**Insights from My Analysis**

**GUESTS**

With a total of 234K guests, 221K adults, and 13K children, I can say that hotels are mostly preferred by guests without children. Portugal ranks first for both hotels in terms of guest numbers, ADR, and total bookings. I would like to highlight two points here: Firstly, in the City Hotel, the number of cancellations for Portugal is more than half of the total reservations for Portugal, and this has been the case every year without any precautions taken; the reasons for this could be investigated, and adjustments could be made based on the findings. Secondly, while the overall repeat customer rate in the dataset is approximately 3%, the repeat rate for Portuguese customers is 85%, indicating that these customers are satisfied with the hotel services. To protect our existing customers, special loyalty programs could be created for them.

Among all customer types, over 90% of reservations come from transient and transient party customers, meaning temporary guests. Among repeat customers, transient customers again account for about 80%. When examining the room type graph, I can say that while there are rooms that other customers do not prefer, transient customers do not seem to care much about room preferences. The meal type BB has been overwhelmingly preferred; perhaps this is because guests want to have dinner outside to explore the area. To facilitate this or encourage them to dine at the hotel, mini tours outside the hotel or entertainment events within the hotel could be organized in the evenings.

The most preferred period for guests to visit hotels is during the summer, especially in August, while January is the least preferred month. From this, I can conclude that most hotels are located in the northern hemisphere and engage in summer tourism.

**RESERVATIONS**

Total reservations are 119K, total arrivals are 74K, total cancellations are 44K, the average lead time for check-outs is 87, the average ADR is 103, and the average stay calculated using the DAX functions is 3 days. The cancellation rate relative to the total reservations shows that the highest increases occur during the summer months of the 3rd quarter, which is a peak reservation time. Naturally, as the number of reservations increases, the cancellation rate also rises. To prevent the increase in cancellations during other periods, it might be beneficial to offer packages with additional services like spa treatments, indoor pools, yoga, meditation, and room service.

In the market segment, online travel agencies (TA) are significantly ahead. We can increase the number of bookings by negotiating new deals with these agencies or finding new online TAs. Agency number 9 has been the most profitable and has also provided the most bookings; this situation can be supported, and efforts can be made to maintain a certain level of cancellation rates. The ADR reached its highest level in August on a monthly basis, and in 2016 on an annual basis. The fact that it did not increase in 2017 might be due to the absence of data for the last four months of that year, meaning we cannot definitively say there was a decline.

The stay rate for check-out guests during weekdays is around 72%, while the total reservations show that weekday bookings constitute 88% and weekend bookings 12%. Naturally, weekday customers contribute the most to ADR; thus, weekend campaigns could be implemented, and prices for certain weekdays could be increased.

**HOTEL COMPARISON**

The City Hotel has a total of 79K reservations, 33K cancellations, an ADR of 8.35M, an average stay of 2.94 days, a total of 135K stays, and 154K total guests. The Resort Hotel has a total of 40K reservations, 11K cancellations, an ADR of 3.80M, an average stay of 4.20 days, a total of 120K stays, and 80K total guests. Upon researching this data, I found that 60% of City Hotel's cancellations are no deposit, while 85% of the Resort Hotel's cancellations are also no deposit. The City Hotel may benefit from this, but it could negatively affect customer preferences in the long run. The cancellation rate is 41% for the City Hotel and 27% for the Resort. The Resort may have a more reliable and elite image for customers and may implement policies that are more satisfying and loyal to repeat customers.

In terms of customer type, the cancellation rate for transient customers is 89% overall, and transient customers have the highest rate in both hotels. The reasons for this can be investigated. When examining the number of agencies, the Resort had more agencies until the first quarter of 2016. However, between the second and fourth quarters of 2016, there was competition with the increasing number of agencies for the City, leading to a decline for the Resort. Interestingly, outside of July and August 2015, the City Hotel consistently earned more than the Resort regarding ADR. The City might have started to become popular later due to campaigns it executed during this period or it could have increased the number of hotels and rooms after August 2015.

In terms of country comparisons, Portugal ranks first in multiple cases, but for the UK, the Resort has more reservations and agency numbers, although the cancellation rate is lower, the Resort's ADR is also lower; the reasons for this can be investigated.

**DATASET ANALYSIS**

There is significant competition between resorts and city hotels in Europe as they are densely populated in this region. The most assigned room type has been room A. The Resort has fewer rooms than the City Hotel, yet about 90% of assigned rooms have been reserved in both hotels. Approximately 85% of guests have used the no deposit option.

93% of guests do not require car parking space. 84% of guests have not made any booking changes; this indicates that mostly determined customers are coming. There is generally no strong correlation between lead time and cancellations in the graph, but the cancellation rate increases after approximately 300 days of lead time. In fact, all reservations from 2014 were canceled, and when looking at lead time, we see that their average reservation time was about 290 days.

Lastly, I couldn't include this in the dashboards, but assessing the days in the waiting list column, I found that about 97% of values are 0, which is a pleasing situation from the customer's perspective.