

Optimizing Hotel Booking Cancellation Prevention – A Data Analysis Study

1. INTRODUCTION

1.1. Overview

In an era defined by unparalleled access to information and seamless digital experiences, the hospitality industry has undergone a remarkable transition. Online booking platforms have become the norm, empowering travelers to effortlessly reserve accommodations with just a few clicks. However, this convenience has brought forth a new challenge that hoteliers must navigate with finesse: the phenomenon of booking cancellations. The act of booking a room has evolved, and consequently, hotel booking cancellations have emerged as a critical issue that demands thoughtful consideration.

The aim of the data analysis study is to delve into the intricate world of hotel booking cancellations and provide information that enables the hospitality industry to optimize its strategies for mitigating cancellations. With the power of data analytics, armed with comprehensive understanding, hoteliers can devise targeted approaches to enhance guest satisfaction, improve operational efficiency, and ultimately bolster revenue.

1.2. Motivations

The study seeks to optimize hotel operations and guest satisfaction by analyzing data to prevent booking cancellations. By understanding cancellation patterns and factors, hotels can enhance resource allocation, tailor services, and implement effective strategies to minimize revenue loss. By undertaking this project my primary motivations is to contribute to data-driven decision making, sustainability and ultimately shaping a more resilient and customer-centric hospitality landscape.

2. Problem Statement

In recent years, City Hotel and Resort Hotel have seen high cancellations rates. Each hotel has been dealing with several issues because of, including fewer revenues and less than ideal hotel room use. Consequently, lowering cancellation rates is both hotels' primary goal to increase their efficiency in generating revenue, and for us to offer thorough advice to address this problem.

3. Assumptions

1. No unusual occurrences between 2015 and 2017 will have a substantial impact on the data used.
2. The information 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.

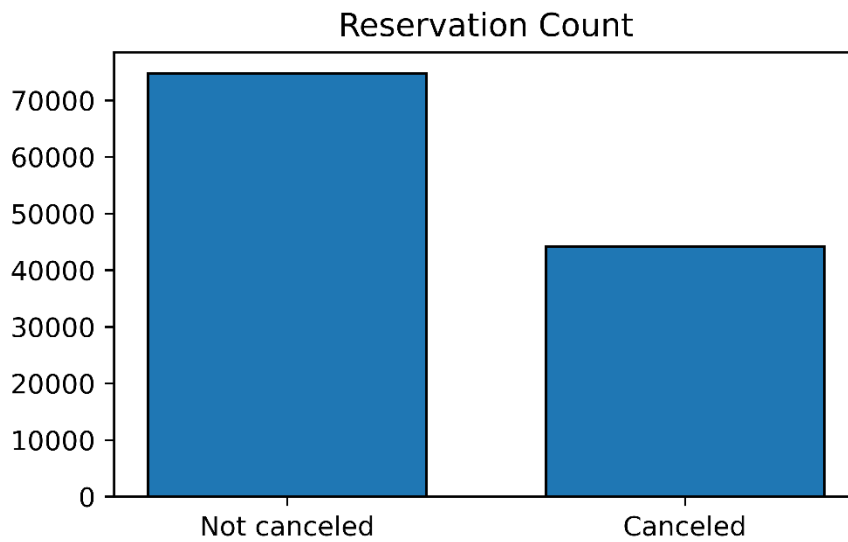
4. Research Questions

1. What are the variables that affect hotel reservations cancellations?
2. How can we make hotel reservations cancellations better?
3. How can hotels receive support in formulating pricing and promotional strategies?

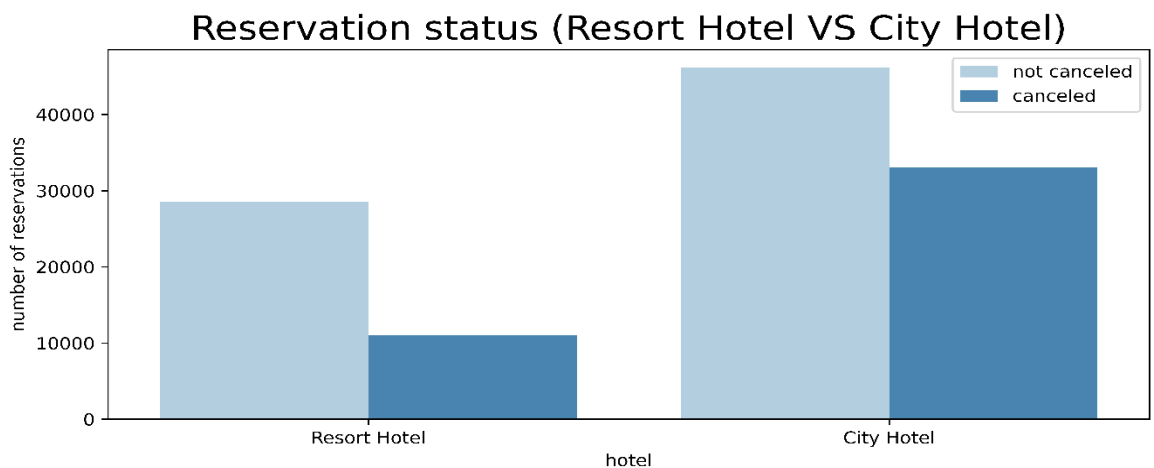
5. Hypothesis

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

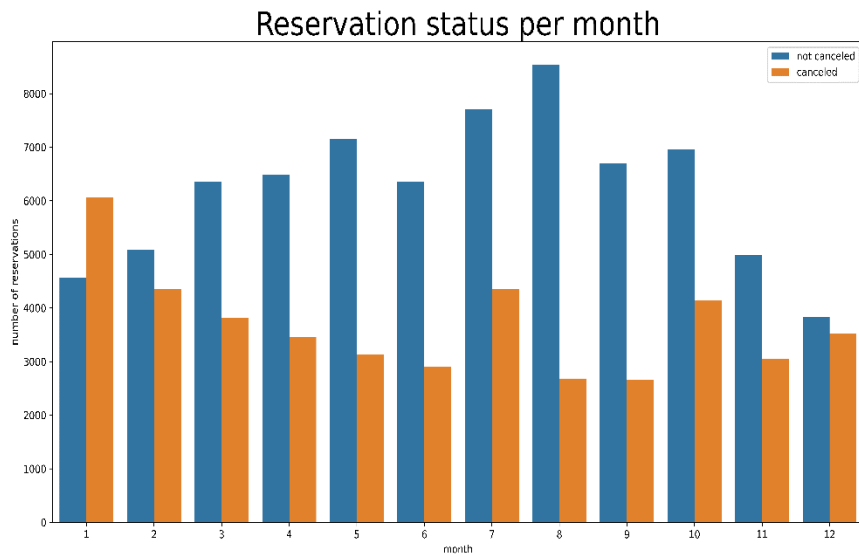
6. Analysis & Findings



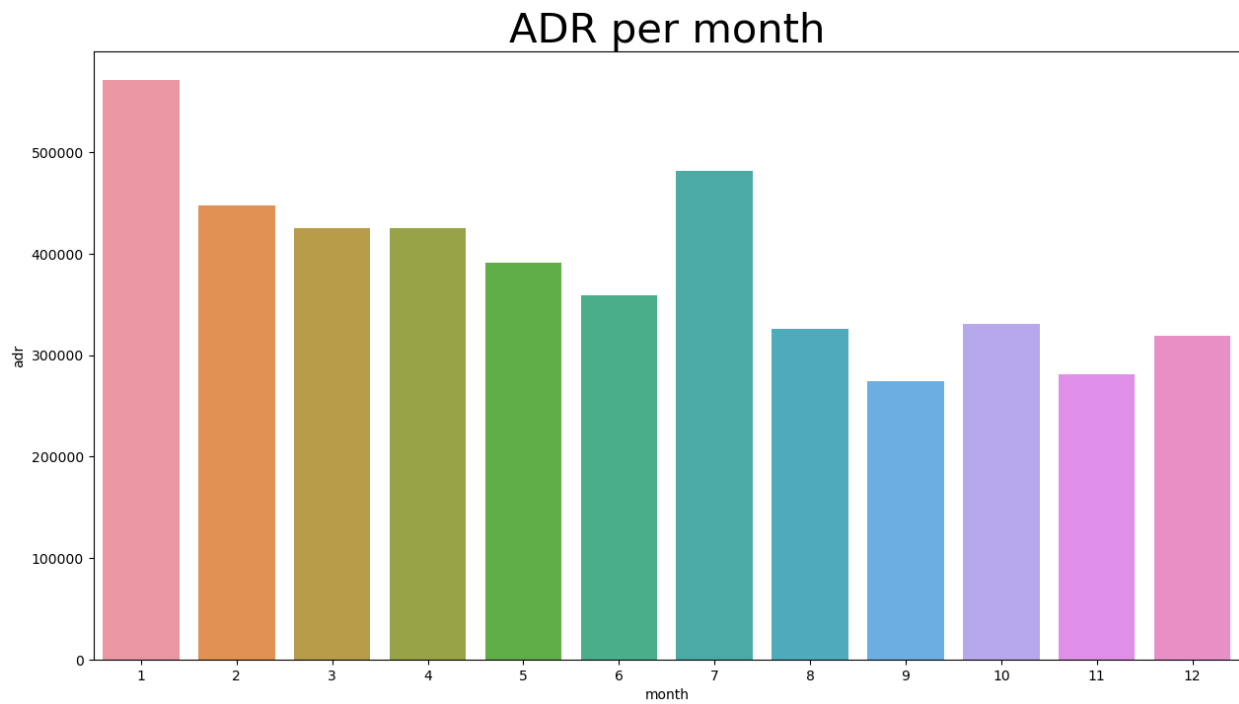
The above bar graph shows the percentage of reservations that are cancelled and those that are not. Though there are still a significant number of reservations, but still 37% of clients cancelled their reservations, which would have a decisive impact on the hotels' revenue.



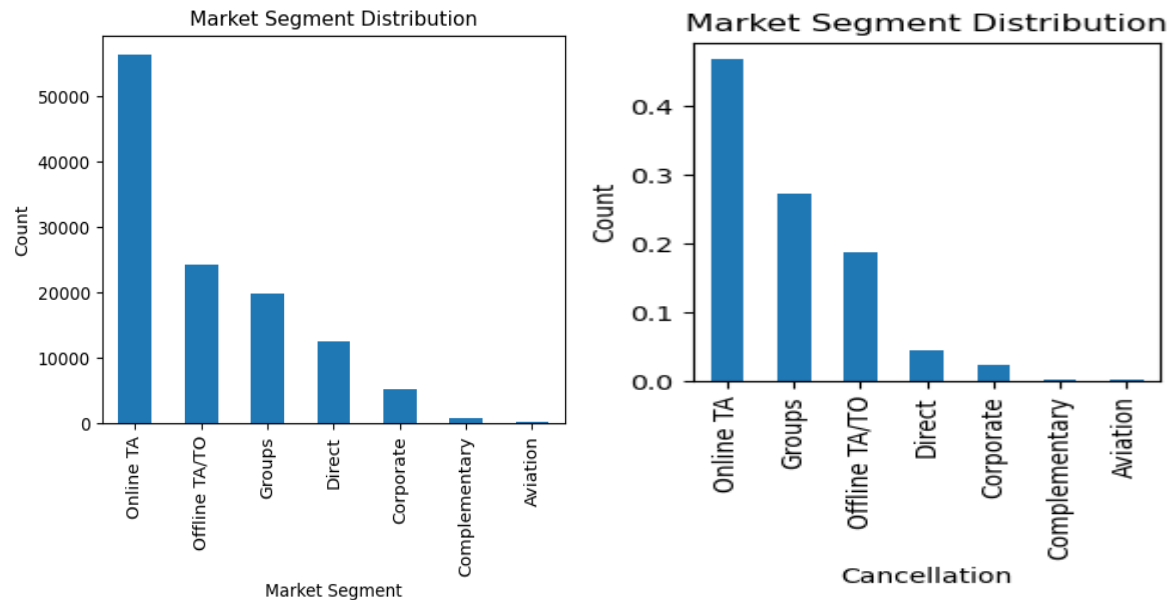
In comparison to resort hotels, city hotels have more bookings. It's possible that resort hotels are more expensive than city hotels.



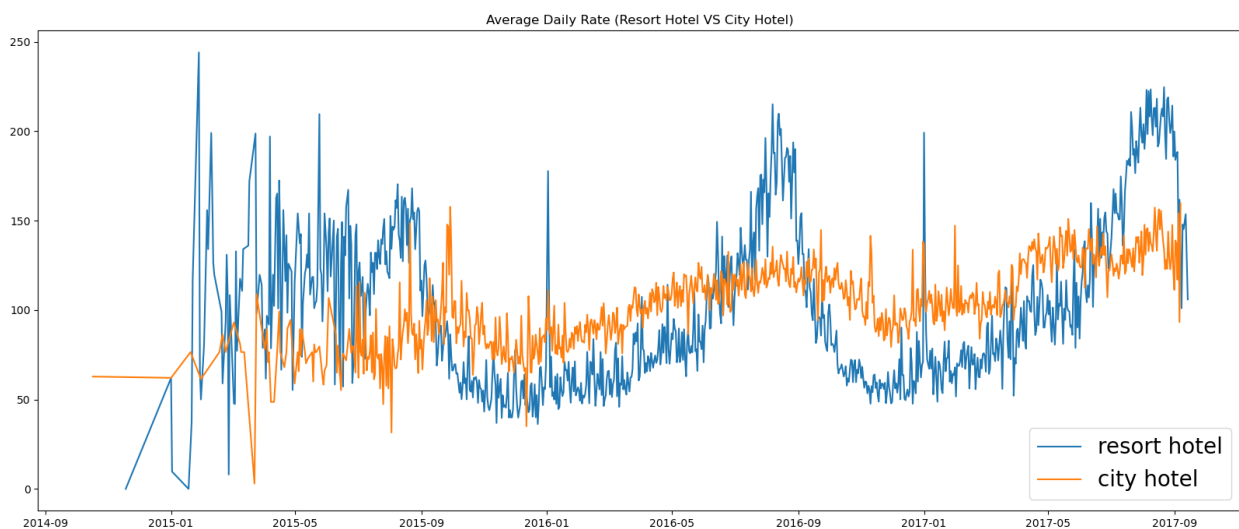
- The non-cancellation rate is at peak during the months of July & August.
- The non-cancellation rate is lowest in the month of December.
- The cancellation rate is at peak during the months of January, July & October.
- The cancellation rate is lower during the months of July & August.



From the above graph who displays the ADR¹ from which can derive that higher reservation price can also lead to more cancellation rate.



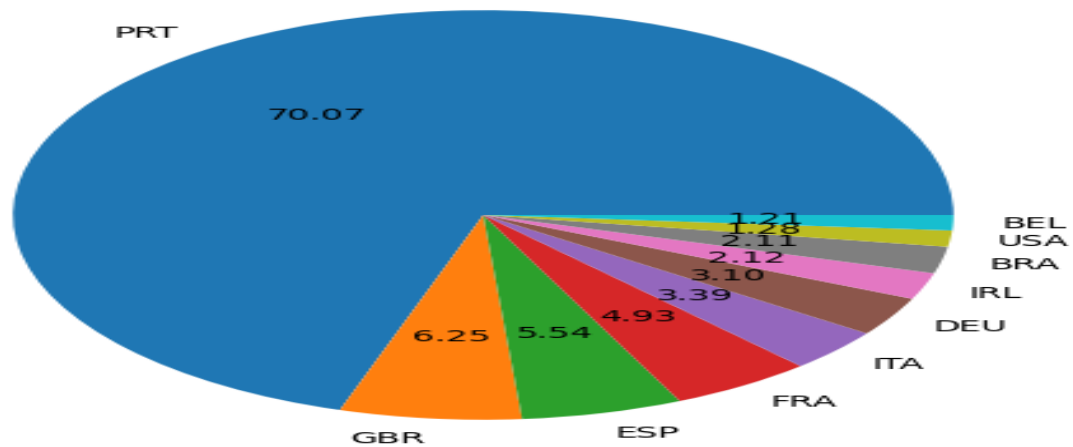
From the above two graphs **Online TA²** have nearly about 133.70% more than **Offline TA/TO**, but still cancellations rates are also higher than **Online TA** have nearly about 150.64% more cancellations than **Offline TA/TO**.



¹ Average Daily Rate (ADR)

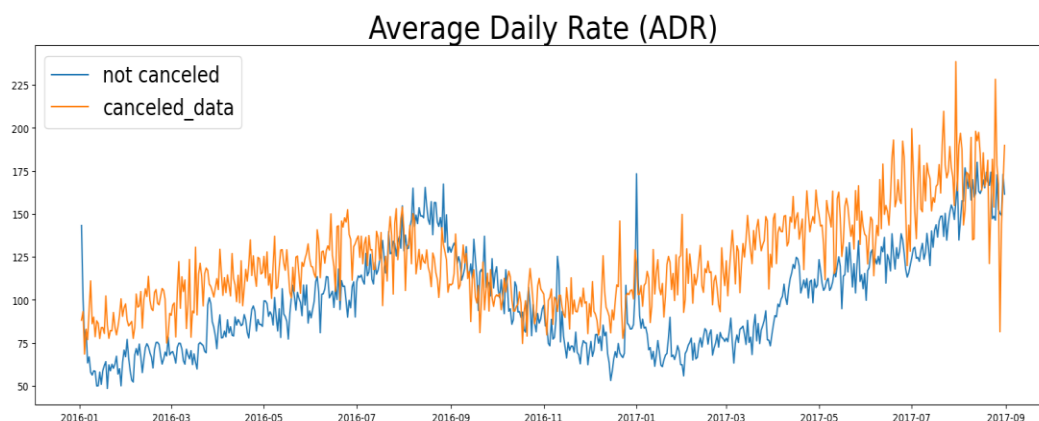
² Travel Agents

The above line graph shows that, on certain ways, the average daily basis rate for a city hotel is less than that of a resort hotel, and on the other days, it's even less. It goes without saying that weekends and holidays may see a rise in resort hotel rates.



3

From the above pie-chart, Portugal has the highest cancellation rate of around 70.07%. In order to optimize hotel revenue, the country must provide more facilities at a reasonable price and could offer lower reservation price during special occasions or holidays.



The above line graph shows how **ADR** is one of the most influential factors in the cancelling rate. The hotels should have a partial non-refundable deposit at the time of reservation.

³ Cancellation rate of the top 10 countries

7. Suggestions

1. Hotels should offer flexible booking options, such as free cancellation within a reasonable time frame. Clear and transparent cancellation policies can instill confidence in potential guests.
2. Provides special offers or packages, such as complimentary amenities or discounts for longer stays, to incentivize guests to commit to their bookings.
3. Engage with OTA partners to optimize listings, provide accurate information, and manage expectations, which can lead to more confident bookings.
4. Stay informed about local events, holidays and conferences that may impact demand. Adjust your rates and cancellations policies accordingly.
5. Require a non-refundable deposit or partial prepayment at the time of booking. This can discourage casual cancellation and ensure a level of commitment from guests.
6. Create loyalty programs that reward frequent guests with exclusive perks and benefits and prioritize guest engagement and satisfaction during their stay.