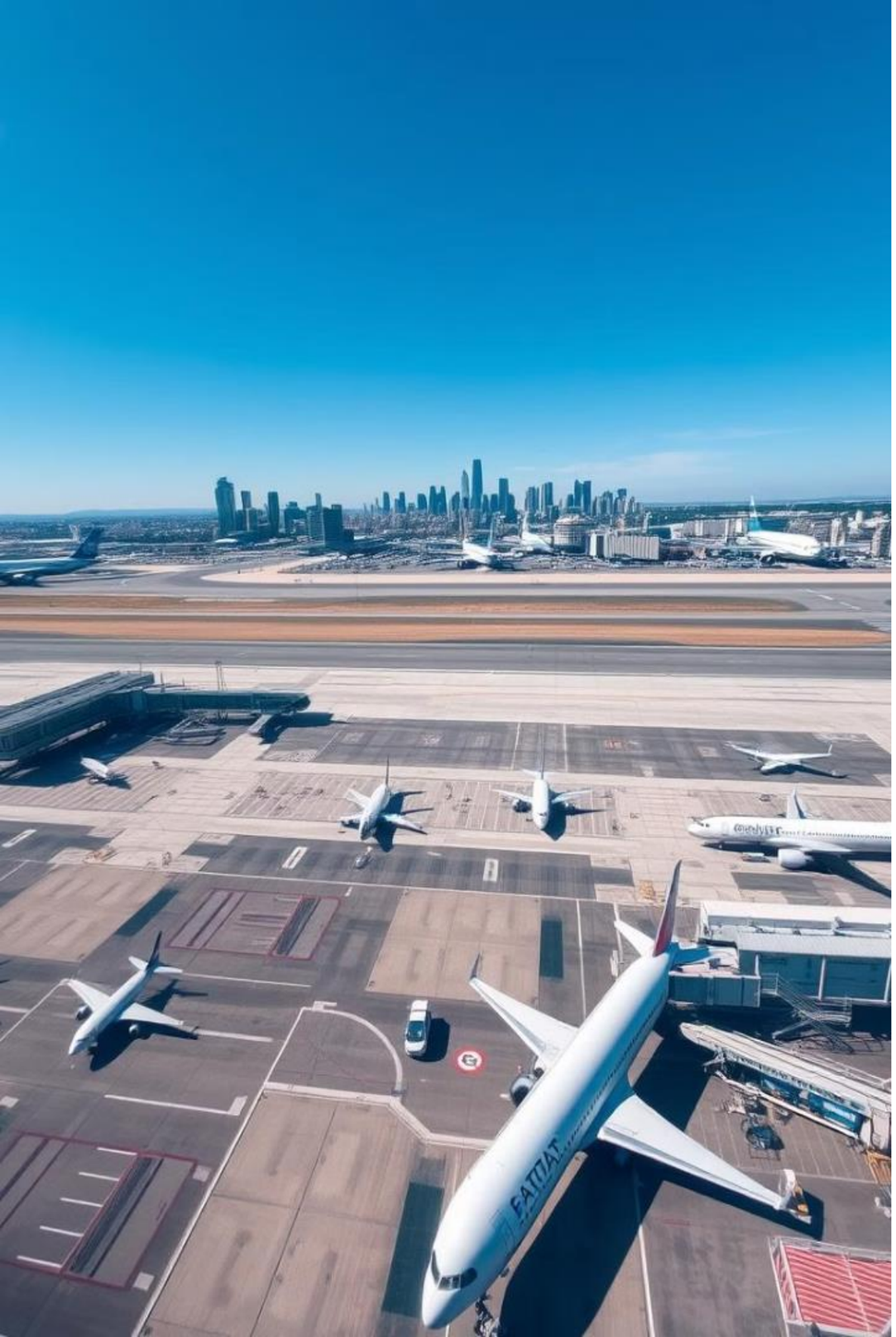


DSF-PT09: Aviation Diversification

Project - Phase 1

Project Objectives

Risk Assessment

Analyze historical accident data to determine the frequency of incidents for various aircraft makes and models. This will help us understand the inherent risks associated with different aircraft types.

Acquisition Strategy

Develop a risk-based framework for aircraft selection tailored to private and commercial operations. This framework will consider factors such as safety, cost, operational efficiency, and regulatory compliance.

Decision Support

Identify the lowest-risk aircraft to recommend for purchase, balancing safety, cost, and operational needs. This recommendation will serve as the foundation for the new aviation division's acquisition strategy.

Data Exploration

1 Data Review

Examined initial and final rows of the dataset to understand the context and scope of the data.

2 Missing Data Analysis

Assessed missing data percentages for each column and analyzed the distribution of missing values.

3 Data Type Assessment

Verified the data types of each column, ensuring consistency and accuracy.

4 Statistical Analysis

Conducted statistical analysis of numerical data to identify trends, outliers, and potential anomalies.

Data Cleaning and Preparation

Column Removal

Removed columns with over 70% missing data to avoid introducing bias or inaccuracies into the analysis.

Irrelevant Column Dropping

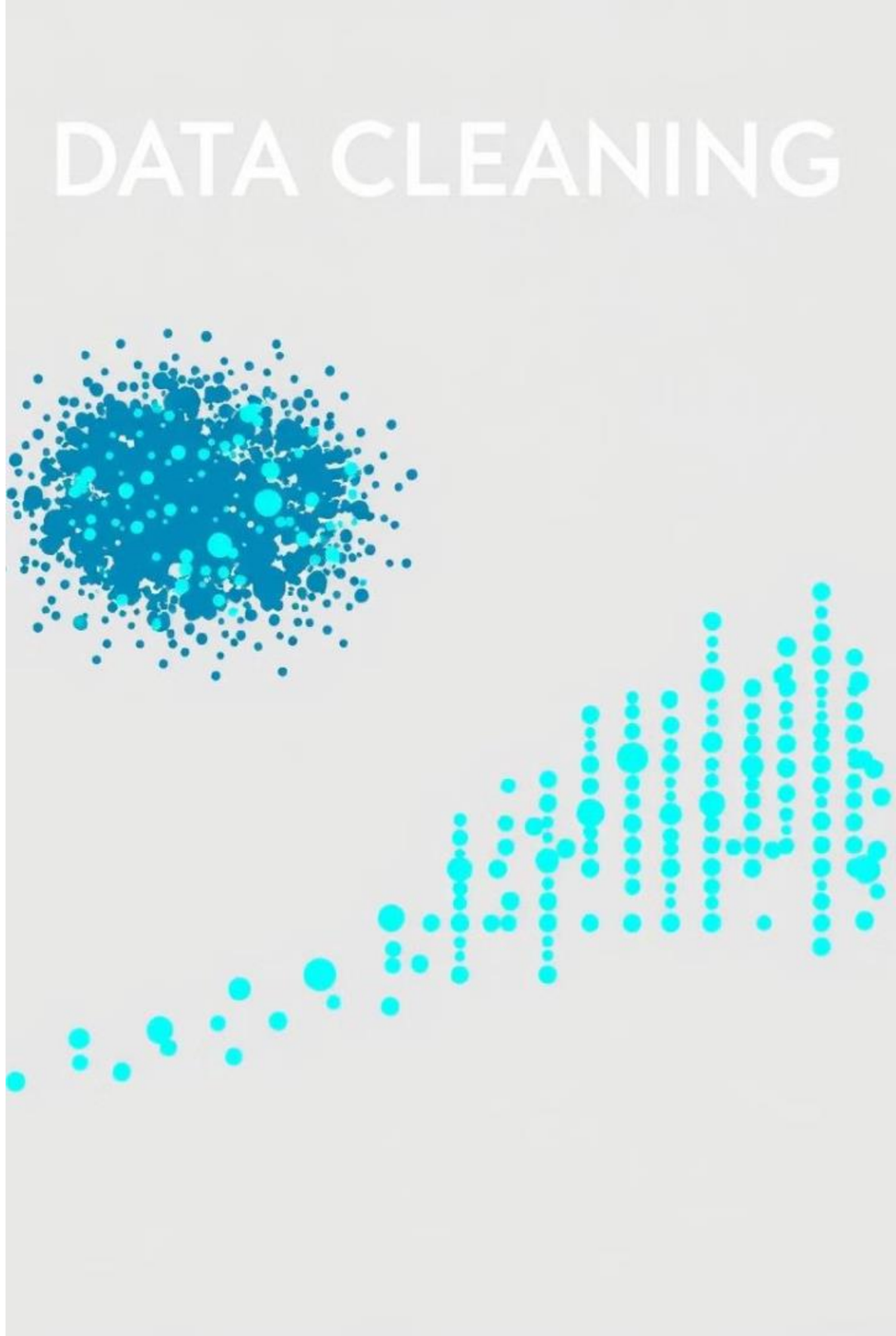
Dropped irrelevant columns, such as Investigation Type, Registration Number, Publication Date, and Airport Code/Name, as they did not contribute to the risk assessment.

Missing Value Imputation

Imputed missing values using the mode for categorical columns and the mean for numerical columns, ensuring data completeness for analysis.

Data Standardization

Standardized data by resolving duplicates and aliases in key columns like Make, Model, and Weather Conditions, ensuring consistency and accuracy.



Defining the Target Market

Data Completeness

Focused on countries with the most complete data to ensure reliable and representative risk assessment.

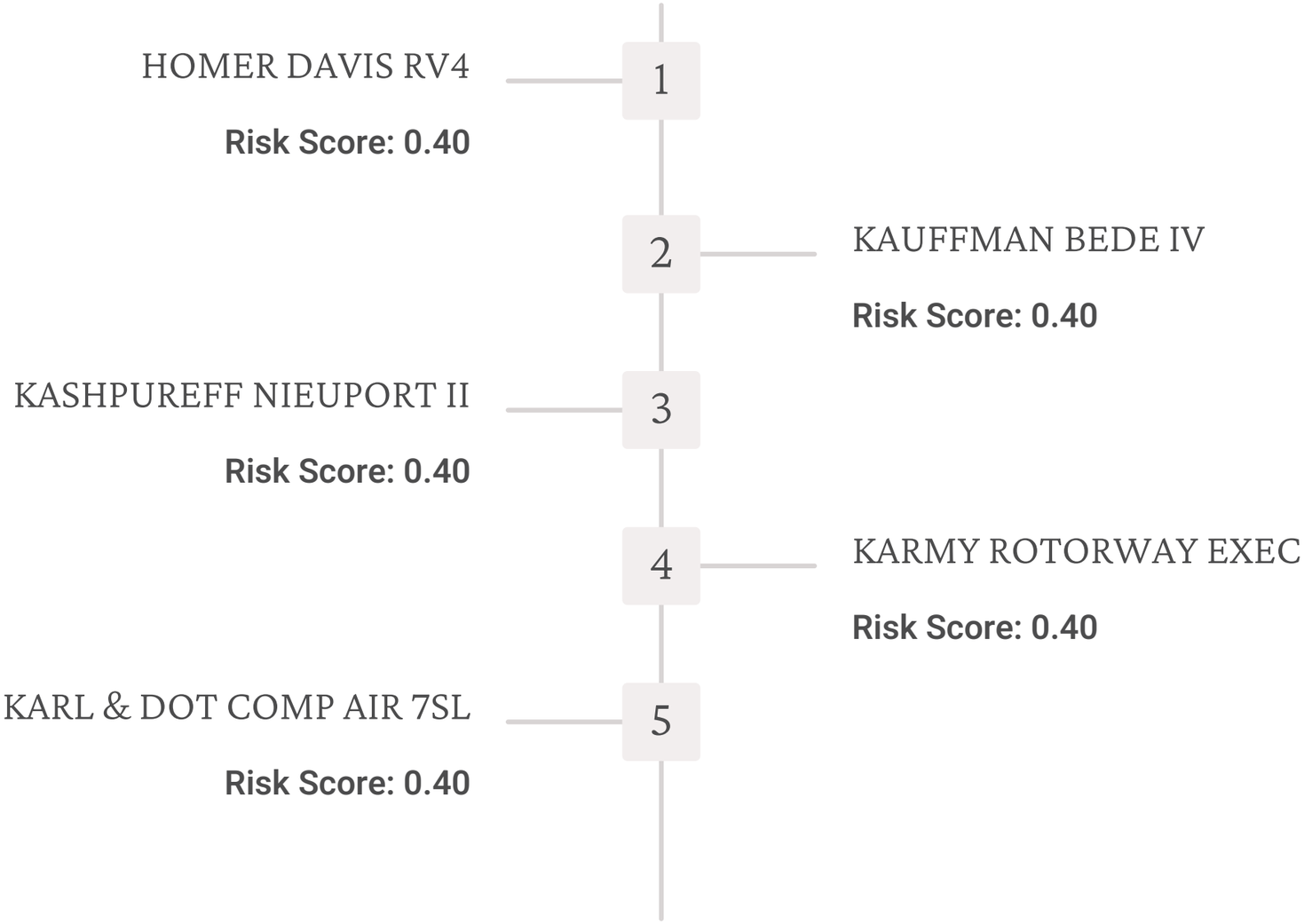
Data Export

Exported the cleaned data to a CSV file for visualization in Tableau, enabling interactive data exploration and analysis.

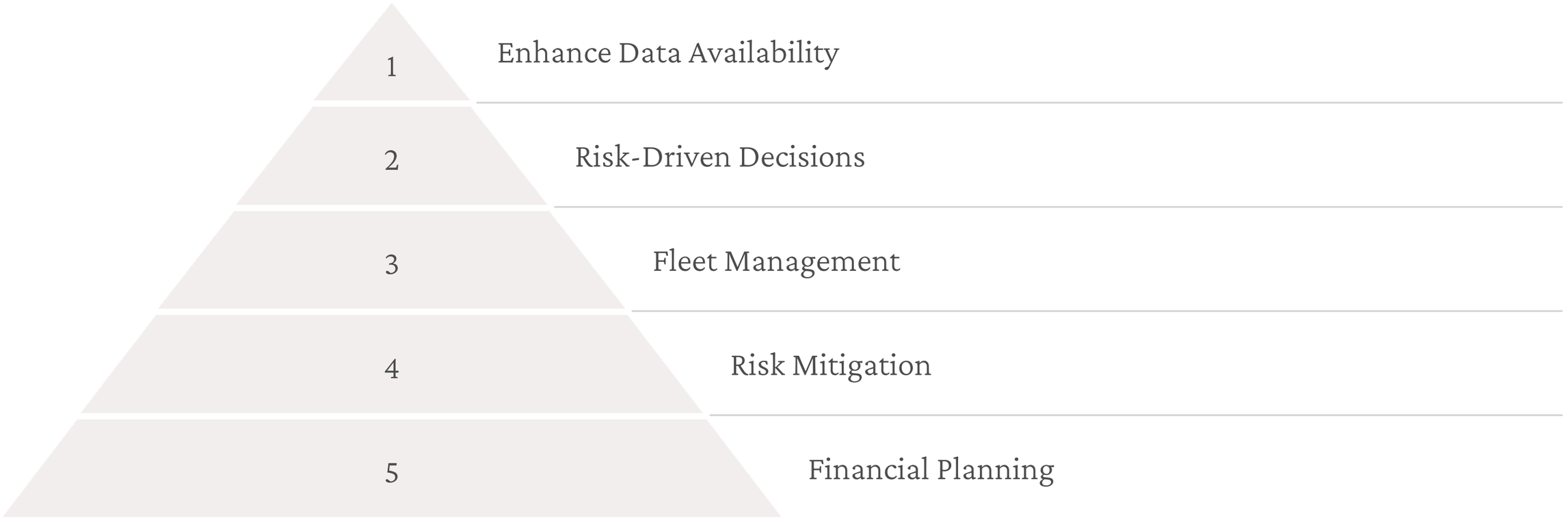
Risk Matrix

Developed a risk matrix to evaluate and rank aircraft based on aggregated risk metrics and severity scores derived from the dataset.

Lowest-Risk Aircraft Models



Recommendations for Success



Conclusion: A Foundation for Growth

This project provides a solid foundation for our company's entry into the aviation sector. By focusing on lowest-risk aircraft models and implementing robust risk management practices, we can ensure a safe and successful launch for our new aviation division.

Thank you!

Jael Cheruto Kirwa