



# Final Presentation for Risk assessment for ship insurance

Data Science & Big Data Analytics

Loan Underwriting Prediction Model

**Project Sponsor Presentation**

# Situation & Project Goals

## Situation

1. Insurance companies provide coverage for ships and vessels, including passenger ships like the Titanic. Accurate risk assessment is crucial for determining appropriate insurance premiums and coverage for such ships. By analyzing the Titanic survival dataset, insurance companies can gain insights into the factors that influenced survival rates, which can help improve risk assessment and underwriting processes for passenger ships.

## Goals

1. By utilizing Titanic Survival Dataset for Risk Modeling through:
  1. Feature Analysis: The Titanic survival dataset contains information about passengers' characteristics, such as age, gender, passenger class, and family size. Insurance companies can analyze this data to identify which features were correlated with higher or lower survival rates. For example, they may find that fare class or gender class played a significant role in survival.
  2. Risk Modeling: Based on the analysis, insurance companies can develop risk models that take into account the relevant features identified in the dataset. These models can be used to estimate the risk of future passenger ships based on similar characteristics.

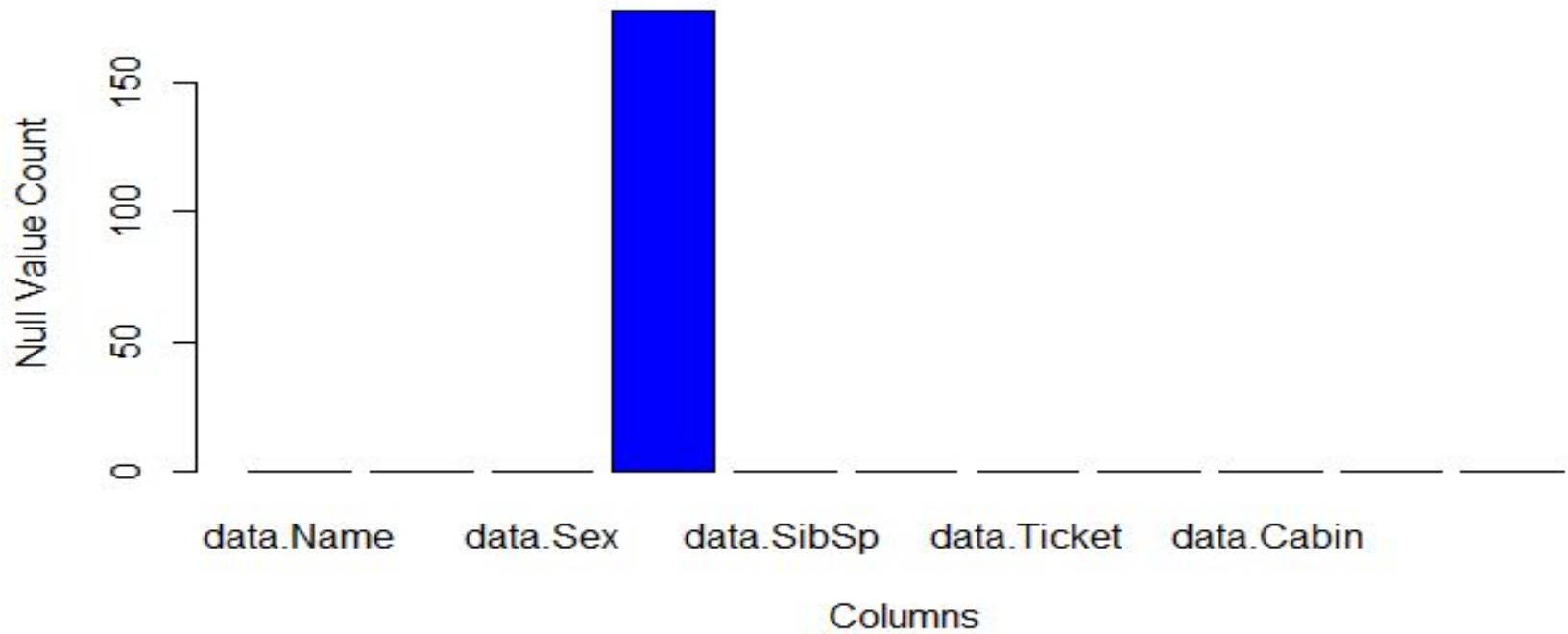
# Project Goals

**Underwriting and Pricing:** The risk models derived from the Titanic survival dataset can guide the underwriting process for ship insurance. Insurance companies can use the models to assess the risk level of individual ships and adjust insurance premiums accordingly. Ships with higher estimated risk scores may be subject to higher premiums or additional safety requirements to mitigate potential losses.

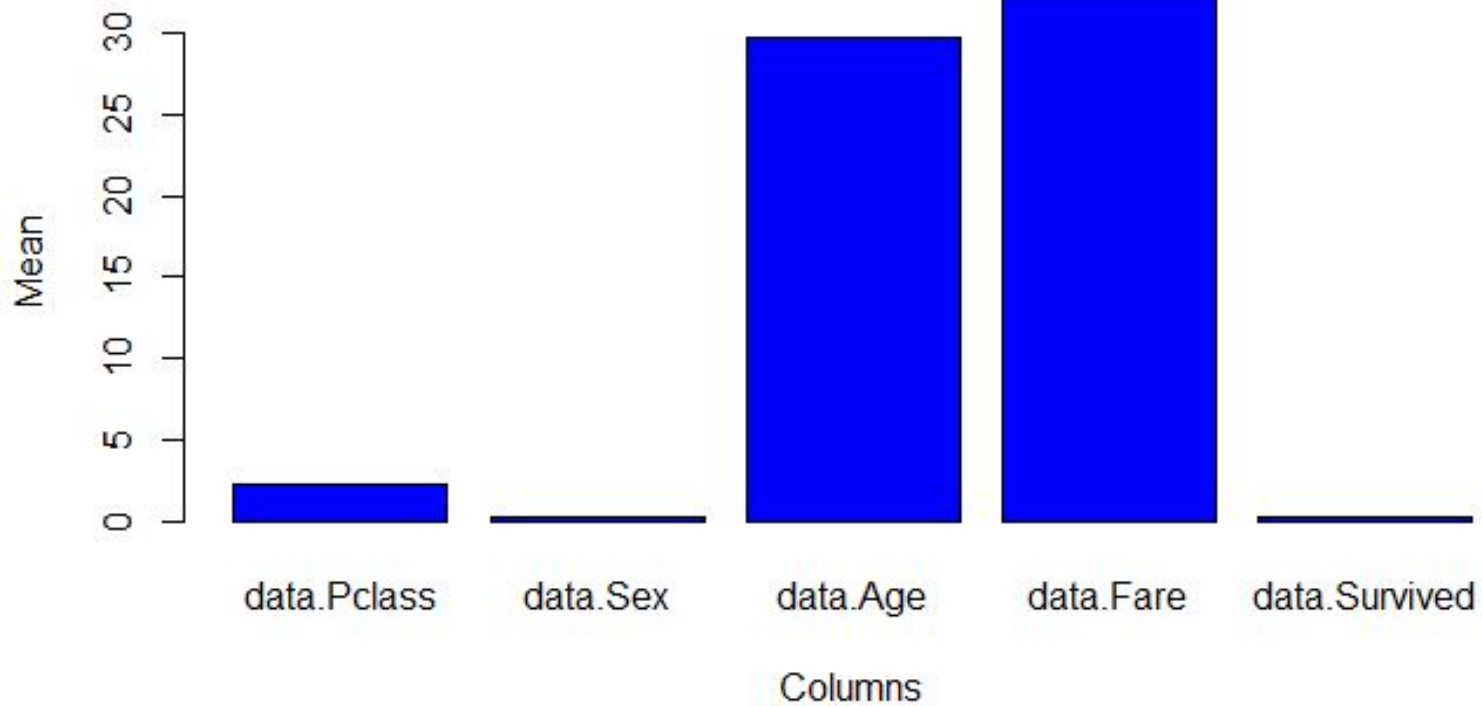
**Risk Mitigation Strategies:** The analysis of the Titanic survival dataset can also highlight specific risk factors or vulnerabilities that contributed to higher mortality rates. Insurance companies can use this information to develop risk mitigation strategies, such as recommending safety improvements or implementing stricter safety regulations for ships with similar characteristics.

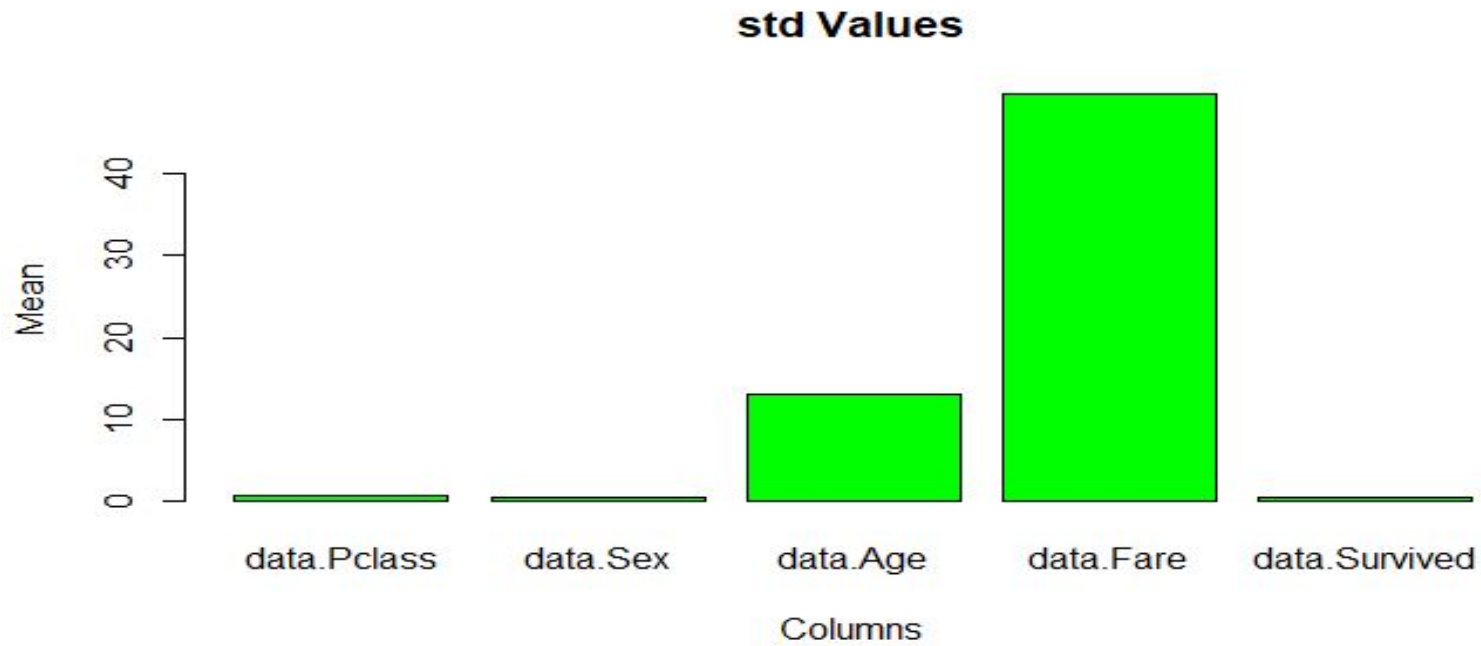
By leveraging the insights gained from the Titanic survival dataset, insurance companies can enhance their risk assessment and underwriting processes for passenger ships. This can lead to more accurate pricing of insur

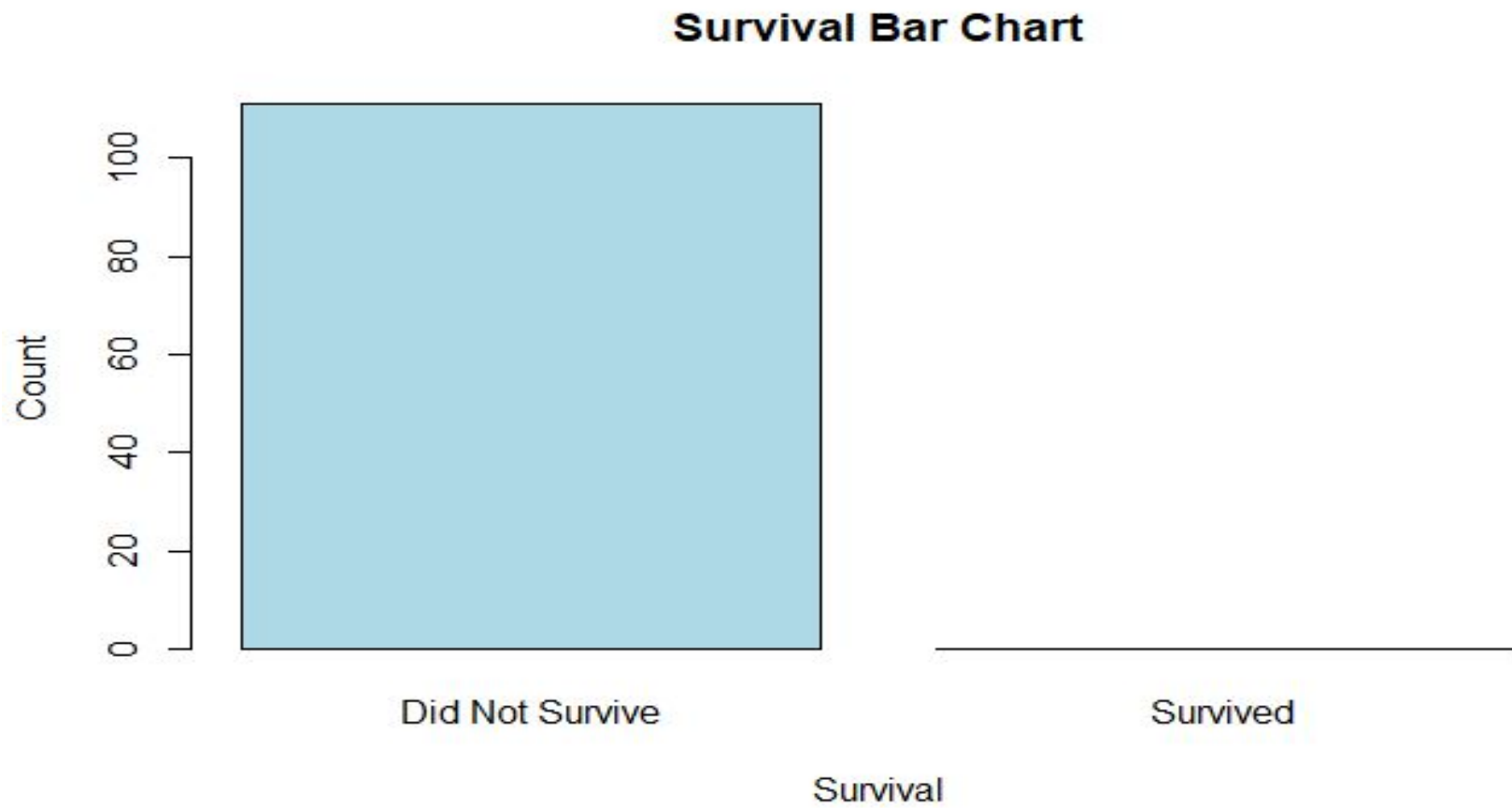
## Null Value Counts



**Mean Values**







# Approach

- Consulted with FPC's advisory staff to understand underwriting policy and identify factors that affect a home loan applicant's likelihood of approval
- Collaborated with IT to identify relevant data sets, assess data quality and availability
- Developed predictive model to identify loans most likely to be underwritten
  - 4 Identify most influential factors
  - 4 Provides greater explanatory power for analyzing influence of specific factors on loan origination
- Worked with IT to simulate model performance within FPC's production environment



# Model Description

- **Overview of Basic Methodology:** predict the likelihood of survival or not based on input data Pclass (first class, ...) of the client on ship, Age, sex, Fare ,
- **Model:** Naive, Bayes model & Logistic regression model
- **Dependent variable:** Binary variable, of survival
- **The model developed has reasonable predictive power for the dataset provided**
  - 4 The model was able to predict with accuracy of 100% the likelihood of survival or not for people who will attend ship