# Airline Customer Satisfaction

## Classification Modeling to Predict Customer Satisfaction

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# Summary

Construct classification model to predict customer satisfaction, & glean insight into the following elements of the customer experience:

- Online boarding
- Wifi service
- Travel class

# Outline

Business Context

Data

Modeling results

Recommendations

Limitations/ Further Exploration

Thank you

# Business Context

**A satisfied customer is a repeat customer.**

- Identify customers who are likely to be dissatisfied
- Devise & implement targeted policies to avoid dissatisfaction

# Data

- Airline passenger survey

- ~130k records (80/20 train/test split)

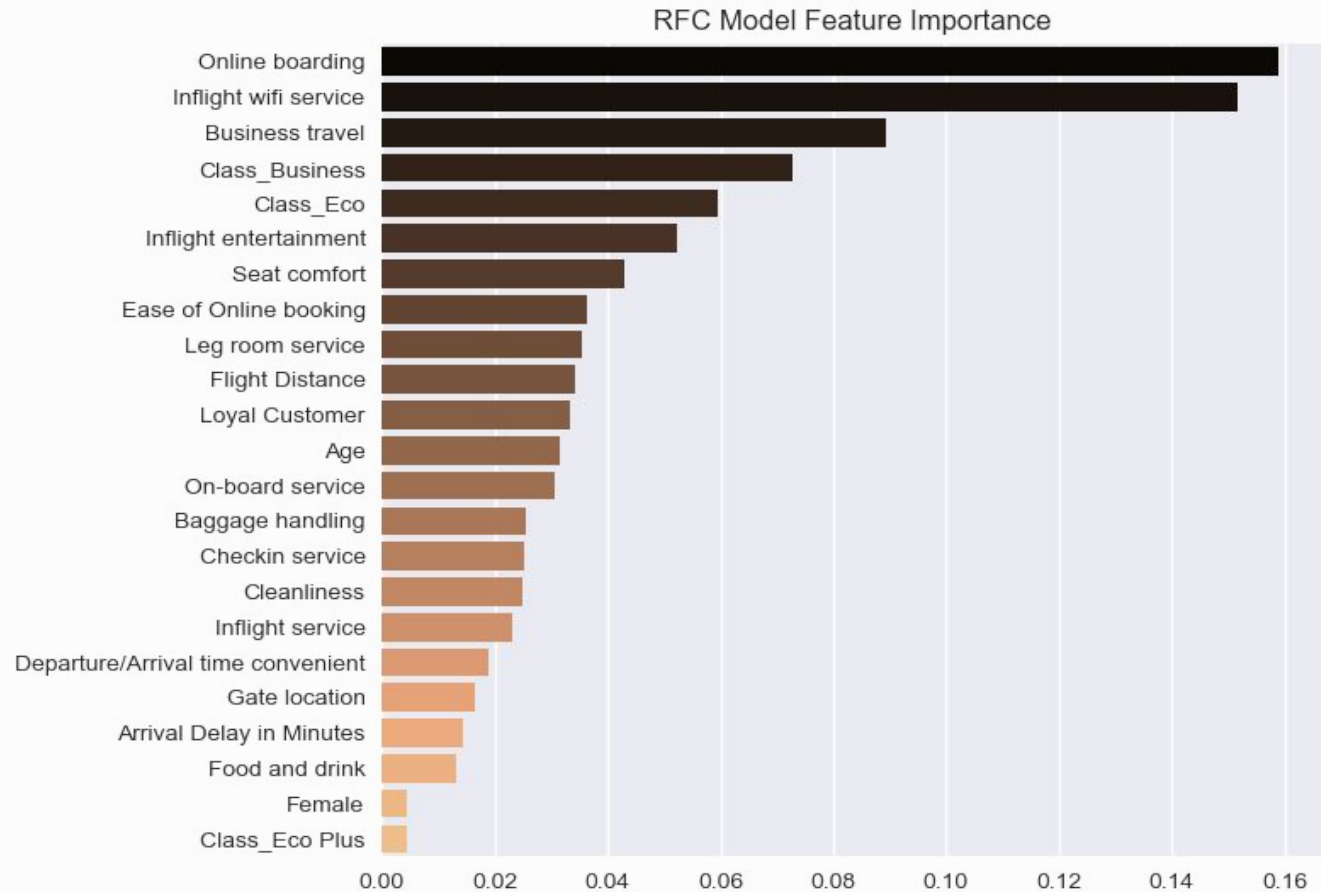- Mostly customer ratings

- Some objective descriptors



Target Feature Distribution

# Modeling Results


Random Forest Classifier Confusion Matrix
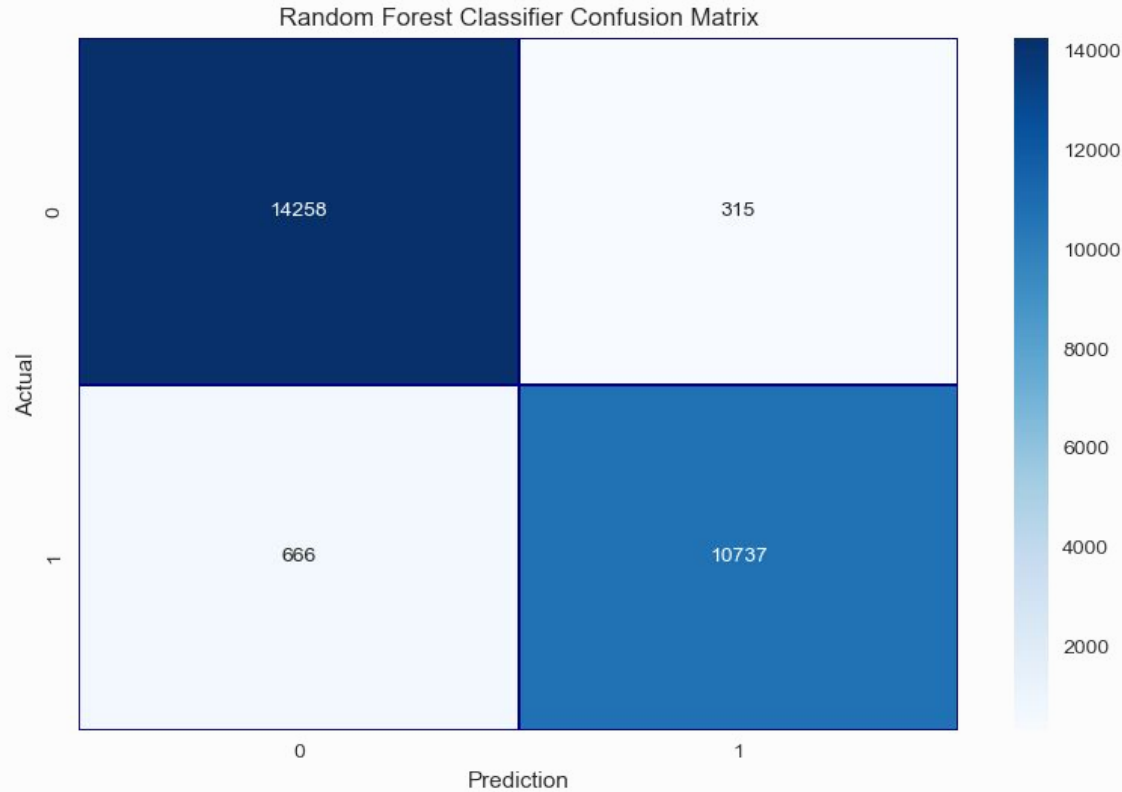
## Class 0 (Dissatisfied)

- Accuracy - .96
- **Recall - .97**
- Precision - .95

## Feature Importance

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RFC Model Feature Importance

# Online Boarding

*Satisfaction jumps*

*with high rating*

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Satisfaction by Online Boarding Rating
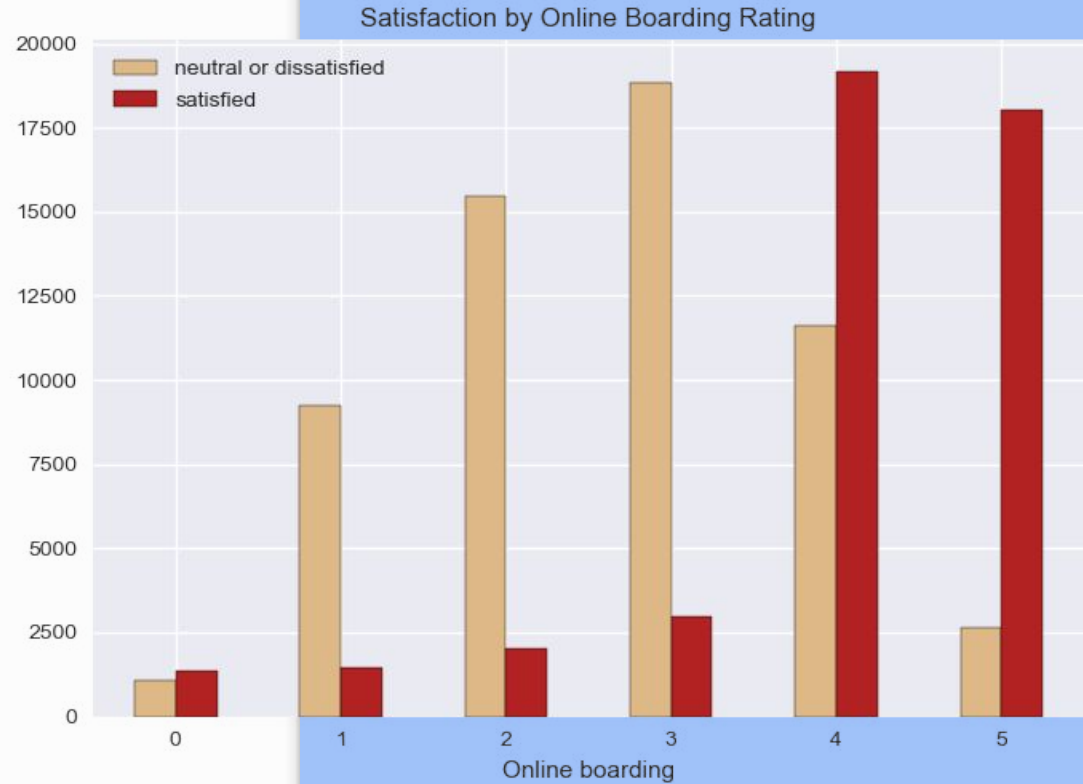
# Inflight Wifi

*High rating = Satisfied* →



## Satisfaction by Wifi Service

**Legend:** neutral or dissatisfied (purple), satisfied (gray)

inflight wifi service rating
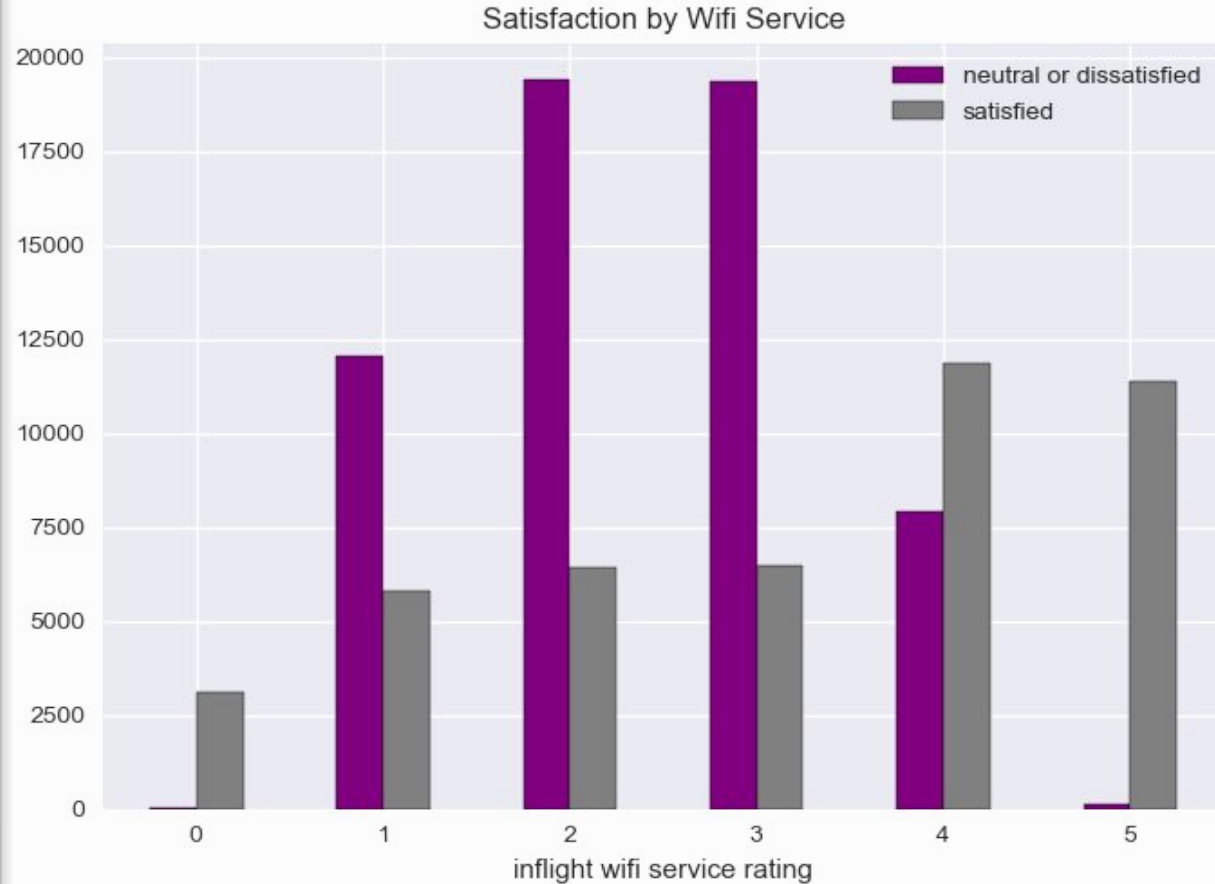
*Business travelers have a drastically higher satisfaction rate* ⯈



Satisfaction by Travel Type

Travel Type by Class
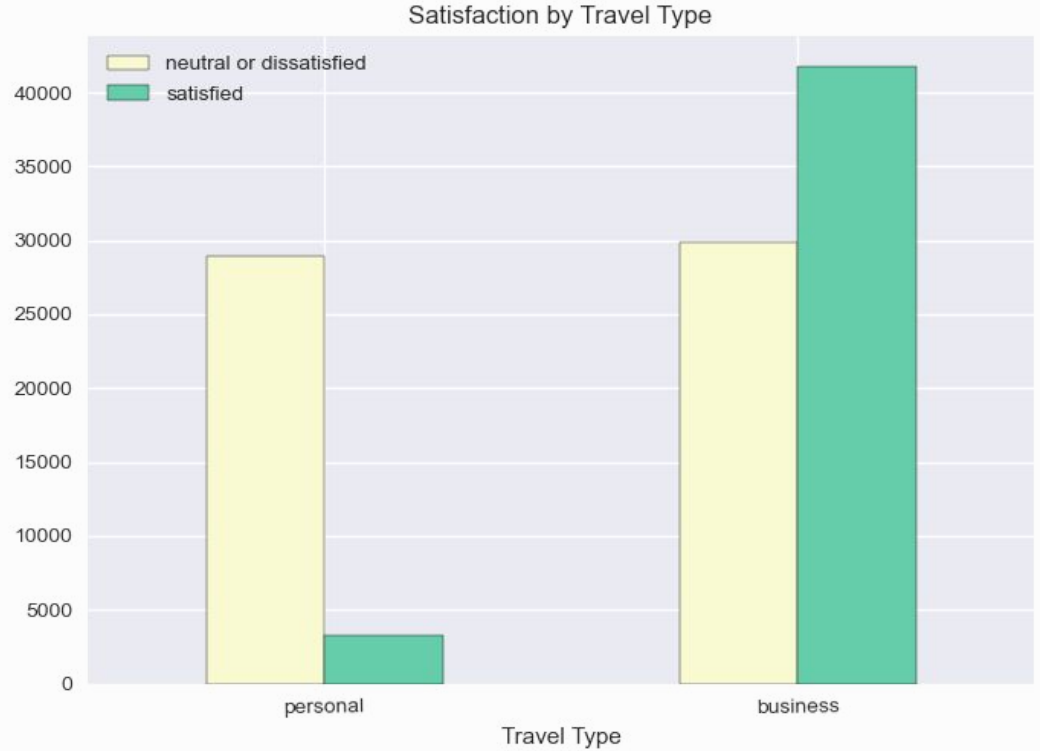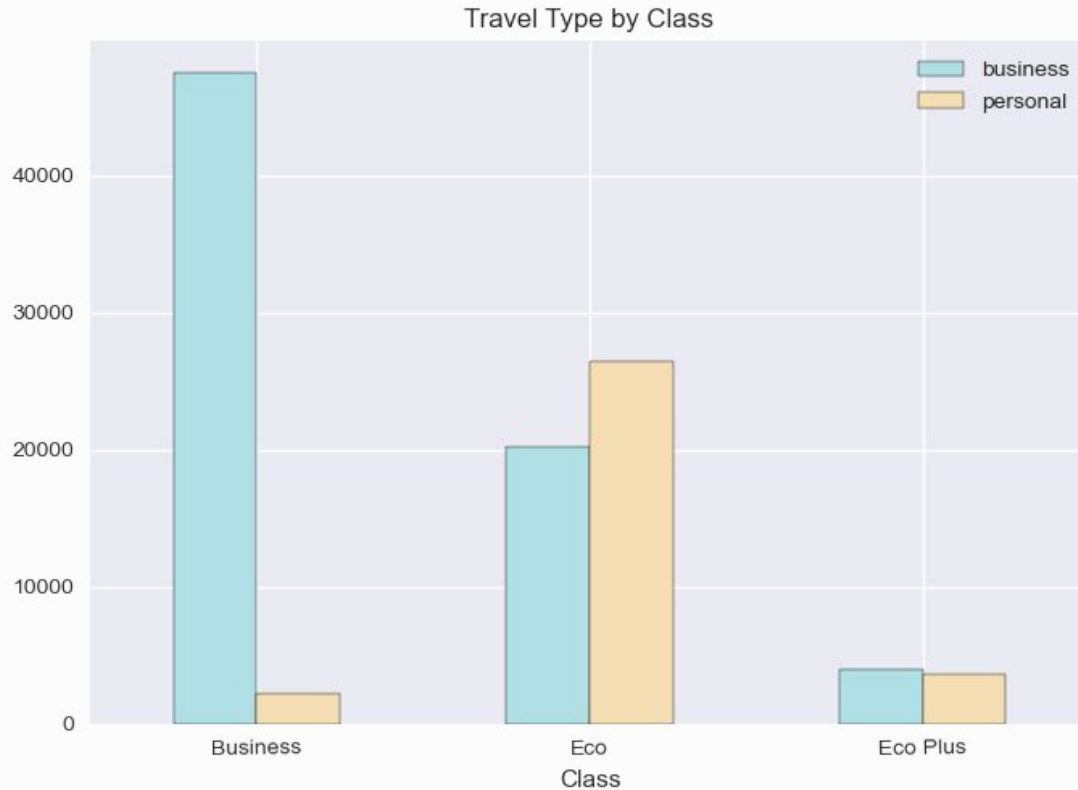
*Business travelers are far more likely to travel business class*

# Recommendations

- Intuitive Online Boarding

- Fast, reliable, affordable Wifi

- Improve service & amenities to Eco Class

# Limitations/Further Exploration

- Obtain text based reviews

- Additional hyperparameter tuning

- Consider another metric

# Thanks!

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