Hotel Booking Cancellation Analysis Report

1.Info

- Project Title: *Analysis of High Hotel Booking Cancellations*
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2. Contents:

- Overview of the hotel booking system.
- Problem Analysis.
- Research Question.
- Hypothesis.
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- Conclusion.
- Suggestions.

3. Problem Statement

- Why are City Hotels and Resort Hotels Facing Cancellation Issues?
- Which Factors are Affecting Reservation Cancellations?

4. Data Collection & Sources

- Dataset link:https://drive.google.com/file/d/1-QwW…

4. Data Summary for Hotel Booking Cancellations Analysis

The dataset used for analyzing hotel booking cancellations includes several key columns that provide insights into booking patterns and cancellations. Below are the most important columns used in the analysis:

1. **Hotel**
   - Represents the type of hotel (e.g., City hotel or Resort hotel).
   - Helps categorize cancellations based on hotel type.
2. **Is Canceled**
   - Indicates whether a booking was canceled (1) or not (0).
   - This is the target variable that we aim to analyze in order to identify factors leading to cancellations.
3. **ADR (Average Daily Rate)**
   - The average price paid per day for the booking.

- ○ ADR is critical in analyzing the relationship between pricing and cancellations. Higher prices might lead to higher cancellations if customers feel the price is not justified.
4. **Reservation Status Date**
    - ○ The date when the reservation status was last updated.
    - ○ Provides insights into the timing of cancellations and the changes in status over time.
5. **Lead Time**
    - ○ The number of days between the booking date and the arrival date.
    - ○ Longer lead times could indicate a higher likelihood of cancellations as customers may change their plans.
6. **Country**
    - ○ The country from which the booking was made.
    - ○ Helps identify geographical trends in cancellations, such as if international bookings are more likely to be canceled than domestic ones.
7. **Previous Cancellations**
    - ○ The number of previous cancellations made by the guest.
    - ○ This column can help identify repeat offenders of cancellations and understand their behavior.

Problem Statement

City Hotel and Resort Hotel have been dealing with high cancellation rates in recent years. This has led to several issues, such as reduced revenue and less efficient use of hotel rooms. As a result, reducing cancellation rates has become the main goal for both hotels to improve their revenue generation and efficiency. This report will focus on analyzing the reasons for booking cancellations, as well as other factors that don't affect their business and annual revenue.
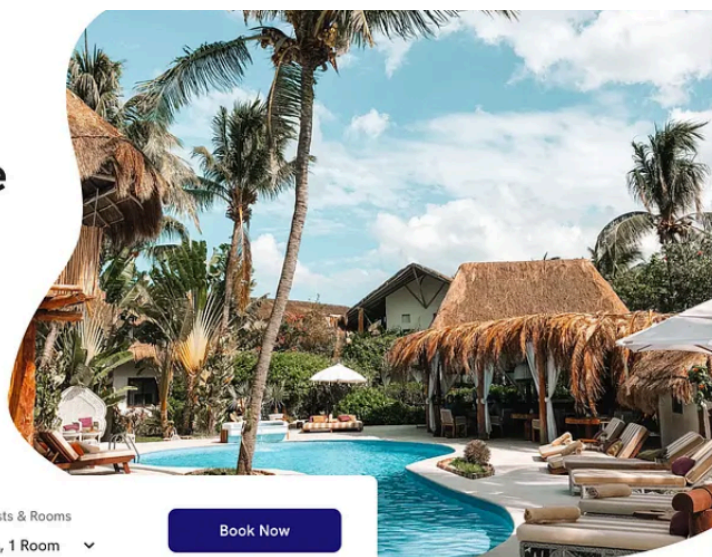
Research Questions

1. What factors contribute to hotel reservation cancellations?
2. What steps can be taken to reduce hotel reservation cancellations?
3. How can hotels improve their pricing and promotional strategies?

Hypothesis

1. Higher prices lead to an increase in cancellations.
2. A longer waiting list results in more frequent cancellations.
3. Most customers are booking their reservations through offline travel agents.

Analysis Findings
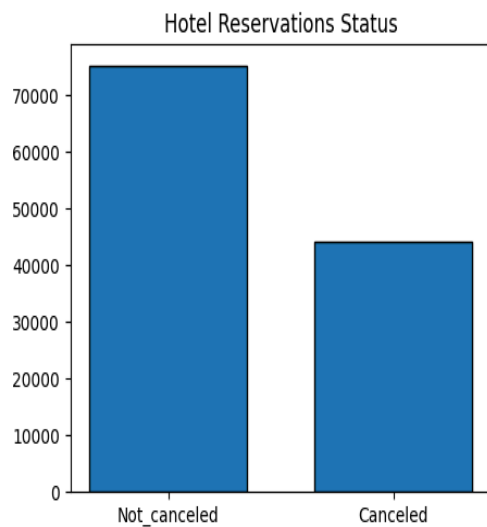
The bar graph displayed shows the percentage of reservations that were either canceled or not canceled. It is clear that a large portion of reservations remain intact. However, 37% of clients have canceled their reservations, which significantly affects the hotels' revenue.

Reservation status in different Hotels
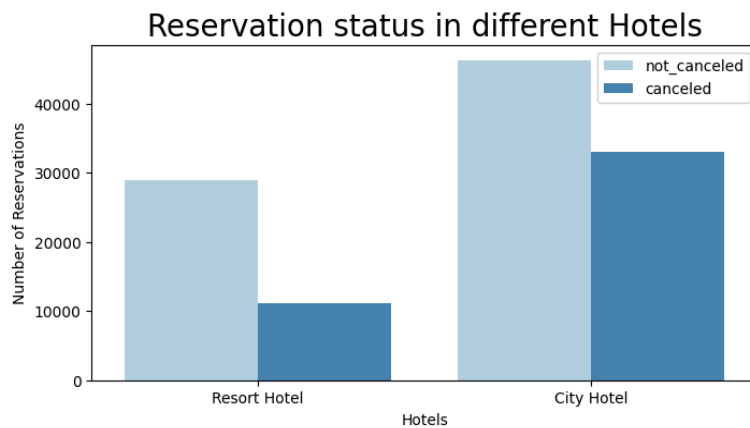
City hotels have more bookings compared to resort hotels. This could be because resort hotels tend to be more expensive than city hotels.
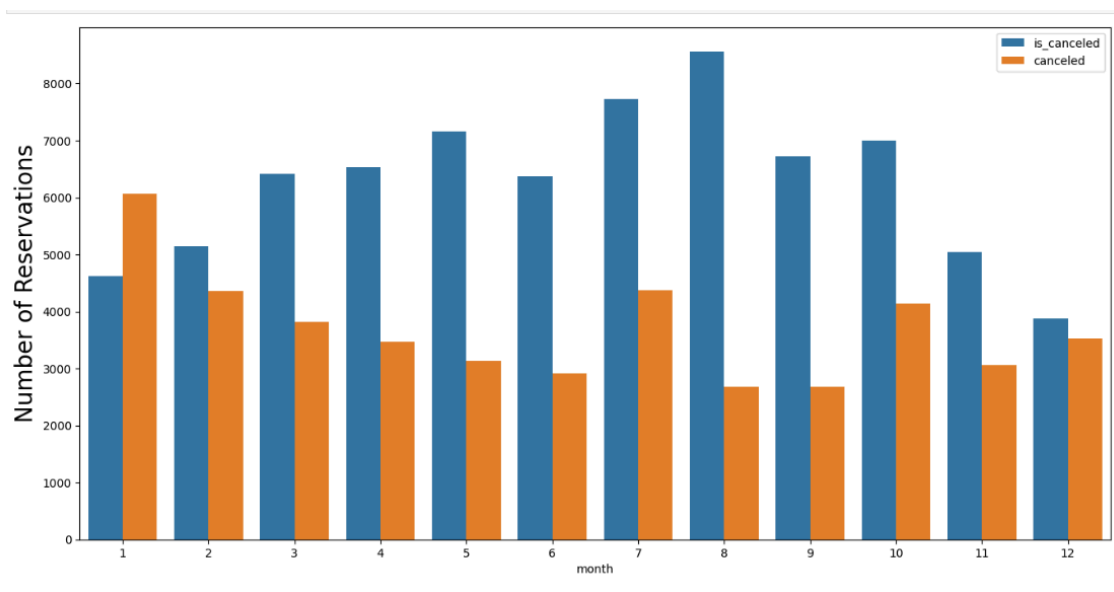

We created the grouped bar graph to examine the months with the highest and lowest reservation levels based on reservation status. As shown, August has the highest number of both confirmed and canceled reservations. On the other hand, January sees the highest number of canceled reservations.

ADR per Month
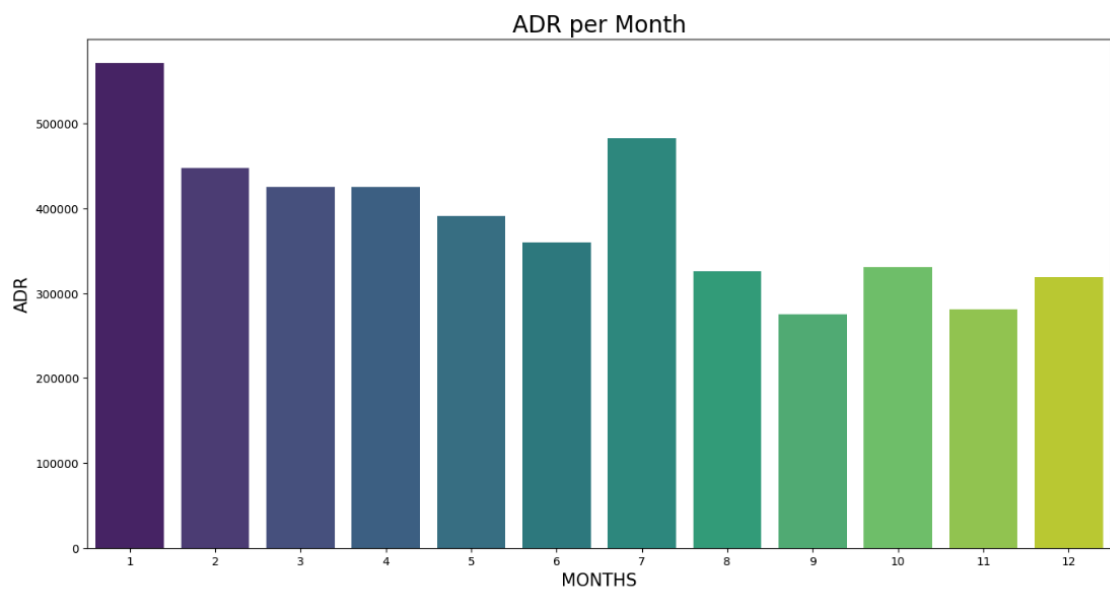
The bar graph shows that cancellations are most frequent when prices are highest and least frequent when prices are lowest. This suggests that the price of accommodation plays a significant role in the cancellation rate.

Top 10 Countries with most Resevervation Cancellations
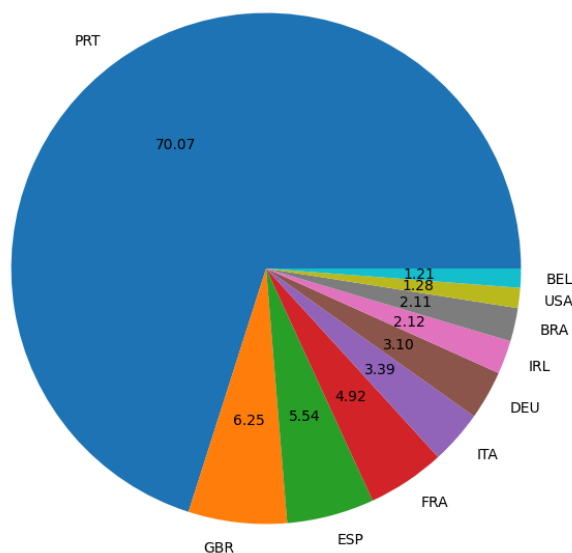
The pie chart illustrates that Portugal has the highest number of cancellations compared to other countries.
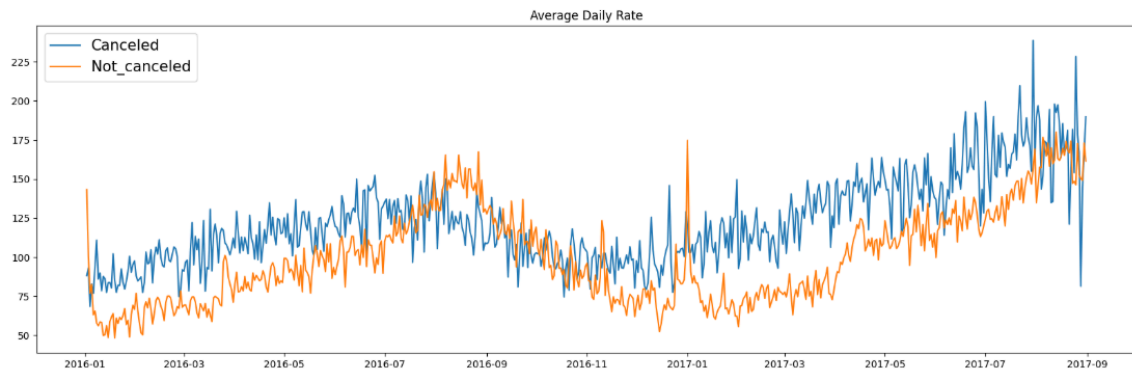
Average Daily Rate

As shown in the graph, reservations are more likely to be canceled when the average daily rate is higher, compared to when it is not canceled. This clearly supports the previous analysis that higher prices lead to more cancellations.

Conclusion

In conclusion, higher prices and peak months like August contribute to more cancellations, with Portugal showing the highest cancellation rates. The analysis confirms that pricing is a key factor in cancellations, suggesting that adjusting prices or offering flexibility could help reduce cancellations and improve revenue.

Suggestions

1. To reduce cancellations, hotels could revise their pricing strategies, offering lower rates based on location. Introducing special discounts could also make bookings more attractive, as higher prices tend to lead to more cancellations.
2. Given the higher cancellation rates in resort hotels compared to city hotels, offering weekend or holiday discounts could help make rooms more appealing and decrease cancellations.
3. Implementing flexible booking policies, like offering free cancellations within a specific timeframe, would give customers more confidence in completing their reservations.
4. Creating personalized promotions tailored to customer preferences and regional trends could help boost bookings and reduce cancellations.