

Capstone Project

Exploratory Data Analysis

Hotel Booking Analysis

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Deriving insights for the hotel's management

1. Understanding the dataset
2. Cleaning the data off of null values and undefined values.
3. Framing the relevant questions.
4. Performing exploratory data analysis and deriving the answers.
5. Plotting graphs to find out trends.
6. Deriving inferences which are useful for management.

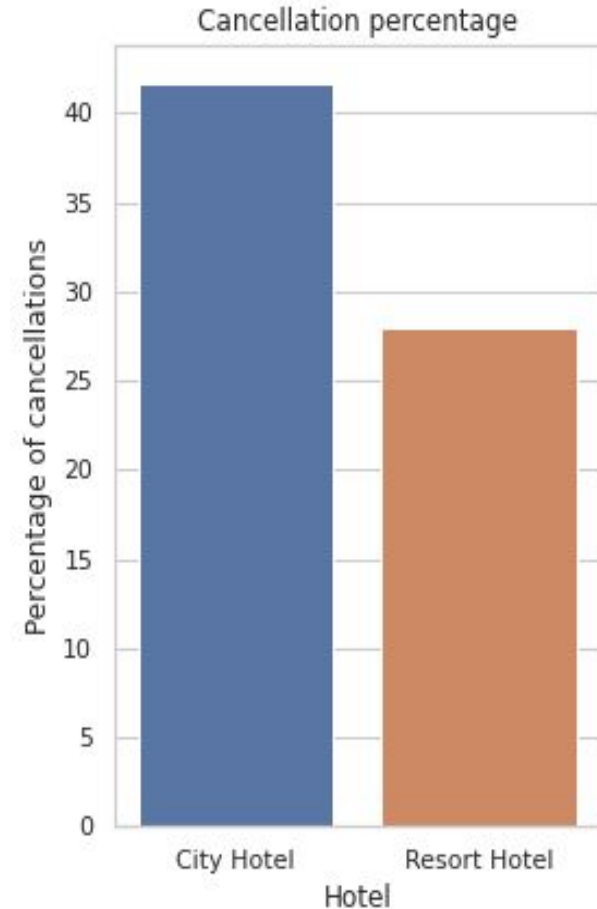
Data processing

1. Prepared the data by deleting a negligible amount of rows with null values.
2. Deleted two columns 'Agent' and 'Company' since they had a high percentage of null values. This does not affect our analysis as they are not used.
3. Changed 'Undefined' values to 'SC' in the 'meals' column as they imply the same. 'SC' means self catered, i.e, the customer did not chose to eat from the hotel.
4. Combined the dates and made it into a readable format.

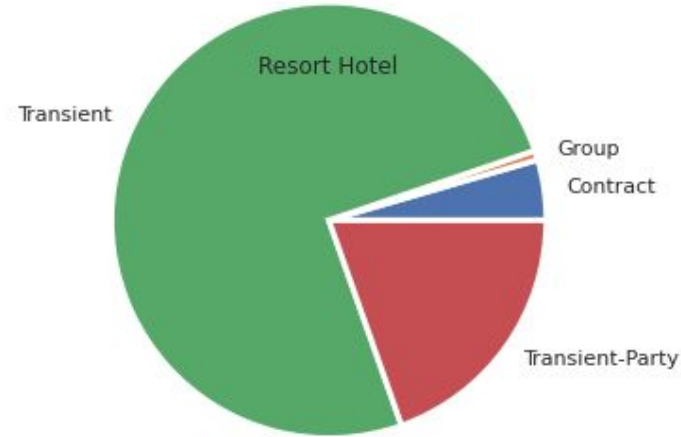
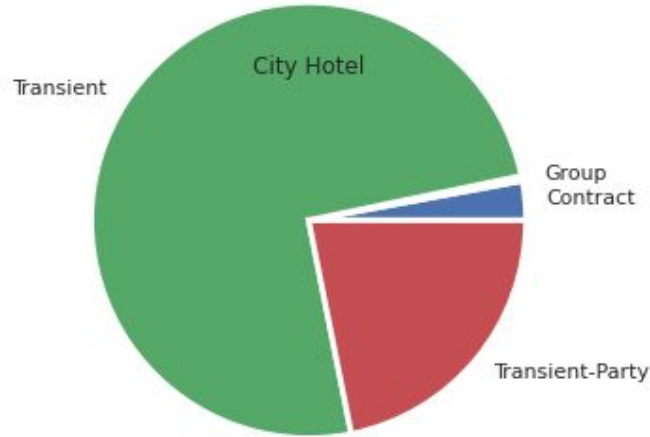
Exploratory Data Analysis

1. What is the percentage of cancellations ?

- More than one third of people who book the hotel initially cancel later on.
- Resort hotels have a lower rate of cancellations than city hotel.
- Inference : The management has to investigate further and find out the exact reason for the high number of cancellations.



2. Which customer types do the hotel attract the most?

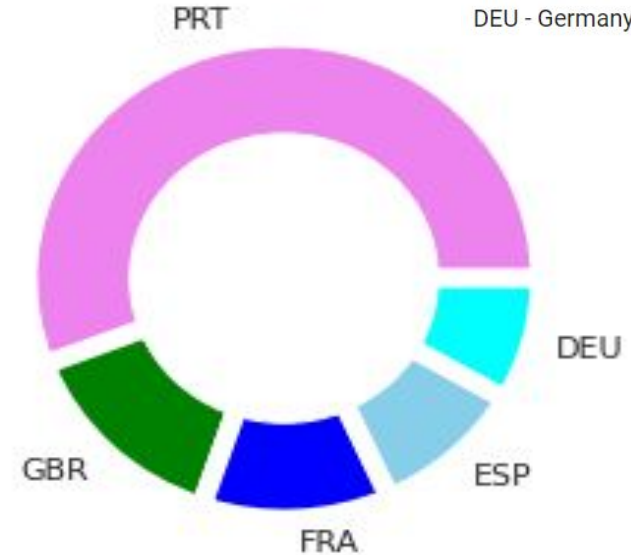


- We can see that almost all bookings are 'Transient' bookings.
- Contract and group bookings are extremely low.
- Inference: More marketing has to be done with companies which book rooms for their employees and also with customers which attend group events like conferences, etc.

3. From which countries the majority of the guests come?

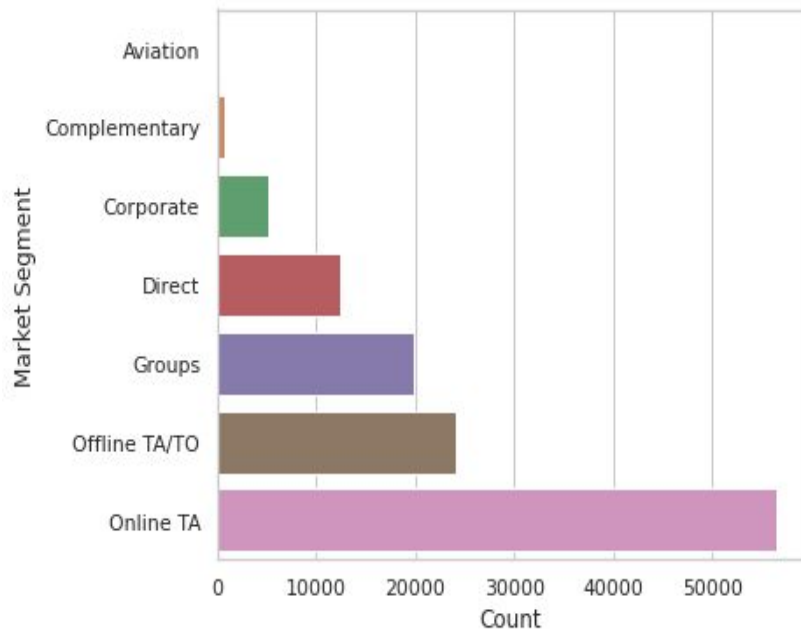
- More than half of the guests from Portugal
- The local population choose to stay at this hotel
- Inference: The management has to look into the online presence of this hotel when guests are trying to book from abroad so as to draw in more tourists.

Country codes:-
PRT - Portugal
GBR - Great Britain
FRA - France
ESP - Spain
DEU - Germany

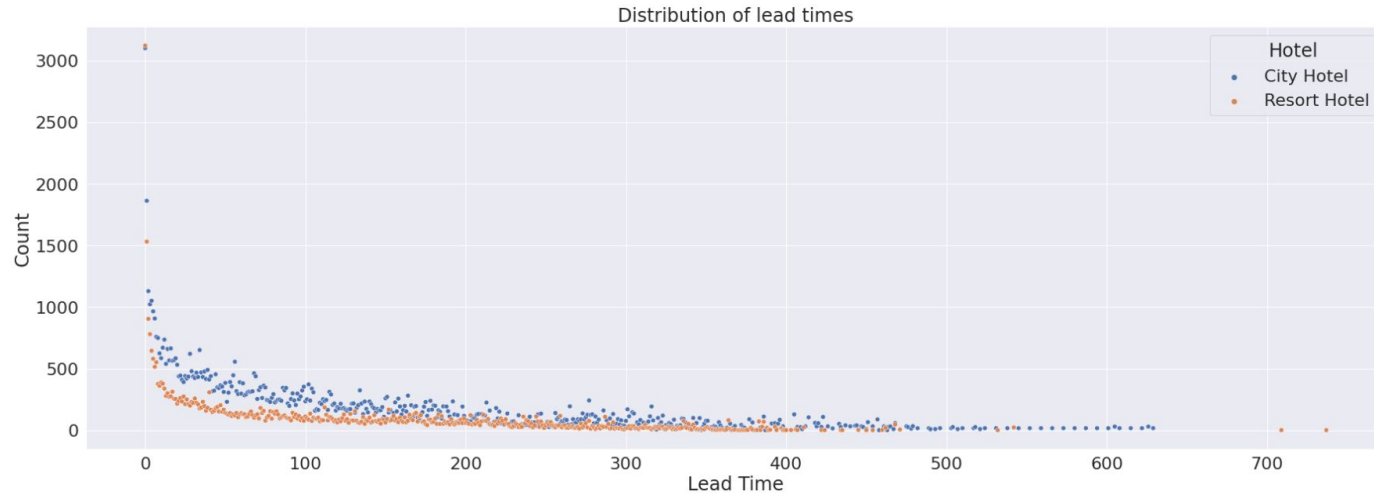


4. From which business entities were the rooms booked?

- Highest number of the bookings are done through online travel agents.
- Tie ups with the local travel agents and travel operators.
- Corporate bookings and complementary bookings are very low.
- ****Inference****: The management has to increase marketing with companies to increase bookings from corporates. One way of doing this might be use complementary bookings to make new contracts with companies.



5. How much time in advance do the customers book their rooms?



- Maximum number of bookings were done on the same day as the check in date.
- Rooms in both these hotels are booked relatively close to the check in date.

Conclusion

Fundamentals of a good hotel, like good rooms and service, appears to be present, which is proven by the popularity of this hotel in the local population. However, in the analysis till now, we see that improvement is required in the corporate and group booking areas.

- To improve this we can chalk up new contracts with companies.
- Construct a conference or party hall, if there is none, to attract group bookings.
- Marketing to companies through the Global Distribution System Technology Companies, like Amadeus.
- Creating and popularising the brand of these hotels.

References

- <https://www.sciencedirect.com/science/article/pii/S2352340918315191>
- <https://www.xotels.com/en/glossary/transient>