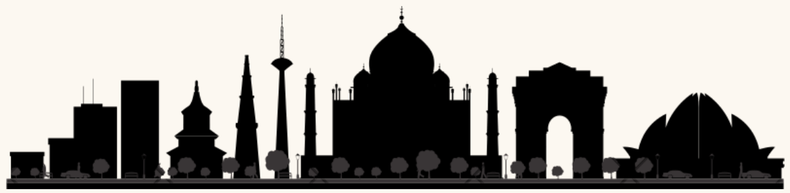


ATLIQ GRANDS

INDIA'S
LEADING
HOTEL CHAIN

Explore our hotels in Delhi , Mumbai, banglore & hyderabad

HERE WE DO

AtliQ Grands: Strategic Data Analysis by using Python to Revitalize Hospitality Leadership

python™

NUMPYY

PANDAS

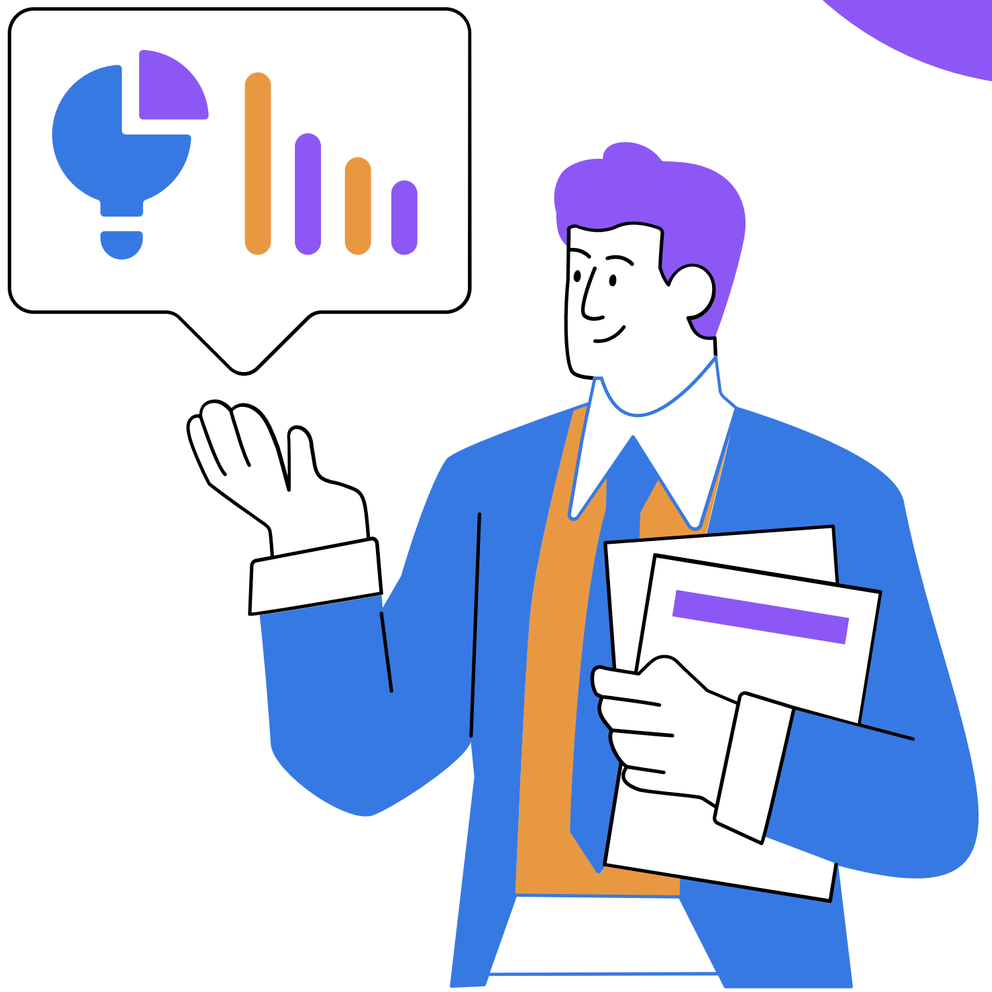
MATPLOTLIB

SEABORN

READ MORE

PROJECT OVERVIEW

Amid rising competition and declining revenue, *AtliQ Grands* — a prominent hospitality chain across four Indian cities — leveraged data analytics to uncover actionable insights and reclaim market dominance. This end-to-end analysis focused on optimizing occupancy, revenue, and service quality through Python-driven data cleaning, transformation, and visualization, enabling strategic decision-making.



Data Analysis steps

01

Understand Business Problem

02

Data Collection and Uderstanding

03

Data Cleaning And Exploration

04

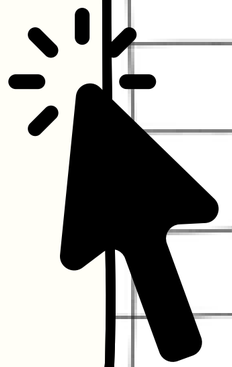
Data Transformation

05

Collect Insights

06

Presentation



DATA CLEANING

- Rectified Data Integrity
- Fixed negative guest counts
- Addressed NaN/Null values in Ratings Given
- Eliminated outliers in Revenue Generated & Realized
- Addressed incomplete August data (limited to Mumbai/Bangalore) to ensure accurate trend analysis.

DATA TRANSFORMATION

- Converting raw data into actionable intelligence
- Occupancy Percentage: Derived from successful bookings vs. capacity, enabling granular analysis.
- Revenue Segmentation: Analyzed by city, booking platform, and hotel type to identify profit drivers.

ADVANCED ANALYTICS & VISUALIZATION

- Visualized trends via
- bar charts* (occupancy by city/room)
- line graphs* (seasonal revenue)
- pie charts* (booking platform revenue share)

🛠 Skills Mastered

Pandas Proficiency

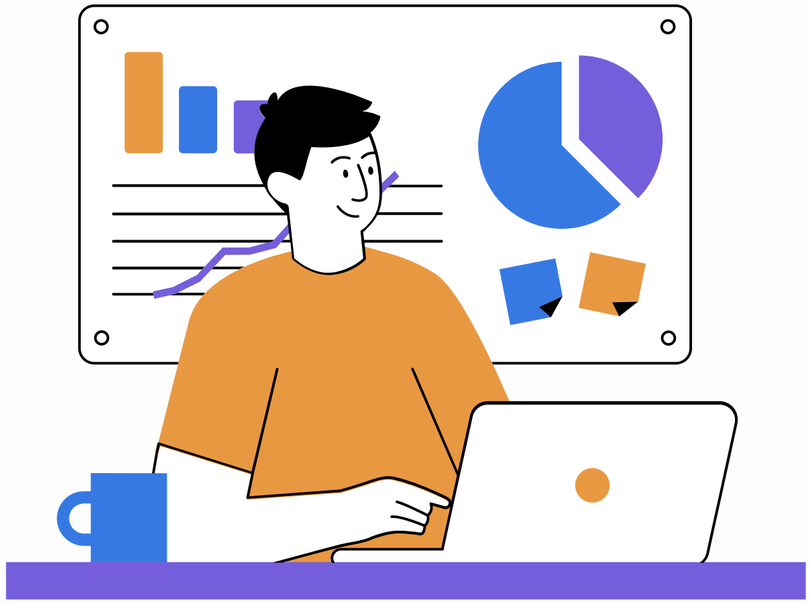
Expertly managed dataframes, group by functions, concatenation, merging, handling NA values, and reading CSV files.

Python Programming

Advanced techniques for data analysis, cleaning, transformation, and visualization.

Data Visualization

Leveraged Matplotlib to create compelling charts and graphs.



Insights Generated

1. Presidential rooms claim the highest occupancy rate.

2. Delhi leads in occupancy, closely trailed by other cities.

3. August data might be incomplete, available only for Mumbai and Bangalore.

4. Weekends exhibit higher occupancy (>70%) than weekdays (50.9%).

5. Bangalore consistently records the lowest occupancy rate.

6. Average ratings remain consistent across all cities.

Revenue Analysis:

- Delhi boasts high occupancy but the least realized revenue.
- Mumbai emerges as the revenue frontrunner.
- Total revenue per month peaks in July.
- AtliQ Seasons excels in low cancellation rates.

STRATEGIC RECOMMENDATIONS

BOOST WEEKDAY DEMAND:

Introduce corporate packages or events in low-occupancy cities like Bangalore.

REVISE PRICING IN DELHI

Align high occupancy with dynamic pricing to maximize revenue.

ENHANCE DIGITAL PLATFORMS:

Focus on underperforming booking channels to reduce dependency on "Others" category.

SERVICE EXCELLENCE PROGRAMS:

Address rating gaps through staff training and guest experience initiatives.

Visit Github to Download PDF ,Datasets & Slides

```
import pandas as pd
```

==> 1. Data Import and Data Exploration

Datasets

We have 5 csv file

- dim_date.csv
- dim_hotels.csv
- dim_rooms.csv
- fact_aggregated_bookings
- fact_bookings.csv

Read bookings data in a datagrame

```
df_bookings = pd.read_csv('datasets/fact_bookings.csv')
```

Explore bookings data

```
df_bookings.head()
```

	booking_id	property_id	booking_date	check_in_date	checkout_date	no_guests	roo
0	May012216558RT11	16558	27-04-22	1/5/2022	2/5/2022	-3.0	
1	May012216558RT12	16558	30-04-22	1/5/2022	2/5/2022	2.0	
2	May012216558RT13	16558	28-04-22	1/5/2022	4/5/2022	2.0	

Read rest of the files

```
df_date = pd.read_csv('datasets/dim_date.csv')
df_hotels = pd.read_csv('datasets/dim_hotels.csv')
df_rooms = pd.read_csv('datasets/dim_rooms.csv')
df_agg_bookings = pd.read_csv('datasets/fact_aggregated_b
```

```
df_hotels.shape
```

```
(25, 4)
```

```
df_hotels.head(3)
```

	property_id	property_name	category	city
0	16558	Atliq Grands	Luxury	Delhi
1	16559	Atliq Exotica	Luxury	Mumbai
2	16560	Atliq City	Business	Delhi

```
df_hotels.category.value_counts()
```

```
category
Luxury      16
Business     9
```

==> 3. Data Transformation

Create occupancy % column

```
df_agg_bookings.head(3)
```

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

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

```
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)
```

	property_id	check_in_date	room_category	successful_bookings	capacity	occ_pct
0	16559	1-May-22	RT1	25	30.0	83.33

Thank You

For your attention

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