**Hospitality Revenue Analytics using Power BI**

**Task-**

1. Create the metrics according to the metric list.
2. Create a dashboard according to the mock-up provided by stakeholders.
3. Create relevant insights that are not provided in the metric list/mock-up dashboard

**Key Metrics for Projects**

1. RevPar (Revenue per Available Room)

RevPar = Total Revenue/Total Rooms Available to Sell

1. ADR (Average Daily Rate)

ADR = Total Rooms Revenue/Number of Rooms Sold

1. Occ% (Occupancy %) = Total Rooms occupied/Total Rooms Available
2. Realization- URN/BRN

SRN = Sellable Room Nights = SRN/ DSRN is a business Term used for **Available Rooms**

DSRN = Daily Sellable Room Nights

DURN(Daily Utilized Room Nights)

URN = Utilize Room Nights

BRN = Booked Room Nights= BRN= URN + No show + Cancellation

* Fridays & Saturdays are considered as Weekends

Steps involve in Power Query

1. Go to Get Data, click on More, then Choose the Folder in which our Files Are Exists.
2. Then now folder is imported to power query
3. Next duplicate the folders into multiple times to get every separate tables by Duplicate table option like dim\_date, dim\_hotels ect.
4. Then promote the headers of the table in dim\_rooms, then delete the existing ‘day\_type’ column from dim\_date table by using remove option. Always rename the ‘Applied step’ as per the Action done for better understanding.
5. Then Click on Close & Apply to move from Power Query to Power BI Desktop.

Steps involve in Power BI Desktop

**Data Modeling**

1. First Go to ‘Model view’, then do the Data Modeling by bring ‘date’ column from dim\_date table and drop it in ‘check\_in\_date’ column to fact\_bookings table and also ‘date’ column from dim\_date table and drop it in ‘check\_in\_date’ column to fact\_aggregated\_bookings table bring to build the Active Relationship between multiple tables.
2. Second step is built the Active Relationship between ‘room\_id’ column from dim\_rooms table and drop it in ‘room\_category’ column to fact\_bookings table and also ‘room\_id’ column from dim\_rooms table and drop it in ‘room\_category’ column to fact\_ aggregated\_bookings table.

**Building Matrix using DAX**

1. Create only week\_number from dim\_date table using ‘WEEKNUM’ DAX function.

Code- Week\_number\_only = WEEKNUM(dim\_date[date])

1. Creating day\_type for Friday and Saturday as Weekend as per the requirement using below function by using Variable function. To shift next line press ‘Alt+Enter’

Code-

day\_type =

var wkd = WEEKDAY(dim\_date[date])

return if (wkd>5, "Weekend", "Weekday")

1. Create a New Measures for Key matrix and have to group them as a separate table by using option ‘Enter data’ in Home Tab.
   1. Revenue = SUM(fact\_bookings[revenue\_realized])
   2. Total Bookings = COUNT(fact\_bookings[booking\_id])
   3. Total Capacity = SUM(fact\_aggregated\_bookings[capacity])
   4. Total Successful Bookings = SUM(fact\_aggregated\_bookings[successful\_bookings])
   5. Occupancy % = DIVIDE([Total Succesful Bookings],[Total Capacity],0)
   6. Average Rating = AVERAGE(fact\_bookings[ratings\_given])
   7. No of days = DATEDIFF(MIN(dim\_date[date]),MAX(dim\_date[date]),DAY) +1
   8. Total cancelled bookings = CALCULATE([Total Bookings],fact\_bookings[booking\_status]="Cancelled")
   9. Cancellation % = DIVIDE([Total cancelled bookings],[Total Bookings])
   10. Total Checked Out = CALCULATE([Total Bookings],fact\_bookings[booking\_status]="Checked Out")
   11. Total no show bookings = CALCULATE([Total Bookings],fact\_bookings[booking\_status]="No Show")
   12. No Show rate % = DIVIDE([Total no show bookings],[Total Bookings])
   13. Booking % by Platform = DIVIDE([Total Bookings],  
        CALCULATE([Total Bookings],   
        ALL(fact\_bookings[booking\_platform])  
        ))\*100
   14. Booking % by Room class = DIVIDE([Total Bookings],  
        CALCULATE([Total Bookings],   
        ALL(dim\_rooms[room\_class])  
        ))\*100
   15. ADR = DIVIDE( [Revenue], [Total Bookings],0)
   16. Realisation % = 1- ([Cancellation %]+[No Show rate %])
   17. RevPAR = DIVIDE([Revenue],[Total Capacity])
   18. DBRN = DIVIDE([Total Bookings], [No of days])
   19. DSRN = DIVIDE([Total Capacity], [No of days])
   20. DURN = DIVIDE([Total Checked Out],[No of days])
   21. Revenue WoW change % =   
       Var selv = IF(HASONEFILTER(dim\_date[wn]),SELECTEDVALUE(dim\_date[wn]),MAX(dim\_date[wn]))  
       var revcw = CALCULATE([Revenue],dim\_date[wn]= selv)  
       var revpw = CALCULATE([Revenue],FILTER(ALL(dim\_date),dim\_date[wn]= selv-1))  
         
       return  
         
         
       DIVIDE(revcw,revpw,0)-1
   22. Occupancy WoW change % =   
       Var selv = IF(HASONEFILTER(dim\_date[wn]),SELECTEDVALUE(dim\_date[wn]),MAX(dim\_date[wn]))  
       var revcw = CALCULATE([Occupancy %],dim\_date[wn]= selv)  
       var revpw = CALCULATE([Occupancy %],FILTER(ALL(dim\_date),dim\_date[wn]= selv-1))  
         
       return  
         
         
       DIVIDE(revcw,revpw,0)-1
   23. ADR WoW change % =   
       Var selv = IF(HASONEFILTER(dim\_date[wn]),SELECTEDVALUE(dim\_date[wn]),MAX(dim\_date[wn]))  
       var revcw = CALCULATE([ADR],dim\_date[wn]= selv)  
       var revpw = CALCULATE([ADR],FILTER(ALL(dim\_date),dim\_date[wn]= selv-1))  
         
       return  
         
         
       DIVIDE(revcw,revpw,0)-1
   24. Revpar WoW change % =   
       Var selv = IF(HASONEFILTER(dim\_date[wn]),SELECTEDVALUE(dim\_date[wn]),MAX(dim\_date[wn]))  
       var revcw = CALCULATE([RevPAR],dim\_date[wn]= selv)  
       var revpw = CALCULATE([RevPAR],FILTER(ALL(dim\_date),dim\_date[wn]= selv-1))  
         
       return  
         
         
       DIVIDE(revcw,revpw,0)-1
   25. Realisation WoW change % =   
       Var selv = IF(HASONEFILTER(dim\_date[wn]),SELECTEDVALUE(dim\_date[wn]),MAX(dim\_date[wn]))  
       var revcw = CALCULATE([Realisation %],dim\_date[wn]= selv)  
       var revpw = CALCULATE([Realisation %],FILTER(ALL(dim\_date),dim\_date[wn]= selv-1))  
         
       return  
         
         
       DIVIDE(revcw,revpw,0)-1
   26. DSRN WoW change % =   
       Var selv = IF(HASONEFILTER(dim\_date[wn]),SELECTEDVALUE(dim\_date[wn]),MAX(dim\_date[wn]))  
       var revcw = CALCULATE([DSRN],dim\_date[wn]= selv)  
       var revpw = CALCULATE([DSRN],FILTER(ALL(dim\_date),dim\_date[wn]= selv-1))  
         
       return  
         
         
       DIVIDE(revcw,revpw,0)-1

**Building the Visuals and Dashboard**