Data Visualization Project

Kpi Dashboard for a hospitality client

Designed and Presented By

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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

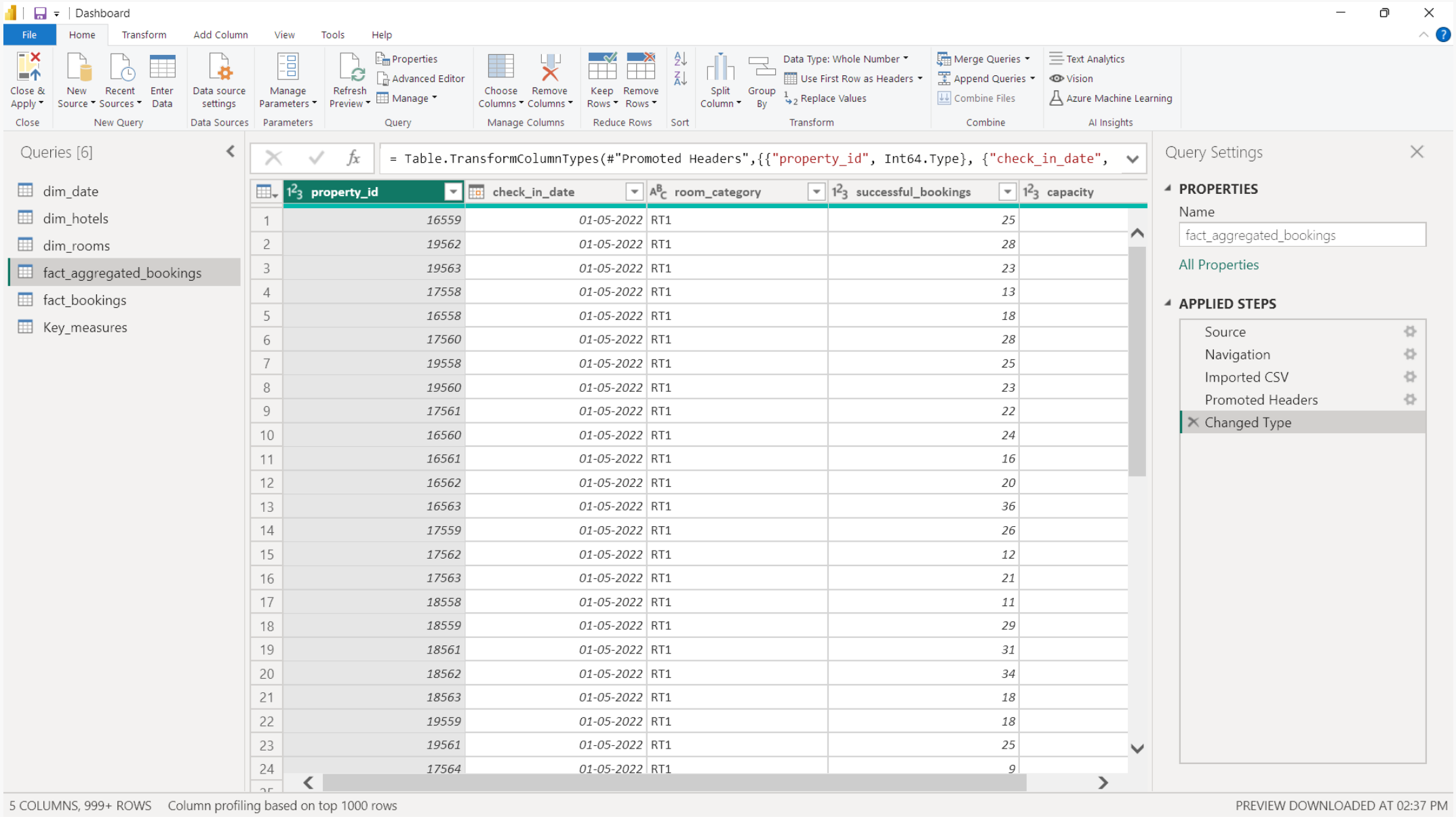
Problem statement / Project scope

- Identify the data sources 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 provided to slice and dice the data
- The dashboard should depict both high level and granular insights

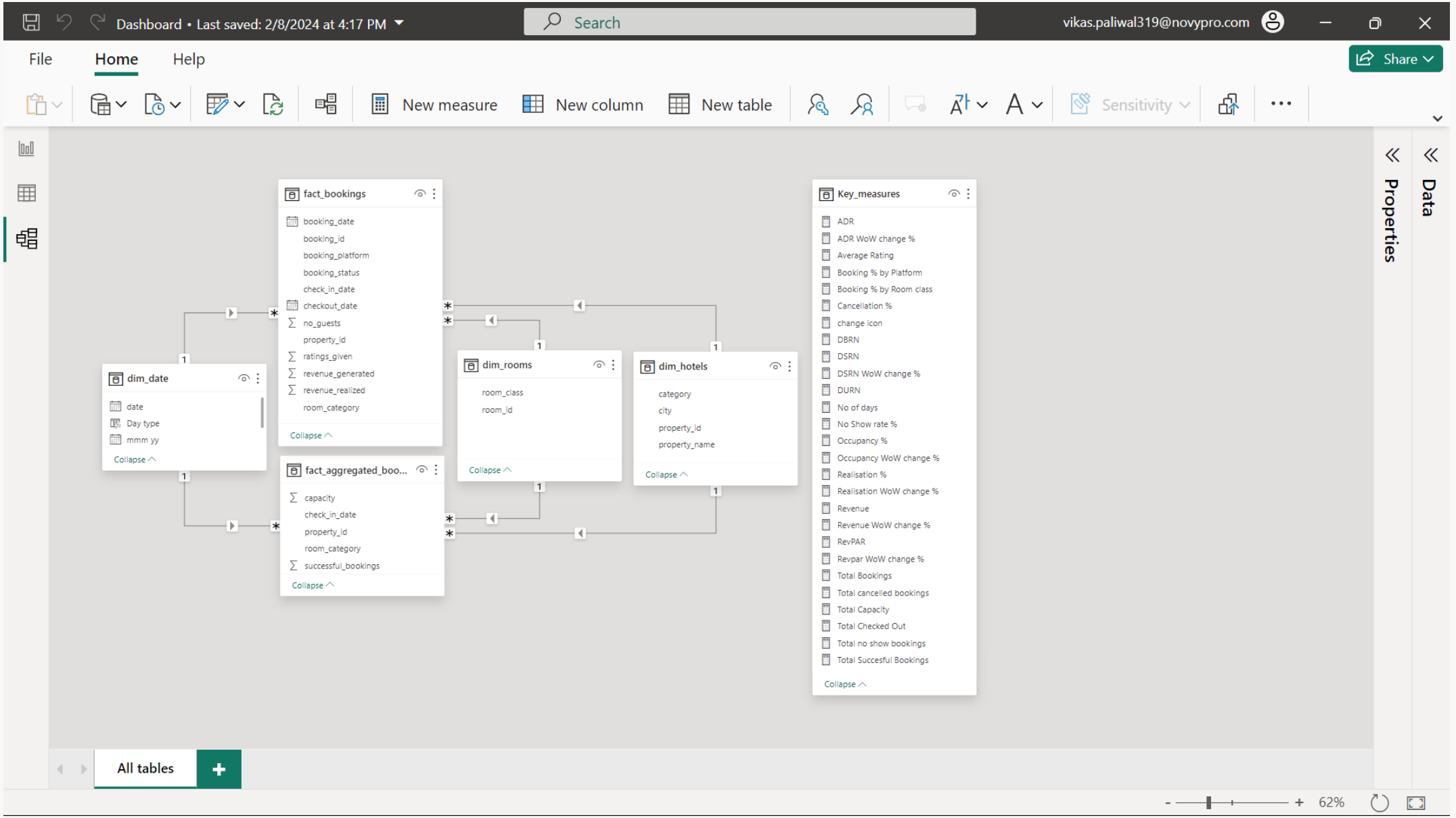
Solution approach

- 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 visualization/dashboard
- The data was imported, analysed 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 %)
- **Total Checked Out** = Count of booking_id with status='checked out' from Bookings table

Revenue Dashboard

Filter by City: All | Filter by Room class: All | Filter by Property: All

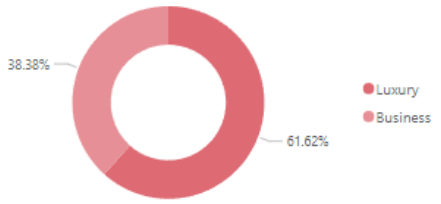
May 22 | Jun 22 | Jul 22 | W 19 | W 20 | W 21 | W 22 | W 23 | W 24 | W 25 | W 26 | W 27 | W 28 | W 29 | W 30 | W 31

Revenue	RevPar	DSRN
1.69bn	7.34K	2.53K
0.20%	0.20%	0.00%
Occupancy %	**ADR**	**Realisation %**
57.8%	12.70K	70.1%
0.01%	0.19%	-0.03%

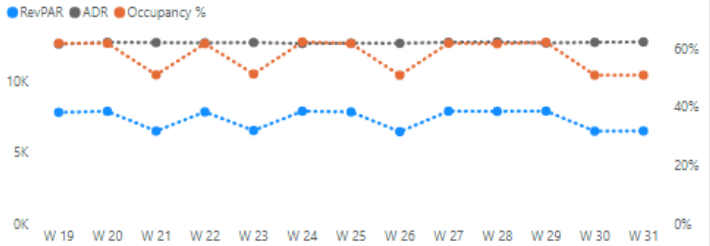
% values in bottom are Week on Week Change

Day type	RevPAR	Occupancy %	ADR	Realisation %
Weekday	7,083	55.85%	12,682	69.94%
Weekend	7,972	62.64%	12,725	70.59%
Total	**7,337**	**57.79%**	**12,696**	**70.14%**

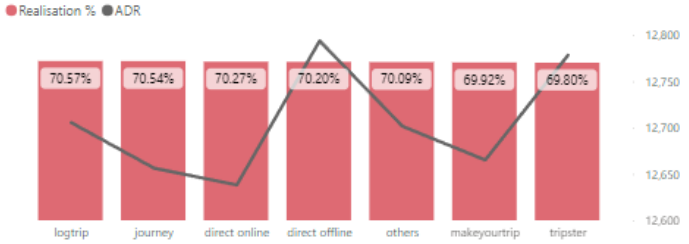
% Revenue by category



Trend by Key Matrics



Realisation % and ADR by Platform



Property by Key Matrics

property_id	property_name	city	Revenue	Total Bookings	RevPAR	Occupancy %	ADR	DSRN	DBRN	DURN	Realisation %	Cancellation %	Average Rating
16558	Atliq Grands	Delhi	36M	3114	7,525	65.81%	11,436	52	34	24	70.01%	25.08%	4.25
16559	Atliq Exotica	Mumbai	117M	7251	10,629	65.85%	16,141	121	80	56	70.39%	24.63%	4.32
16560	Atliq City	Delhi	54M	4635	6,281	53.61%	11,714	95	51	36	71.20%	24.03%	3.01
16561	Atliq Blu	Delhi	57M	4362	8,612	65.66%	13,115	73	48	33	69.85%	25.56%	4.28
16562	Atliq Bay	Delhi	56M	4762	6,254	53.40%	11,712	98	52	36	69.34%	25.24%	3.07
16563	Atliq Palace	Delhi	88M	7054	8,269	66.25%	12,480	117	78	54	70.02%	25.19%	4.27
17558	Atliq Grands	Mumbai	74M	4975	7,953	53.60%	14,839	102	55	38	69.91%	25.67%	3.05
17559	Atliq Exotica	Mumbai	93M	6074	10,107	66.09%	15,293	101	67	47	70.81%	24.04%	4.32
17560	Atliq City	Mumbai	87M	5940	7,763	53.07%	14,629	123	65	45	69.51%	25.12%	3.04
17561	Atliq Blu	Mumbai	73M	5120	9,447	66.19%	14,271	85	56	39	70.14%	24.41%	4.30
17562	Atliq Bay	Mumbai	51M	3388	6,803	44.86%	15,167	83	37	26	69.60%	25.44%	2.37
17563	Atliq	Mumbai	100M	6259	10,592	66.13%	16,016	104	69	49	70.67%	24.38%	4.29
Total			**1688M**	**132939**	**7,337**	**57.79%**	**12,696**	**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 | **DBRN** - Daily Booked Room Nights | **DURN** - Daily Utilized Room Nights

Features of the dashboard

The following 4 visuals were provided:

- **Revenue by category** = The donut chart displays the revenue in the luxury/business hotels category
- **Trend by key matrics =** The line chart illustrates the percentage of rooms occupied, RevPAR, and ADR on weekly basis
- **Realisation % and ADR by platform** = The combined line and clustered column chart present the percentage of realized revenue and ADR.
- **KPI table** = A matrix visual (pivot table) showcases various KPIs across different properties

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:
    - City
    - Room class
    - Properties
    - Month
    - week
- 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

Important business insights derived from the Revenue Dashboard

Cities in Focus: Revealing Revenue, Occupancy, and Ratings in Mumbai, Hyderabad, Bangalore and Delhi

	Mumbai	Hyderabad	Bangalore	Delhi
Revenue (M)	**660.64**	321.17	415.03	290.92
Occupancy(%)	58.0	57.8	55.7	**60.4**
Rating (1-5)	3.65	3.66	3.41	**3.78**

- **Mumbai** generate the highest revenue **(660M)** followed by Bangalore, Hyderabad and Delhi.
- **Delhi** toped both in occupancy and rating followed by Hyderabad, Mumbai and Bangalore.

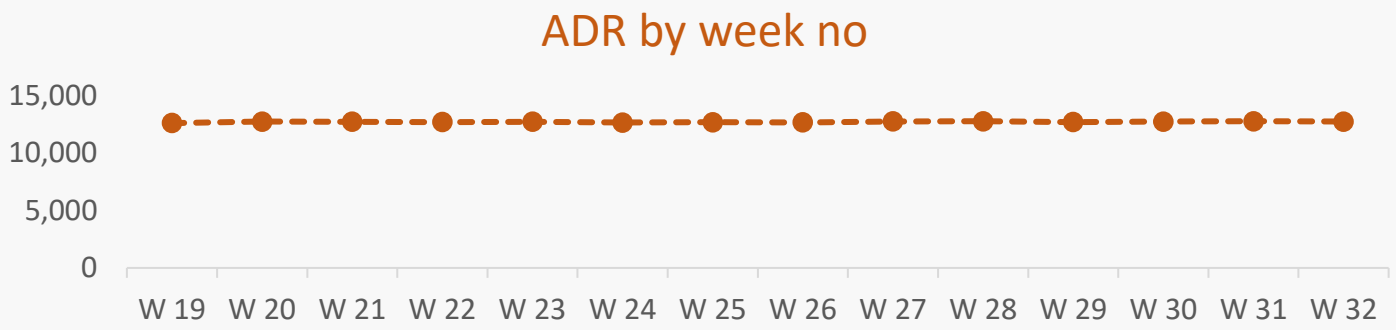
Properties in Focus: Revealing Revenue, Occupancy, and Ratings in different properties

	Revenue (M)	Occupancy (%)	Rating (1-5)
Atliq Bay	256.96	58.3	3.71
Atliq Blu	257.70	**61.9**	**3.96**
Atliq City	282.15	59.4	3.69
Atliq Exotica	**316.47**	57.2	3.62
Atliq Grands	208.91	52.5	3.10
Atliq Palace	300.29	59.9	3.75
Atliq Seasons	65.29	44.6	2.30

- **Atliq Blu** has the highest occupancy of **61.9 %** and rating of **3.96** .
- **Atliq Exotica** perform better compare all 7 types of property with **316.47 M** revenue.

Day Type in Focus: Revealing RevPAR, Occupancy, ADR, and Realisation in Weekday and Weekend

	Weekdays	Weekends
RevPAR	7083	7972
Occupancy %	55.85	**62.64**
ADR	**12682**	**12725**
Realisation %	69.94	70.59



- The **occupancy rate** is higher during weekends across all cities, months and booking platforms. Leverage this insight to increase revenue generated during weekends.
- The **ADR** is almost equal in both weekdays and weekends.

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!