

OLA Report-:

❖ Analysis using SQL Queries

Introduction: This report presents an analysis of the OLA dataset, which provides insights into booking patterns, customer preferences, and operational challenges. The key objectives include examining booking success, customer behaviour, and reasons for ride cancellations, among other metrics.

Analysis and Results

1. Retrieve all successful bookings: Using a SQL query to filter rides where the status is marked as 'Completed', we identified all successful bookings.

Query:

```
create view successful_bookings as
select * from ola_dataset
where Booking_Status='Success';
select * from successful_bookings;
```

Insight: Successful bookings provide a baseline for understanding OLA's operational efficiency.

2. Find the average ride distance for each vehicle type: Calculating the mean distance traveled for each vehicle type helped us determine the typical usage patterns.

Query:

```
create view average_ride_dis_per_vehicle as
select vehicle_Type , round(avg(Ride_Distance),2) as avg_distance from ola_dataset
group by Vehicle_Type;
select * from average_ride_dis_per_vehicle;
```

Insight: Different vehicle types cater to distinct customer needs based on distance.

3. Get the total number of cancelled rides by customers: To quantify customer cancellations, we filtered rides with cancellation reasons attributed to customers.

Query:

```
create view Canceled_rides_by_Customer as
select count(*)
from ola_dataset
where Booking_Status='Canceled by Customer';
select * from Canceled_rides_by_Customer;
```

Insight: High customer cancellations may indicate issues with service expectations or booking flexibility.

4. List the top 5 customers who booked the highest number of rides: Identifying loyal customers by ride frequency gives insights into customer retention.

Query:

```
create view top5_Customers as(
select Customer_ID , Count(Booking_ID) as total_rides from ola_dataset
group by Customer_ID
order by Count(Booking_ID) desc limit 5);
select * from top5_Customers ;
```

Insight: These top customers are potential targets for loyalty programs.

5. Get the number of rides cancelled by drivers due to personal and car-related issues:

Analyzing driver cancellations helps identify operational challenges.

Query:

```
create view Canceled_Rides_by_Driver_P_C_Issues as
select count(*) from ola_dataset
where Canceled_Rides_by_Driver='Personal & Car related issue'
or Canceled_Rides_by_Driver='personal and car related issue';
select * from Canceled_Rides_by_Driver_P_C_Issues;
```

Insight: Frequent driver cancellations may impact customer satisfaction.

6. Find the maximum and minimum driver ratings for Prime Sedan bookings: Driver ratings for specific vehicle types were analyzed for performance benchmarking.

Query:

```
create view max_min_driver_rating as
select Vehicle_Type,max(Driver_Ratings) as max_rating,min(Driver_Ratings)as min_rating from ola_dataset
where Vehicle_Type ='Prime Sedan';
```

Insight: This highlights the variation in service quality for Prime Sedan bookings.

7. Retrieve all rides where payment was made using UPI: Understanding payment preferences aids in optimizing payment options.

Query:

```
create view UPI_Payment_Method as
select * from ola_dataset where Payment_Method='UPI';
select * from UPI_Payment_Method;
```

Insight: UPI is a popular payment method reflecting its ease and convenience.

8. Find the average customer rating per vehicle type: Customer satisfaction was measured across different vehicle types.

Query:

```
create view avg_customer_ratings as
select Vehicle_Type,round(avg (Customer_Rating),2) as avg_customer_rating
from ola_dataset
group by Vehicle_Type;
```

Insight: Ratings indicate how well each vehicle type meets customer expectations.

9. Calculate the total booking value of rides completed successfully: Revenue analysis from successful bookings is key to understanding profitability.

Query:

```
create view total_successful_ride_value as
select sum(Booking_Value) as total_successful_ride_value
from successful_bookings;
select * from total_successful_ride_value;
```

Insight: This reflects the total revenue generated from successful rides.

10. List all incomplete rides along with the reason: Categorizing incomplete rides by reason helps identify common issues.

Query:

```
SELECT
    Booking_ID,
    COALESCE(Incomplete_Rides_Reason, 'No Reason Provided') AS Incomplete_Rides_Reason
FROM ola_dataset
where Incomplete_Rides='Yes';
```

Insight: Incomplete rides are critical for operational improvements.

Conclusion: The SQL analysis of the OLA dataset provided valuable insights into booking patterns, customer preferences, and operational challenges. This information can guide strategic decisions, improve service quality, and enhance customer satisfaction.

❖ Analysis using BI Dashboard

Segregation of the views:

1. Overall

- Ride Volume Over Time
- Booking Status Breakdown

2. Vehicle Type

- Top 5 Vehicle Types by Ride Distance

3. Revenue

- Revenue by Payment Method
- Top 5 Customers by Total Booking Value
- Ride Distance Distribution Per Day

4. Cancellation

- Cancelled Rides Reasons (Customer)
- cancelled Rides Reasons(Drivers)

5. Ratings

- Driver Ratings
- Customer Ratings

Explanation:-

1. **Ride Volume Over Time:** A time-series chart showing the number of rides per day/week.
2. **Booking Status Breakdown:** A pie or doughnut chart displaying the proportion of different booking statuses (success, cancelled by the customer, cancelled by the driver, etc.).
3. **Top 5 Vehicle Types by Ride Distance:** A bar chart ranking vehicle types based on the total distance covered.
4. **Cancelled Rides Reasons:** A Pie chart that highlights the common reasons for ride cancellations by customers and drivers.
5. **Revenue by Payment Method:** A Column chart displaying total revenue based on payment methods (Cash, UPI, Credit Card, etc.).
6. **Top 5 Customers by Total Booking Value:** A leaderboard visual listing customers who have spent the most on bookings.
7. **Ride Distance Distribution Per Day:** A Visual showing the distribution of ride distances for different Dates.
8. **Driver Rating Distribution:** A Table visualizing the driver ratings for different vehicle types.

❖ Quick Steps to do analysis

1. **Data Preparation in Excel:**

- Use Excel to collect and organize raw data.
- Employ Power Query for data cleaning and transformation.

2. **SQL Analysis in MySQL:**

- Import the cleaned data into MySQL.
- Conduct SQL-based analyses and create views to streamline queries.

3. **Connection to Power BI:**

- Connect Power BI to the MySQL database.
- Transform and load data into Power BI.

- Ensure the data imported from MySQL is clean and consistent to avoid erroneous insights.

4. Dashboard Creation in Power BI:

- Develop calculated measures to support analysis.
- Design an interactive and insightful dashboard focused on OLA data analysis.

