Capstone Project Submission

Please write a short summary of your Capstone project and its components. Describe the problem statement, your approaches and your conclusions.

Here we are doing hotel booking analysis with the help of given data-set.

The data-set containing 119390 entries (rows) for two types of respective hotels for three years (2015-17), and each entry containing 32 categorical features which are especially helpful during complete analysis.

Here some main components which played crucial role in the analysis like 'hotel' column specifying type of hotel, 'market segment' which indicating towards good partners, meal type, room type, deposit type the customer liking most, as well as some favourable analysis from customer point of view (like ADR low for which month) etc.

The data-set given, was raw and jumbled, there were some null values, data-type, not satisfying the conditions, some columns not required for analysis. So firstly performed EDA, and eliminated duplicate rows, managed null values by replacing it with suitable values, made sure the data-type should be as per need, limited the outlier by performing required action.

Tried to find out hotel type more popular, and which hotel can generate more revenue, did analysis of car parking requirements, busiest months for hotels, sources to increase hotel revenue (like market segment, agents), customer retention and which group countries contributing more to this segment by their natives.

Now from our conclusion point of view we can say that,

 ➢ City Hotels are more popular and generate more revenue compared to Resort Hotels.
 ➢ Duration of stays and ADR are negatively correlated.
 ➢ The busiest months for hotels are July and August for both types of hotels.
 ➢ Higher lead time leads to higher booking cancellations and vice-versa.
 ➢ The most demanding room type is A (room with a discount available).
 ➢ Room type H (room with complementary health facilities) generates more revenue for hotels as compare to other room types.
 ➢ The popular meal type is BB (Bed and Breakfast).
 ➢ Southern Europe (group countries) is the best contributor.

Now at the end of our analysis we can say things like business partners, customer satisfaction, choices available for the customers, services provided by hotels play a major role in hotel's establishment and sustainability.

For a good start the things appeared, finally after this entire analysis, should be taken into consideration.

Contributor Roles :

1. Sonali Kaushal (doll.kaushal181@gmail.com):

- Data Wrangling
- Analysis on the basis of hotel
  - Best time of hotel booking
- Analysis on the basis of ADR
  - Relationship between ADR and no of stays
  - Highest revenue generation (hotel wise)
- Analysis on Distribution Channel
  - Most Preferred distribution channels

2. Somya Hingorani (somya.hingorani1899@gmail.com):

- Data wrangling
- Analysis on the basis of hotel
  - Minimum and maximum stays in hotel
  - Hotel requirement of car parking spaces
- Analysis on the basis of Booking and cancellation
  - Hotel wise cancellation rate
- Analysis on the basis of deposit types
  - Most preferred deposit types

3. Nitesh Verma (niteshavagabond@gmail.com):

- Data wrangling
- Analysis on the basis of hotel
  - Busiest month (hotel wise)
  - Relation between Hotel and lead time (year wise)
- Analysis on the basis meal types
  - Most preferred meal types
- Analysis on the basis of bookings and cancellations
  - Relation between monthly booking and monthly cancellation

4. Harsh Vardhan (harsh9vardhan9@gmail.com):

- Data wrangling
- Analysis on the basis of room type
  - Most demanded room type
  - Highest generation of ADR by room type
- Analysis on the basis of Distribution Channel
  - Most revenue generator distribution channel
- Analysis on the basis of deposit type
  - Most preferred deposit type

5. Prateek Gupta (prateekgupta0786@gmail.com):

- Data wrangling
- Analysis on the basis of country
  - Highest no guests country wise (visualization of map)
- Analysis on the basis of customer type
  - Most number of customer type
  - Customer retentiongraph
  - Special requests by customers

GitHub Link :

My individual work link (which contains my part in group):
https://github.com/guptaprateek98/capstone_hotel/blob/main/Copy_Hotel_Booking_Analysis_Capstone_Project.ipynb

My group's work link (accumulative final) :
https://github.com/guptaprateek98/capstone_hotel/blob/main/Hotel_Booking_Analysis_Prateek_Capstone_Project.ipynb

My GitHub link :

https://github.com/guptaprateek98/capstone_hotel

Please paste the drive link to your deliverable folder. Ensure that this folder consists of the project colab notebook, project presentation and video.

Drive Link: https://drive.google.com/drive/folders/1kuCJsQwqcH-bDd13FnkRMYBEcCuMfPNT?usp=sharing