

Executive Summary: Titanic Data Analysis

1. Data Overview

The dataset consists of 891 passengers with key features such as Passenger Class (Pclass), Age, Sex, Fare, and Survival Status. Missing values were handled, and necessary preprocessing was done before analysis.

2. Key Findings & Insights

- Survival Rate Trends:

- Higher-class passengers (Pclass 1) had a significantly better survival rate.
- Young children had a higher survival probability.
- People who paid higher fares had better survival chances.

- Demographic Analysis:

- Age distribution showed that most passengers were adults, with some children having a higher survival rate.
- Male passengers had a significantly lower survival rate compared to females.

- Visualization Insights:

- Various visualizations like bar charts and histograms revealed strong correlations between survival and ticket class, gender, and fare.
- Age vs. Survival analysis showed a survival advantage for younger individuals.

3. Conclusion & Implications

This analysis highlights the socio-economic factors that played a crucial role in survival on the Titanic.

The insights suggest that wealthier, younger passengers and females had a better chance of survival.