

## Hotel Booking Demand Insights

This dataset is about two hotels. One of the hotels is a resort hotel, and the other is a city hotel, with 31 variables describing the 40,060 observations of the resort hotel and 79,330 observations of the city hotel. Each observation represents a hotel booking.

In this heatmap, we can see that the adults column is highly correlated with the total guest column, and the children column is correlated with it as well. Also, we can see that the arrival date week number is negatively correlated with the arrival date year.

In graph 2, the Customer Type Distribution is represented in a pie chart, with 75% to transient, transient party with 21.09%, after that contract with 3.43%, then group with 0.48%. According to this, we can see that transient customers have the highest booking percentage.

Graph 3 shows the booking trend for each month. As you can see, most bookings were made from July to August, which means people like to travel more in summer. Although, the least bookings were made at the beginning and end of the year. This graph also clarifies that resort hotels had more bookings at the beginning and end of the year, whereas fewer bookings were made in June and September.

It is clear from graph 4 that city hotels have more cancellation rates than resort hotels.

As shown in graph 5, we can see the Top 15 Booking Countries. Portugal is the number one of all the countries in the number of bookings with 48586 records. The United Kingdom is next with only 12129 records, which shows us a

massive gap between them. The last country in this subset of the dataset is Sweden, with only 1024 records.

Graph 6 shows the booking distribution by year and hotel type. In 2015, both hotels had a moderate number of guests, with 8,196 bookings for the resort hotel and 13,663 bookings for the city hotel. 2016 has been an excellent year for both hotels as the demand grew significantly, especially for the city hotel, with 2.7X the number of bookings compared to the year prior. Meanwhile, the resort hotel received more than 10,000 bookings this year compared to 2015. Furthermore, 2017 was not as good as 2016, but it was certainly better than 2015. Both hotels could not match the number of bookings they received in 2016, but they had higher numbers than in 2015. Finally, it can be seen clearly over the three years that the city hotel had a higher number of bookings, suggesting people prefer it more.

Graph 7 shows the average time of waiting days on the waiting list.

The city hotel's average waiting list time is 3.2 days. In contrast, the waiting time in the resort hotel is less than a day, which shows a significant difference, but that can be put into perspective when looking at the total number of guests who prefer staying in the city hotel more than the resort hotel [Refer to Graph 6]. Perhaps the city hotel should increase the number of rooms to accommodate the higher number of anticipated guests, which would help reduce the average waiting list time.

In graph 8, the Market Segment Distribution is represented in a pie chart, with 47.4% for online travel agents. Offline travel agents and offline tour operators with 20.3%, after that groups with 16.7%, then direct with 10.5%, the remaining left to corporate, complementary and aviation. According to this, the hotels should invest more in online travel agents.

Graph 9 shows the number of reservations from 07-2015 till 08-2017. City hotels' total number of reservations has been higher than resorts during all the

years! August has the highest number of reservations, followed by July with the second highest for 2016 and 2017. June has the least number of reservations.