E-COMMERCE DATA ANALYSIS: SWIGGY CASE STUDY

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INTRODUCTION

- Food delivery platforms like Swiggy generate huge amounts of data daily.
- Analyzing this data helps improve customer satisfaction and business performance.
- This project applies SQL queries and visualization to uncover insights.
- The study is structured using the SWOT framework for clear business direction.

OBJECTIVE

- Customer insights
- Sales optimization
- Product/Restaurant analysis
- Delivery performance

Dataset Description

- **Swiggy Dataset:** Contains
- ID
- Area
- City
- Restaurant
- Price
- Avg ratings
- Total ratings
- Address
- Delivery time

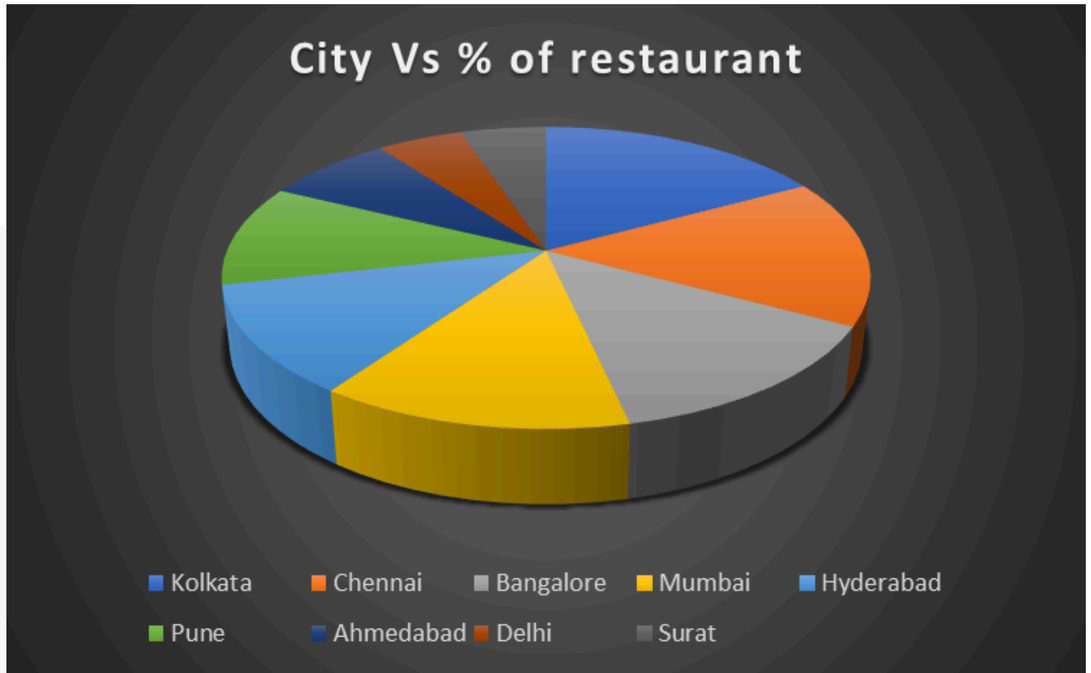
SWOT ANALYSIS

We used SQL queries to explore each quadrant and visualized results in Excel.

- Strength
- Weakness
- opportunities
- thread

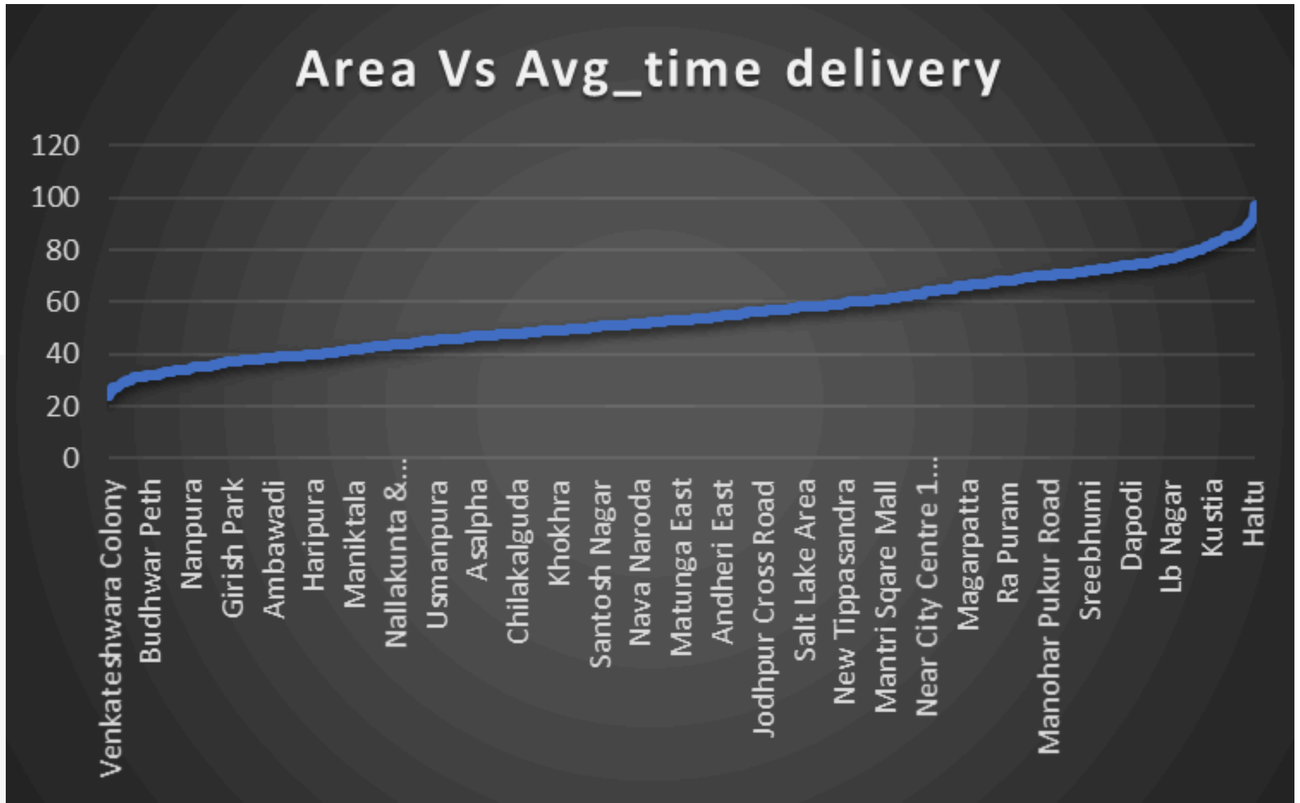
Strengths - High Rated Cities

```sql
with Total_Restaurants as(
select count(*) Total from swiggy
where Avg_rating > 4.0
),
Total_restaurants_in_each_city as(
select city , count(restaurant) as TotalRestaurantCity from swiggy
where Avg_rating > 4.0
group by city
)
select c.city , round((c.TotalRestaurantCity/t.total)*100,2) as Percentage from Total_restaurants_in_each_city c
join Total_Restaurants t
on 1 = 1
ORDER BY Percentage DESC;
```



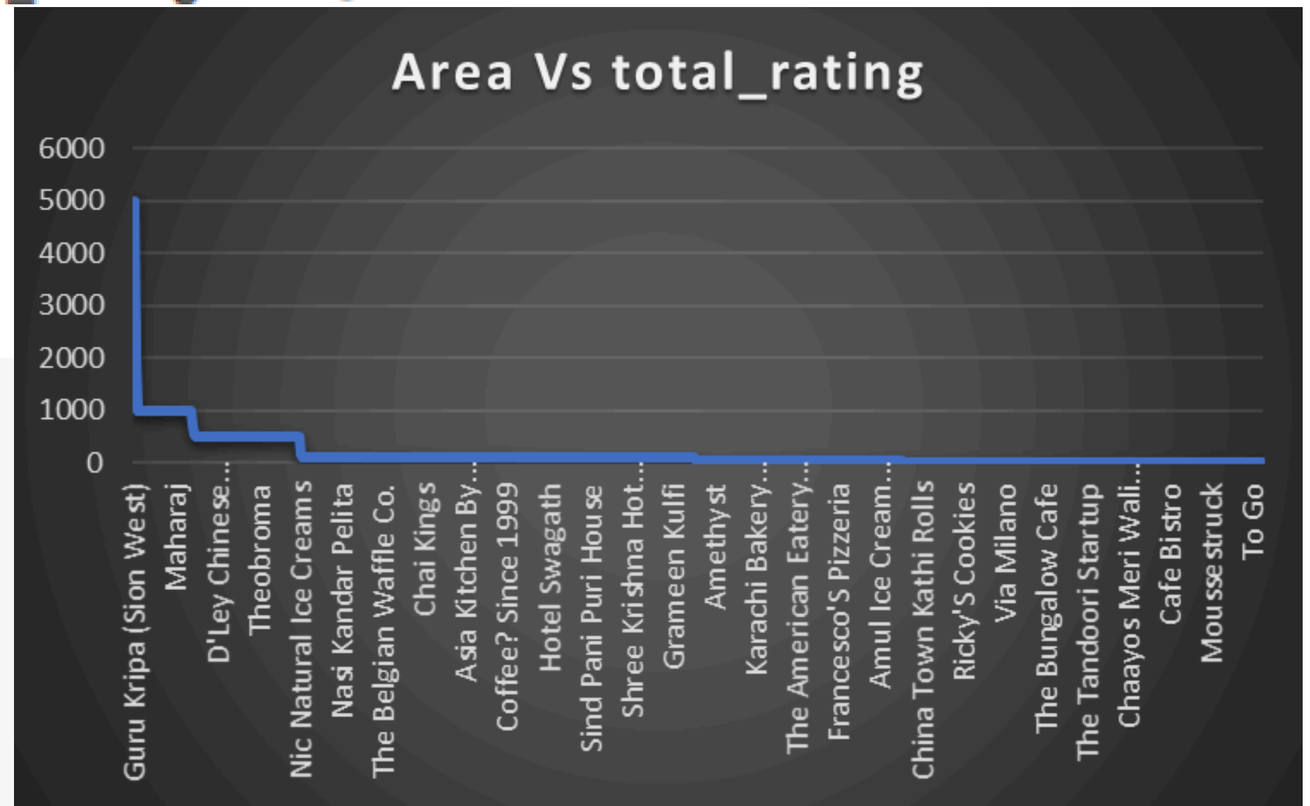
Strengths - Shortest Delivery Areas

```
select Area ,city ,round(avg(delivery_time),2) as Avg_time from swigg
group by area,city
order by avg_time;
```



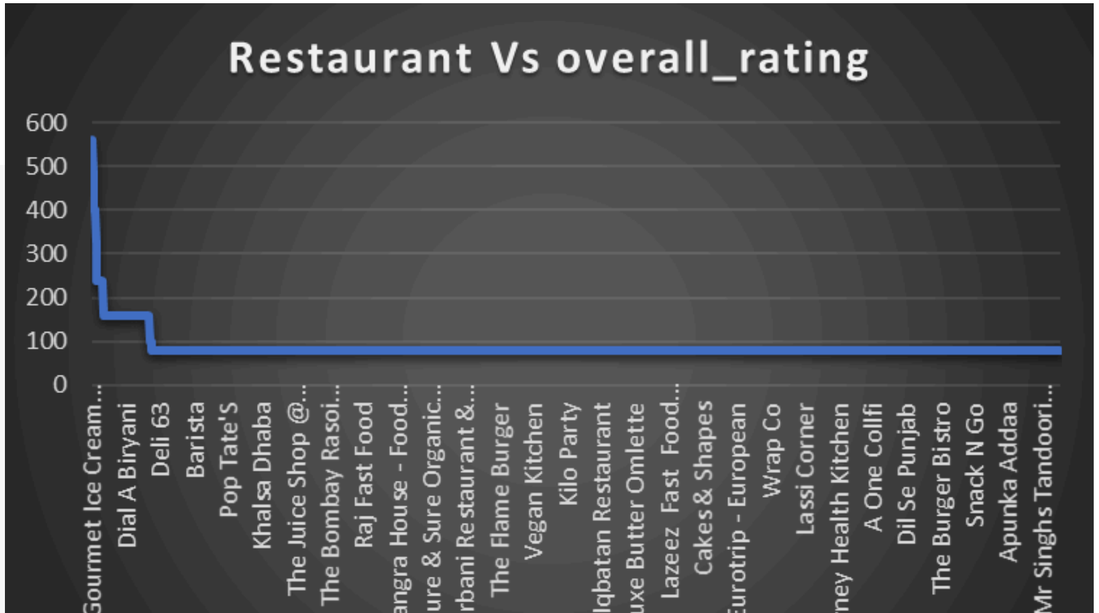
Strengths - Trusted Restaurants

```
select Restaurant,city, sum(total_rating) as total_rating from swiggy
where avg_rating >= 4.5
group by restaurant,city
order by total_rating desc;
```



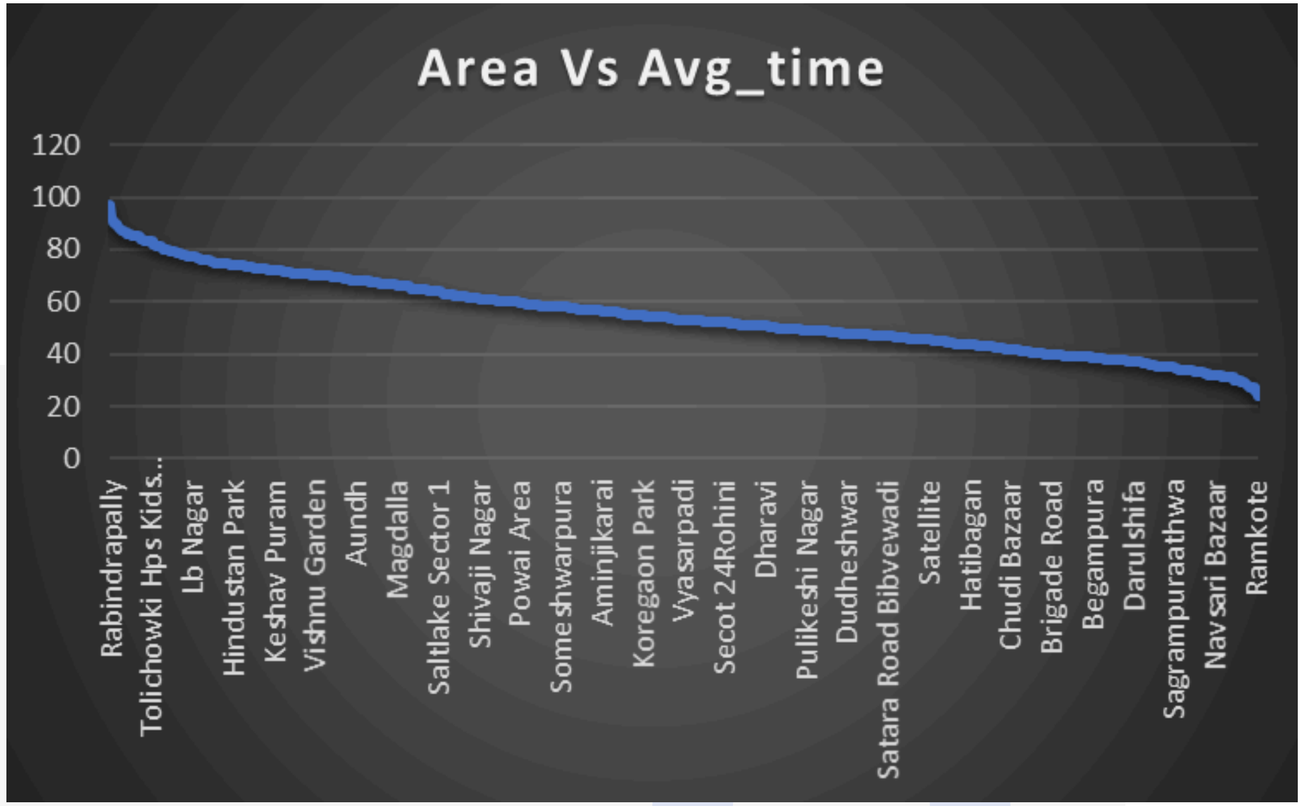
Weaknesses - Popular but Low Rated

```
select Restaurant,sum(total_rating) as overall_rating from swiggy
where avg_rating <3.0
group by restaurant
order by overall_rating desc;
```



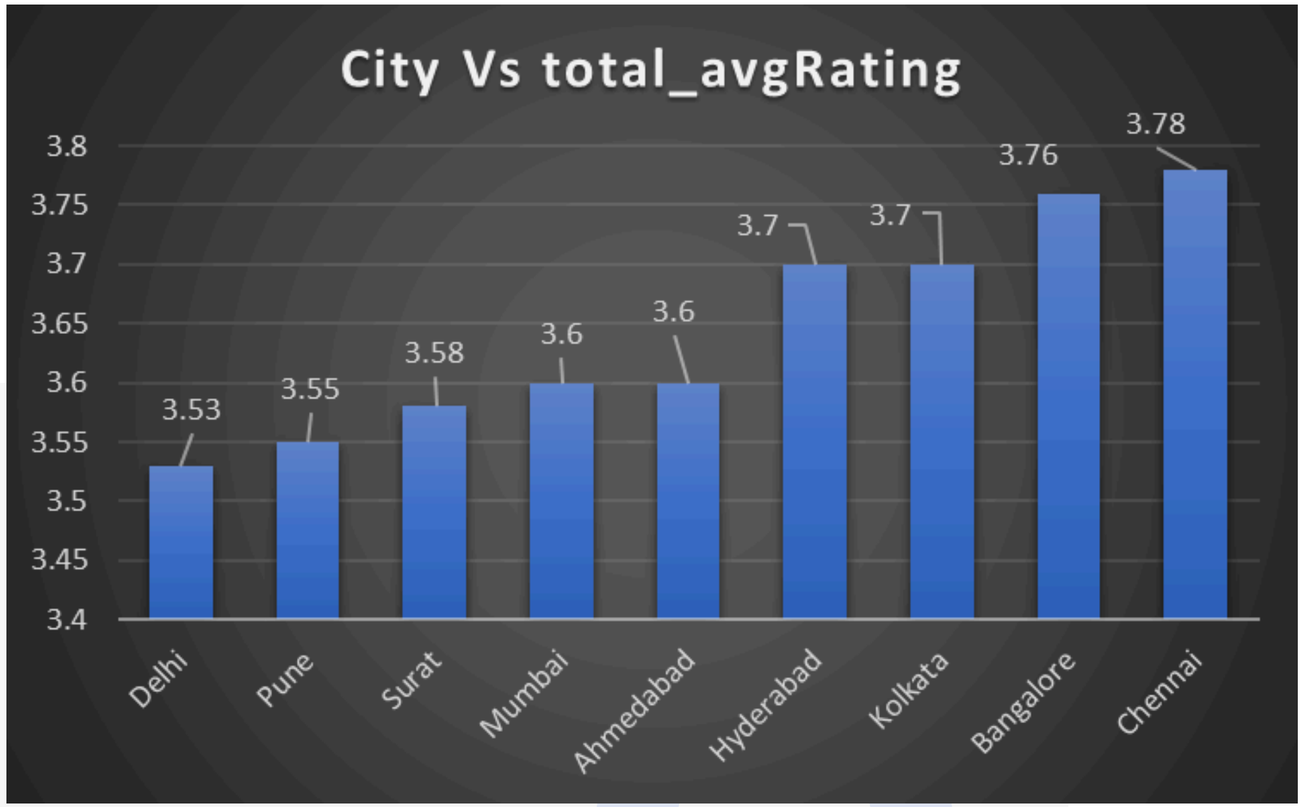
Weaknesses - Longest Delivery Areas

```
select Area , city,avg(delivery_time) as Avg_time from swiggy
group by area , city
order by avg_time desc;
```



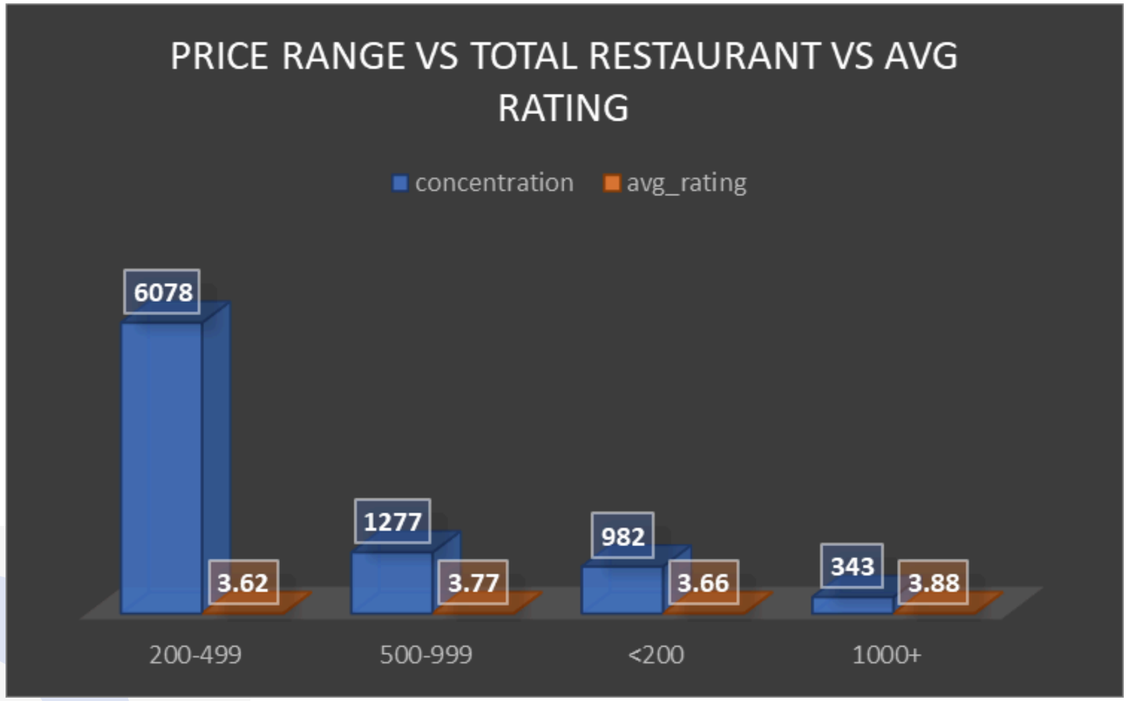
Weaknesses - Lowest Avg Ratings Cities

```
select city , round(avg(avg_rating),2) as total_avgRating from swiggy
group by city
order by total_avgRating;
```



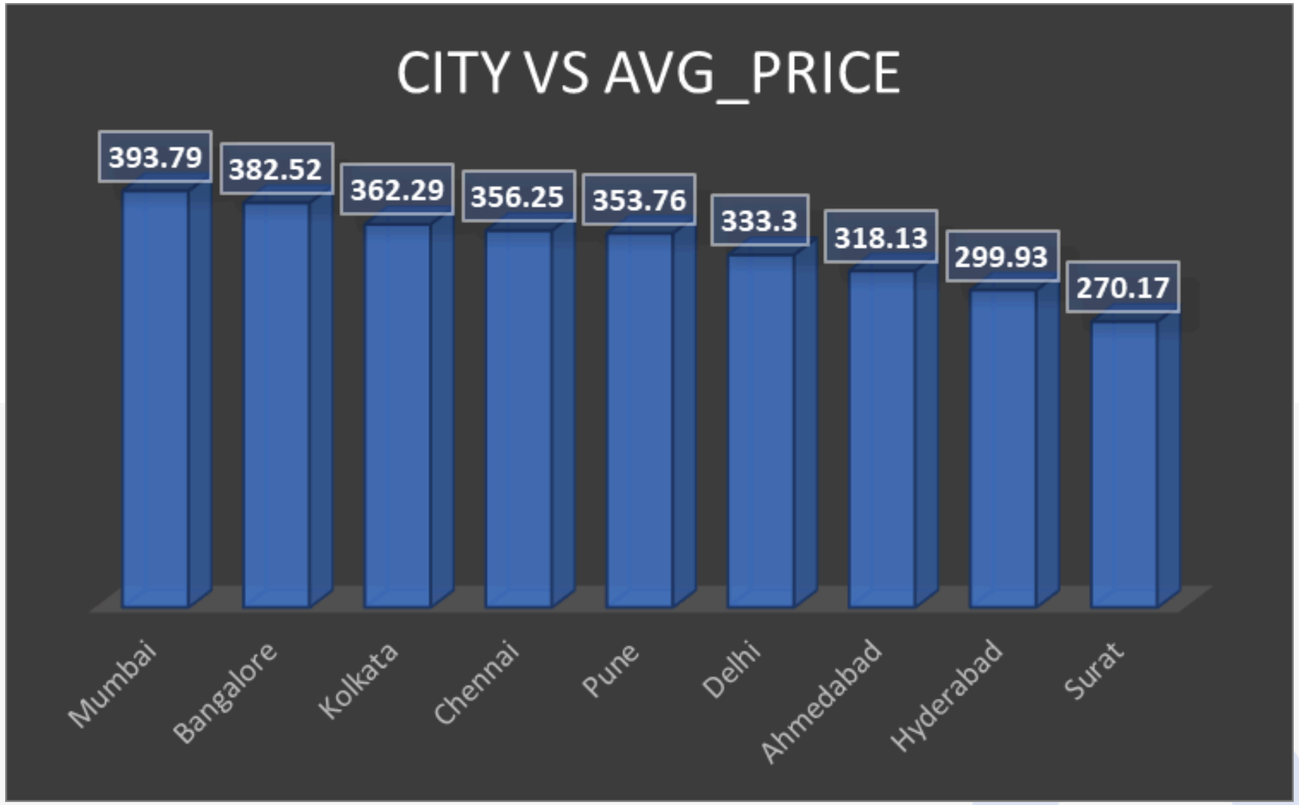
Opportunities - Price Range Concentration

```sql
select
    case when price <200 then '<200'
    when price between 200 and 499 then '200-499'
    when price between 500 and 999 then '500-999'
    else '1000+'
    end as price_range,
    count(*) as concentration,
    round(avg(avg_rating),2) as avg_rating
    from swiggy
    group by price_range
    order by concentration desc;
```



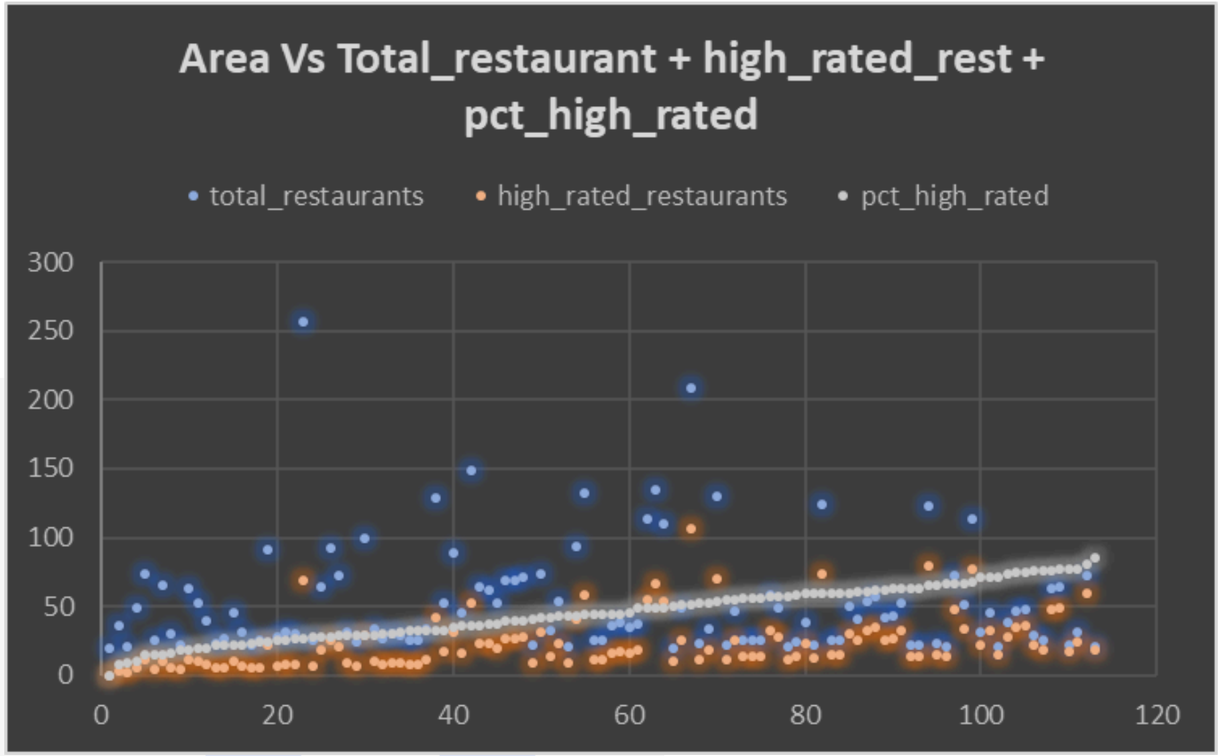
Opportunities - Premium Potential Cities

```sql
select city , round(avg(price),2) avg_price from swiggy
group by city
order by avg_price desc;
```



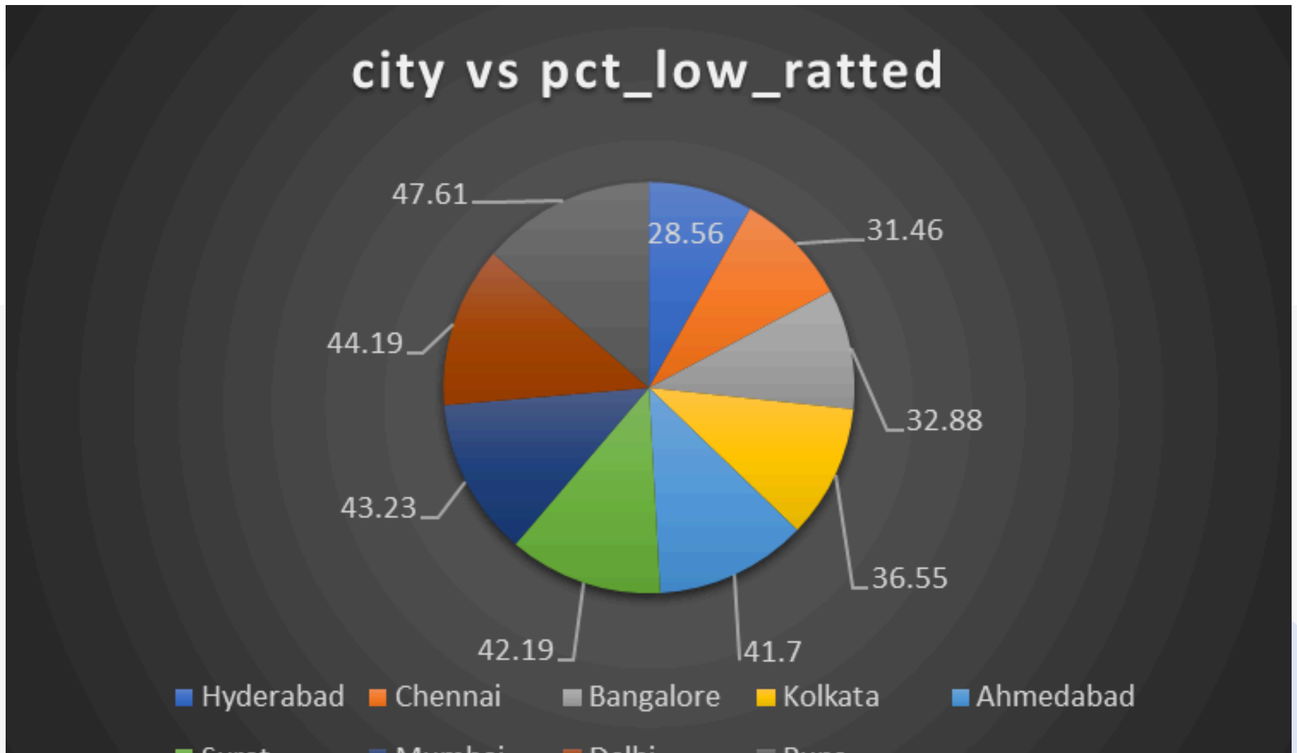
Opportunities - Quality Improvement Areas

```sql
SELECT Area, City,
       count(*) AS total_restaurants,
       sum(CASE WHEN Avg_rating >= 4.0 THEN 1 ELSE 0 END) AS high_rated_restaurants,
       round(100.0 * sum(CASE WHEN Avg_rating >= 4.0 THEN 1 ELSE 0 END) / count(*), 2) AS pct_high_rated
FROM swiggy
GROUP BY Area, City
HAVING total_restaurants >= 20
ORDER BY pct_high_rated ASC;
```



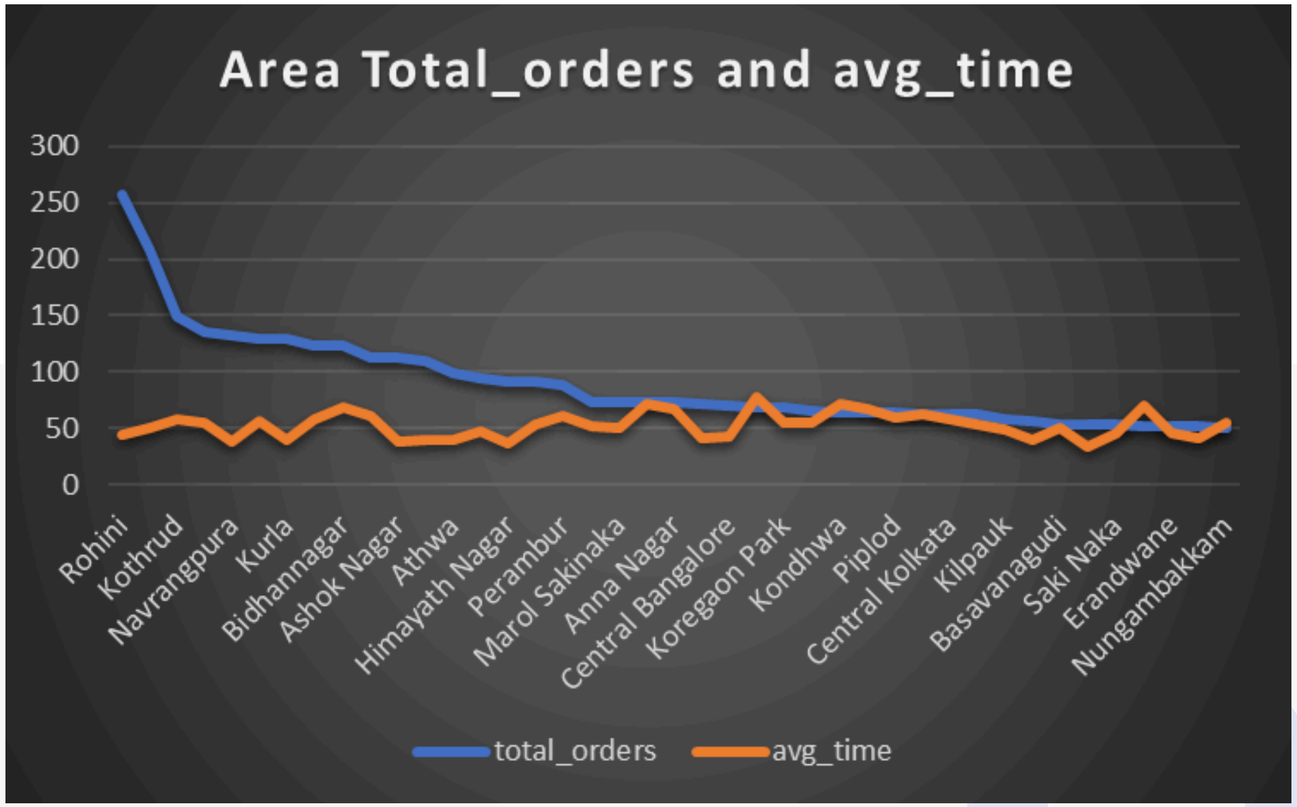
Threats - High % of Low Rated Restaurants

```sql
select city,
        round(100*sum(case when avg_rating < 3.0 then 1 else 0 end)/count(*),2) as pct_low_ratted
from swiggy
group by city
order by pct_low_ratted;
```



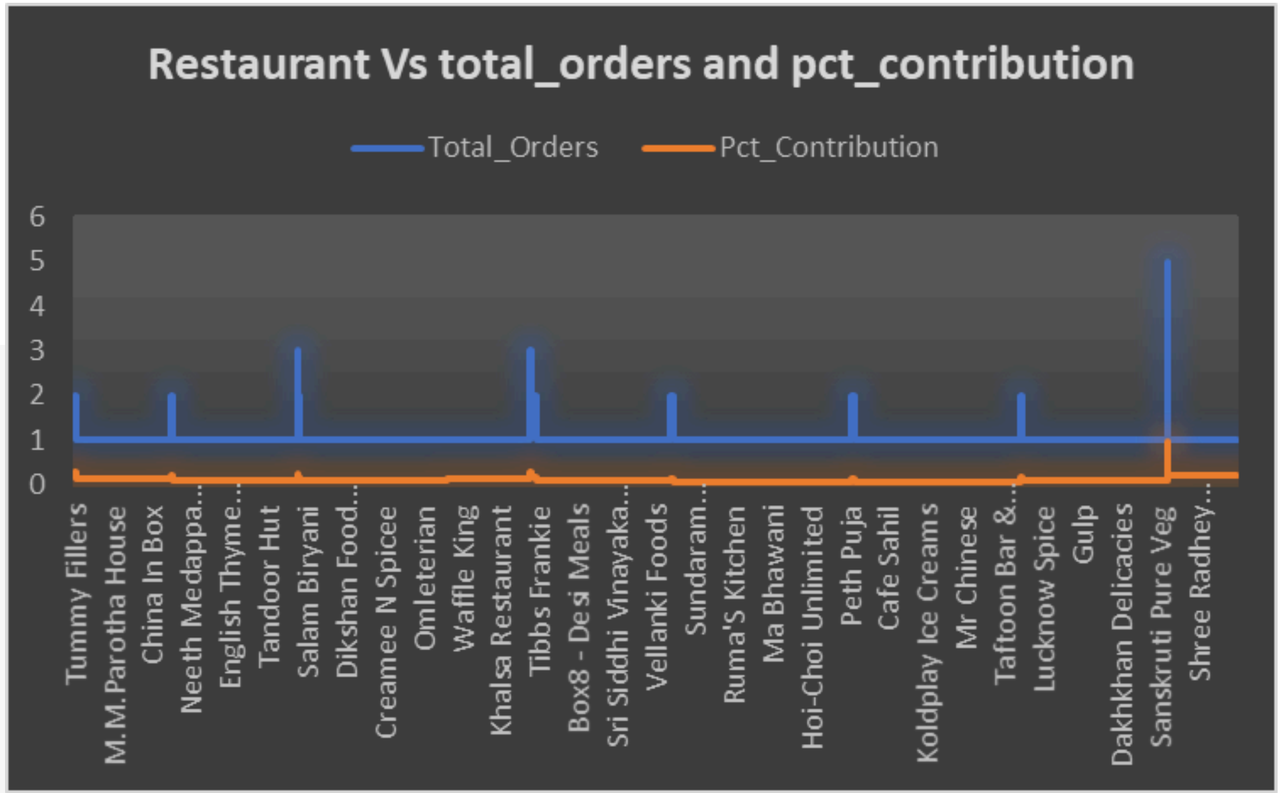
Threats - High Orders but Slow Delivery

```sql
select area, city , count(*) total_orders,round(avg(delivery_time),2) avg_time from swiggy
group by area, city
having total_orders >50
order by total_orders desc , avg_time desc;
```

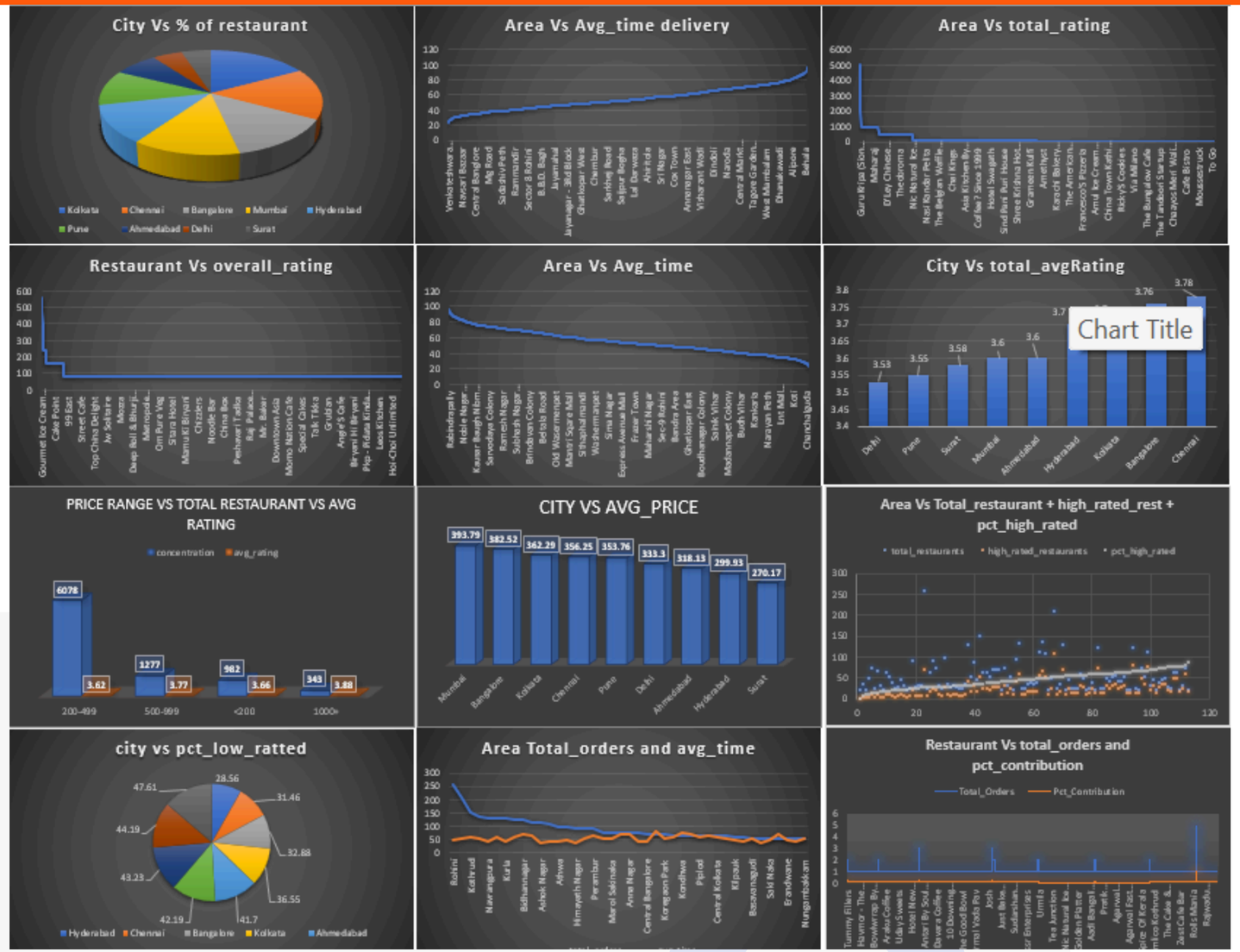


Threats - City Dependence on Few Restaurants

```sql
select * from swiggy;
SELECT City,
       Restaurant,
       COUNT(*) AS Total_Orders,
       ROUND(100.0 * COUNT(*) / SUM(COUNT(*)) OVER(PARTITION BY City),2) AS Pct_Contribution
FROM swiggy
GROUP BY City, Restaurant
ORDER BY City, Pct_Contribution DESC;
```



Final Output



CONCLUSION

- **Leverage strengths: Promote top-rated cities/areas in marketing.**
- **Fix weaknesses: Focus on improving delivery efficiency in slow regions.**
- **Seize opportunities: Expand premium restaurant options in high-price cities.**
- **Mitigate threats: Diversify restaurant base to reduce dependency risks.**

THANK YOU

FOR YOUR ATTENTION

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