

OLA RIDE – ANALYTICS REPORT

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Agenda

- SQL Database
- Data Cleaning
- Power BI Dashboard
- Streamlit Application

Steps Followed

1. Imported the OLA dataset into a MySQL database.
2. Performed data cleaning and preprocessing using Python and Pandas.
3. Validated missing values and standardized data formats.
4. Executed SQL queries to derive business insights.
5. Built interactive Power BI dashboards with slicers and KPIs.
6. Developed a Streamlit application for interactive analytics.

SQL Database & Queries

- **Successful bookings**

```
SELECT * FROM bookings WHERE booking_status='Success';
```

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
0000-00-00 00:00:00	22:20:00	CNR2940424640	Success	CID225428	Bike	Magadi Road	Varthur	203	30	null	null	No
0000-00-00 00:00:00	19:59:00	CNR2982357879	Success	CID270156	Prime SUV	Sahakar Nagar	Varthur	238	130	null	null	No
0000-00-00 00:00:00	09:02:00	CNR1797421789	Success	CID939555	Mini	Rajajinagar	Chamarajpet	252	80	null	null	No
0000-00-00 00:00:00	04:42:00	CNR8787177882	Success	CID802429	Mini	Kadugodi	Vijayanagar	231	90	null	null	No
0000-00-00 00:00:00	09:51:00	CNR3612067560	Success	CID479071	Bike	Tumkur Road	Whitefield	133	40	null	null	No
0000-00-00 00:00:00	23:33:00	CNR4787563516	Success	CID923404	Prime Plus	Hosur Road	Jayanagar	35	55	null	null	No
0000-00-00 00:00:00	04:03:00	CNR7943634301	Success	CID547026	Prime Plus	Kammanahalli	Rajajinagar	238	95	null	null	No
0000-00-00 00:00:00	13:18:00	CNR4524472111	Success	CID540929	Auto	Cox Town	Yelahanka	126	35	null	null	No
0000-00-00 00:00:00	09:54:00	CNR8181602032	Success	CID187642	Bike	Indiranagar	MG Road	70	95	null	null	No
0000-00-00 00:00:00	10:25:00	CNR8090918544	Success	CID640151	Bike	Magadi Road	HSR Layout	126	95	null	null	No
0000-00-00 00:00:00	23:42:00	CNR3196156650	Success	CID243275	Bike	Electronic City	Langford Town	140	40	null	null	No
0000-00-00 00:00:00	11:11:00	CNR9975925287	Success	CID162055	Prime SUV	Magadi Road	RT Nagar	42	30	null	null	No
0000-00-00 00:00:00	14:44:00	CNR159113431	Success	CID902781	eBike	Koramangala	Sarjapur Road	245	70	null	null	No
0000-00-00 00:00:00	20:42:00	CNR3650331573	Success	CID217093	eBike	Basavanagudi	Hulimavu	84	25	null	null	No
0000-00-00 00:00:00	22:33:00	CNR8013805089	Success	CID817034	Prime Sedan	Padmanabhanagar	Jayanagar	168	65	null	null	No
0000-00-00 00:00:00	18:20:00	CNR832070187	Success	CID655872	Bike	Koramangala	BTM Layout	231	145	null	null	No
0000-00-00 00:00:00	21:17:00	CNR5620539253	Success	CID290480	Prime Plus	Mysore Road	Sahakar Nagar	56	105	null	null	No
0000-00-00 00:00:00	21:18:00	CNR4443921904	Success	CID546818	Mini	Tumkur Road	Koramangala	231	50	null	null	No
0000-00-00 00:00:00	03:44:00	CNR7194303296	Success	CID538245	Mini	Mysore Road	Hennur	175	50	null	null	No
0000-00-00 00:00:00	17:11:00	CNR6494005067	Success	CID805390	Auto	Yelahanka	Malleshwaram	84	60	null	null	No
0000-00-00 00:00:00	19:44:00	CNR805579107	Success	CID810214	Prime SUV	Indiranagar	Indiranagar	35	145	null	null	No

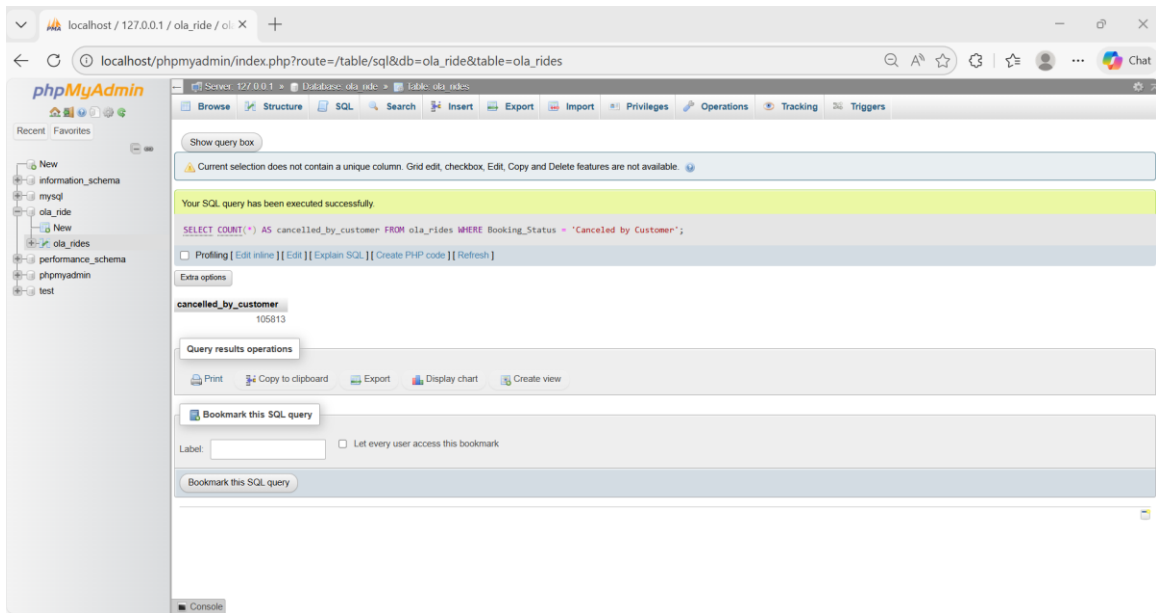
- **Average ride distance per vehicle**

SELECT vehicle_type, AVG(ride_distance) FROM bookings GROUP BY vehicle_type;

Vehicle_Type	avg_ride_distance
Prime Sedan	15.70
eBike	15.63
Bike	15.63
Mini	15.52
Prime Plus	15.37
Prime SUV	15.26
Auto	6.21

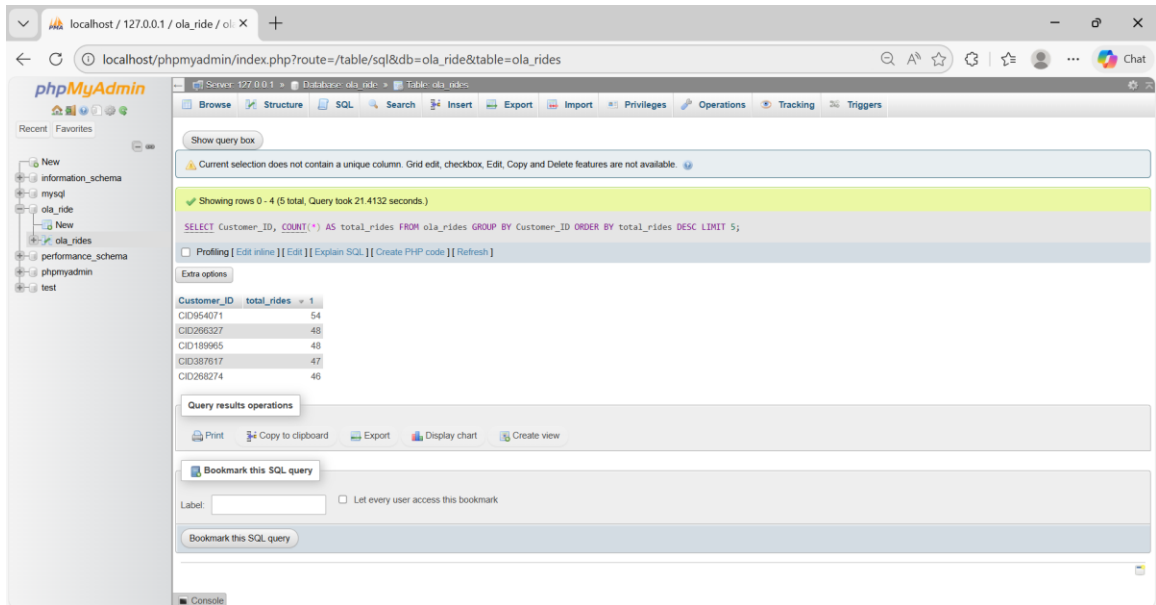
- **Cancelled rides by customers**

SELECT COUNT(*) FROM bookings WHERE booking_status='Canceled by Customer';



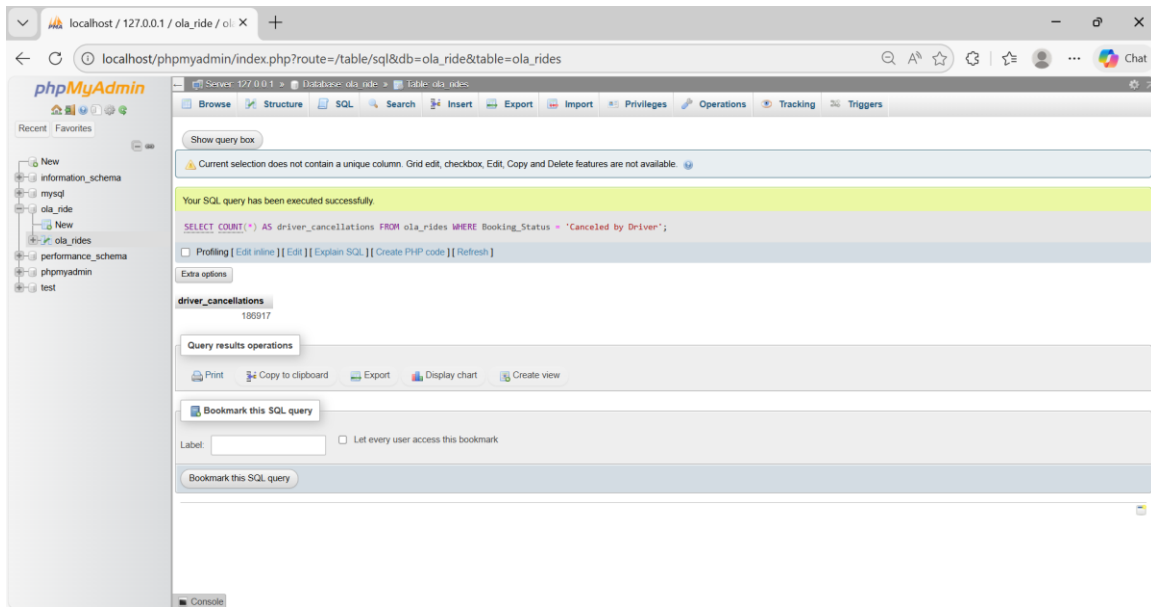
- **Top 5 customers by rides**

`SELECT customer_id, COUNT(*) AS total_rides FROM bookings GROUP BY customer_id ORDER BY total_rides DESC LIMIT 5;`



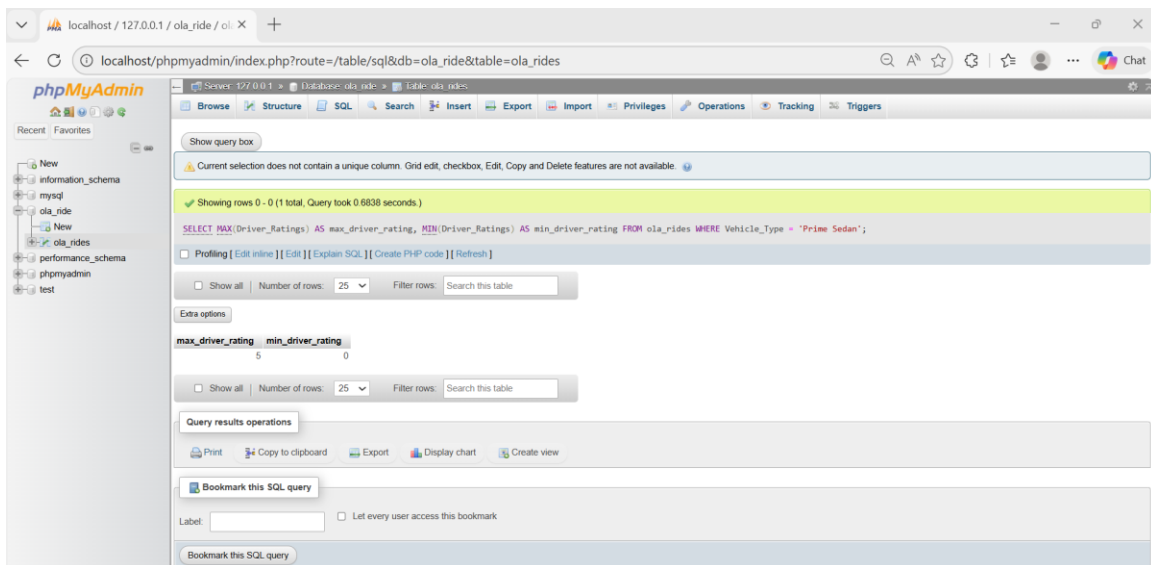
- **Driver cancellations**

`SELECT COUNT(*) FROM bookings WHERE booking_status='Cancelled by Driver';`



- **Max & Min driver rating for Prime Sedan**

SELECT MAX(driver_rating), MIN(driver_rating) FROM bookings WHERE vehicle_type='Prime Sedan';



- **Rides paid using UPI**

SELECT * FROM bookings WHERE payment_method='UPI';

Showing rows 0 - 24 (263478 total, Query took 0.0025 seconds)

```
SELECT * FROM ola_rides WHERE Payment_Method = 'UPI';
```

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	Income
0000-00-00 00:00:00	19:59:00	CNR2962357879	Success	CID270156	Prime SUV	Sahakar Nagar	Varthur	238	130	null	null	No
0000-00-00 00:00:00	04:42:00	CNR8787177882	Success	CID802429	Mini	Kadugodi	Vijayanagar	231	90	null	null	No
0000-00-00 00:00:00	13:18:00	CNR4524472111	Success	CID540929	Auto	Cox Town	Yelahanka	126	35	null	null	No
0000-00-00 00:00:00	09:54:00	CNR8181620232	Success	CID167642	Bike	Indiranagar	MG Road	70	95	null	null	No
0000-00-00 00:00:00	10:25:00	CNR8090918544	Success	CID640151	Bike	Magadi Road	HSR Layout	126	95	null	null	No
0000-00-00 00:00:00	11:11:00	CNR9975925287	Success	CID162055	Prime SUV	Magadi Road	RT Nagar	42	30	null	null	No
0000-00-00 00:00:00	21:18:00	CNR4443921904	Success	CID654618	Mini	Tumkur Road	Koramangala	231	50	null	null	No
0000-00-00 00:00:00	03:44:00	CNR7194303296	Success	CID536245	Mini	Mysore Road	Hennur	175	50	null	null	No
0000-00-00 00:00:00	17:11:00	CNR8494005067	Success	CID805360	Auto	Yelahanka	Malleshwaram	84	60	null	null	No
0000-00-00 00:00:00	05:25:00	CNR7142279862	Success	CID378034	eBike	Yeshwantpur	JP Nagar	210	45	null	null	No
0000-00-00 00:00:00	00:58:00	CNR5176704322	Success	CID296026	Prime Plus	KR Puram	Hennur	287	40	null	null	Yes
0000-00-00 00:00:00	21:56:00	CNR7547352327	Success	CID976231	Prime Plus	Hulimavu	Rajarajeshwari Nagar	210	105	null	null	No
0000-00-00 00:00:00	15:02:00	CNR1569694278	Success	CID709612	Prime Plus	Bannerghatta Road	Majestic	42	90	null	null	No
0000-00-00 00:00:00	03:30:00	CNR1050003762	Success	CID993137	Bike	Chamaraipet	Shivajinagar	308	110	null	null	No
0000-00-00 00:00:00	02:45:00	CNR9758857830	Success	CID528642	Prime Plus	HSR Layout	Magadi Road	308	70	null	null	No

- Avg customer rating per vehicle

SELECT vehicle_type, AVG(customer_rating) FROM bookings GROUP BY vehicle_type;

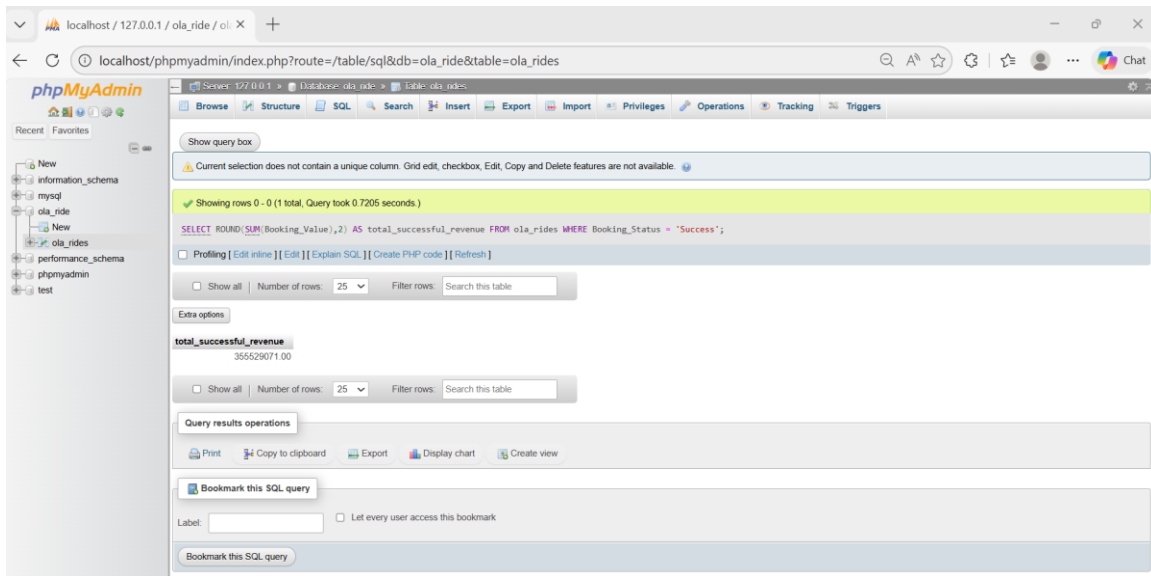
Showing rows 0 - 6 (7 total, Query took 1.6938 seconds)

```
SELECT Vehicle_Type, ROUND(AVG(Customer_Rating),2) AS avg_customer_rating FROM ola_rides GROUP BY Vehicle_Type ORDER BY avg_customer_rating DESC;
```

Vehicle_Type	avg_customer_rating
Prime Sedan	2.52
Bike	2.49
Auto	2.48
Mini	2.48
eBike	2.48
Prime Plus	2.46
Prime SUV	2.45

- Total successful booking value

SELECT SUM(booking_value) FROM bookings WHERE booking_status='Success';

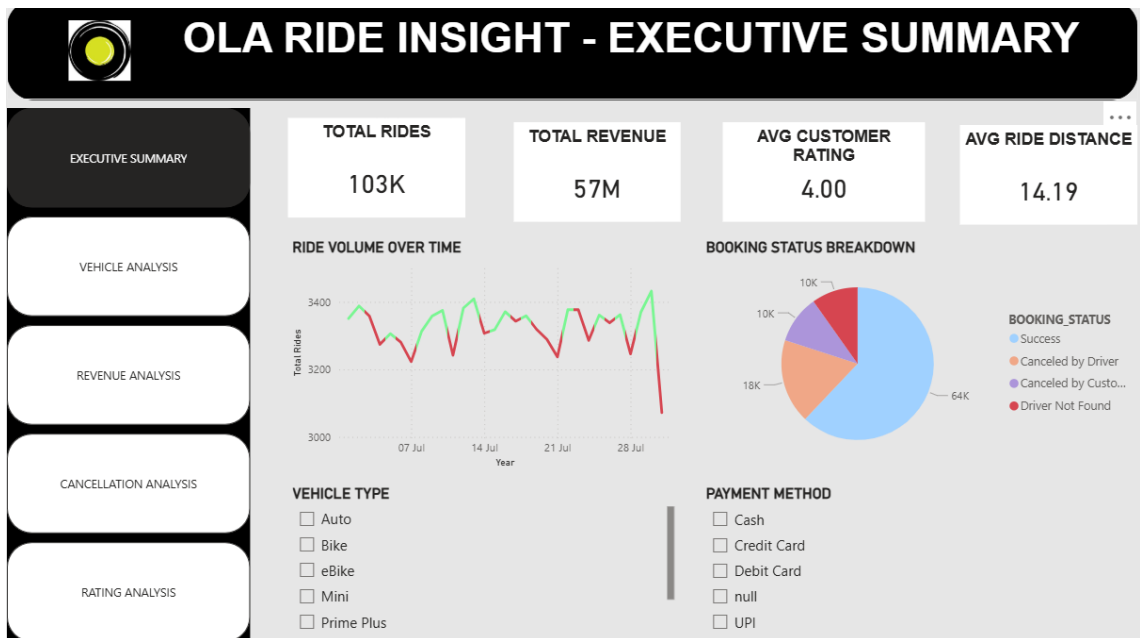


- **Incomplete rides with reason**

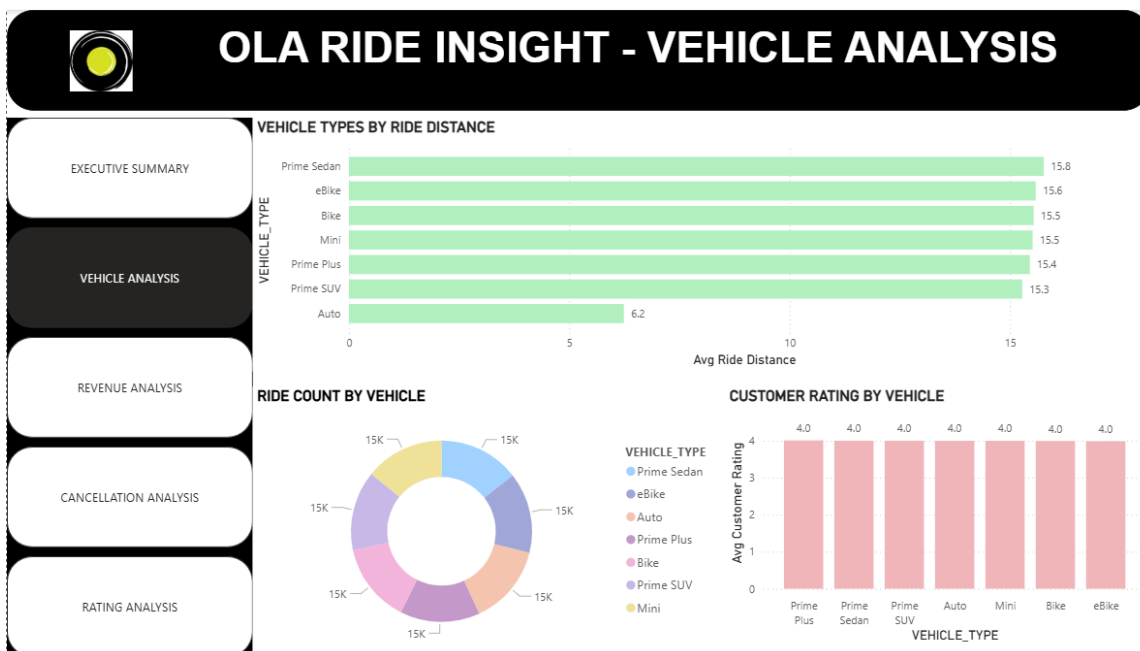
SELECT booking_id, cancellation_reason FROM bookings WHERE booking_status!='Success';

Booking_ID	Customer_ID	Vehicle_Type	Incomplete_Rides_Reason
CNR1176104322	CID299026	Prime Plus	Customer Demand
CNR0312632867	CID645563	Prime SUV	Vehicle Breakdown
CNR7924302885	CID617861	Auto	Customer Demand
CNR1640228587	CID190281	Prime Sedan	Other Issue
CNR7823690602	CID526261	Bike	Other Issue
CNR05690311980	CID957268	Auto	Customer Demand
CNR5863244684	CID796517	eBike	Customer Demand
CNR05626078867	CID900035	eBike	Customer Demand
CNR154043084	CID391013	Auto	Customer Demand
CNR3193710797	CID467902	Prime Sedan	Other Issue
CNR7073850950	CID880026	Auto	Customer Demand
CNR0952584604	CID194856	Bike	Customer Demand
CNR5433575259	CID763377	Prime Sedan	Vehicle Breakdown
CNR3575066041	CID499436	Prime SUV	Vehicle Breakdown
CNR757935962	CID200131	eBike	Customer Demand
CNR2722435581	CID877036	Mini	Vehicle Breakdown
CNR5495479048	CID497169	Auto	Other Issue
CNR6585703917	CID397507	Auto	Customer Demand
CNR3178581771	CID406782	Prime SUV	Customer Demand
CNR7562255360	CID238250	Bike	Vehicle Breakdown
CNR8535011317	CID520411	Bike	Customer Demand
CNR5106611023	CID459050	Prime Sedan	Other Issue
CNR7127343811	CID440642	Prime SUV	Vehicle Breakdown
CNR6315774432	CID778590	eBike	Other Issue
CNR7333194442	CID563302	Mini	Other Issue

Power BI Dashboard Analysis

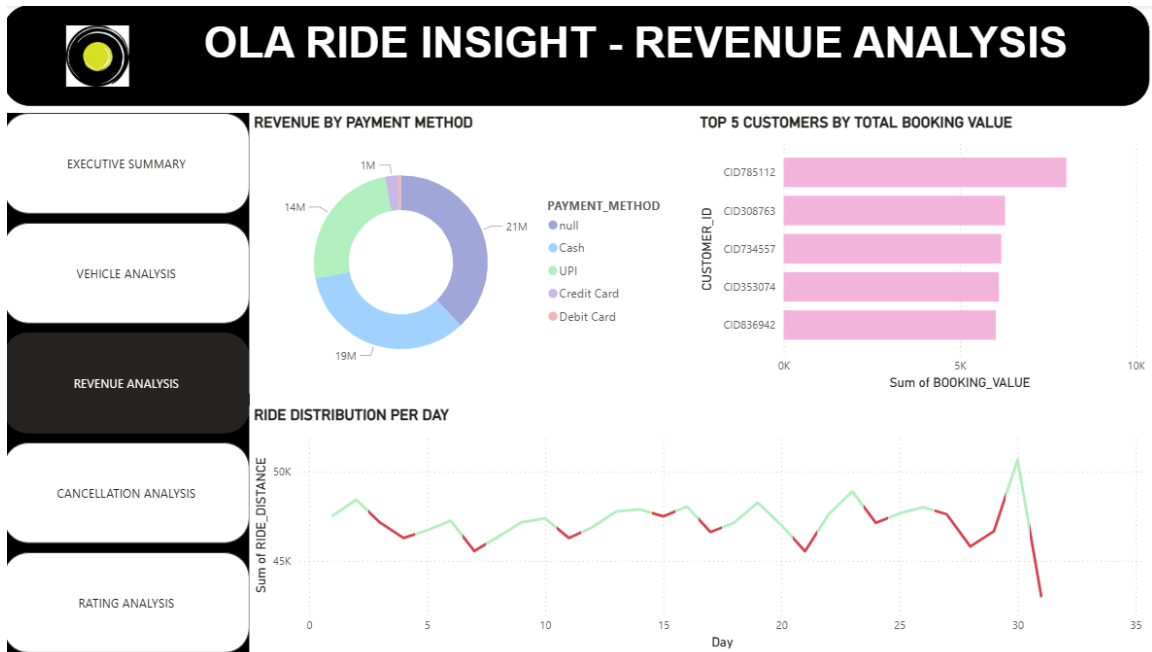


- The platform processed approximately 103K rides, generating nearly 57M in revenue, indicating strong demand.
- Successful bookings significantly outnumber cancellations, though driver cancellations remain an improvement area.
- Average customer rating of 4.0 reflects consistent customer satisfaction.

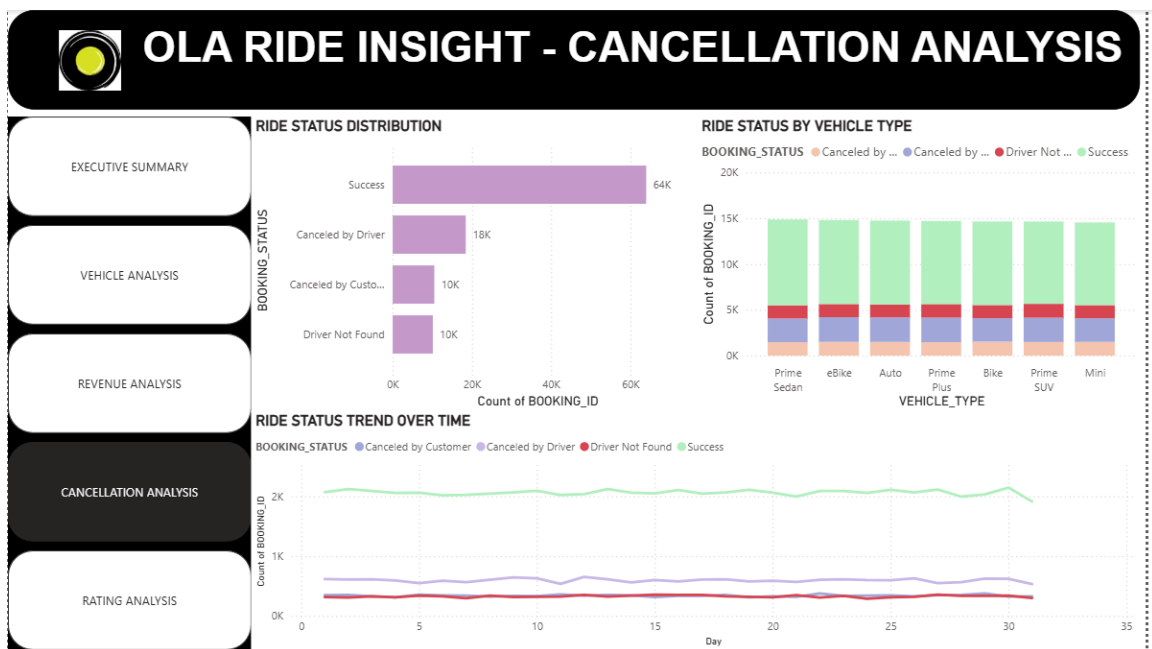


- Prime Sedan and eBike show the highest average ride distances, indicating longer-trip preference.
- Ride distribution is balanced across vehicle categories, showing diversified demand.

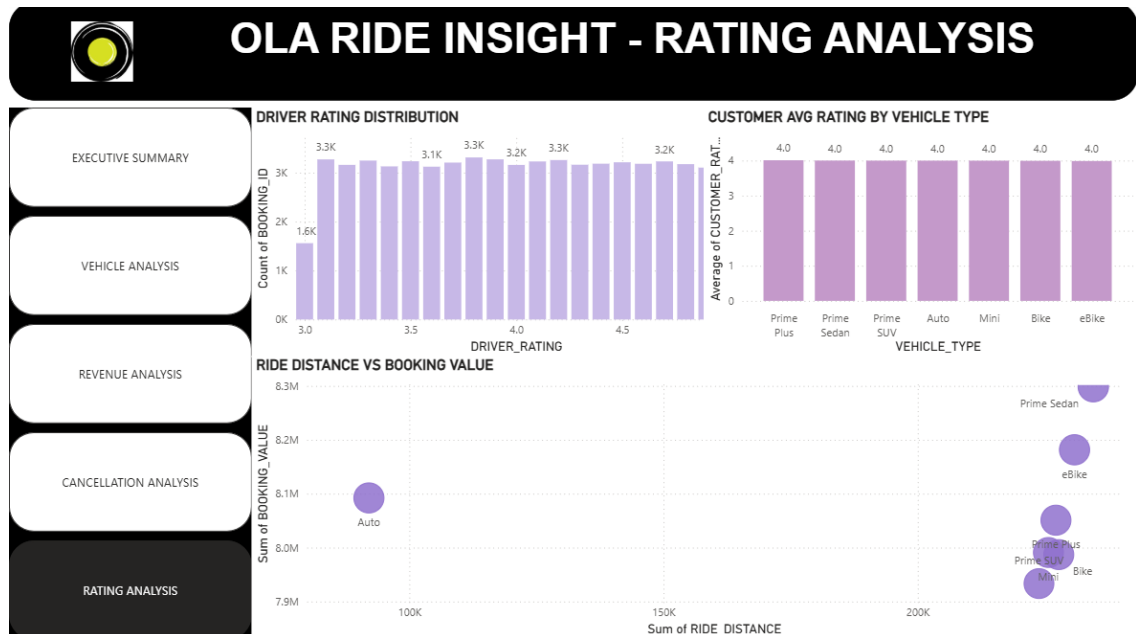
- Customer ratings remain consistently high (~4.0) across all vehicle types.



- Cash and UPI together contribute the majority share of revenue.
- Top customers generate significantly higher booking value, suggesting loyalty opportunities.
- Ride distance trend remains stable with periodic peaks in demand.



- Successful rides (~64K) dominate the booking status distribution.
- Driver-side cancellations are higher than customer cancellations, indicating supply-side gaps.
- Ride status trend over time remains relatively stable.



- Driver ratings are tightly clustered between 3.5 and 4.5, showing consistent performance.
- Customer ratings remain uniformly around 4.0 across vehicle types.
- Higher ride distance segments correspond with higher booking values.

Streamlit Application Code

```
import streamlit as st
```

```
import pandas as pd
```

```
st.set_page_config(page_title="OLA Ride Insights", layout="wide")
```

```
st.title("OLA Ride Insights Dashboard")
```

```
df = pd.read_csv("OLA_DataSet.csv")
```

```
st.subheader("Dataset Preview")
```

```
st.dataframe(df.head())
```

```
st.subheader("Ride Count by Vehicle Type")
```

```
if 'vehicle_type' in df.columns:
```

```
    st.bar_chart(df['vehicle_type'].value_counts())
```

```
st.subheader("Booking Status Breakdown")
```

```
if 'booking_status' in df.columns:
```

```
    st.bar_chart(df['booking_status'].value_counts())
```

```
# ----- POWER BI DASHBOARDS -----
```

```
st.markdown("---")
```

```
st.header("Power BI Dashboard")
```

```
st.subheader("Executive Summary")
```

```
st.image("powerbi_1.png", use_container_width=True)
```

```
st.subheader("Vehicle Analysis")
```

```
st.image("powerbi_2.png", use_container_width=True)
```

```
st.subheader("Revenue Analysis")
```

```
st.image("powerbi_3.png", use_container_width=True)
```

```
st.subheader("Cancellation Analysis")
```

```
st.image("powerbi_4.png", use_container_width=True)
```

```
st.subheader("Rating Analysis")
```

```
st.image("powerbi_5.png", use_container_width=True)
```