Civil Aviation Risk Analysis (1962–2023)

Data science - Project

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Summary

Analysis of aviation accident (in USA) revealed key insights for assessing investment risks in the aviation sector:

- **Prioritize Risk Assessment in General Aviation**
- **Incorporate Geographic Risk Factors in Investment Decision¶**
- **Focus on Severity, Not Just Frequency, to Evaluate Risk**

Outline

- Business problem
- Data & Methods
- Insights
- Recommendations

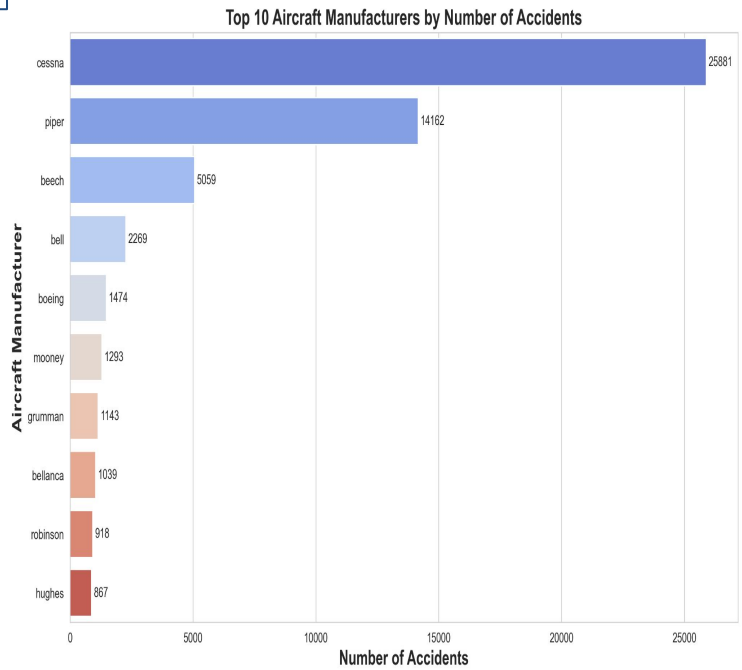
Business Problem

- Aviation is a high-stakes sector
- Which types of aircraft with least safety risk
- Patterns of aviation risks.

Data and Methods

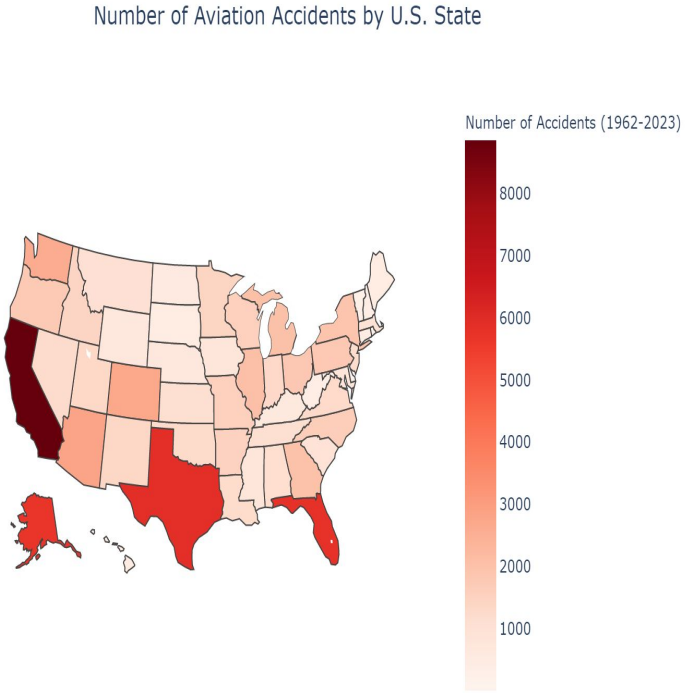
Aircraft Manufacturer (Make) Risk

- Certain manufacturers appear far more frequently in accident reports
- Investors should interpret and understand this data cautiously, high accident counts may indicate high exposure



Aviation Accidents by U.S. State

- California has the highest number of accidents, followed by Texas and Florida.
- Reflecting their large populations and heavy air traffic. Alaska ranks surprisingly high due to its challenging flying conditions.



Results

- Cessna and Piper dominate accident counts just due to widespread use

- High accident rates in states like California, Texas, Florida, and Alaska highlight the influence of weather and terrain on safety.

- Larger aircraft (e.g., Boeing) have fewer accidents but higher fatality rates
- Clear weather sees more accidents overall.

Recommendations

1. Prioritize Risk Assessment in General Aviation
2. Incorporate Geographic Risk Factors in Investment Decision
3. Focus on Severity, Not Just Frequency, to Evaluate Risk
4. Consider the Impact of Weather-Related Risks on Investment

END !