The Green Thumb
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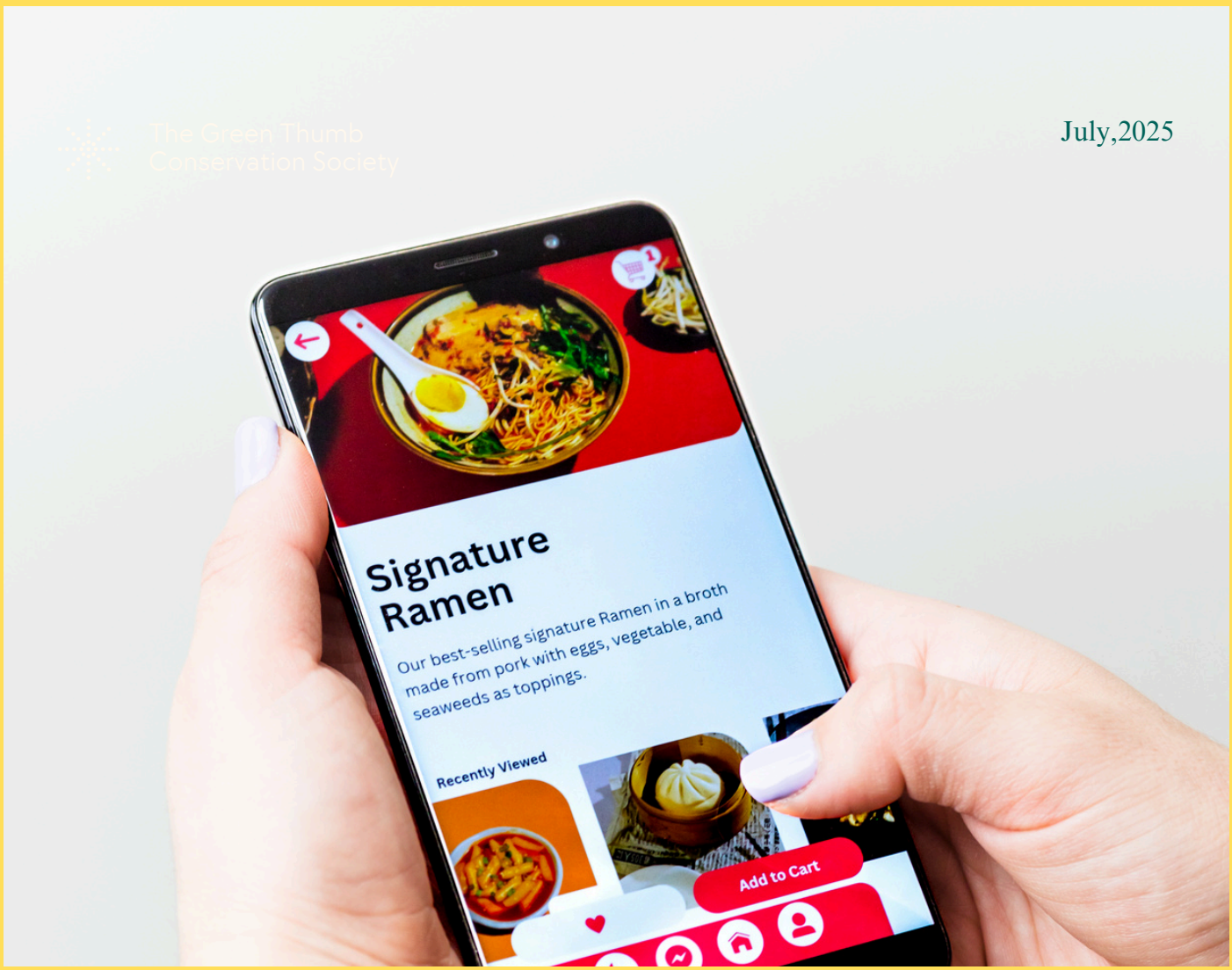

Online Food Delivery SQL Project

DOMAIN: E-COMMERECE

Buragapalli Kamachari
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July,2025

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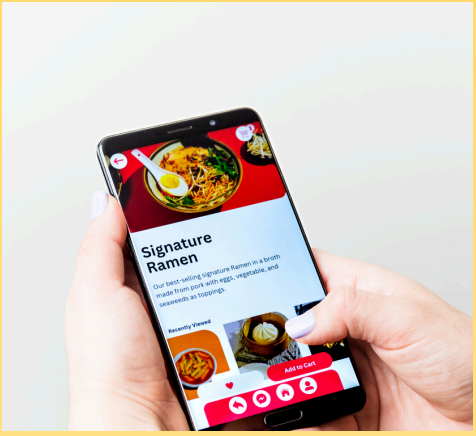

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Objective

This project aims to analyze a real-world dataset using SQL. It focuses on uncovering insights using various SQL queries, including summary statistics, relational operations, and data filtering. The insights are further visualized to support decision-making.

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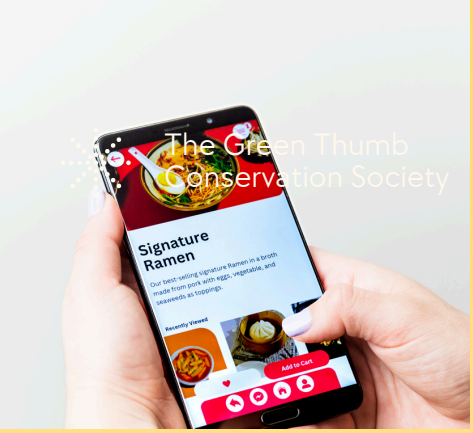

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Dataset Description

Name: Online Food Delivery Dataset

Number of Tables: 5

Total Rows: Approx. 800

Table Name	Description
customers	Customer details like ID, name, city
orders	Order-level details like date, amount
order_details	Line-item data for each order
products	Product catalog (name, category, price)
Restaurants	Restaurant table contains name,city, and registration date.

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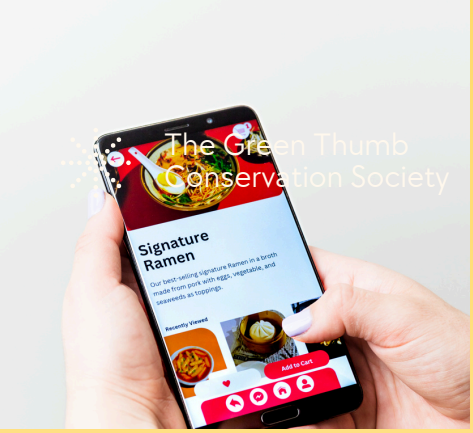

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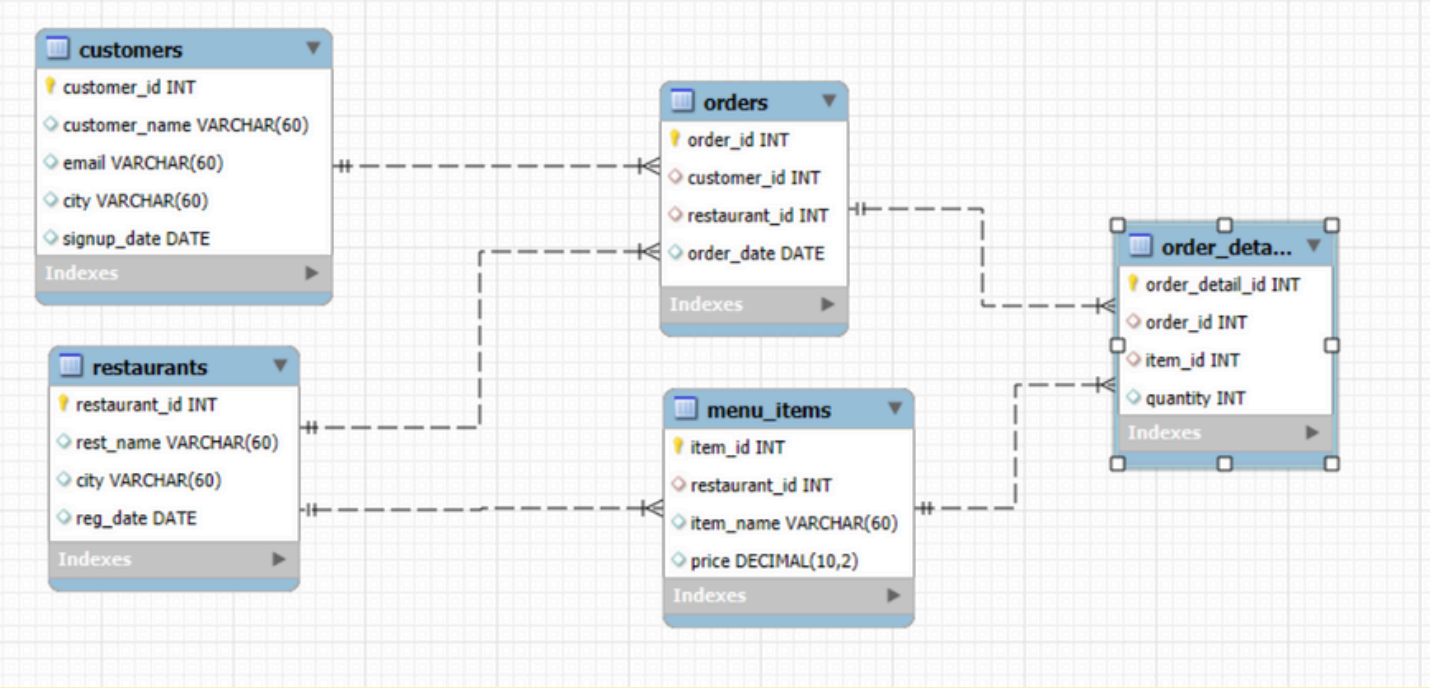
ER Diagram:



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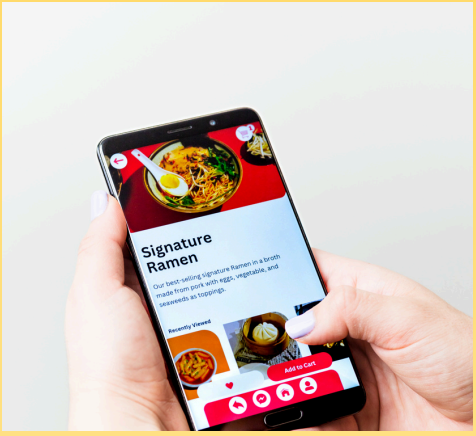

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Primary And Foreign Key Relationships

1. customers

Primary Key (PK): customer_id

Foreign Keys (FK): None

2. restaurants

Primary Key (PK): restaurant_id

Foreign Keys (FK): None

3. menu_items

Primary Key (PK): item_id

Foreign Key (FK): restaurant_id → restaurants.restaurant_id

4. orders

Primary Key (PK): order_id

Foreign Keys (FK):

customer_id → customers.customer_id

restaurant_id → restaurants.restaurant_id

5. order_details

Primary Key (PK): order_detail_id

Foreign Keys (FK):

order_id → orders.order_id

item_id → menu_items.item_id

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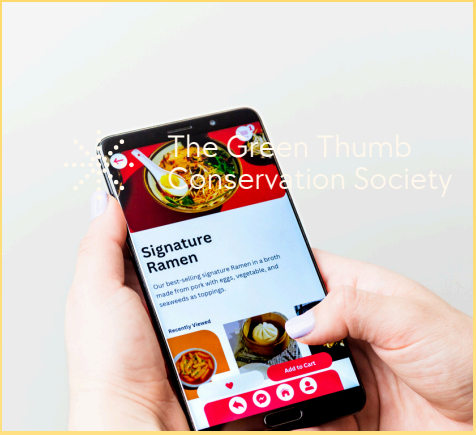

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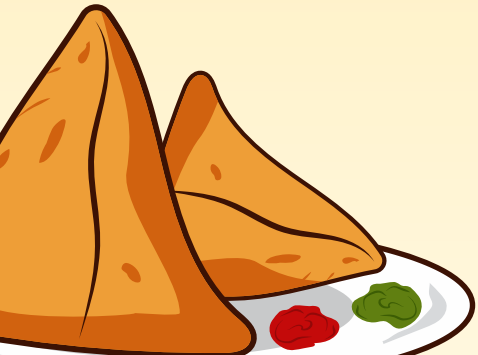
Q1: Total Orders by City

```sql
-- QUERY 7.1 Total orders per city
SELECT  r.city,
        COUNT(o.order_id) AS Total_orders
FROM orders AS o
JOIN restaurants r
ON o.restaurant_id = r.restaurant_id
GROUP BY r.city
ORDER BY Total_orders DESC;
```

Jaipur	290
Hyderabad	197
Delhi	184
Pune	166
Surat	166
Chennai	162
Bangalore	116
Kolkata	95
Mumbai	65
Ahmedabad	59



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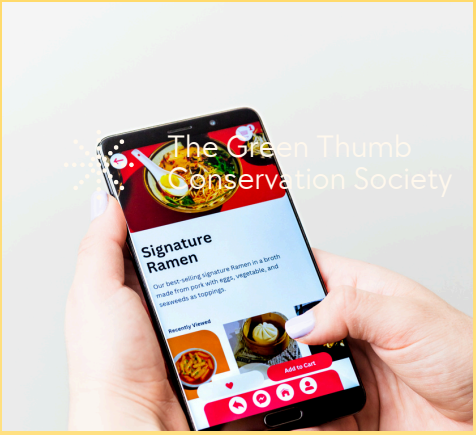

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Q2: Revenue Generated by Each Food Item

```sql
-- QUERY 7.2  Revenue generated by each food item
SELECT  mi.item_name,
        SUM(mi.price*od.quantity) AS revenue
FROM menu_items mi
JOIN order_details od
ON mi.item_id = od.item_id
GROUP BY mi.item_name
ORDER BY revenue DESC;
```

item_name	revenue
Aloo Paratha	232477.77
Fish Curry	212755.37
Hakka Noodles	205411.68
Momos	203851.14
Paneer Tikka	185606.53
Paneer Butter Masala	168535.39
Gulab Jamun	135449.46
Samosa Chaat	133409.96
Masala Dosa	129444.27
Dal Tadka	126507.73
Fried Rice	125895.68
Chicken 65	125284.06
Idli Sambar	113387.60
Veg Biryani	109546.46
Chicken Biryani	105445.20
Pav Bhaji	104984.73
Rasgulla	103828.15
Kadai Paneer	97429.15

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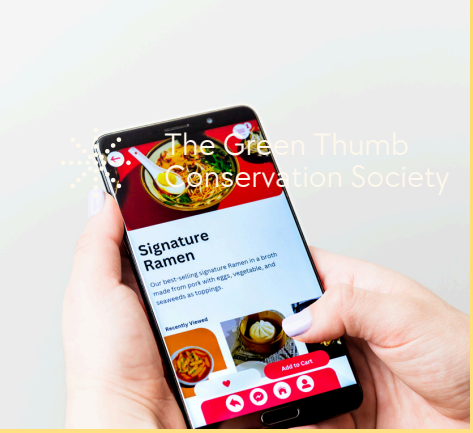

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Q3: Top 5 Spending Customers

```sql
-- QUERY 7.3 Top 5 spending customers
SELECT  c.customer_name,
        SUM(mi.price*od.quantity) AS Spending
FROM customers c
JOIN orders o
ON c.customer_id = o.customer_id
JOIN order_details od
ON o.order_id = od.order_id
JOIN menu_items mi
ON od.item_id = mi.item_id
GROUP BY c.customer_name
ORDER BY Spending DESC
LIMIT 5;
```

customer_name	Spending
Muhammad Patel	73660.54
Vihaan Nair	65338.92
Vihaan Patel	58678.82
Arjun Mehta	58111.17
Sai Verma	57655.31

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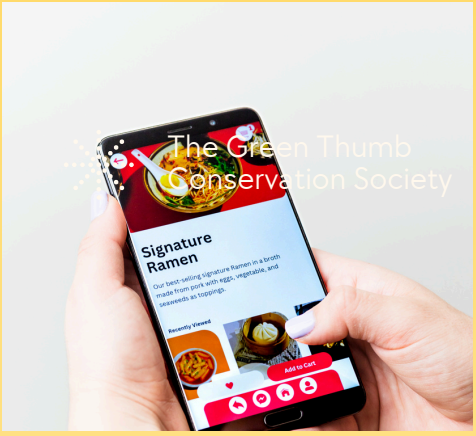

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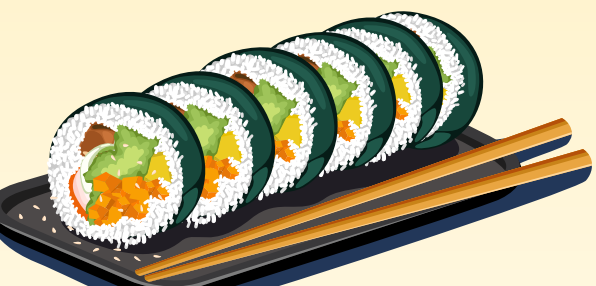
Q4: Restaurant-Wise Orders Count

```sql
-- QUERY 7.4 Restaurant-wise orders count
SELECT  r.rest_name,
        COUNT(o.order_id) AS Total_count
FROM restaurants r
JOIN orders o
ON r.restaurant_id = o.restaurant_id
GROUP BY r.rest_name
ORDER BY Total_count DESC;
```

rest_name	Total_count
Golden Garden	90
Spice Palace	71
Tasty Bistro	68
Big Table	66
Flavors Corner	61
Happy Corner	59
Royal Garden	59
Flavors Kitchen	58
Little Palace	56
Fresh Palace	56
Fresh Hub	56
Big Diner	54
Golden Table	47
Happy Diner	39
Fresh Garden	38
Little Corner	38
Tasty Palace	37
Royal Grill	37



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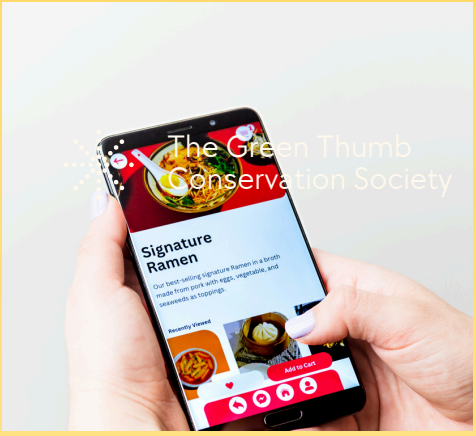

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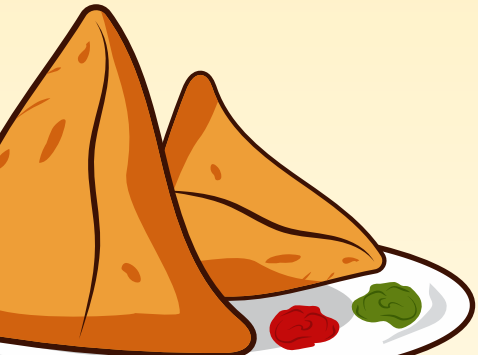
Q5: Average Order Value By City

```sql
-- QUERY 7.5 Average order value by city
SELECT  c.city,
        AVG(mi.price*od.quantity) AS avg_amount
FROM customers c
JOIN orders o
ON c.customer_id = o.customer_id
JOIN order_details od
ON o.order_id = od.order_id
JOIN menu_items mi
ON od.item_id = mi.item_id
GROUP BY c.city
ORDER BY avg_amount DESC;
```

city	avg_amount
Bangalore	1126.870865
Surat	1110.434898
Chennai	1084.673571
Jaipur	1059.644714
Kolkata	1028.456966
Delhi	1024.623220
Pune	1019.578933
Mumbai	1000.486566
Hyderabad	973.515983
Ahmedabad	955.806900



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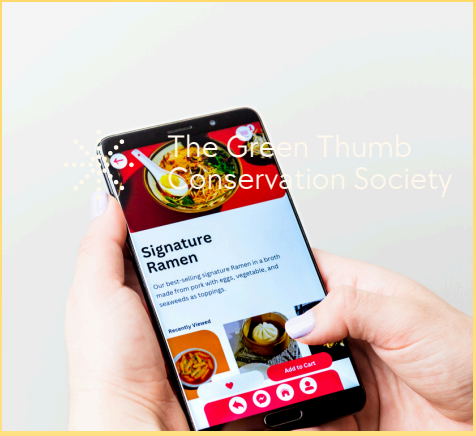

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Q6: Monthly Order Trends

```sql
-- QUERY 8.1 Monthly order Trends
SELECT  month(order_date) AS month_number,
        monthname(order_date) AS order_month,
        COUNT(order_id) AS Total_orders
FROM orders
GROUP BY month_number, order_month
ORDER BY month_number;
```

	month_number	order_month	Total_orders
▶	1	January	145
	2	February	137
	3	March	143
	4	April	142
	5	May	152
	6	June	147
	7	July	126
	8	August	107
	9	September	107
	10	October	105
	11	November	100
	12	December	89

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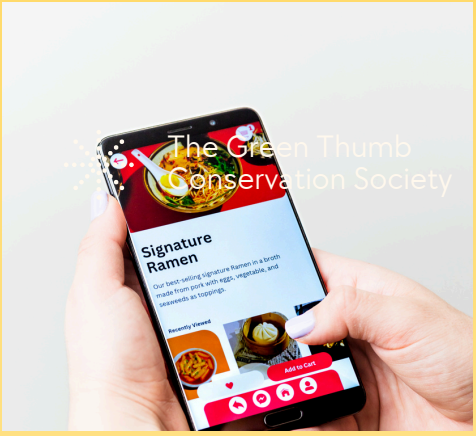

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Q7: Top 3 Cities By Revenue

```sql
-- QUERY 8.2 Top 3 cities by Revenue
SELECT c.city,
       SUM(mi.price*od.quantity) AS total_revenue
FROM customers c
JOIN orders o ON c.customer_id = o.customer_id
JOIN order_details od ON o.order_id = od.order_id
JOIN menu_items mi ON od.item_id = mi.item_id
GROUP BY c.city
ORDER BY total_revenue DESC
LIMIT 3;
```

city	total_revenue
Chennai	349264.89
Pune	305873.68
Bangalore	299747.65

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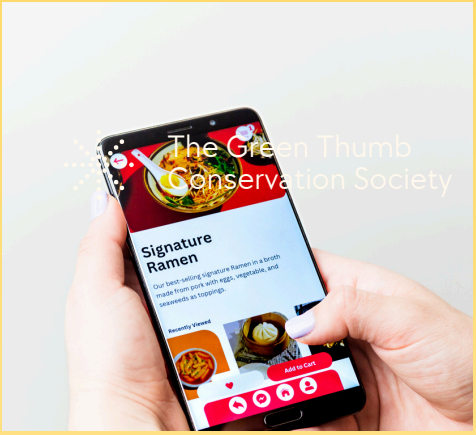

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Q8: Number of Unique Customers Per City

```sql
-- QUERY 8.3 Number of Unique Customer per city
SELECT  city,
        COUNT(DISTINCT customer_id) AS unique_customers
FROM customers
GROUP BY city
ORDER BY unique_customers DESC;
```

city	unique_customers
Ahmedabad	58
Chennai	56
Kolkata	56
Mumbai	54
Pune	50
Delhi	49
Surat	48
Bangalore	47
Hyderabad	43
Jaipur	39

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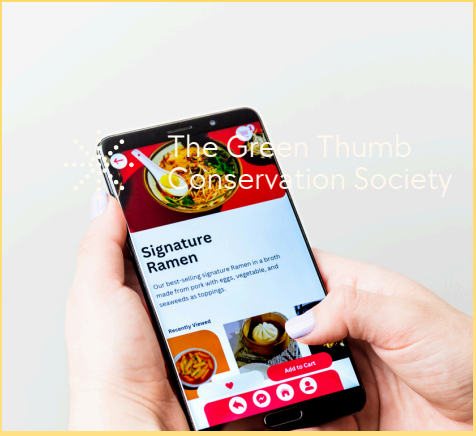

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Q9: Most Frequently Ordered Items

```sql
-- QUERY 8.4 Most Frequntly ordered items
SELECT  mi.item_name,
        SUM(od.quantity) AS frequently_ordered
FROM menu_items mi
JOIN order_details od
ON mi.item_id = od.item_id
GROUP BY mi.item_name
ORDER BY frequently_ordered DESC;
```

item_name	frequently_ordered
Momos	623
Fish Curry	617
Aloo Paratha	577
Paneer Tikka	568
Hakka Noodles	497
Paneer Butter Masala	477
Gulab Jamun	474
Masala Dosa	405
Fried Rice	401
Chicken Biryani	383
Dal Tadka	361
Pav Bhaji	353
Idli Sambar	326
Veg Biryani	311
Rasgulla	301
Chicken 65	299
Samosa Chaat	284
Chole Bhature	282
Butter Chicken	266
Kadai Paneer	246

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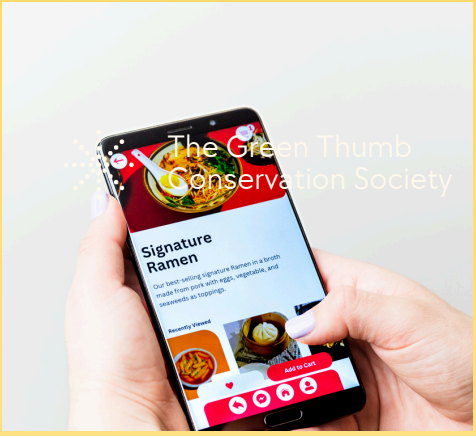

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Q10: Restaurants With Low Order Count Less Than 30

```sql
-- QUERY 8.5 Restaurants with low order COUNT less than 30
SELECT  r.rest_name,
        COUNT(o.order_id) AS total_orders
FROM restaurants r
JOIN orders o
ON r.restaurant_id = o.restaurant_id
GROUP BY r.rest_name
HAVING total_orders < 30
ORDER BY total_orders DESC;
```

rest_name	total_orders
Big Corner	26
Royal Hub	26
Flavors Table	26
Golden Kitchen	26
Flavors Diner	26
Royal Corner	24
Urban Corner	24
Flavors Palace	22
Happy Kitchen	22
Royal Kitchen	19
Golden Diner	14

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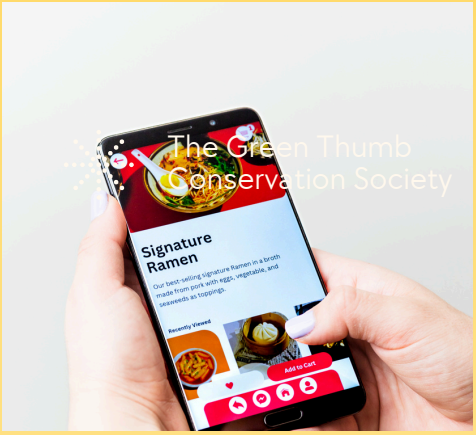

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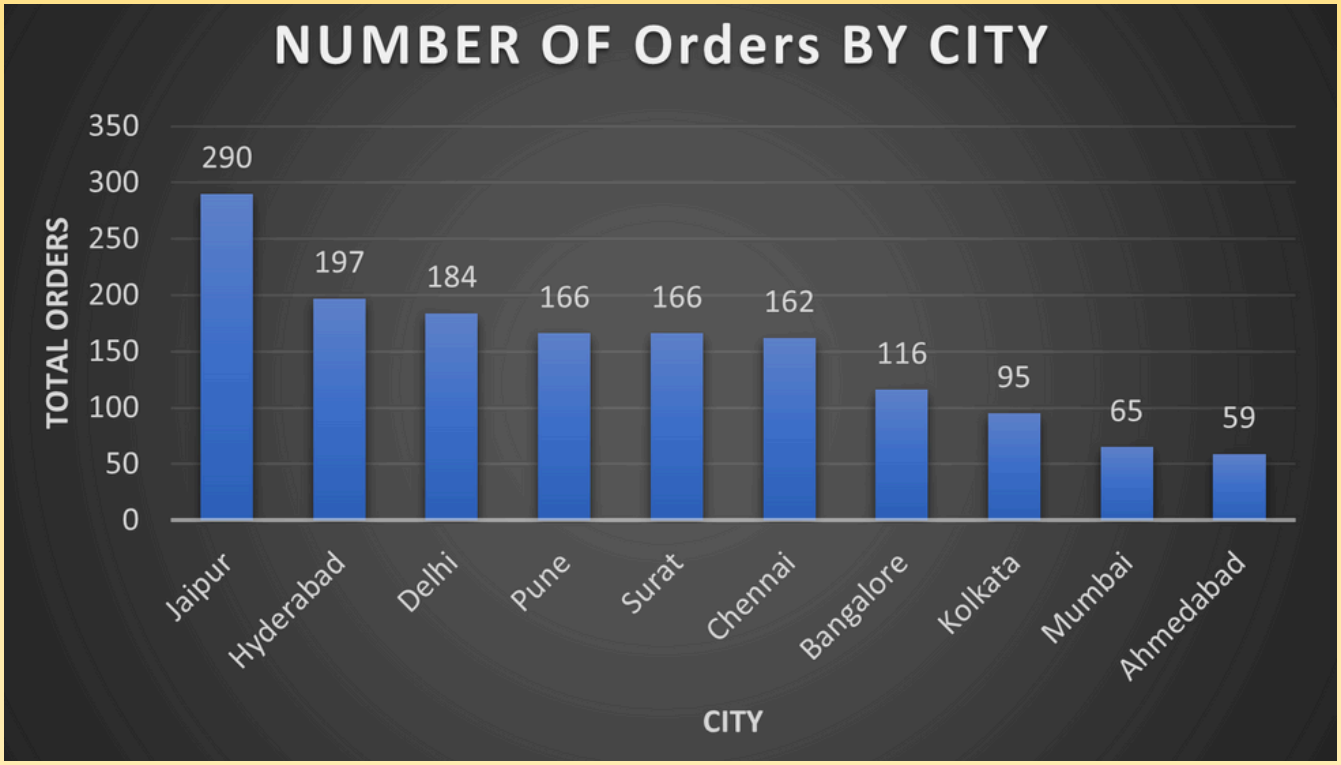
Visualization & Insights



1. Big cities are leading in total orders, showing strong demand and a large customer base.

2. Smaller cities are contributing fewer orders, which shows untapped market potential.

Suggestions:

3. Focus on advertising and offers in low-order cities to attract new customers.

4. Study what's working in top cities and apply those strategies to weaker regions.

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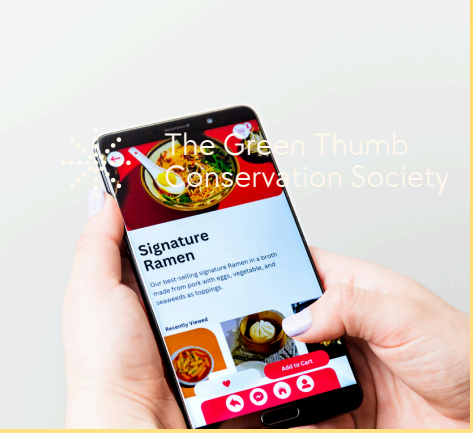

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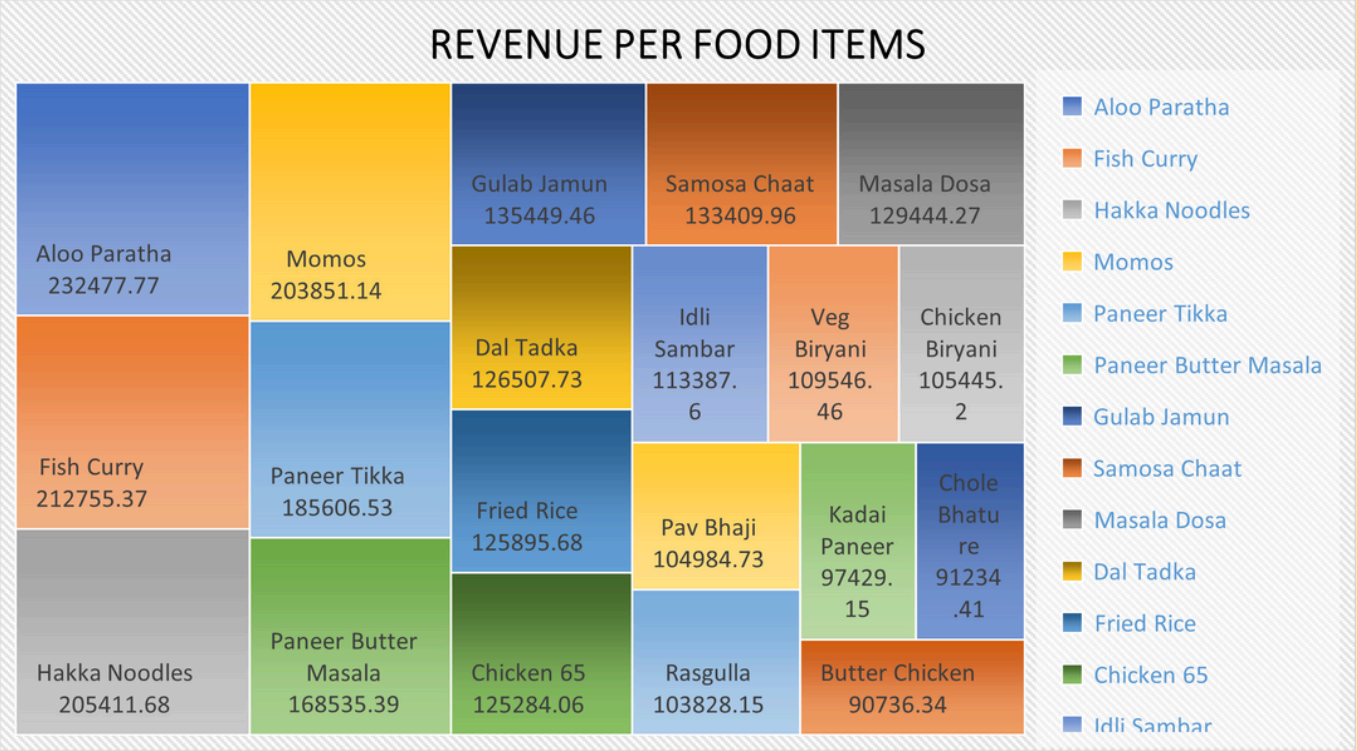
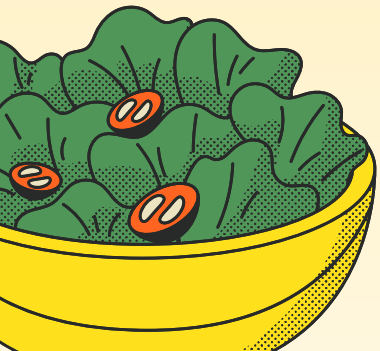


INSIGHTS:

1. A few popular dishes are bringing in most of the revenue.
2. Many dishes have low revenue, which might be due to less demand or poor promotion.
3. Pair low-selling dishes with popular ones in combos to boost sales.
4. Remove or improve items that perform poorly to save costs and space on the menu.



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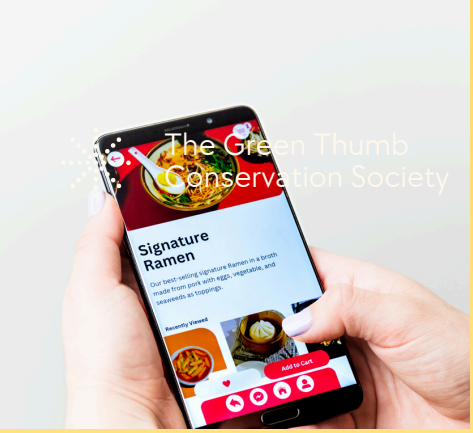

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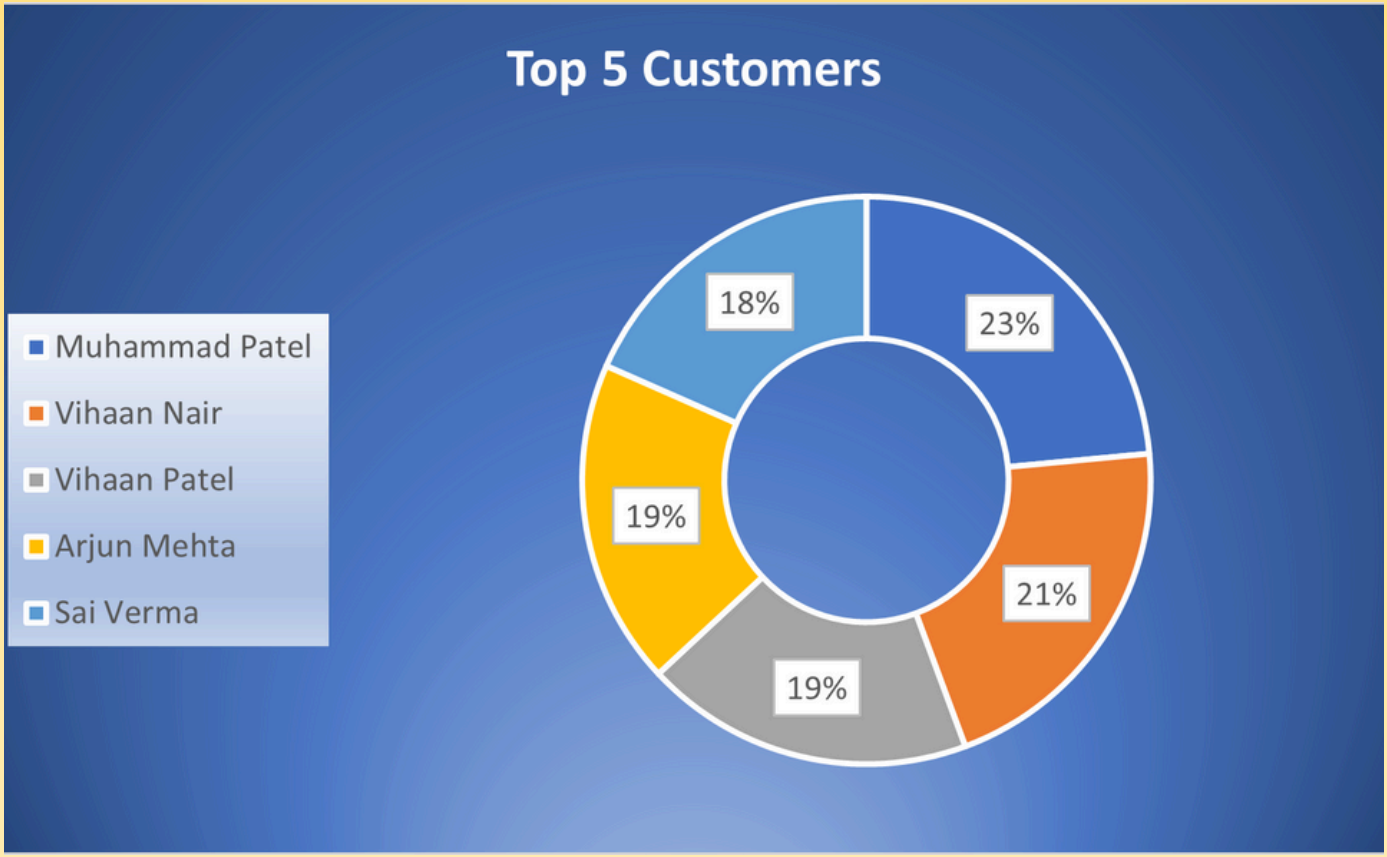
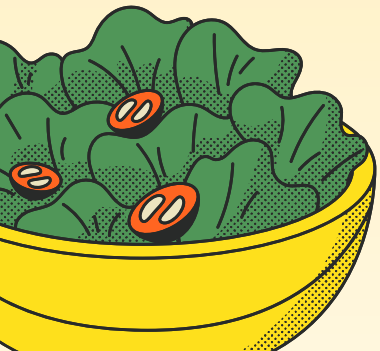


INSIGHTS:

1. The top spender, Muhammad Patel, contributes 23%, suggesting strong loyalty or frequent high-value transactions.
2. Spending is fairly evenly distributed among the top 5, indicating a balanced high-value customer base.
3. Introduce a premium loyalty program for top spenders to retain them and increase their lifetime value.
4. Use this group for beta testing new features or menu items, as they represent influential power users.



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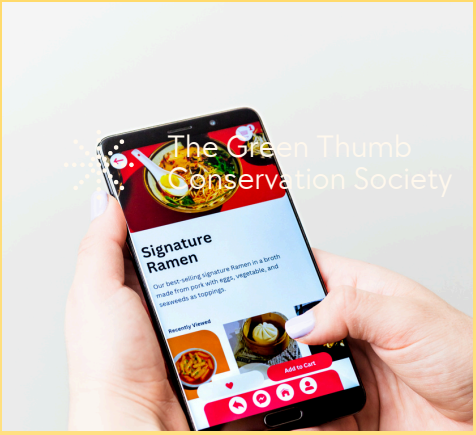

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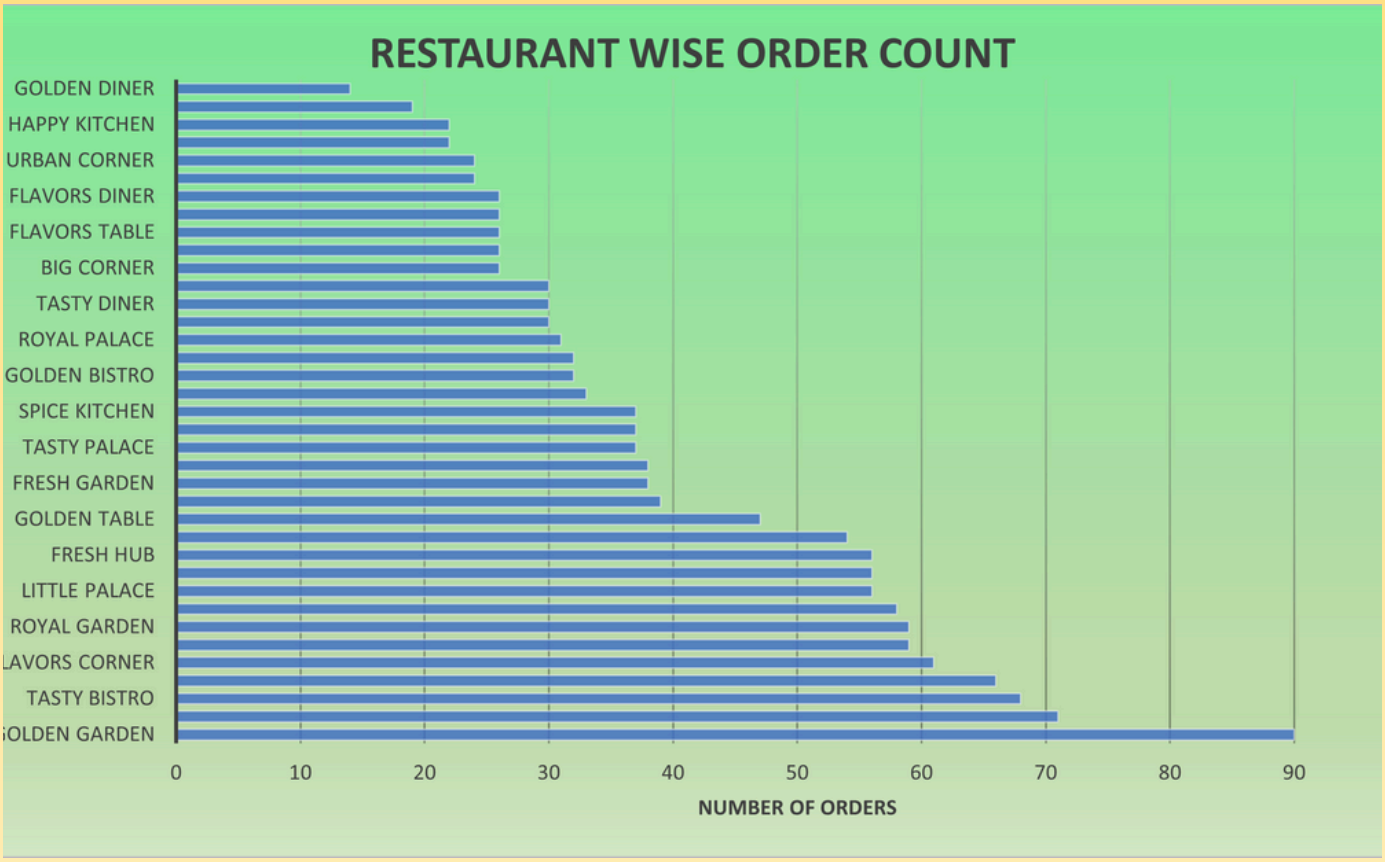


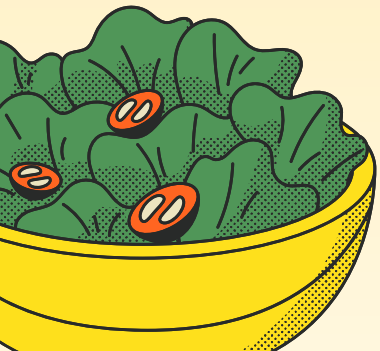
INSIGHTS:

1. A few restaurants get most of the orders, showing strong customer loyalty.

2. Many restaurants have fewer orders, meaning there's room for improvement.

3. Give mid and low-performing restaurants more visibility on the platform.

4. Check the reviews, pricing, and menu of low-order restaurants to fix issues.



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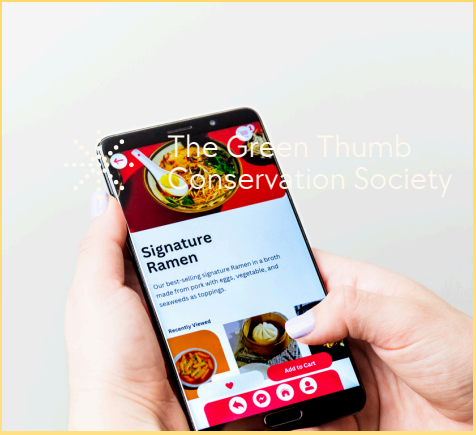

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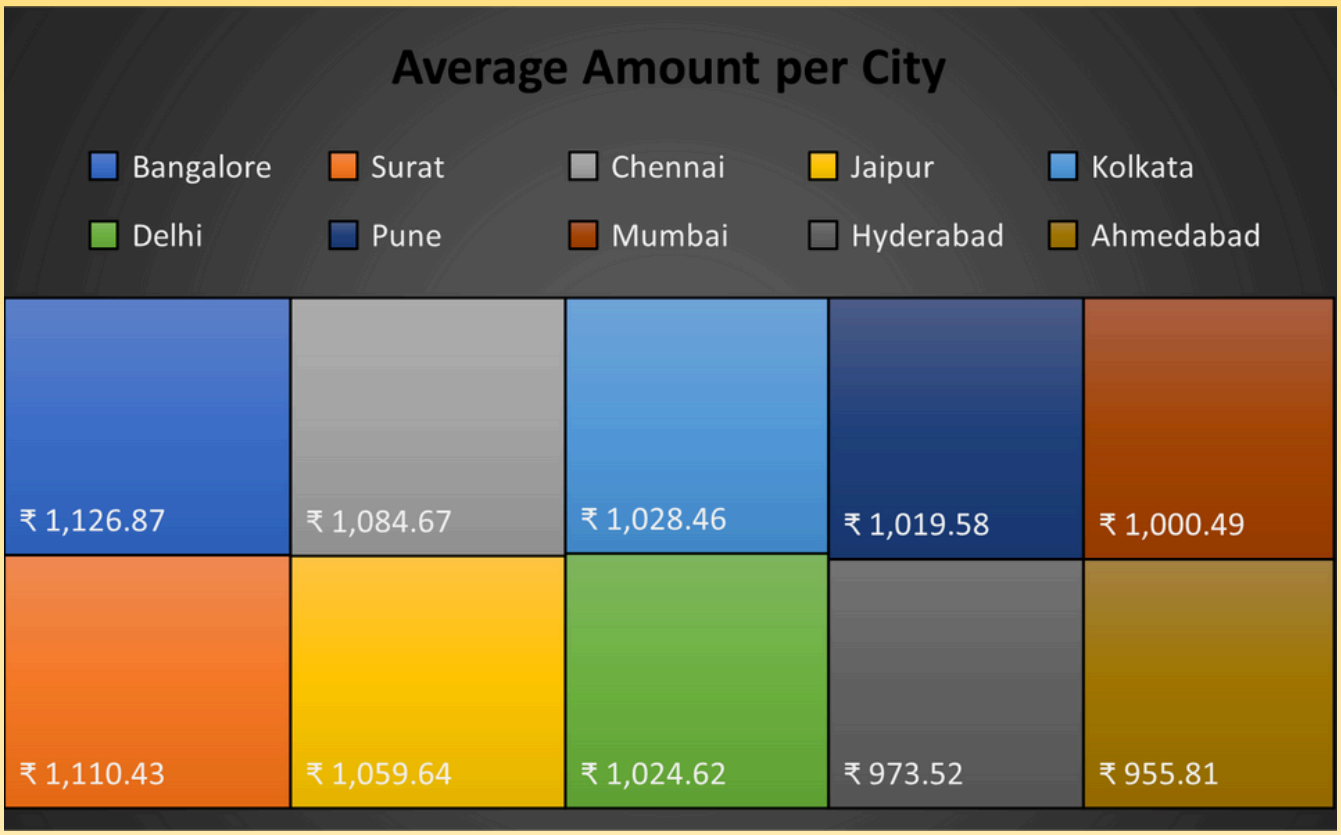


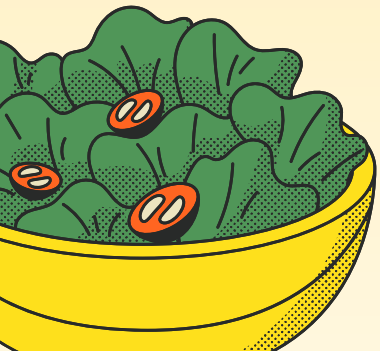
INSIGHTS:

1. Bangalore and Surat customers have the highest average spending per order (₹1,100+), showing higher purchasing power.

2. Cities like Jaipur and Hyderabad have average order values under ₹1,000, hinting at price sensitivity or smaller orders.

3. Introduce high-value meal bundles in low-spending cities to increase AOV (Average Order Value).

4. In high-spending cities, test premium offerings or upselling strategies to maximize revenue per transaction.



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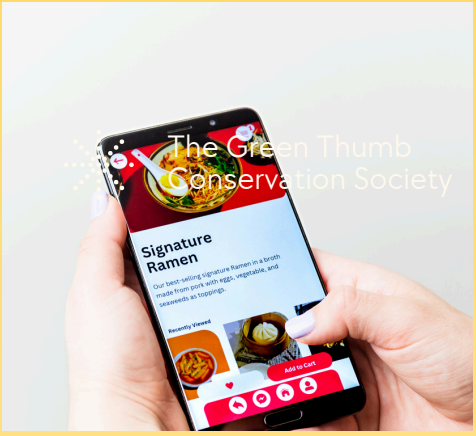

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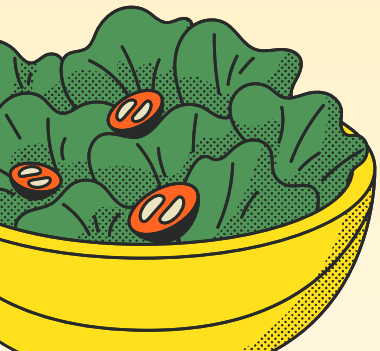
INSIGHTS:

1. Some months see a clear rise in orders, likely during festivals or holidays.

2. A few months have fewer orders, showing a seasonal drop in demand.

3. Use high-demand months to push special deals and premium offers.

4. Plan targeted promotions in low-demand months to keep sales steady.



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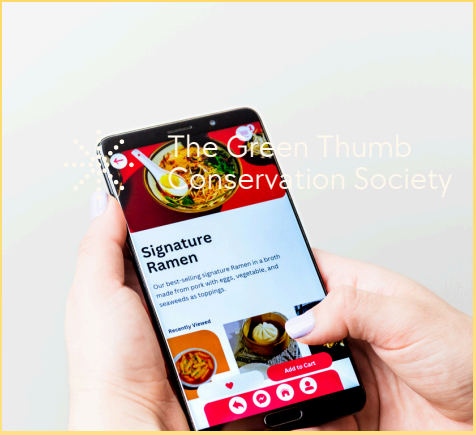

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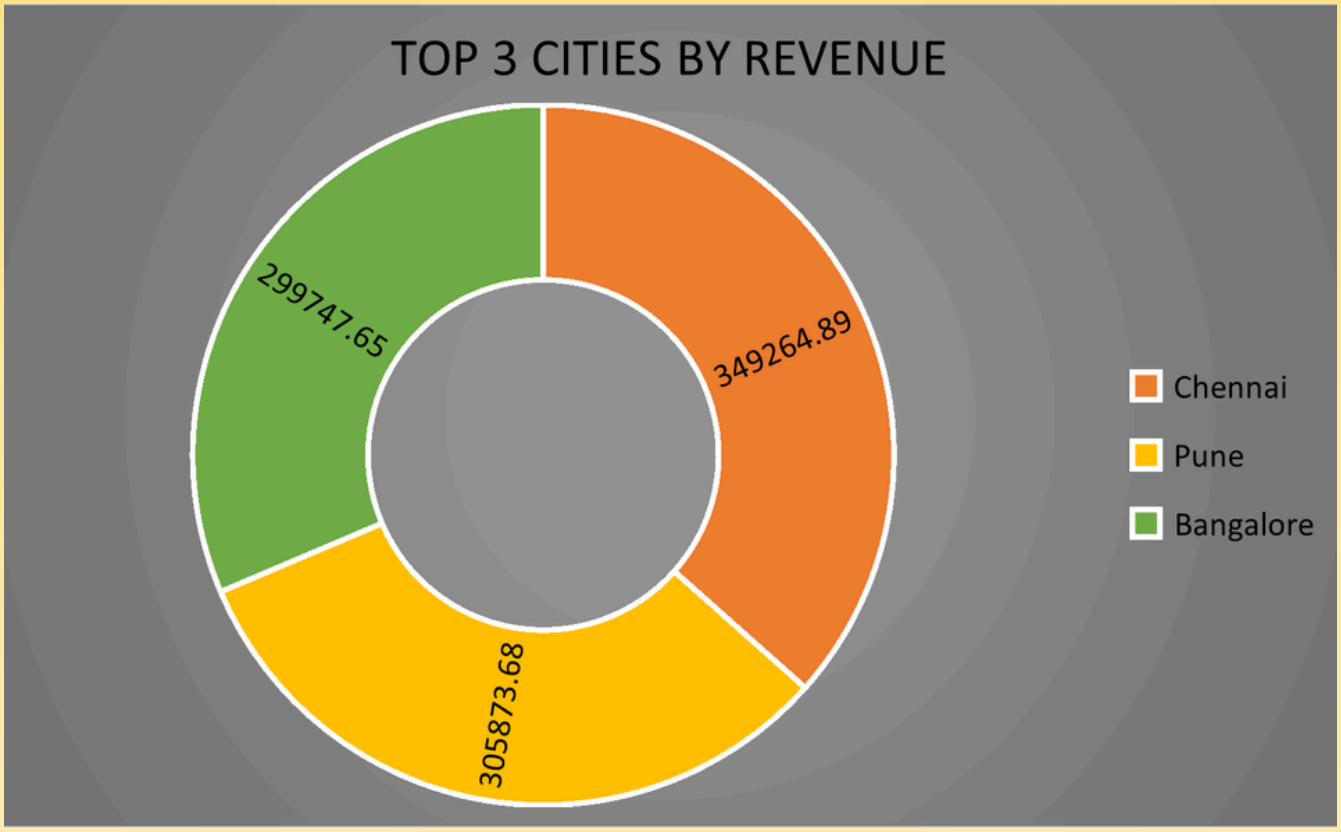


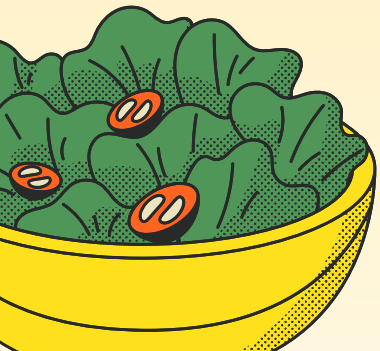
INSIGHTS:

1. The top 3 cities bring in a large share of total revenue, showing strong purchasing power.

2. These cities have higher average order values compared to others.

3. Add premium menu options for these cities to increase earnings further.

4. Use marketing ideas from these cities in other regions to improve sales.



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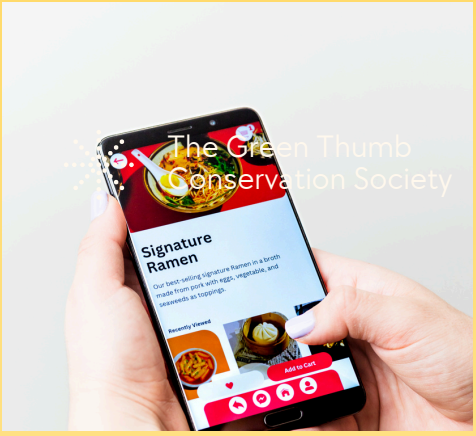

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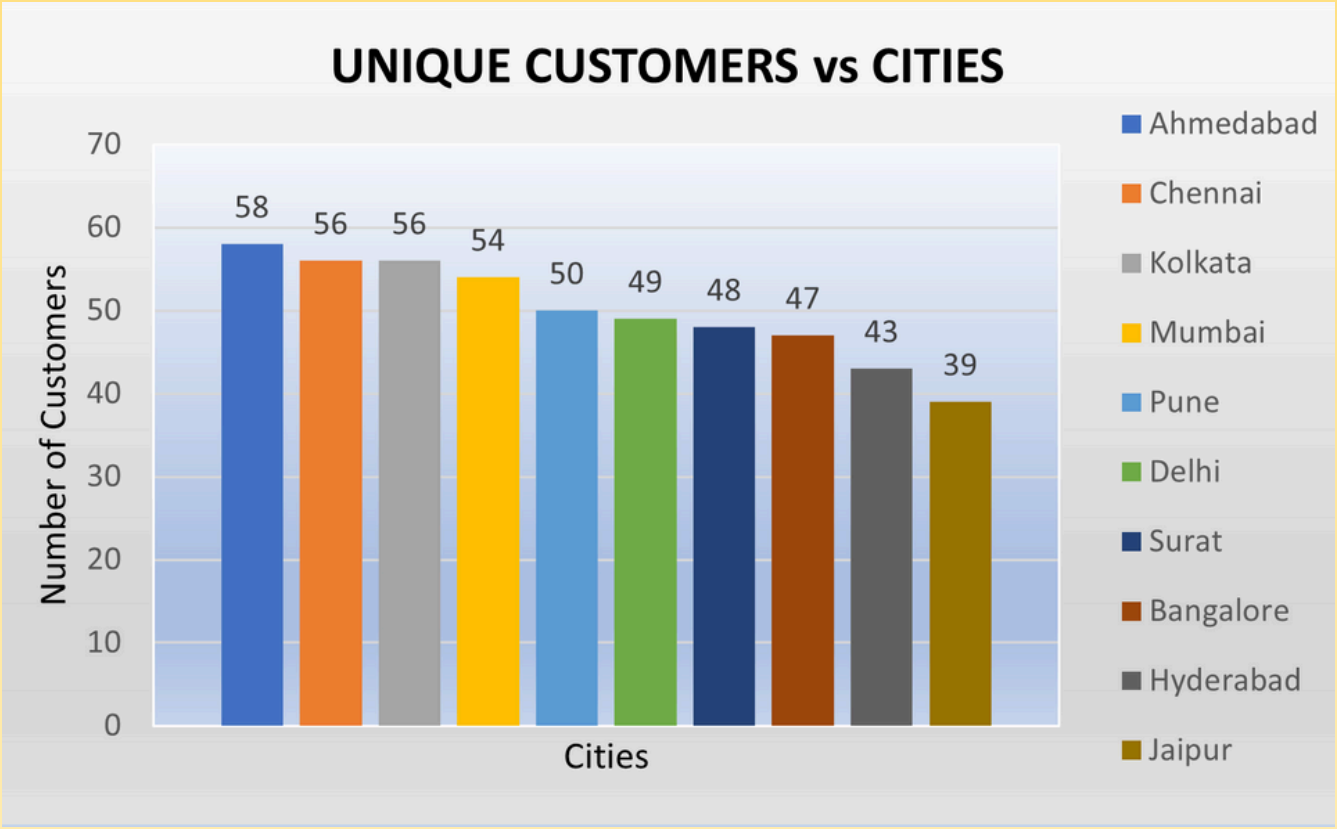


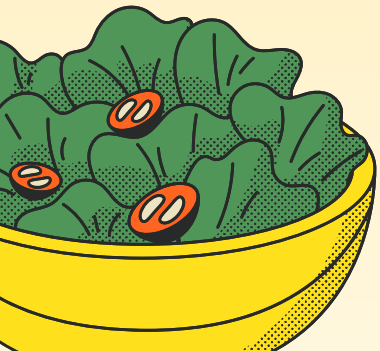
INSIGHTS:

1. Ahmedabad, Chennai, and Kolkata lead with 56–58 unique customers, highlighting stronger market penetration.

2. Jaipur and Hyderabad show lower unique customer counts (below 45), indicating untapped potential.

3. Launch localized campaigns or discounts in Jaipur and Hyderabad to attract new customers.

4. Perform a customer acquisition funnel analysis per city to identify drop-off points or friction in weaker regions.



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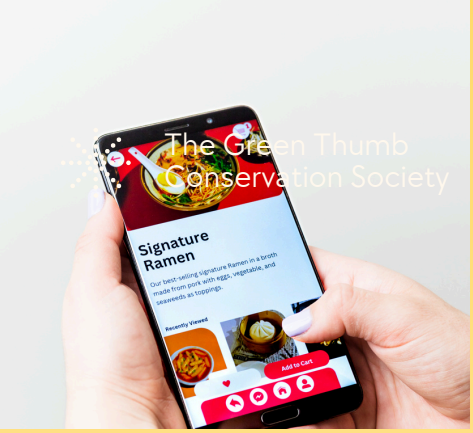

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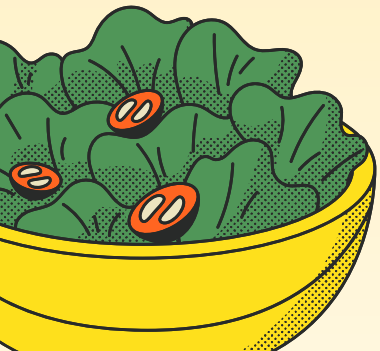
INSIGHTS:

1. Momos and Fish Curry consistently lead in demand, each with ~650+ orders, showing strong customer preference.
2. Items like Butter Chicken and Kadai Paneer have relatively low order counts, indicating limited traction or visible.
3. Run targeted promotions or combos for low-performing items to boost visibility and encourage trials.
4. Analyze time slots and customer segments that frequently order top items, and replicate similar strategies for underperforming ones.



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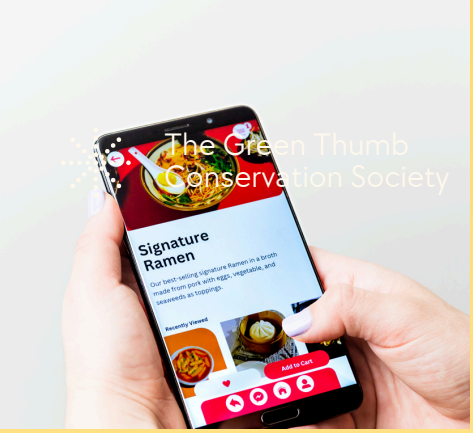

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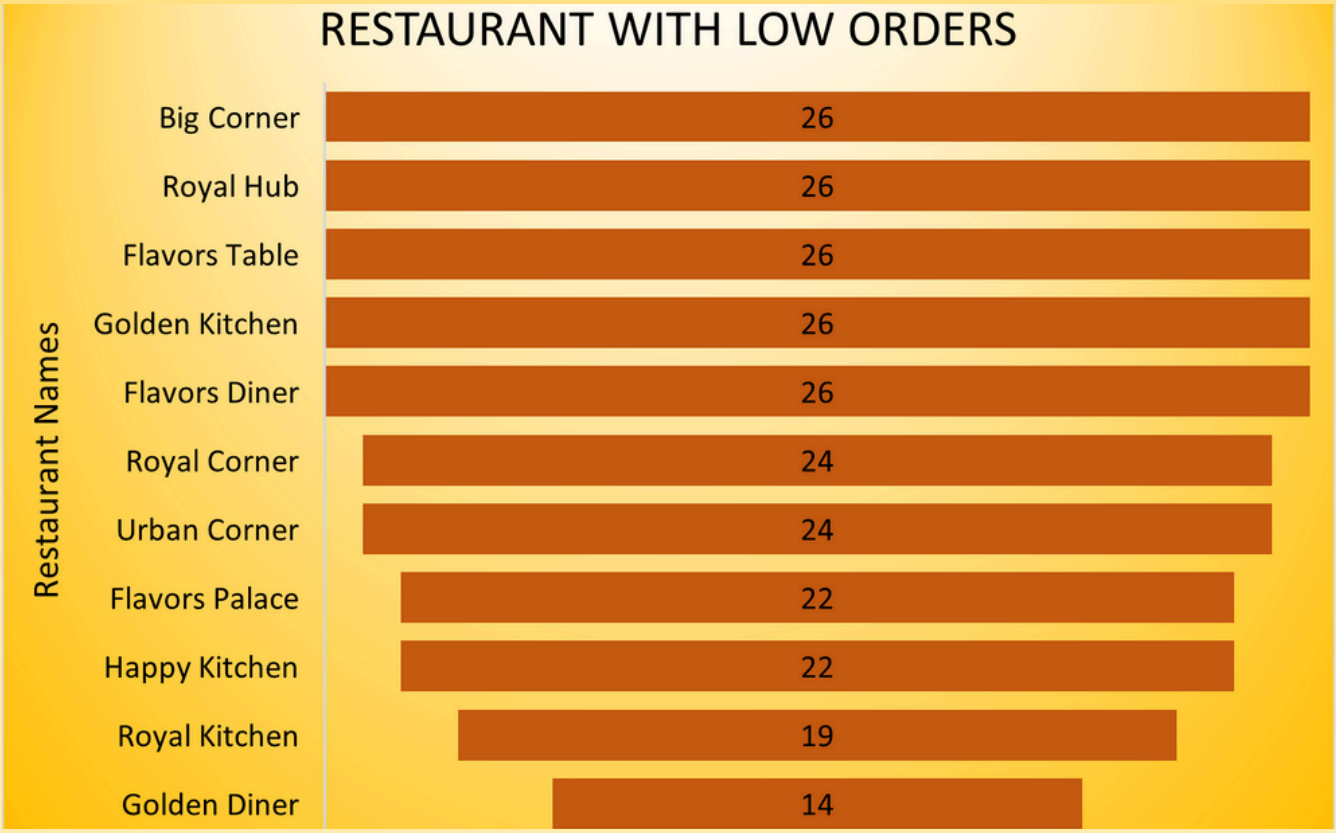


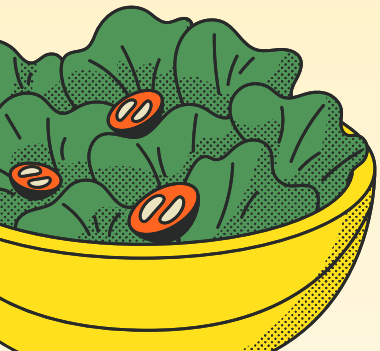
INSIGHTS:

1. 10+ restaurants have orders below 26, signaling weak performance possibly due to visibility, quality, or demand issues.

2. Repeating names like “Flavors” and “Corner” may cause brand dilution or customer confusion.

3. Perform a menu, pricing, and review audit on these restaurants to identify and fix operational or quality issues.

4. Offer platform-level visibility boosts (featured listings or ads) to help these restaurants gain initial traction.



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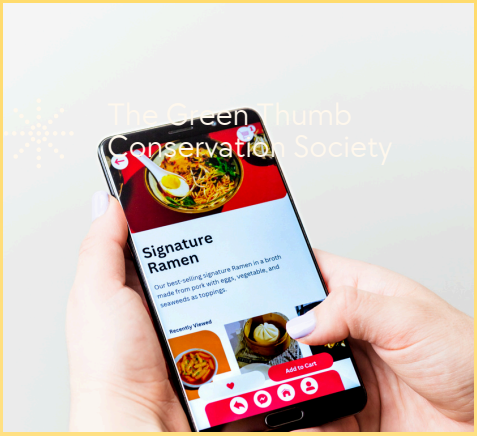

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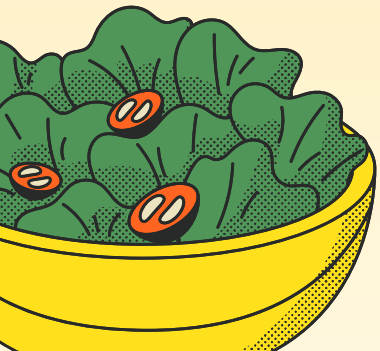
Conclusion

Wrap up this project :

This SQL-based analysis gave a clear picture of customer behavior, product performance, and city-wise trends. By exploring order patterns, revenue distribution, and restaurant performance, we identified both strengths and improvement areas. These findings can guide targeted marketing, menu optimization, and operational strategies. The process not only improved technical skills in SQL but also strengthened the ability to interpret data and turn it into actionable business insights—skills that are highly valuable in real-world analytics projects.



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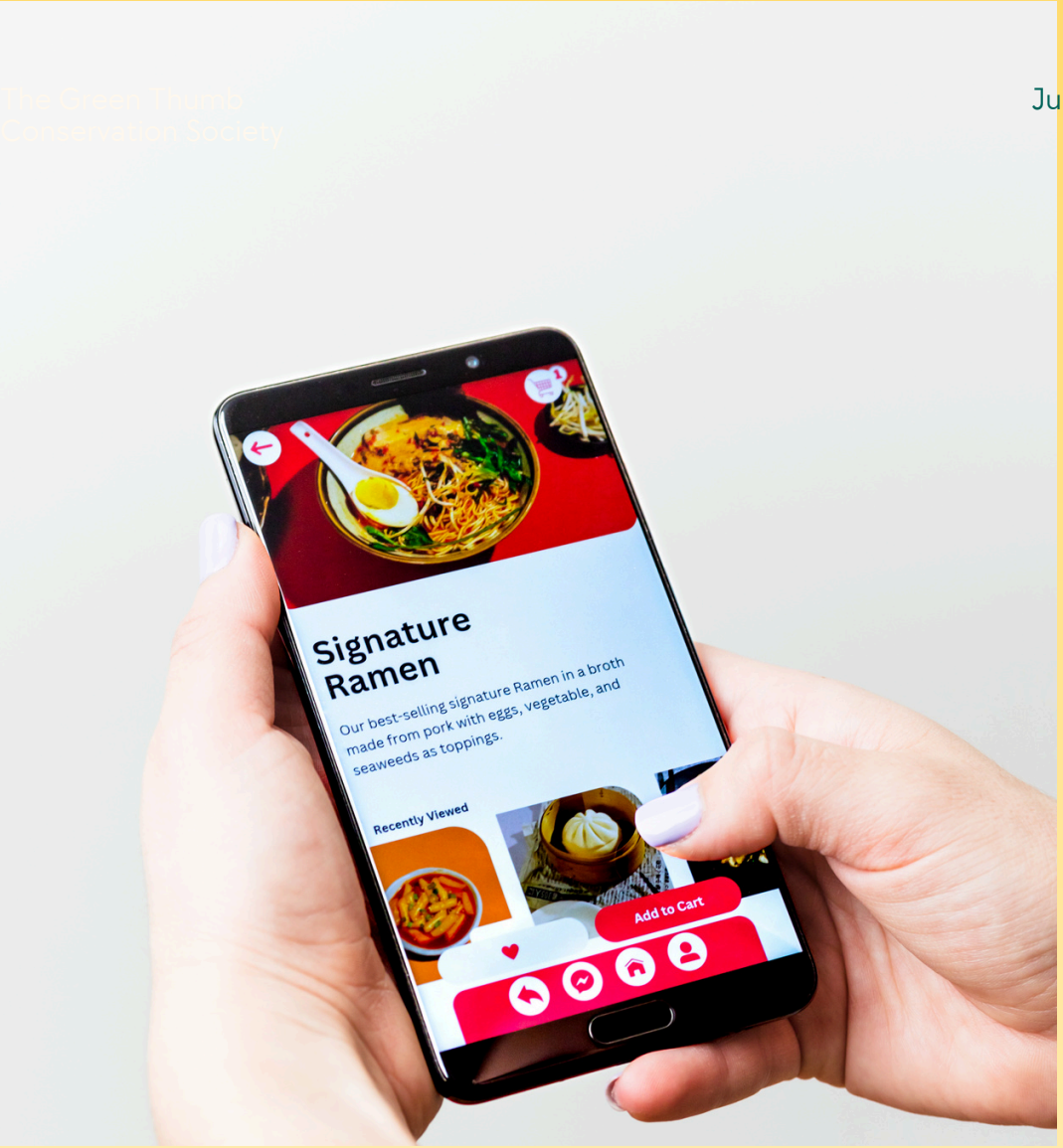

THANK YOU

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