# Dashboard Building in Hospitality Domain using PowerBI Tool

## Objective: Getting the Insights about the data.

## Problem Statement:

AtliQ Grands owns multiple five-star hotels across India. They have been in the hospitality industry for the past 20 years. Due to strategic moves from other competitors and ineffective decision-making in management, AtliQ Grands are losing its market share and revenue in the luxury/business hotels category. As a strategic move, the managing director of AtliQ Grands wanted to incorporate “Business and Data Intelligence” to regain their market share and revenue.

As a Data analyst, using the data provided by AtliQ Grands we have to build a dashboard with comprehensive overview of the data to improve decision making by providing the insights about the data.

We have total of 5 CSV files.

1. dim\_date

2. dim\_hotels

3. dim\_rooms

4. fact\_aggregated\_bookings

5. fact\_bookings

Column Description for dim\_date:

1. date: This column represents the dates present in May, June and July.

2. mmm yy: This column represents the date in the format of mmm yy (monthname year).

3. week no: This column represents the unique week number for that particular date.

4. day\_type: This column represents whether the given day is Weekend or Weekday.

Column Description for dim\_hotels:

1. property\_id: This column represents the Unique ID for each of the hotels.

2. property\_name: This column represents the name of each hotel.

3. category: This column determines which class [Luxury, Business] a particular hotel/property belongs to.

4. city: This column represents where the particular hotel/property resides in.

Column Description for dim\_rooms:

1. room\_id: This column represents the type of room [RT1, RT2, RT3, RT4] in a hotel.

2. room\_class: This column represents to which class [Standard, Elite, Premium, Presidential] particular room type belongs.

Column Description for fact\_aggregated\_bookings:

1. property\_id: This column represents the Unique ID for each of the hotels.

2. check\_in\_date: This column represents all the check\_in\_dates of the customers.

3. room\_category: This column represents the type of room [RT1, RT2, RT3, RT4] in a hotel.

4. successful\_bookings: This column represents all the successful room bookings that happen for a particular room type in that hotel on that particular date.

5. capacity: This column represents the maximum count of rooms available for a particular room type in that hotel on that particular date.

Column Description for fact\_bookings:

1. booking\_id: This column represents the Unique Booking ID for each customer when they booked their rooms.

2. property\_id: This column represents the Unique ID for each of the hotels

3. booking\_date: This column represents the date on which the customer booked their rooms.

4. check\_in\_date: This column represents the date on which the customer check-in(entered) at the hotel.

5. check\_out\_date: This column represents the date on which the customer check-out(left) of the hotel.

6. no\_guests: This column represents the number of guests who stayed in a particular room in that hotel.

7. room\_category: This column represents the type of room [RT1, RT2, RT3, RT4] in a hotel.

8. booking\_platform: This column represents in which way the customer booked his room.

9. ratings\_given: This column represents the ratings given by the customer for hotel services.

10. booking\_status: This column represents whether the customer cancelled his booking [Cancelled], successfully stayed in the hotel [Checked Out] or booked his room but not stayed in the hotel [No show].

11. revenue\_generated: This column represents the amount of money generated by the hotel from a particular customer.

12. revenue\_realized: This column represents the final amount of money that goes to the hotel based on booking status. If the booking status is cancelled, then 40% of the revenue generated is deducted and the remaining is refunded to the customer. If the booking status is Checked Out/No show, then full revenue generated will goes to hotels.

## Some Key-metrics to be considered to build a dashboard in hospitality domain are:

1. Revenue – The total revenue realized.
2. RevPAR - RevPAR stands for Revenue per Available room. RevPAR represents the revenue generated per available room, whether or not they are occupied. This helps hotels measure their revenue generating performance to accurately price rooms.
3. OCC % (Occupancy %) – Occupancy means the total successful bookings happened to the total rooms available.
4. ADR (Average Daily Rate) – it is the ratio of total rooms booked/sold. It is the measure of average paid for rooms sold in a given time period.
5. DSRN (Daily Sellable Room Nights) – This metrics tells on average how many rooms are ready to sell for a day considering a time period.

## Steps Performed to build the Dashboard:

1. Data Transformation using Power Query
2. Data Modelling
3. Creating Columns and Measures using DAX formula
4. Creating Visualizations
5. Building the final Dashboard

## Insights from the dashboard:

* Looking at the ADR in Trend by Key Metrics, the trend of ADR is flat which indicating that the hotels are not following any Pricing Strategy and they have a fixed price. Also, the data we have is between May to July that is the summer season where we could expect that people would travel more. So, this is an opportunity to the hotels to adapt dynamic pricing and could expect increase in revenue.
* Also, looking at the value of ADR in weekday and weekend table, the value of ADR on weekdays and weekends are marginally different. This shows that these hotels are not only not following dynamic pricing but also Weekday/Weekend Pricing.
* In the Property by Key Metrics table, if we sort the data according to the Occupancy% from lowest to highest, we can see there is a relation between the Occupancy% and the Average Rating of the hotel. i.e., the hotels with less occupancy have also low Average Rating.
* Looking at the Realization% and ADR by platform, in this the ADR is high in direct offline and little less in direct online. from this we can suggest that to give coupons at 5% or provide some special package for people who book the rooms in their website. This could become one of the strategies to increase the Occupancy% and thus increase in revenue.