OLA Ride Booking Analysis

July 2024

Problem Statement

This project aims to analyse OLA ride-booking data to evaluate operational performance, customer behaviour, revenue generation, and cancellation patterns. The objective is to extract meaningful insights from ride-level data using structured queries to support business decision-making.

Assumptions

- The dataset accurately represents all ride bookings for the selected time period (July 2024).
- Booking status categories (Successful, Cancelled by Customer, Cancelled by Driver, Incomplete) are correctly recorded.
- Ride distance and booking value fields are free from major data entry errors.
- Customer and driver ratings are recorded on a consistent numerical scale.
- Vehicle types (Prime Sedan, Mini, Auto, etc.) are categorized correctly without overlap.
- Payment methods (UPI, Cash, Card, etc.) are accurately captured in the dataset.

Hypotheses Testing

1- Do Successful Rides Contribute Significantly More to Revenue?

- **H0 (Null Hypothesis):**
  Successful rides do not contribute significantly more to total booking value.
- **H1 (Alternative Hypothesis):**
  Successful rides contribute significantly more to total booking value.

2- Does Average Ride Distance Differ by Vehicle Type?

- **H0: (Null Hypotheses)**
  Average ride distance is the same across all vehicle types.
- **H1: (Alternative Hypotheses)**
  Average ride distance varies across vehicle types.

3- Are Customer Cancellations Significantly Impacting Total Bookings?

H0:

Customer cancellations are not significant in proportion to total bookings.

H1:

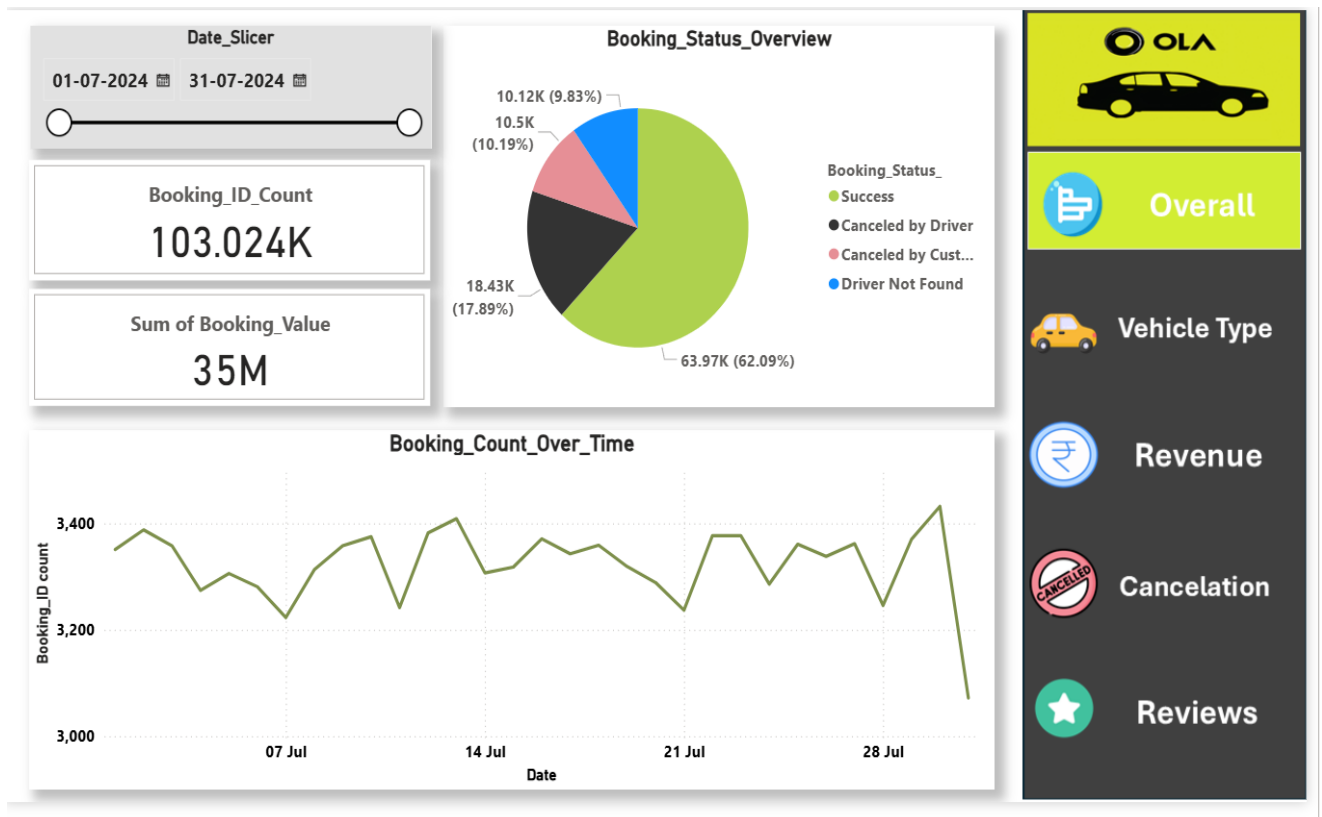Customer cancellations form a significant portion of total bookings.

- ## Analysis and Findings

  1.

  Total Bookings: 103K

  Total Booking Value (Revenue): 35M

  Successful Rides: 63.97K (≈62%)
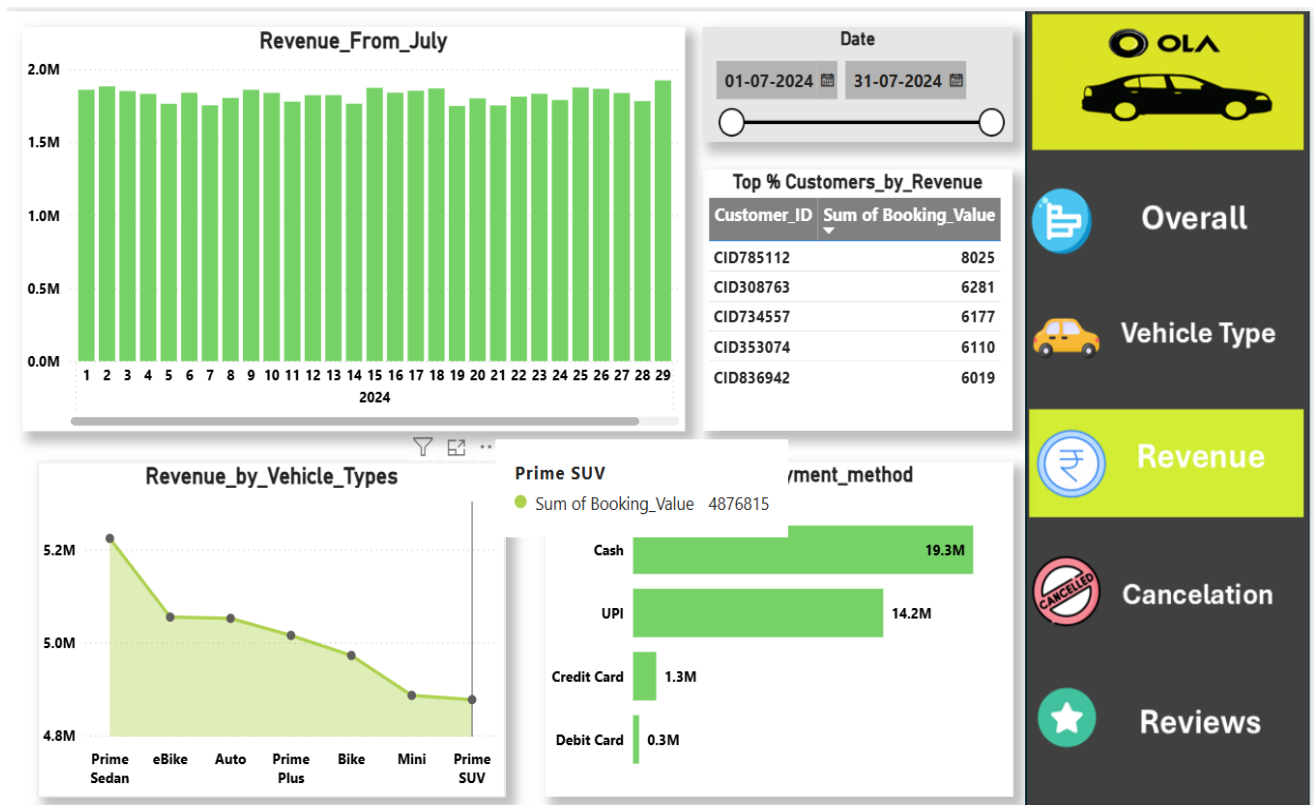
  Cancelled Rides: 39.06K (≈38%)

Key Findings:

- Majority of rides are successfully completed.

- However, a **38%** cancellation/incomplete rate is significant and impacts revenue.

- Demand is stable throughout the month with no extreme fluctuations.

2. Revenue Analysis –

 - Revenue remains consistent between **1.7M–1.95M** per day.

 - Slight growth in the final week of July.

- **Cash:** 19.3M (Highest)
- **UPI:** 14.2M (Second Highest)
- Credit & Debit cards contribute minimal share.
- Prime Sedan generates the highest revenue (~5.2M).
- Followed closely by Prime SUV, Prime Plus, and Auto
- Revenue distribution across vehicle types is fairly balanced.

3- Cancellation Analysis

- **Success: ~64K**
- **Cancelled by Driver: ~18K**
- **Cancelled by Customer: ~10K**
- **Driver Not Found: ~10K**
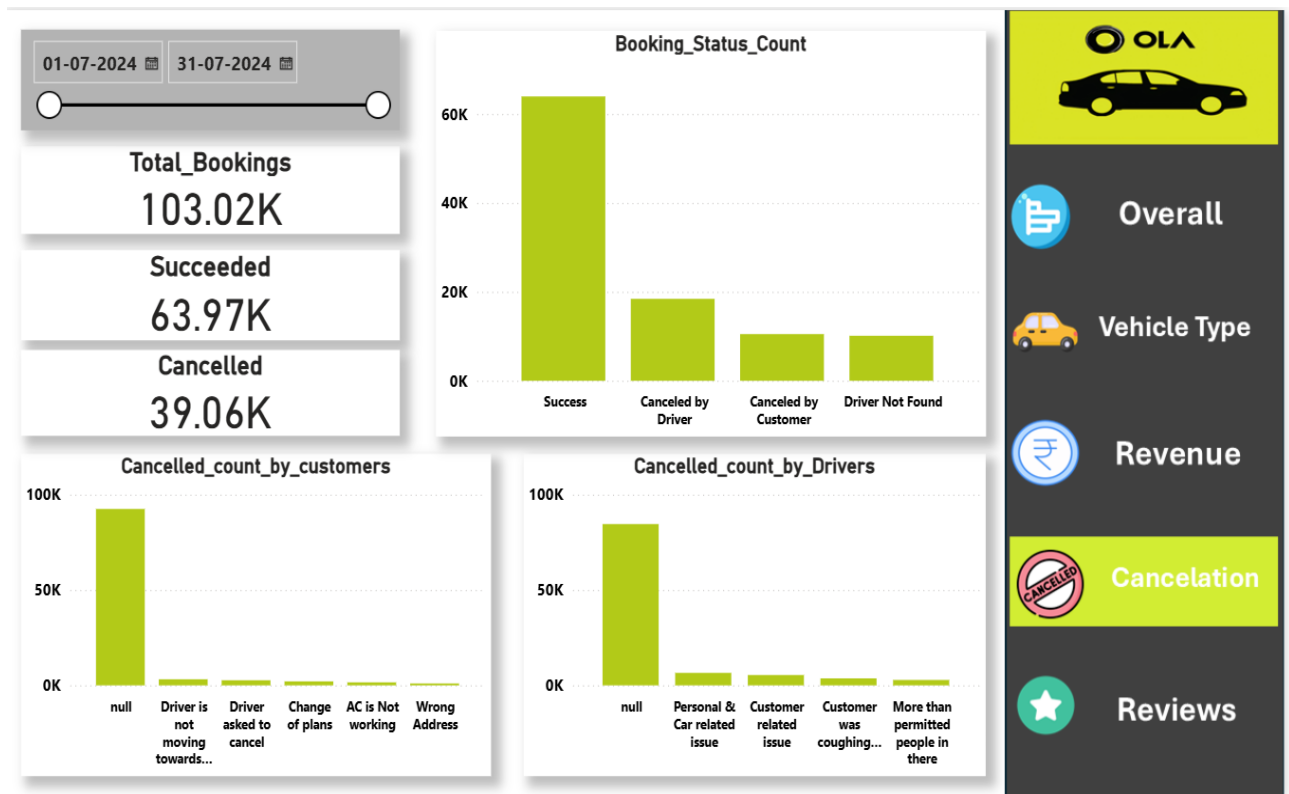
Key Findings:

- Driver cancellations are higher than customer cancellations.

- "Driver Not Found" is a major operational gap.

- Data quality needs improvement (many null reasons).

4- Operational Comparison

- **Prime Sedan: 8.30M (Highest)**
- E-bike & Auto also strong contributors (~8M range)
- Overall revenue distribution is balanced

Vehicle Type		Total Booking value	Success Booking	Avg-Distance Travelled	Total Dist. Travelled
🚗	Prime sedan	8.30M	5.22M	25.01	234.54K
🚗	Prime SUV	7.93M	4.88M	24.88	223.85K
🚗	Prime plus	8.05M	5.02M	25.03	227.19K
🚗	Mini	7.99M	4.89M	24.98	225.70K
🛺	Auto	8.09M	5.05M	10.04	92.04K
🛵	E-bike	8.18M	5.05M	25.15	230.84K
🏍	Motor-Bike	7.99M	4.97M	24.93	227.75K

● Highest   ○ Lowest

OLA

- Overall
- Vehicle Type
- Revenue
- Cancelation
- Reviews

Key Findings:

- Premium vehicles handle longer trips.

- Auto is used mostly for short-distance travel.

- Revenue contribution across categories is evenly distributed.

5- Ratings Analysis

- **Customer Ratings:**

- Most vehicle types average around **4.0**

- Prime Plus slightly highest **(4.01)**

- E-bike and Motorbike slightly lower **(3.99)**

- **Driver Ratings:**
- Similar pattern **(~3.98–4.01 range)**
- Very minimal variation across categories.

Prime sedan	Prime SUV	Prime plus	Mini	Auto	E-bike	Motor-Bike
4.00	4.00	4.01	4.00	4.00	3.99	3.99

Prime sedan	Prime SUV	Prime plus	Mini	Auto	E-bike	Motor-Bike
3.99	4.01	4.00	3.99	4.00	4.01	3.98

OLA

- Overall
- Vehicle Type
- Revenue
- Cancelation
- Reviews

Key Findings:
- Overall customer satisfaction is stable and consistent.
- No major dissatisfaction across vehicle types.
- Service quality appears standardized across segments.

- # Hypotheses Testing Results

1- Do Successful Rides Contribute Significantly More to Revenue?

- **H0 (Null Hypothesis):**
  Successful rides do not contribute significantly more to total booking value.
- **H1 (Alternative Hypothesis):**
  Successful rides contribute significantly more to total booking value.

Answer (Conclusion):
After analysis, successful rides account for the majority of total booking value. Therefore, **we reject H0** and conclude that ride completion significantly impacts revenue generation.

2- Does Average Ride Distance Differ by Vehicle Type?

- **H0: (Null Hypotheses)**
  Average ride distance is the same across all vehicle types.
- **H1: (Alternative Hypotheses)**
  Average ride distance varies across vehicle types.

Answer (Conclusion):

The analysis shows that premium vehicle types (e.g., Prime Sedan) generally have higher average ride distances compared to Mini or Auto. Hence, **we reject H0** and conclude that ride distance significantly varies by vehicle type.

3- Are Customer Cancellations Significantly Impacting Total Bookings?

H0:

Customer cancellations are not significant in proportion to total bookings.

H1:

Customer cancellations form a significant portion of total bookings.

Answer (Conclusion):

Customer cancellations represent a noticeable percentage of total bookings, directly affecting operational efficiency and revenue. Therefore, **H0 is rejected**.

- # Conclusions

1- Customer cancellations represent a noticeable percentage of total bookings, directly affecting operational efficiency and revenue. Therefore, H0 is rejected.

2- Prime Sedan and other premium categories generate slightly higher revenue and handle longer-distance trips.

3- Daily bookings (3,200–3,450 range) and revenue (1.7M–1.95M range) show consistent performance with no extreme volatility.

4- Cash remains the most used payment method, while UPI is the second most preferred option.

5- Average ratings across all vehicle types are around 4.0, indicating stable service quality.

- # Recommendations

1-Improve driver availability monitoring, introduce driver performance incentives, and implement stricter cancellation policies to reduce operational loss.

2- Promote premium vehicles during peak hours and offer targeted discounts to increase bookings in high-margin segments.

3-Leverage this stability to introduce subscription plans, loyalty programs, or ride packages to increase recurring revenue.

4-Encourage digital payments through cashback offers and reward points to reduce cash handling risks and improve transaction efficiency.

5-Maintain service standards while focusing on reducing cancellation-related dissatisfaction to further improve overall customer experience.