# **HOTEL HOSPITALITY.**



**POWER BI PROJECT**

**INTRODUCTION:**

* *The project focuses on analyzing key performance metrics in the hospitality or booking industry using Power BI.*
* *It provides a comprehensive overview of revenue, bookings, occupancy, and performance indicators over time.*
* *The analysis helps identify trends and performance changes on a week-over-week (WoW) basis for better decision-making.*
* *Key metrics such as ADR, RevPAR, occupancy rates, and cancellation rates are visualized to assess operational efficiency and profitability.*

DAX SHEET:

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| Revenue | To get the total revenue\_realized | Revenue = SUM(fact\_bookings[revenue\_realized]) |
| Total Bookings | To get the total number of bookings happened | Total Bookings = COUNT(fact\_bookings[booking\_id]) |
| Total Capacity | To get the total capacity of rooms present in hotels | Total Capacity = SUM(fact\_aggregated\_bookings[capacity]) |
| Total Succesful Bookings | To get the total succesful bookings happened for all hotels | Total Succesful Bookings = SUM(fact\_aggregated\_bookings[successful\_bookings]) |
| Occupancy % | Occupancy means total successful bookings happened to the  total rooms available(capacity) | Occupancy % = DIVIDE([Total Succesful Bookings],[Total Capacity],0) |
| Average Rating | Get the average ratings given by the customers | Average Rating = AVERAGE(fact\_bookings[ratings\_given]) |
| No of days | To get the total number of days present in the data. In our case, we have data from May to July. So 92 days. | No of days = DATEDIFF(MIN(dim\_date[date]),MAX(dim\_date[date]),DAY) +1 |
| Total cancelled bookings | To get the"Cancelled" bookings out of all Total bookings happened | Total cancelled bookings = CALCULATE([Total Bookings],fact\_bookings[booking\_status]="Cancelled") |
| Cancellation % | calculating the cancellaton percentage. | Cancellation % = DIVIDE([Total cancelled bookings],[Total Bookings]) |
| Total Checked Out | To get the successful 'Checked out' bookings out of all Total bookings happened | Total Checked Out = CALCULATE([Total Bookings],fact\_bookings[booking\_status]="Checked Out") |
| Total no show bookings | To get the"No Show" bookings out of all Total bookings happened   ("No show" means those customers who neither cancelled nor attend to their booked rooms) | Total no show bookings = CALCULATE([Total Bookings],fact\_bookings[booking\_status]="No Show") |
| No Show rate % | calculating the no show percentage. | No Show rate % = DIVIDE([Total no show bookings],[Total Bookings]) |
| Booking % by Platform | To show the percentage contribution of each booking platform for bookings in hotels.  We have booking platforms like makeyourtrip, logtrip, tripster etc) | Booking % by Platform = DIVIDE([Total Bookings],  CALCULATE([Total Bookings],   ALL(fact\_bookings[booking\_platform])  ))\*100 |
| Booking % by Room class | To show the percentage contribution of each room class over total rooms booked.  We have room classes like Standard, Elite, Premium, Presidential. | Booking % by Room class = DIVIDE([Total Bookings],  CALCULATE([Total Bookings],   ALL(dim\_rooms[room\_class])  ))\*100 |
| ADR | Calculate the ADR(Average Daily rate)  It is the ratio of revenue to the total rooms booked/sold.  It is the measure of the average paid for rooms sold in a given time period | ADR = DIVIDE( [Revenue], [Total Bookings],0) |
| Realisation % | calculate the realisation percentage.  It is nothing but the succesful "checked out" percentage over all bookings happened. | Realisation % = 1- ([Cancellation %]+[No Show rate %]) |
| RevPAR | Calculate the RevPAR(Revenue Per Available Room)  RevPAR represents the revenue generated per available room, whether or not they are occupied. RevPAR helps hotels measure their revenue generating performance to accurately price rooms. RevPAR can help hotels measure themselves against other properties or brands. | RevPAR = DIVIDE([Revenue],[Total Capacity]) |
| DBRN | calculate DBRN(Daily Booked Room Nights)  This metrics tells on average how many rooms are booked for a day considering a time period | DBRN = DIVIDE([Total Bookings], [No of days]) |
| DSRN | calculate DSRN(Daily Sellable Room Nights)  This metrics tells on average how many rooms are ready to sell for a day considering a time period | DSRN = DIVIDE([Total Capacity], [No of days]) |
| DURN | calculate DURN(Daily Utilized Room Nights)  This metric tells on average how many rooms are succesfully utilized by customers for a day considering a time period | DURN = DIVIDE([Total Checked Out],[No of days]) |
| Revenue WoW change % | To get the revenue change percentage week over week.  Here,  revcw for current week revpw for previous week | 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 |
| Occupancy WoW change % | To get the occupancy change percentage week over week.  Here,  revcw for current week revpw for previous week | 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 |
| ADR WoW change % | To get the ADR(Average Daily rate) change percentage week over week.  Here,  revcw for current week revpw for previous week | 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 |
| Revpar WoW change % | To get the RevPar(Revenue Per Available Room) change percentage week over week.  Here,  revcw for current week revpw for previous week | 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 |
| Realisation WoW change % | To get the Realisation change percentage week over week.  Here,  revcw for current week revpw for previous week | 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 |
| DSRN WoW change % | To get the DSRN(Daily Sellable Room Nights) change percentage week over week.  Here,  revcw for current week revpw for previous week | 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 |
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**Project Description:**

* *The project gathers data from multiple sources to track total bookings, cancellations, no-shows, and check-outs for a defined period.*
* *Performance indicators such as average rating, occupancy percentage, and booking percentage by platform and room class are calculated to gauge customer satisfaction and demand.*
* *Key financial metrics like revenue, ADR (Average Daily Rate), and RevPAR (Revenue per Available Room) are analyzed to evaluate profitability.*
* *The project includes visualizations that compare current and past performance with WoW (Week-over-Week) changes to assess growth or areas of concern.*
* *Insights are delivered in an interactive Power BI dashboard, allowing users to explore the data and make data-driven decisions for operational improvement.*