AVIATION RISK ANALYSIS

Using proven historical data to analize the best potential aircraft acquisition

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Overview

Purpose of This Analysis

- This analysis identifies lower-risk aircraft options using historical accident data

Outcome

- Clear, actionable recommendations for aircraft acquisition

Business Aspect

Key Business Question

- Which aircraft types present the lowest operational risk for commercial and private use?

Why This Matters

- Safety incidents increase:
  - Insurance premiums
  - Legal liability
  - Reputational damage
- Early aircraft choices determine long-term risk exposure

Data Aspect

Data Source

- National Transportation Safety Board (NTSB)
- Aviation accident data (1962–2023)

What We Focused On

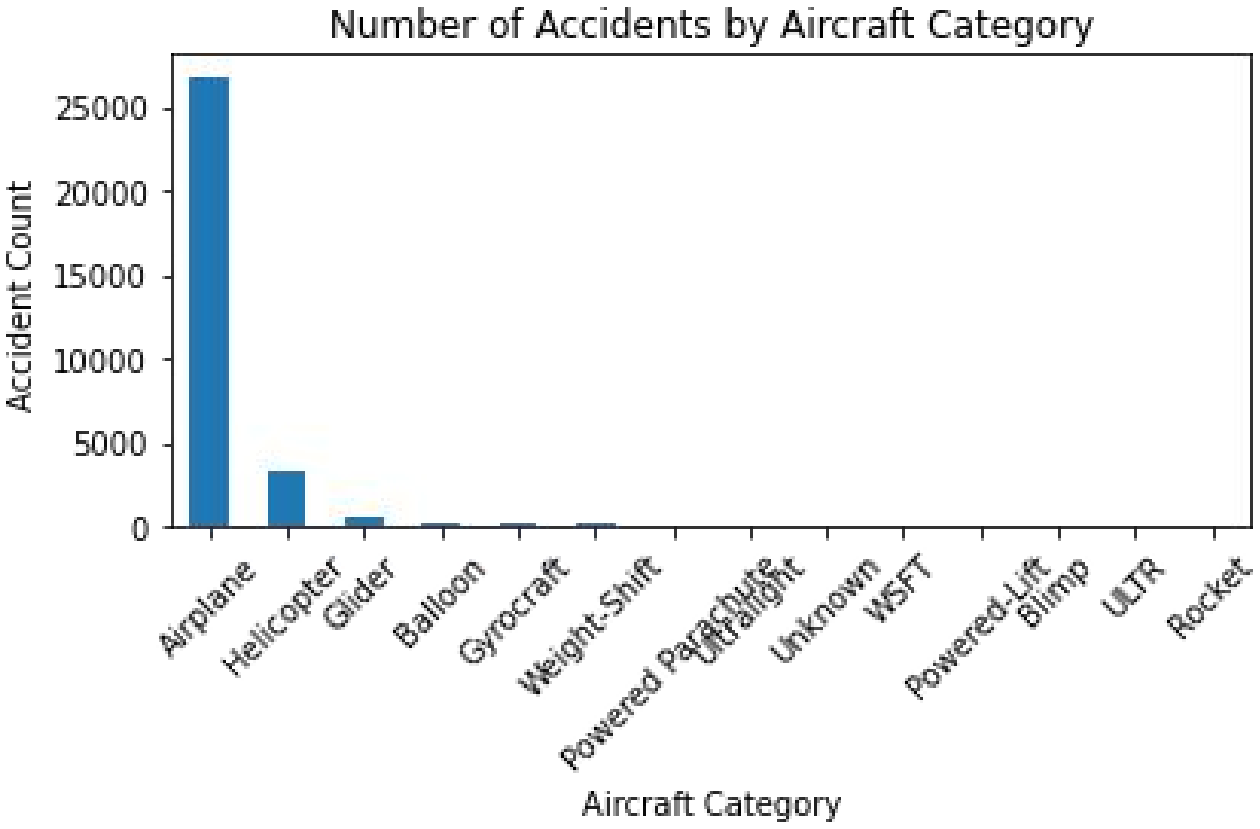
- Accident frequency
- Injury severity as a proxy for operational risk

Risk parameters used

Severity Scoring Approach

- Fatal injuries → High risk
- Serious injuries → Moderate risk
- Minor or no injuries → Lower risk

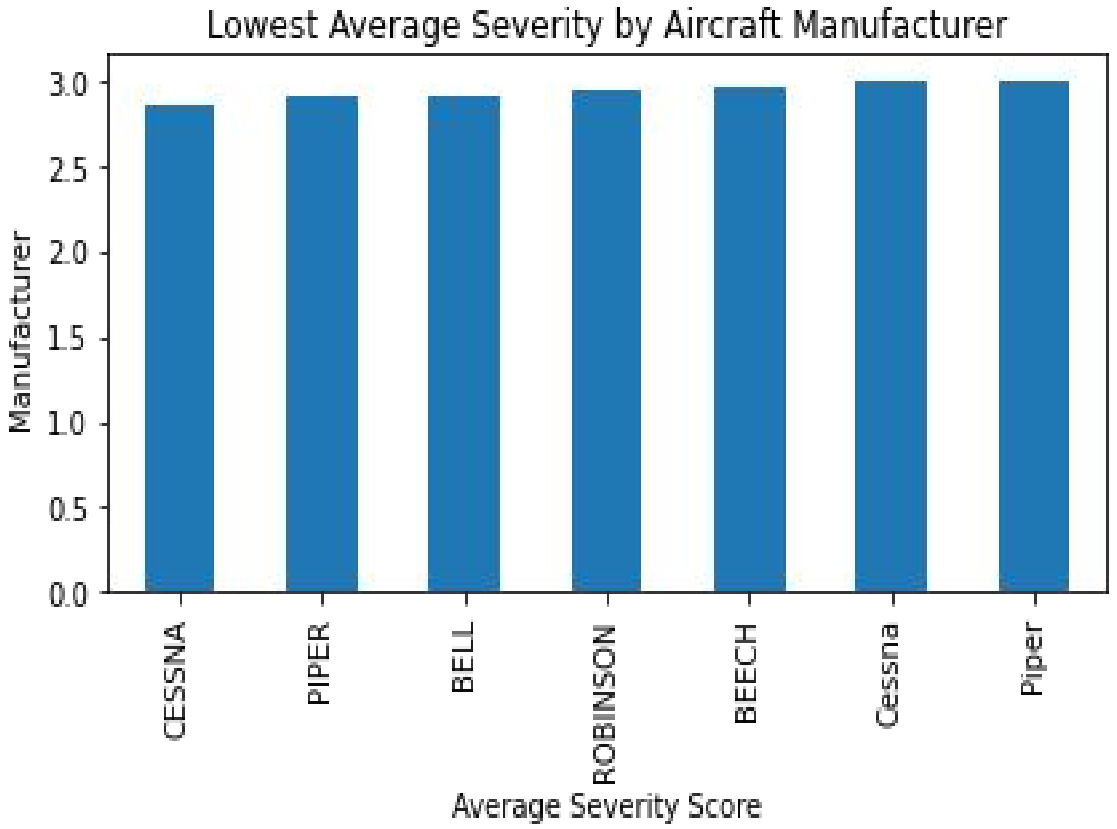
Accident Frequency by Aircraft Category



Insights:

- Fixed-wing aircrafts have the highest accident count due to the volume of use.
- Using severity to analyize makes it more feasible as compared to the accident count

Average Accident Severity by Aircraft Category



Insights

- Fixed-wing commercial aircraft show lower severity outcomes
- Helicopters and experimental aircraft show higher average severity

Business recommendations;

- Prioritize fixed-wing commercial aircraft

They demonstrate the lowest combined frequency and severity risk

- Avoid experimental aircraft and rotorcraft in early expansion

They show higher severity outcomes and operational volatility

THANK YOU