Zomato Data Analysis : Consumer Behaviour

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Introduction

Zomato is a popular online food delivery and restaurant discovery platform. It provides users with restaurant information, reviews, menus, and ratings. Zomato is a leading food delivery and restaurant discovery platform that connects millions of users to restaurants across the globe. The dataset used in this analysis includes detailed information about over 20,000 restaurants, covering aspects like cuisine types, price range, ratings, reviews, location, and service types. Through data visualization and analysis, we explore patterns in food choices, pricing behavior, and city wise performance which will help to answer that"What makes a restaurant successful on Zomato?

Objective

In this project, we aim to analyze Zomato restaurant data to identify key factors that contribute to the success of restaurants, as measured by their ratings. By exploring various features such as location, cuisine, pricing, and service offerings, we aim to provide insights that can help restaurant owners and Zomato users make informed decisions.
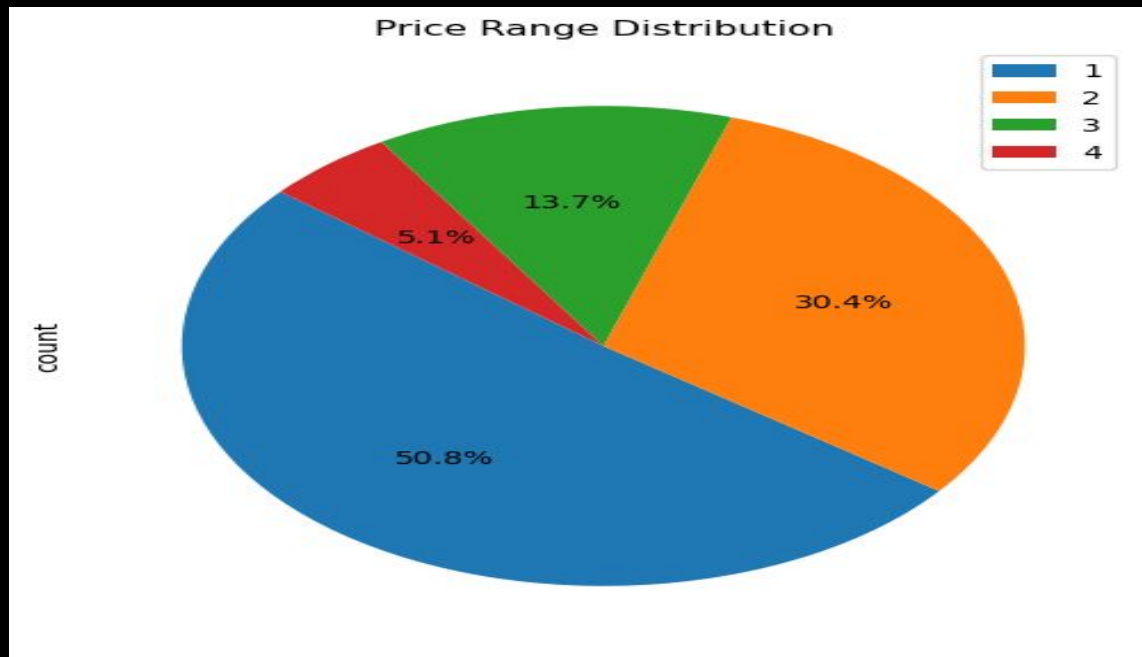
Price Range vs Popularity & Rating

	price_range	votes	aggregate_rating
0	1	103.631797	2.669885
1	2	301.399140	3.281515
2	3	643.419036	3.577530
3	4	570.482995	3.701439

Do expensive restaurants have better popularity & Ratings?

Restaurants in higher price ranges tend to have slightly better ratings, but receive fewer votes, possibly due to higher affordability.
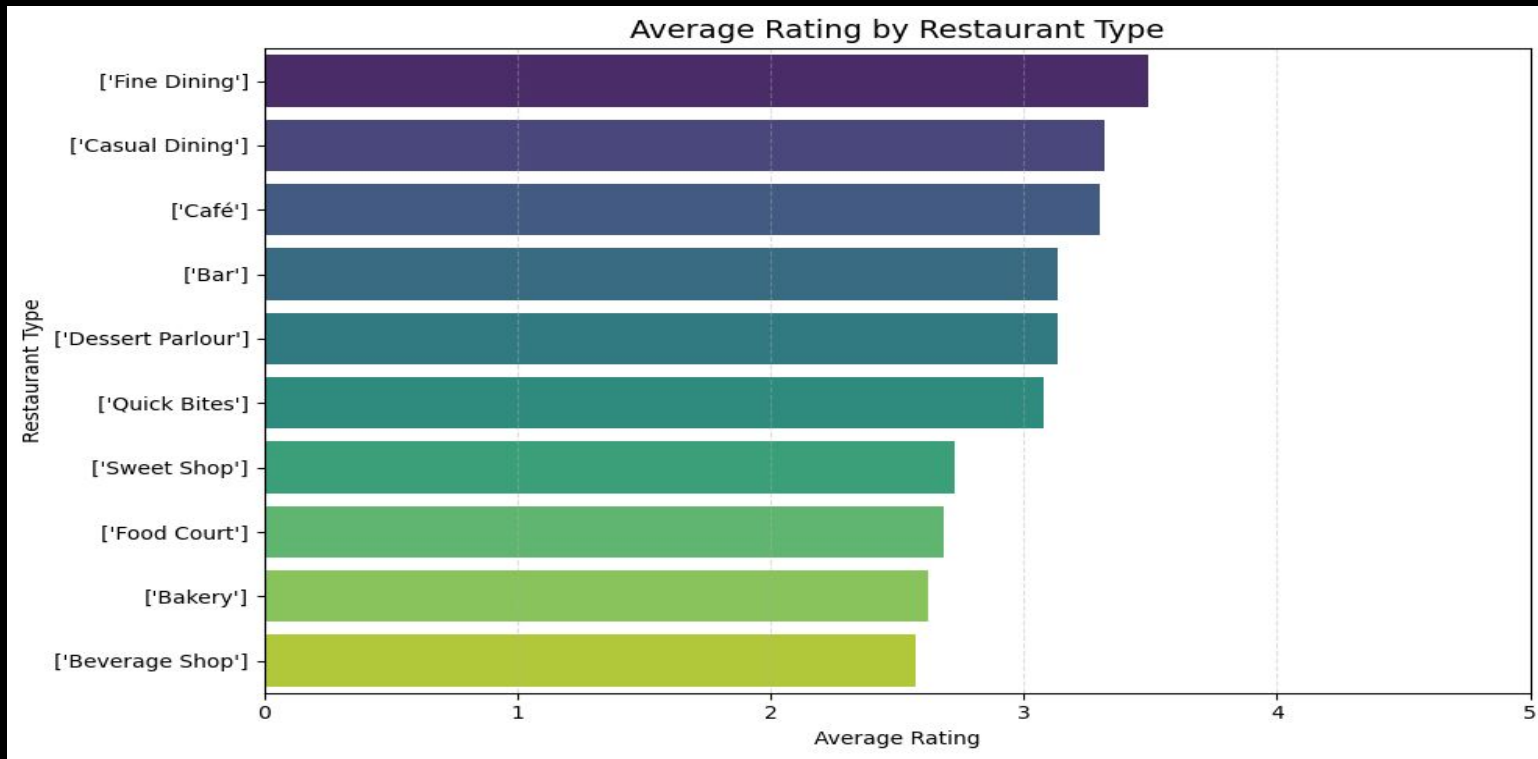
Distribution of Price Range

Is there a gap between affordable and premium dining experiences?

"A majority of restaurants operate in the lowest price bracket, showing strong demand for budget-friendly dining experiences."
"While affordable dining dominates, a visible segment of restaurants caters to premium experiences, especially in urban hubs."

Restaurant Type vs Ratings & Votes
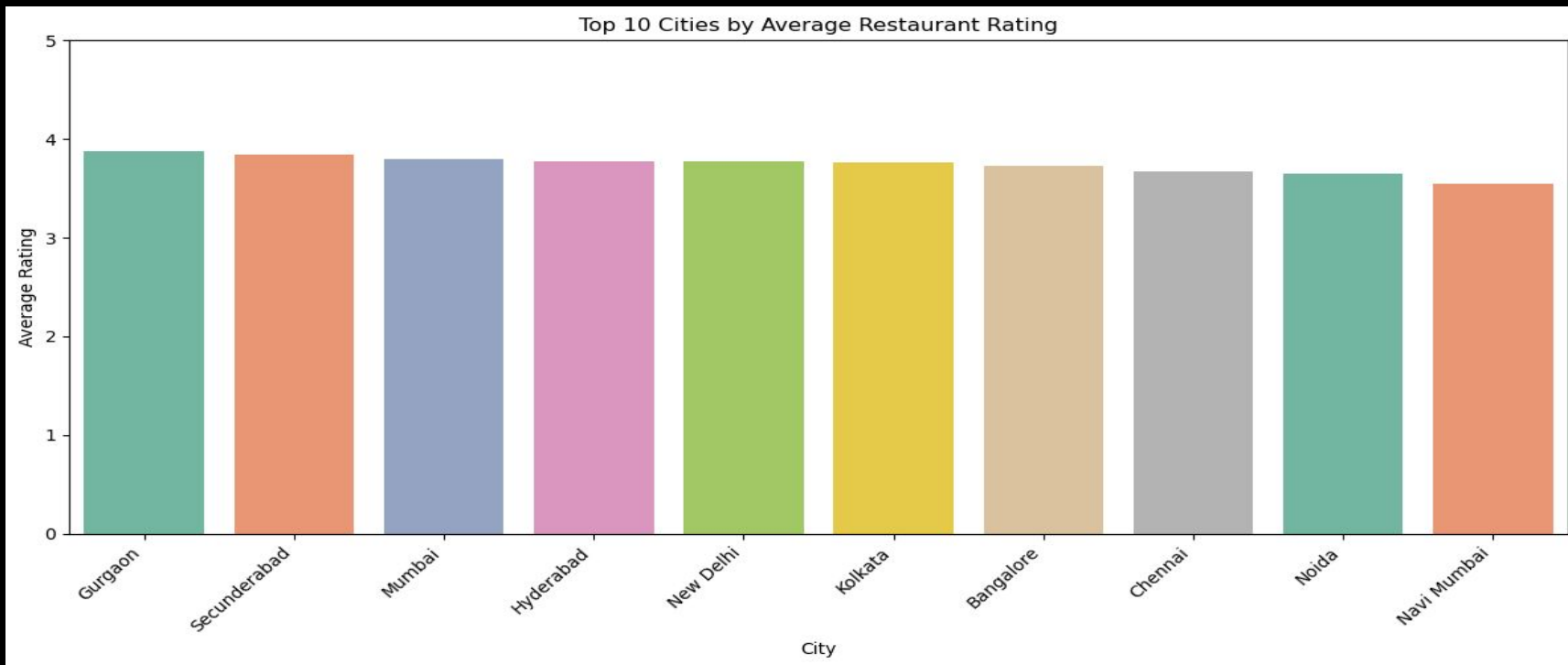

Average Rating by Restaurant Type

Which Restaurant Type receive the highest ratings and most customer engagement?

"Casual Dining and Cafés and Bar consistently receive higher average ratings, suggesting that customers value a relaxed dining atmosphere. Quick Bites, Bar and Dessert Parlours also Perform well, while Food Courts show relatively lower ratings — possibly due to variability in service or ambiance."

Top 10 Cities by Average Rating

Top 10 Cities by Average Restaurant Rating
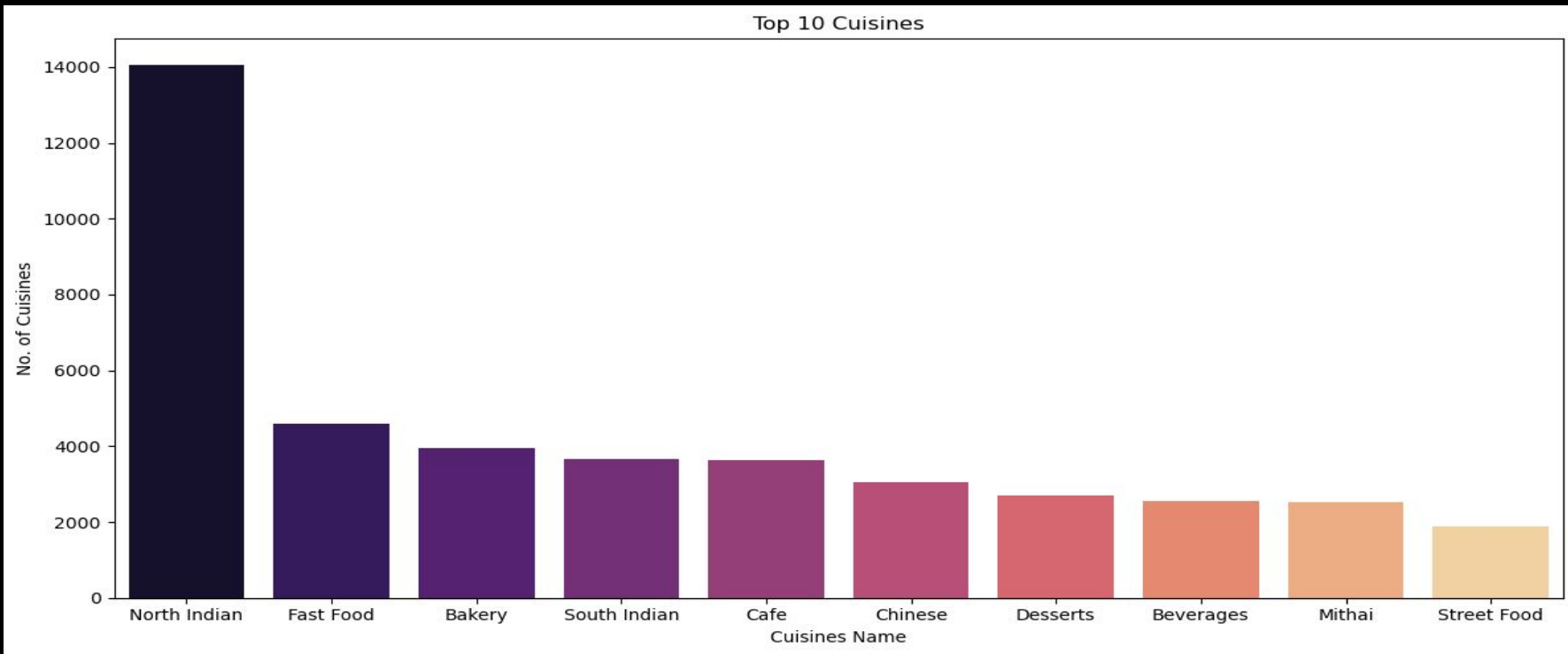
What factors contribute to higher average restaurant ratings in certain cities compared to others?

"The top-rated cities reflect a concentration of high-quality dining experiences, with cities like Gurgaon, Bangalore, Mumbai, and Delhi leading due to their majority of working population, diverse food scenes, vibrant urban culture, and customer-driven culinary standards."

Top 10 Cuisines by their Value Counts

Top 10 Cuisines

Bar chart showing number of cuisines (y-axis, labeled "No. of Cuisines") against cuisine names (x-axis, labeled "Cuisines Name"): North Indian (~14000), Fast Food (~4600), Bakery (~3900), South Indian (~3650), Cafe (~3600), Chinese (~3050), Desserts (~2700), Beverages (~2550), Mithai (~2500), Street Food (~1900).
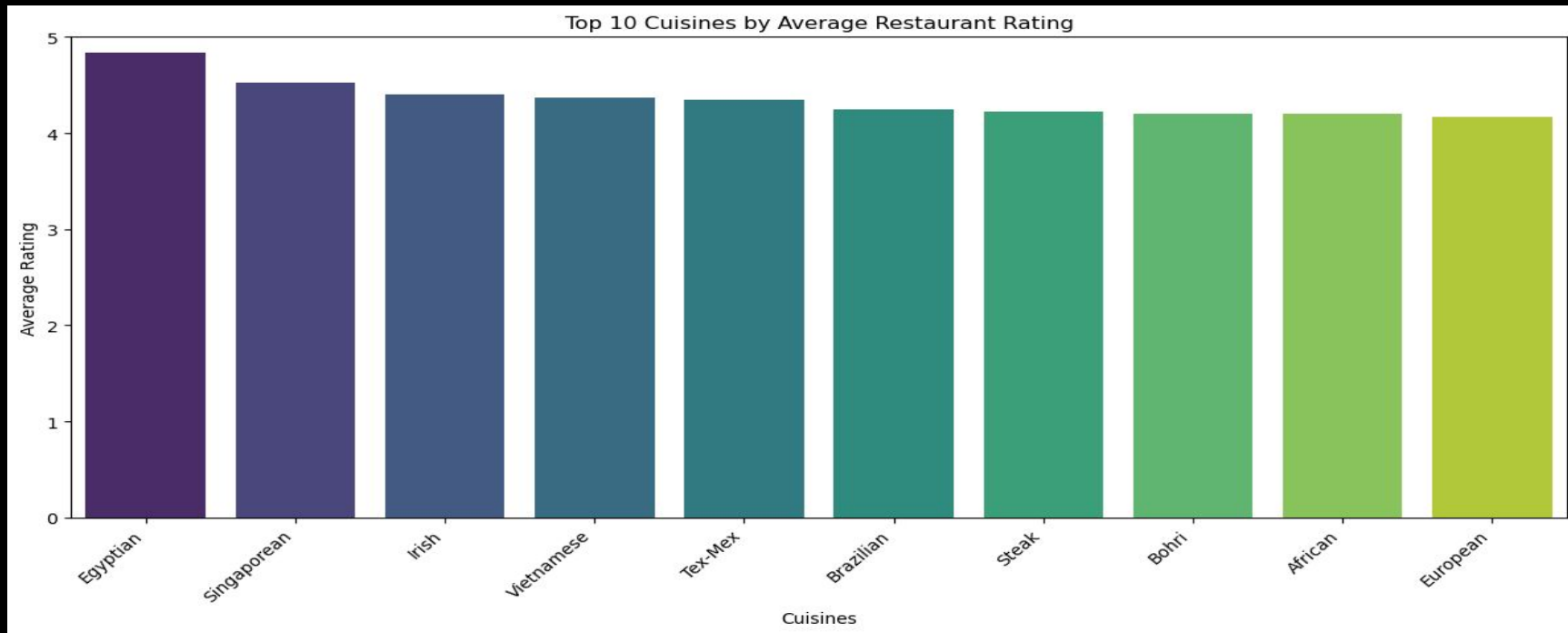
What do the most popular cuisines reveal about customer taste and dining preferences?

"The top 10 cuisines by frequency highlight consumer favorites, with a strong tilt toward versatile, comfort-driven options like North Indian, Chinese, and Fast Food, reflecting both cultural preferences and everyday accessibility."
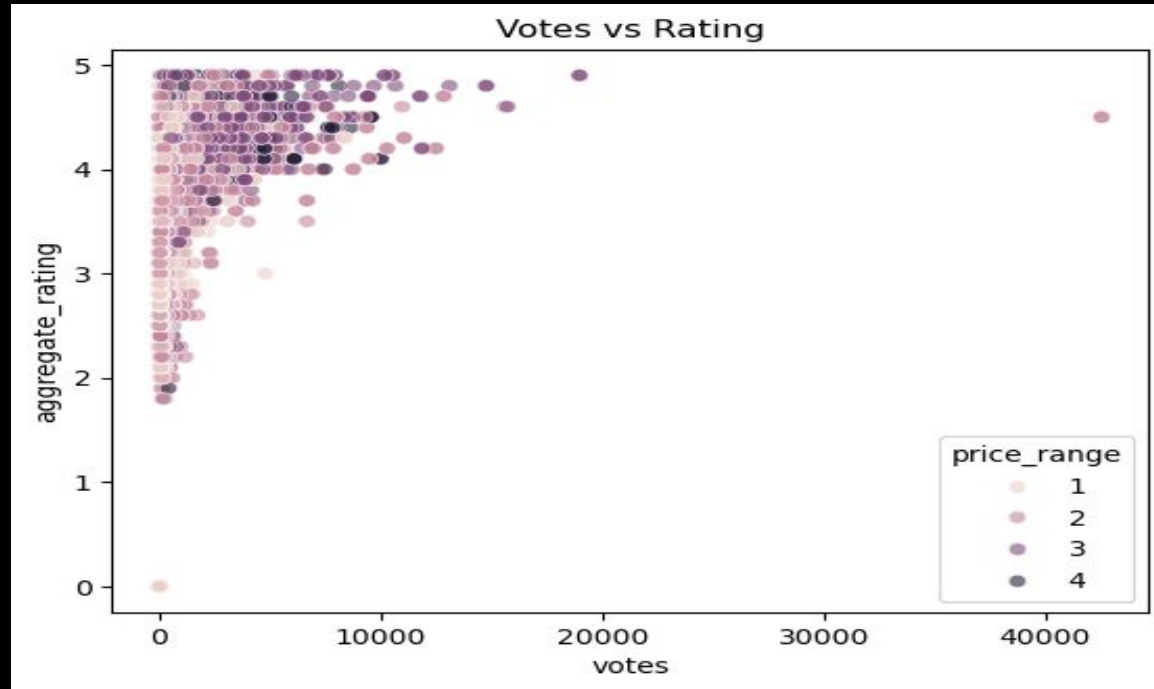
Top 10 Cuisines by Average Rating

Top 10 Cuisines by Average Restaurant Rating

What makes certain cuisines consistently receive higher average ratings from customers?

North Indian cuisines might have lower average ratings compared to Egyptian or Irish, even though they're extremely popular. North Indian food is everywhere and gets mixed reviews, while rarer cuisines like Egyptian and Irish often come from higher-end places and get better ratings.
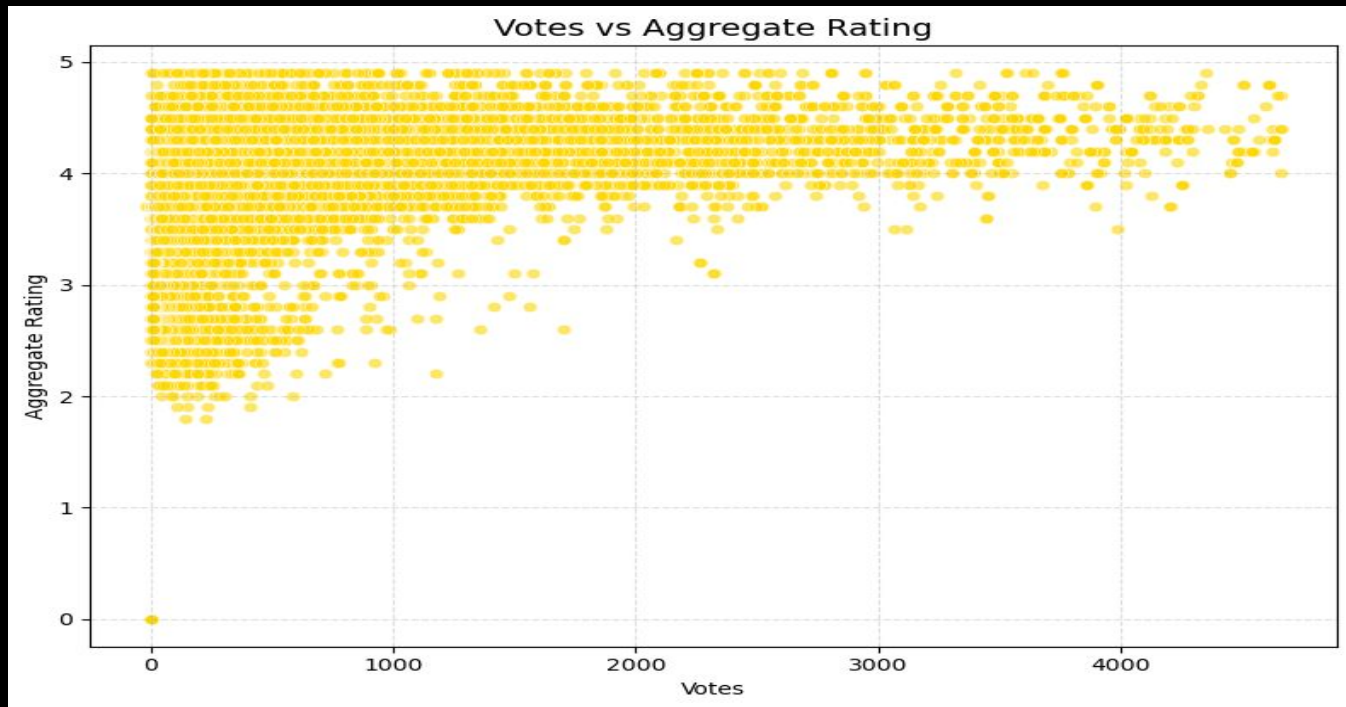
Relationship between Votes and Rating

Do more votes mean better rating?

"Out of all the restaurants in the dataset, 4,670 have received zero user votes — highlighting a significant portion of listings with little to no user Engagement or it could be invalid data. 'As votes increase, ratings generally trend upward toward 4.0–5.0 — showing that popular restaurants are often highly rated.' 'There are a handful of points with high votes but lower ratings (~2.5–3.0) — these could represent popular but polarizing places.' '– Most restaurants receive little to no votes, but higher-rated places tend to get more engagement. Price range plays a role in vote volume and rating spread, especially at higher levels.'
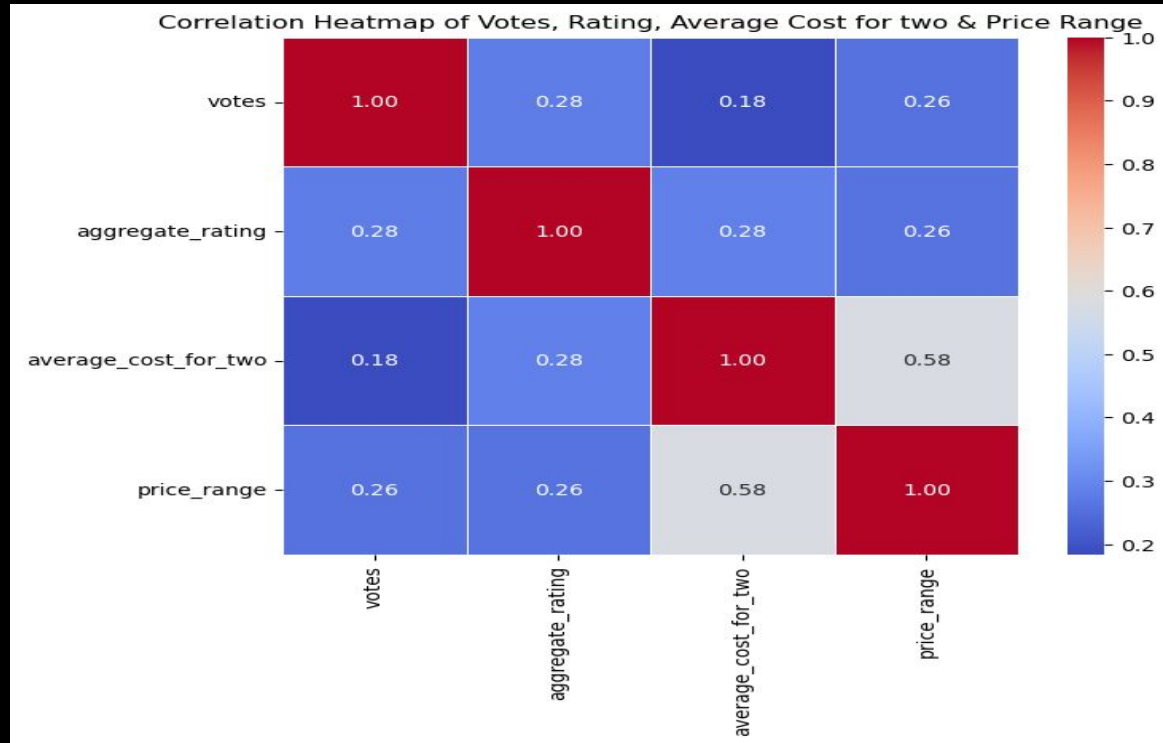
Votes vs Ratings Correlation

Votes vs Aggregate Rating

Do more voter mean better ratings?

Restaurants with more user votes generally have higher ratings, indicating a correlation between popularity and perceived quality. However, many lesser-known restaurants still have high ratings, suggesting potential hidden gems.

Correlation Heatmap of Votes, Rating, Average Cost for two & Price Range

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	votes	aggregate_rating	average_cost_for_two	price_range
votes	1.00	0.28	0.18	0.26
aggregate_rating	0.28	1.00	0.28	0.26
average_cost_for_two	0.18	0.28	1.00	0.58
price_range	0.26	0.26	0.58	1.00

What is the Correlation between numeric features like rating votes and costs?

"Votes show a weak positive correlation with ratings, while average cost and price range are strongly related — as expected. But higher price doesn't necessarily mean higher rating.

Average Rating by City and Price Range

Average Rating by City and Price Range

City	1	2	3	4
Ahmedabad	2.65	3.48	4.07	4.03
Bangalore	3.31	3.85	4.22	4.14
Chennai	3.44	3.74	4.09	3.98
Goa	1.79	2.93	3.35	3.46
Jaipur	3.28	3.63	3.78	3.64
Kolkata	3.56	3.89	4.05	4.05
Lucknow	3.10	3.54	3.73	4.02
Mumbai	3.27	3.84	4.17	4.18
New Delhi	3.35	3.95	4.14	4.09
Pune	3.18	3.61	4.01	3.91

Price Range

Do higher priced restaurants consistently receive better ratings across all cities?

"Higher-priced restaurants generally receive better ratings, indicating improved quality and services with cost. Cities like Banglore, Mumbai and Delhi consistently show high ratings across all price ranges. In contrast, Goa and Jaipur have lower ratings especially in the budget category. Overall, Customer satisfaction tends to increase with price in most cities.

Objective and Way forward

A successful restaurant on Zomato typically combines high-quality food, positive customer experience, and a well-matched price range for its target audience. Restaurants offering popular cuisines, maintaining good service, and operating in food-savvy cities like Gurgaon or Bangalore could be due to these cities have majority of working population which tend to receive higher ratings and more votes, leading to greater visibility and customer trust. However the analysis is limited by missing data, subjective ratings, and the lack of real-time updates. It focuses mainly on major cities and doesn't include business metrics like revenue or profitability