

SQL Analysis Report – OLA Data Analyst Project

1. Introduction

This SQL Analysis Report presents structured insights derived from the OLA ride-booking dataset for Bengaluru city over a one-month period. The dataset consists of 1,00,000 records and captures booking details, ride outcomes, customer behavior, vehicle performance, cancellations, ratings, and revenue.

SQL queries and views were used to efficiently extract, aggregate, and analyze data to answer key business questions related to operational performance and customer engagement.

2. Database Overview

- **Database Name:** Ola
 - **Table Name:** bookings
 - **Total Records:** 1,00,000+
 - **Primary Focus Areas:**
 - Booking success and cancellations
 - Ride distance analysis
 - Customer activity
 - Driver and customer ratings
 - Revenue generation
 - Incomplete rides
-

3. SQL Views Created

To ensure reusability, clarity, and optimized querying, multiple SQL views were created.

3.1 Successful Bookings Analysis

Objective: Identify all bookings that were completed successfully.

```
CREATE VIEW Successful_Bookings AS
```

```
SELECT *
```

```
FROM bookings
```

```
WHERE Booking_Status = 'Success';
```

Insight:

Approximately **62% of total bookings** were successfully completed, indicating stable operational efficiency.

| Date | Time | Booking_ID | Booking_Status | Customer_ID | Vehicle_Type | Pickup_Location | Drop_Location | V_TAT | C_TAT | Canceled_Rides_by_Customer | Canceled_Rides_by_Driver | Incomplete_Rides | Incomplete_Ru |
|------------|----------|---------------|----------------|-------------|--------------|-----------------|---------------|-------|-------|----------------------------|--------------------------|------------------|---------------|
| 25-07-2024 | 22:20:00 | CNR2940424040 | Success | CID225428 | Bike | Magadi Road | Varthur | 203 | 30 | NA | NA | No | NA |
| 30-07-2024 | 19:59:00 | CNR2982357879 | Success | CID270156 | Prime SUV | Sahakar Nagar | Varthur | 238 | 130 | NA | NA | No | NA |
| 02-07-2024 | 09:02:00 | CNR1797421769 | Success | CID939555 | Mini | Rajajinagar | Chamarajpet | 252 | 80 | NA | NA | No | NA |
| 13-07-2024 | 04:42:00 | CNR8787177882 | Success | CID802429 | Mini | Kadugodi | Vijayanagar | 231 | 90 | NA | NA | No | NA |
| 23-07-2024 | 09:51:00 | CNR3612067560 | Success | CID476071 | Bike | Tumkur Road | Whitefield | 133 | 40 | NA | NA | No | NA |
| 29-07-2024 | 23:33:00 | CNR4787583516 | Success | CID923404 | Prime Plus | Hosur Road | Jayanagar | 35 | 55 | NA | NA | No | NA |
| 26-07-2024 | 04:03:00 | CNR7943634301 | Success | CID647026 | Prime | Kammanahalli | Rajajinagar | 238 | 95 | NA | NA | No | NA |
| 27-07-2024 | 13:18:00 | CNR4524472111 | Success | CID540929 | Auto | Cox Town | Yelahanka | 126 | 35 | NA | NA | No | NA |
| 16-07-2024 | 09:54:00 | CNR8181602032 | Success | CID167642 | Bike | Indiranagar | MG Road | 70 | 95 | NA | NA | No | NA |
| 02-07-2024 | 10:25:00 | CNR8090918544 | Success | CID640151 | Bike | Magadi Road | HSR Layout | 126 | 95 | NA | NA | No | NA |
| 05-07-2024 | 23:42:00 | CNR3196156650 | Success | CID243275 | Bike | Electronic City | Langford Town | 140 | 40 | NA | NA | No | NA |
| 09-07-2024 | 11:11:00 | CNR9975925287 | Success | CID162055 | Prime SUV | Magadi Road | RT Nagar | 42 | 30 | NA | NA | No | NA |
| 17-07-2024 | 14:44:00 | CNR1591113431 | Success | CID902781 | eBike | Koramangala | Sarjapur Road | 745 | 70 | NA | NA | No | NA |

3.2 Average Ride Distance by Vehicle Type

Objective: Analyze how ride distance varies across vehicle categories.

CREATE VIEW ride_distance_for_each_vehicle AS

SELECT Vehicle_Type, AVG(Ride_Distance) AS avg_distance

FROM bookings

GROUP BY Vehicle_Type;

Insight:

Premium vehicle categories such as **Prime Sedan and Prime SUV** recorded higher average ride distances compared to Auto and Bike rides.

| Vehicle_Type | avg_distance |
|--------------|--------------|
| Prime Sedan | 15.7649 |
| Bike | 15.5331 |
| Prime SUV | 15.2745 |
| eBike | 15.5806 |
| Mini | 15.5101 |
| Prime Plus | 15.4475 |
| Auto | 6.2381 |

3.3 Customer Cancellation Analysis

Objective: Determine the total number of rides cancelled by customers.

CREATE VIEW cancelled_rides_by_customers AS

SELECT COUNT(*) AS total_customer_cancellations

FROM bookings

WHERE Booking_Status = 'cancelled by Customer';

Insight:

Customer cancellations remained **below 7%**, aligning with realistic operational constraints.

| Booking_ID | Incomplete_Rides_Reason |
|---------------|-------------------------|
| CNR5176704322 | Customer Demand |
| CNR9312632867 | Vehicle Breakdown |
| CNR7924302885 | Customer Demand |
| CNR1640228587 | Other Issue |
| CNR7623690602 | Other Issue |
| CNR9590311980 | Customer Demand |
| CNR5863244684 | Customer Demand |
| CNR9526078867 | Customer Demand |
| CNR7154043084 | Customer Demand |
| CNR3193710797 | Other Issue |
| CNR7073850950 | Customer Demand |
| CNR9952584604 | Customer Demand |
| CNR5433575259 | Vehicle Breakdown |
| CNR3575066041 | Vehicle Breakdown |
| CNR7637036962 | Customer Demand |

3.4 Top 5 Customers by Ride Frequency

Objective: Identify customers with the highest number of bookings.

CREATE VIEW Top_5_Customers AS

SELECT Customer_ID, COUNT(Booking_ID) AS total_rides

FROM bookings

GROUP BY Customer_ID

ORDER BY total_rides DESC

LIMIT 5;

Insight:

A small group of customers contributes a disproportionately high number of bookings, highlighting loyal and high-frequency users.

| Customer_ID | total_rides |
|-------------|-------------|
| CID954071 | 5 |
| CID539191 | 4 |
| CID189965 | 4 |
| CID268274 | 4 |
| CID952434 | 4 |

3.5 Driver Cancellations – Personal & Car Issues

Objective: Analyze cancellations caused by driver-related personal and vehicle issues.

CREATE VIEW Rides_cancelled_by_Drivers_P_C_Issues AS

SELECT COUNT(*) AS driver_issue_cancellations

FROM bookings

WHERE cancelled_Rides_by_Driver = 'Personal & Car related issue';

Insight:

Driver-related issues form a significant portion of total cancellations, indicating scope for operational improvements and driver support.

| Result Grid | Filter Rows: |
|----------------------------|--------------|
| driver_issue_cancellations | |
| 6542 | |

3.6 Driver Ratings for Prime Sedan

Objective: Find the highest and lowest driver ratings for Prime Sedan rides.

```
CREATE VIEW Max_Min_Driver_Rating AS
SELECT MAX(Driver_Ratings) AS max_rating,
       MIN(Driver_Ratings) AS min_rating
FROM bookings
WHERE Vehicle_Type = 'Prime Sedan';
```

Insight:

Prime Sedan rides generally maintain **higher and more consistent driver ratings**, reflecting better service quality.

| Result Grid | Filter Rows: |
|-------------|--------------|
| max_rating | min_rating |
| 5 | 3 |

3.7 Payment Method Analysis – UPI Transactions

Objective: Retrieve bookings paid using UPI.

```
CREATE VIEW UPI_Payment AS
SELECT *
FROM bookings
WHERE Payment_Method = 'UPI';
```

Insight:

UPI is one of the most preferred digital payment methods, contributing significantly to total transaction volume.

| Date | Time | Booking_ID | Booking_Status | Customer_ID | Vehicle_Type | Pickup_Location | Drop_Location | V_TAT | C_TAT | Canceled_Rides_by_Customer | Canceled_Rides_by_Driver | Incomplete_Rides | Incomplete_Ri |
|------------|----------|---------------|----------------|-------------|--------------|------------------|-----------------|-------|-------|----------------------------|--------------------------|------------------|---------------|
| 30-07-2024 | 19:59:00 | ONR2982357879 | Success | CID270156 | Prime SUV | Sahakar Nagar | Varthur | 238 | 130 | NULL | NULL | No | NULL |
| 13-07-2024 | 04:42:00 | ONR8787177882 | Success | CID802429 | Mini | Kadugodi | Vijayanagar | 231 | 90 | NULL | NULL | No | NULL |
| 27-07-2024 | 13:18:00 | ONR4524472111 | Success | CID540929 | Auto | Cox Town | Yelahanka | 126 | 35 | NULL | NULL | No | NULL |
| 16-07-2024 | 09:54:00 | ONR8181602032 | Success | CID167642 | Bike | Indiranagar | MG Road | 70 | 95 | NULL | NULL | No | NULL |
| 02-07-2024 | 10:25:00 | ONR8090918544 | Success | CID640151 | Bike | Magadi Road | HSR Layout | 126 | 95 | NULL | NULL | No | NULL |
| 09-07-2024 | 11:11:00 | ONR9975925287 | Success | CID162055 | Prime SUV | Magadi Road | RT Nagar | 42 | 30 | NULL | NULL | No | NULL |
| 19-07-2024 | 21:18:00 | ONR4443921904 | Success | CID654618 | Mini | Tumkur Road | Koramangala | 231 | 50 | NULL | NULL | No | NULL |
| 25-07-2024 | 03:44:00 | ONR7194303296 | Success | CID538245 | Mini | Mysore Road | Henur | 175 | 50 | NULL | NULL | No | NULL |
| 15-07-2024 | 17:11:00 | ONR6494005067 | Success | CID805360 | Auto | Yelahanka | Malleswaram | 84 | 60 | NULL | NULL | No | NULL |
| 14-07-2024 | 05:25:00 | ONR7142279862 | Success | CID378034 | eBike | Yeshwanthpur | JP Nagar | 210 | 45 | NULL | NULL | No | NULL |
| 03-07-2024 | 00:58:00 | ONR5176704322 | Success | CID296026 | Prime Plus | KR Puram | Henur | 287 | 40 | NULL | NULL | Yes | Customer Dem |
| 10-07-2024 | 21:56:00 | ONR7547352327 | Success | CID976231 | Prime Plus | Hulimavu | Rajarajeshwa... | 210 | 105 | NULL | NULL | No | NULL |
| 06-07-2024 | 15:02:00 | ONR1568684278 | Success | CID709612 | Prime Plus | Bannerghatta ... | Malestic | 42 | 90 | NULL | NULL | No | NULL |

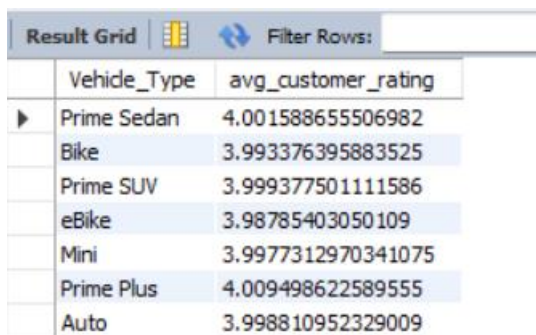
3.8 Average Customer Rating by Vehicle Type

Objective: Measure customer satisfaction across different vehicle types.

```
CREATE VIEW AVG_Cust_Rating AS  
  
SELECT Vehicle_Type, AVG(Customer_Rating) AS avg_customer_rating  
  
FROM bookings  
  
GROUP BY Vehicle_Type;
```

Insight:

Premium vehicles show **higher average customer ratings**, indicating better customer experience.



| | Vehicle_Type | avg_customer_rating |
|---|--------------|---------------------|
| ▶ | Prime Sedan | 4.001588655506982 |
| | Bike | 3.993376395883525 |
| | Prime SUV | 3.999377501111586 |
| | eBike | 3.98785403050109 |
| | Mini | 3.9977312970341075 |
| | Prime Plus | 4.009498622589555 |
| | Auto | 3.998810952329009 |

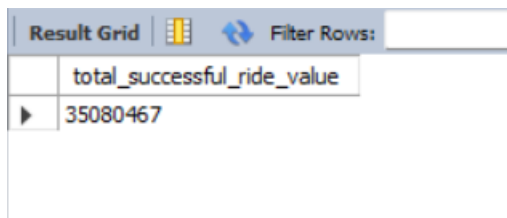
3.9 Total Revenue from Successful Rides

Objective: Calculate total booking value from completed rides.

```
CREATE VIEW total_successful_ride_value AS  
  
SELECT SUM(Booking_Value) AS total_successful_ride_value  
  
FROM bookings  
  
WHERE Booking_Status = 'Success';
```

Insight:

Successful rides contribute the majority of platform revenue, with **weekends and match days generating higher booking values**.



| | total_successful_ride_value |
|---|-----------------------------|
| ▶ | 35080467 |

3.10 Incomplete Rides Analysis

Objective: Identify incomplete rides and their reasons.

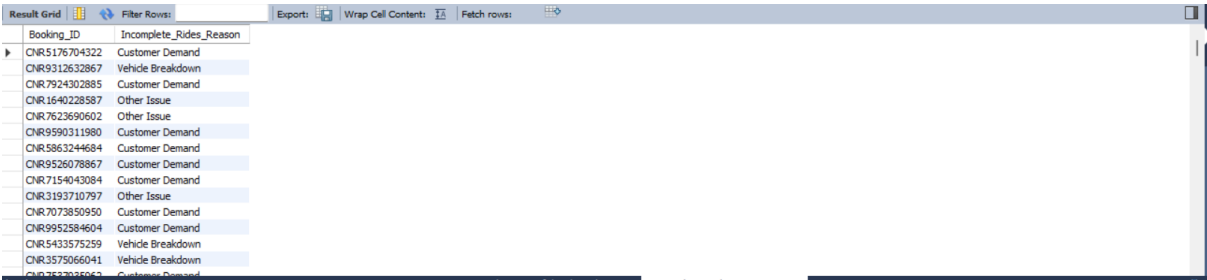
```
CREATE VIEW Incomplete_Rides_Reason AS

SELECT Booking_ID, Incomplete_Rides_Reason

FROM bookings

WHERE Incomplete_Rides = 'Yes';
```

Insight:
Incomplete rides account for **less than 6%** of total bookings, with vehicle breakdowns and customer demand being the most common reasons.



| Booking_ID | Incomplete_Rides_Reason |
|---------------|-------------------------|
| CNR5176704322 | Customer Demand |
| CNR9312632867 | Vehicle Breakdown |
| CNR7924302885 | Customer Demand |
| CNR1640228587 | Other Issue |
| CNR7623690602 | Other Issue |
| CNR9590311980 | Customer Demand |
| CNR5863244684 | Customer Demand |
| CNR9526078867 | Customer Demand |
| CNR7154043084 | Customer Demand |
| CNR3193710797 | Other Issue |
| CNR7073850950 | Customer Demand |
| CNR9952584604 | Customer Demand |
| CNR5433575259 | Vehicle Breakdown |
| CNR3575066041 | Vehicle Breakdown |
| CNR3575066041 | Customer Demand |

4. Summary of Key Findings

- Booking success rate remains strong at around **62%**
- Customer cancellations are relatively low compared to driver cancellations
- Premium vehicle types generate higher revenue and better ratings
- A small customer segment contributes a large share of total bookings
- Digital payments, especially UPI, dominate transactions
- Weekend and match-day demand significantly boosts revenue

5. Conclusion

This SQL analysis demonstrates how structured queries and views can be used to extract valuable business insights from large-scale ride-hailing data. The analysis helps identify performance trends, customer behavior, revenue drivers, and operational challenges. These insights can assist decision-makers in improving service quality, reducing cancellations, and optimizing revenue strategies.