Data Visualization Project Kpi Dashboard for a hospitality client

Project Name: Provide insights to revenue team in Hospitality Domain

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Business objective

➤ AtliQ is a company that owns multiple hotel chains across various cities of India

➤ The Managing director / CEO of AtliQ wants to incorporate 'Business and Data Intelligence' to identify and track the source of revenue for AtliQ hotels

➤ Hence, it is decided to develop a KPI Dashboard for AtliQ, using May-22 to July-22 data, which can help track its revenue sources and other relevant KPIs across various dimensions

➤ It'll help the management take strategic business decisions based on the insights generated from the dashboard.

Problem statement / Project scope

➢ Identify the data sources related to revenue management

➢ Clean and model the data as per requirement for analysis

➢ Create a revenue dashboard that measures important KPIs

➢ Provided relevant filters 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 visualization/dashboard

➢ The data was imported, analyzed and transformed as per necessity within Power Query

➢ The relationships between the tables were created within Power Pivot.

Data cleaning/transformation in Power Query
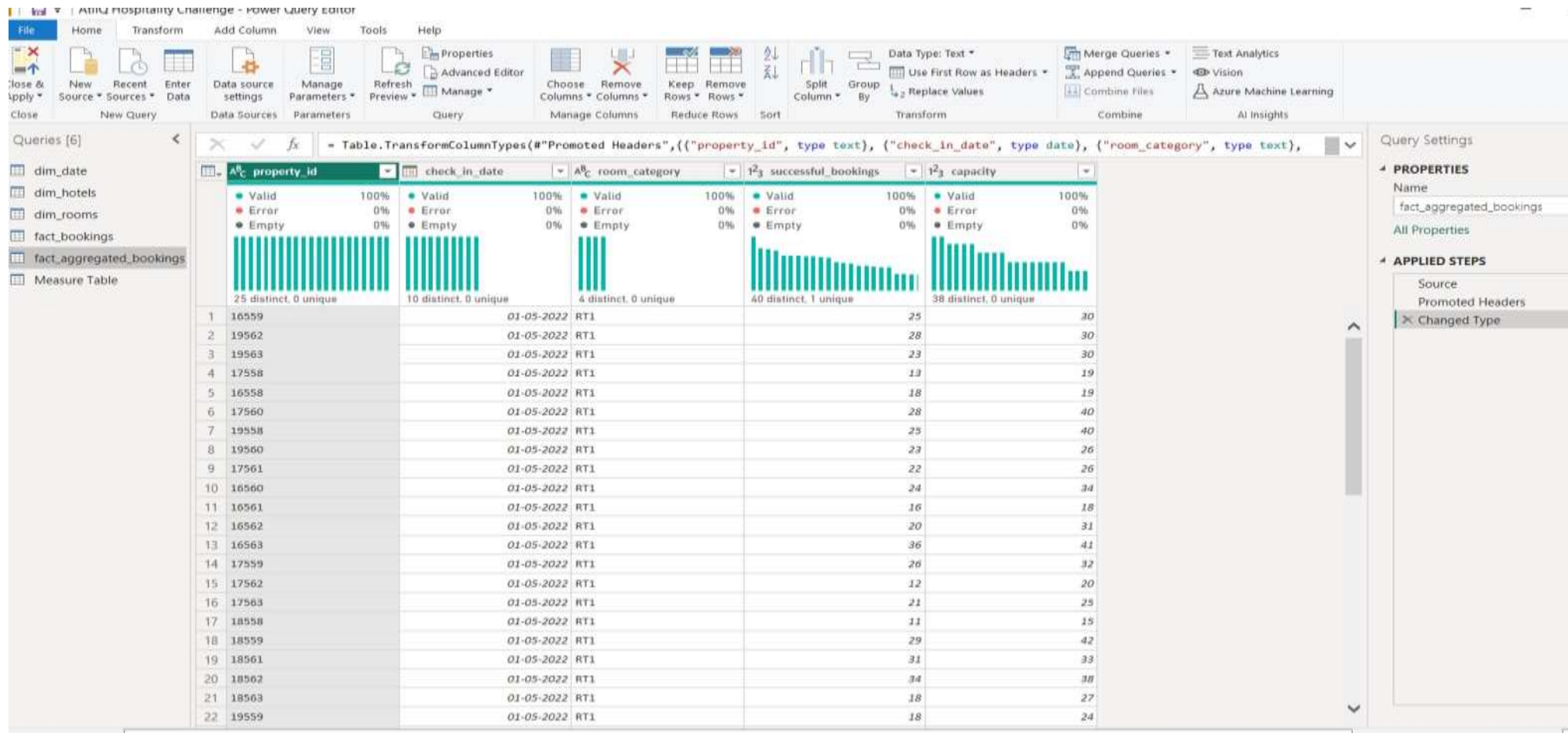
Data modelling in Power Pivot
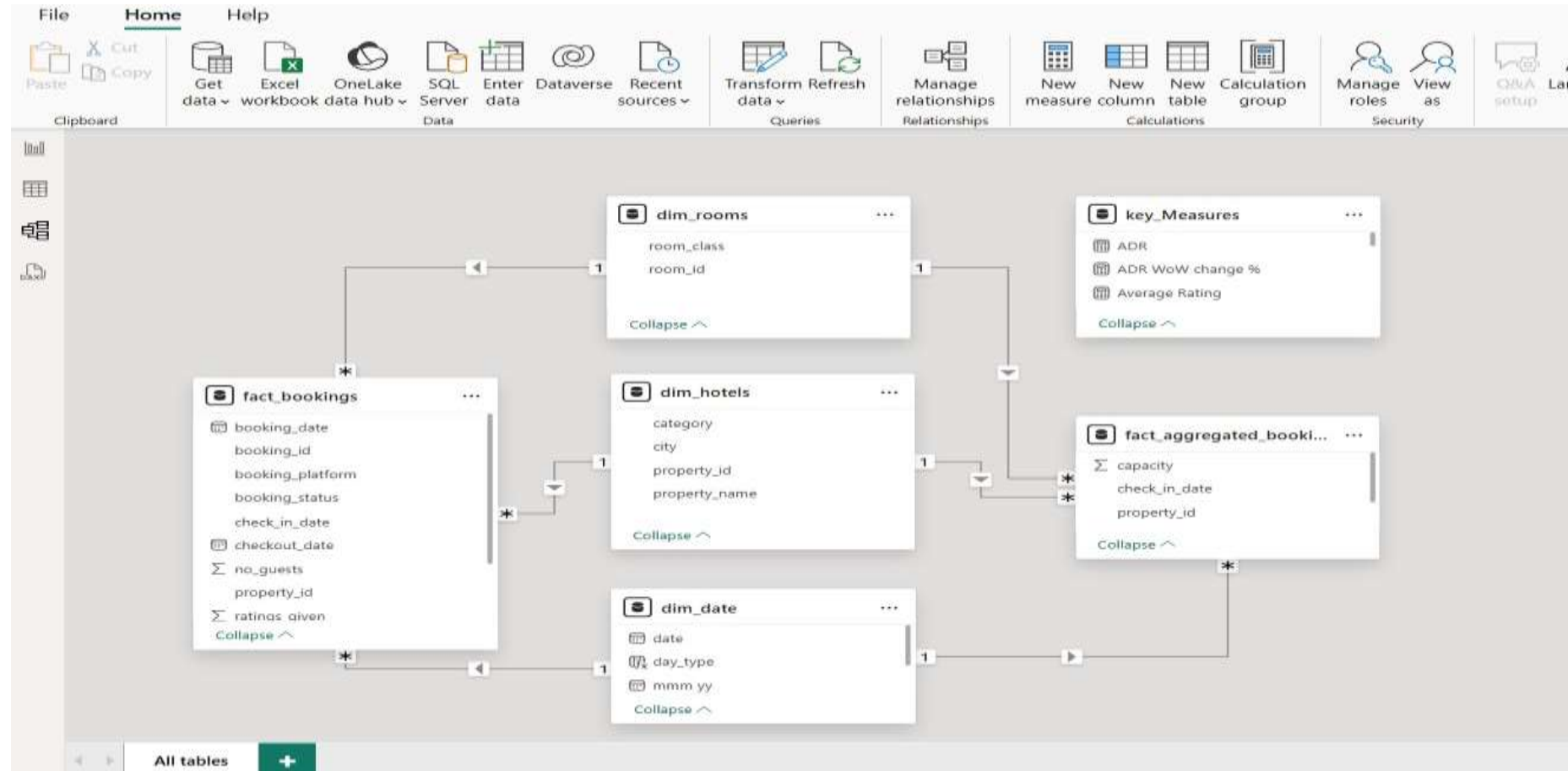
Solution approach

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

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 %)

➢ **Avg stay duration** = Average days stayed by customer in a room per booking

Revenue Dashboard
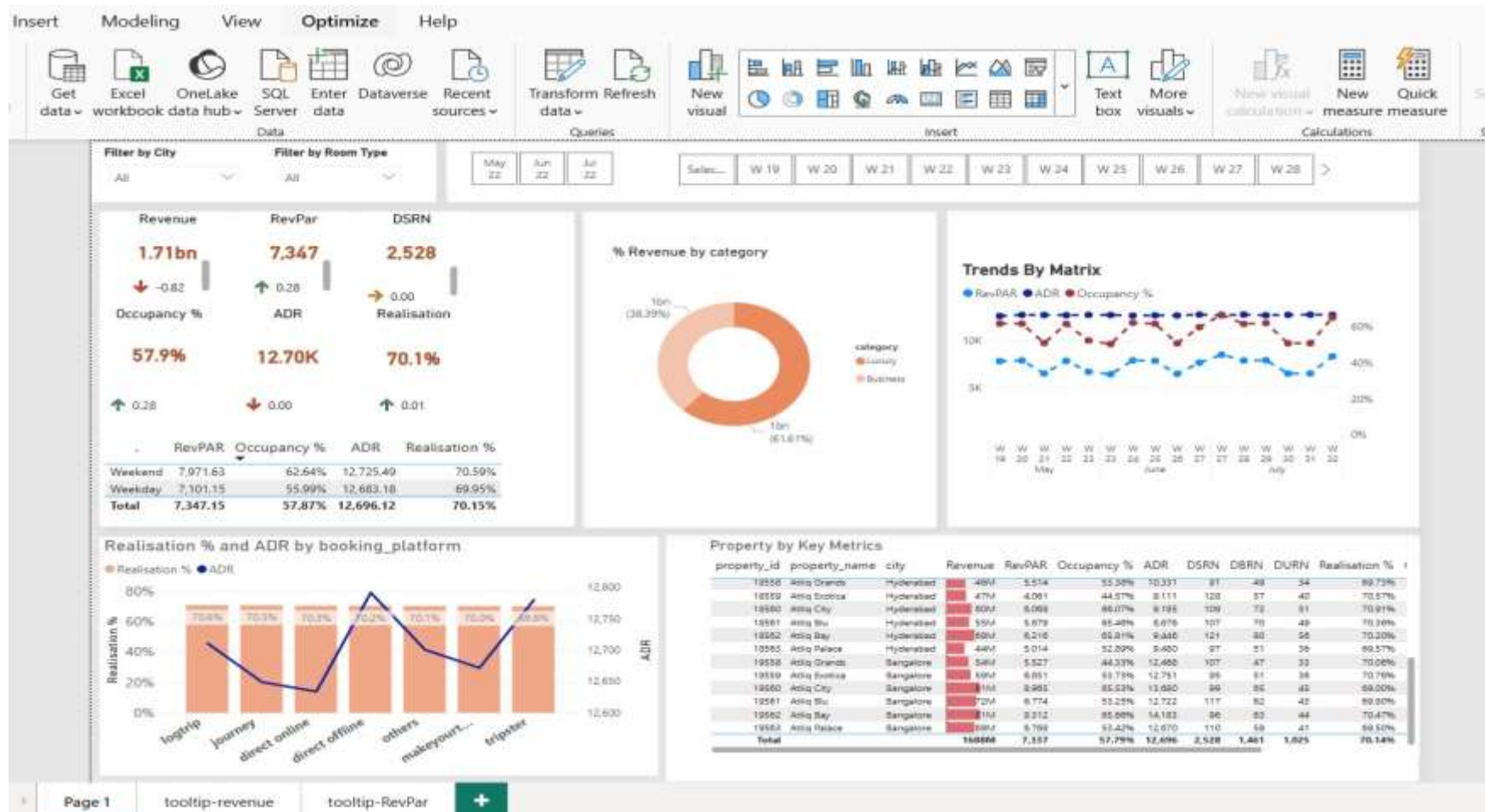
Features of the dashboard

The following 5 visuals were provided:

➢ **Revenue by platform** = Bar chart shows the revenue generated across various booking platforms

➢ **Occupancy rate** = Column chart shows the percentage of rooms occupied by weekend and weekday

➢ **Revenue by room type** = Dough nut chart shows the distribution of revenue by room type

➢ **Bookings by status** = Pie chart shows the distribution of number of bookings based on booking status

➢ **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 in the left to show the values of important KPIs

➢ The following filters were provided to slice and dice the data:

➢ Month-year

➢ City

➢ Booking status

➢ Booking platform

➢ The theme of the dashboard is based on the logo of the company

➢ The visuals are interactive in nature

➢ Tooltips pop-up when hovering over a visual for more information about the data point

Business outcomes

➢ The following are some important business insights derived from the revenue 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 AtliQ hotels. Identify and analyze the reasons for cancellations and try to reduce them.

Business outcomes

➢ The following are some important business insights derived from the revenue dashboard:

➢ Avg rating varies between 3.4 to 3.8 across cities and avg 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!