
“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

1️⃣ 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?

2️⃣ Dataset Overview

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

1️⃣ 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

2️⃣ 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

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3️⃣ 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

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4️⃣ 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

5️⃣ 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

6️⃣ 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.

7️⃣ 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

Majestic to Hennur is High in demand with 49 successful rides

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8️⃣ 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

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

9️⃣ 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

📊 Insight

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

1️⃣0️⃣ 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