



# Data Visualization Project

*Dashboard for a hospitality client*

# Business objective

- ▶ AtliQ is a company that owns multiple hotel chains across various cities of India
- ▶ Task was to develop a KPI Dashboard for the company, using the given data which can help track its revenue sources and other relevant KPIs across various aspects.
- ▶ It'll help the company to take strategic business decisions based on the insights from the dashboard.

# Problem statement / Project scope

- ▶ Identify the data sources pertaining to revenue management
- ▶ Clean and model the data as per requirement for analysis
- ▶ Create a revenue dashboard that measures important KPIs
- ▶ Relevant filters need to be provided to slice and dice the data
- ▶ The dashboard should depict both high level and granular insights

# Solution approach

- ▶ There are 5 tables provided for tracking revenue, 3 dimension tables (date, hotel, room) and 2 fact tables (bookings, aggregated bookings)
- ▶ Power BI was the tool used for creating the dashboard.
- ▶ The data was imported, analysed and transformed within Power Query.
- ▶ The relationships between the tables were created within Power Pivot.

# Data cleaning/transformation in Power Query

Revenue Insights in Hospitality Domain • Last saved: Today at 12:50 AM

File Home Help Table tools Column tools

Name: day\_type Format: Text Summarization: Don't summarize Data category: Uncategorized

Data type: Text

Structure Formatting Properties Sort Groups Relationships Calculations

```
1 day_type =  
2 var wkd = WEEKDAY(dim_date[date])  
3 RETURN if(wkd > 5, "Weekend", "Weekday")
```

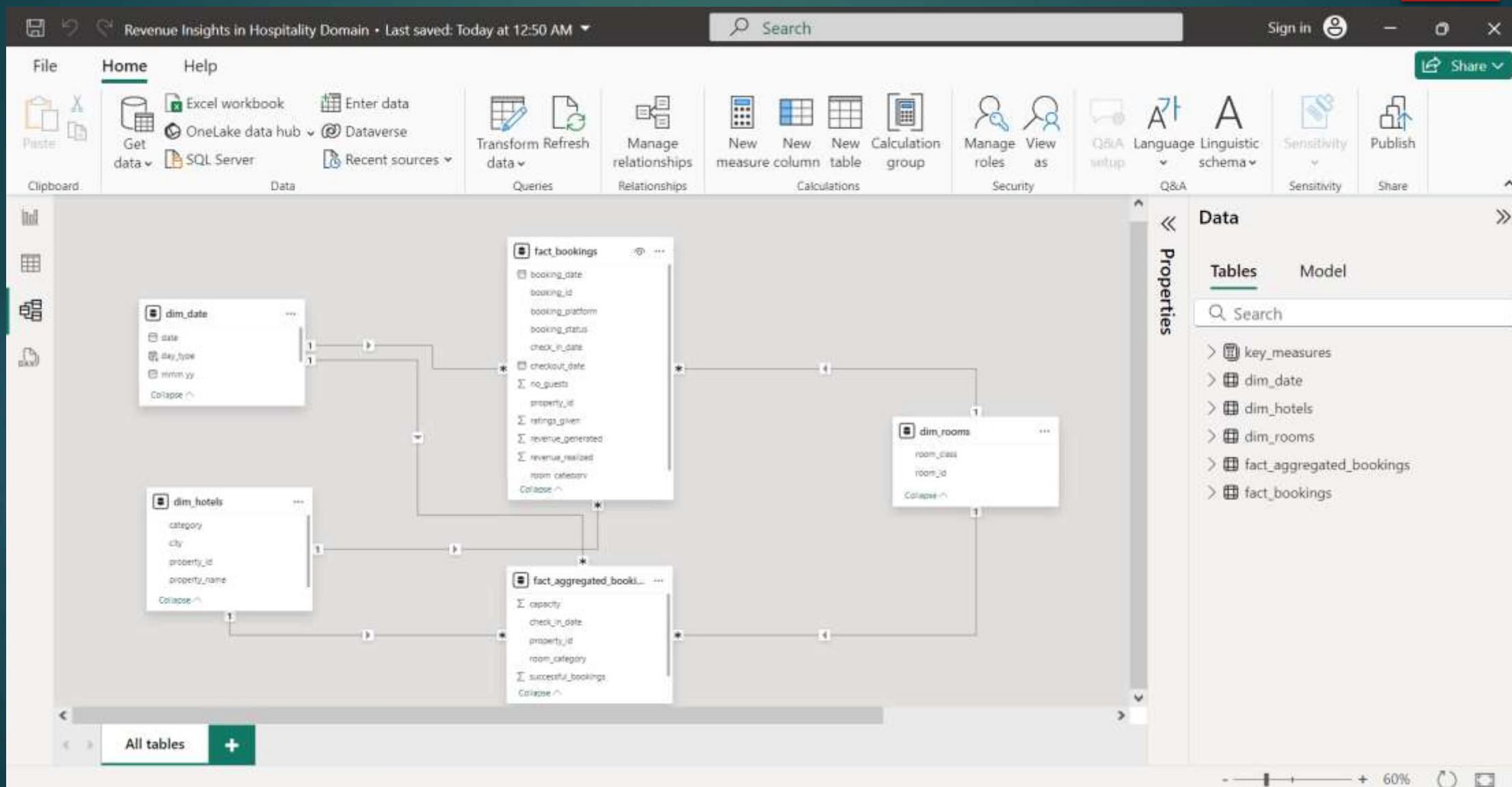
date	mmm yy	week no	Wn	day_type
Sunday, May 1, 2022	May 24	W 19	19	Weekday
Monday, May 2, 2022	May 24	W 19	19	Weekday
Tuesday, May 3, 2022	May 24	W 19	19	Weekday
Wednesday, May 4, 2022	May 24	W 19	19	Weekday
Thursday, May 5, 2022	May 24	W 19	19	Weekday
Friday, May 6, 2022	May 24	W 19	19	Weekend
Saturday, May 7, 2022	May 24	W 19	19	Weekend
Sunday, May 8, 2022	May 24	W 20	20	Weekday
Monday, May 9, 2022	May 24	W 20	20	Weekday
Tuesday, May 10, 2022	May 24	W 20	20	Weekday
Wednesday, May 11, 2022	May 24	W 20	20	Weekday
Thursday, May 12, 2022	May 24	W 20	20	Weekday
Friday, May 13, 2022	May 24	W 20	20	Weekend
Saturday, May 14, 2022	May 24	W 20	20	Weekend
Sunday, May 15, 2022	May 24	W 21	21	Weekday
Monday, May 16, 2022	May 24	W 21	21	Weekday
Tuesday, May 17, 2022	May 24	W 21	21	Weekday
Wednesday, May 18, 2022	May 24	W 21	21	Weekday
Thursday, May 19, 2022	May 24	W 21	21	Weekday

Table: dim\_date (92 rows) Column: day\_type (2 distinct values)

Data

- key\_measures
- dim\_date
  - date
  - day\_type
  - mmm yy
  - week no
  - Wn
- dim\_hotels
- dim\_rooms
- fact\_aggregated\_bookings
- fact\_bookings

# Data modelling in Power Pivot



# Solution approach

- ▶ A few measures were created to calculate the KPIs as shown below:

**Revenue** = Sum of revenue\_realized from Bookings table (in Rs.)

**Total bookings** = Count of booking\_id from Bookings table

**Avg rating** = Average of ratings from Bookings table

**Total capacity** = Sum of capacity from Aggregated bookings table

**Total successful bookings** = Sum of successful bookings from Aggregated bookings table

**No show** = Booking was done but the customer never showed up for any reasons

# Solution approach

- ▶ A few measures were created to measure the KPIs as shown below:

**Occupancy rate** = Total successful bookings / Total capacity (in %)

**Total cancelled bookings** = Count of booking\_id with status='cancelled' from Bookings table

**Cancellation rate** = Total cancelled bookings / Total bookings (in %)

**ADR** = Average daily revenue made by the hotel

**RevPAR** = Revenue made per available room

**DSRN** = Rooms available to sell on a daily basis

**Realization %** = URN(Utilized room nights) / BRN(Booked room nights)



# Revenue Dashboard

Filter by city  
All

Filter by Room type  
All

Hotel Category  
All

May 24

Jun 24

Jul 24

W 19

W 20

W 21

W 22

W 23

W 24

W 25

W 26

W 27

W 28

W 29

W 30

W 31

Revenue

1.69bn

↑ 0.00

RevPar

7,337

↑ 0.00

DSRN

2,528

→ 0.00

Occupancy %

57.79%

↑ 0.00

ADR

12.70K

↑ 0.00

Realisation %

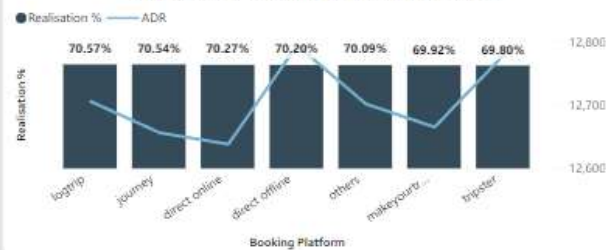
70.14%

↓ 0.00

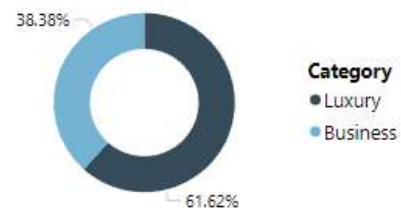
% values are on Week o Week change

	RevPAR	Occupancy %	ADR	Realisation %
Weekday	7,082.53	55.85%	12,682.41	69.94%
Weekend	7,971.63	62.64%	12,725.49	70.59%
Total	7,336.56	57.79%	12,695.75	70.14%

Realisation % and ADR by booking platform



% Revenue by Category



Trend by Key Metrics



Property by Key Metrics

prope rty_id	property _name	city	revenu e	RevP AR	Occupan cy %	ADR	DSRN	DBRN	DURN	Realisati on %	Cancellati on %	Average Rating
19558	Atliq Grands	Bangal ore	54M	5,527	44.33%	12,468	107	47	33	70.06%	24.49%	2.37
17564	Atliq Seasons	Mumba i	65M	7,397	44.57%	16,597	97	43	31	70.59%	24.81%	2.30
18559	Atliq Exotica	Hydera bad	47M	4,061	44.57%	9,111	128	57	40	70.57%	24.33%	2.33
17562	Atliq Bay	Mumba i	51M	6,803	44.86%	15,167	83	37	26	69.60%	25.44%	2.37
18563	Atliq	Hydera bad	44M	5,014	52.80%	9,180	07	51	36	69.57%	26.00%	2.07
Total			1688M	7,337	57.79%	12,69	2,528	1,461	1,025	70.14%	24.84%	3.62

RevPAR - Revenue per available room | DSRN - Daily sellable room nights | ADR - Average Daily Rate



Home

tooltip revenue

tooltip revpar

tooltip dsrn

tooltip occupancy%

tooltip adr

tooltip real%



# Features of the dashboard

- ▶ The following 5 visuals were provided:
  - ▶ **Realization% and ADR by platform** = Bar chart shows realization rate and ADR generated across various booking platforms
  - ▶ **Revenue by room type** = Dough nut chart shows the distribution of revenue by room type
  - ▶ **Trend by key Metrics** = A line chart showing us trends of room bookings on a weekly basis.
  - ▶ **KPI table** = A matrix visual (pivot table) showing the various KPIs across cities and hotels in each city.

# Features of the dashboard

- ▶ A bunch of card visuals were placed to show the values of important KPIs
- ▶ The following filters were provided to slice and dice the data:
  - ▶ Month-year
  - ▶ City
  - ▶ Booking status
  - ▶ Hotel Category
- ▶ The visuals are interactive in nature
- ▶ Tooltips pop-up when you hover over any card visual for more information about the data point

# Business outcomes

- ▶ The following are some important business insights derived from the dashboard:
  - ▶ Mumbai generates highest revenue and Delhi the least revenue during May to Jul 2022. Company need to focus on increasing the revenue in Delhi.
  - ▶ The occupancy rate is higher during weekends across all cities, months and booking platforms. Leverage this insight to increase revenue generated during weekends.
  - ▶ 70% of the bookings are checked out while 5% of booking don't show up across all cities and booking platforms which means 75% of bookings generate revenue for the hotels.

# Business outcomes

- ▶ The following are some important business insights derived from the revenue dashboard:
  - ▶ Average rating is 3.65 across cities and average stay duration is 2.4 for each booking. Compare it with the industry benchmark across cities and evaluate the performance.
  - ▶ Occupancy rate is highest at Delhi with 60+ % for all months though generates least revenue compared to other cities. Identify the reason for higher occupancy and use that to drive the revenue growth.

# Conclusion

- ▶ A revenue dashboard was built for AtliQ hotels depicting its various KPIs visually
- ▶ Relevant filters along with tooltips and interactions was provided in the dashboard
- ▶ This dashboard can be used for both high-level and in-depth analysis of KPIs across various dimensions

Thank you!