Ola_July_Ride_Analytics_Powerbi_Sql

Project Statement:

Urban mobility platforms like OLA generate massive volumes of transactional ride data daily. However, raw data alone does not translate into actionable intelligence. Business teams struggle to answer critical questions around ride success rates, cancellation drivers, revenue leakage, vehicle performance, customer behaviour, and service quality without a consolidated analytical view.

This project addresses that gap by designing an end-to-end data analytics solution that transforms raw July 2024 ride data into decision-ready insights using SQL, PostgreSQL, and Power BI dashboards.

The objective is to enable data-driven operational, revenue, and customer-experience decisions through structured analysis and interactive visualization.

Project Overview:

This project performs a comprehensive analysis of OLA ride data for July 2024, covering:

- Booking funnel performance
- Revenue distribution and payment behaviour
- Vehicle-type level efficiency
- Cancellation root-cause analysis (customer vs driver)
- Ride distance and demand trends
- Driver and customer ratings analysis

The solution follows a **real-world analytics workflow**:

1. Raw CSV ingestion
2. SQL-based transformation and aggregation
3. Analytical modelling
4. Executive-ready Power BI dashboards

Key Business Questions Answered:

- What percentage of bookings successfully convert to completed rides?
- Where are cancellations occurring, and why?
- Which vehicle types generate the highest value and distance coverage?
- How does revenue split across payment methods?
- Who are the top customers by booking value?
- Are driver and customer ratings aligned across vehicle categories?
- How does ride demand and distance fluctuate over time?

Tools & Technologies:

- **Data Source:** July 2024 ride-level dataset (CSV)
- **Database:** PostgreSQL
- **Query Language:** SQL (aggregation, filtering, joins)
- **Visualization:** Power BI
- **Documentation:** PDF + README
- **Version Control:** Git & GitHub

Dashboard Coverage:

1. Overall Performance Dashboard

- Total bookings and booking value
- Booking status breakdown (success vs cancellations)
- Daily ride volume trends

2. Vehicle Type Analysis

- Total vs successful booking value
- Average distance traveled
- Total distance contribution by vehicle category

3. Revenue Analysis

- Revenue split by payment method (Cash, UPI, Card)
- Top 5 customers by booking value
- Daily ride distance trends

4. Cancellation Analysis

- Customer vs driver cancellations
- Detailed cancellation reasons
- Cancellation impact on overall success rate

5. Ratings Analysis

- Driver ratings by vehicle type
- Customer ratings by vehicle type
- Service quality benchmarking

Business Use Cases:

- **Operations Teams:** Identify high-cancellation segments and operational bottlenecks
- **Revenue Teams:** Detect revenue leakage and payment method preferences
- **Product Teams:** Improve vehicle allocation and ride success rates
- **Customer Experience:** Target cancellation reasons with corrective actions
- **Management:** Monitor KPIs through executive dashboards

Key Insights:

- ~38% of total bookings do not convert to successful rides, signaling optimization opportunities
- Customer cancellations outweigh driver cancellations, driven primarily by plan changes and driver-related delays
- Cash and UPI dominate revenue, indicating lower card adoption
- Vehicle categories show similar average distances, but differ in value contribution

- Ratings remain tightly clustered around 4.0, indicating stable service quality with limited differentiation

How This Project Can Be Extended (Growth Angle):

- Add multi-month or yearly trend analysis
- Build cancellation prediction models
- Introduce cohort analysis for repeat customers
- Automate ETL pipeline using Python/Airflow
- Deploy dashboards via Power BI Service with RLS