City, Cuisine, and Membership Analysis in Food Delivery Systems

Introduction

This project simulates a real-world food delivery system using three different data sources:

- **orders.csv** → Transactional order data

- **users.json** → User master data

- **restaurants.sql** → Restaurant master data

The goal was to merge these datasets into a single source of truth (final_food_delivery_dataset.csv) and analyze order trends, user behavior, city/cuisine performance, membership impact, and revenue distribution.

Data Preparation

- **Step 1:** Loaded orders.csv (530 rows).

- **Step 2:** Loaded users.json (user details including city and membership).

- **Step 3:** Loaded restaurants.sql (restaurant details including cuisine and rating).

- **Step 4:** Performed **Left Joins**:

- orders.user_id → users.user_id

- orders.restaurant_id → restaurants.restaurant_id

- **Step 5:** Created the final dataset with combined order, user, and restaurant information.

Final Dataset:

- Rows: **530** (same as orders, since Left Join keeps all orders)

- Key Columns: order_id, user_id, name, city, membership, restaurant_name, cuisine, rating, order_date, total_amount

Analysis & Insights

Order Trends Over Time

- Orders show seasonal variation, with peaks in certain months (e.g., festive seasons).

- Trend chart: *[Insert bar chart of orders per month]*

City-wise Performance

- **Chennai** generated the highest revenue among Gold members.

- Other strong cities: Bangalore, Hyderabad, Pune.

- Chart: *[Insert bar chart of revenue by city]*

Cuisine-wise Performance

- Top cuisines by revenue: South Indian, North Indian, Chinese.

Membership Impact

- **Gold members** spend more per order compared to Regular members.

- Average Order Value (AOV): Gold > Regular.

- Chart: *[Insert bar chart comparing Gold vs Regular]*

  Restaurant Performance

- Certain restaurants (e.g., Restaurant_22, Restaurant_109) dominate revenue due to high ratings (≥ 4.5).

Key Findings

- **214 orders** were placed at restaurants with rating ≥ 4.5.

- **Chennai** is the top revenue city among Gold members (52 orders).

- Gold members consistently spend more per order.

- Cuisine preferences vary by city, but South Indian cuisine leads overall.

Conclusion

The merged dataset provides a unified view of food delivery operations.

- **Business Recommendation:** Focus marketing campaigns on Gold members in Chennai and Bangalore, especially around South Indian cuisine.

- **Operational Insight:** High-rated restaurants drive significant revenue; partnerships with them should be strengthened.