

# DATA-DRIVEN INSIGHTS: HOTEL SECTOR ANALYSIS

## Problem Statement

High Cancellation Rates - High cancellation rates in the hotel sector pose a significant challenge to revenue management and customer satisfaction. This project aims to analyze factors contributing to cancellations and propose strategies for reduction.



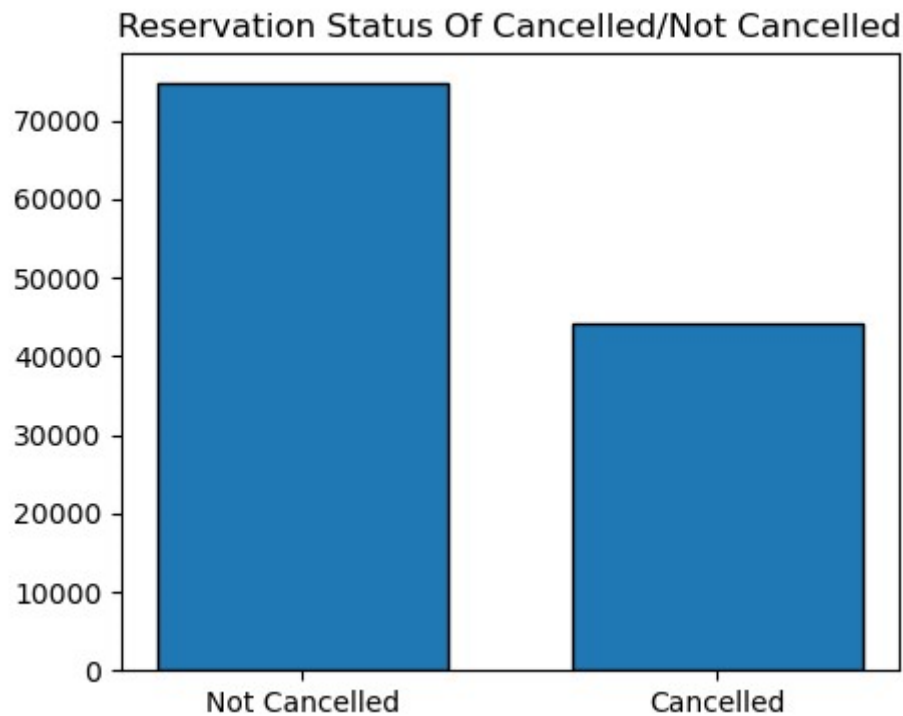
# Assumptions

1. Between 2015 and 2017, no significant anomalies are expected to exert a noteworthy influence on the utilized dataset.
2. The data remains up-to-date and is applicable for the efficient evaluation of a hotel's potential strategies.
3. There are no unforeseen drawbacks to the hotel's adoption of any recommended strategy.
4. Customers tend to book hotel reservations and subsequently cancel them within the same calendar year.
5. The most significant determinant influencing revenue generation efficiency is the occurrence of booking cancellations.

# Primary Study Questions

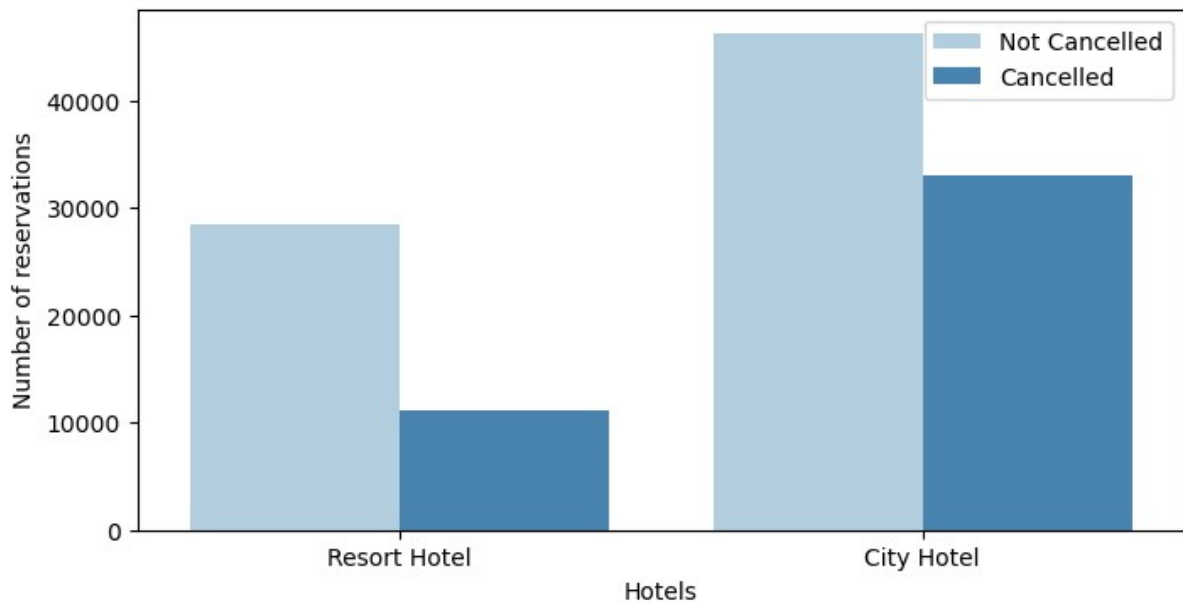
1. What are the variables that affect the hotel reservation cancellations?
2. How can we enhance the efficiency of hotel reservation cancellations?

# Data Exploration and Conclusive Insights



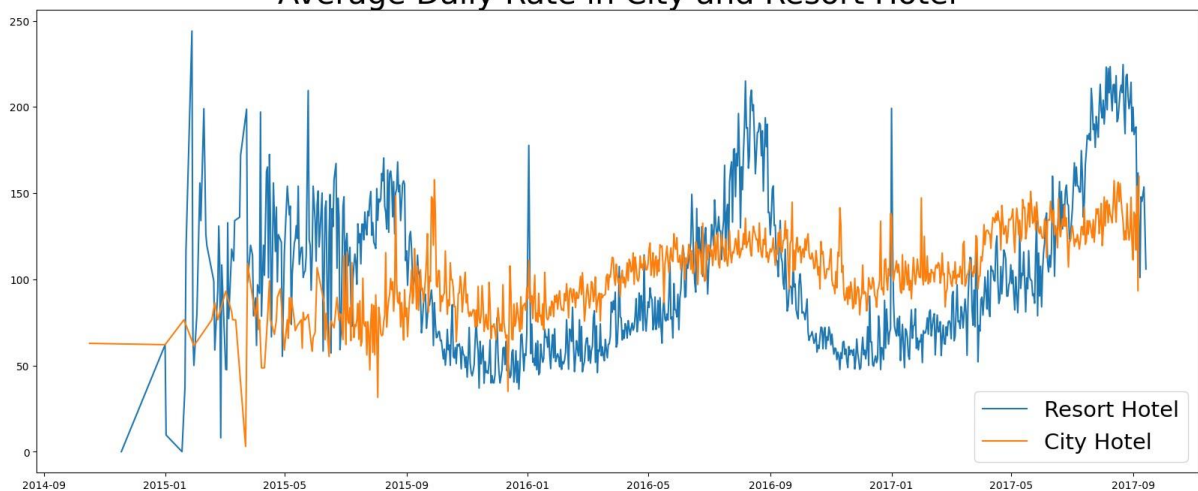
The graph above displays both cancelled and not-cancelled bookings. It is evident that the number of cancelled bookings is lower. However, the percentage of cancelled bookings is approximately 37%, which is a significant figure. Therefore, there is a need for improvement.

## Reservation Status in different hotels

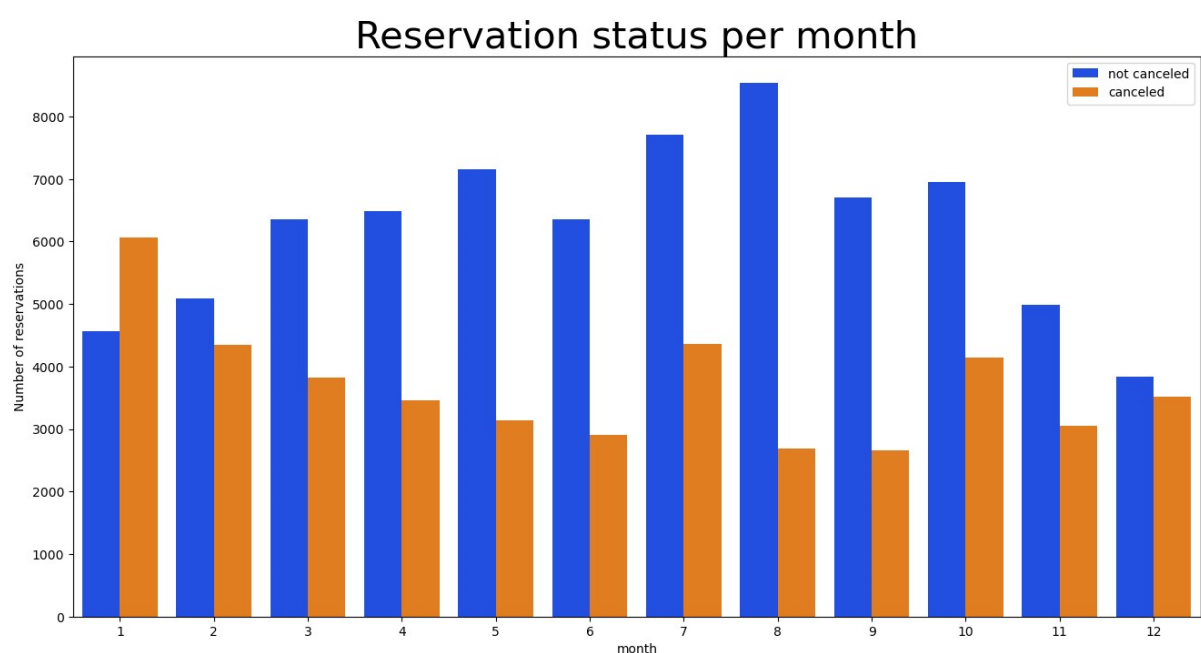


In the analysis, we observe that city hotels receive more bookings than resort hotels. This difference may be attributed to the relatively higher prices associated with resort hotels.

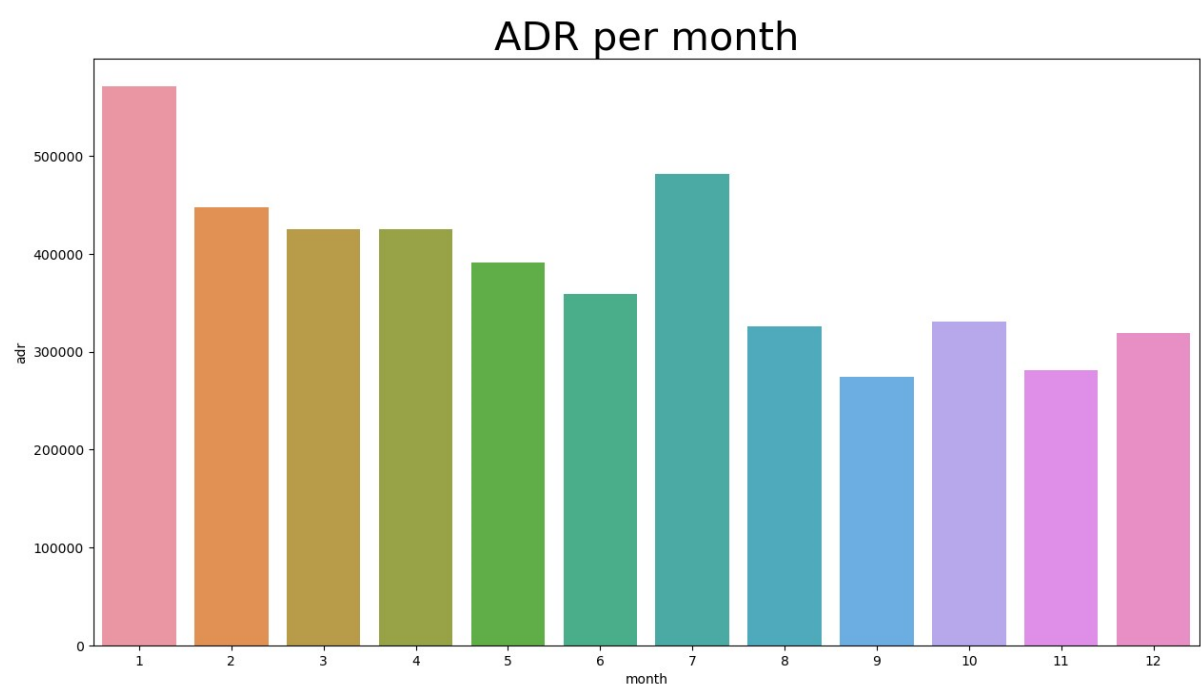
## Average Daily Rate in City and Resort Hotel



The line graph illustrates fluctuations in the average daily rates between city and resort hotels. Some days witness lower rates at city hotels, while others show even lower rates. Notably, weekends and holidays tend to drive up rates at resort hotels.

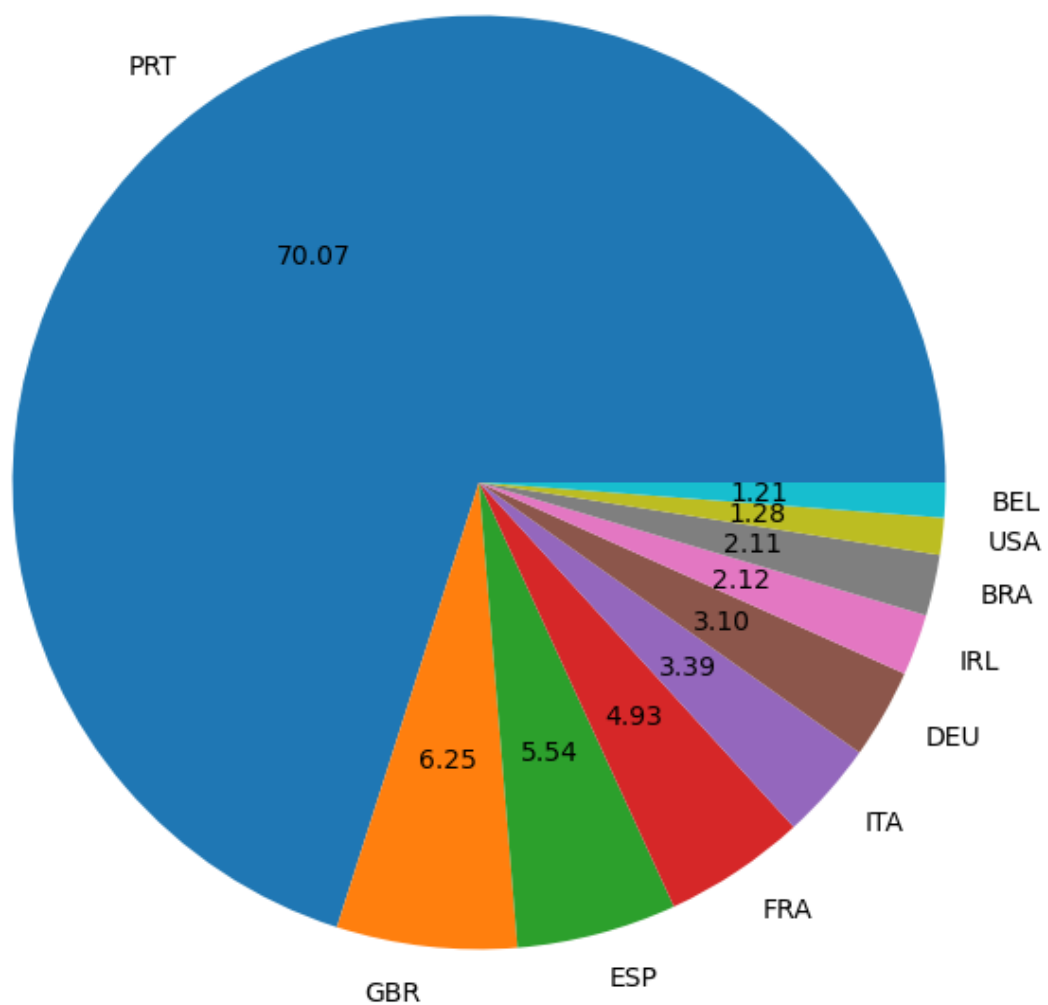


We've constructed a grouped bar graph to examine the variation in reservation levels by month based on reservation status. The data reveals that August records the highest numbers for both confirmed and canceled reservations, while January has the highest count of cancellations. This insightful analysis aids in making informed decisions to enhance reservation management.

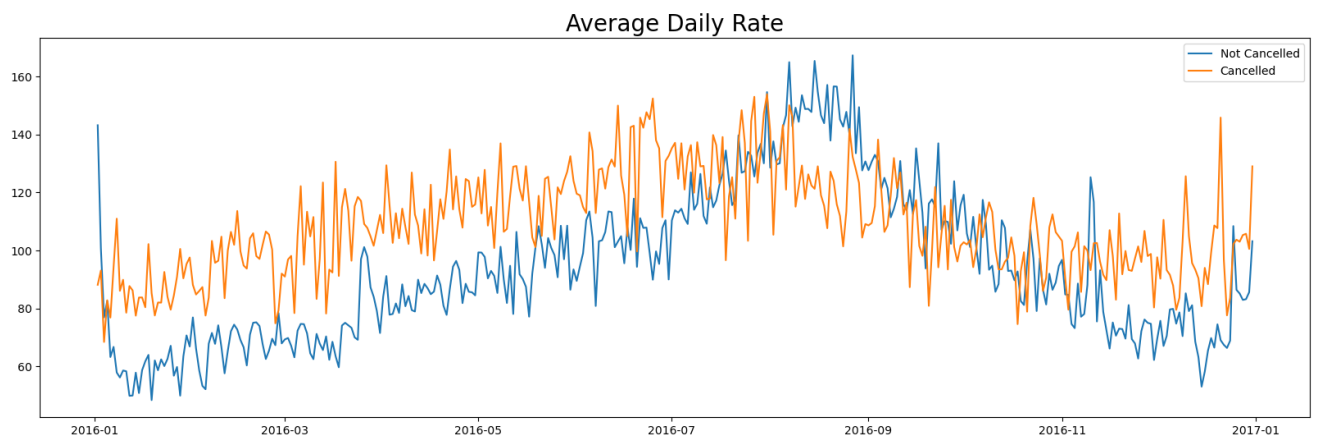


This bar graph illustrates a clear trend: cancellations are more prevalent when prices are at their peak and less so when prices are lower. It underscores the strong correlation between accommodation cost and cancellations.

Top 10 Countries with reservation cancelled



Moving on to the analysis of countries with the highest reservation cancellations, Portugal emerges as the leader, recording the highest number of cancellations.



As observed in the graph, cancellations occur more frequently when the average daily rate is higher compared to when it's not cancelled. This solidifies our earlier analyses, affirming the direct correlation between elevated prices and increased cancellation rates.

# Recommendations

In the data analysis, significant trends and opportunities emerged for enhancing hotel reservation cancellations:-

1. Pricing Strategy: It's evident that reservation cancellations increase as the average daily rates rise. To combat this issue, we recommend that hotels reevaluate their pricing strategies. They should consider reducing rates for specific hotels in high-cancellation areas and offer discounts to attract more guests.

2. Weekend and Holiday Discounts: Resort hotels experience a higher cancellation ratio compared to city hotels, especially on weekends and holidays. To address this, hotels should introduce competitive discounts during these periods to incentivize bookings.

3. January Marketing Campaign: January is the month with the highest cancellation rate. Hotels can kickstart marketing campaigns or promotions during this period to boost revenue. Attracting guests during this time can offset the cancellation trend.

4. Enhancing Quality in Portugal: Portugal stands out as a country with a high number of cancellations. To tackle this issue, hotels in Portugal should focus on improving the quality of their accommodations and services. Enhancements can reduce cancellation rates and enhance guest satisfaction.