Hotel Data Analysis

Business Problem –

In recent years, City and Resort Hotel have seen high cancellation rates. Due to this they are having more ideal rooms than on average and generating less revenue.

Thus, we have to analyze the data and have to find the reasons for cancellation and techniques to reduce the cancellation rate.

Assumption –

1. No unusual occurrences between 2015 to 2017 will have a substantial impact on the data used.

2. The information is still in current and can be used to analyze a hotel's possible plans in an efficient manner.

3. The hotels are not currently using any suggested solutions.
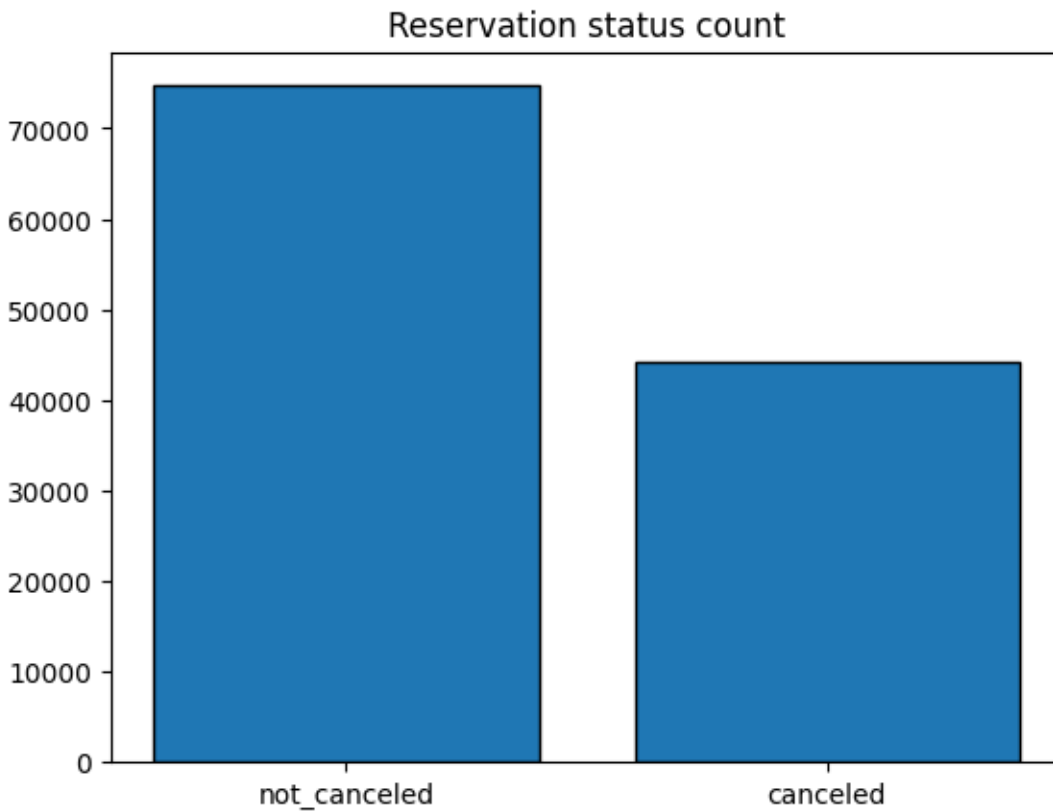4. The biggest factor affecting earning income is booking cancellation.

Research Question –

1. What are the factors affecting the cancellation of hotels?

2. How can we make cancellation better?

Hypothesis –

1. Higher price leads to more cancellation.

2. Majority of clients are coming from offline travel agents for booking of hotels.
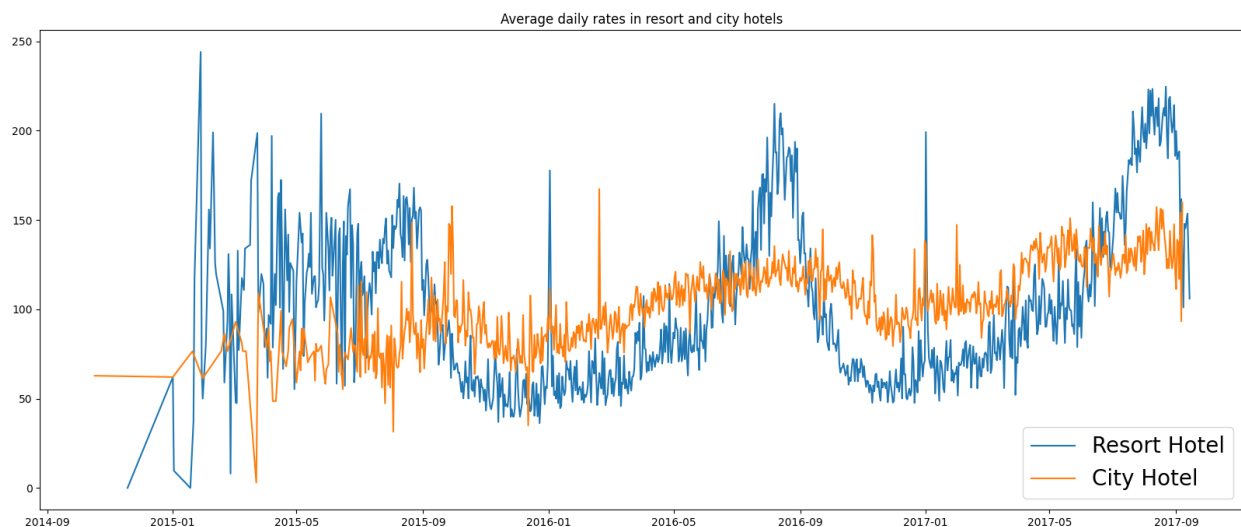
Analysis and Findings –

Reservation status count

From the total data, analyzing cancelled and not cancelled reservation.
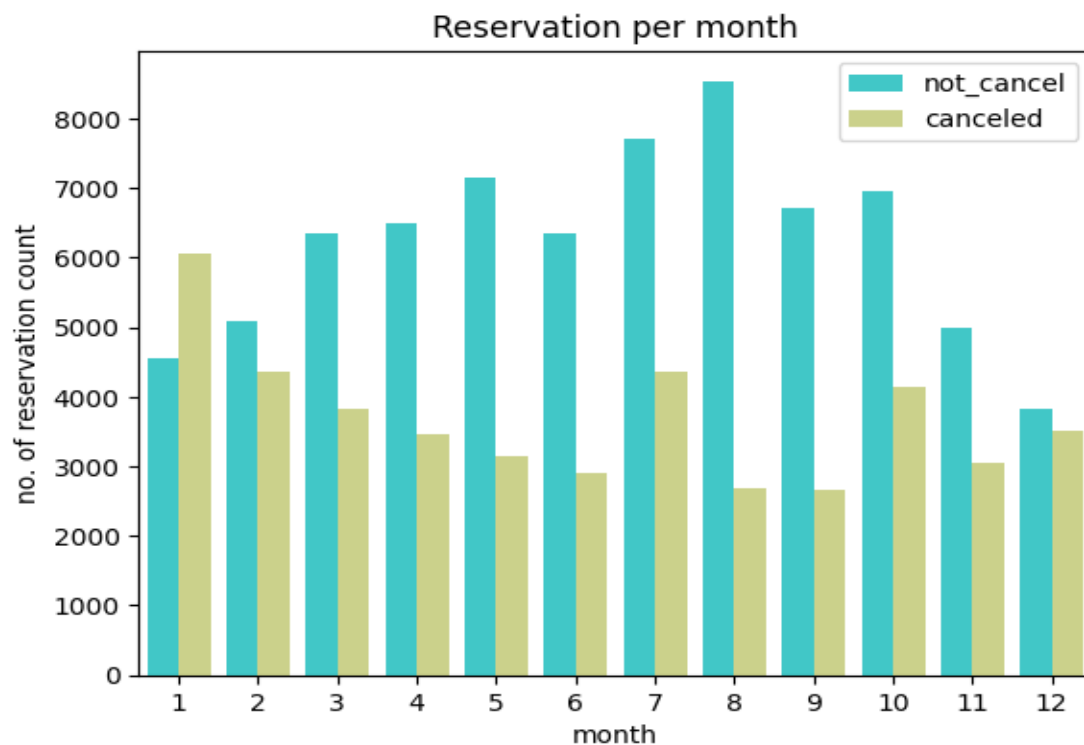
Reservation status in different hotels

Label hotels is having two unique values resort hotel and city hotel. Analyzing reservation status in both hotels. We have found that city hotels are having more bookings then resort hotels. May resort hotels have high pricing.

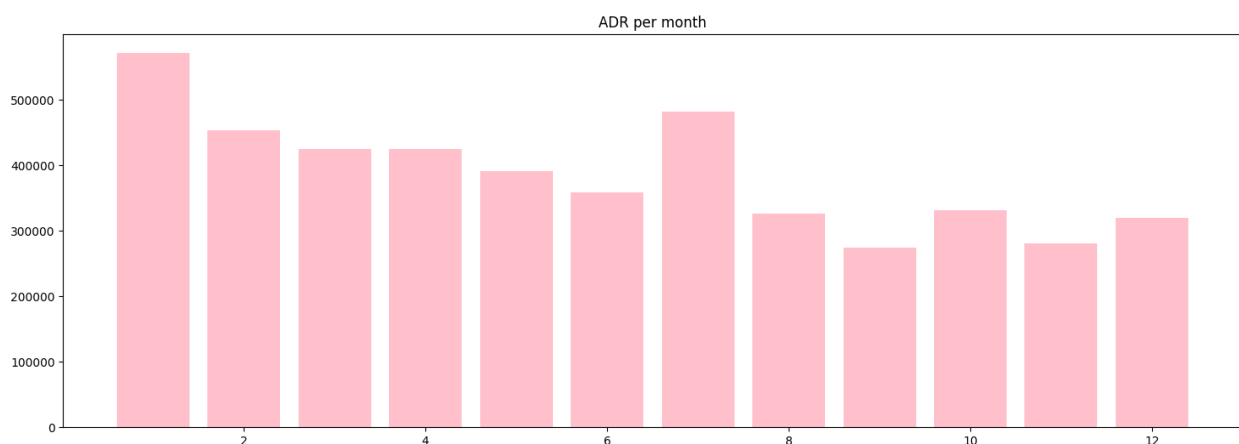Average daily rates in resort and city hotels

Price analysis of city and resort hotels. We have found that prices of resort hotels are much higher than city hotels. Spikes indicates

weekends and holidays where resort hotels have high pricing. Thus, this can be the reason for less booking in resort hotels.
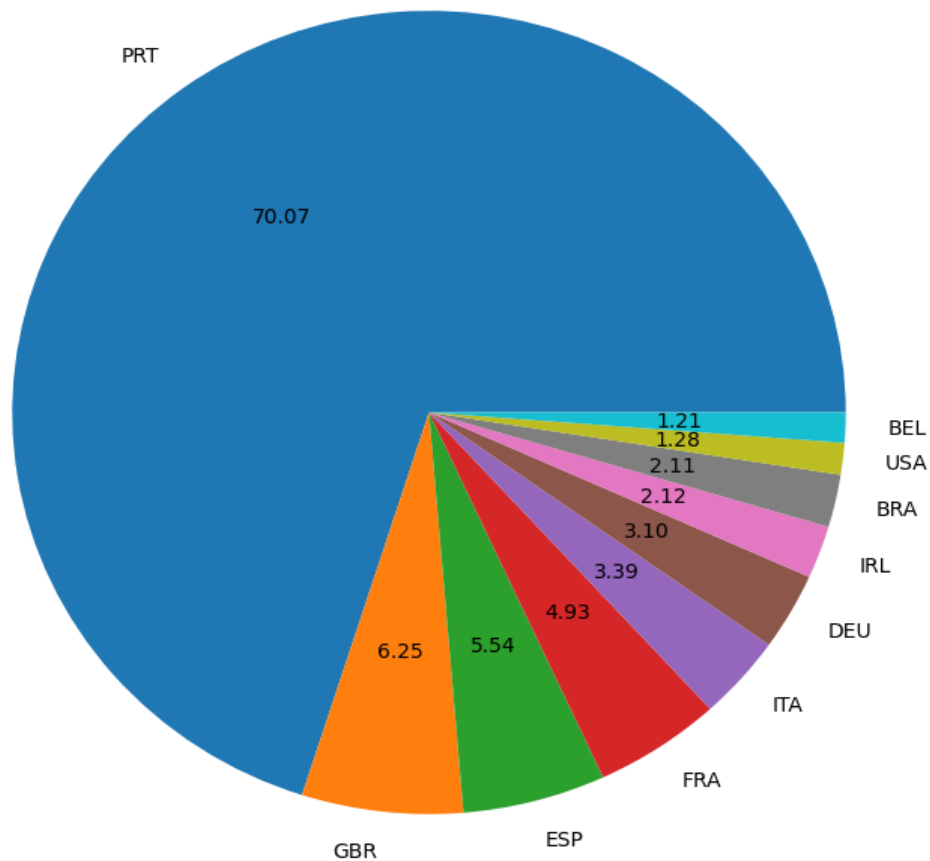

As we can see the greatest number of confirmed reservations are in month of August and the greatest number of cancelled reservations are in month of January.
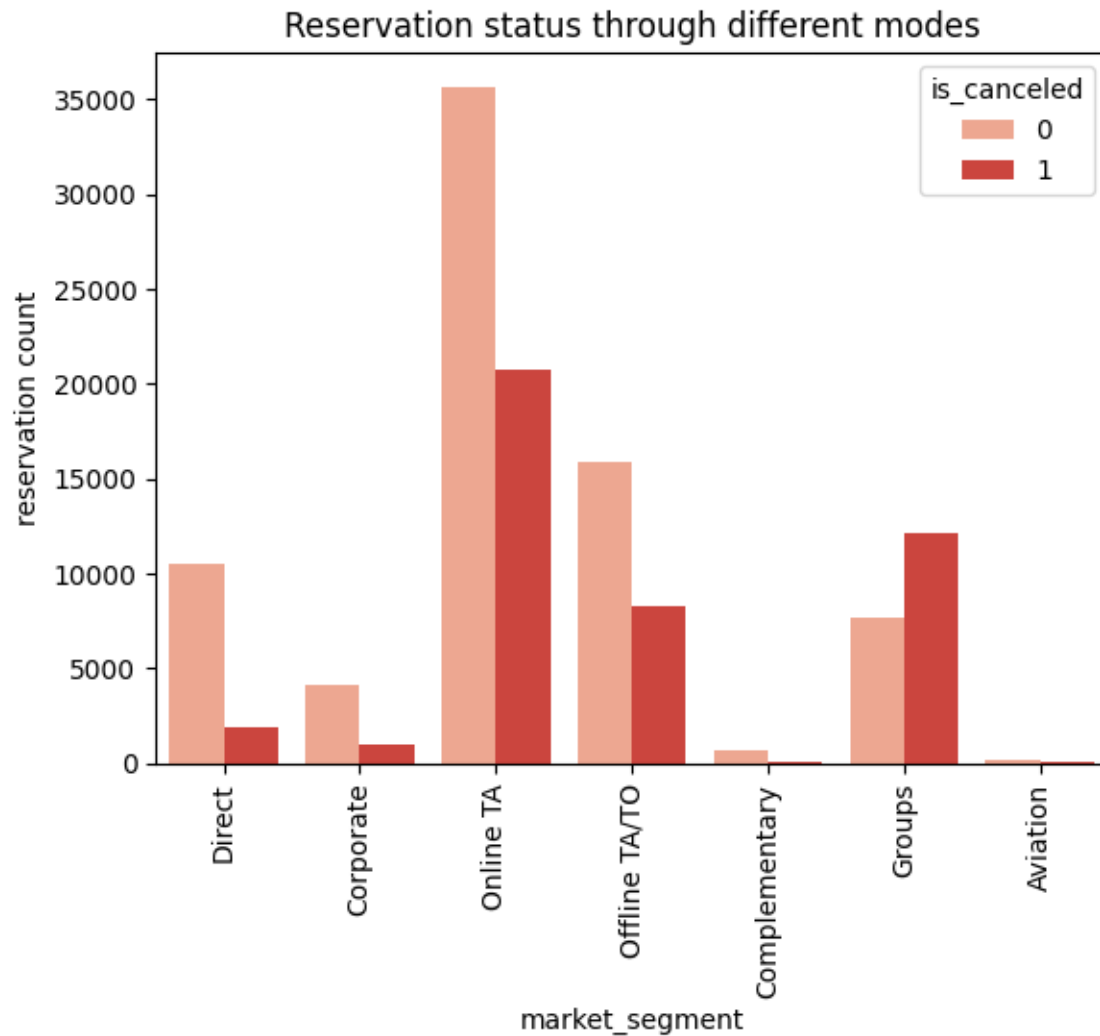

We have analyzed that do pricing affects the cancellation rate? So, the following graph indicates yes, the adr was high in month of January and

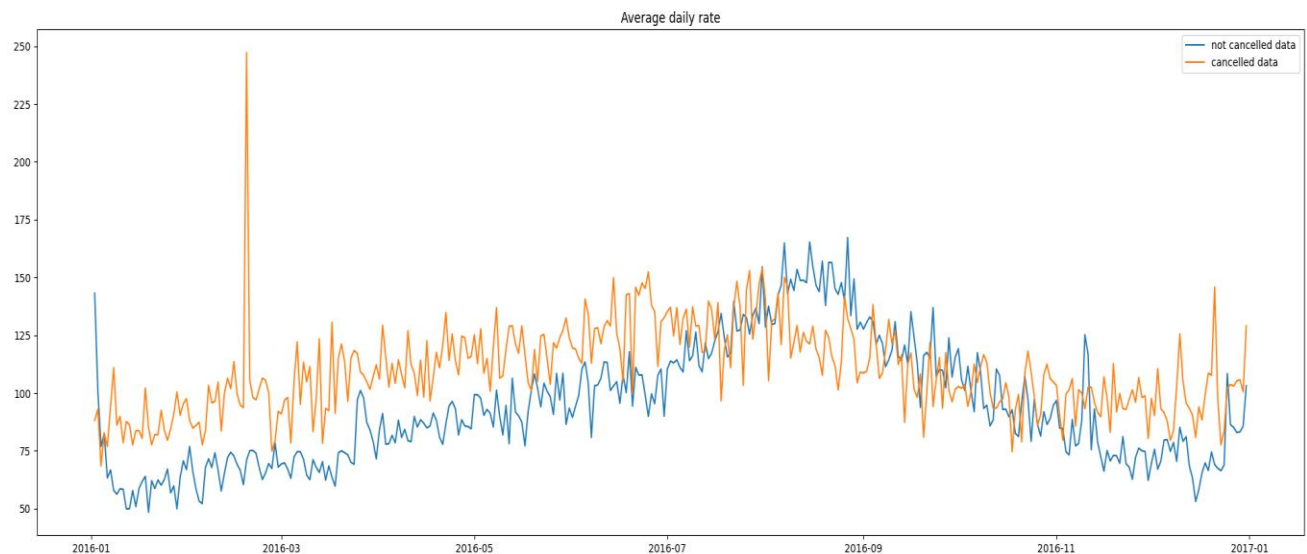so the cancellation is also high in that particular month as we have seen in graph of 'reservation per month'.
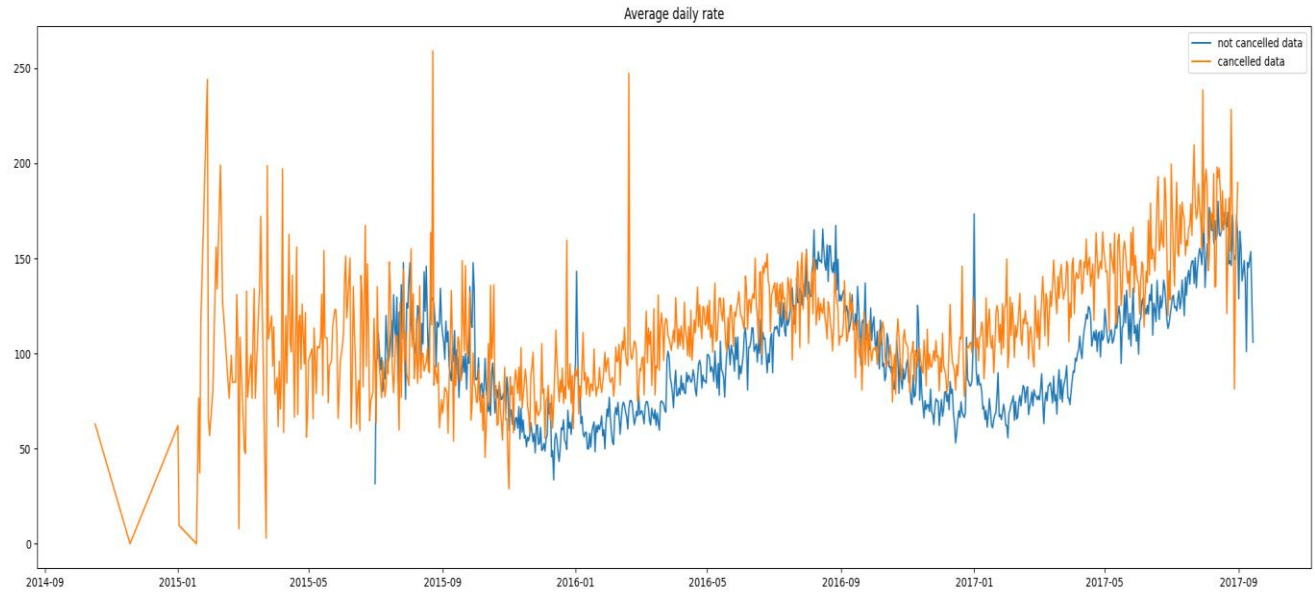
Country vise cancellation rate

We have analyzed the cancellation rates of top 10 countries. PRT i.e., Portugal is having the highest cancellation rates than other countries.

Reservation status through different modes

In hypothesis we have taken that more customers come from offline travel agent but according to this graph that hypothesis was wrong and a greater number of customers come from online mode.

Average daily rate

Average daily rate

The only difference between these two graphs is that 1ˢᵗ graph analyzed whole adr and 2ⁿᵈ graph is having adr from 2016 to 2017 only. As we can see in the graph reservation rates are cancelled more when average daily rate(adr) is higher and vice-versa.

Suggestions –

1.As we have seen resort hotels were having more price than city hotels thus, resort hotels can provide discounts and offers to customers to lower the cancellation and increase the booking.

2.The cancellation where high in month of January so, the hotels can start marketing and advertisement with discounts and offers.

3.Also Portugal country can improve their services in the hotels and can lower the price for more bookings.

4.Cancellation increases as price increases. Thus, hotels can work with their pricing strategies to lower the cancellation and can also try to lower the rates as per the locations.