



AtliQ

Hotel Analysis

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Agenda

- Understand Business Problem
 - Business Model of AtliQ Grands
 - Data Cleaning
 - Data Transformation
 - Insights Generation
 - Recommendations
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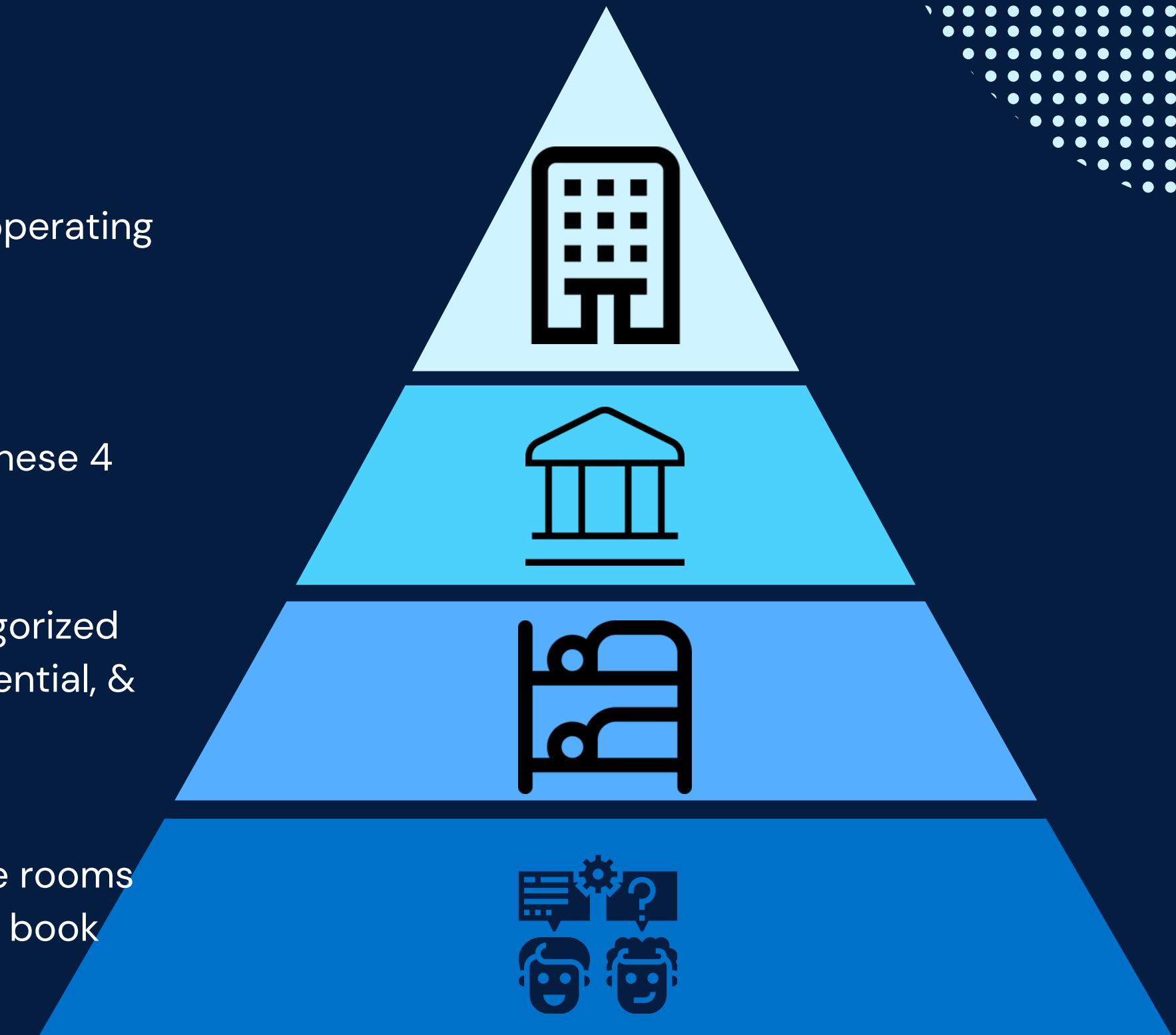
UNDERSTAND BUSINESS PROBLEM

AtliQ Grands owns multiple five-star hotels across India. They have been in the hospitality industry for the past 20 years. Due to strategic moves from other competitors and ineffective decision-making in management, AtliQ Grands are losing its market share and revenue in the luxury/business hotels category. As a strategic move, the managing director of AtliQ Grands wanted to incorporate "Data Analytics" to regain their market share and revenue.

Their revenue management team had decided to hire a data analyst.

BUSINESS MODEL OF ATLIQ GRANDS

- 01** AtliQ Grands a five stars hotel chain is operating in 4 cities. Delhi, Mumbai, Bangalore & Hyderabad.
- 02** It has 7 properties with branches in all these 4 cities.
- 03** The rooms in these properties are categorized into 4 categories: Elite, Premium, Presidential, & Standard.
- 04** They have their own platform to book the rooms and also through other third party we can book rooms.



DATA CLEANING

Clean invalid guests.

(1) Clean invalid guests

```
df_bookings[df_bookings.no_guests<=0]
```

	booking_id	property_id	booking_date	check_in_date	checkout_date	no_guests	room_category	booking_platform	ratings_given	booking_status	rev
0	May012216558RT11	16558	27-04-22	1/5/2022	2/5/2022	-3.0	RT1	direct online	1.0	Checked Out	
3	May012216558RT14	16558	28-04-22	1/5/2022	2/5/2022	-2.0	RT1	others	NaN	Cancelled	
17924	May122218559RT44	18559	12/5/2022	12/5/2022	14-05-22	-10.0	RT4	direct online	NaN	No Show	
18020	May122218561RT22	18561	8/5/2022	12/5/2022	14-05-22	-12.0	RT2	makeyourtrip	NaN	Cancelled	
18119	May122218562RT311	18562	5/5/2022	12/5/2022	17-05-22	-6.0	RT3	direct offline	5.0	Checked Out	
18121	May122218562RT313	18562	10/5/2022	12/5/2022	17-05-22	-4.0	RT3	direct online	NaN	Cancelled	
56715	Jun082218562RT12	18562	5/6/2022	8/6/2022	13-06-22	-17.0	RT1	others	NaN	Checked Out	
119765	Jul202219560RT220	19560	19-07-22	20-07-22	22-07-22	-1.0	RT2	others	NaN	Checked Out	
134586	Jul312217564RT47	17564	30-07-22	31-07-22	1/8/2022	-4.0	RT4	logtrip	2.0	Checked Out	

Outlier removal in revenue generated.

(2) Outlier removal in revenue generated

```
df_bookings.revenue_generated.min(), df_bookings.revenue_generated.max()
```

```
(6500, 28560000)
```

```
df_bookings.revenue_generated.mean(), df_bookings.revenue_generated.median()
```

```
(15378.036937686695, 13500.0)
```

```
avg, std = df_bookings.revenue_generated.mean(), df_bookings.revenue_generated.std()
```

```
higher_limit = avg + 3*std  
higher_limit
```

```
294498.50173207896
```

```
lower_limit = avg - 3*std  
lower_limit
```

```
-263742.4278567056
```

```
df_bookings[df_bookings.revenue_generated<=0]
```

finding null values and fill it with appropriate substitute.

3.In aggregate bookings find columns that have null values. Fill these null values with whatever you think is the appropriate substitute (possible ways is to use mean or median)

```
df_agg_bookings.isnull().sum()
```

```
property_id      0  
check_in_date    0  
room_category    0  
successful_bookings  0  
capacity         2  
dtype: int64
```

```
df_agg_bookings[df_agg_bookings.capacity.isna()]
```

	property_id	check_in_date	room_category	successful_bookings	capacity
8	17561	1-May-22	RT1	22	NaN
14	17562	1-May-22	RT1	12	NaN

4.find out records that have successful_bookings value greater than capacity.

4.In aggregate bookings find out records that have successful_bookings value greater than capacity. Filter those records

```
df_agg_bookings[df_agg_bookings.successful_bookings > df_agg_bookings.capacity]
```

	property_id	check_in_date	room_category	successful_bookings	capacity
3	17558	1-May-22	RT1	30	19.0
12	16563	1-May-22	RT1	100	41.0
4136	19558	11-Jun-22	RT2	50	39.0
6209	19560	2-Jul-22	RT1	123	26.0
8522	19559	25-Jul-22	RT1	35	24.0
9194	18563	31-Jul-22	RT4	20	18.0

Data Transformation

Create occupancy percentage column.

```
new_col = df_agg_bookings.apply(lambda row: row['successful_bookings']/row['capacity'], axis=1)
df_agg_bookings = df_agg_bookings.assign(occ_pct=new_col.values)
df_agg_bookings.head(3)
```

	property_id	check_in_date	room_category	successful_bookings	capacity	occ_pct
0	16559	1-May-22	RT1	25	30.0	0.833333
1	19562	1-May-22	RT1	28	30.0	0.933333
2	19563	1-May-22	RT1	23	30.0	0.766667

Convert it to a percentage value

```
df_agg_bookings['occ_pct'] = df_agg_bookings['occ_pct'].apply(lambda x: round(x*100, 2))
df_agg_bookings.head(3)
```

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	property_id	check_in_date	room_category	successful_bookings	capacity	occ_pct
0	16559	1-May-22	RT1	25	30.0	83.33
1	19562	1-May-22	RT1	28	30.0	93.33
2	19563	1-May-22	RT1	23	30.0	76.67

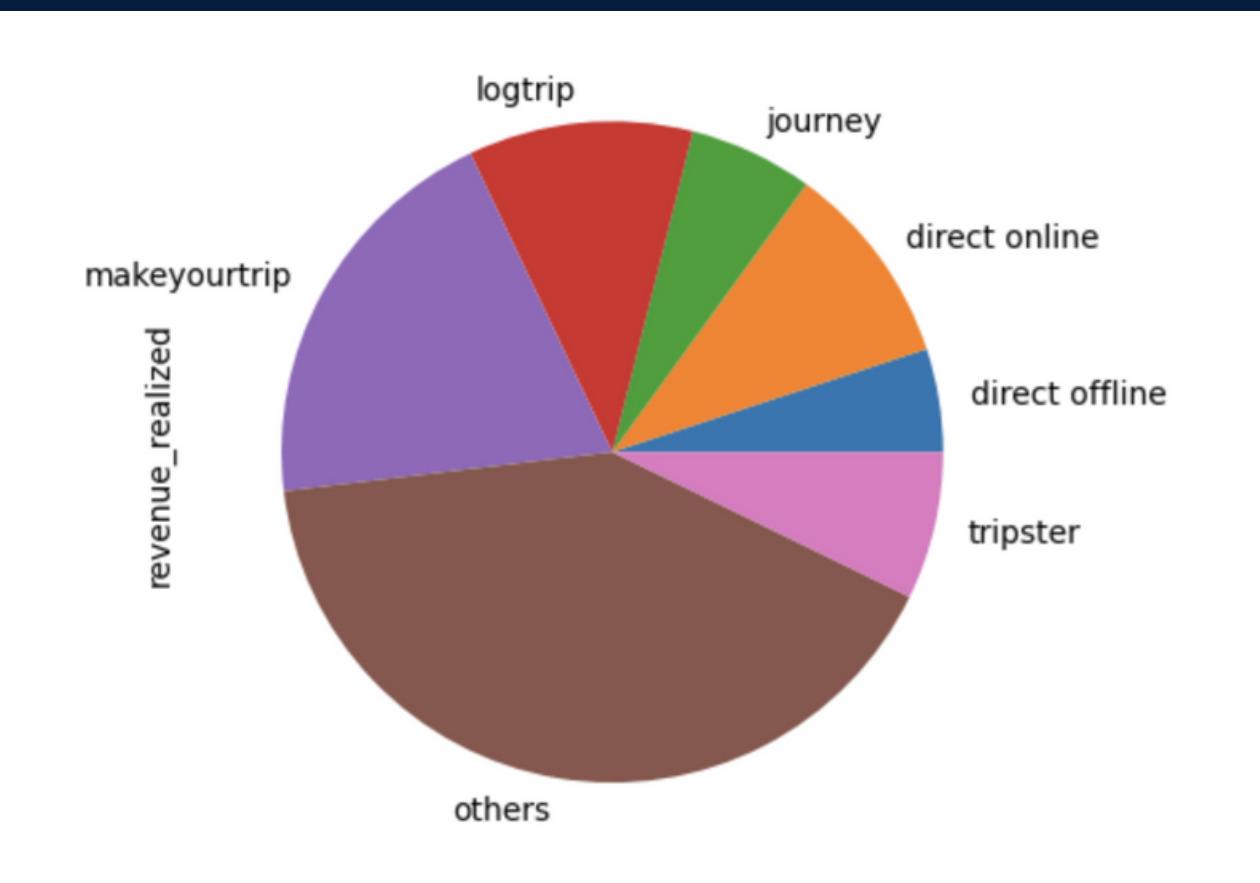
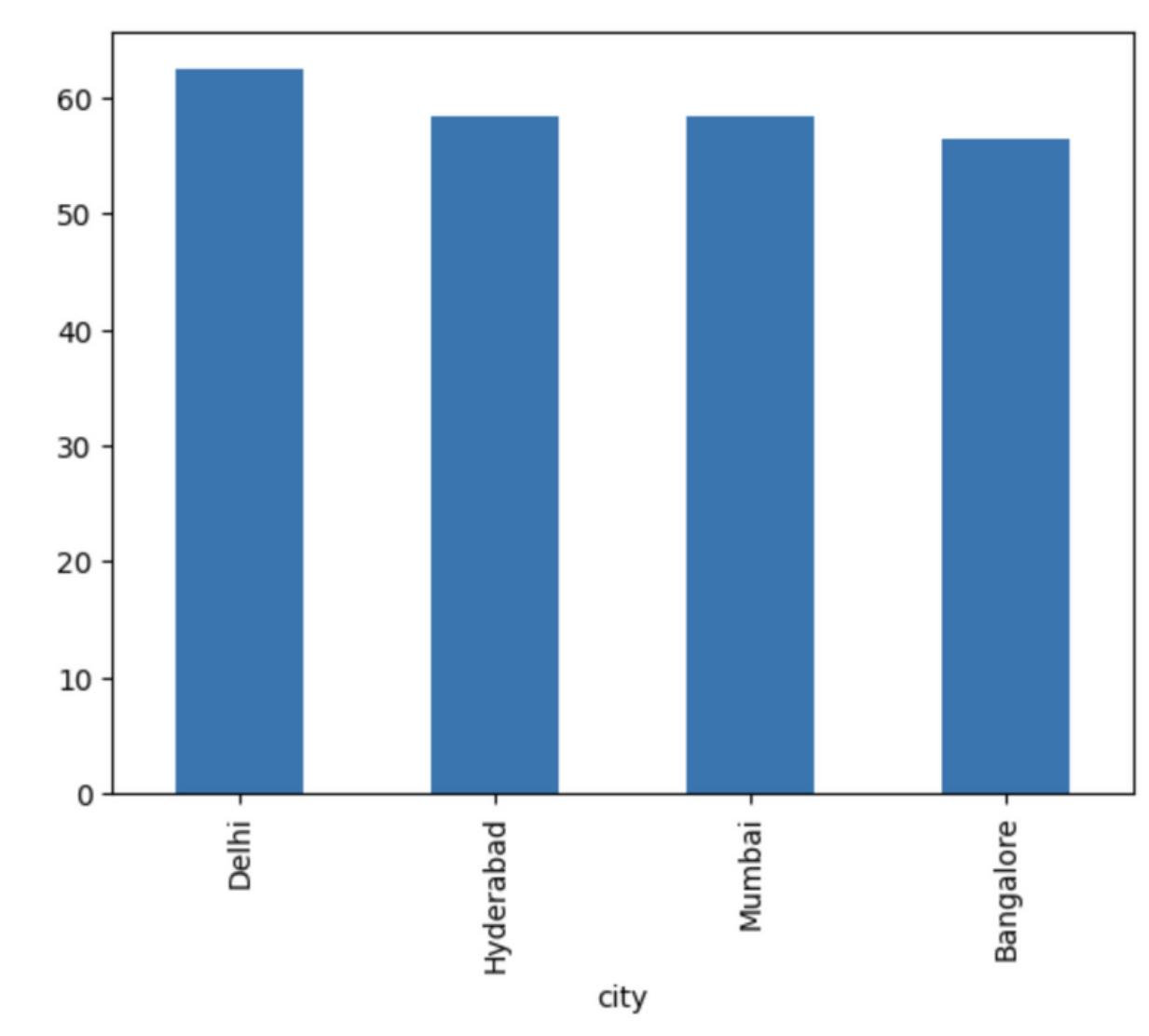
[299]: df_bookings.head()

[299]:

property_id	booking_date	check_in_date	checkout_date	no_guests	room_category	booking_platform	ratings_given	booking_status	revenue_generated	revenue_realized
16558	30-04-22	1/5/2022	2/5/2022	2.0	RT1	others	NaN	Cancelled	9100	3640
16558	27-04-22	1/5/2022	2/5/2022	4.0	RT1	direct online	5.0	Checked Out	10920	10920
16558	1/5/2022	1/5/2022	3/5/2022	2.0	RT1	others	4.0	Checked Out	9100	9100
16558	28-04-22	1/5/2022	6/5/2022	2.0	RT1	others	NaN	Cancelled	9100	3640
16558	26-04-22	1/5/2022	3/5/2022	2.0	RT1	logtrip	NaN	No Show	9100	9100

INSIGHTS GENERATION

1. The average occupancy rate in all the room categories is almost the same i.e 58%. There is no significant difference in the average occupancy rate across various room categories.
2. The average occupancy rate in Delhi is the highest i.e 61 % followed by Hyderabad 59 %.
3. In the weekends the occupancy rate is 73 % and on weekdays it is 50 %. As it is obvious that people spend holidays in weekends so the occupancy is more in weekends as compared to weekdays.
4. Revenue realized is more from the city Mumbai 668 millions, followed by Bangalore 420 millions then Hyderabad 325 millions and Delhi 294 millions.
5. Revenue realized is more in the month of May 408 millions, followed by July 389 millions and June 377 millions.
6. Revenue realized in Luxury hotel is 723 million which is higher as compared to business hotel 451 millions.
7. Overall average rating for the hotels across various cities is 3.5.
8. The platform such as Make your trip, logtrip, and direct online fetches more bookings as compared to other booking sites or options.



RECOMMENDATIONS

1. The average occupancy rate can be increased across room categories and cities by giving special discounts and hassle free booking experience.

2. Average rating should be improved certainly. We recommend average rating to be above 4.2 and this can be improved by giving good hospitality, attractive discounts, easy cancellation system, etc. can improve the overall rating.

3. The company should consider attracting more customers for booking from their own website.

4. Efforts should be made to increase occupancy rate even on weekdays. Especially in weekends the occupancy should be 95 % so that more revenue is generated. In weekdays it can be increased to 65 %.



Thank's For Watching

