**CAPSTONE PROJECT ON HOTEL BOOKING ANALYSIS**

**MECE**

**(Mutually Exclusive and Collectively Exhaustive)**

**Booking Analysis**

* Booking trends over the years, including the number of bookings and its cancellations rates.
* Analyze monthly booking patterns to identify peak months and optimize marketing strategies.
* Compare stays in weekend nights and weekday nights to determine preferences and variations by hotel type.
* Visualize the relationship between the number of required car parking spaces and booking types (Resort Hotel vs. City Hotel).
* Visualize booking distribution across different market segments and analyze cancellation rates within each segment.

**Guest Analysis**

* Visualize the distribution of adults, children, and babies in bookings. Explore the impact of children and babies on cancellation rates.
* Visualize the percentage of repeated guests for each hotel type (Resort Hotel vs. City Hotel) over time. Explore factors influencing guest retention.
* Analyze the impact of a guest's booking history (previous cancellations and noncanceled bookings) on their likelihood of canceling a current booking.
* Analyze whether guests who make multiple bookings tend to consistently request the same room type or if their preferences change over time.

**Meal and Stay Analysis**

* Analyze the distribution of Average Daily Rates (ADR) and identify correlations with the number of special requests made by guests.
* Use Power BI to explore how the total number of special requests made by guests varies by hotel type and customer type (e.g., Transient, Group).
* Explore meal plans and their impact on Average Daily Rates (ADR). Analyze meal plan preferences and their association with booking channels.
* Analyze how meal plans correlate with stay duration and investigate any differences in stay lengths based on meal plans.
* Correlate parking requirements and special requests with different meal plans. Determine if certain meal plans result in more requests or parking needs.
* Explore how meal plans are distributed across various booking channels. Analyze if certain channels are associated with specific meal plans.

**Booking Source and History Analysis**

* Calculate and visualize the booking conversion rate (canceled bookings to total bookings) over time.
* Visualize the distribution of reserved and assigned room types. Analyze whether guests tend to receive the room type they initially reserved.
* In vestigate the relationship between the number of booking changes made by guests and their likelihood of canceling a booking.
* Analyze room type preferences based on customer types (e.g., Transient, Group) and identify any patterns in room type selection.
* Compare the effectiveness of booking distribution channels in generating confirmed bookings. Identify the most commonly used channels by guests.

**Reservation Analysis**

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* Provide an overview of reservation statuses over time, including the percentage of canceled, checkedout, and noshow bookings.
* Analyze trends in reservation status dates, such as the busiest checkout dates or patterns in cancellations by month.
* Visualize how reservation statuses vary across different customer types (e.g., Transient, Group) and identify if certain customer types are more likely to result in cancellations or noshows.
* Explore the relationship between reservation statuses and Average Daily Rates (ADR) to determine if there are differences in ADR based on booking outcomes.