

# **Report on Data Analyst Project:**

## **Business Problem**

In recent years, City Hotel and Resort Hotel have seen high cancellation rates. Each hotel is now dealing with a number of issues as a result, including fewer revenues and less-than-ideal hotel room use. Consequently, lowering cancellation rates is both hotels' primary goal to increase their efficiency in generating revenue, and for us to offer business advice to address their problem.

The analysis of hotel booking cancellations, as well as other factors that have no bearing on their business and yearly revenue generation, is the main topic of this report.



## **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 analyse a hotel's possible plans efficiently.
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 result in vacant room 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

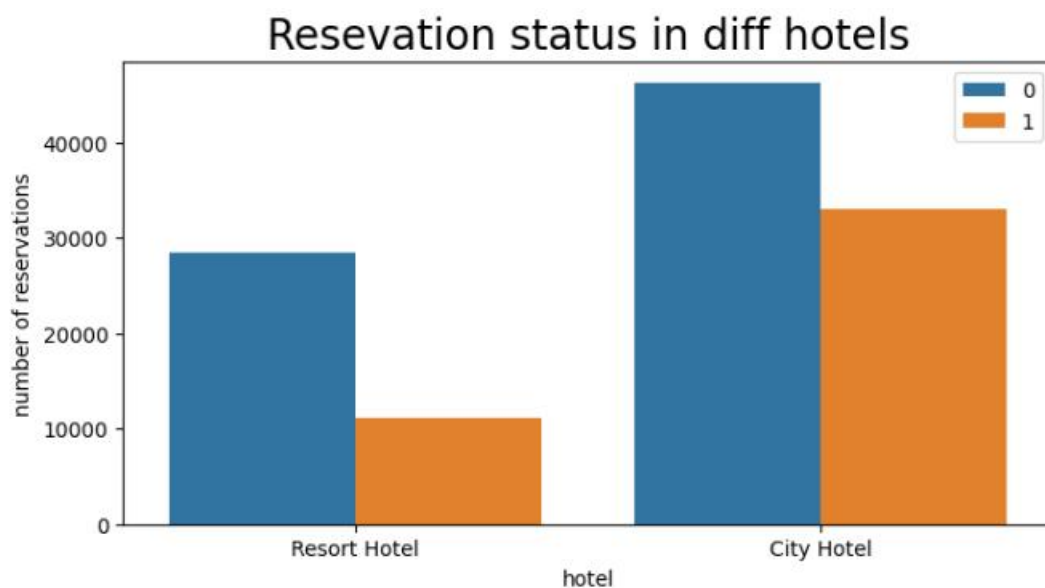
## Hypothesis

1. More cancellations occur when prices are higher.
2. When there is a longer waiting list, customers tend to cancel more frequently.
3. The majority of clients are coming from offline travel agents to make their reservations.

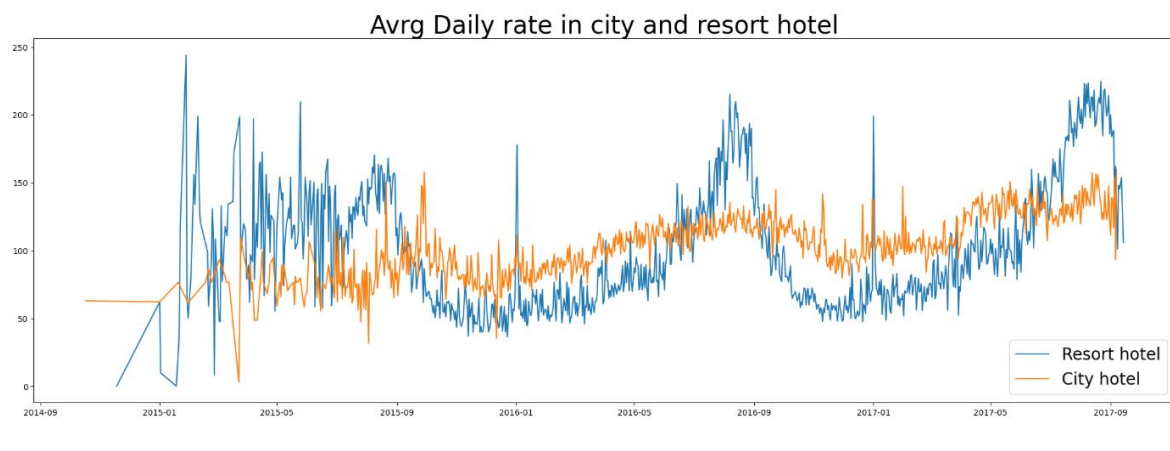
## Analysis and Findings



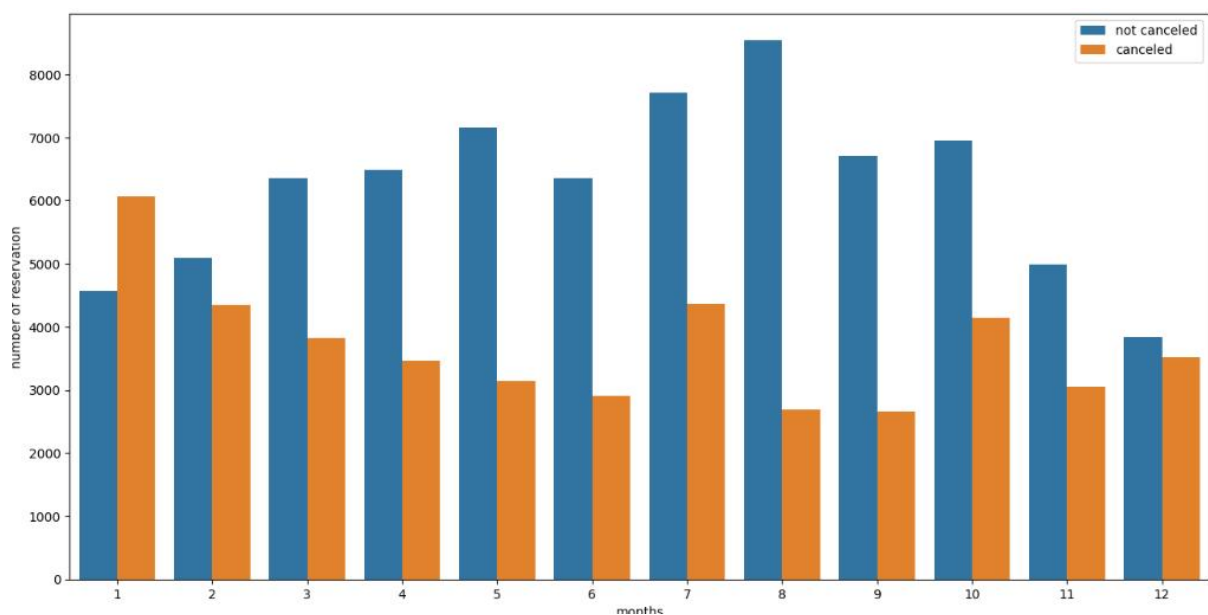
The accompanying bar graph shows the percentage of reservations that are cancelled and those that are not. It is obvious that there are still a significant number of reservations that have not been cancelled. There are still 37% of clients who cancelled their reservations, which has a significant impact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



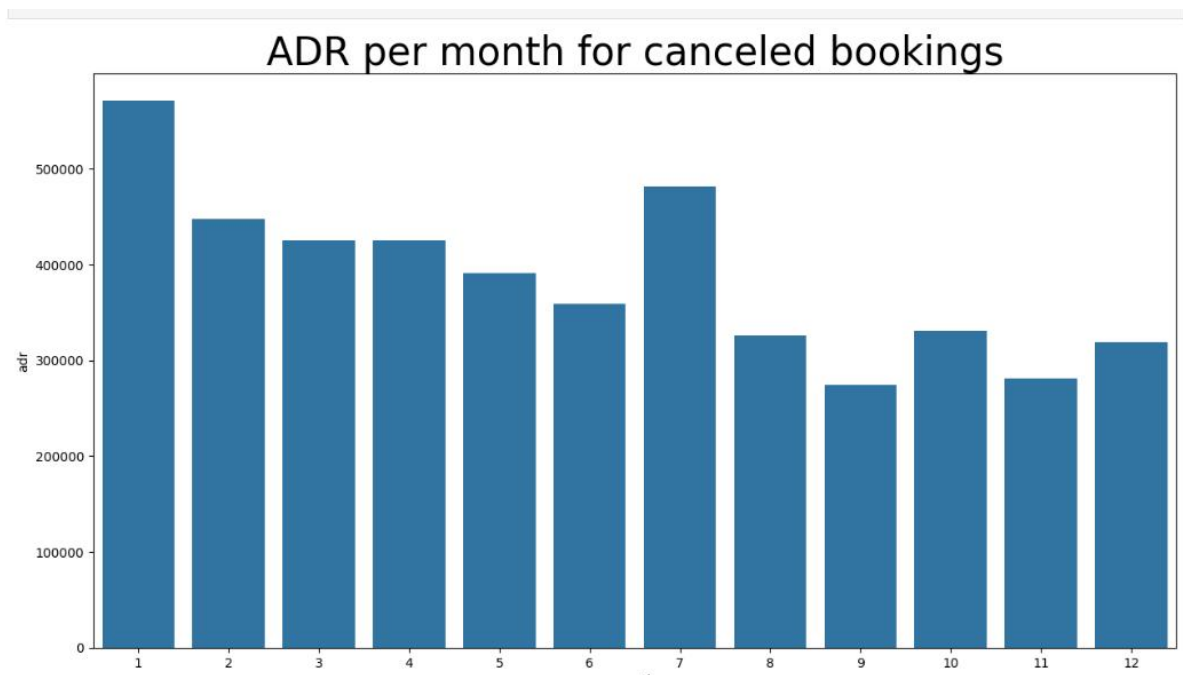
In comparison to resort hotels, City hotels have more bookings. Resort hotels may be more expensive than those in cities.



The line graph above shows that, on certain days, the average daily rate for a city hotel is less than that of a resort hotel, and on other days, it is even less. It goes without saying that weekends and holidays may see a rise in resort hotel rates.

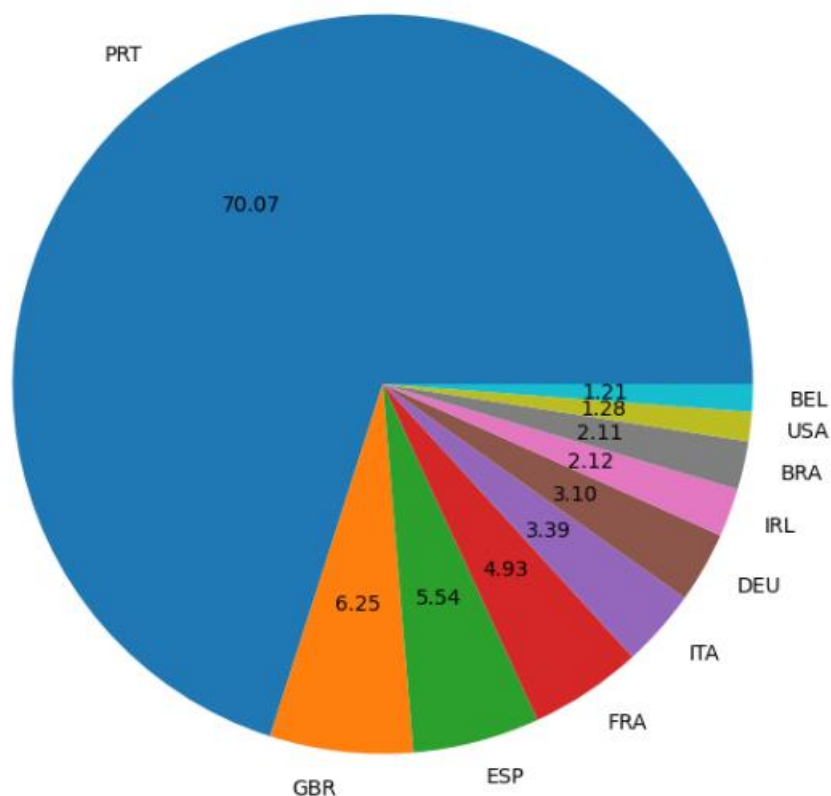


We have developed the grouped bar graph to analyse the months with the highest and lowest reservation levels according to reservation status. As can be seen, both the number of confirmed reservations and the number of cancelled reservations are largest in August. Whereas January is the month with the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

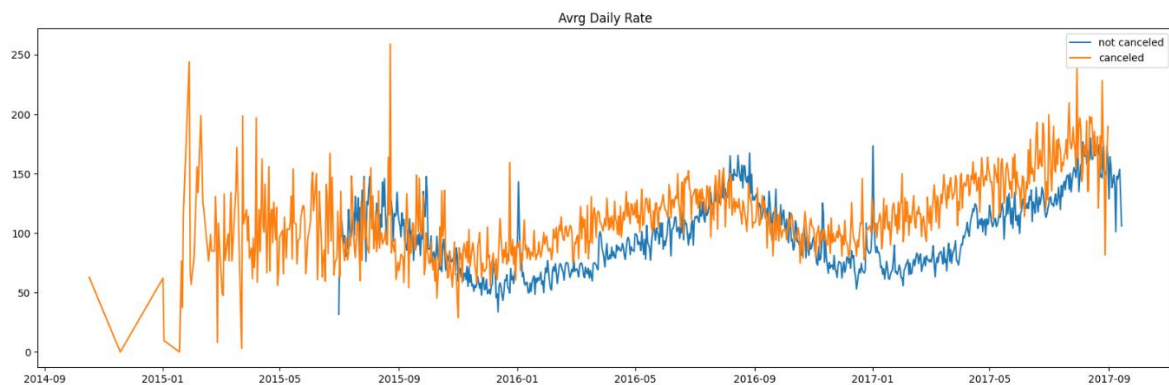


This bar graph demonstrates that cancellations are most common when prices are greatest and are least common when they are lowest. Therefore, the cost of the accommodation is solely responsible for the cancellation. Now, let's see which country has the highest number of reservations cancelled. The top country is Portugal with the highest number of cancellations.

Top 10 countries with reservation canceled



Let's check the area where guests are visiting the hotels and making reservations. Is it coming from Direct or Groups, Online or Offline Travel Agents? Around 46% of the clients come from online travel agencies, whereas 27% come from groups. Only 4% of clients book hotels directly by visiting them and making reservations.



As seen in the graph, reservations are cancelled when the average daily rate is higher than when it is not cancelled. It clearly proves all the above analysis, that the higher price leads to higher cancellation.

## Suggestions

1. Cancellation rates rise as the price does. In order to prevent cancellations of reservations, hotels could work on their pricing strategies and try to lower rates for specific hotels based on location. They can also provide some discounts to the consumers.
2. The ratio of cancellations and non-cancellations of the resort hotel is higher in the resort hotel than in the city hotels. So the hotels should provide a reasonable discount on the room prices on weekends or on holidays.
3. In January, hotels can start campaigns or marketing with a reasonable amount to increase their revenue, as cancellations are the highest in this month.
4. They can also increase the quality of their hotels and their services, mainly in Portugal, to reduce the cancellation rate.