Project Title: Aviation Risk Analysis For Aircraft Purchase Decisions.

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Overview

The company is expanding into aviation industry for commercial and private enterprises. The main goal is to analyze the aviation in order to translate into insights that will guide the aircraft purchasing.

Business understanding

Stakeholder

The head of the new aviation division.

Business Problem

Our company is expanding into the aviation industry but lacks insights into aircraft safety risks .This analysis identifies the lowest-risk aircraft models for commercial and private use.

Key Questions

1.Which aircraft has the lowest accident rates?

2.How do the accident trends vary over time?

3.What is causing most aviation accidents?

Data understanding

- **Data sources** Aviation accident Database& Synopses ,up to 2023(Kaggle)
- **Dataset size** The dataset has a total of 31 columns and 88889 rows.
- **Key features**
    a) Aircraft Model.
    b) Flight Phase
    c) No of engines.
    d) Weather conditions.
    e) Total fatalities.

Data Analysis

- Trend of aviation accidents over time.
- Most common factors that cause accidents.
- Risk assessment of aircraft models.

Recommendations

- Purchase low-risk aircraft models.
- Enhance pilot training.
- Improve weather monitoring.
- Regular maintenance and safety checks.

Conclusion

- Data-driven insights help minimize aviation risks and guide safe aircraft purchases.
- By following these recommendations the company can enter the aviation with confidence.

Next Steps

- Further analyze emerging safety technologies.
- Conduct the cost benefit before purchasing a aircraft.

Thank You

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