



# XYZ AVIATION PROPOSAL

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# Introduction

The company is seeking to venture in air travel business and seeks to establish the least risky aircraft to invest in based on aviation Accident Database & Synopses, up to 2023 downloaded from Kaggle.com



# Methodology

- Explore the aviation accidents data
- Identify patterns in the data
- Design key risk indicators
- Identify the optimal aircraft within the company's risk profile



# Assumptions

I made the below assumptions in the analysis:

- For a make to be economically viable to operate , it should have carried at least 500 passengers.
- The number of customers involved in the documented accidents is a representation of the market share per make.
- Passenger injury/ fatality rate of 10% and below is acceptable to the company.
- Company would seek to optimize returns by investing in makes with high market share.

# The data

- The refined data contained 46 aircraft makes with a total passenger count of 504,515.
- our KRIs evaluated the below below fields:
  - The make of the plane
  - Total\_Fatal\_Injuries per accident.
  - Total\_Serious\_Injuries per accident.
  - Total\_Minor\_Injuries per accident.
  - Total\_Uninjured per accident.

Make	Total_passangers	Total_Injured	no_of accidents	Total_Fatal_Injuries
AERO COMMANDER	951.0	427.0	429	246.0
AERONCA	1048.0	442.0	636	118.0
AEROSPATIALE	3319.0	708.0	388	349.0
AIR TRACTOR	784.0	307.0	691	121.0
AIRBUS	22887.0	1623.0	291	1325.0
AIRBUS INDUSTRIE	22985.0	1711.0	164	1174.0
ATR	864.0	250.0	35	185.0
BALLOON WORKS	530.0	217.0	147	14.0
BEECH	14546.0	6216.0	5371	3781.0
BELL	6625.0	3332.0	2722	1332.0

# Key risk indicators



The below Key risk indicators were derived:

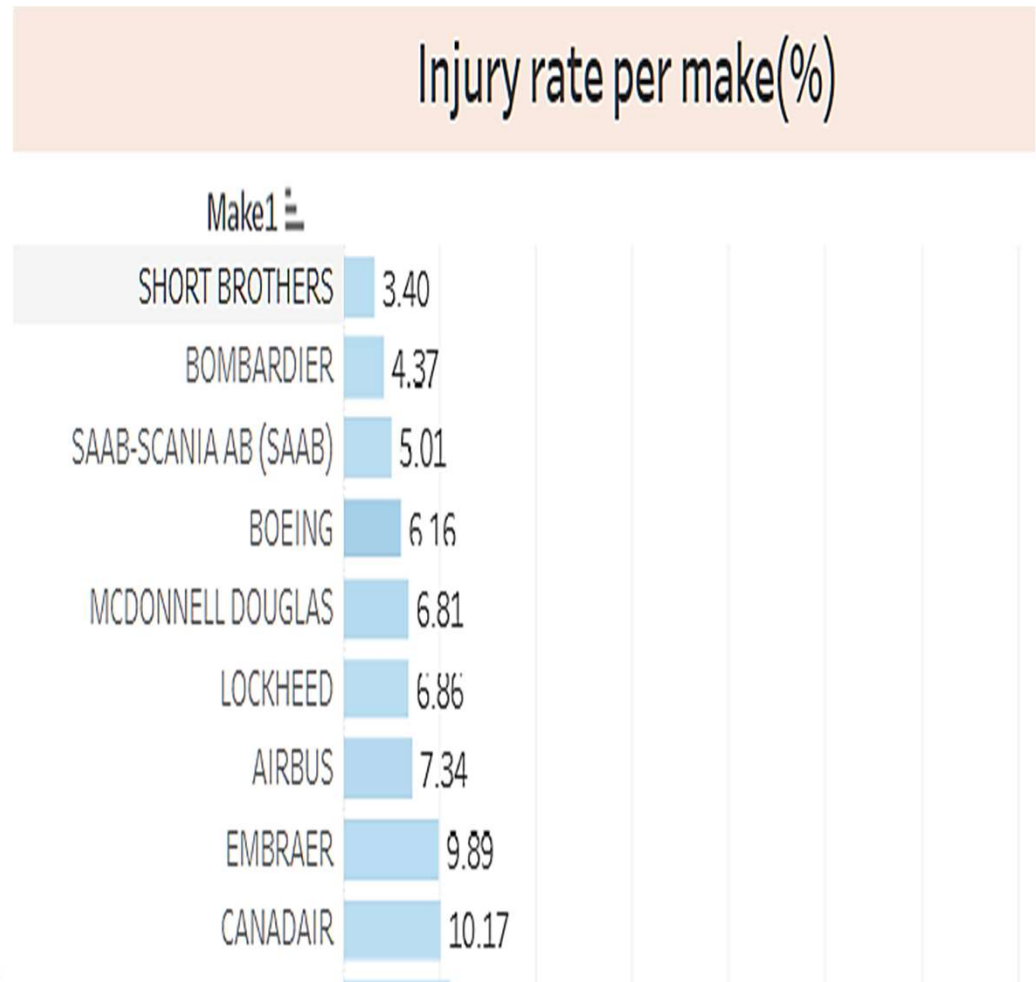
- Injury rate per make of the aircraft.
- Fatality rate per make of the aircraft.
- Market dominance per make of the aircraft.



# RESULTS

# Injury risk by make

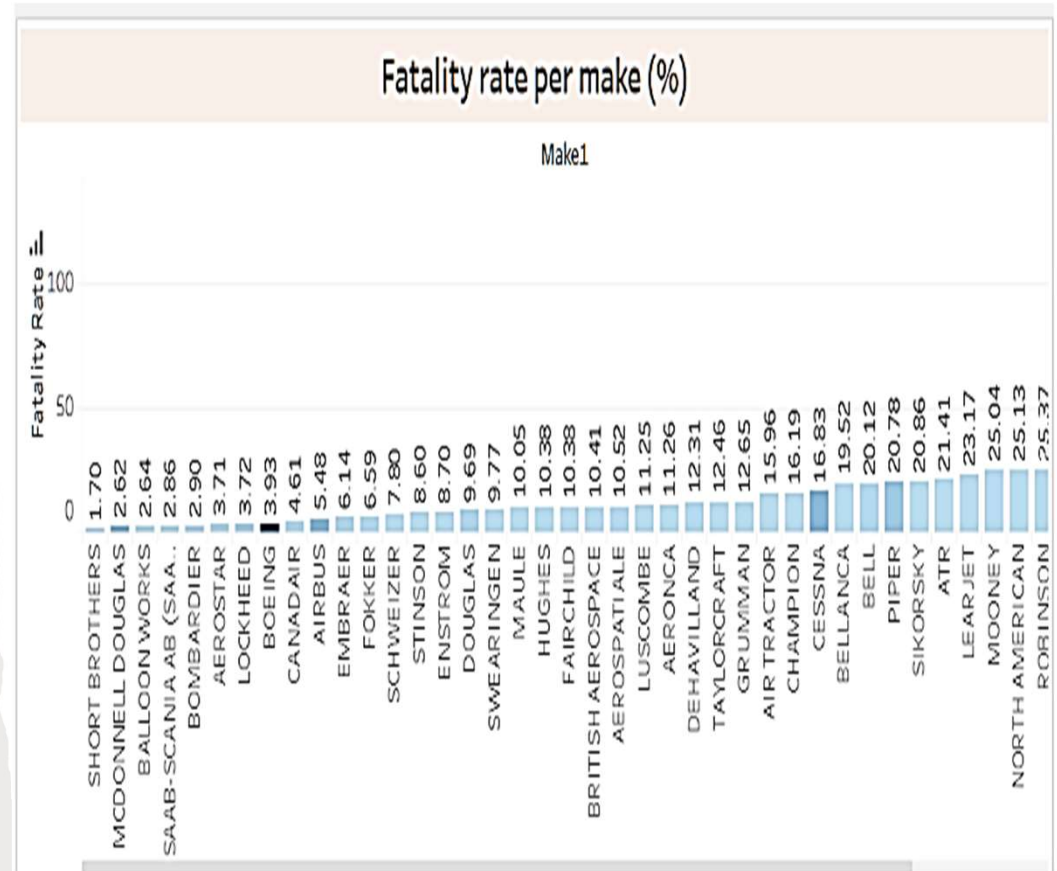
8 makes had a passenger injury with a maximum of 10%





# fatality risk by make

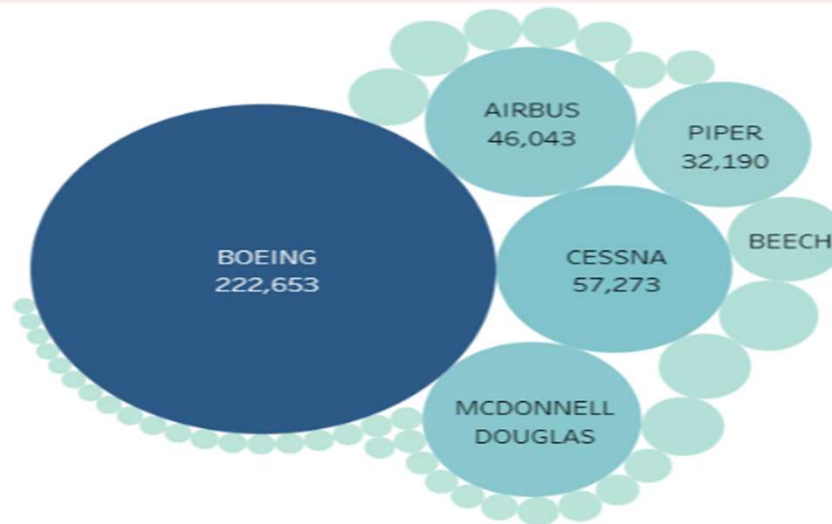
17 makes had a passenger fatality with a maximum of 10%



# Customer preference per make

The make with the highest customer preference was Boeing

Customer Preference per make



# Recommendations

We recommend the company to invest in Boeing aircrafts because:

- It has the highest market share having carried 222,653 passengers of the 504,515.
- It has the 4<sup>th</sup> lowest passenger injury rate of 6.16%
- It has the 8<sup>th</sup> lowest passenger fatality rate of 3.93%