

Project Report

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Business Problem

In recent years, City Hotel and Resort Hotel have experienced high cancellation rates. This issue has led to reduced revenue and suboptimal utilization of hotel rooms. Consequently, reducing cancellation rates has become the primary objective for both hotels to enhance their revenue generation efficiency. This report aims to provide comprehensive business insights and strategies to address this problem.

The report focuses on analyzing hotel booking cancellations and other factors impacting their business and annual revenue generation.

Assumptions

1. No significant external events between 2015 and 2017 have a substantial impact on the data used.
 2. The data remains relevant and can effectively inform strategic decision-making for the hotels.
 3. There are no unforeseen negative consequences for the hotels in implementing the recommended strategies.
 4. The hotels are not currently employing any of the proposed solutions.
 5. Booking cancellations are the most significant factor affecting revenue generation.
 6. Cancellations result in unoccupied rooms for the reserved period.
 7. Clients cancel their reservations in the same year the bookings were made.
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Research Questions

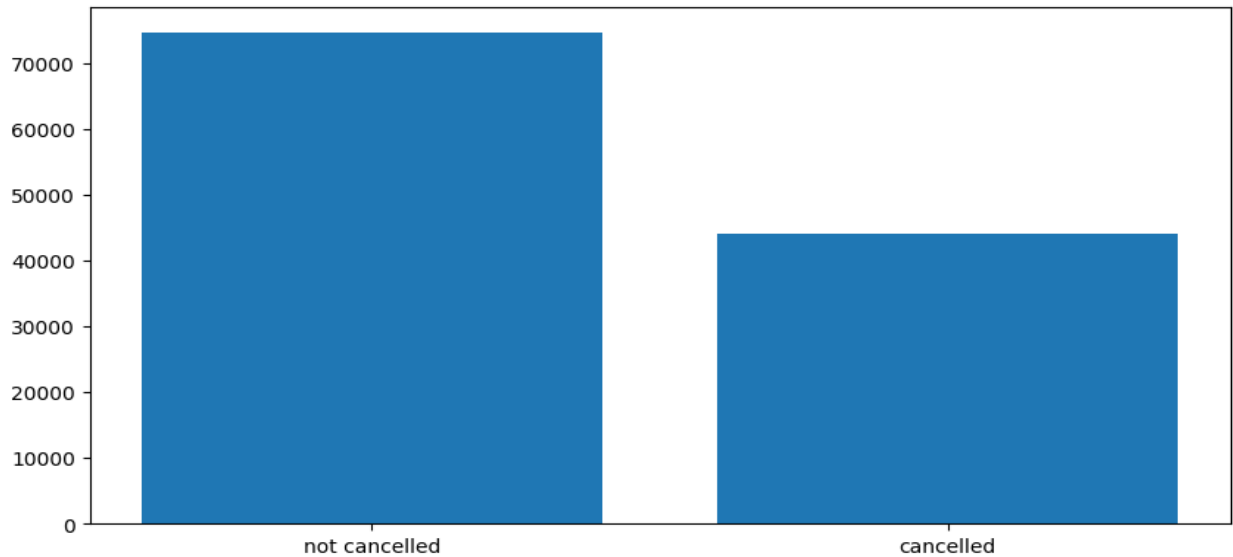
1. What are the factors influencing hotel reservation cancellations?
 2. How can hotel reservation cancellations be reduced?
 3. How can these insights assist hotels in making pricing and promotional decisions?
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Hypotheses

1. Higher prices lead to more cancellations.
 2. Customers tend to cancel more frequently when there is a longer waiting list.
 3. A majority of clients make reservations through offline travel agents.
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Analysis

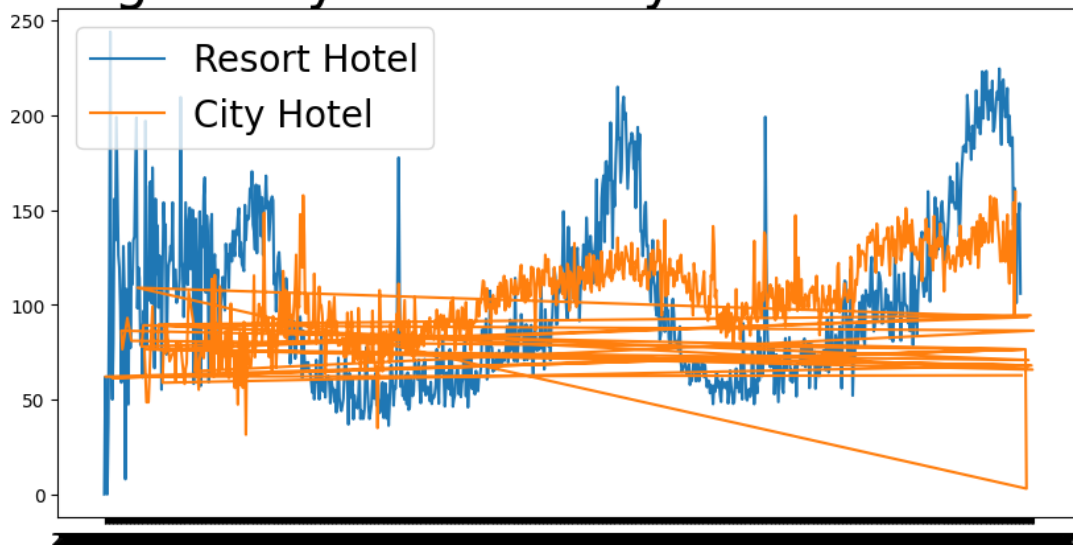
The accompanying bar graph illustrates the percentage of reservations canceled versus those not canceled. While a significant number of reservations remain intact, approximately 37% of clients cancel their bookings, which has a substantial impact on hotel revenue.



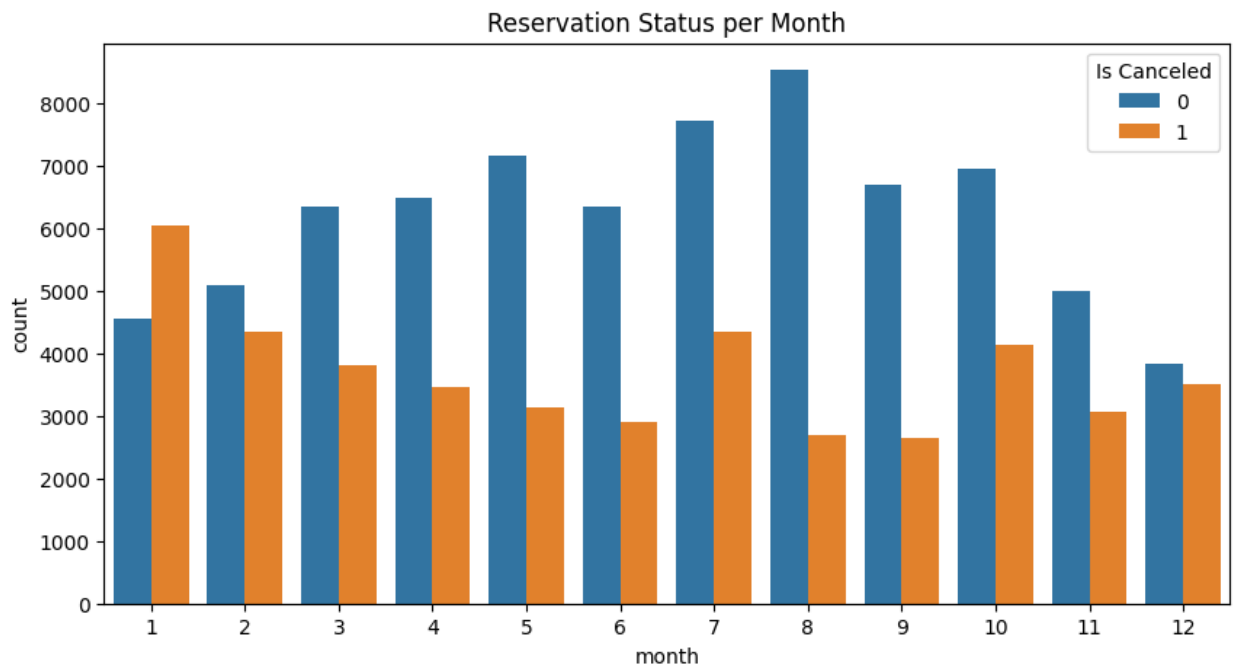
City hotels have higher booking rates compared to resort hotels, possibly because resort hotels are generally more expensive.



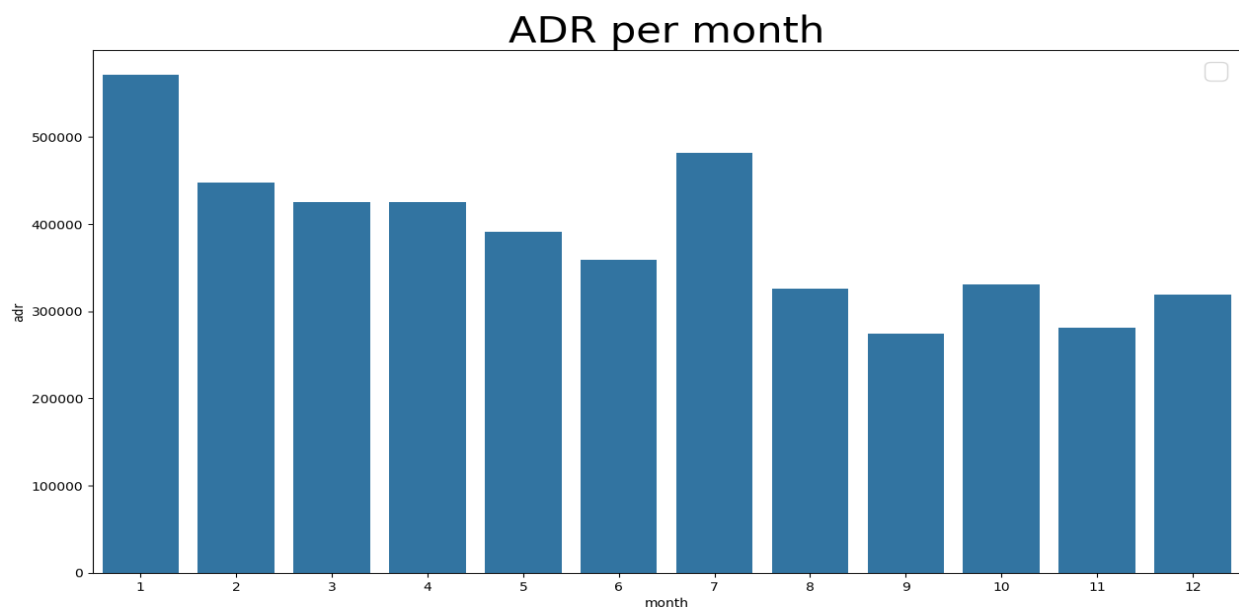
Average Daily Rate in City and Resort Hotels



The line graph reveals that on certain days, the average daily rate for city hotels is lower than that of resort hotels, while on other days, the rates may be comparable or even lower for resort hotels. This fluctuation may be attributed to higher demand during weekends and holidays, leading to increased rates for resort hotels.



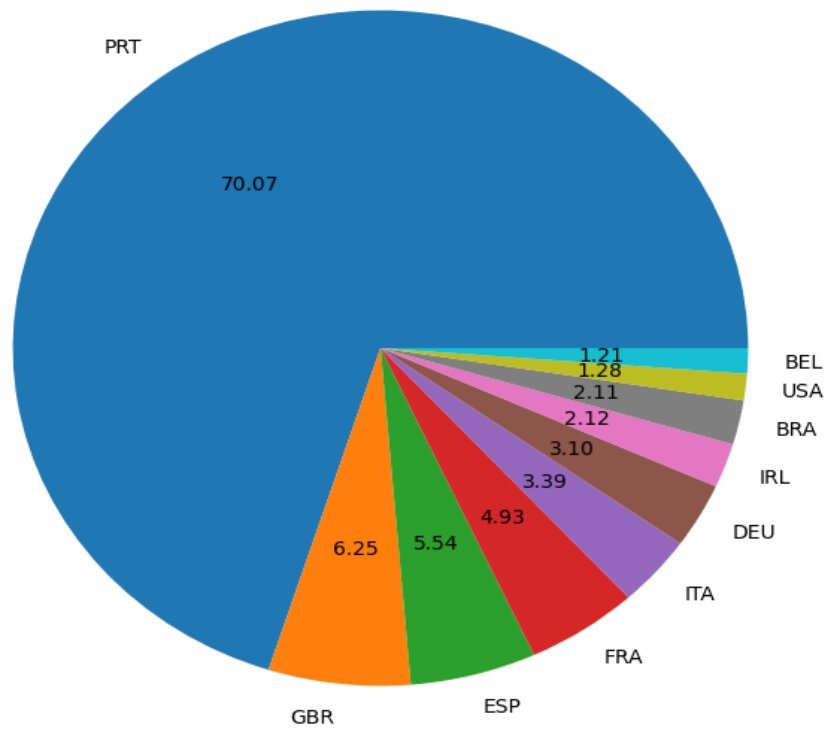
A grouped bar graph highlights the months with the highest and lowest reservation levels based on reservation status. August sees the highest number of both confirmed and canceled reservations, while January experiences the highest proportion of cancellations.



Another bar graph demonstrates that cancellations are more frequent when room prices are highest and less common when prices are lowest. This indicates that the cost of accommodations significantly influences cancellation rates.

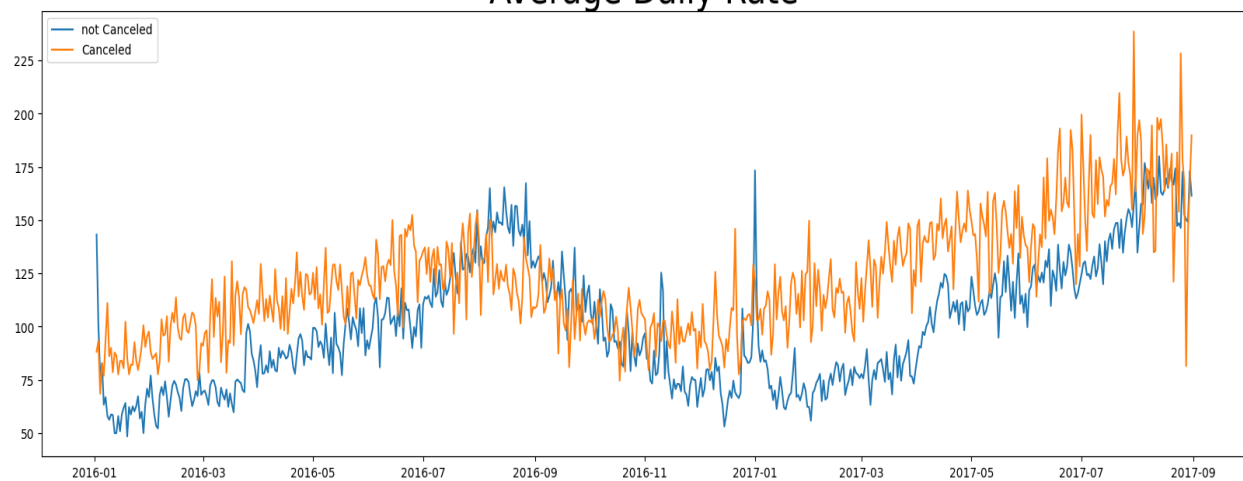
Further analysis shows that Portugal accounts for the highest number of canceled reservations.

Top 10 countries with canceled reservations



Examining the booking sources reveals that approximately 46% of clients use online travel agencies, 27% come from groups, and only 4% book directly with hotels.

Average Daily Rate



Additionally, reservations are more likely to be canceled when the average daily rate is higher. This reinforces the analysis that higher prices lead to increased cancellations.

Suggestions

1. Pricing Strategies:

- Since cancellations increase with higher prices, hotels should review their pricing strategies. Offering location-based discounts or promotional offers may help reduce cancellations.

2. Weekend Discounts for Resort Hotels:

- Resort hotels, which experience higher cancellation rates than city hotels, could provide discounted room prices on weekends or holidays to attract more customers.

3. January Campaigns:

- Launch marketing campaigns or offer promotions in January to mitigate cancellations and boost revenue during this period.

4. Improve Quality in Portugal:

- Enhance service quality and hotel facilities in Portugal, as it has the highest cancellation rate, to retain customers and reduce cancellations.
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Recommendations

1. Pricing Strategies:

- Implement dynamic pricing models to adjust rates based on demand and location.
- Offer discounts or promotional packages during peak cancellation periods, particularly for resort hotels on weekends and holidays.

2. January Campaigns:

- Introduce targeted marketing campaigns or special deals in January to reduce cancellations and increase bookings.

3. Customer Retention Programs:

- Focus on improving customer experience and service quality, especially in Portugal.
- Launch loyalty programs or incentives to encourage repeat bookings.

4. Enhance Booking Channels:

- Collaborate with online travel agencies to create attractive deals.

- Promote direct bookings by offering exclusive perks or discounts to reduce reliance on third-party platforms.

5. **Crisis Management:**

- Develop contingency plans to address periods of high cancellations, ensuring optimal room occupancy and minimizing revenue losses.

Conclusion

This analysis identifies critical factors contributing to high cancellation rates, including pricing, seasonality, and booking sources. By implementing the outlined recommendations, City Hotel and Resort Hotel can improve room occupancy, revenue generation, and customer satisfaction. These strategies should be periodically reviewed and updated to align with evolving market conditions and customer preferences.

Appendix

- **Data Sources:** Hotel booking data from 2015–2017.
- **Tools Used:** Python, Excel, and data visualization libraries (e.g., Matplotlib, Seaborn).
- **Graphs and Visuals:** Bar graphs, line graphs, and grouped bar charts.