



SIGMA AIRLINES

The Future of Customer Satisfaction



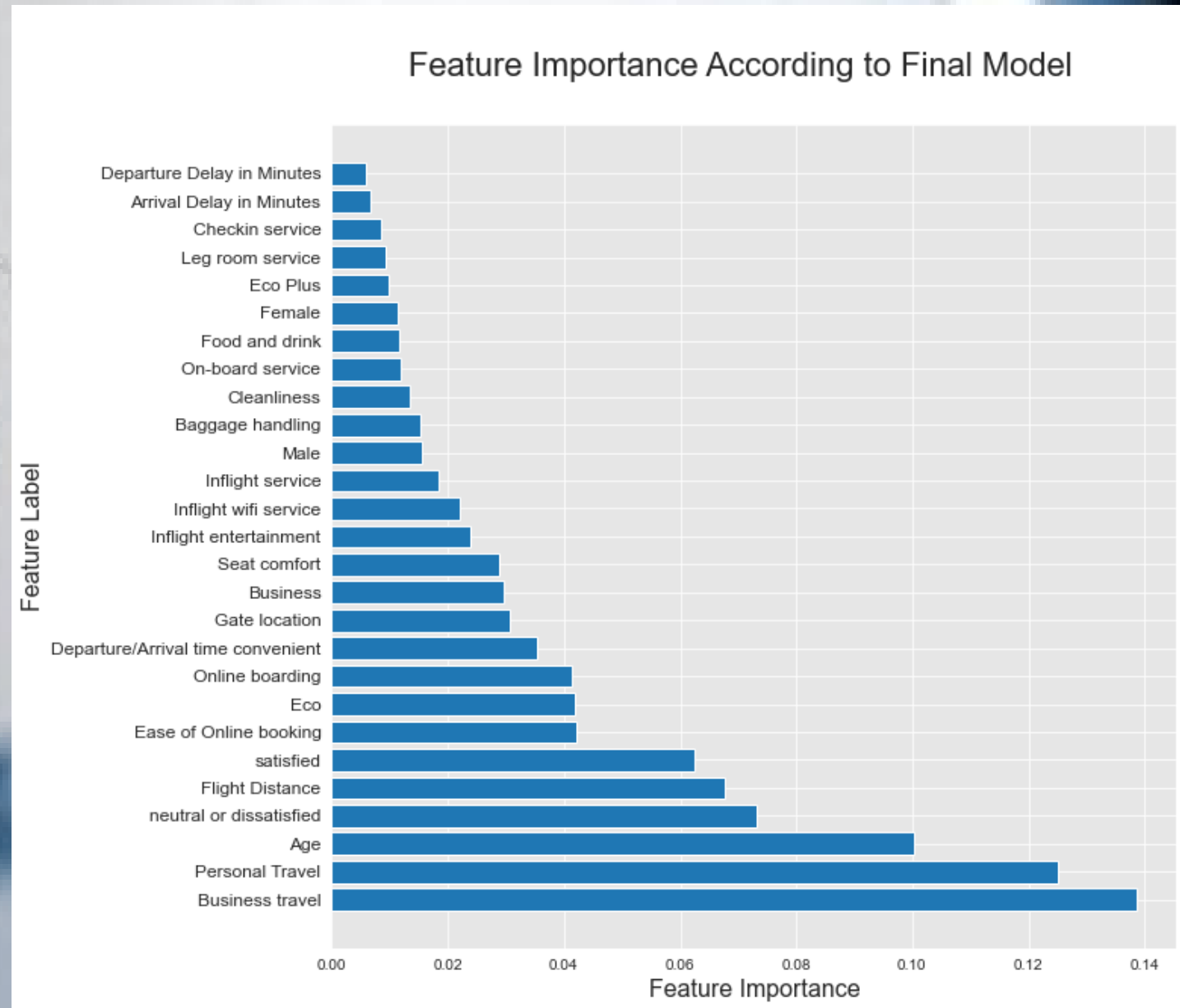
Overview

Utilize ML technology to . . .

- *Understand what ‘disloyal’ customers are most displeased with*
- *Improve disloyal-to-loyal churn rate*
- *Understand what services need the most improvement*
- *Bonus: identify other populations that deserve attention*

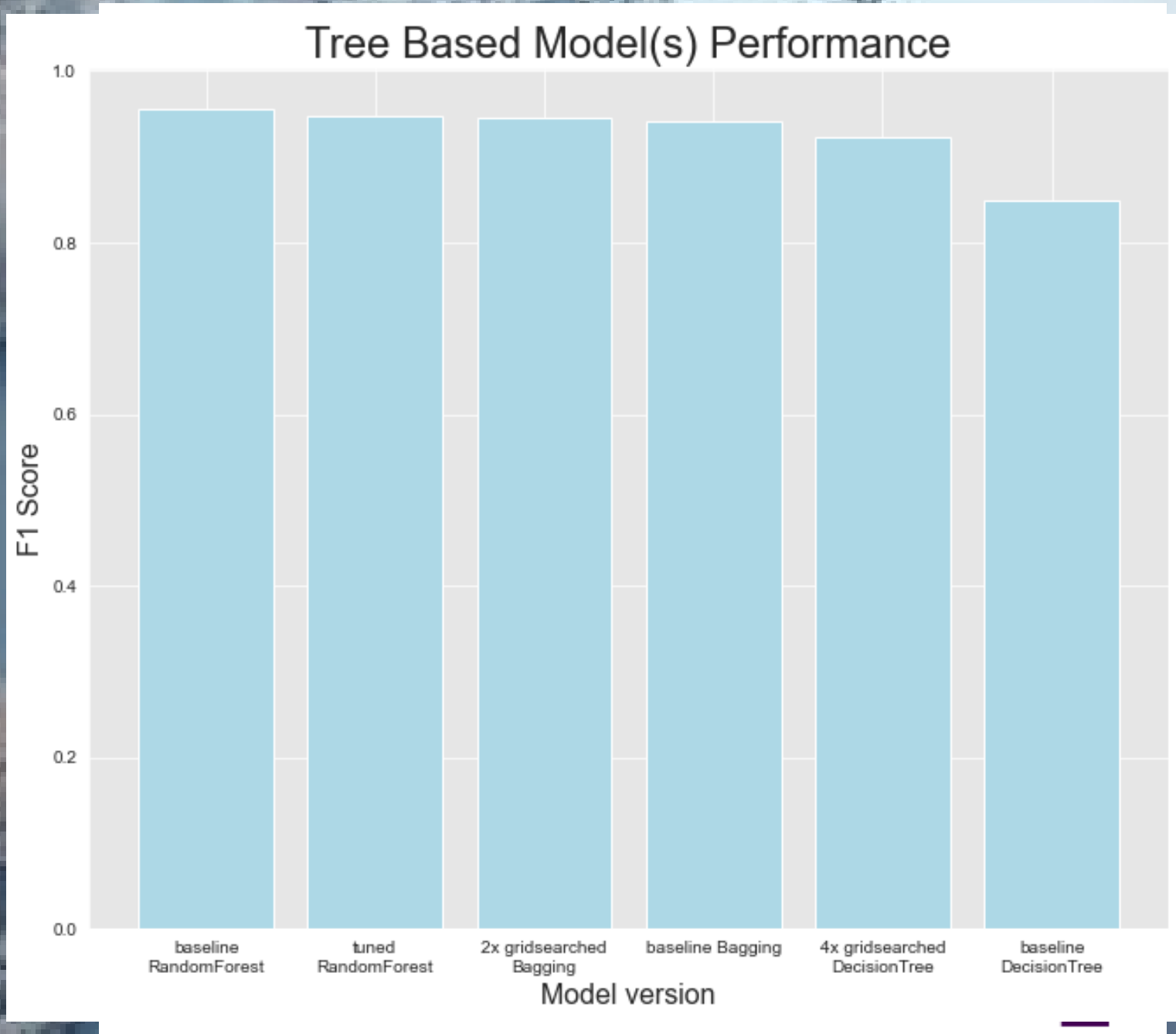
The Data

- Over 100k total records
- Describes flight details (e.g. distance, class)
- Describes customer's sentiment, including survey responses
- Preprocessed (e.g. missing values, encoding)
- Resampled (SMOTE)

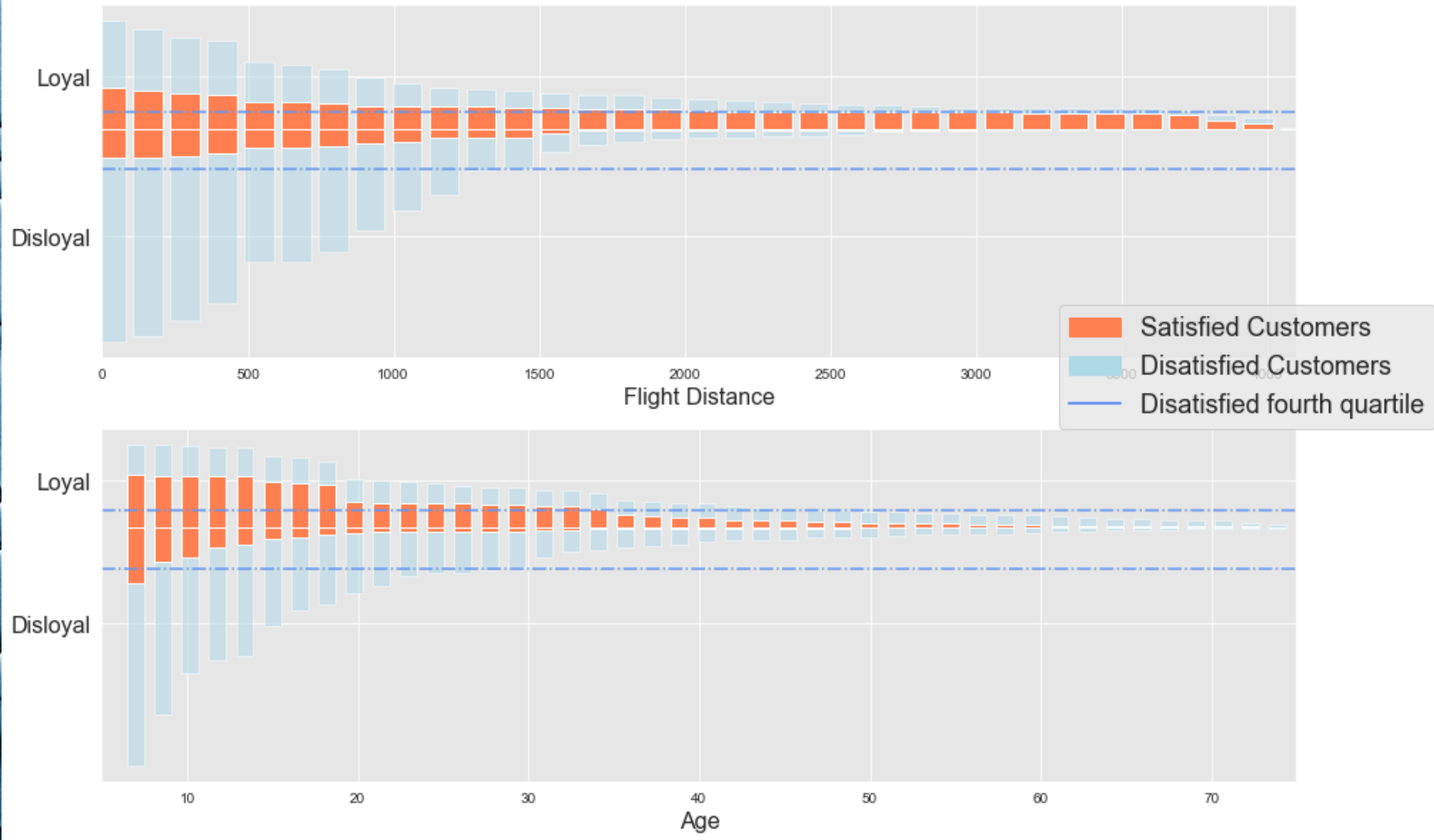


The ML Model

- Experimented with many models
- Random Forest Classifier
- 98% accuracy, 0.94 F1 Score



Customer Satisfaction By Age, Flight Distance and Loyalty



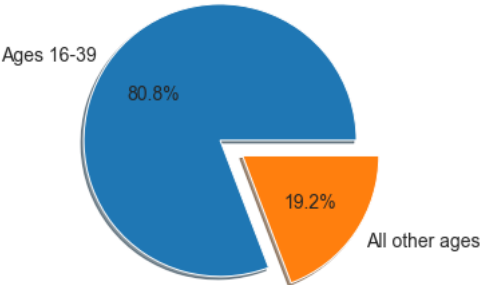
Discoveries

Bulk of dissatisfaction found in:

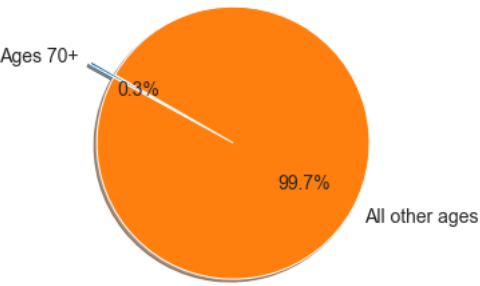
- *Flights under 1500 miles*
- *Flyers under 30*
- *Mostly disloyal customers*

Disloyal Market Share by Demographic Groups

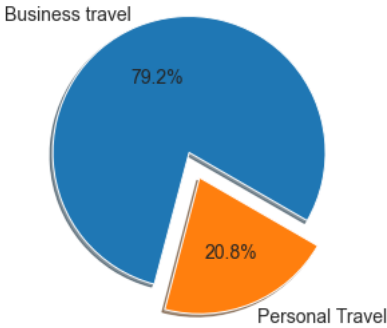
Young adults flying less than 3000 miles



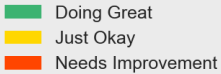
Seniors flying less than 1500 miles



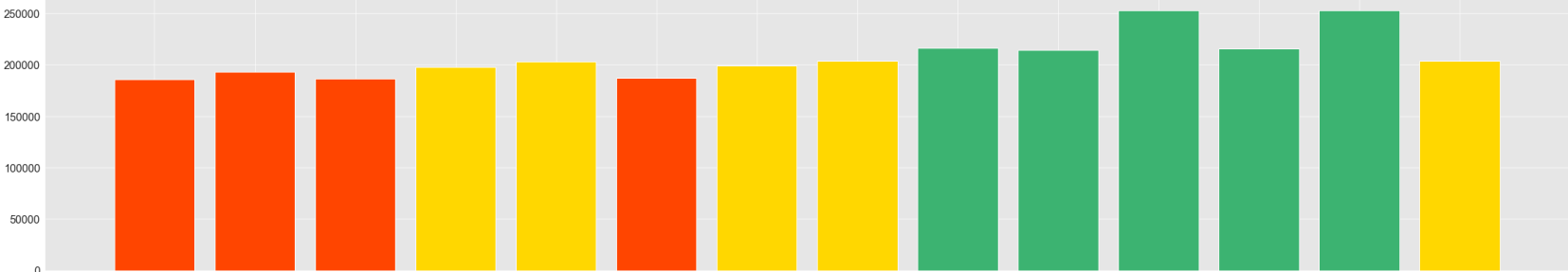
Business travel, all ages, all distances



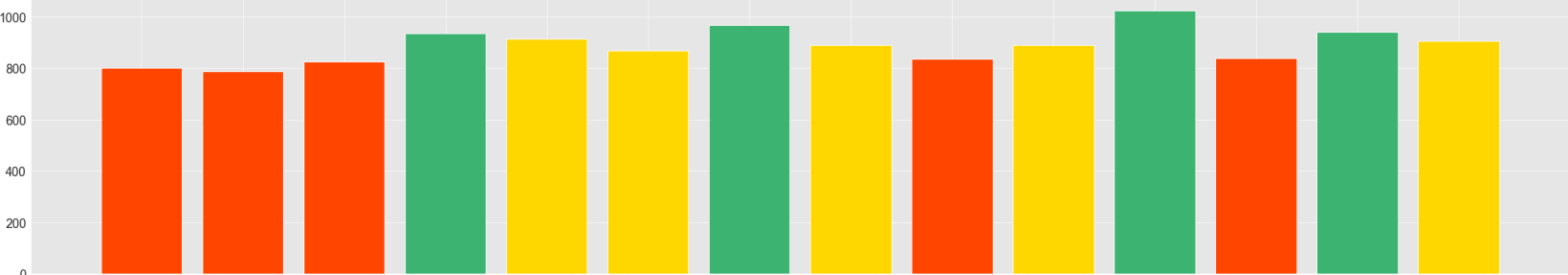
Disloyal Customers Survey Responses, By age and length of flight, or type of travel



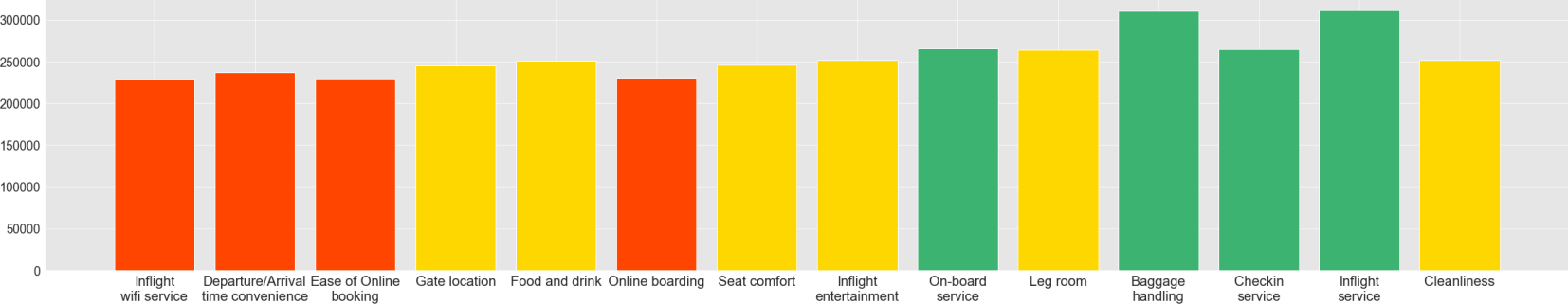
Ages 16-39, flights shorter than 3000 miles



Ages 70+, flights shorter than 1500 miles



All disloyal business travel



Disloyal market has a lot of room for penetration

Focus on business travelers between 16 and 40 on flights 3k miles or less

Prioritize improving UI of online services (e.g. online booking, online boarding)

Prioritize in-flight comfort and convenience (e.g. in-flight Wi-Fi, seat comfort, refreshments)

Final Thoughts



For More Information ...

- › Explore the [GitHub repository](#)
- › Connect with me on [LinkedIn](#)
- › Send me an email at zethusabney@gmail.com
- › Subscribe to my [YouTube Channel](#)