
“Ride Booking & Cancellation Analysis for Ola & Uber (July 2024)”

Objective:

Analyze ride booking behavior, cancellation patterns, turnaround times, and vehicle efficiency to identify operational bottlenecks and improve ride completion rates.

Project Structure

1 Business Problem

Ride cancellations reduce revenue and customer satisfaction.

This project answers:

- Why are rides getting cancelled?
 - Who cancels more—customers or drivers?
 - Which vehicle types are most efficient?
 - How does turnaround time affect success?
-

2 Dataset Overview

- 103,000 ride bookings
- Multiple vehicle types
- Time-based and behavior-based features
- Realistic cancellation & incomplete ride scenarios

1 Booking Funnel Analysis (MOST IMPORTANT)

Goal: Understand drop-offs at each stage.

Key Questions

- Total booking requests? → **103024**
- How many succeeded? → **63967**
- How many cancelled by customer? → **10499**
- How many cancelled by driver? → **18434**
- How many incomplete rides? → **3926**

SQL Concepts Used

SUM (), COUNT (), CASE WHEN, GROUP BY

2 Cancellation Rate Analysis

A) Overall Cancellation Rate

- Total cancellations / total bookings → **38%**

B) Customer vs Driver Cancellation Share:

→ **Customer – 10% & Driver – 10%**

C) Cancellation by Vehicle Type

- Which vehicle has highest cancellation rate?
→ **eBike with 28.4%** cancellation rate
- Is Bike or Auto more unreliable?
→ With cancellation rate 27% in bike and 28.3 % in Auto, Auto is more unreliable.

SQL Skills

COUNT, SUM, GROUP BY, ROUND (), ORDER BY

Insight

Only **62%** of bookings are successful, with **driver cancellations accounting for 18%, Customer cancellations accounting for 10% and Miscellaneous 10%** of all failed rides

Cancellation Reason Analysis

A) Top 3 Customer Cancellation Reasons

- Driver is not moving towards pickup location and count is '**3175**'
- Driver asked to cancel and count is '**2670**'
- Change of plans and count is '**2081**'

B) Top Driver Cancellation Reasons

- Personal & Car related issue and count is '**6542**'
- Customer related issue and count is '**5413**'
- Customer was coughing/sick and count is '**3654**'

SQL Skills

GROUP BY, ORDER BY, LIMIT

Insight

Over **30% of customer cancellations** occur due to long wait times and **35.5% of driver cancellation** occur due to personal and car related issues

Turnaround Time (TAT) Impact Analysis

A) Vehicle Turnaround Time (V_TAT)

- Avg V_TAT for successful rides vs cancelled rides

→ Average **V_TAT for overall bookings is 106.1** whereas for **successful bookings V_TAT is 170.9.**

B) Customer Turnaround Time (C_TAT)

- Does higher C_TAT increase incomplete rides?
→ **Yes**, Higher the C_TAT, Higher the No. of Incomplete Rides

SQL Skills

AVG, CASE, GROUP BY

5 Vehicle Performance & Efficiency Analysis

Metrics

- Success rate per vehicle
 - ➔ **Sedan** with highest success rate of **63%** and **SUV** with lowest of **61%**
- Avg V_TAT per vehicle
 - ➔ **Sedan** with highest v_tat of **107.58** and **SUV** with lowest of **103.64**
- Avg C_TAT per vehicle
 - ➔ **Sedan** with highest c_tat of **53.84** and **SUV** with lowest of **51.89**
- Incomplete ride percentage

SQL Skills

Aggregations + conditional logic

6 Time-Based Analysis (Very Resume-Friendly)

A) Peak Booking Hours

- **Afternoon 12PM** has the highest no. of bookings - **4408**

B) Cancellation by Time of Day

- **Morning 10AM** has the highest no. of cancellations - **1718**

C) Day-wise Trend (July)

- **Tuesday** has the highest no. of bookings – **16926** and Sunday Being the lowest - **13013**

SQL Skills

EXTRACT (HOUR FROM Time) and dayname () - (Weekday from date), GROUP BY, ORDER BY

Insight

Cancellation rates spike between **6 PM – 9 PM**, with least no of bookings.

Location-Based Analysis

A) Pickup Locations with High Cancellations

- Vijayanagar, Total Bookings - 2113, Cancellations - **849**
- Banashankari, Total Bookings - 2201, Cancellations - **836**
- Tumkur Road, Total Bookings - 2105, Cancellations - **836**

B) Drop Locations with High Incomplete Rides

- Marathahalli, Total Bookings - 2104, Cancellations - **844**
- Sarjapur Road, Total Bookings - 2108, Cancellations - **840**
- MG Road, Total Bookings - 2128, Cancellations - **837**

C) Top 5 High-Demand Corridors

Pickup	Dropoff	Successful Rides
Majestic	Hennur	49
Kammanahalli	Kadugodi	45
Hulimavu	Banashankari	44
Bellandur	Indiranagar	43
Basavanagudi	Frazer Town	43

SQL Skills

GROUP BY, ranking logic, limit

Insight Example

Majestic to Hennur is High in demand with 49 successful rides

Incomplete Ride Analysis

Questions

- % of incomplete rides
→ 3.81%
- Top reasons for incomplete rides
→ Customer demand is top reason with **1601** incomplete rides
- Vehicle types most affected
→ Prime Sedan has the **highest** with **611** incomplete rides and **Mini** is **lowest - 517**

Insight Example

41% of incomplete rides are due to **Customer Demand**

9 Customer Behavior Analysis (Advanced)

A) Repeat Cancellers

- Customers who cancelled multiple times

Customer_ID	Total_Bookings	Cancellations
CID861160	3	3
CID890908	3	3
CID548434	3	3
CID365812	3	3
CID497942	3	3
CID867762	3	3

B) High-Risk Customers

- Customers with >50% cancellation rate

There are **total 9178 customers** with cancellation rate greater than 50

SQL Skills

GROUP BY, HAVING

1 0 Insight Example

8.9% of cancellations from total are cancelled by **customers** and **15.7% by drivers**

1 0 Revenue Analysis

A) Total Revenue

→ \$ 56,534,614

B) Top 3 Vehicles with highest revenue

- Prime Sedan \$ 8,298,612
- eBike \$ 8,181,523
- Auto \$ 8,092,210

C) Revenue by Payment Method

→

Cash	\$ 19,260,316
UPI	\$ 14,168,436