AIRLINE PASSENGER SATISFACTION

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STAKEHOLDERS: Airline Passengers

AIRLINE PASSENGER SATISFACTION RATINGS

About the Dataset
- 24 variables
- 129,880 observations

- ID
- Gender
- Age
- Customer Type: First-time/Returning
- Type of Travel: Business/Personal
- Class: Business, Economy, Economy Plus
- Flight Distance (in miles)
- Departure Delay (in minutes)
- Arrival Delay (in minutes)
- Satisfaction: Satisfied/ Neutral or unsatisfied

- Departure and Arrival Time Convenience
- Ease of Online Booking
- Check-in Service
- Online Boarding
- Gate Location
- On-board Service
- Seat Comfort
- Leg Room Service; Cleanliness
- Food and Drink
- In-flight Service
- In-flight Wifi Service
- In-flight Entertainment
- Baggage Handling

Business Problem

Approximately 60% of travelers are neutral or dissatisfied with airline services
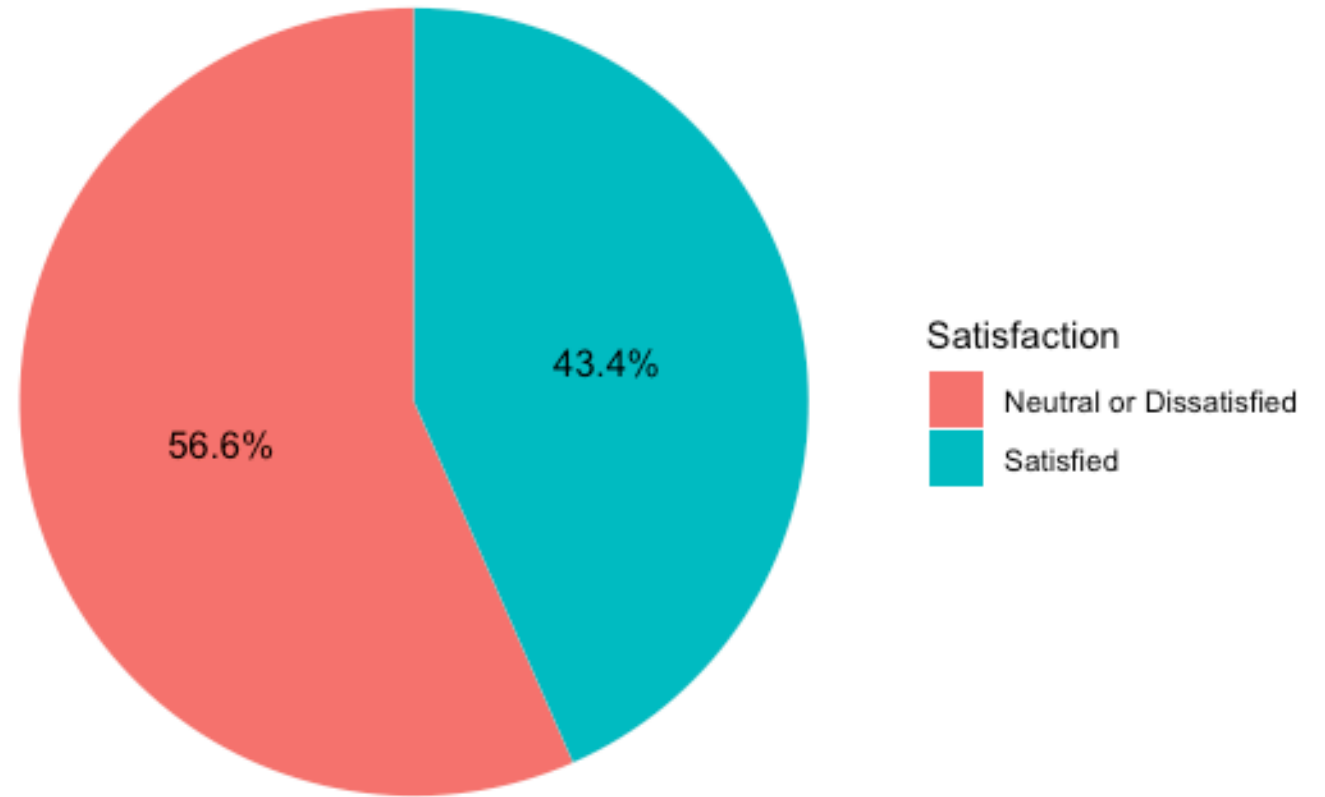
Customer Profile

Gender Distribution

- The survey was taken equally among all passengers

- There are slightly more females than males

- Gender-wise, distribution of dissatisfied and satisfied customers are quite the same

- For both male and female passengers, no. of dissatisfied customers are on the higher side compared to no. of satisfied customers
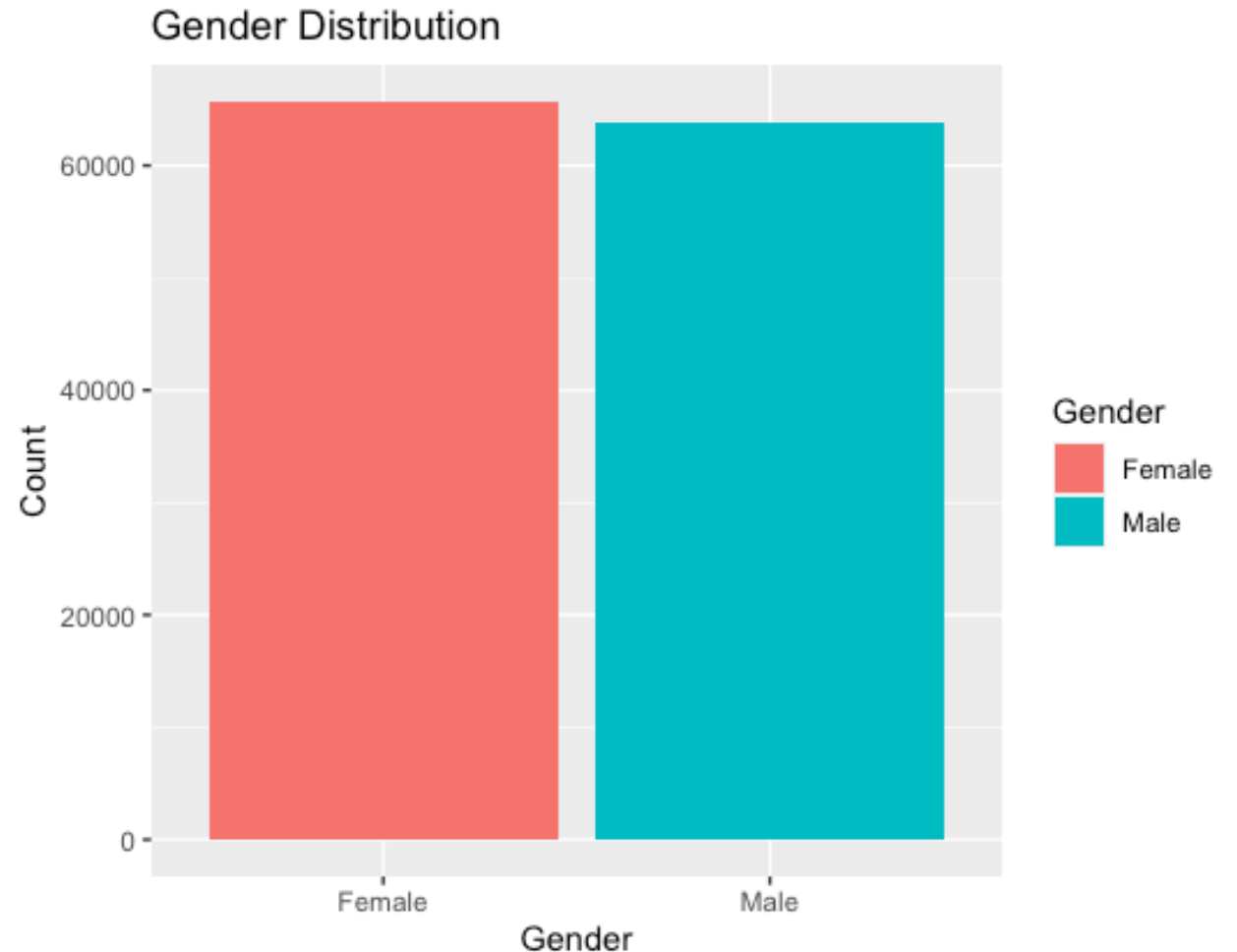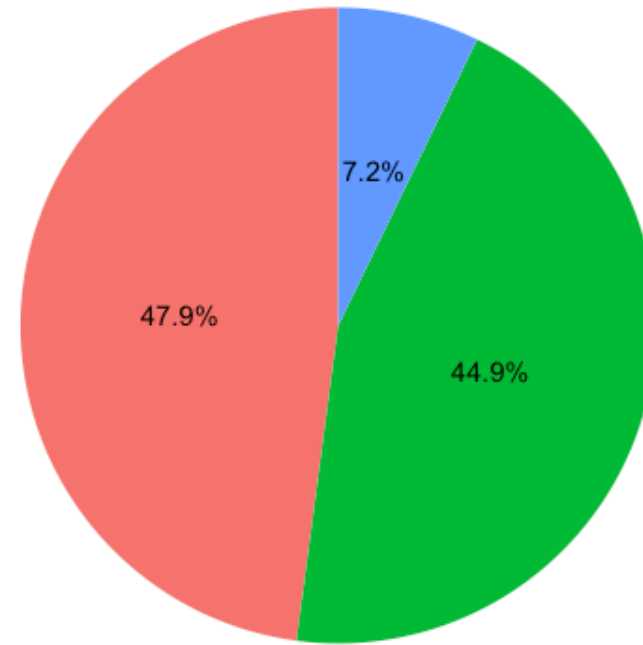
Age Distribution

- The age distribution is more-or-less normal and symmetrical

- Most of Business class are around 38 while most of Economy are around 25
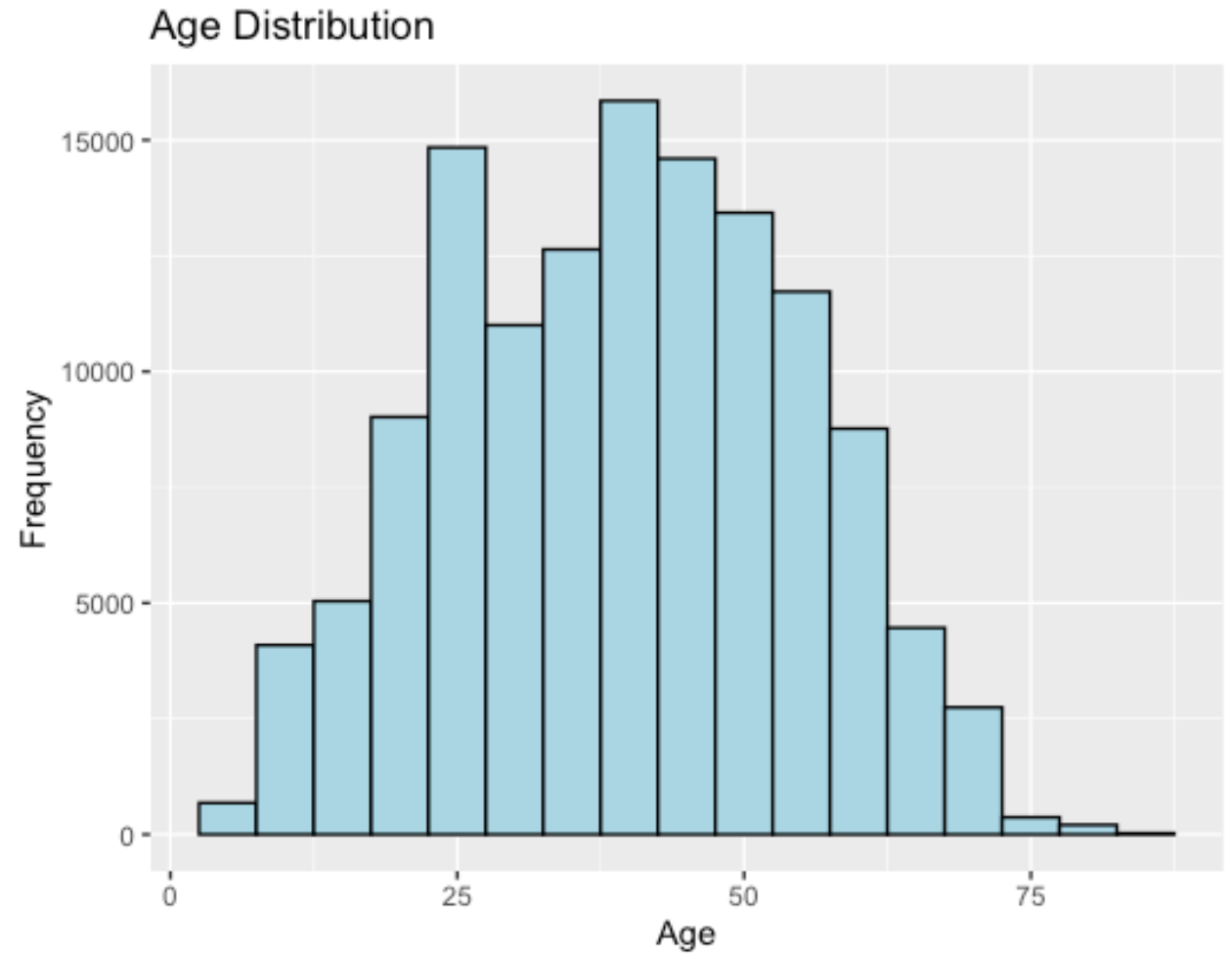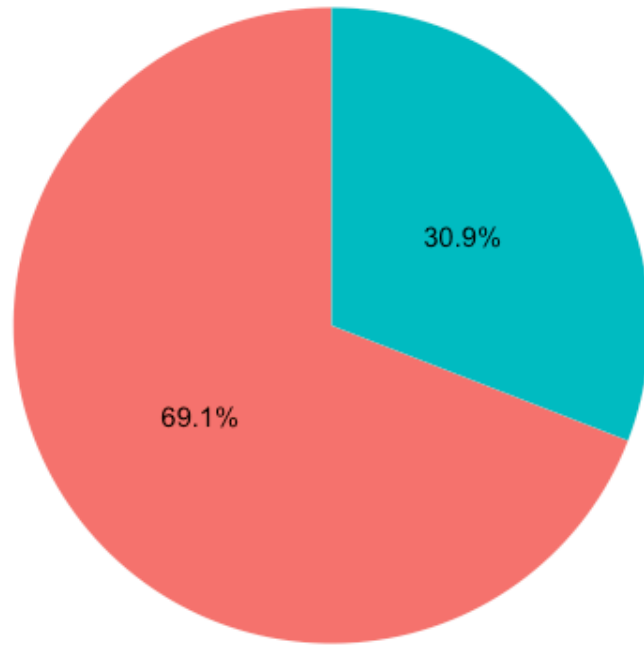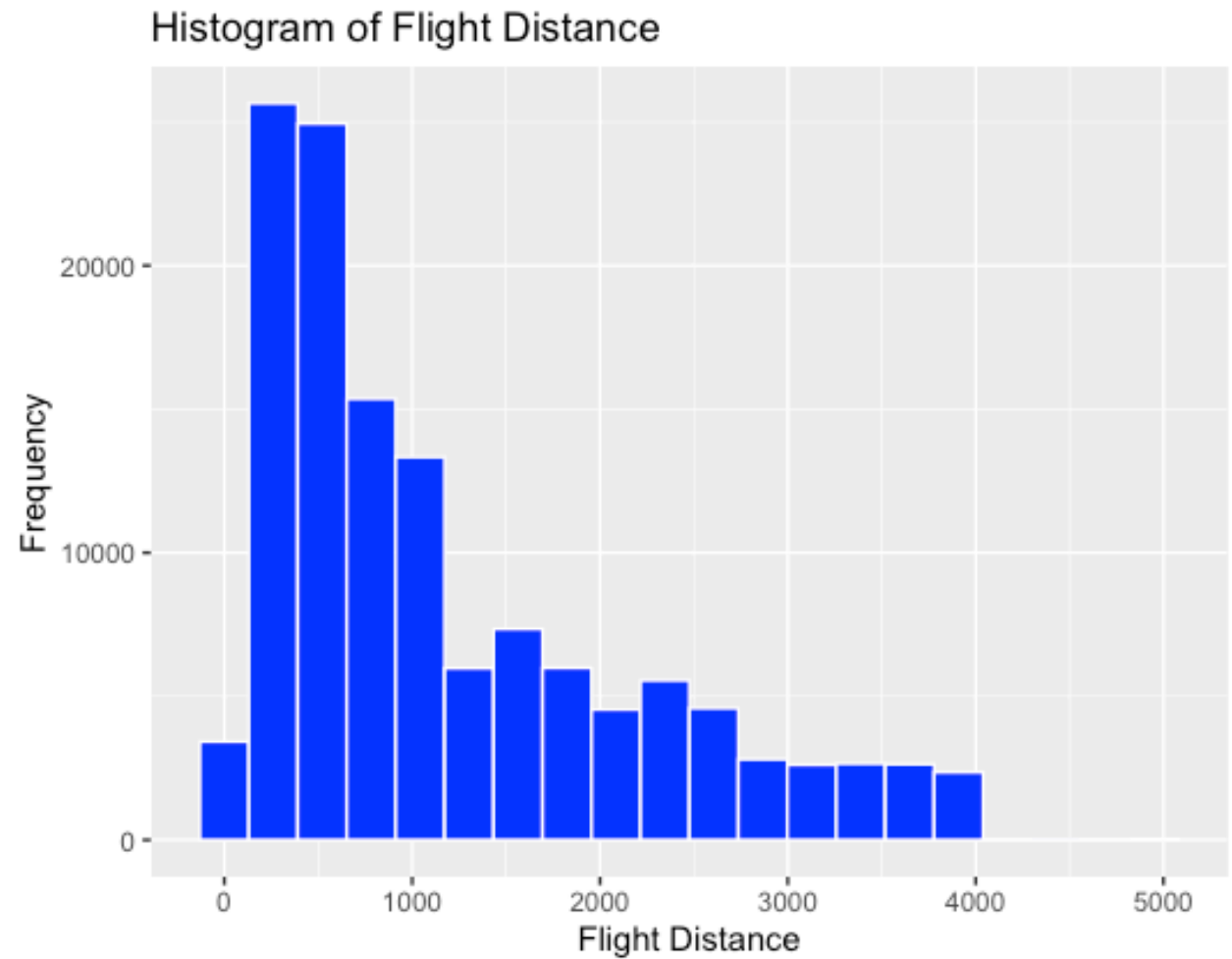

Age Distribution

Type of Travel, and Class Distribution

- Business is the most frequent type of travel
- Business class is the most frequent class travelled in
- Economy Plus is the least popular, just 1/6th the amount of passengers of the other 2 classes

Flight Distance

- Most customers, almost 30,000, travel between 250 to 500 miles

Histogram of Flight Distance
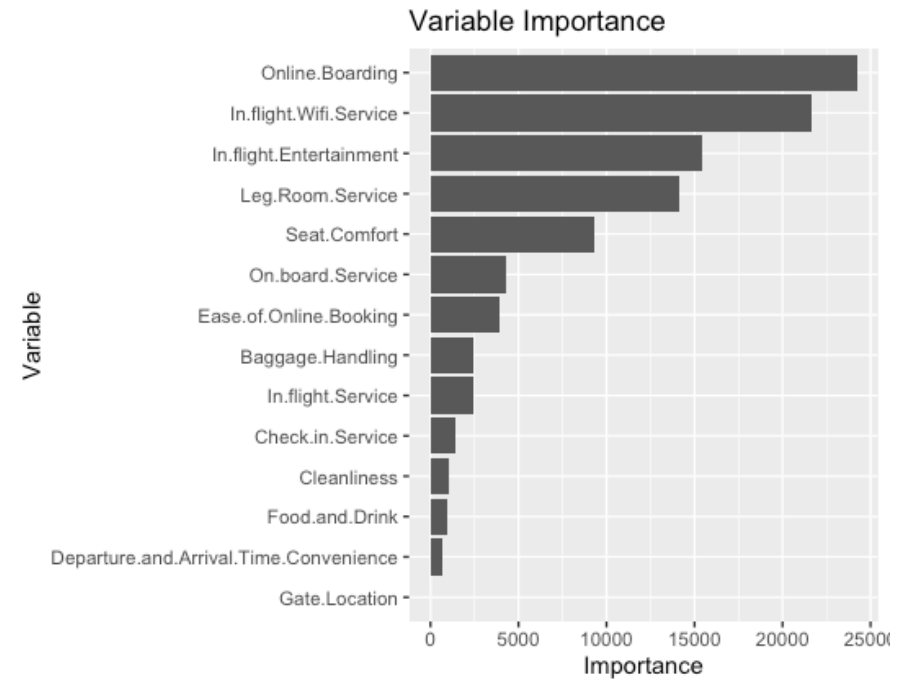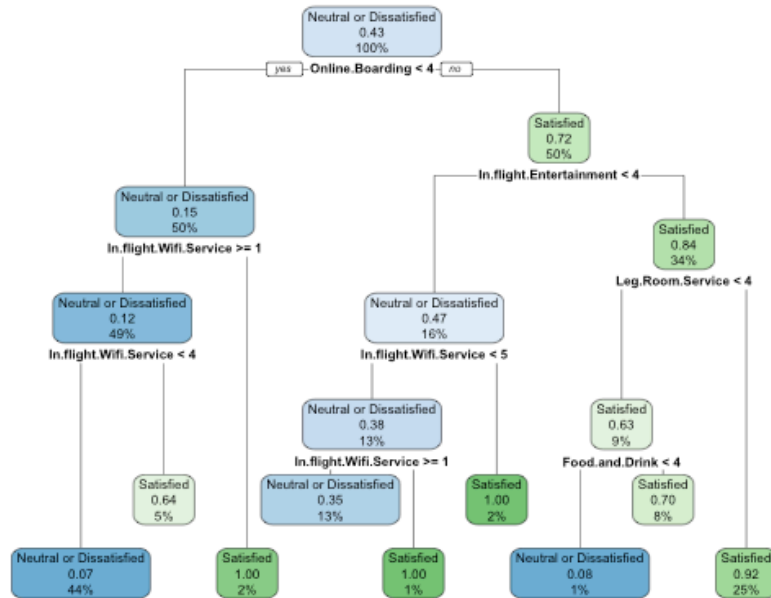
Customer Journey

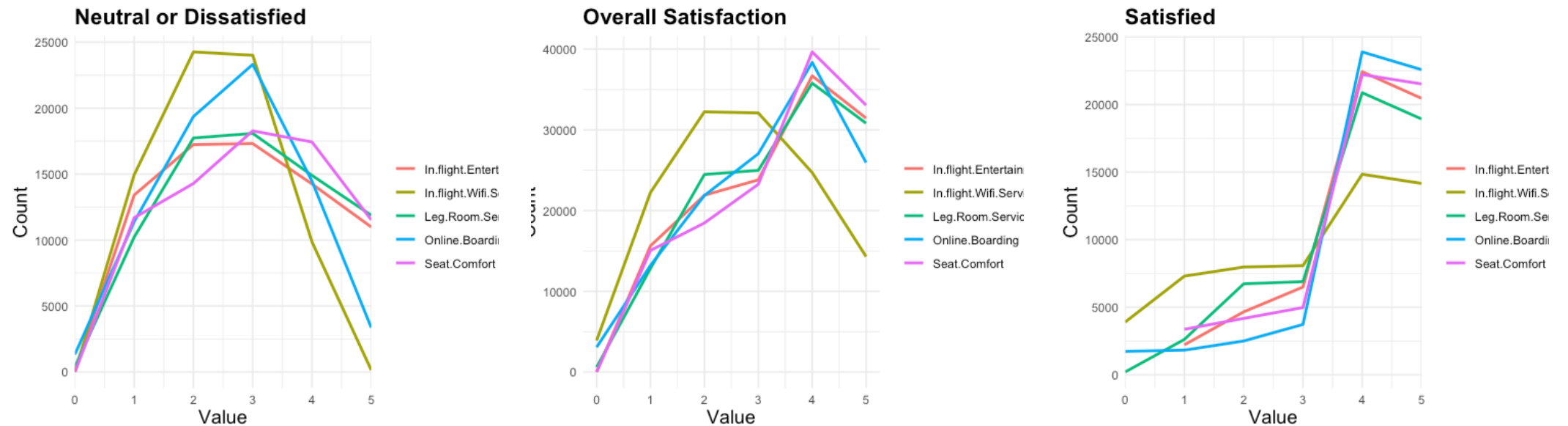Satisfaction by Types of Services

Variable Importance

Gini Index (instead of Information Gain) used to split the data

Satisfaction Across Services

- Top 5/chosen services: Online Boarding, Wifi, Entertainment, Leg Room, Seat Comfort
- There are more satisfied passengers with "4" and "5" ratings for all investigated features
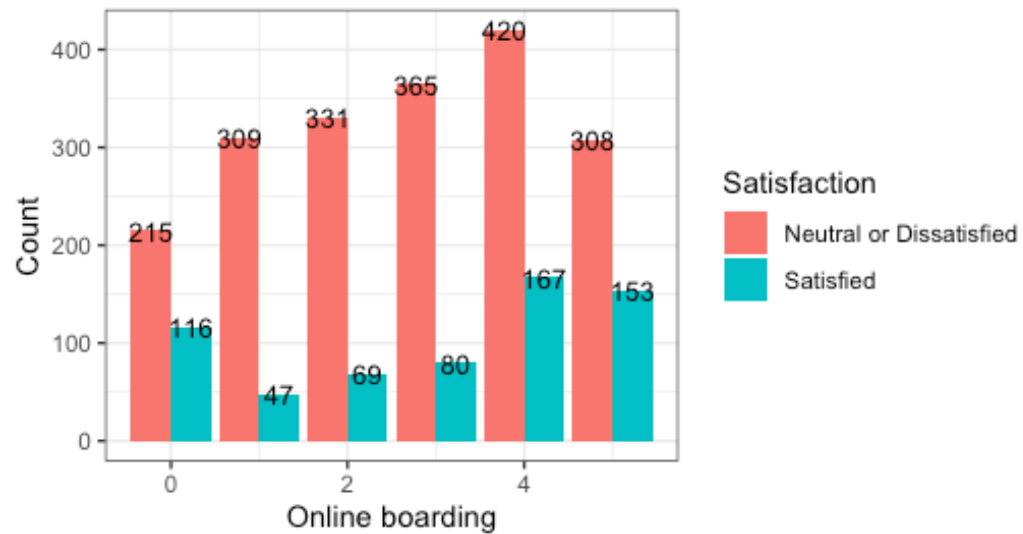- In-flight Wifi stands out as a huge area of dissatisfaction

Customer division

Type of travel + class + distance ranges
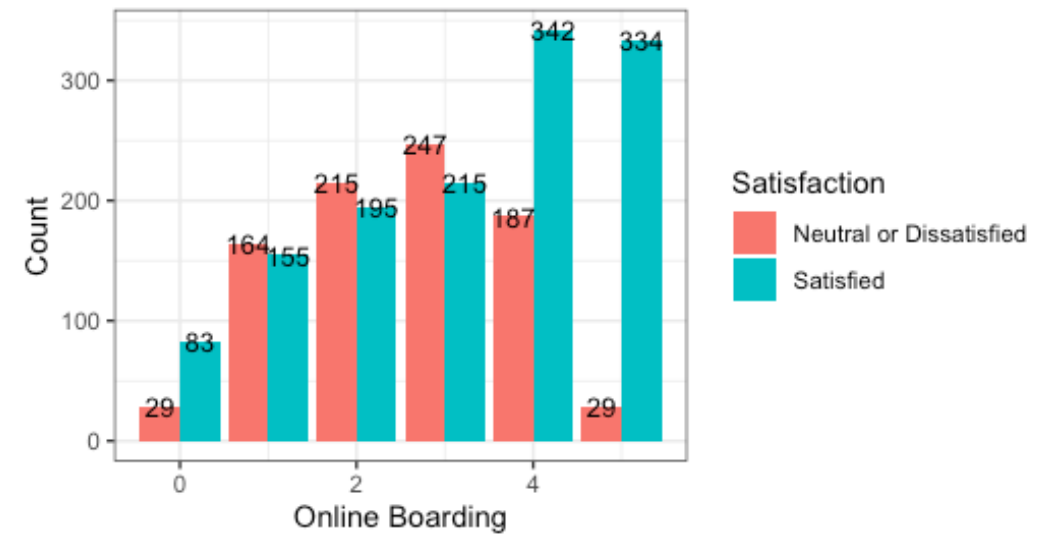
Personal + Economy + 0-800

Business + Business + 0-800

Satisfaction by Type of Travel and Flight Distance

- The distribution of dissatisfied passengers in a Personal Travel differs from all others

- People, naturally, prefer not to spend their own money on flights; usually travel expenses are paid by the employer and as a result most passengers are satisfied with the flight

- For flights between 0-1400, Business class is mostly neutral or dissatisfied. For flights past 1400, Business is mostly satisfied
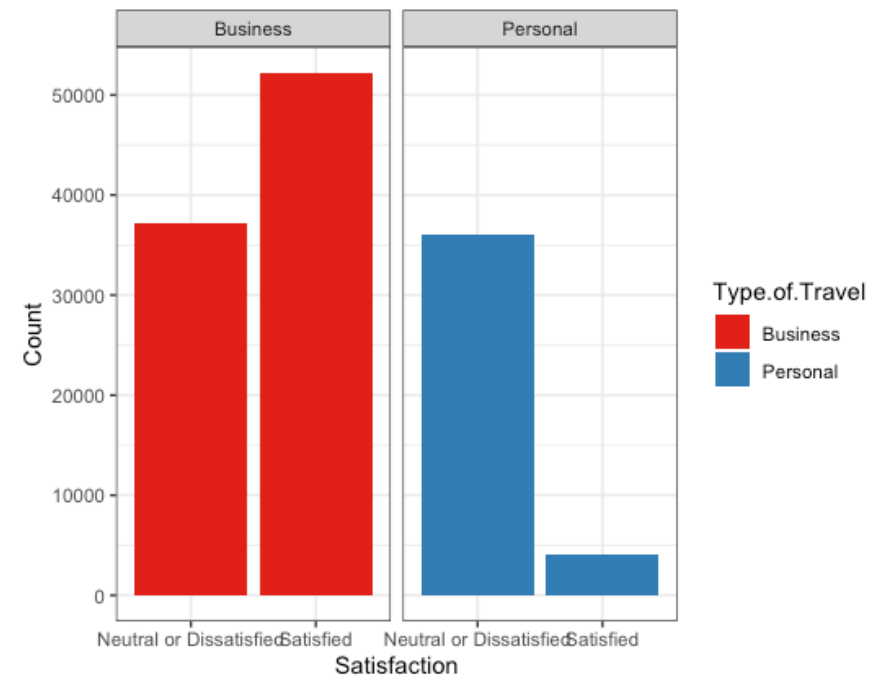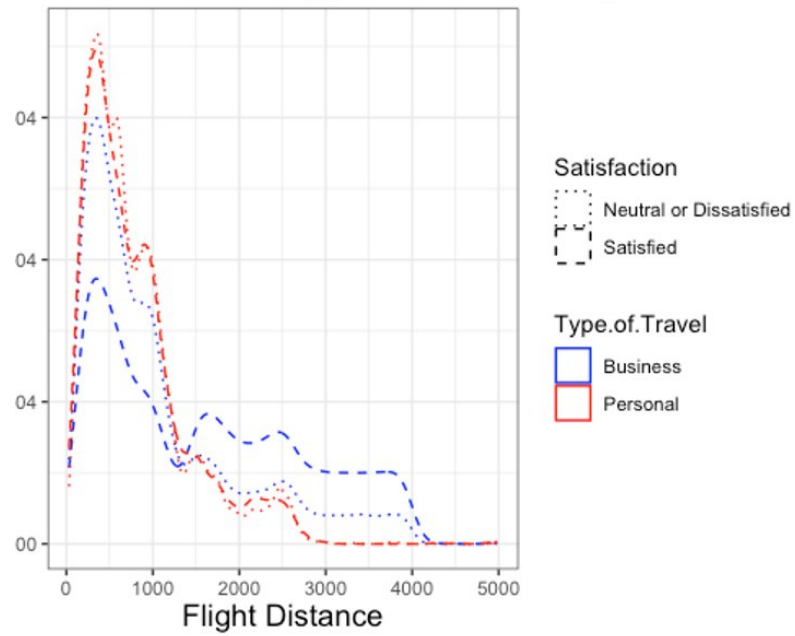
Satisfaction by Class and Flight Distance
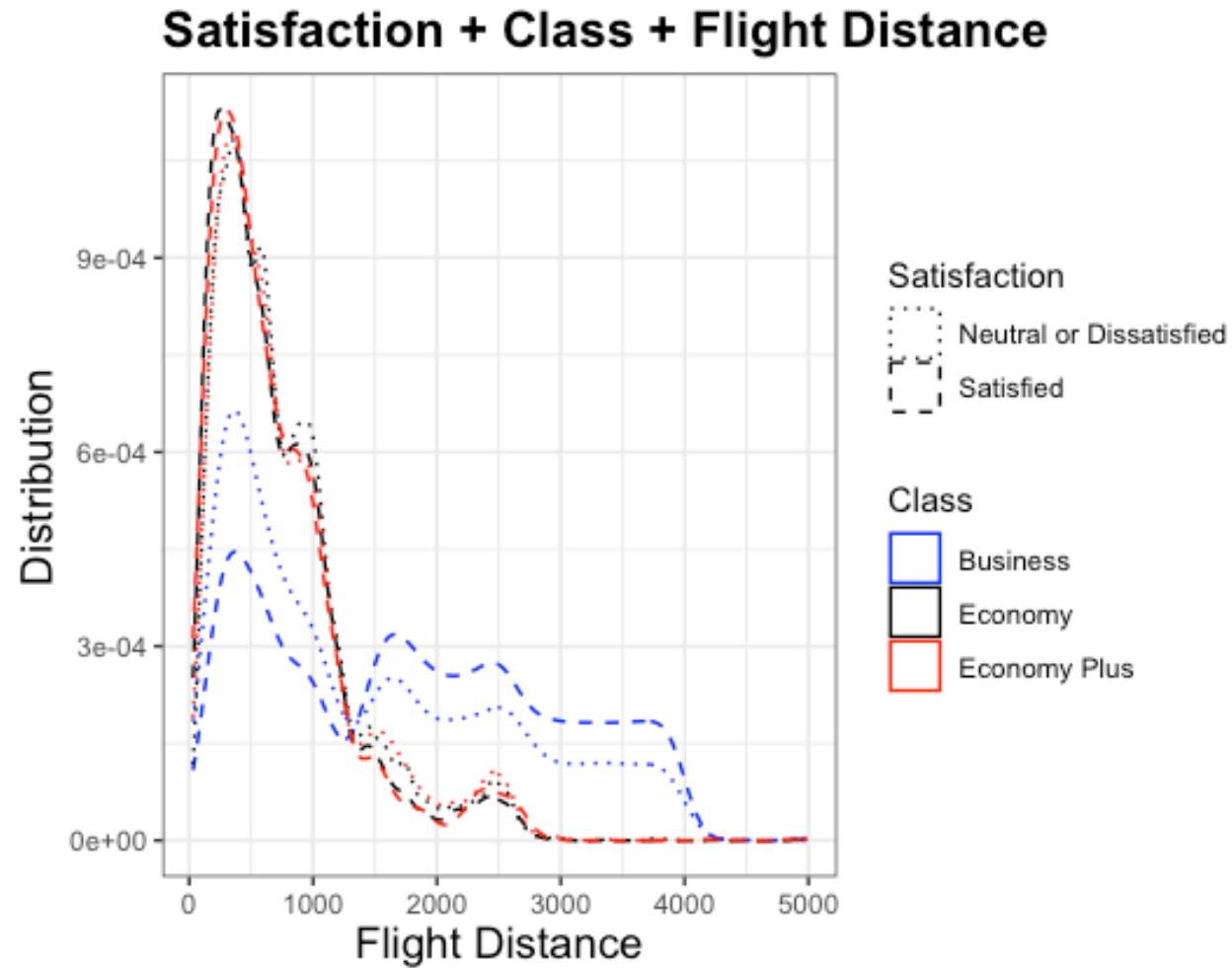
- The distribution of satisfied passengers is more even across all classes

- The longer the flight distance, the greater the decrease in satisfaction of Economy and Economy Plus vs. Business
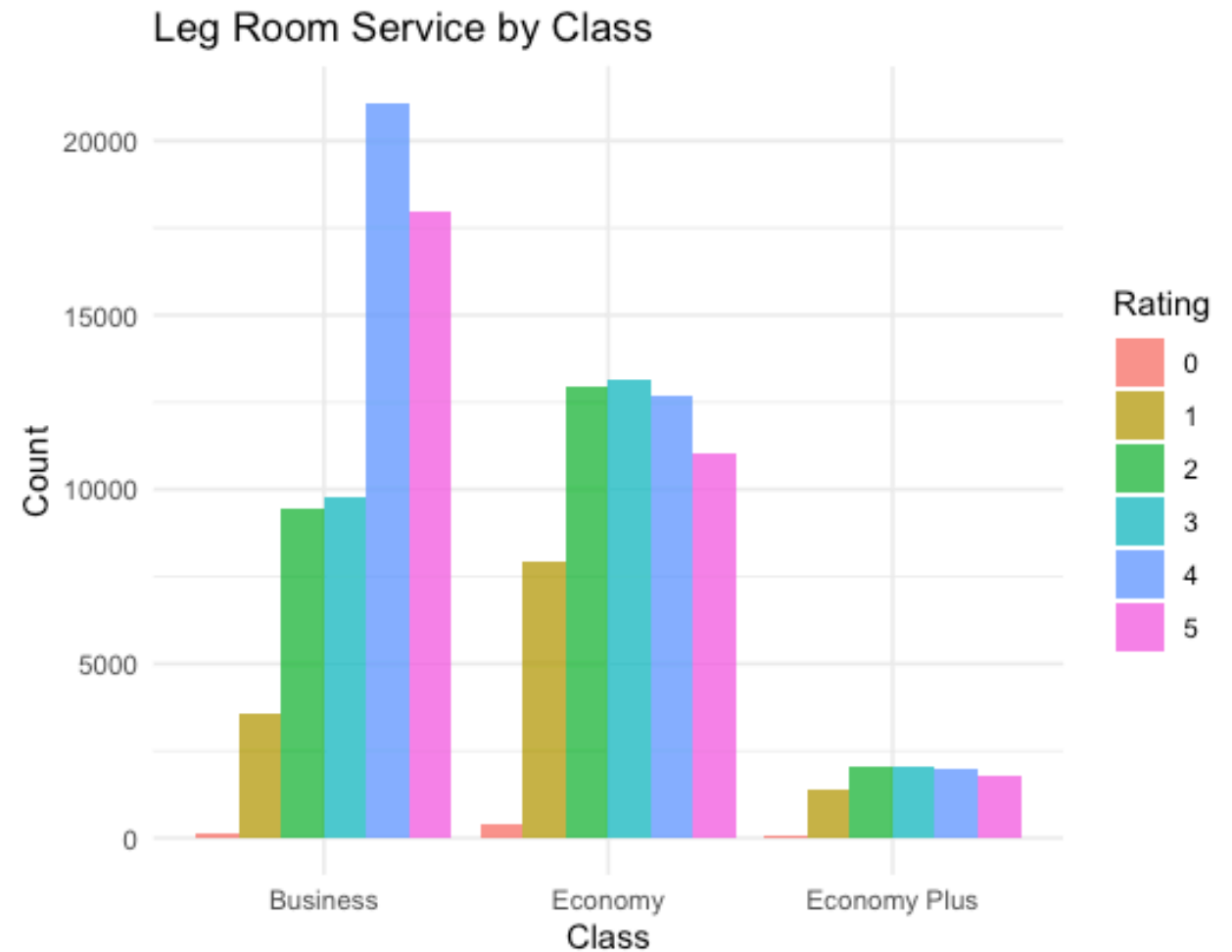
Online Boarding

- Business class passengers generally have a better experience in online boarding compared to Economy and Economy Plus passengers
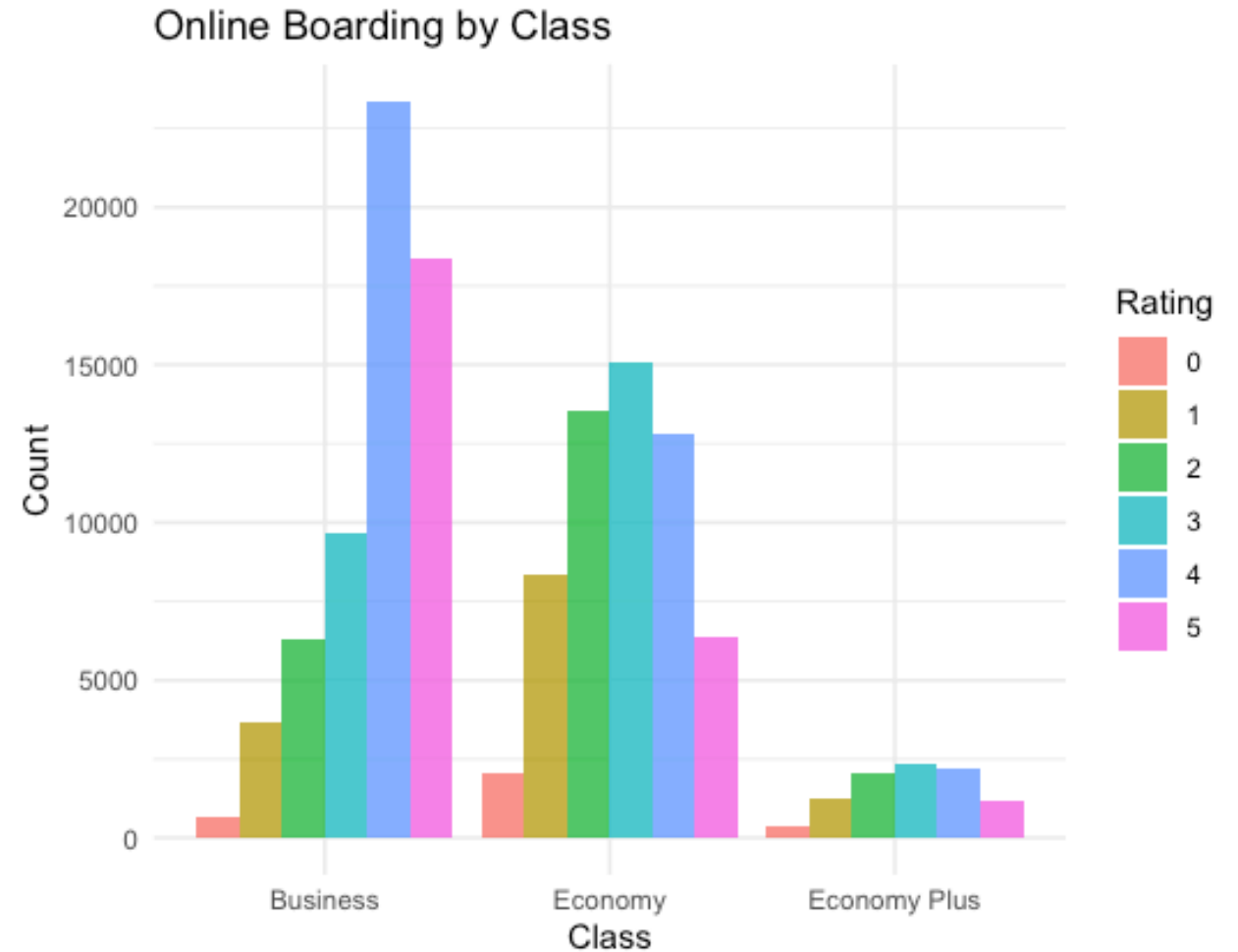
Leg Room Service

- Most Economy and Economy Plus passengers are not as satisfied with leg room service compared to Business passengers
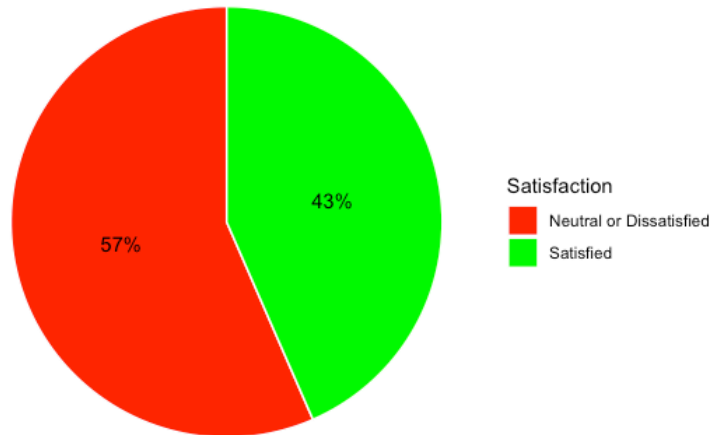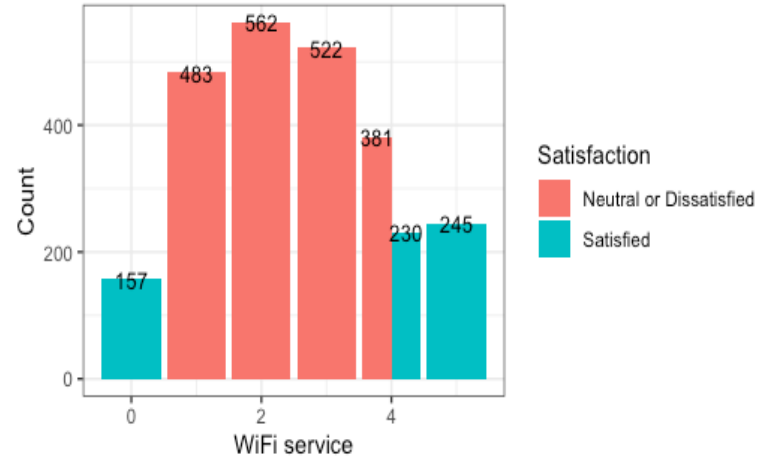
In-flight Wifi Service

- A large percentage of people are unhappy with Wi-Fi

- 57% of passengers are unsatisfied with Wi-Fi
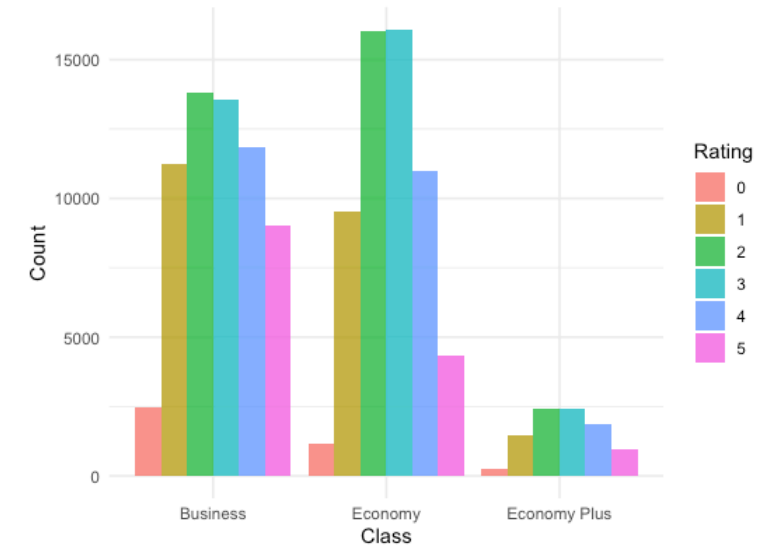
- Some with 0 others with 5

Percentage of Neutral or Dissatisfied and Satisfied in In-flight Wifi Service
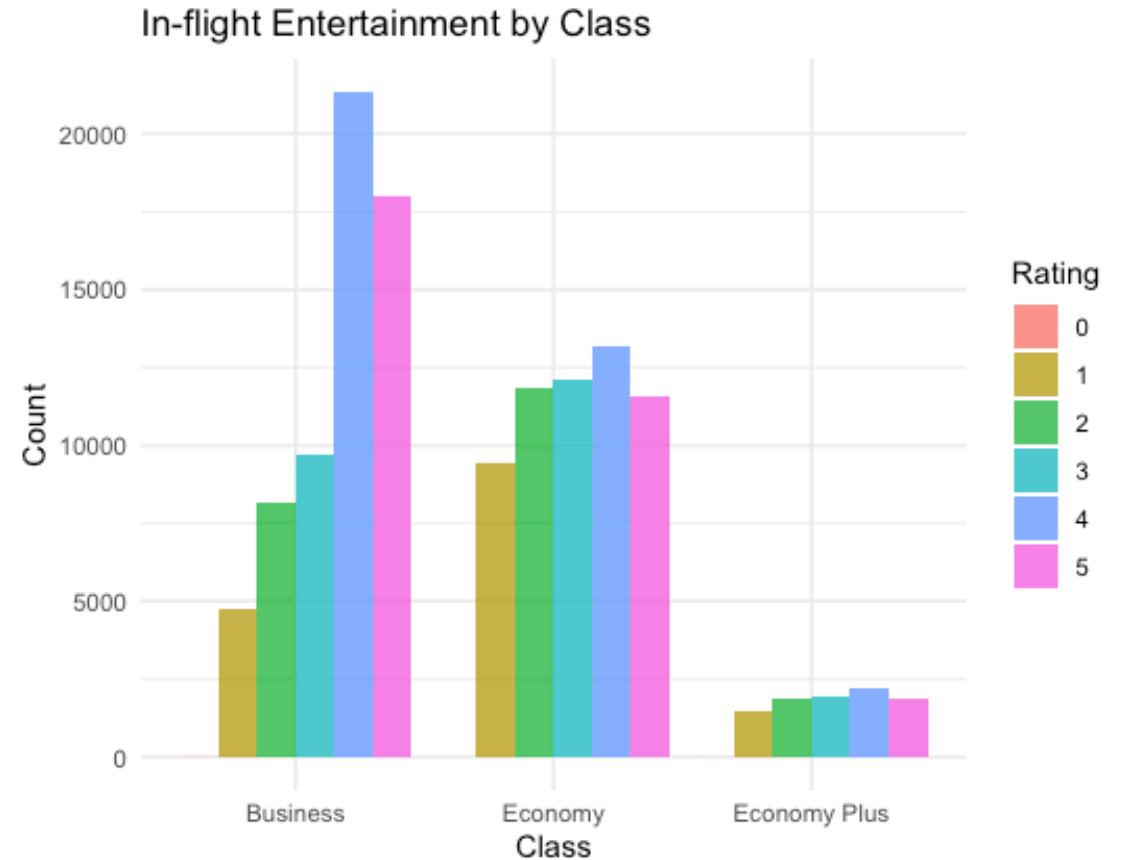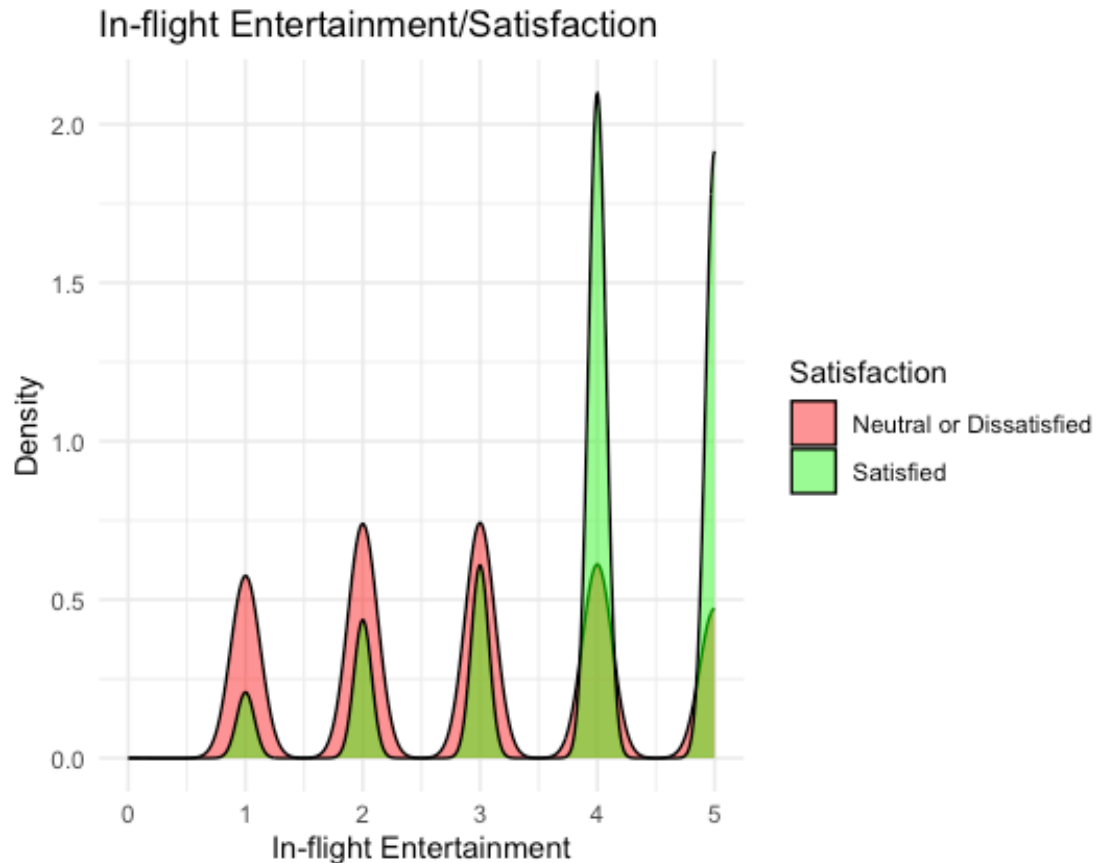

WiFi service on flight


In-flight Wifi Service by Class

In-flight Entertainment

- All classes are generally satisfied with in-flight entertainment to the same degree
- Most passengers were generally pleased with the entertainment although the difference between the ratings vary per class

Seat Comfort

- Most passengers generally find their seats comfortable, although there is still room for improvement

- Most of the passengers that gave the lowest ratings are the same ones that happen to be neutral or dissatisfied

- However, overall, a good number of dissatisfied passengers are happy with the seats

Seat Comfort/Satisfaction
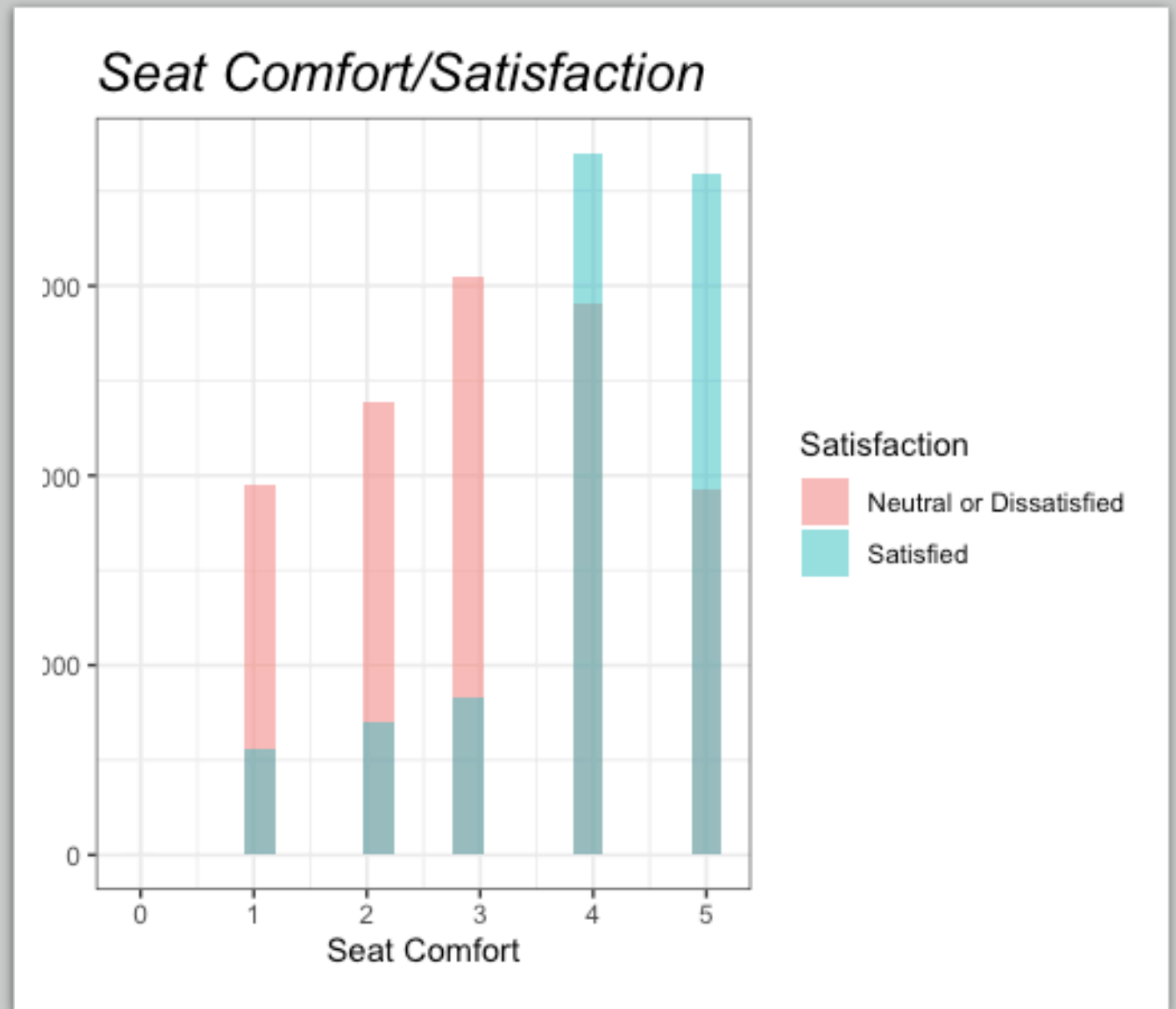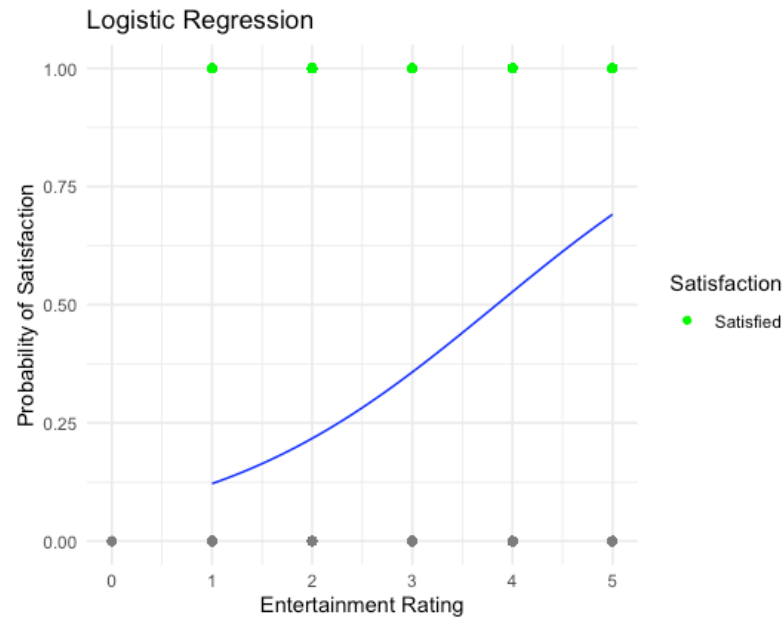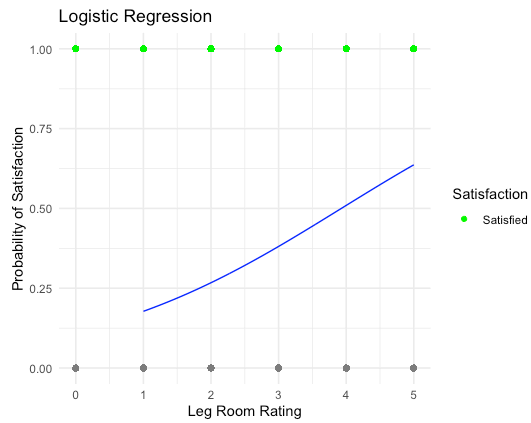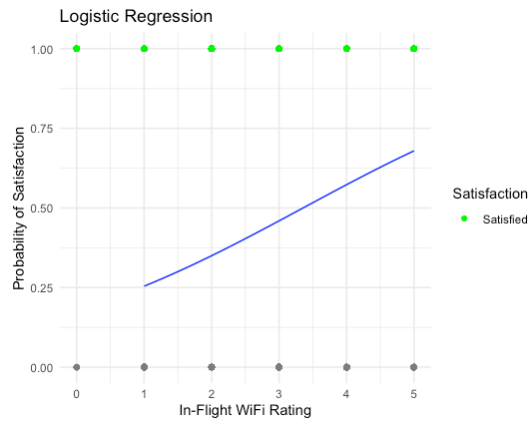
Logistic Regression

Online Boarding has the clearly has the greatest relation with satisfaction

Wifi has a flatter curve than the rest; larger changes needed to make significant gains

Insights

A majority of middle aged passengers seem to be satisfied

Passengers above 60 are more likely to be dissatisfied

The longer a flight, the more passengers (especially Economy) become increasingly dissatisfied with the overall service

The majority of satisfied customer are from Business

Most passengers are not satisfied, the majority are from Economy

Out of Business class customers, nearly 69% are satisfied

Out of Economy class customers, nearly 81% are not satisfied

Out of Economy Plus class customers, nearly 75% of them are not satisfied

Passengers are mostly not so satisfied with **Online Boarding** and the **Wifi service**

The satisfied passengers either had no wifi or the best wifi

Business Opportunity

Market: Airline passengers

Objective: Provide users historical and real-time data on the performances of various airlines and display the up-to-date passenger satisfaction ratings and feedback on their experiences with each airline