

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_Ride_Status
25-07-2024	22:20:00	CNR2940424040	Success	CID225428	Bike	Magadi Road	Varthur	203	30	NULL	No	NULL	
30-07-2024	19:59:00	CNR2982357879	Success	CID270156	Prime SUV	Sahakar Nagar	Varthur	238	130	NULL	No	NULL	
02-07-2024	09:02:00	CNR1797421769	Success	CID939555	Mini	Rajajinagar	Chamarajpet	252	80	NULL	No	NULL	
13-07-2024	04:42:00	CNR8787177882	Success	CID802429	Mini	Kadugodi	Vijayanagar	231	90	NULL	No	NULL	
23-07-2024	09:51:00	CNR3612067568	Success	CID476071	Bike	Tumkur Road	Whitefield	133	40	NULL	No	NULL	
29-07-2024	23:33:00	CNR4787583516	Success	CID923404	Prime Plus	Hosur Road	Jayanagar	35	55	NULL	No	NULL	
26-07-2024	04:03:00	CNR7943634301	Success	CID647026	Prime Success	Kannanahalli	Rajajinagar	238	95	NULL	No	NULL	
27-07-2024	13:18:00	CNR4524472111	Success	CID540929	Auto	Cox Town	Yelahanka	126	35	NULL	No	NULL	
16-07-2024	09:54:00	CNR8181602032	Success	CID167642	Bike	Indiranagar	MG Road	70	95	NULL	No	NULL	
02-07-2024	10:25:00	CNR8090918544	Success	CID640151	Bike	Magadi Road	HSR Layout	126	95	NULL	No	NULL	
05-07-2024	23:42:00	CNR3196156650	Success	CID243275	Bike	Electronic City	Langford Town	140	40	NULL	No	NULL	
09-07-2024	11:11:00	CNR9795925287	Success	CID162055	Prime SUV	Magadi Road	RT Nagar	42	30	NULL	No	NULL	
17-07-2024	14:44:00	CNR1511114741	Success	CID907781	eBike	Kravemannna	Srinivas Road	745	70	NULL	Nn	NULL	

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
CNR3575066042	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				
5				
min_rating				
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_R
30-07-2024	19:59:00	CNR2982357879	Success	CID270156	Prime SUV	Sahakar Nagar	Varthur	238	130	NULL	NULL	No	NULL
13-07-2024	04:42:00	CNR8787177882	Success	CID802429	Mini	Kadugodi	Vijayanagar	231	90	NULL	NULL	No	NULL
27-07-2024	13:18:00	CNR4524472111	Success	CID540929	Auto	Cox Town	Yelahanka	126	35	NULL	NULL	No	NULL
16-07-2024	09:54:00	CNR8181602032	Success	CID167642	Bike	Indiranagar	MG Road	70	95	NULL	NULL	No	NULL
02-07-2024	10:25:00	CNR8090918544	Success	CID640151	Bike	Magad Road	HSR Layout	126	95	NULL	NULL	No	NULL
09-07-2024	11:11:00	CNR9975925287	Success	CID162055	Prime SUV	Magad Road	RT Nagar	42	30	NULL	NULL	No	NULL
19-07-2024	21:18:00	CNR4443921904	Success	CID654618	Mini	Tumkur Road	Koramangala	231	50	NULL	NULL	No	NULL
25-07-2024	03:44:00	CNR7194303296	Success	CID538245	Mini	Mysore Road	Hennur	175	50	NULL	NULL	No	NULL
15-07-2024	17:11:00	CNR6494005067	Success	CID0805360	Auto	Yelahanka	Malleshwaram	84	60	NULL	NULL	No	NULL
14-07-2024	05:25:00	CNR7142279862	Success	CID378034	eBike	Yeshwanthpur	JP Nagar	210	45	NULL	NULL	No	NULL
03-07-2024	00:58:00	CNR5176704322	Success	CID296026	Prime Plus	KR Puram	Hennur	287	40	NULL	NULL	Yes	Customer Dem
10-07-2024	21:56:00	CNR7547352327	Success	CID976231	Prime Plus	Hulmanu	Rajarajeswari...	210	105	NULL	NULL	No	NULL
06-07-2024	15:02:00	CNR1568694278	Success	CID709612	Prime Plus	Bannerhatta ...	Majestic	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.

Result Grid		
	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**.

Result Grid		
	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
ONR5176704322	Customer Demand
ONR9312632867	Vehicle Breakdown
ONR7924302885	Customer Demand
ONR1640228587	Other Issue
ONR7623690602	Other Issue
ONR9590311980	Customer Demand
ONR5863244684	Customer Demand
ONR9526078967	Customer Demand
ONR7154043084	Customer Demand
ONR3193710797	Other Issue
ONR7073850950	Customer Demand
ONR9952594604	Customer Demand
ONR5433575259	Vehicle Breakdown
ONR3575066041	Vehicle Breakdown
ONR2354211442	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
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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.