# Online Food Delivery Data Analytics Project Report

## 1.Introduction

This project analyzes operational and business data from an online food delivery platform using SQL. It focuses on revenue analytics, customer behavior, restaurant performance, delivery efficiency, automation, and database optimization.

## 2.Problem Statement

Food delivery platforms generate large volumes of data. Without structured analysis, businesses cannot identify high-value customers, optimize restaurant performance, monitor delays, or control revenue leakage due to discounts.

## 3.Business Objectives

- Calculate total revenue and monthly revenue
- Identify top customers and segment them
- Rank restaurants by performance
- Monitor delivery efficiency
- Analyze discount and payment impact
- Automate business rules using triggers

## 4.Dataset Overview

Tables: Restaurants, Customers, Orders, Order Items, Delivery Agents.
Key attributes include order_amount, discount, order_date, delivery_time, rating, payment_method.

## 5.Exploratory Data Analysis (EDA)

EDA included total revenue calculation, total orders per city, and top customers by spending. These metrics provide a foundation for deeper business insights.

## 6.Customer Segmentation

Gold (□1000), Silver (□500), Bronze (<500). Used for loyalty targeting.

## 7.Restaurant Performance Analysis

Restaurants ranked by total revenue using window functions. Revenue and average rating were analyzed to evaluate performance.

## 8.Delivery Performance Analysis

Average delivery time per city calculated. Orders exceeding 45 minutes logged for delay monitoring.

## 9.Views

Reusable revenue view created to simplify reporting.

## 10. Stored Procedures

Stored procedure developed to dynamically retrieve Top N restaurants by revenue.

## 11. Indexing Strategy

Indexes created on order_date, customer name, and restaurant name for performance optimization.

## 12. Triggers Implementation

- Log high value orders (>1000)
- Prevent negative discounts
- Log delivery delays (>45 mins)

## 13. Dashboard & Visualization

The following visualizations provide insights into revenue distribution, monthly trends, restaurant performance, and payment method usage.

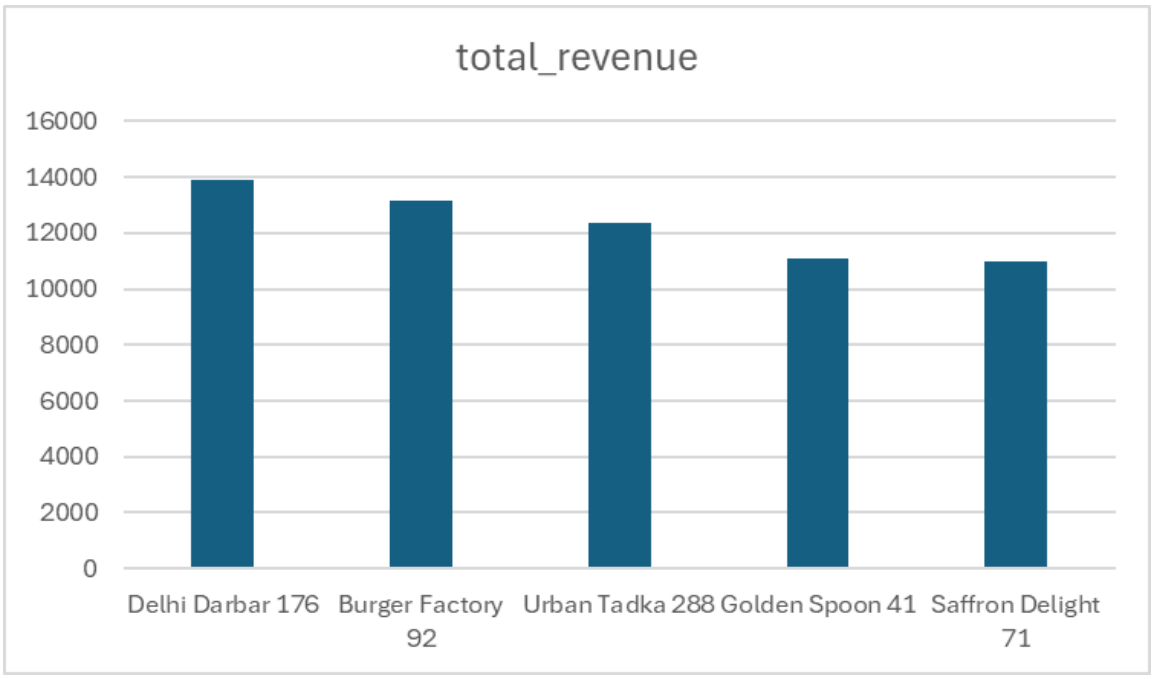


*Figure 1: Total Revenue by Top Restaurants*

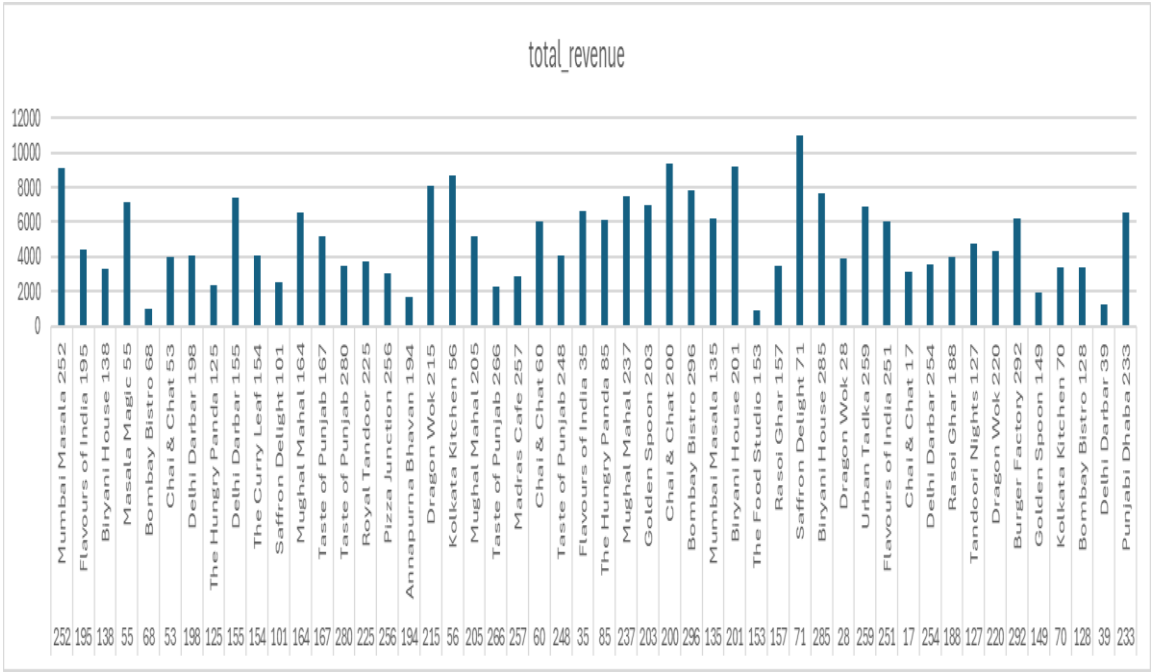


*Figure 2: Detailed Restaurant Revenue Distribution*


*Figure 3: Monthly Revenue Trend*

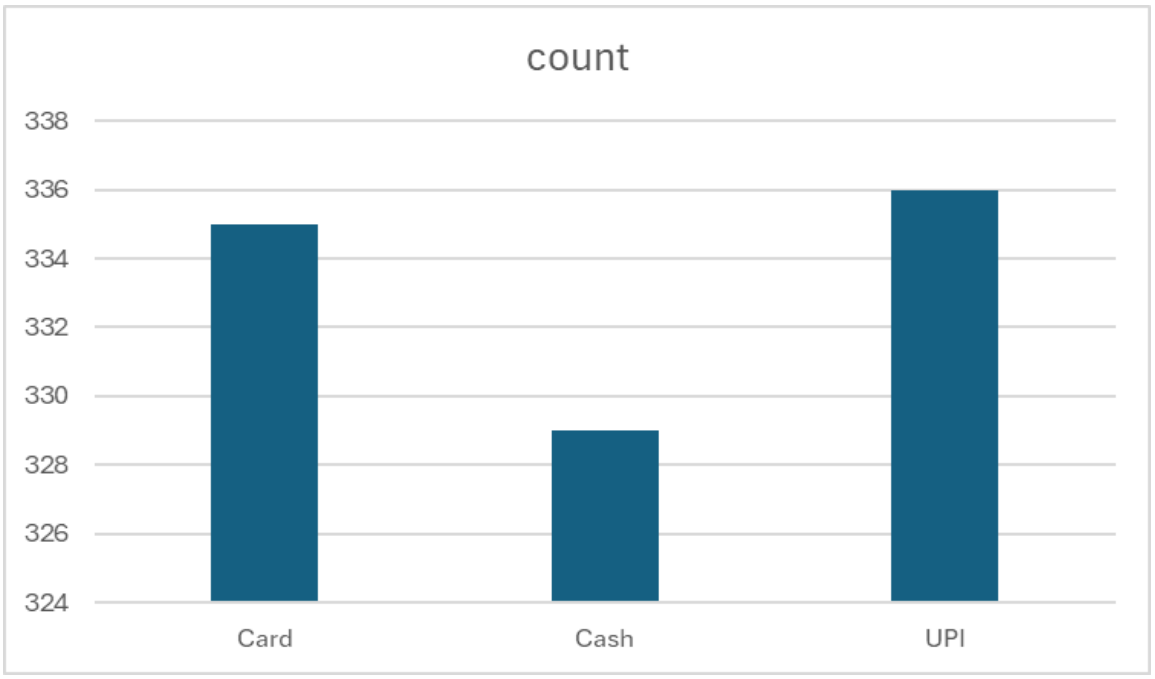


*Figure 4: Orders by Payment Method*

## 14. Business Insights & Recommendations

- Gold customers contribute major revenue
- Few restaurants generate majority revenue (Pareto effect)
- Late deliveries impact satisfaction
- Discounts reduce profit margins

Recommendations:
- Launch loyalty programs
- Optimize delivery routing
- Control discount policies
- Promote high-rated restaurants

## 15. Conclusion

The project demonstrates advanced SQL analytics, automation, optimization, and business intelligence for an online food delivery system.

## 16. Future Enhancements

- Predict delivery delays using ML
- Customer churn prediction
- Real-time dashboards
- Dynamic pricing strategies