

Hotel Booking Analysis

- Create a Problem Statement
- Identify the Data to Analyze
- Explore and Clean the Data
- Analyze the Data to Get Useful Insights
- Present the Data in terms of Reports or Dashboards Using Visualization

Dataset Resource

Kaggle Resource: <https://www.kaggle.com/datasets/mojtaba142/hotel-booking>

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 in order to increase their efficiency in generating revenue, and for us to offer thorough business advice to address this problem.

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

Assumptions

1. No unusual occurrences between 2015 and 2017 will have a substantial impact on the data used.
2. The info 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 result in vacant rooms for the booked length of time.

7. Clients make hotel reservations the same year they make cancellations.

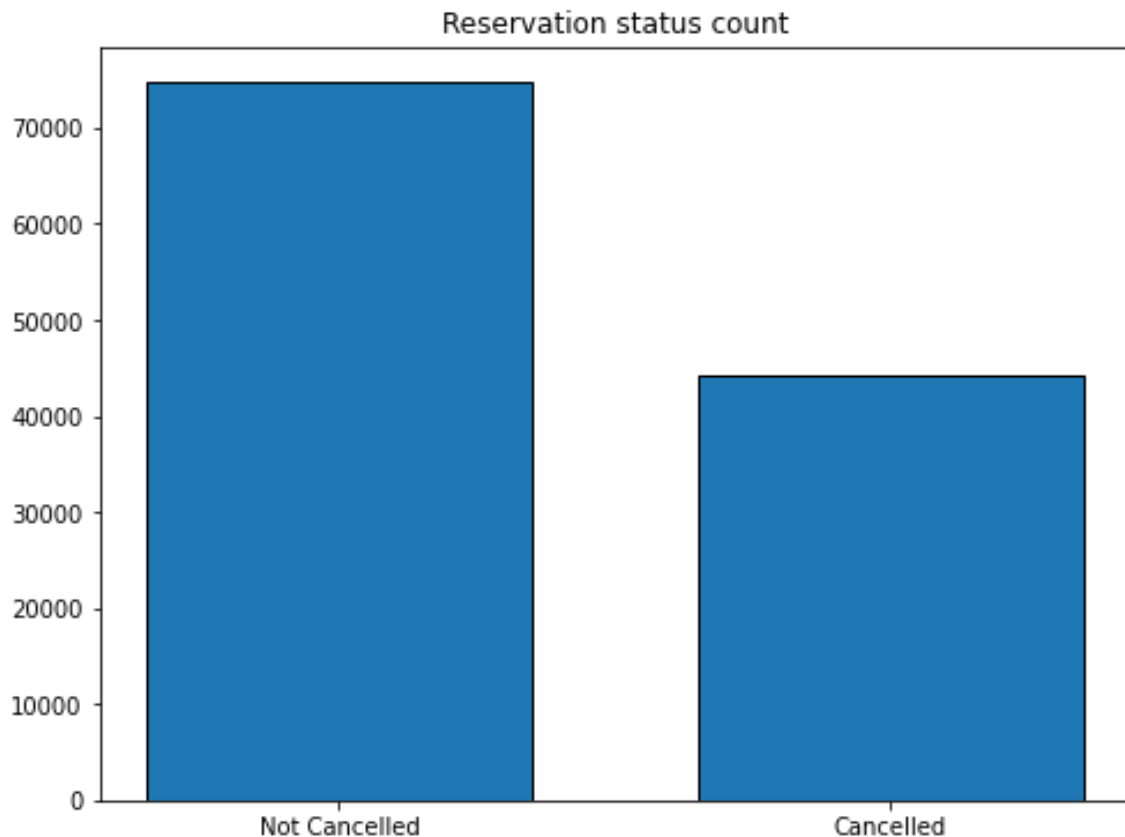
Research Question

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?

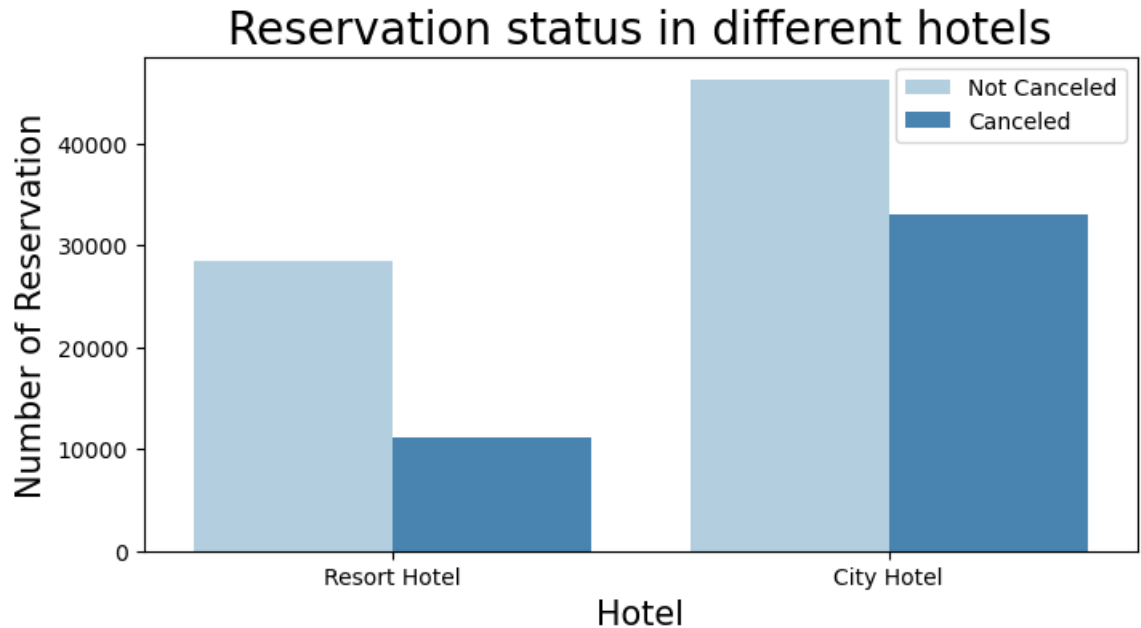
Hypothesis

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

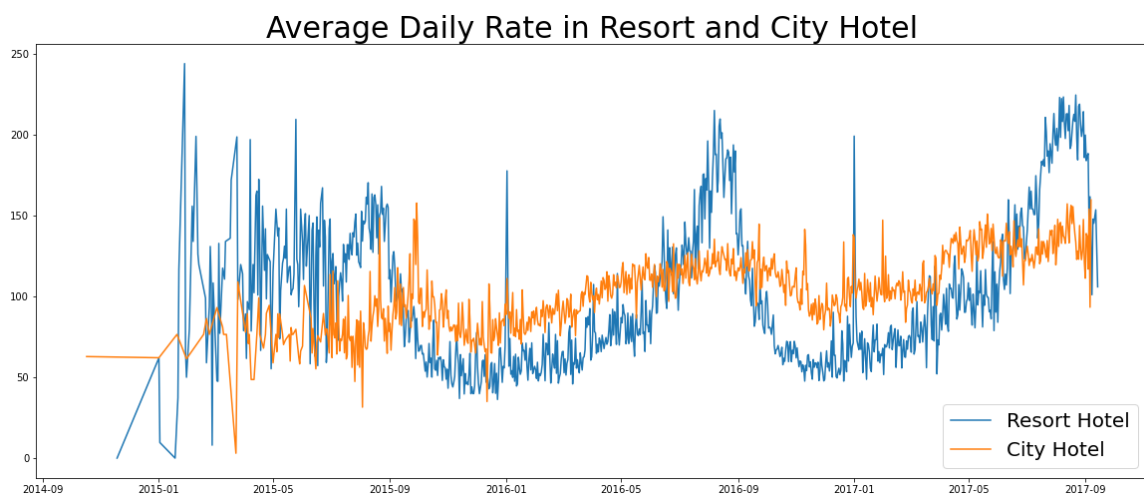
Findings & Analysis



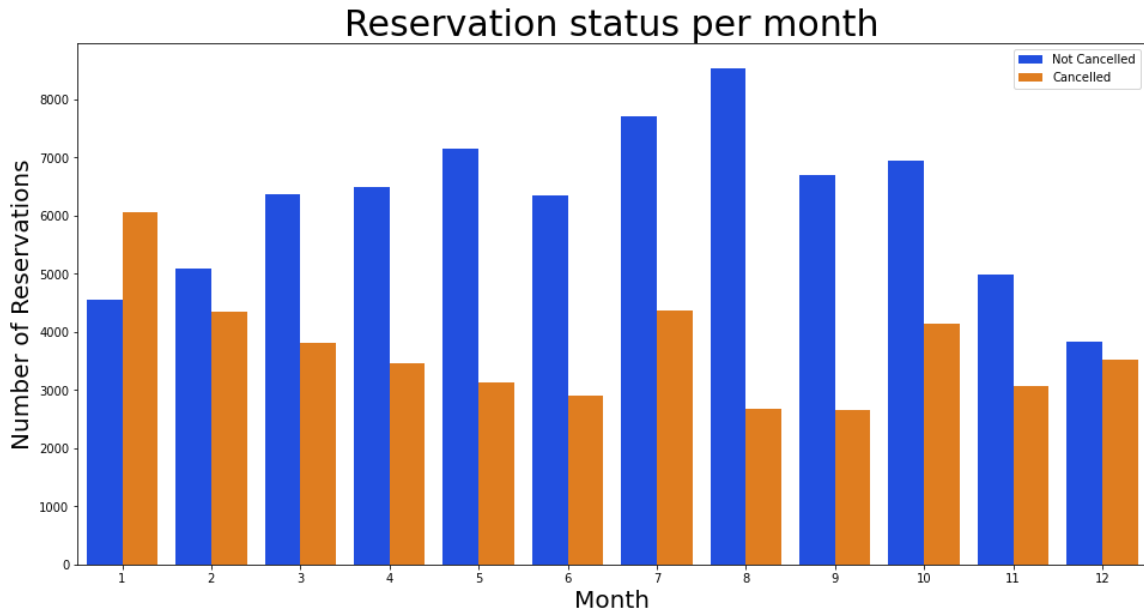
The bar chart represents the percentage of reservations which are canceled and those that are not. Obviously, there is a significant number of reservations that have not been canceled, about 37% of clients canceled their reservation, which has great impact on hotels' profit.



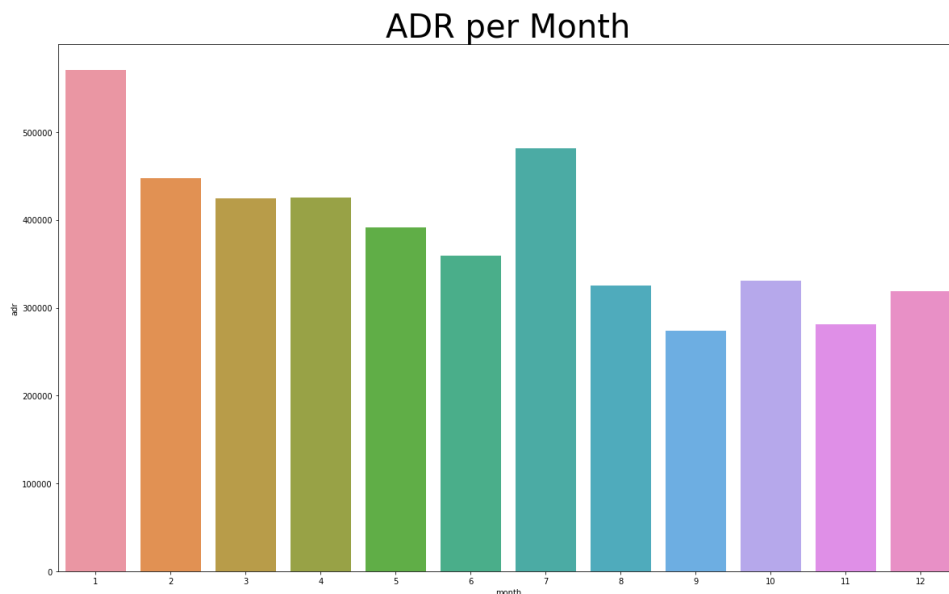
By comparing two different types of hotels, city hotels have higher booking requires, which is possible that resort hotels are more expensive choices.



The line graph above represents the average daily rate for a city hotel is less than that of a resort hotel for certain days. Otherwise, it is even less. It goes without saying that weekends and holidays may show a rise in resort type.

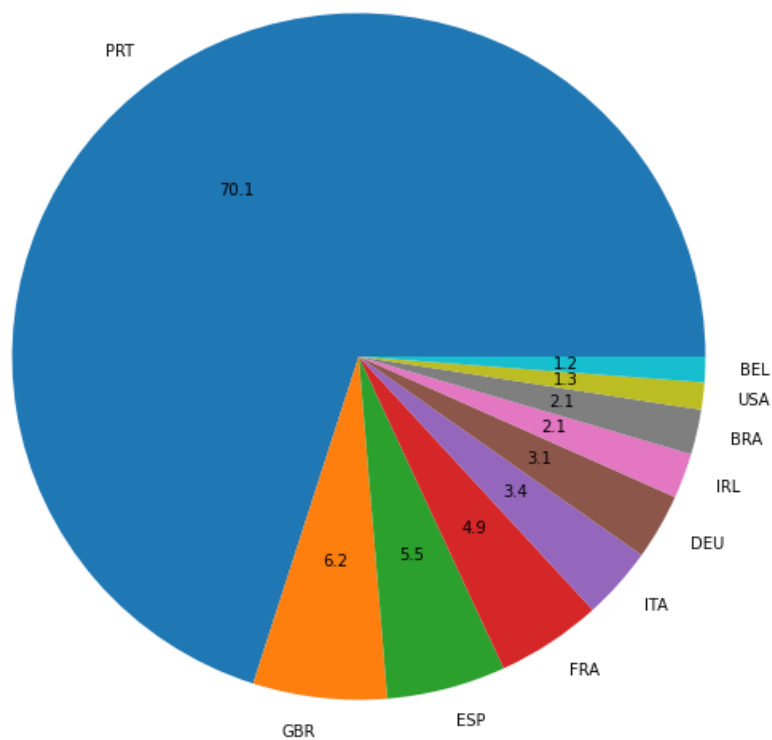


The grouped bar graph analyzes the months with the highest and lowest reservation levels according to reservation status. It is shown that both the number of confirmed reservations and the number of canceled reservations is largest in the month of August. However, January holds the most canceled reservations.

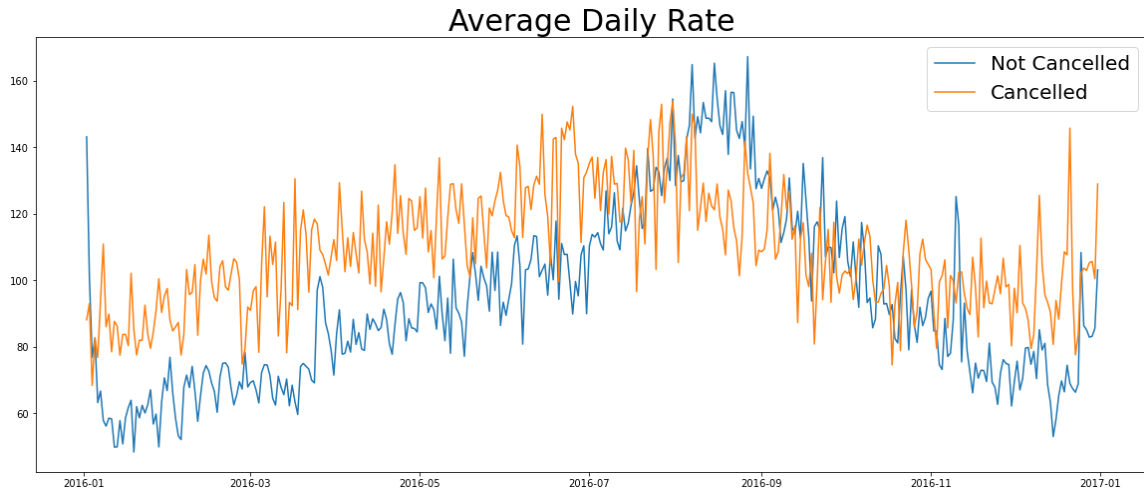


The above bar graph describes that cancellations are most common when prices are higher and are least common when they are lowest. Thus, the cost of the accommodations is importantly responsible for the cancellation.

The below pie chart shows that Portugal is the top country with the highest number of cancellations.



As for the area from where customers visited the hotels and made reservations. About 46% of the clients come from online travel agencies, whereas 27% come from groups. Only 4% of clients book hotels directly by visiting them for making reservations.



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

Suggestions

1. Cancellations rates rise as the price does. To prevent cancellations of reservations, hotels may work on their pricing strategies and try to lower the rates for specific hotels based on locations. Providing some discounts to consumers could be a possible idea.
2. As the ratio of the cancellation and not cancellation of the resort hotel is higher in the resort hotels than the city hotels. Therefore, the hotels could offer a reasonable discount or promotions focus on room price during weekends or on holidays.
3. In the month of January, hotels can provide campaigns or marketing to increase their revenue as the cancellations is the highest in this month.
4. Hotel companies could also increase the quality of their hotel and their services mainly for those in Portugal.