RiskWise Aviation Insights

INTRODUCTION---A COMPANY IS VENTURING INTO AVIATION INDUSTRY AND I WILL TAKE THE STAKEHOLDERS THROUGH RISK ASSESSMENT IN THIS VENTURE TO PROVIDE INSIGHTFUL INFORMATION FOR GUIDED DECISION MAKING.

Project Description (introduction)

- The aviation industry presents unique challenges, and a thorough assessment of historical accident data is essential to inform our purchasing decisions. This project aims to analyze aviation accident data from the National Transportation Safety Board (NTSB) to identify the safest aircraft options for our new business endeavors.

- This project,using the data from NTSB Aviation Accidents dataset(1962-2023), aims to assess and identify the aircraft model with the lowest risk factors that affect and contribute to the frequency and severity of aviation accidents. The information derived from an extensive analysis of the available data will help in making informed decisions in purchasing the aircraft to venture into the aviation industry.

Business Understanding or problem statement

- Green Collar Solutions Limited is expanding into Aviation industries to diversify its portfolio. My task in this project is to answer the following questions for the stakeholders.
- (i). What are the risk factors associated with different aircrafts?
- (ii). Do the accidents rates depend on whether the aircraft is commercial or private?
- (iii). Does the model of an aircraft minimize or increase it's risk factors?

Objectives

- The primary objective of this project is to identify low risk aircrafts for potential purchases based on accident rates, fatalities and injuries and to provide actionable recommendations to guide decision making for the new business venture into Aviation industry.

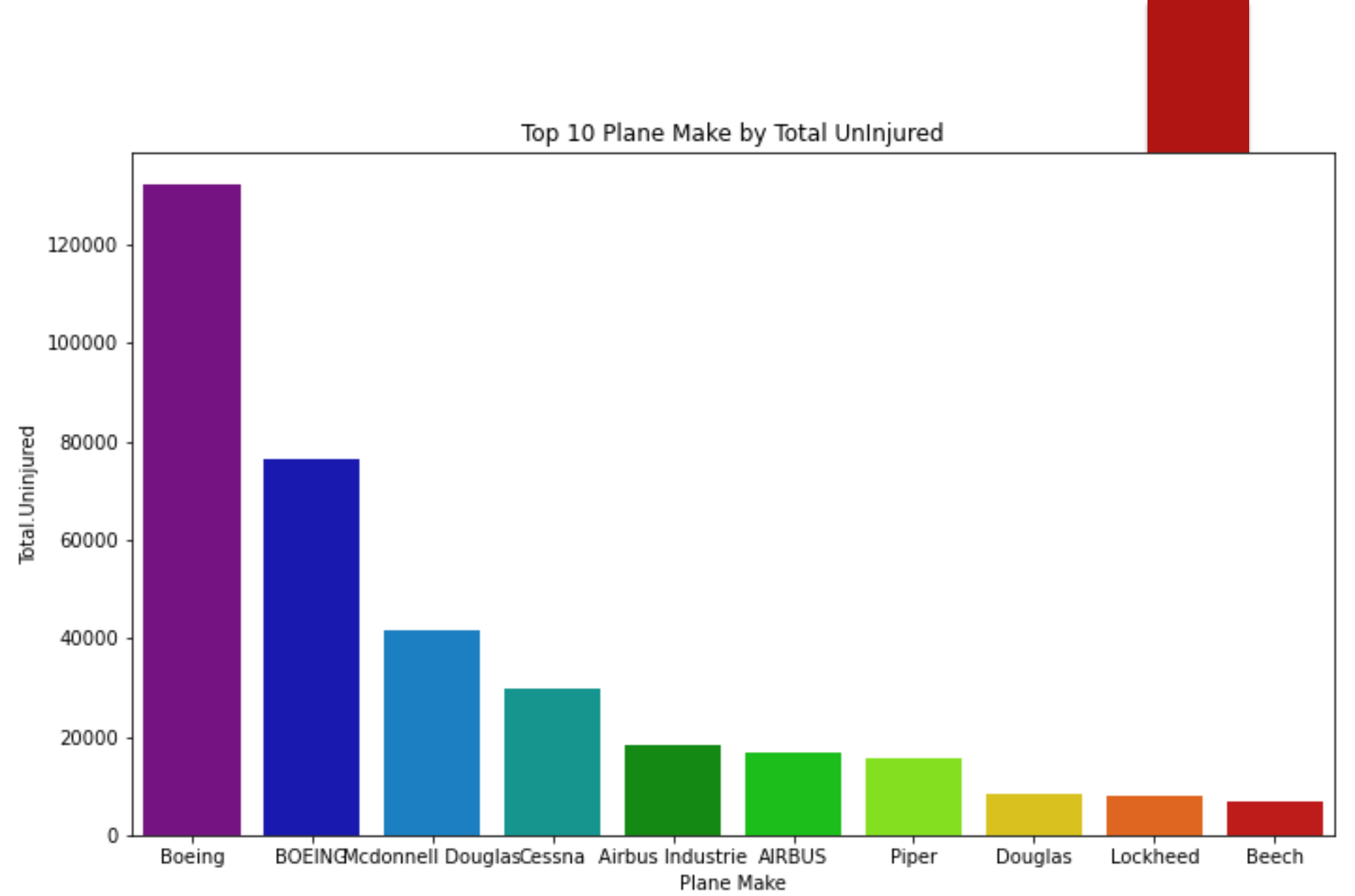
Data source and data understanding

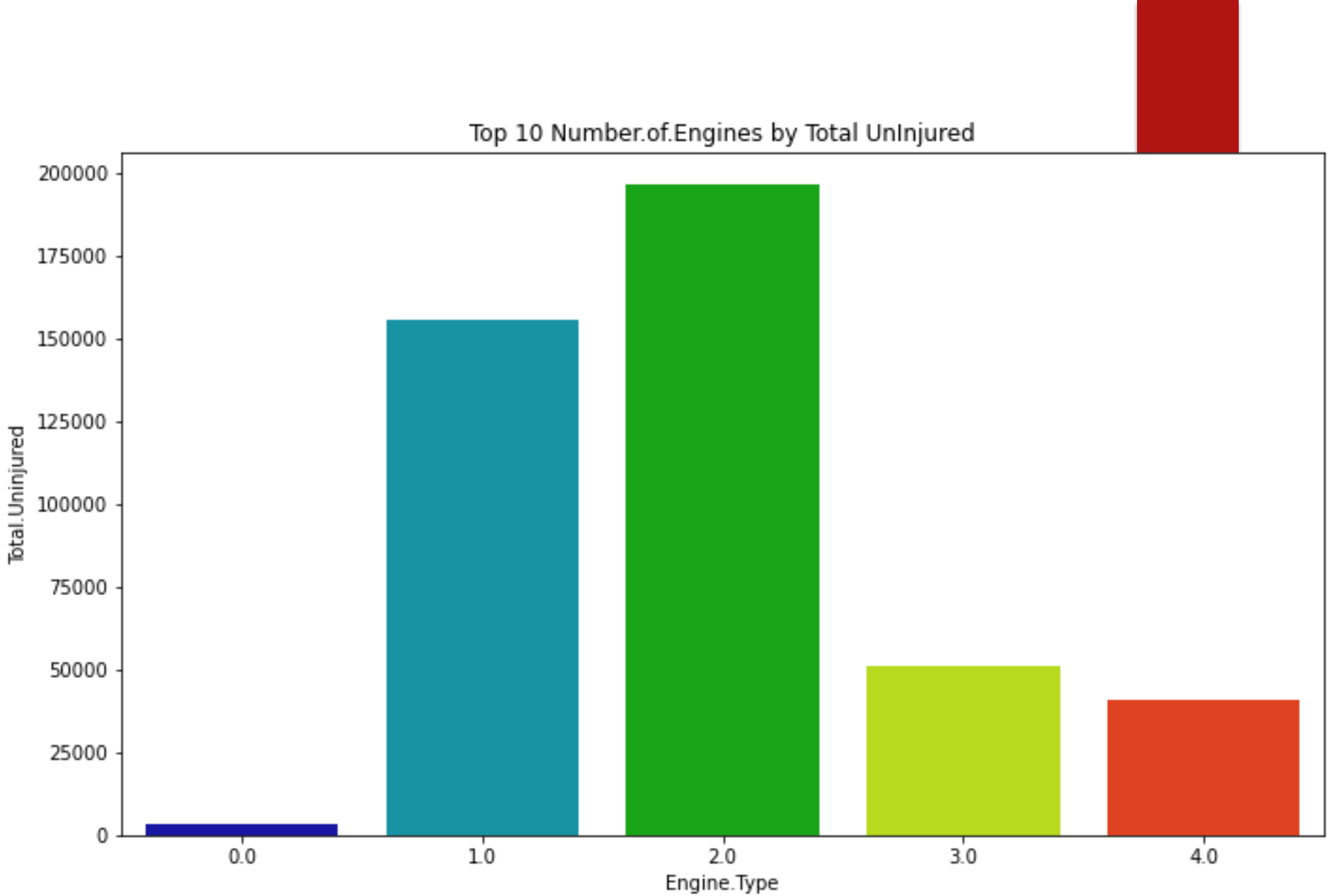
- Data source >>> NTSB Aviation Accidents report for the years 1962-1963.

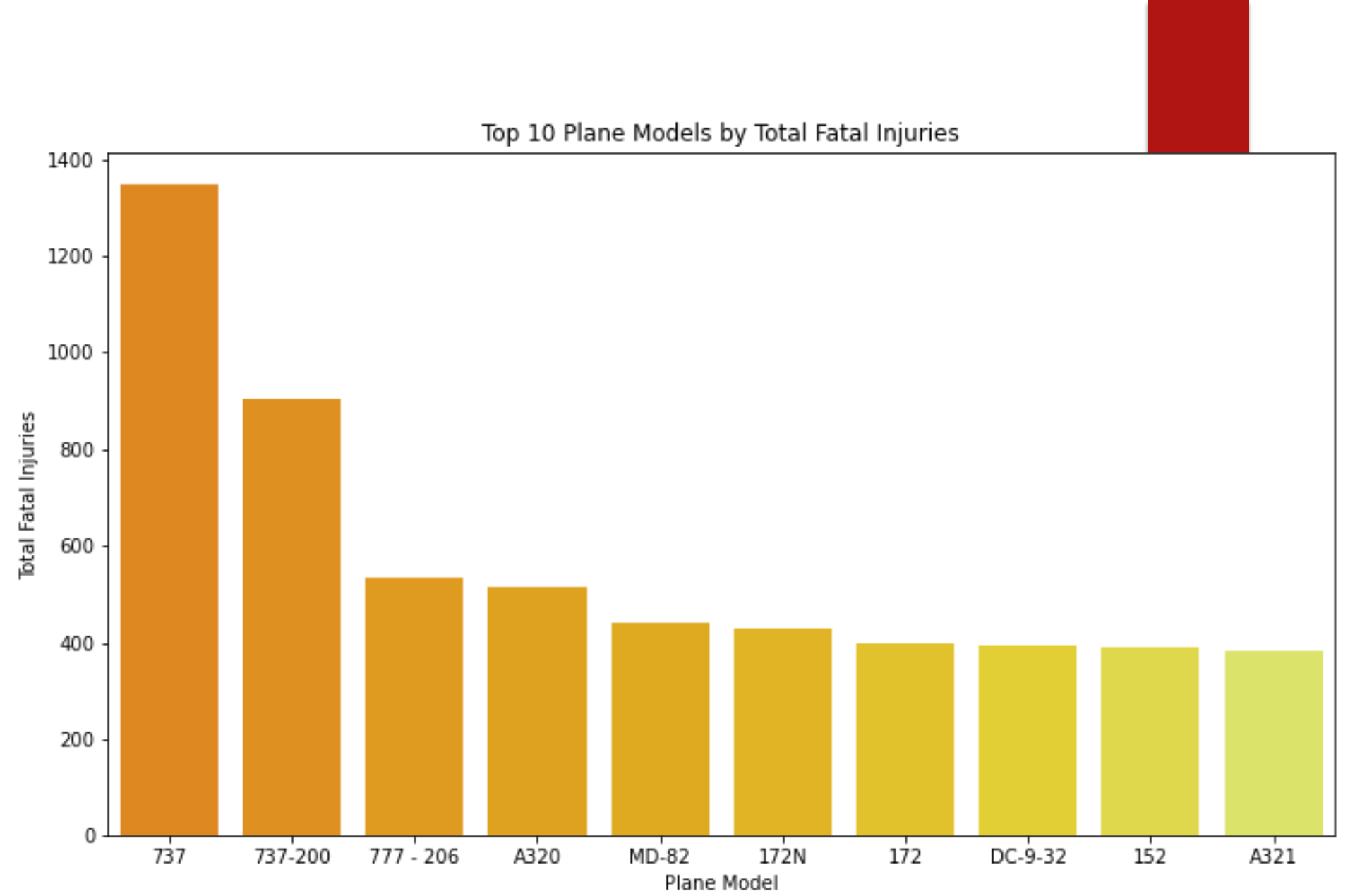
- Data Understanding>>> data understanding and exploration using python pandas.

RISK ASSESSMENT

- **Data aggregation- grouping data by aircraft category to calculate total accidents and injuries to provide a clear overview of the risk levels.**
- **Creating visual representations on the findings to facilitate understanding and decision making**


Top 10 Plane Make by Total UnInjured
Total.Uninjured
0
20000
40000
60000
80000
100000
120000
Boeing
BOEING
Mcdonnell Douglas
Cessna
Airbus Industrie
AIRBUS
Piper
Douglas
Lockheed
Beech
Plane Make


Top 10 Number.of.Engines by Total UnInjured
Total.Uninjured
200000
175000
150000
125000
100000
75000
50000
25000
0
0.0
1.0
2.0
3.0
4.0
Engine.Type


Top 10 Plane Models by Total Fatal Injuries
Total Fatal Injuries
0
200
400
600
800
1000
1200
1400
737
737-200
777 - 206
A320
MD-82
172N
172
DC-9-32
152
A321
Plane Model

Recommendations

- Purchase big powerful planes with four engines if you want to venture into something like military operations that need more space for carrying military machineries and weapons but also require little landing and taking off space.
- Focus on low risks Models with less fatalities,less severity on injuries and aircraft damage.
- Making decisions based on financial safety(where financial losses are mitigated) while still putting into consideration the safety of the passengers who are entrusting their lives to your airline.

Next Steps

- 1.Research thoroughly on the type of planes with what type of engines and what number fo engines to insightfully be able to know which plane is best suited for what.
- 2.Vet and invest heavily on training your stuff about the planes you acquire for this venture because human error is a big contributing factor to aviation accidents. They need to know the planes like the back of their hands because swift reactions are needed incase of a failure in an engine and so forth.
- 3.Ensure to research to on your operational routes to ensure you have enough power and space to land.

Conclusion

A. Further data collection and analysis
B. Market research
C. Research your operational routes

“Special thanks to GreenCollar Solutions for the Opportunity,for entrusting me with this Process.”

ANY QUESTIONS YOU MIGHT HAVE ,I WILL ANSWER NOW

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