SQL QUESTIONS TO FIND KEY INSIGHTS:

Swiggy Restaurant Sales Analysis

Project Overview

This project focuses on **exploratory data analysis (EDA)** and **business-oriented insights** derived from a Swiggy restaurant dataset. The objective is to analyze restaurant distribution, customer preferences, pricing strategies, delivery efficiency, and estimated sales performance across multiple cities and areas.

- Business decision-making
- City-wise market expansion analysis
- Restaurant performance benchmarking
- Dashboard creation using Power BI / Tableau

This document elaborates each analytical question in detail and serves as the **README file** for GitHub upload.

Dataset Description

The dataset contains **8,680 restaurant records** with the following key attributes:

Column Name	Description
ID	Unique restaurant identifier
Area	Local area where the restaurant operates
City	City name
Restaurant	Restaurant name
Price	Average price for two people
Avg ratings	Average customer rating
Total ratings	Total number of customer ratings
Food type	Cuisine or food category
Address	Physical address
Delivery time	Average delivery time in minutes

Key Business Metrics

Before deep analysis, we derive the following **core KPIs**:

- Total number of restaurants
- Average restaurant rating
- Average delivery time
- Estimated sales (Price × Total ratings)

These KPIs provide a high-level snapshot of platform performance.

1.Total Number of Restaurants in Each City

Objective

To understand the **city-wise distribution of restaurants** and identify major food hubs.

Analysis Explanation

This analysis groups the dataset by city and counts the number of restaurants operating in each city. It highlights cities with dense restaurant presence and competitive markets.

Business Insight

- Cities with more restaurants indicate higher customer demand.
- Helps Swiggy identify saturated vs emerging markets.

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2 Top 5 Cities with the Highest Number of Restaurants

Objective

To identify the **top-performing cities** in terms of restaurant availability.

Analysis Explanation

After counting restaurants per city, the cities are sorted in descending order, and the top five are selected.

Business Insight

- These cities contribute significantly to platform revenue.
- High competition among restaurants.
- Ideal cities for premium subscription and marketing campaigns.

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3 Total Estimated Sales for Each City

Objective

To estimate **revenue potential** across cities.

Calculation Logic

Estimated Sales = Price × Total Ratings

This proxy metric represents revenue potential based on pricing and customer engagement.

Business Insight

- Cities with fewer restaurants can still generate higher revenue.
- Useful for investment prioritization and city expansion strategy.

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4 Top 10 Restaurants by Estimated Sales

Objective

To identify **top revenue-generating restaurants** on the platform.

Analysis Explanation

Estimated sales are calculated for each restaurant, sorted in descending order, and the top 10 are selected.

Business Insight

- Helps Swiggy form exclusive partnerships.
- Identifies benchmark restaurants for performance comparison.

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5 Average Delivery Time for Each City

Objective

To analyze **delivery efficiency** city-wise.

Analysis Explanation

The delivery time is averaged for each city to assess operational performance.

Business Insight

- Lower delivery times improve customer satisfaction.
- High delivery time cities may require logistics optimization.

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6 Cities with Average Delivery Time Exceeding 45 Minutes

Objective

To identify **logistics bottlenecks**.

Analysis Explanation

Cities with an average delivery time greater than 45 minutes are filtered.

Business Insight

- Indicates infrastructure or traffic challenges.
- Priority cities for delivery partner expansion.

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7 Most Popular Food Type Based on Total Ratings

Objective

To understand **customer food preferences**.

Analysis Explanation

Food types are grouped and ranked based on total customer ratings.

Business Insight

- Helps in promoting trending cuisines.
- Useful for onboarding new restaurants strategically.

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8 Average Price of Food in Each City

Objective

To analyze **pricing patterns** across cities.

Analysis Explanation

Average price is calculated city-wise to understand affordability levels.

Business Insight

- Identifies premium vs budget cities.
- Helps in targeted discount strategies.

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9 Restaurants with Average Rating Above 4.5

Objective

To identify **top-quality restaurants**.

Analysis Explanation

Restaurants with ratings greater than 4.5 are filtered.

Business Insight

- High trust restaurants.
- Candidates for platform promotions and featured listings.

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10 High-Rated but Low-Popularity Restaurants

Objective

To find **hidden gems**.

Filtering Criteria

- Avg Rating > 4.5
- Total Ratings < 100

Business Insight

- New or less-discovered restaurants.
- High potential for growth with marketing support.

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11 Percentage of High-Rated Restaurants (≥ 4.0) in Each City

Objective

To measure **quality concentration** city-wise.

Analysis Explanation

Percentage is calculated as:

(High-rated restaurants / Total restaurants) × 100

Business Insight

- Indicates overall food quality perception.
- Useful for city reputation analysis.

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12 Areas with the Highest Restaurant Density

Objective

To identify **hotspot localities**.

Analysis Explanation

Restaurants are counted area-wise to identify dense clusters.

Business Insight

- Helps in hyperlocal marketing.
- Ideal regions for cloud kitchens.

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13 Top 5 Food Types by Estimated Sales

Objective

To analyze **revenue contribution by cuisine**.

Analysis Explanation

Estimated sales are aggregated by food type and ranked.

Business Insight

- Helps focus on high-performing cuisines.
- Guides menu expansion strategies.

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14 Restaurants with Delivery Time Greater Than 60 Minutes

Objective

To identify **service risk restaurants**.

Analysis Explanation

Restaurants with delivery time exceeding 60 minutes are filtered.

Business Insight

- Potential customer dissatisfaction risk.
- Requires delivery or operational improvement.

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15 Top Restaurant in Each City by Estimated Sales

Objective

To identify **city-level champions**.

Analysis Explanation

Restaurants are ranked within each city based on estimated sales, and the top one is selected.

Business Insight

- Useful for city-specific partnerships.
- Acts as a performance benchmark.

Conclusion

This analysis provides a **comprehensive business view** of Swiggy's restaurant ecosystem. By combining pricing, ratings, delivery efficiency,

and customer engagement, the project delivers actionable insights suitable for:

- Business intelligence dashboards
- Portfolio projects for Data Analyst roles
- Real-world decision-making simulations

Tools & Skills Demonstrated

- Python (Pandas, NumPy)
- SQL (Aggregations, Joins, Window Functions)
- Power BI / Data Visualization
- Exploratory Data Analysis (EDA)
- Business Insight Generation

This README is designed for GitHub presentation and academic/project submissions.