

Moringa School

# **AVIATION ACCIDENT ANALYSIS**

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# **1. BUSINESS UNDERSTANDING**





# PROBLEM STATEMENT

A company is expanding into new industries to diversify its portfolio, with a specific interest in acquiring and operating airplanes for both commercial and private ventures. However, they lack knowledge about the potential risks associated with aircraft.

The objective is to identify which aircraft pose the lowest risk for the company to enter this new market. These findings should be converted into actionable insights to guide the head of the new aviation division in making informed decisions about aircraft purchases.





# PROJECT AIM

The objective of this project is to employ data cleaning, imputation, analysis, and visualization to generate valuable insights for a business stakeholder interested in acquiring and operating airplanes for commercial and private ventures.

The goal is to convert these findings into actionable insights that will assist the head of the new aviation division in making informed decisions about which aircraft to purchase.



# OBJECTIVES

## GENERAL OBJECTIVE

To identify the aircrafts that are less prone to be involved in an accident. This will help the head of the new aviation division to decide which aircraft to purchase and operate for commercial and private enterprises.

## SPECIFIC OBJECTIVES

**01**

To understand the problem statement, the project's objectives, and the dataset utilized.

**02**

To apply data cleaning techniques to generate actionable insights.

**03**

To analyze the data through univariate and bivariate analysis of variables.




## **2. DATA PREPARATION**





# DATA CLEANING

1. Completeness - Ensure the dataset is free of missing values.
  2. Uniformity - Maintain consistent data representation.
  3. Consistency - Resolve any discrepancies in the data.
- 



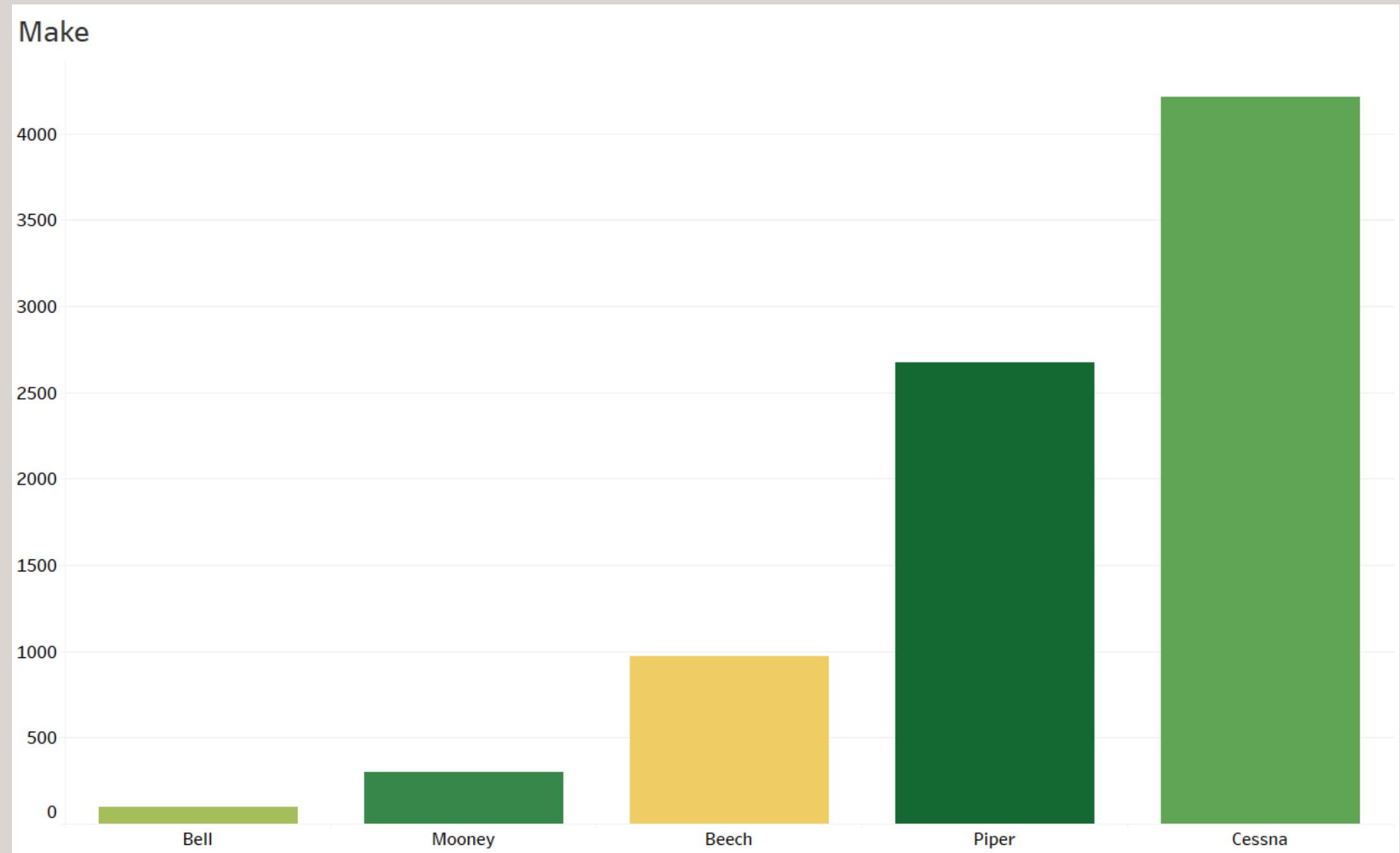


# **3. DATA ANALYSIS**



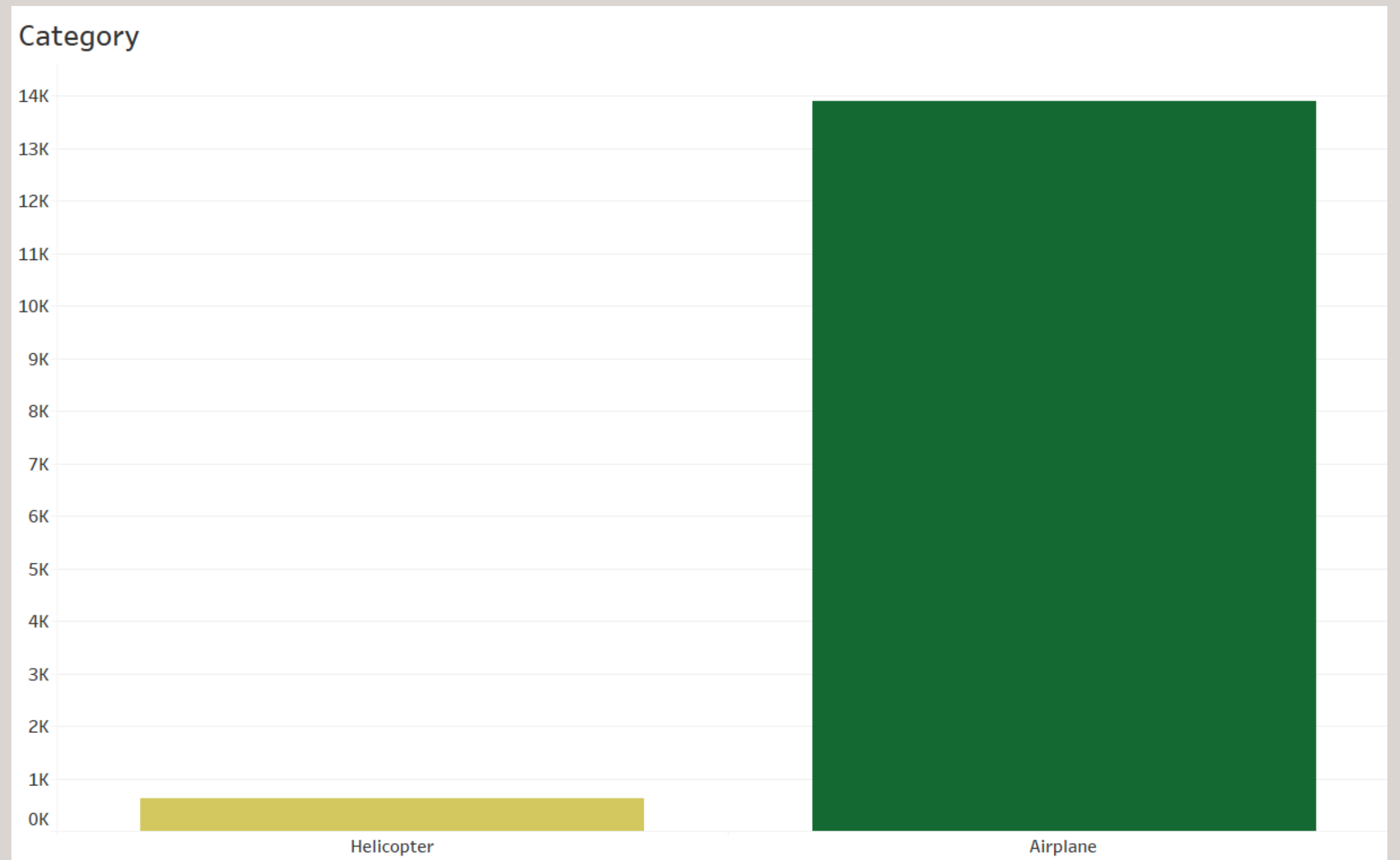
# MAKE

Aircrafts of the make Bell or Mooney are less prone to accidents.



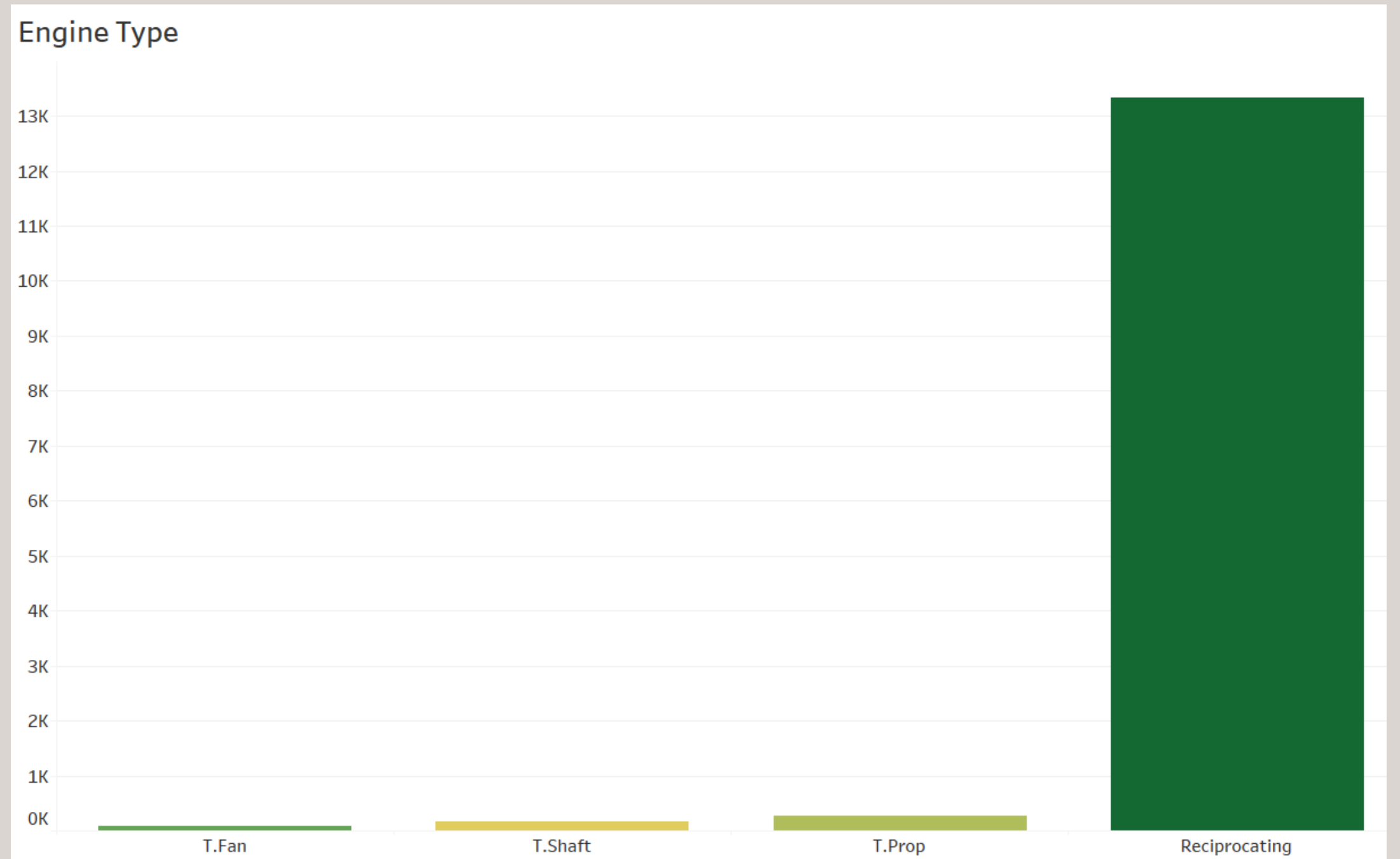
# CATEGORY

A helicopter instead of an Airplane is less risky.



# ENGINE TYPE

Aircrafts with engine type of Turbo Shaft, Turbo Fan, Turbo Prop are not as prone to accidents as the reciprocating engine.





# **4. CONCLUSION**






# CONCLUSION

For data cleaning, missing values were addressed, duplicates were eliminated, type conversions were performed, and data consistency was ensured by standardizing string formats in certain columns.

The top five flight purposes for aircraft involved in accidents were personal, instructional, aerial application, business, and positioning. Given that the stakeholder plans to purchase and operate aircraft for both commercial and private use, this variable was the focus of the bivariate analysis.





# **5. RECOMMENDATIONS**



# RECOMMENDATIONS

The head of the new aviation division is advised to consider the following:

1. Purchase aircrafts from the Bell or Mooney manufacturers.
2. Opt for a helicopter over an airplane.
3. Choose aircrafts with Turbo Shaft, Turbo Fan, or Turbo Prop engine types.



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**Thank You.**  
**Any Questions?**

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