AtliQ Grands Hospitality Analysis

Python Project

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Introduction

Atliq Grands is a prominent Indian hotel chain with a diverse portfolio of hotels operating in cities such as Delhi, Mumbai, Bangalore, and Hyderabad. With 20 years of industry experience, they offer various hotel types, including luxurious ones like Atliq Palace and business-focused options like Atliq Seasons. To address declining revenue and market share, Atliq Grands is embracing data analytics to inform its decision-making process. This project focuses on analyzing booking data from multiple sources to identify opportunities for revenue growth and improved competitiveness

Problem Statement

- Atliq Grands, a reputable Indian hotel chain, faces declining revenue and market share. To reverse this trend, they have embarked on a data-driven approach by leveraging data analytics.
- The project's objective is to analyze booking data from diverse sources, including their website and third-party platforms, to discover strategies for increasing revenue and enhancing competitiveness.

Dataset

We have 5 csv files

- **dim_date.csv -**date,mmm yy,week no,day_type
- **dim_hotels.csv-** property_id, property_name,category,city
- **dim_rooms.csv-**room_id,room_class
- **fact_aggregated_bookings.csv-** property_id,check_in_date,room_category,successful_bookings, capacity
- **fact_bookings.csv-** booking_id, property_id, booking_date, check_in_date, checkout_date,no_guests,room_category,booking_platform,ratings_given,booking_status, revenue_generated, revenue_realized

Data Cleaning & Transformation

(1) CLEAN INVALID DATA

(2) OUTLIER REMOVAL

3) CREATING NEW COLUMNS

Insights Generation

1. WHAT IS THE AVERAGE OCCUPANCY RATE IN EACH OF THE ROOM CATEGORIES?

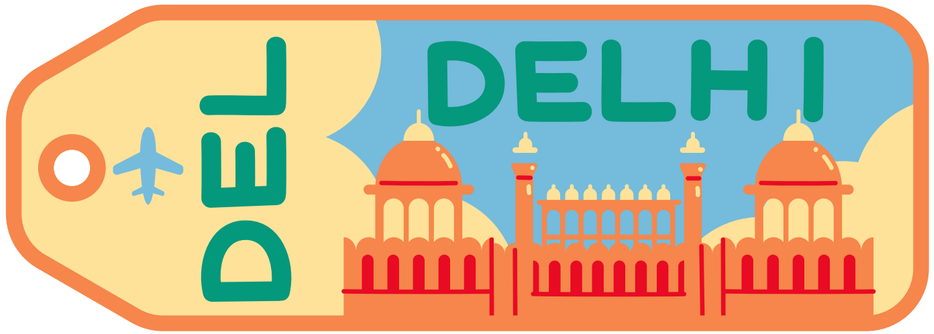
- Among the room categories, the "Presidential" rooms have the highest average occupancy rate (59.30%), indicating their popularity among guests.

```
df.groupby("room_class")["occ_pct"].mean().round(2)
```

```
room_class
Elite           58.04
Premium         58.03
Presidential    59.30
Standard        58.23
```

2. WHAT IS THE AVERAGE OCCUPANCY RATE PER CITY

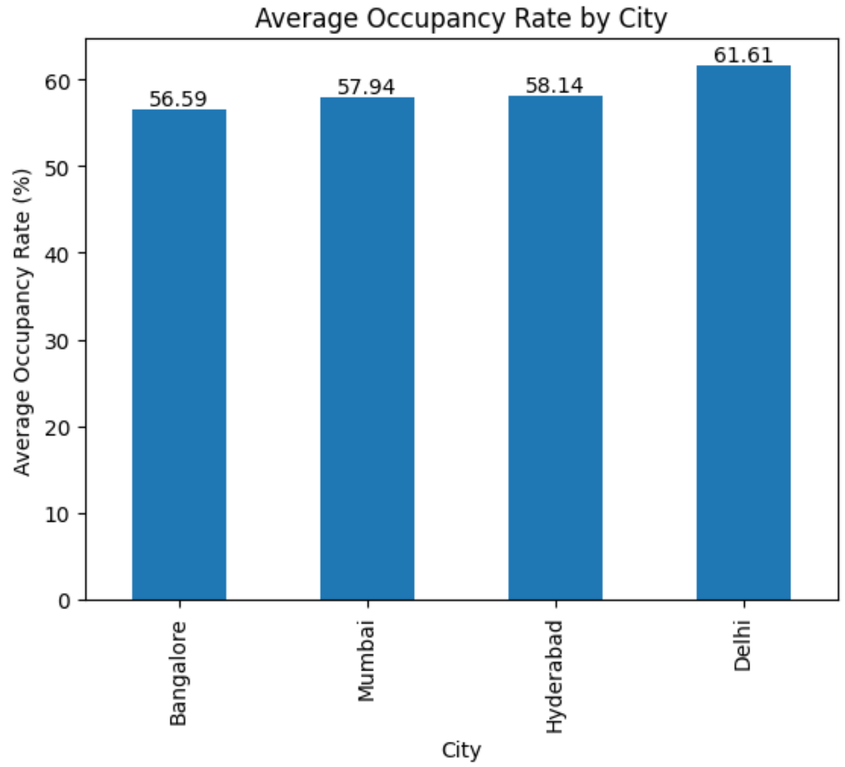
- Delhi has the highest average occupancy rate among cities (60.40%), while Bangalore has the lowest (55.29%).




```
df.groupby("city")["occ_pct"].mean().sort_values().plot(kind="bar")
plt.xlabel("City")
plt.ylabel("Average Occupancy Rate (%)")
plt.title("Average Occupancy Rate by City")

# Adding labels on top of the bars
for index, value in enumerate(df.groupby("city")["occ_pct"].mean().sort_values()):
    plt.text(index, value, str(round(value, 2)), ha='center', va='bottom')

plt.show()
```



3. WHEN WAS THE OCCUPANCY BETTER? WEEKDAY OR WEEKEND?

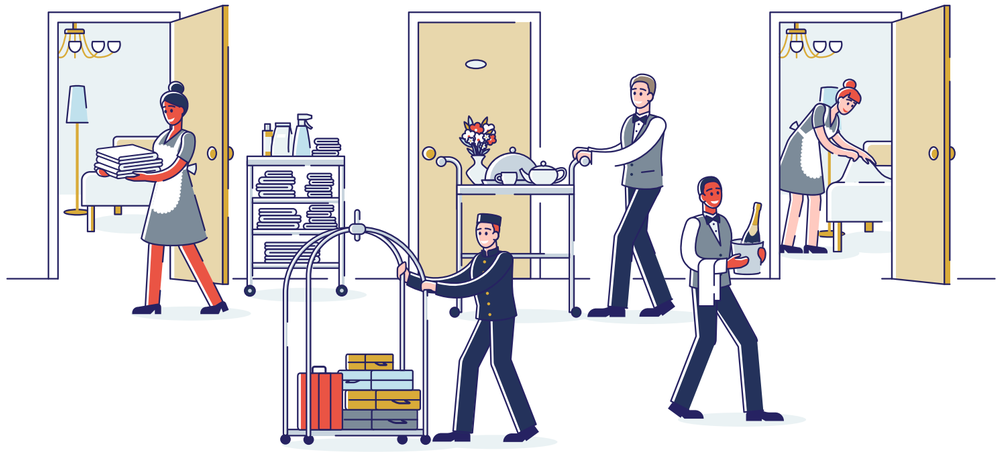
- Weekends show significantly higher occupancy rates compared to weekdays, indicating a potential opportunity for targeted marketing or pricing adjustments.

```
df.groupby("day_type")["occ_pct"].mean().round(2)
```

```
day_type
weekeday    50.90
weekend     72.39
```

4. IN THE MONTH OF JUNE, WHAT IS THE OCCUPANCY FOR DIFFERENT CITIES

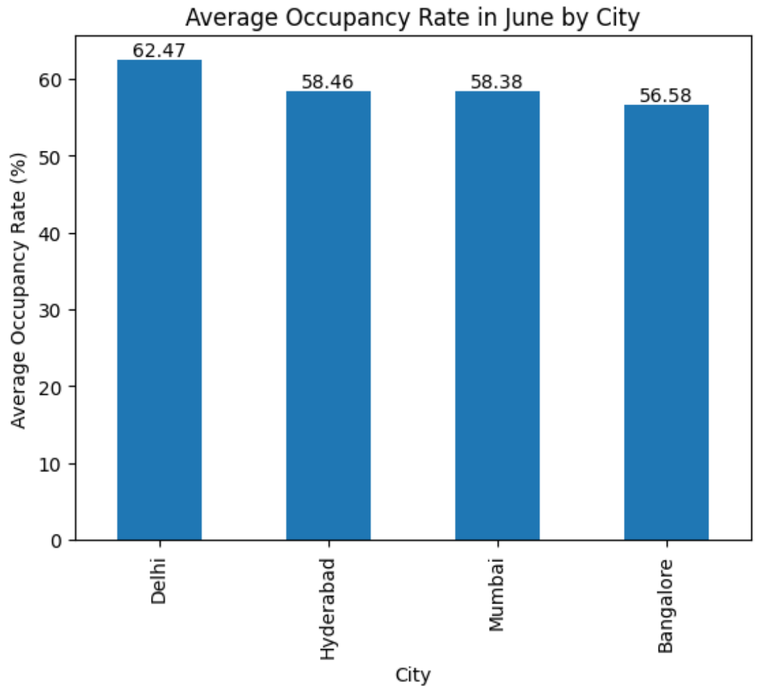
- In the month of June, Delhi had the highest occupancy rate (62.47%), followed closely by Hyderabad (58.46%).



```
73]: df_june.groupby("city")["occ_pct"].mean().round(2).sort_values(ascending=False).plot(kind="bar")
plt.xlabel("City")
plt.ylabel("Average Occupancy Rate (%)")
plt.title("Average Occupancy Rate in June by City")

# Adding labels on top of the bars
for index, value in enumerate(df_june.groupby("city")["occ_pct"].mean().round(2).sort_values(ascending=False)):
    plt.text(index, value, str(value), ha='center', va='bottom')

plt.show()
```



5. WHAT IS THE REVENUE REALIZED PER CITY

- Mumbai generates the highest revenue among the cities.

```
df_bookings_all.groupby("city")["revenue_realized"].sum()
```

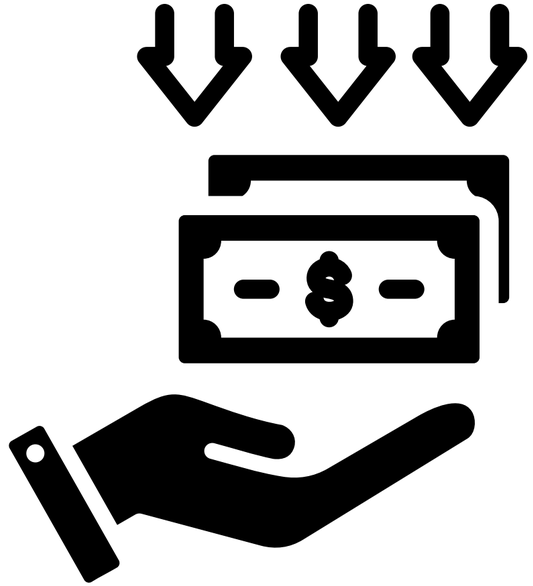
```
city
Bangalore    420383550
Delhi        294404488
Hyderabad    325179310
Mumbai       668569251
```

6. WHAT IS THE MONTH BY MONTH REVENUE

- The hotel's revenue fluctuates month by month, with July 2022 generating 38,99,40,912 INR and May 2022 generating 40,83,75,641 INR.

```
df_bookings_all.groupby("mmm yy")["revenue_realized"].sum()
```

```
mmm yy
Jul 22    389940912
Jun 22    377191229
May 22    408375641
```

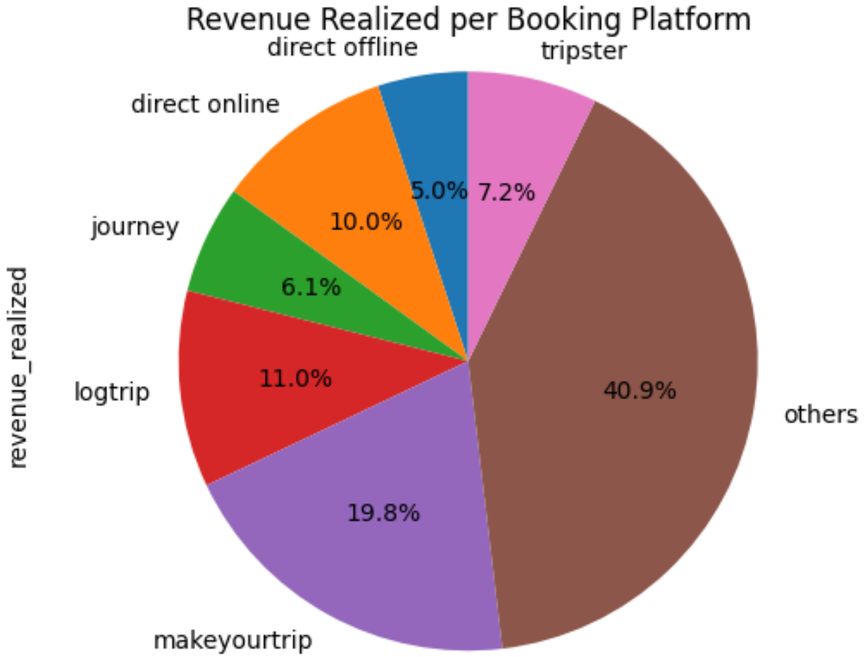


7.PRINT A PIE CHART OF REVENUE REALIZED PER BOOKING PLATFORM

- The revenue realized per booking platform varies, with "others" being the highest contributor , followed by "makeyourtrip" .

```
# Print a pie chart of revenue realized per booking platform
df_bookings_all.groupby("booking_platform")["revenue_realized"].sum().plot(kind="pie", autopct='%1.1f%%', startangle=90)
plt.axis('equal')  # Equal aspect ratio ensures that pie is drawn as a circle.
plt.title("Revenue Realized per Booking Platform")

plt.show()
```



Conclusion

- **Implement Weekend-Specific Promotions:** Develop and implement weekend-specific promotions and packages to attract more guests during weekends. This could include special deals, events, or amenities tailored to weekend travelers.

- **Invest in Expanding in Delhi:** Given the higher occupancy rate in Delhi, consider expanding the hotel chain's presence in the city by opening more properties or enhancing existing ones. This strategic expansion can help further boost revenue and market share.

Thank you!