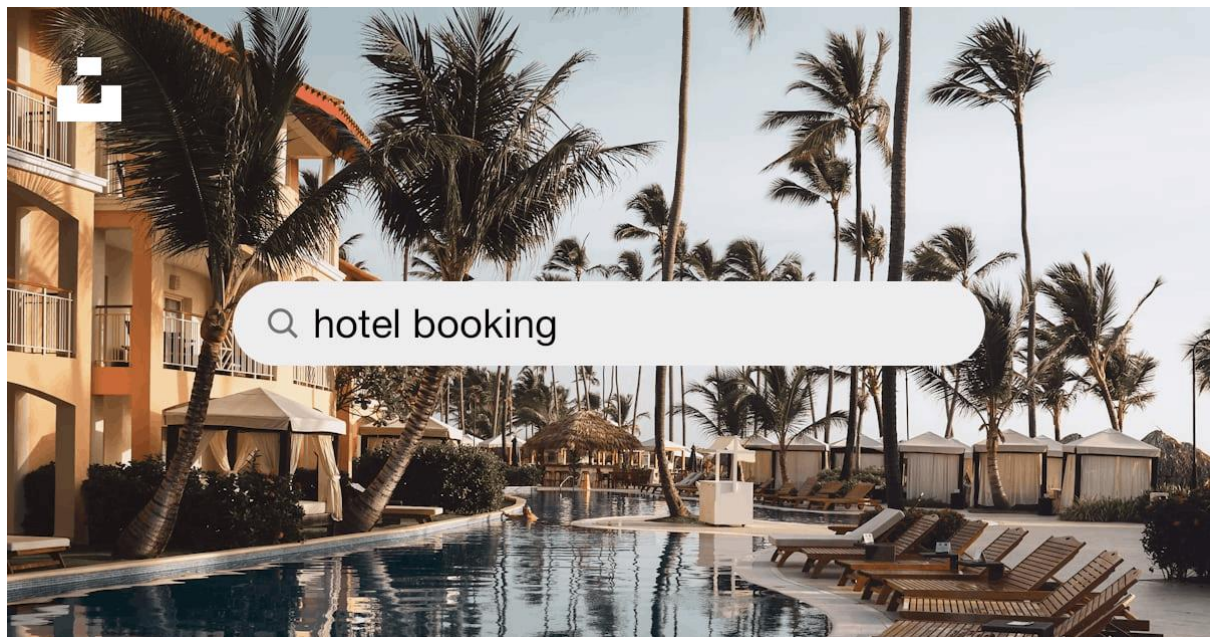


# Business Problem

In the past few years, both City Hotel and Resort Hotel have faced a high number of booking cancellations. Because of this, the hotels are losing revenue and not using their rooms efficiently. Their main goal now is to reduce the cancellation rate so they can increase their income and make better use of available rooms.

Our task is to analyze the reasons behind these cancellations and understand how they affect the hotels' overall business and yearly revenue. Based on this analysis, we'll provide useful recommendations to help the hotels solve this problem and improve their performance.



## Assumptions

1. Nothing unusual happened between 2015 and 2017 that could strongly affect the data used.
2. The data is still relevant and can be used effectively for analyzing the hotel's future plans.
3. There are no unexpected drawbacks if the hotel applies the suggested methods.
4. The hotels are not currently using any of the recommended strategies.
5. The main factor affecting income generation is booking cancellations.
6. Cancellations lead to empty rooms for the duration they were booked.
7. Customers make and cancel hotel bookings within the same year.

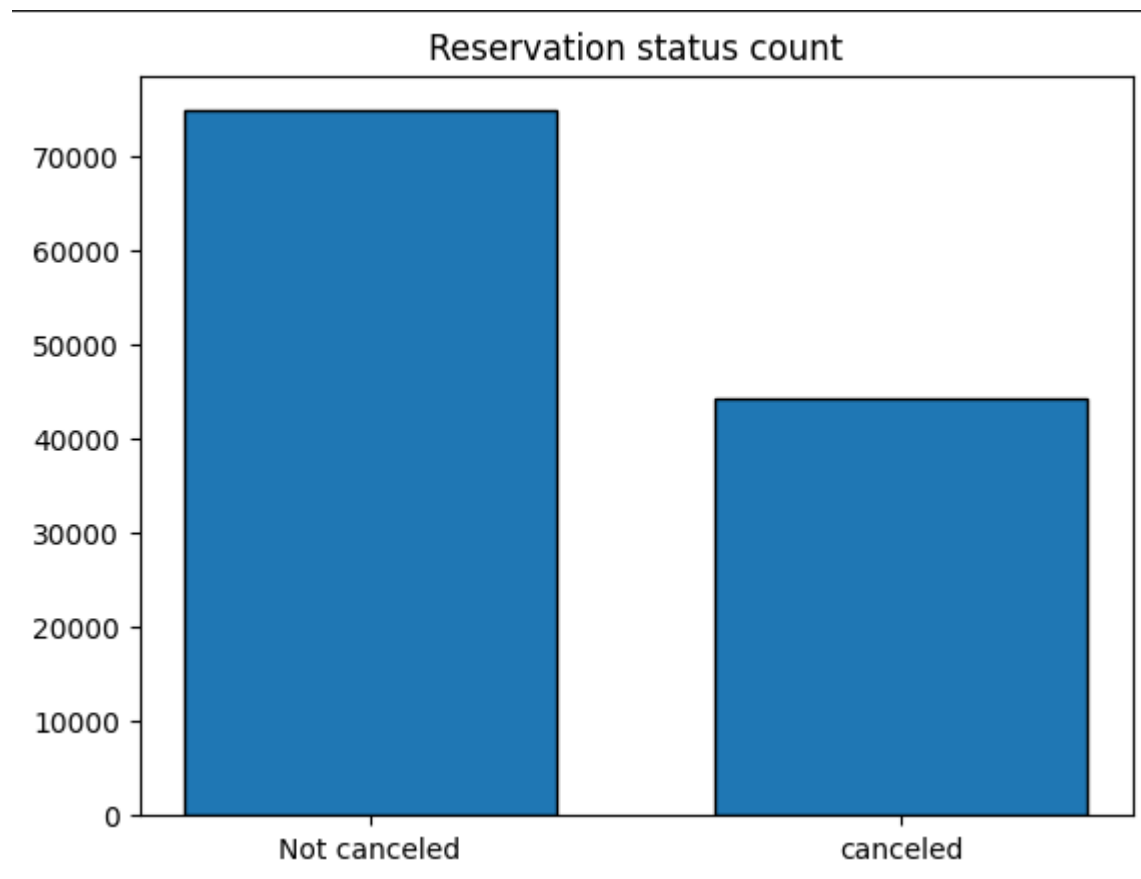
## Research Questions

1. What factors influence hotel booking cancellations?
2. How can hotel booking cancellations be reduced?
3. How can this analysis help hotels make better pricing and promotional decisions?

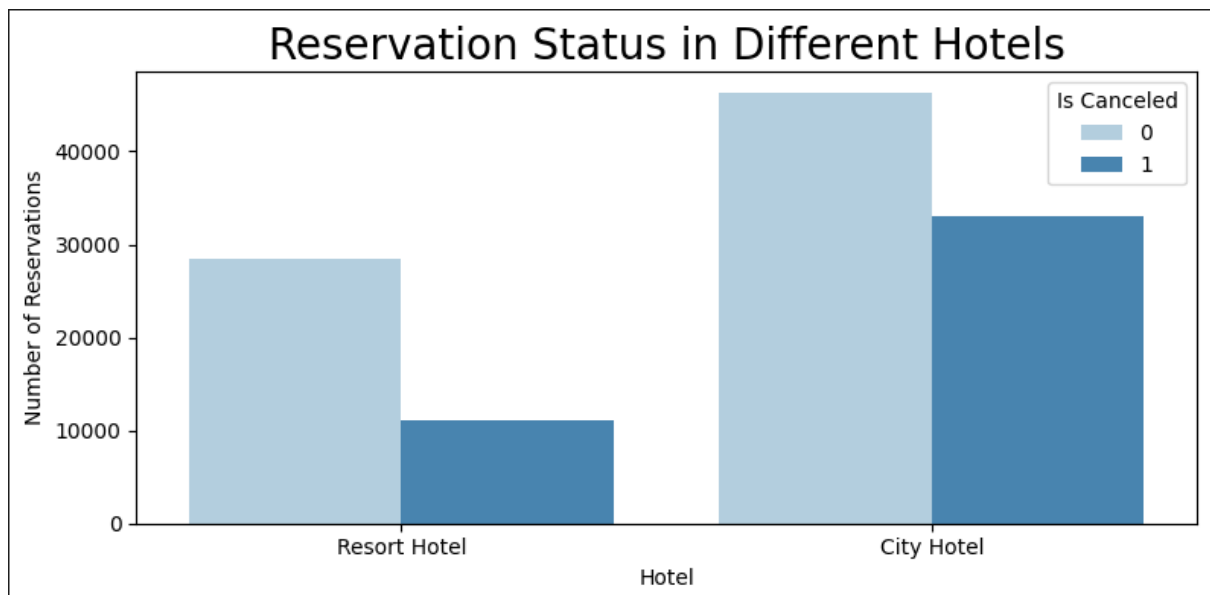
## Hypotheses

1. Higher room prices lead to more cancellations.
2. When the waiting list is longer, customers tend to cancel more often.
3. Most customers book their rooms through offline travel agents.

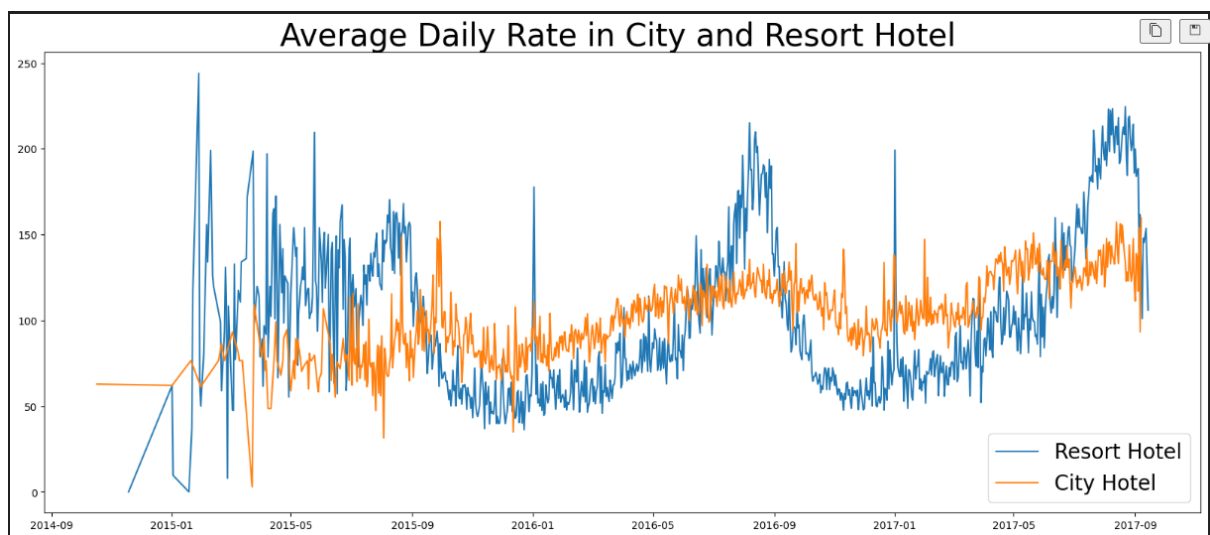
## Analysis And Findings



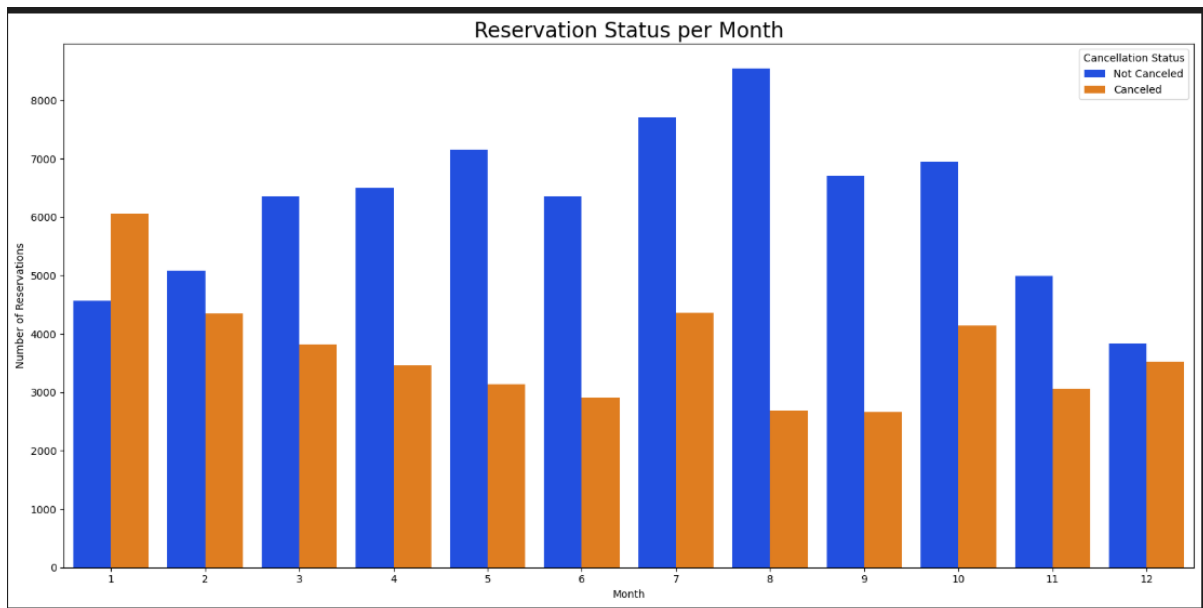
The bar graph shows the percentage of bookings that were canceled and those that were not. It is clear that most bookings were not canceled. However, 37% of customers still canceled their bookings, which greatly affects the hotel's income.



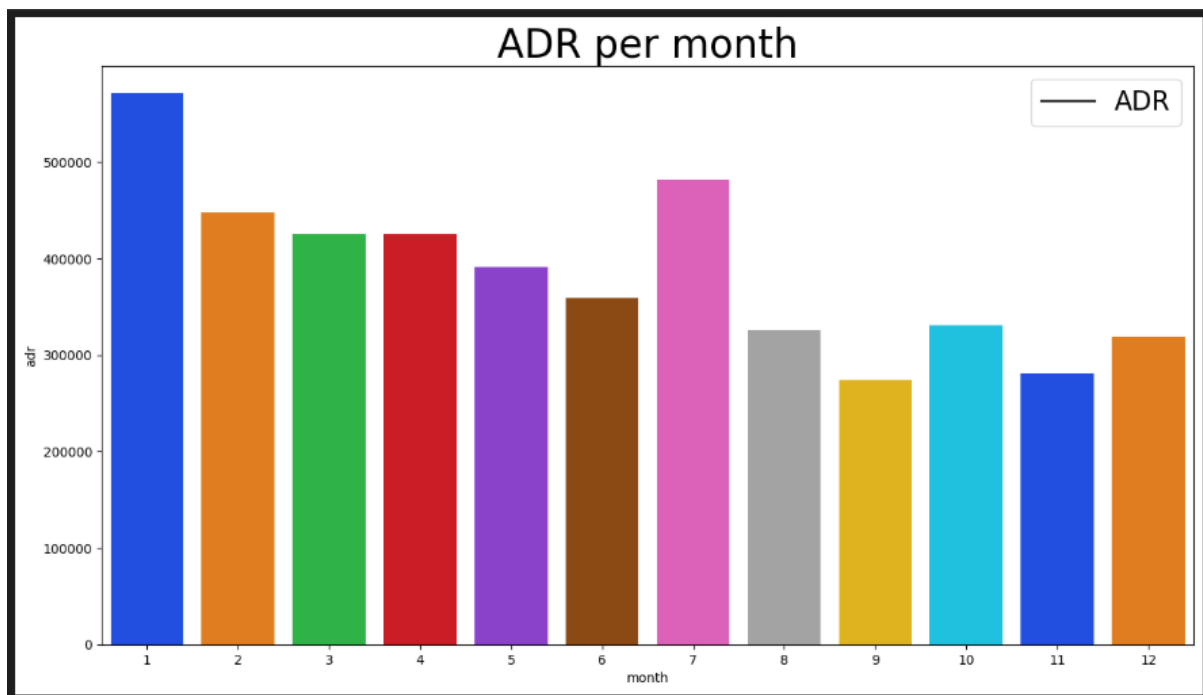
City hotels have more bookings compared to resort hotels. This may be because resort hotels are usually more expensive than city hotels.



The line graph shows that on some days, the average daily rate of city hotels is lower than that of resort hotels, and on other days, it is even much lower. It is clear that resort hotel prices may increase on weekends and holidays.



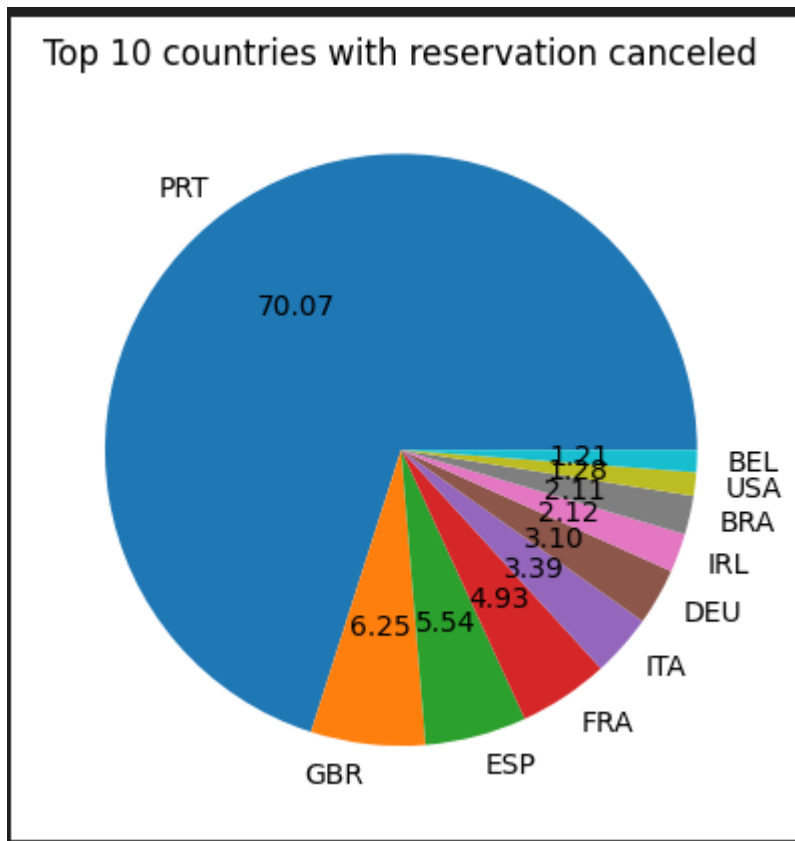
We created a grouped bar graph to study which months have the highest and lowest number of bookings based on their status. It shows that both confirmed and canceled bookings are highest in August, while January has the most canceled reservations.



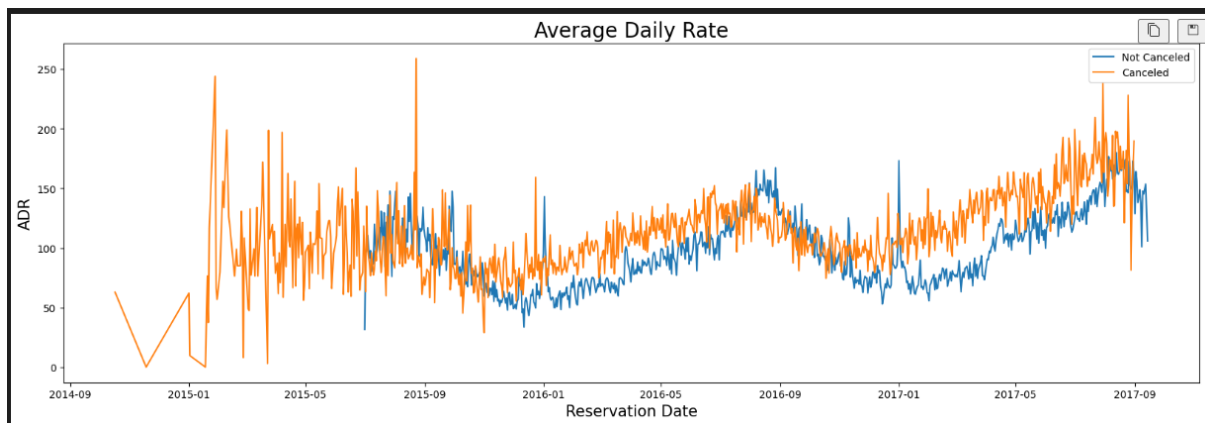
This bar graph shows that cancellations happen more often when room prices are high and are less common when prices are low. This means the cost of the room plays a major role in cancellations.

Now, let's look at which country has the highest number of canceled bookings. Portugal has the most cancellations.

Below are the **Top 10 countries with the highest number of canceled reservations.**



Let's see which booking sources guests use to make hotel reservations — whether Direct, Groups, Online, or Offline Travel Agents. Around 46% of customers book through online travel agencies, while 27% book through groups. Only about 4% of guests make direct bookings by visiting the hotel in person.



As shown in the graph, bookings are canceled more often when the average daily rate is high compared to when it is low. This clearly supports the previous analysis that higher prices lead to more cancellations.

## Suggestions

### 1. Work on Pricing Strategies:

Cancellation rates increase when prices are high. To reduce cancellations, hotels

should review their pricing strategies and consider lowering rates for certain locations. They can also offer discounts or special deals to attract and retain customers.

**2. Offer Discounts for Resort Hotels:**

Since the cancellation rate is higher in resort hotels compared to city hotels, resorts should provide reasonable discounts on room prices during weekends and holidays to encourage more bookings.

**3. Increase Marketing in January:**

As January has the highest number of cancellations, hotels can run marketing campaigns or promotional offers during this month to increase revenue and reduce cancellations.

**4. Improve Quality and Services in Portugal:**

Hotels should focus on improving their service quality and overall experience, especially in Portugal, where the cancellation rate is highest. Better service can help build trust and reduce cancellations.