Hotel Data Analysis

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Goals

1. Explore Data

- Explore data to determine which variables are correlated with

  cancellation rates.

2. Identify & Protect Customer Base

- We analyzed data to make recommendations on who are our most reliable customers and how to retain them.

3. Grow Customer Base

- **We analyzed data to make recommendations on how to grow customer base**

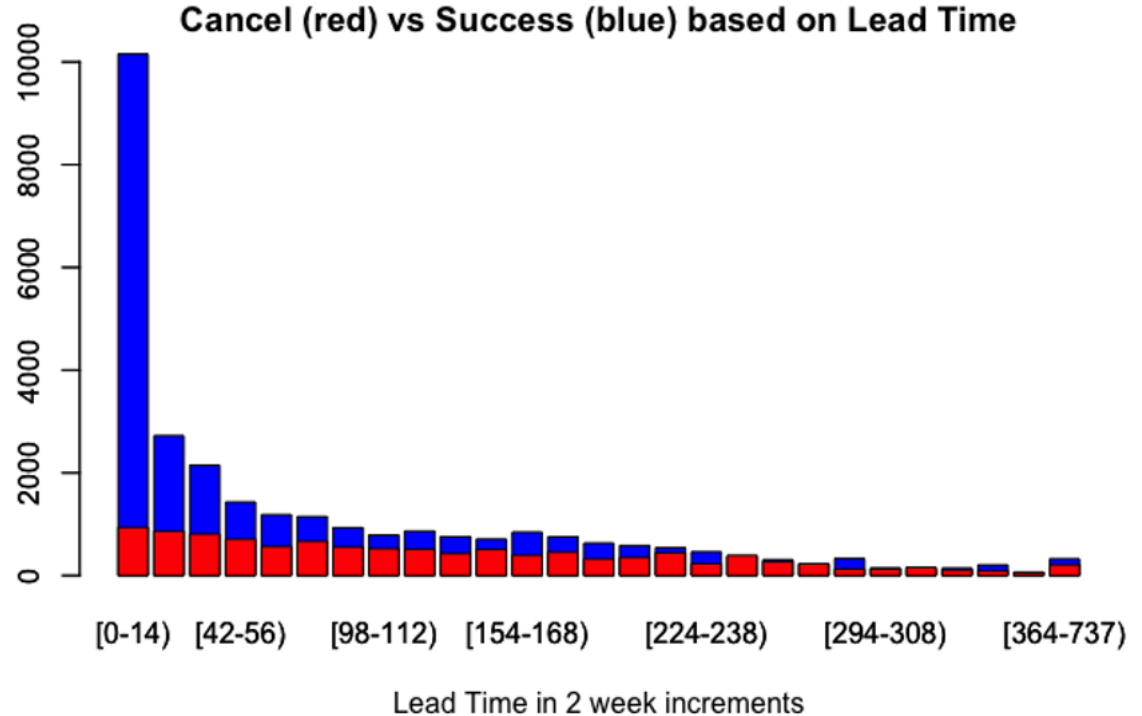# Data Analysis

- 40,060 bookings
- ~27% of bookings were canceled

Lead Time

- **Less than 2 months:**

  Likely to not cancel

- **Between 2 and 6**

  months:

  Equally likely to cancel

- **After 6 months:**

  Likely to cancel

Cancel (red) vs Success (blue) based on Lead Time

Lead Time in 2 week increments

Market Segmentation

- Most frequent: Online TA
  Cancellation rate is about
  35%.
- Low cancellation rates when
  booking directly with hotel
- General marketing of
  booking through the website
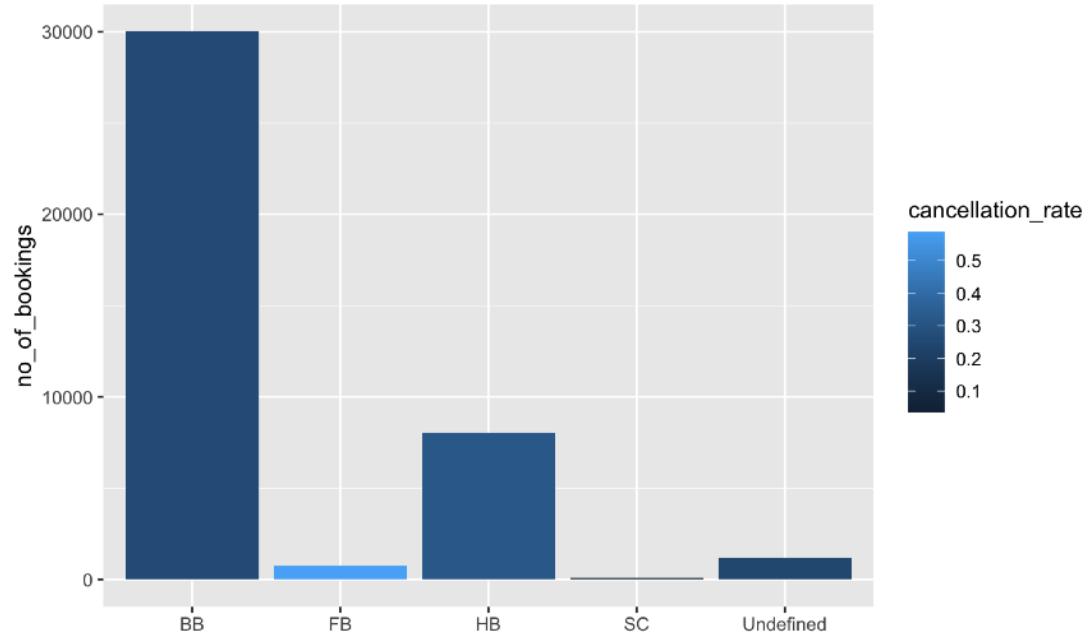- Improving experience of
  booking through website
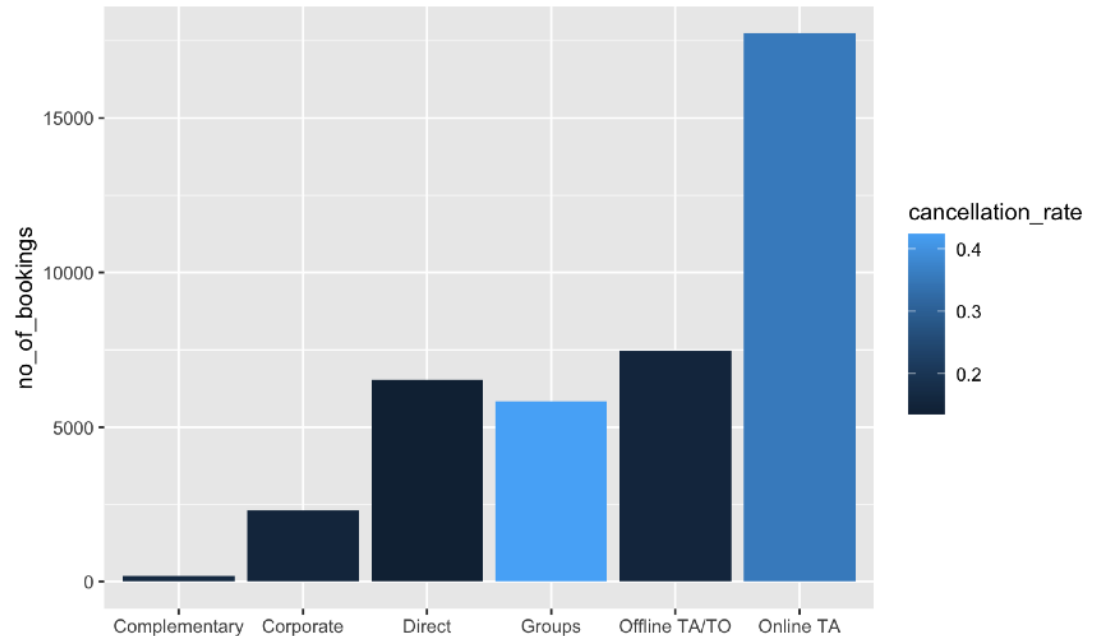
Meal Plans

- Full board cancellation is 60%
- Full board meal plans are so few.
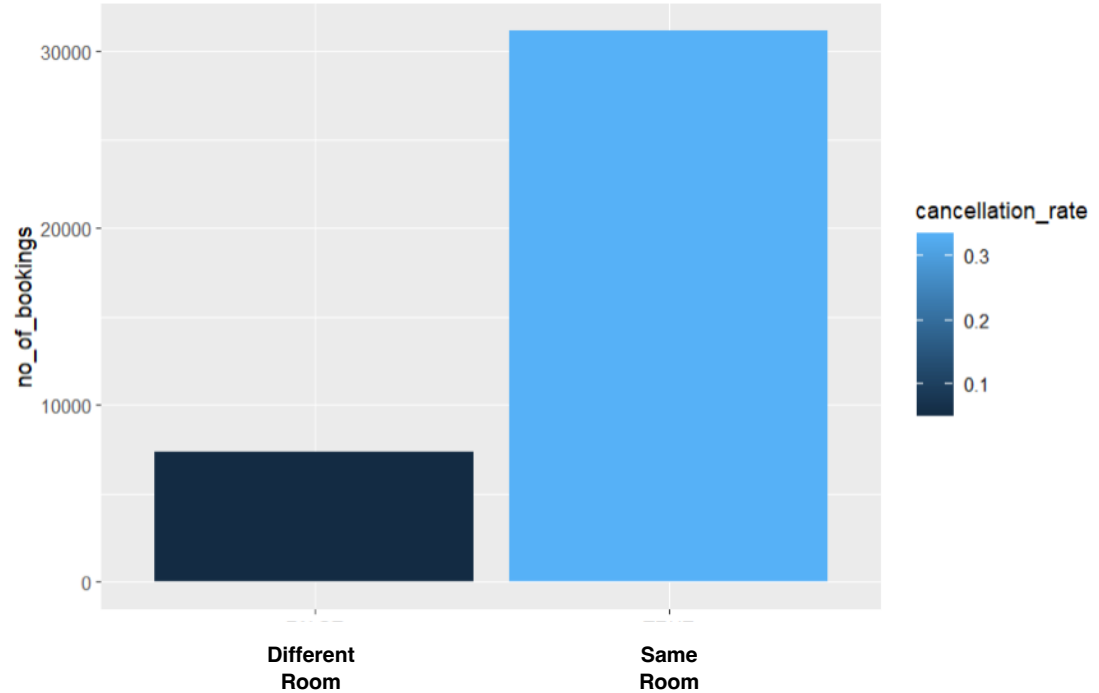- Recommend to cancel FB altogether.

Room Change

- 20% of customers had rooms changed.
- 5% whose rooms changed did not cancel.

Exploration:

- Are the rooms better?
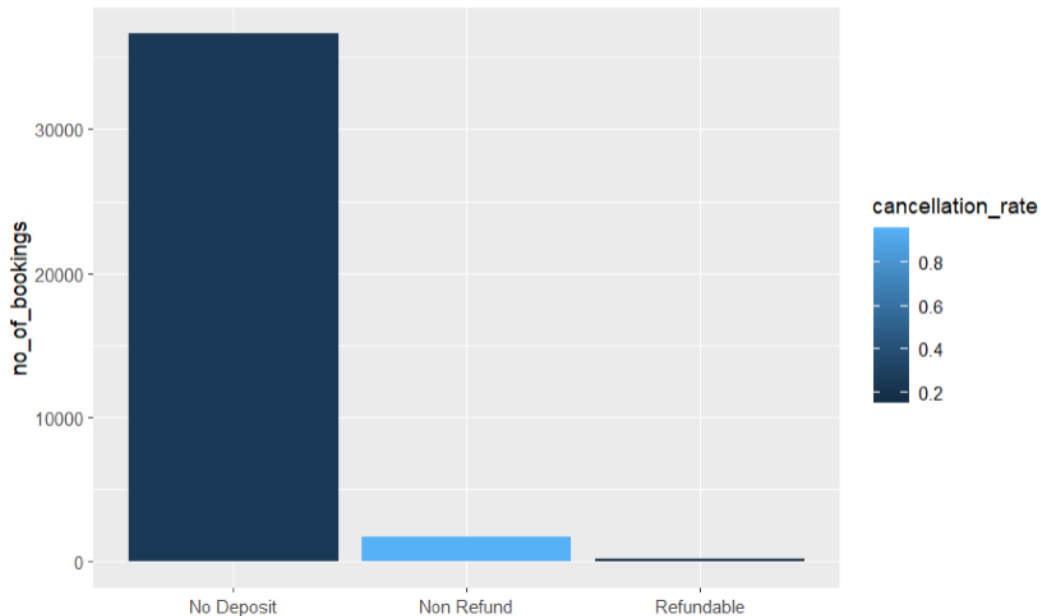- Are rooms being changed at booking?/at desk?

Deposit Types

- 4% of deposits are non refundable.
- 95% of them cancel.

Explore:

Two options:

- Remove option.
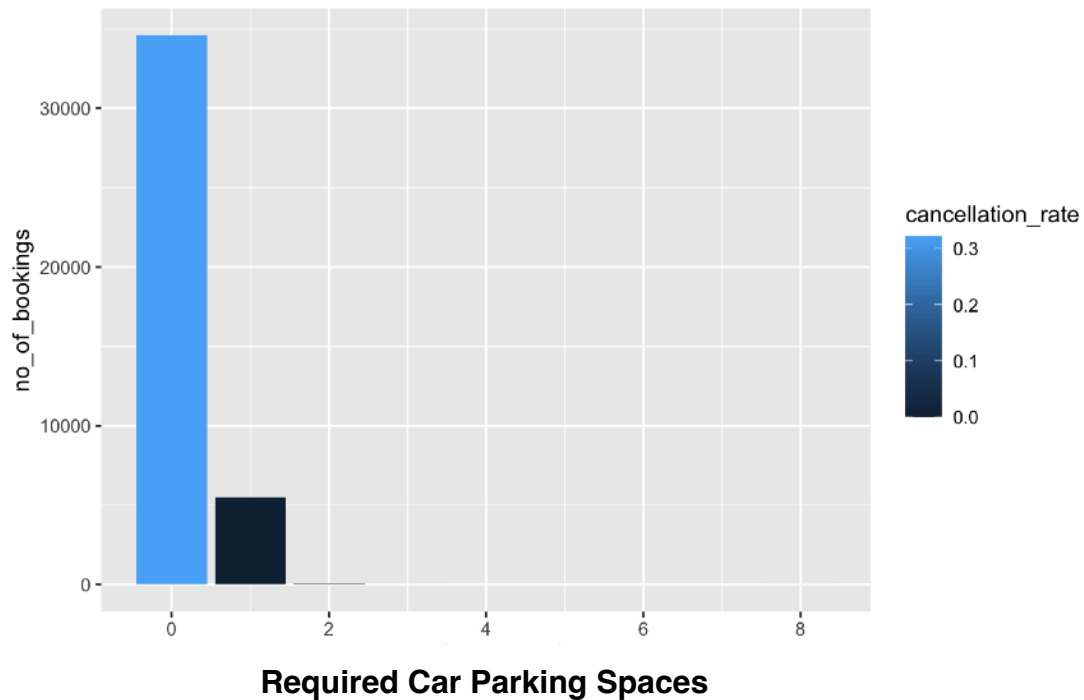- Explore more in case money made from refund is significant

Parking Spaces

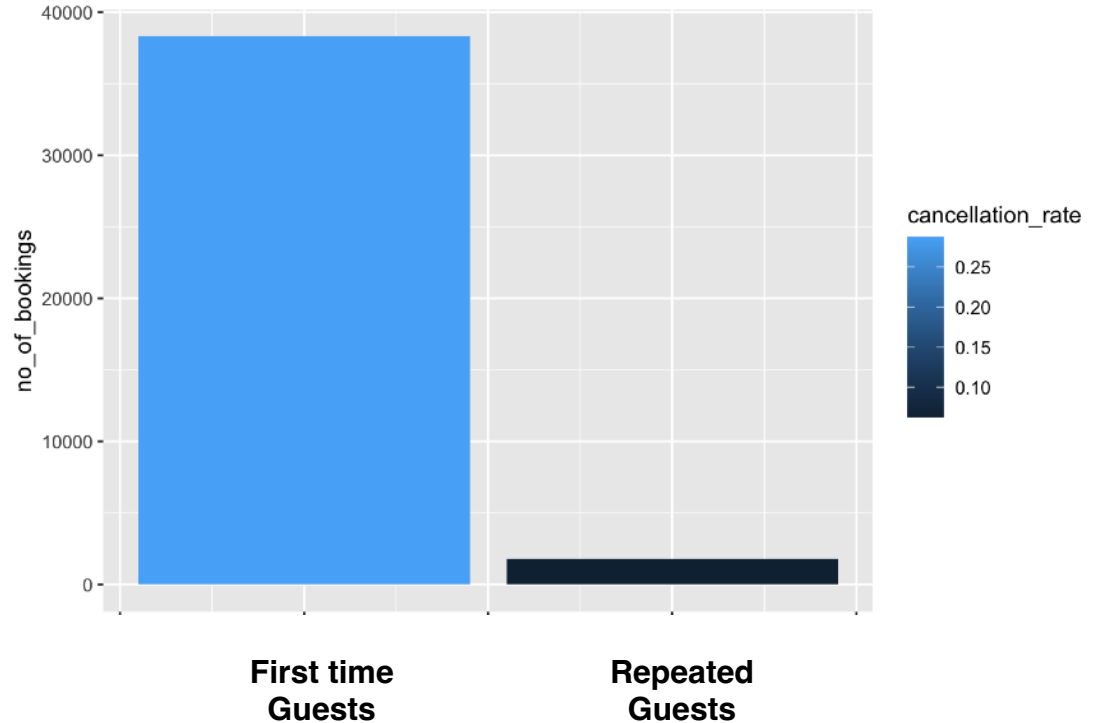- 14% of customers request at least 1 spot.
- 0% cancel

Explore:

- We can explore whether people are renting cars or driving there.
- If they're renting then we can partner with car rental companies.
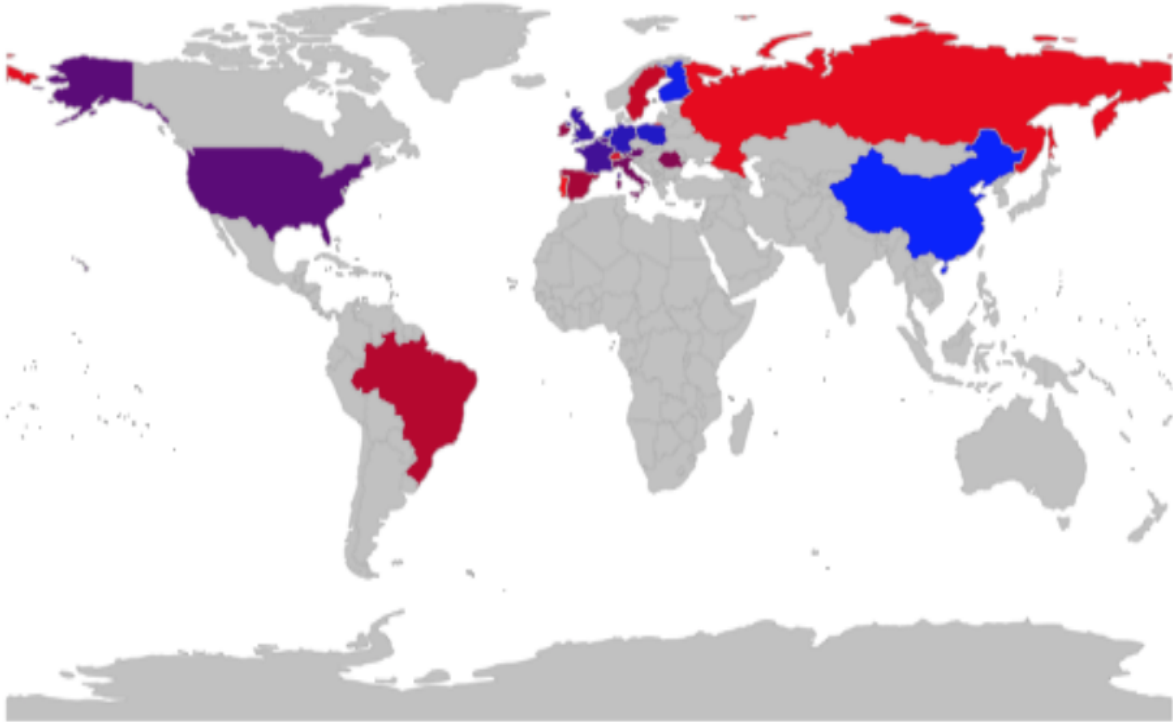
Returning Customers

- 29% of first time guests cancel.
- 6% of repeated guests cancel
- Analyze loyalty program

Where are our customers from?

Cancellations Rate For Top 20 Countries

Country	Bookings	Cancels
World		27%
PRT	40%	42%
GBR	17%	13%
IRL	6%	19%
FRA	4%	13%

Protect Business: Should aim at reducing cancellation rates of Portugal

The Problem

- We did not notice any significant differences in tendencies between Portugal customers and worldwide customers.

Grow Business: Explore Variable Pricing by Country

- Can change price depending on where customer is from:
  1. If customer is from low booking country whose cancellation rates are low we can lower the price of their bookings to promote growth in that country

Protecting Business: Forecasting Profits

- Given the entire data provided, we can use a machine learning model to predict with 95% confidence if customers will cancel their reservation.
- Given this we can feed individual bookings through our model and predict profits.
- This will help managers make financial decisions.

Thank you