UBER SUPPLY-DEMAND GAP ANALYSIS

Tools Used:

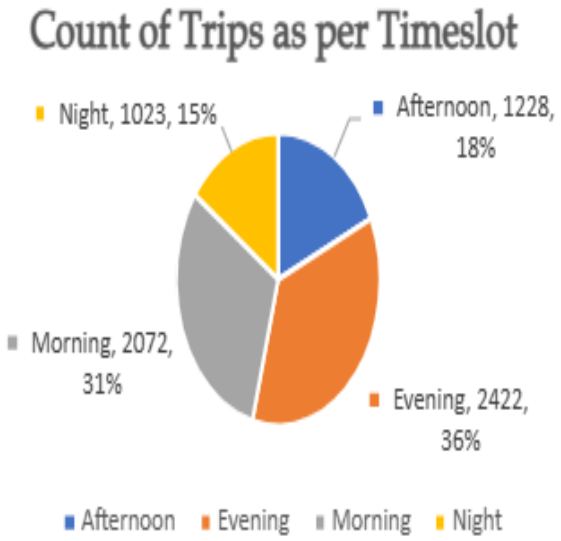
- Excel (for cleaning and dashboarding)
- SQL (for data insights)
- Python (Pandas for EDA, Matplotlib for visualization)

Project Overview:

This project analyzes Uber ride request data to identify supply-demand gaps and operational bottlenecks. Data cleaning and dashboarding were performed in Excel, key business insights were extracted using SQL, and exploratory data analysis (EDA) and visualizations were carried out in Python.

Trips by Timeslot and Pickup Point

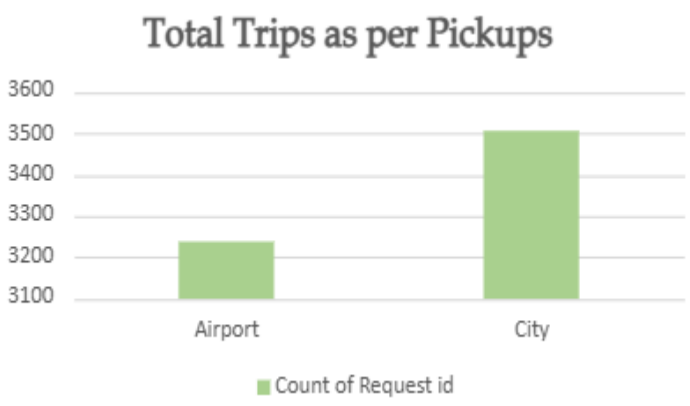
➔ Count of Trips as per Timeslot



- Evening: 2,422 trips (36%)
- Morning: 2,072 trips (31%)
- Afternoon: 1,228 trips (18%)
- Night: 1,023 trips (15%)

Insight: Evenings and mornings are the busiest times for Uber requests.

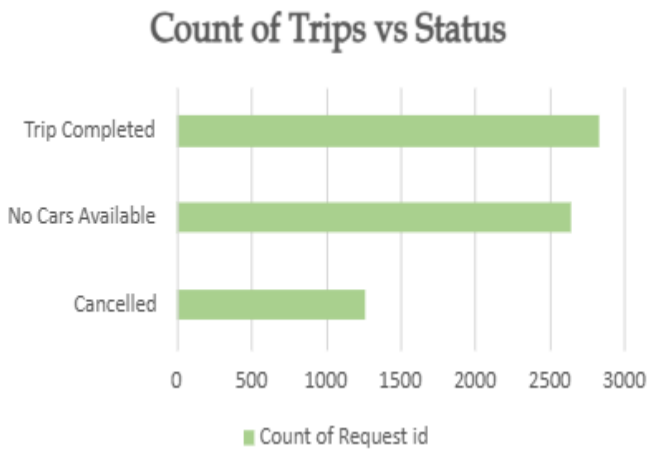
➔ Total Trips as per Pickups



- City: 3,507 trips
- Airport: 3,238 trips

Insight: The City is the most frequent pickup location, slightly higher than the Airport.

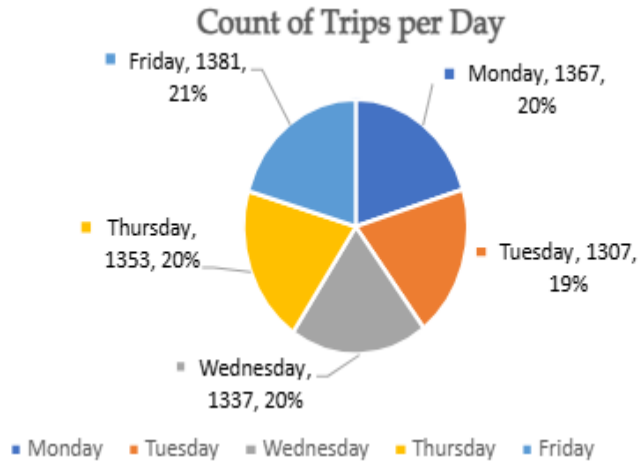
➔ Trips by Status and Day



- Trip Completed: 2,831
- No Cars Available: 2,650
- Cancelled: 1,264

Insight: More than half of all ride requests were not completed, highlighting a significant supply-demand gap.

➔ Count of Trips per Day



- Monday: 1,367 (20%)
- Tuesday: 1,307 (19%)
- Wednesday: 1,337 (20%)
- Thursday: 1,353 (20%)
- Friday: 1,381 (21%)

Insight: Mondays and Fridays are the busiest days for Uber requests.

Conclusion

- High Unfulfilled Rate: A significant portion of requests are unfulfilled due to cancellations or no cars available.
- Peak Demand: Evenings and Fridays show the highest demand.
- Operational Focus: Improving driver availability during peak times and at the Airport can reduce the supply-demand gap.

Workflow Summary

1. **Excel**: Cleaned raw data, removed inconsistencies, and created dashboards.
2. **SQL**: Loaded data into a database and extracted key insights with queries.
3. **Python (Pandas)**: Performed EDA for deeper understanding.