AVIATION INDUSTRY ANALYSIS & RECOMMENDATIONS

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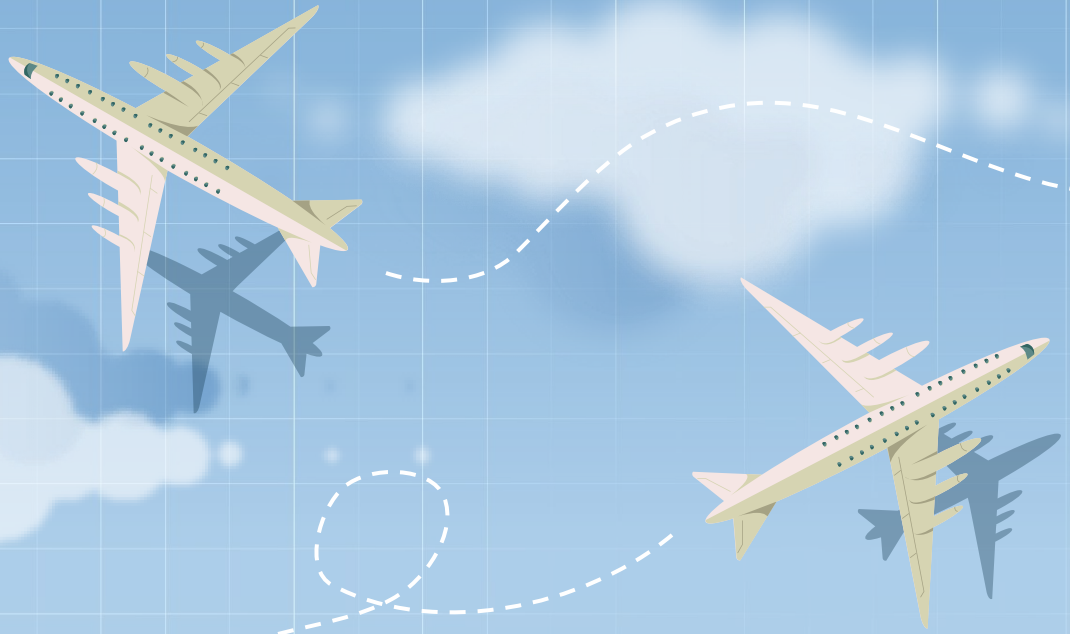
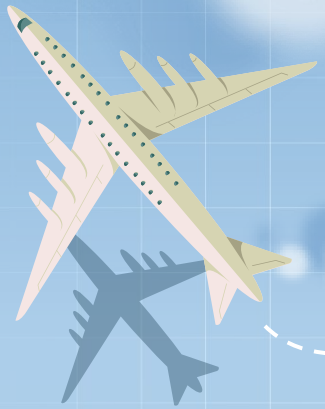


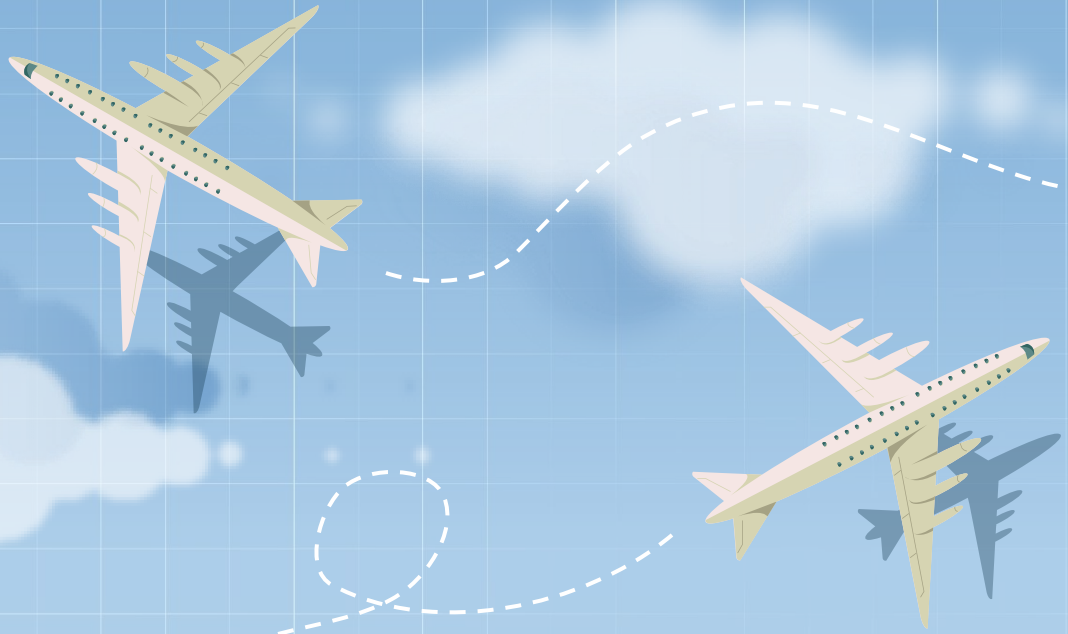
01

BUSINESS UNDERSTANDING

WHY THE ANALYSIS?

- You, as the company is expanding into aviation to diversify your portfolio
- Main exploring points are; privatized and commercial aviation sectors
- Objective: Identifying the aircraft types with the lowest operational risk
- Data Source: NTSB AviationData.csv (1962–2023), which is on Kaggle
- The data covers accidents within the US, territories, possessions, and international waters





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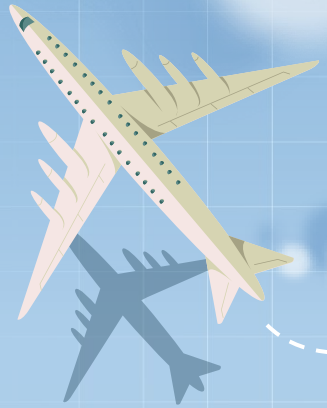
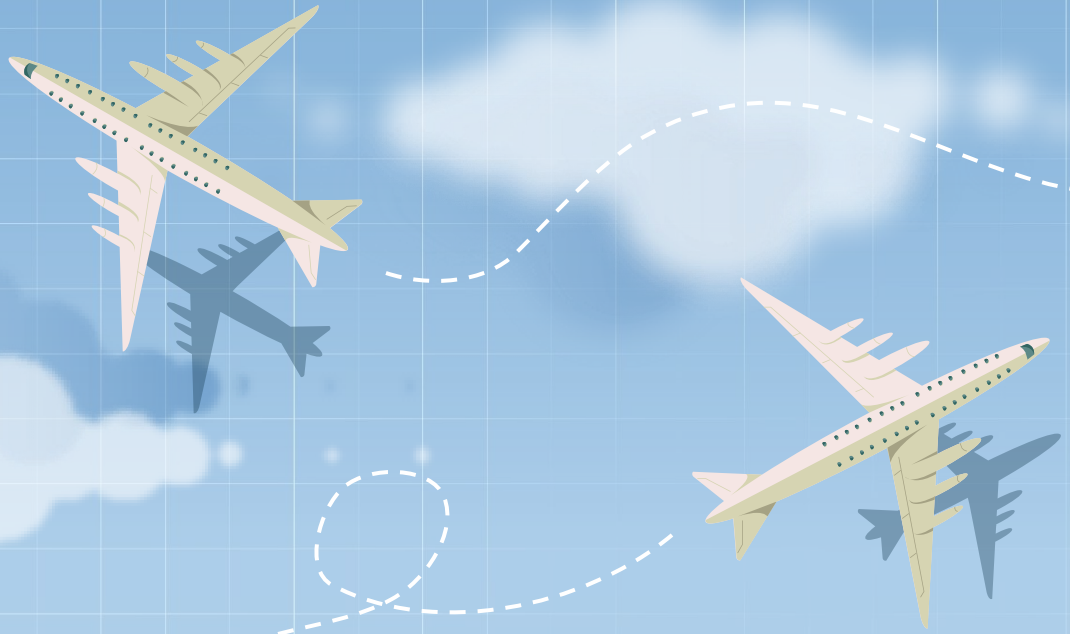
DATA UNDERSTANDING

WHAT'S THIS DATA ABOUT, AND FROM?

- Dataset from Kaggle (NTSB AviationData.csv)
- Records civil aviation accidents and incidents
- Time range: 1962 to 2023
- Key columns: Make, Model, Engine Type, Purpose of Flight, Weather Condition, Injury Severity, Phase of Flight
- Data enabled the analysis of operational risks and safety outcomes





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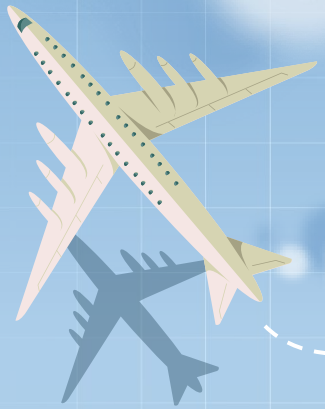
DATA CLEANING & PREPARATION

THE CLEANING

- Handled missing values using mode or replacing with 'Missing'
- Removed the outliers using IQR method
- Narrowed focus to top aircraft makes and models for clarity
- Converted data types (dates, numerics) for accurate analysis
- Ensured clean, reliable dataset for meaningful insights



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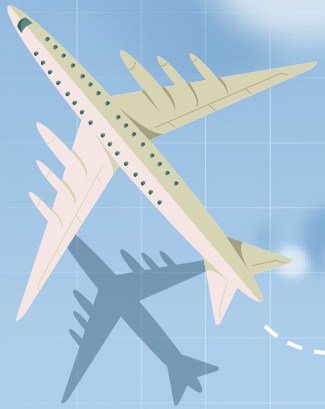
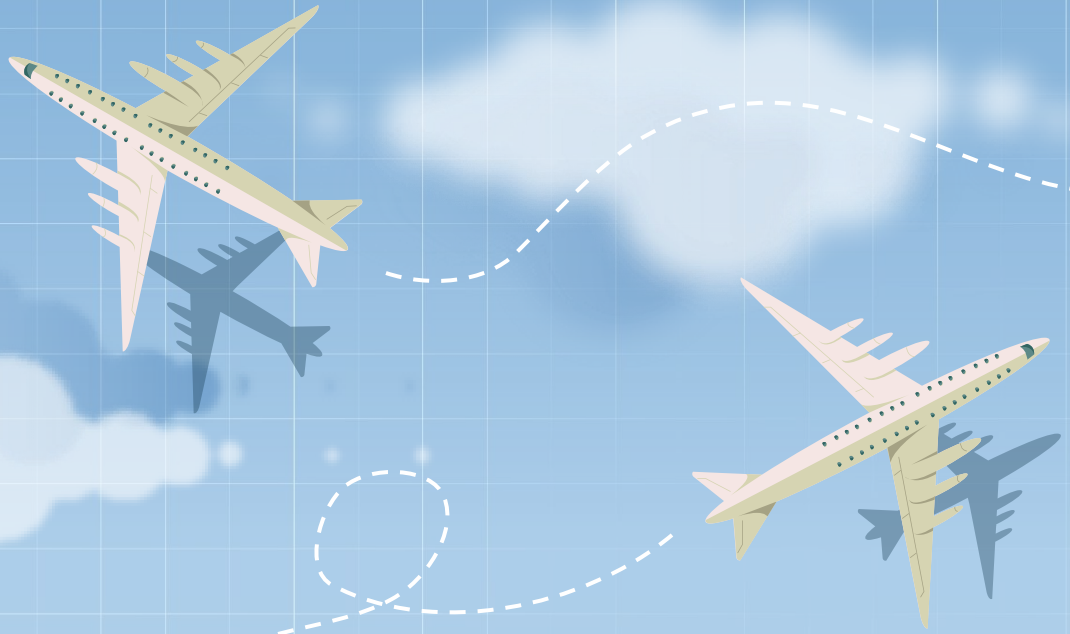
DATA ANALYSIS

LETS ANALYSE IT

- Explored accident trends over years (frequency decline noted)
- Analyzed top 10 aircraft makes and models by accident count
- Evaluated purpose of flight (private vs commercial) accident distribution
- Reviewed engine types, weather conditions, and flight phases for safety impact
- Visualized uninjured passenger counts to assess aircraft safety robustness





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INSIGHTS & RECOMMENDATIONS

WHAT DO WE THINK?

KEY INSIGHTS

- Accident frequency has decreased over years, indicating improving safety
- Certain makes/models have high accident frequency but also high uninjured counts, suggesting robust design
- Weather conditions and flight phases significantly affect safety outcomes
- Engine type and purpose of flight influence accident frequencies

WHAT DO WE SUGGEST?

RECOMMENDATIONS

1. Aircraft Selection: Prioritize makes, models, and engine types with high uninjured passenger counts for safer operations

2. Operational Focus: Enhance pilot training for approach, landing, and managing adverse weather

3. Purpose of Flight: Invest in commercial/public flights with lower accident frequencies to reduce business risk

WHAT DO WE THINK?

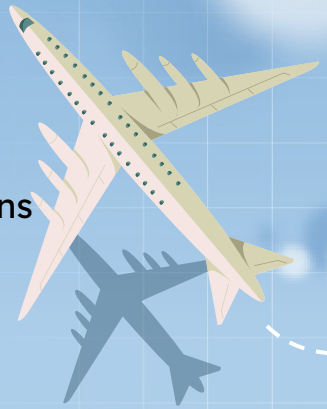
Analysis provided data-driven insights for safe aviation market entry

Cleaned and prepared dataset enabled reliable visualizations and recommendations

Findings support strategic decisions on:

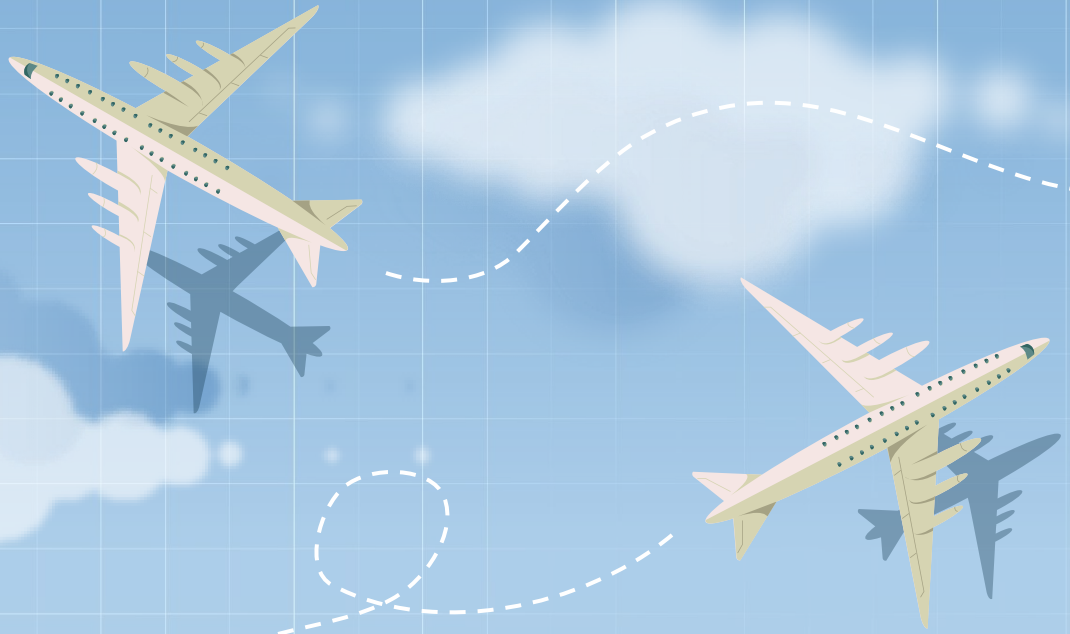
- Aircraft selection
- Operational safety improvements
- Choosing commercial over private for reduced risk

Positions the company for informed, safe, and effective expansion into aviation



TIME TO VISUALISE

Tableau Dashboard:
https://public.tableau.com/app/profile/june.henia/viz/InteractiveDashboard_17512169513430/AnalysisDashboard?publish=yes\



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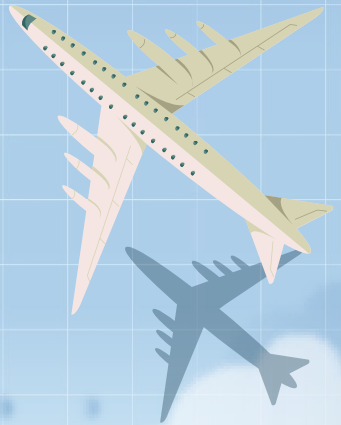
Q&A SESSION

“The engine is the heart of an airplane, but the pilot is its soul.”
– Walter Raleigh



QUESTIONS ARE WELCOME!

THANK YOU!

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