Capstone Project Submission

HOTEL BOOKING ANALYSIS

Team Member's Name, Email and Contribution:

Team Members:
 	
1) **Vaitul Sidhdhapara**
 	
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   ii) **Contribution:** Colab (codes), Technical Report (into, conclusion, findings), PPT
 	
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   ii) **Contribution:** Colab (Codes), Technical Report (problem, libraries, abstract), PPT

GitHub Repo link
1) Vaitul Sidhdhapara: https://github.com/vaitulsidhdhapara/Hotel-Booking-Analysis 2) Drashti Shah : https://github.com/ajshahdrashti/Hotel-Bookings-Analysis
SUMMARY

✚ **Capstone Project Topic:**   HOTEL BOOKING ANALYSIS
✚ **Project Component:**   1) NumPy
                       2) Pandas
                       3) Matplotlib
                       4) Seaborn
                       5) Google Colab

⬇ Problem Statement:

Problem Statements in 3 stages.

1. Key metrics
   - Cancellation bookings
   - New Customer acquired
   - Type of rooms and hotel available for booking
   - Revenue of the hotel

2. Data to analyze patterns associated with each segment.
   - Type of hotel, rooms, customer
   - Day of week

3. Predict the future bookings.

⬇ Summary & Conclusion:

In this project, Dataset contains booking information for a 'City Hotel' and a 'Resort Hotel', and includes information such as when the booking was made, length of stay, the number of adults, children and babies, and the number of available parking spaces, booking cancellation information, food type, among other things. All personally identifying information has been removed from the data.

➢ Challenges

(1) There was a lot of duplicate data
(2) Data was present in wrong data type format
(3) Choosing appropriate visualization techniques to use was difficult.
(4) A lot of null values were there in the dataset.
    First of all, we clean it and then we start our EDA.

➢ We have tried to answer these following questions.

1. How many bookings were cancelled?
2. What is the booking ratio between Resort Hotel and City Hotel?
3. What is the percentage of booking for each year?
4. Which is the busiest month for hotel?
5. From which country most guest come?
6. How long people Stay in the hotel?
7. Which was the most booked accommodation type (Single, Couple, Family)?
8. Which market segment has the longest lead time?
9. How many nights guests choose to stay the hotel?
10. What is the ratio of repeated guest?
11. Which type of food (meal) is preferred by customers?

➢ Conclusion

- ✓ Overall ADR of City hotel is slightly higher than Resort hotel.
- ✓ Mostly guests stay for less than 4 nights in hotel and for longer stays they preferred Resort hotel.
- ✓ 4% of visitors return for another booking at the City Hotel, and 6% of visitors return to the Resort hotel for another stay.

- ✓ Europeans and Portuguese are the majority of guests.
- ✓ Mostly preferred channel for booking is TA/TO
- ✓ Booking cancellation ratio in TA/TO is 30%
- ✓ July- August are the busier and most profitable months for both of hotels.
- ✓ Couples are the most common guests for hotels; hence hotels can plan services according to couples needs to increase revenue.
- ✓ Low ADR for longer stays (more than 15 days)
- ✓ Booking cancellation ratio - 27.5%.
- ✓ Agent 9 is done more number of bookings while Agent 464 has lowest cancellation ratio.
- ✓ When it comes to longer stays in hotel, guest do plan much in advance.