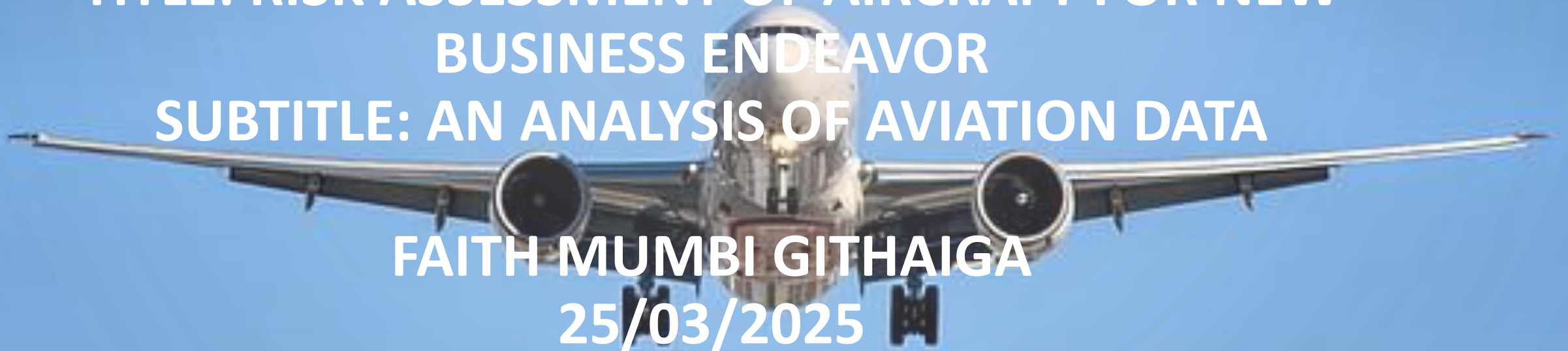


TITLE: RISK ASSESSMENT OF AIRCRAFT FOR NEW BUSINESS ENDEAVOR

SUBTITLE: AN ANALYSIS OF AVIATION DATA

FAITH MUMBI GITHAIGA

25/03/2025

OVERVIEW

Objective

To analyze aviation data, identify aircraft with the lowest risk for potential business investment.

It is important to understand risks associated with aircraft and crucial for informed decision-making in the aviation industry.

BUSINESS UNDERSTANDING

- As the company diversifies into the aviation sector, it is essential to evaluate potential risks.

The Goal is to:

- Identify low-risk aircraft for commercial and private operations.
- Provide actionable insights for purchasing decisions.

DATA UNDERSTANDING

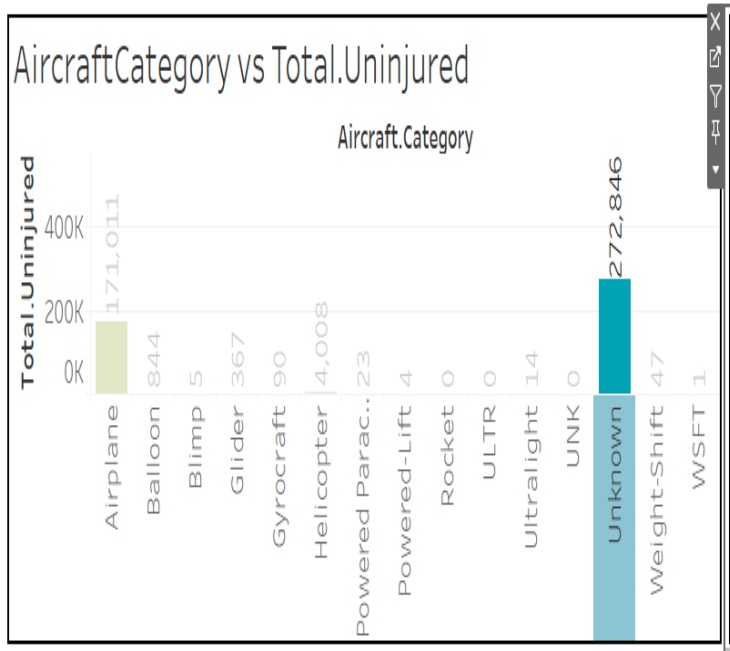
Dataset: NTSB Aviation Accident Data (1962–2023)

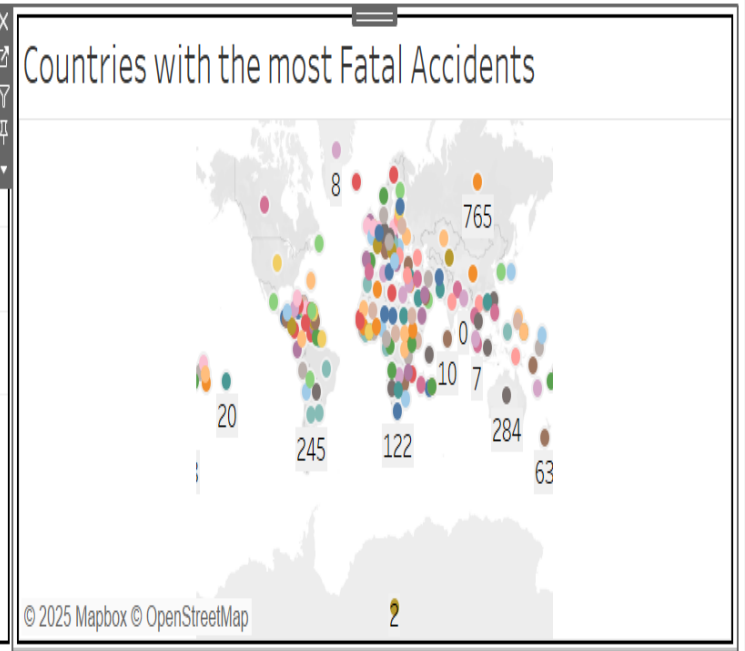
Key Variables:

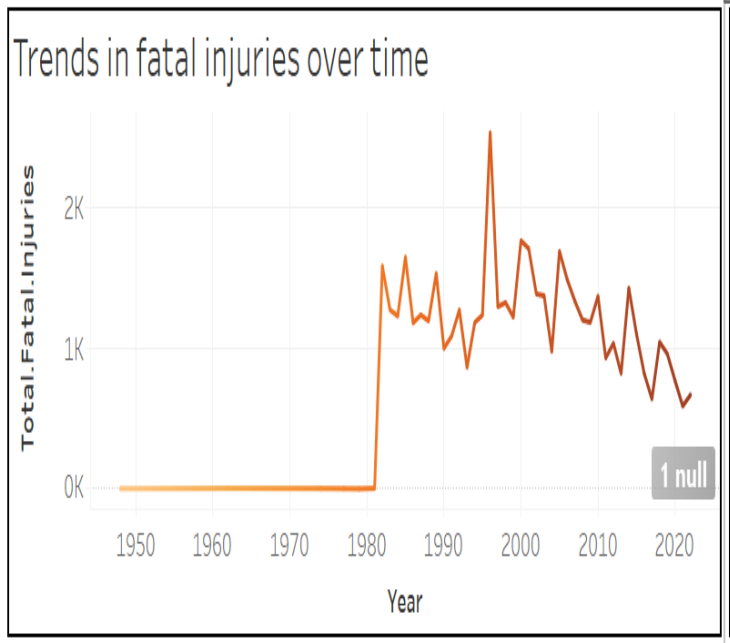
- Aircraft Category vs Total.Uninjured
- Countries with the most Fatal Accidents
- Trends in fata injuries over time
- Aircraft Category vs Total.Fatal.Injury

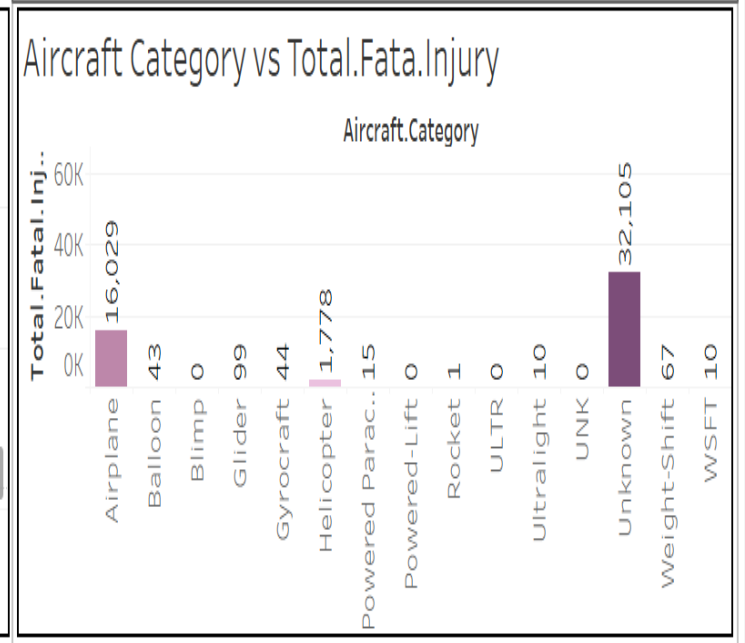
Data Cleaning & Processing:

- Handling missing values.
- Standardizing aircraft categories.
- Filtering relevant accidents.









DATA ANALYSIS

Methodology

Data cleaning and preprocessing to handle missing values.

Analysis techniques including injury statistics, accidents rates and categorization of aircraft types.

Visualizations:

Bar charts for injury distributions, line graphs for trends in accidents and scatter plots for risk assessment.

FINDINGS

Trends in Fatal Injuries Over Time: there was a significant spike in fatal injuries in the late 1970s, followed by fluctuating but generally declining trends in recent decades. Improvements in aviation safety regulations and technological advancements have contributed to a reduction in fatal accidents over time.

Countries with the Most Fatal Injuries: Certain countries, such as the United States, Russia, and Brazil, have the highest number of fatal aviation accidents.

These countries likely have higher accident numbers due to a larger number of flight operations, diverse weather conditions, and variations in aviation safety regulations.

RECOMMENDATIONS

- **Aircraft with Lowest Risk:**
- The aircraft with the lowest total injuries is the 2007 Savage Air LLC.

- **Key Factors for Selection:**
  - Safety record, reliability, maintenance costs.

- Evaluate market demand and operational costs alongside safety metrics

THANK YOU

DO YOU HAVE ANY QUESTIONS?

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LOOKING FORWARD TO YOUR FEEDBACK!