

Hotel Reservations

Business Problem -

In recent years, City Hotels and Resort Hotels have experienced high cancellation rates, leading to reduced revenue and low room occupancy. As a result, reducing cancellation rates has become a primary goal to improve revenue generation.

Description -

This report focuses on the detailed analysis of hotel booking cancellations, exploring key metrics such as cancellation rates, frequency of cancellations, and patterns that contribute to the overall issue. The aim is to identify trends in cancellations, examine the relationship between pricing and cancellation occurrences, and uncover location-specific factors that may impact cancellations. By analyzing these aspects, we can provide actionable insights to help reduce cancellation rates and improve revenue.

Assumptions -

1. No unusual occurrences between 2015 and 2017 will have a substantial impact on the data used.
2. The information is still current and can be used to analyze a hotel's possible plans in an efficient manner.
3. There are no unanticipated negatives to the hotel employing any advised technique.
4. The hotels are not currently using any of the suggested solutions.
5. The biggest factor affecting the effectiveness of earning income is booking cancellations.
6. Cancellations results in vacant rooms for the booked length of time.
7. Clients make hotel reservations the same year they make cancellations.

Research Questions -

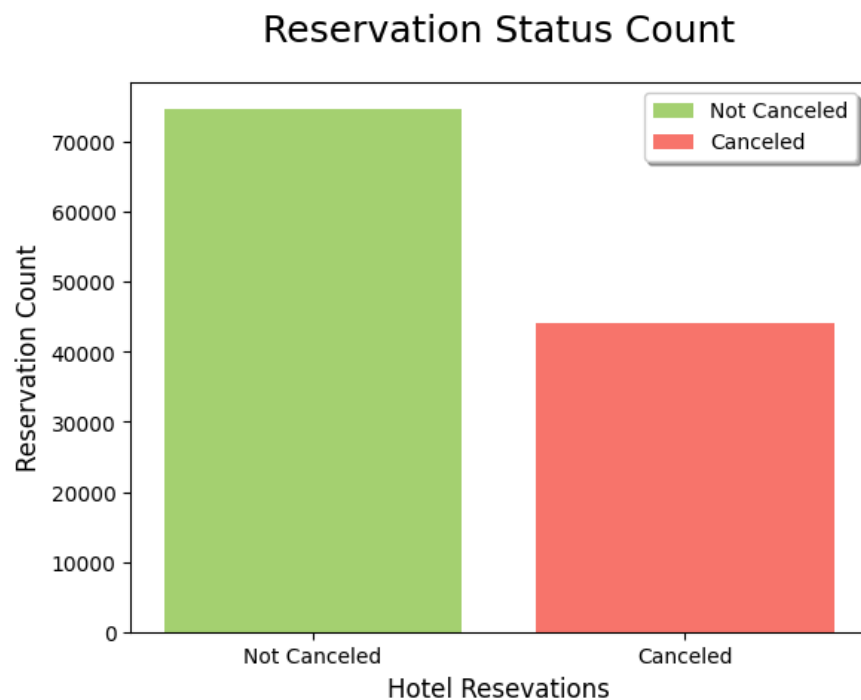
1. What are the variables that affect hotel reservation cancellations ?
2. How can we make hotel reservations cancellations better ?
3. How will hotels be assisted in making pricing and promotional decisions ?

Hypothesis -

1. More cancellations occur when prices are higher.
2. Most clients are coming from offline travel agents to make their reservations.
3. Hotel rates are higher on weekend.

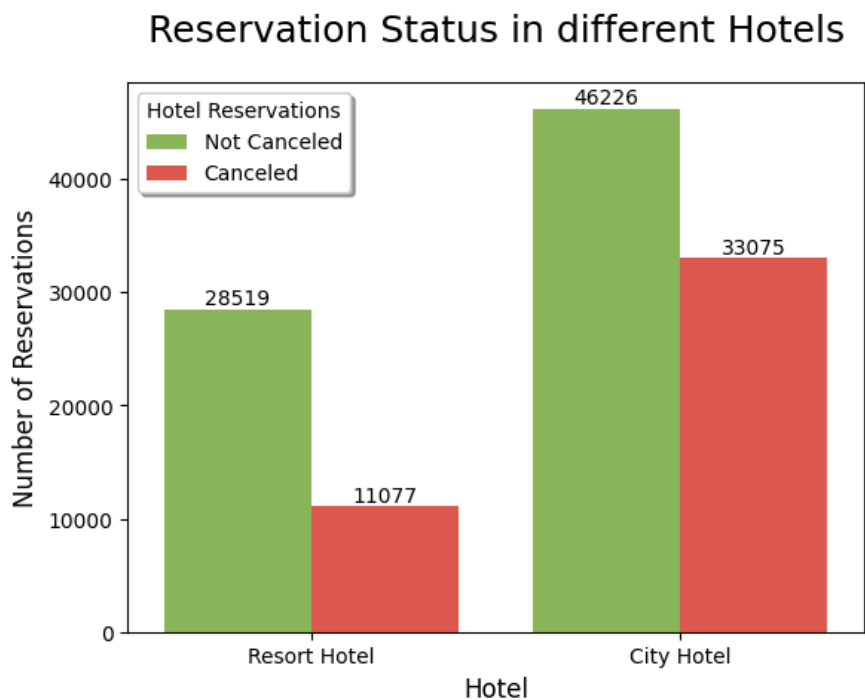
Analysis and Findings –

1.



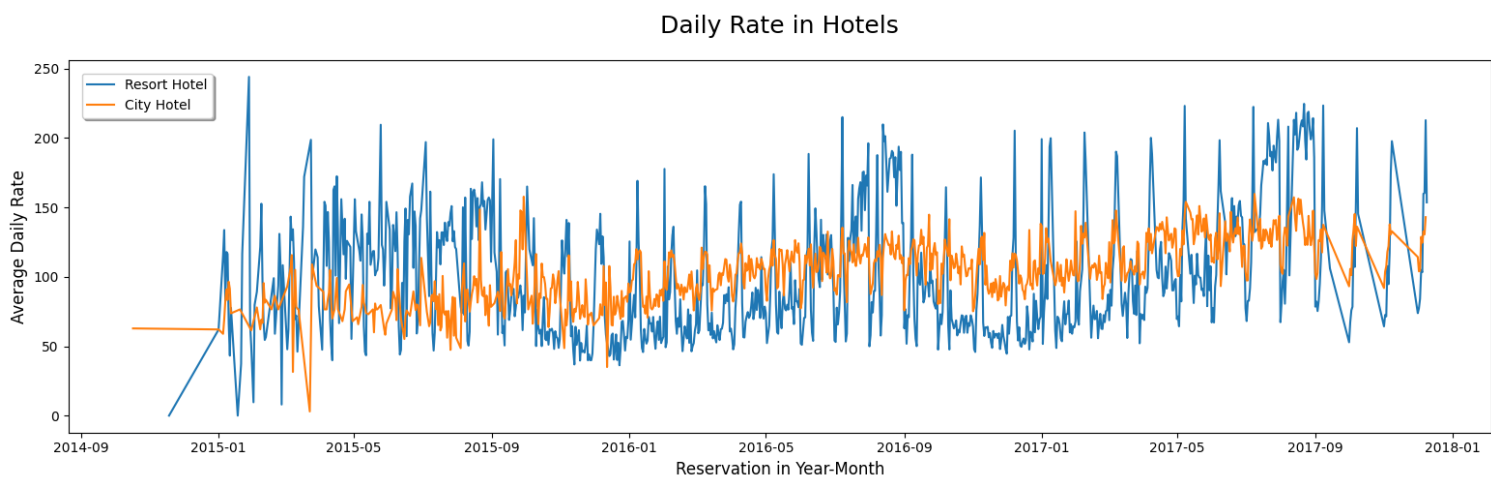
The bar graph shows the percentage of reservations that are canceled and those that are not. It is clear that there are still a significant number of reservations that have not been canceled. There are still 37% of clients who canceled their reservation, which has a significant impact on the hotels' earnings.

2.



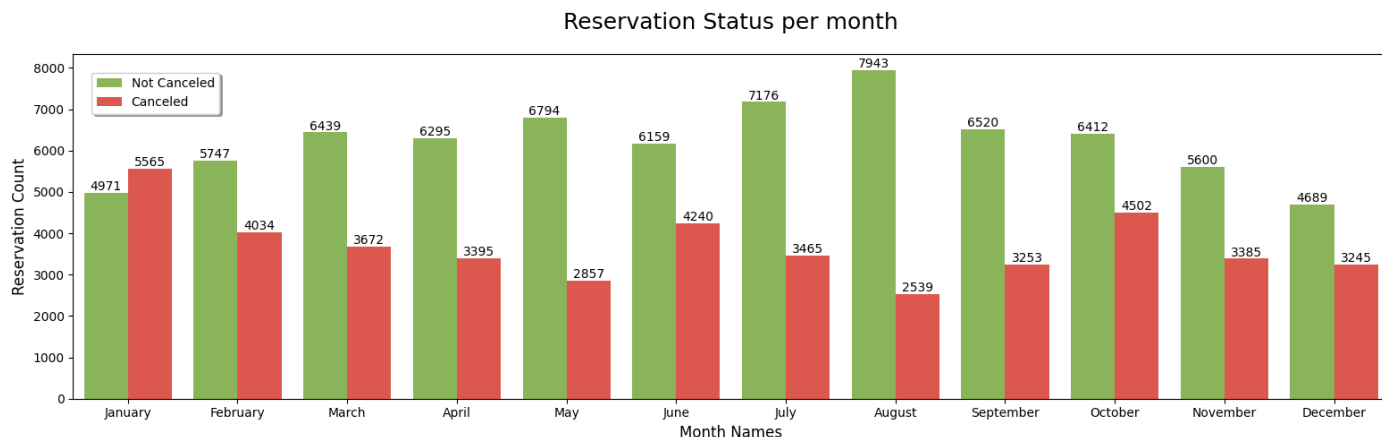
City hotels receive more bookings compared to resort hotels, potentially due to the higher cost associated with resort accommodations.

3.



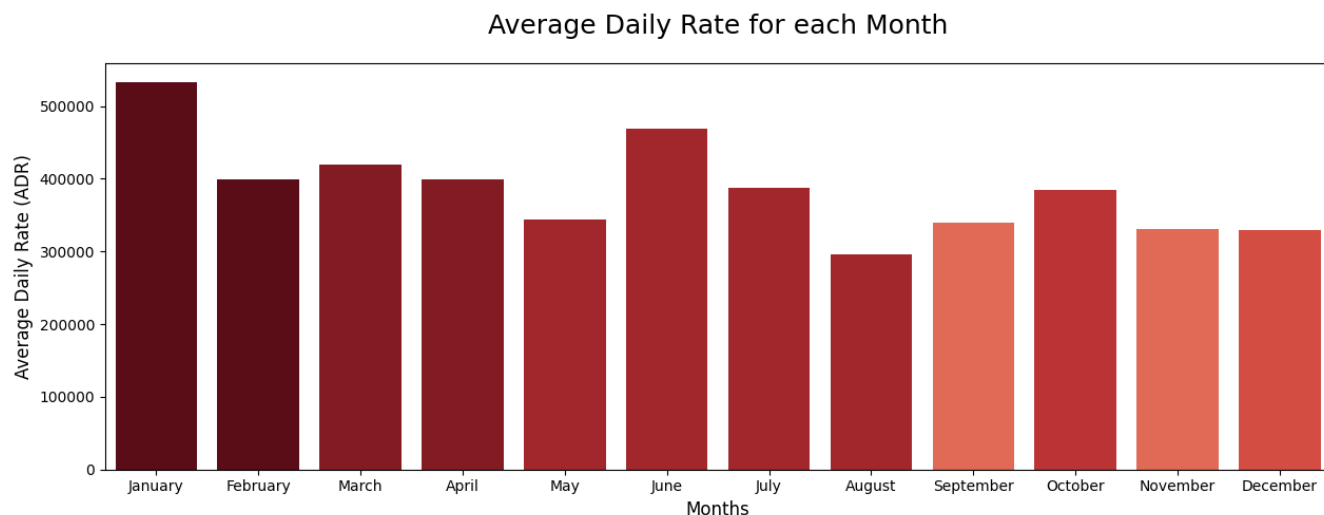
The line graph above indicates that on certain days, the average daily rate for city hotels is lower than that of resort hotels, while on other days, it is even lower. Notably, weekends and holidays may lead to an increase in resort hotel rates.

4.



We have developed the grouped bar graph to analyse the months with the highest and lowest reservation levels according to reservation status. As can be seen, the number of confirmed reservations is largest in the month of August. Whereas January is the month with the most canceled reservations.

5.

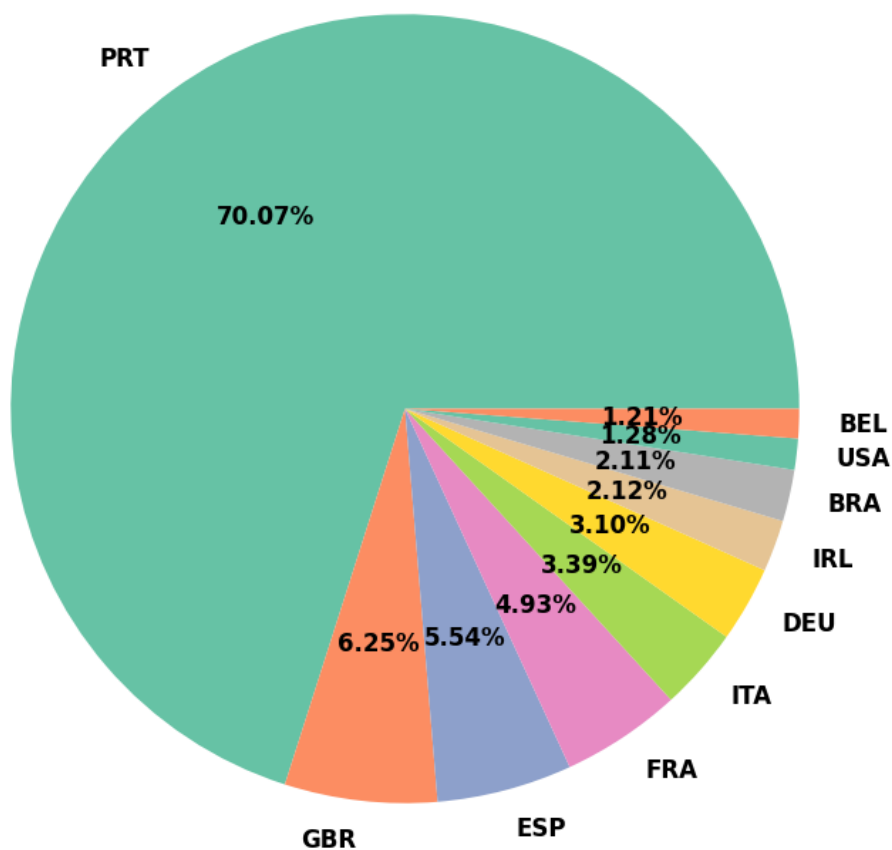


This bar graph demonstrates that cancellations are most common when prices are high and are least common when they are low. Therefore, the cost of the accommodation is solely responsible for the cancellation.

6.

An analysis of the data reveals that Portugal has the highest number of reservation cancellations, positioning it as the leading country in terms of cancellations.

Top 10 countries with reservation canceled



7.

In analyzing the source of client reservations, we examined whether bookings were made through Direct channels, Groups, or via Online and Offline Travel Agents. The results show that approximately 47% of clients book through Online Travel Agents, 20% through Offline Travel Agents, and 16% through Groups. Notably, only 10% of clients make direct reservations by visiting the hotels.

Reservation Percentage from all Market Segments

market_segment	
Online TA	47.437698
Offline TA/TO	20.319268
Groups	16.658116
Direct	10.469566
Corporate	4.298679
Complementary	0.617341
Aviation	0.199332

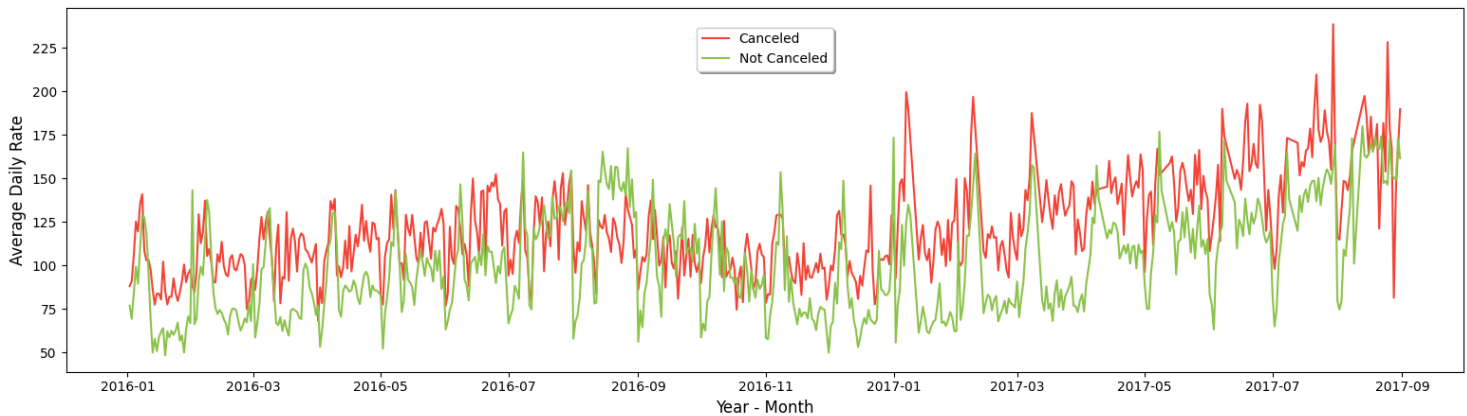
Regarding the percentage of canceled reservations, we found that approximately 46% of all reservations from clients who booked through Online Travel Agents were canceled.

Canceled Reservation Percentage from all Market Segments

market_segment	
Online TA	46.969560
Groups	27.398532
Offline TA/TO	18.746603
Direct	4.348614
Corporate	2.215075
Complementary	0.203841
Aviation	0.117775

8.

Average Daily Rate



From above graph we can say that hotel reservations are canceled when the average daily rate is high. It clearly proves all the above analysis, that the higher price leads to higher cancellation.

Suggestions -

1. Pricing Strategy Optimization:

As cancellation rates tend to rise with higher prices, hotels should consider refining their pricing strategies. Adjusting rates based on the specific property location can lead to more competitive pricing. Additionally, offering targeted discounts may help retain bookings and reduce cancellations.

2. Addressing Higher Cancellation Rates in Resort Hotels:

The cancellation rate in resort hotels is notably higher compared to city hotels. To address this, resort hotels could offer attractive discounts on room rates during weekends or holidays, which may help to increase occupancy and lower cancellations.

3. January Marketing Campaigns:

Hotels should consider launching marketing campaigns in January, considering budgets, to boost revenue during a period typically associated with higher cancellation rates.

4. Improving Service Quality:

Enhancing the quality of hotels and services, particularly in regions such as Portugal, can be a key strategy to lower cancellation rates and improve overall customer satisfaction.