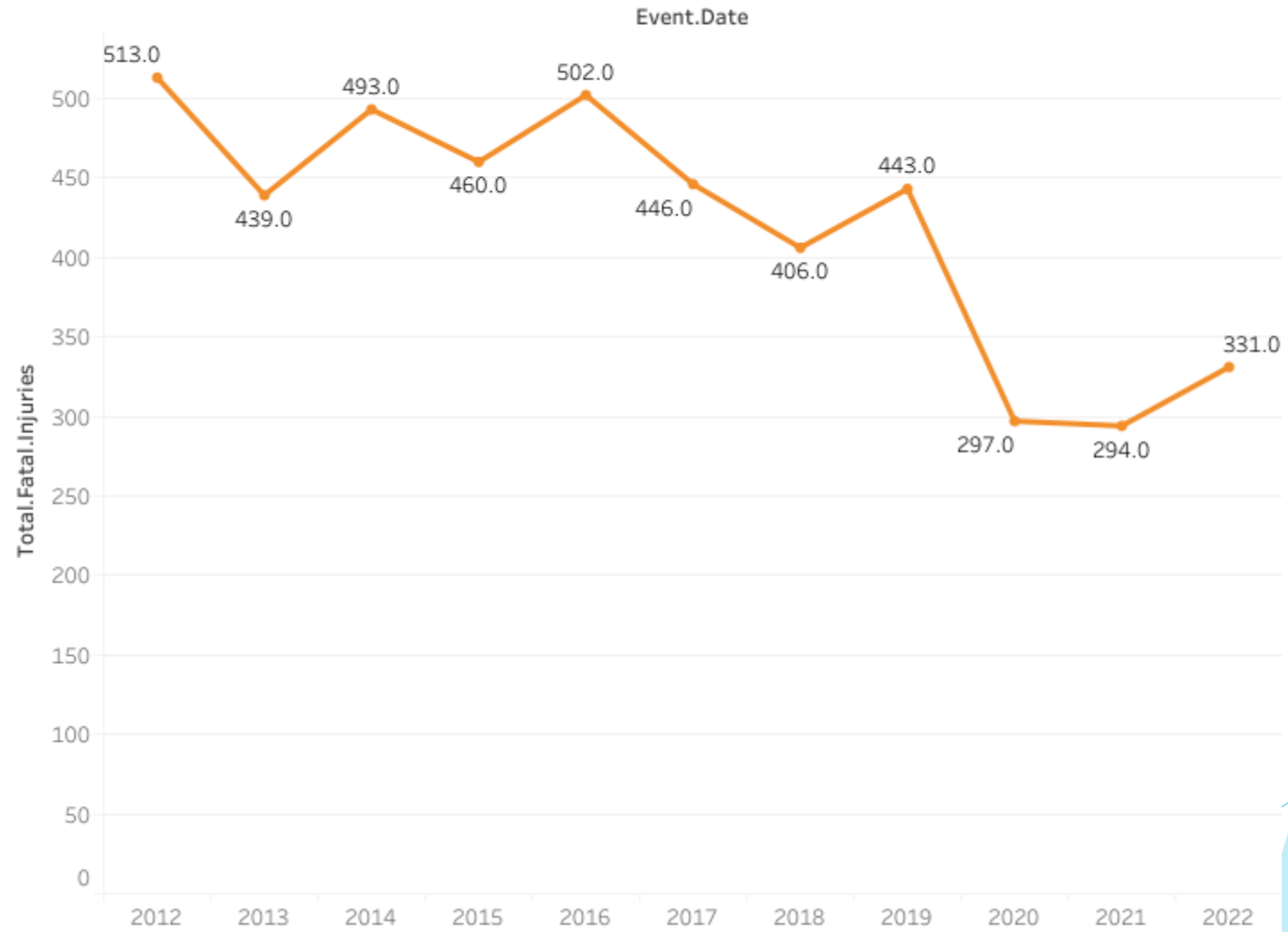
## Total Fatal Injuries against the Make



Total Fatal Injuries  
against weather  
condition



## Total Fatal Injuries against event date



# Findings

- Mooney registered minimal fatalities compared to other makes.
- More fatalities occurred during VMC( Visual Meteorological Conditions/Clear weather.
- Total fatal Injuries reduced over time.

# Conclusion

- ▶ Aviation business is a costly business
- ▶ Venturing into Aviation market is a risky venture, there are many associated risks such as aircraft damage, number of engines.
- ▶ The data selected did not exhaustively analyze the risks as other categories were not measured such as accident counts, models and aircraft category.
- ▶ More analysis to be done.
- ▶ Aviation business is highly competitive.