

# Leveraging Exploratory Data Analysis to Drive Impactful Restaurant Marketing

As a dedicated data analyst, my goal is to use exploratory data analysis (EDA) to thoroughly understand customer preferences, dining trends, and the competitive landscape across various regions in India. This analysis aims to support the development of an effective marketing campaign designed to enhance the market presence and engagement of a restaurant chain.

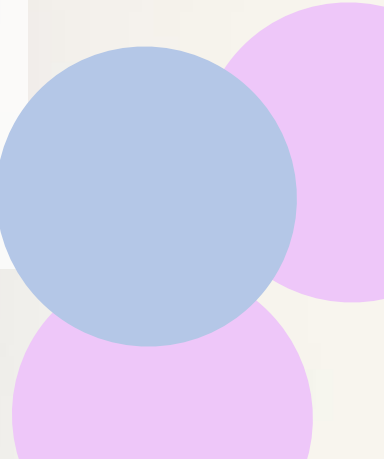


by **Sameen Khurram**



# Understanding the Dataset

The analysis is based on the "zomato\_restaurants\_in\_India.csv" dataset, which provides extensive data on restaurant offerings, customer ratings, pricing levels, and other relevant attributes across different cities in India. This data will serve as the foundation for our in-depth exploration of the restaurant landscape and identification of key insights to drive strategic marketing decisions.

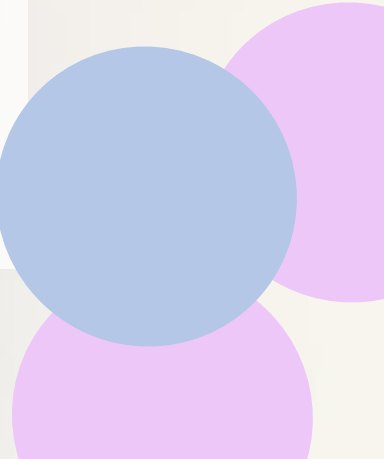




# Cleaning and Preparing the Data

The initial data cleaning and preparation process involved addressing several key challenges. First, I tackled missing values in critical columns such as 'ratings', 'price\_range', and 'cuisines', which accounted for approximately 5% of the 'ratings' data and 3% of the 'cuisine' data. These gaps were imputed using statistical methods like median for ratings and mode for cuisines to ensure a comprehensive dataset for analysis.

Additionally, I identified and corrected various data inconsistencies, such as normalizing cuisine names (e.g., merging 'North Indian' with 'North-Indian') and standardizing price range representations. These steps were crucial to ensure the integrity and reliability of the data for my exploratory analysis.

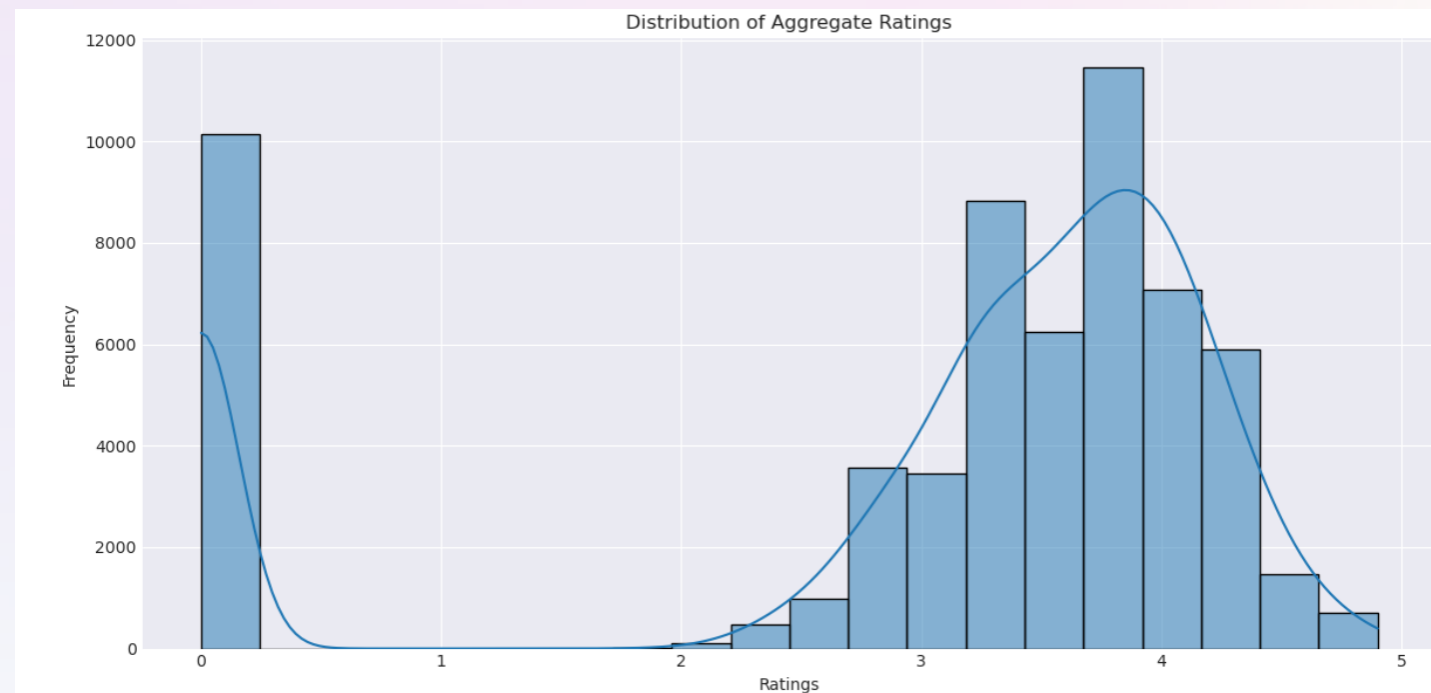


# Exploring the Restaurant Landscape

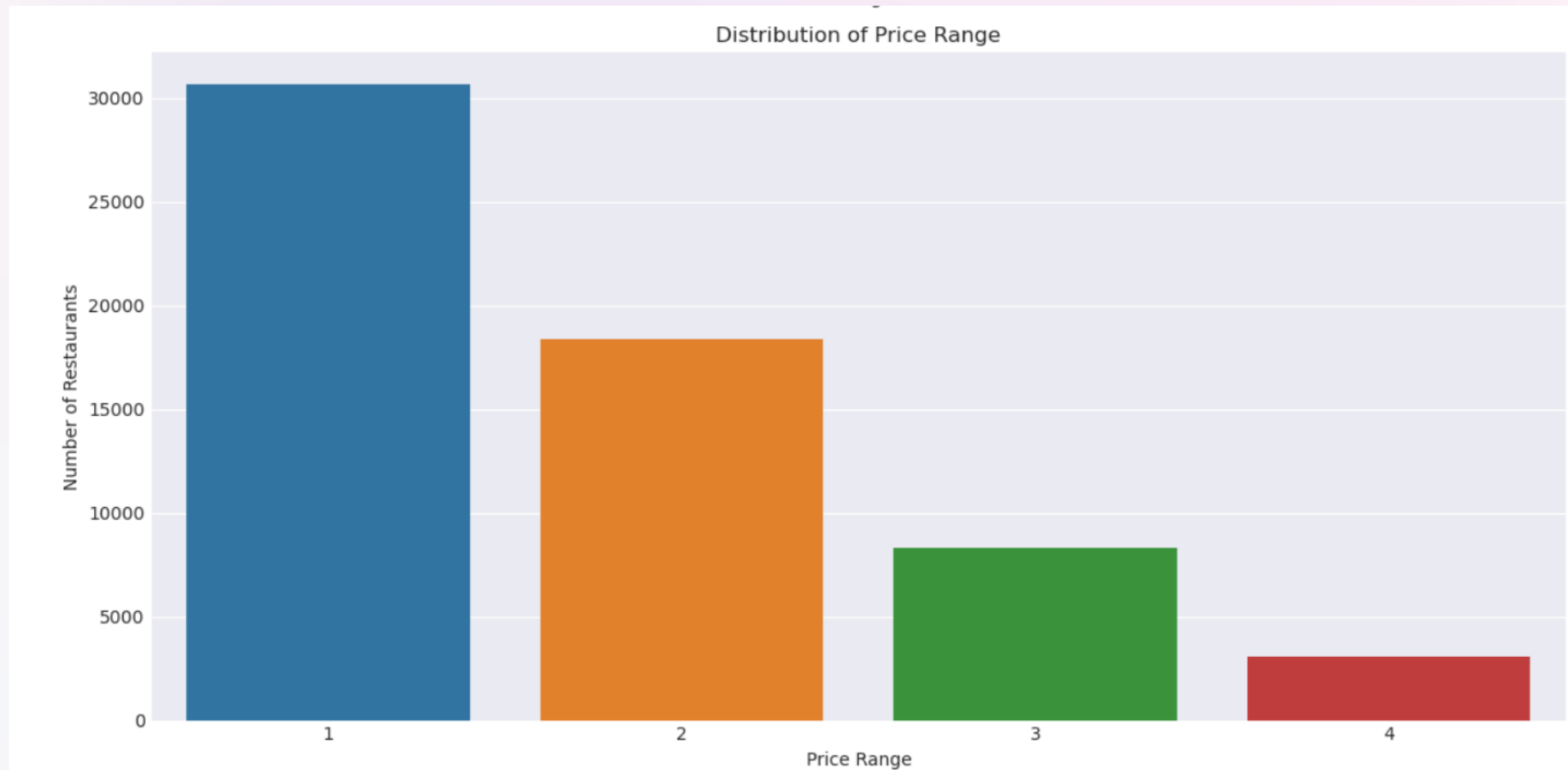
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## Descriptive Statistics

The average rating across all restaurants was around 3.8, with price ranges typically between INR 300 to INR 800, indicating a mid-range dining experience as most prevalent.



# Exploring the Restaurant Landscape

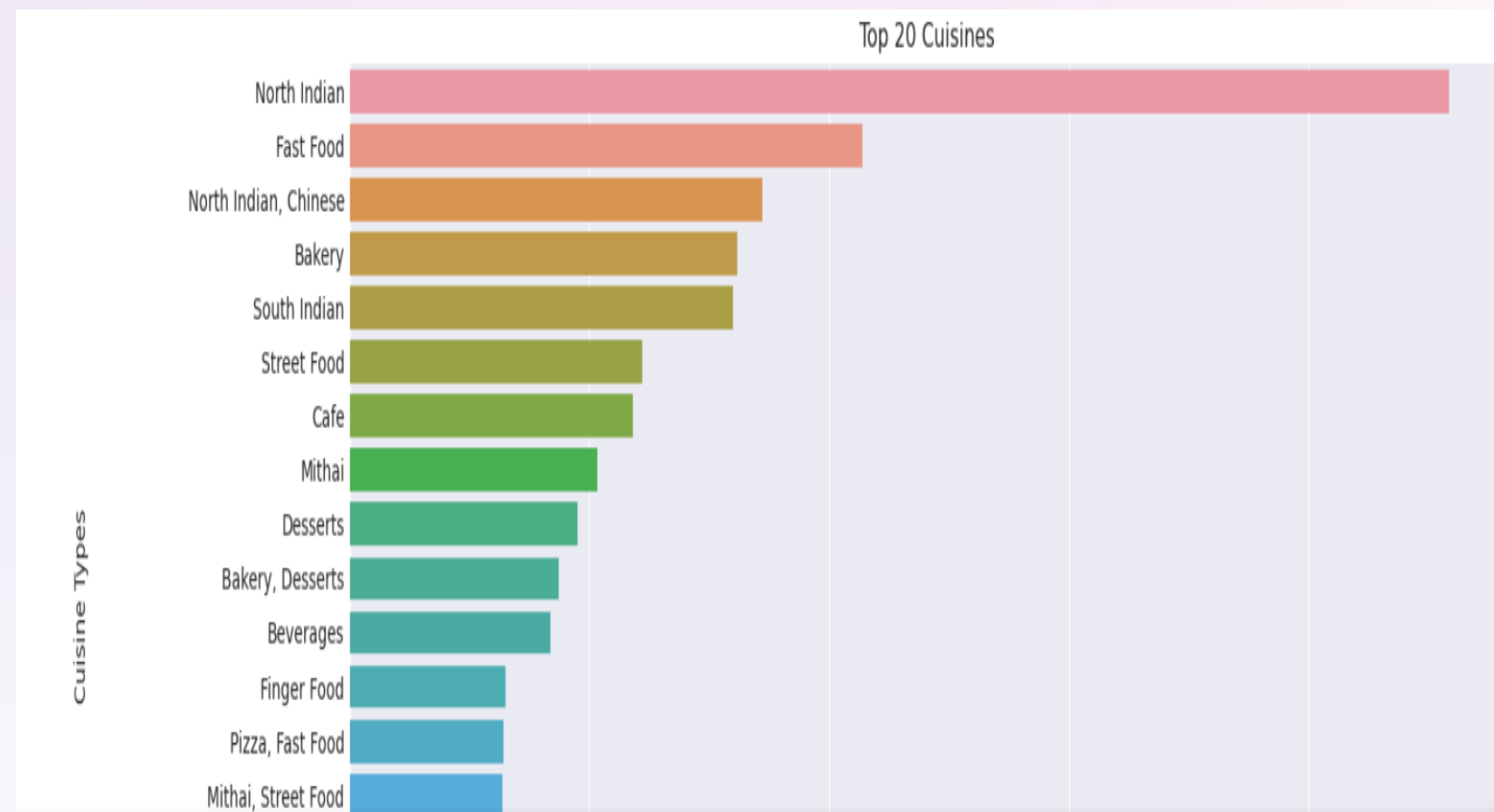


# Exploring the Restaurant Landscape

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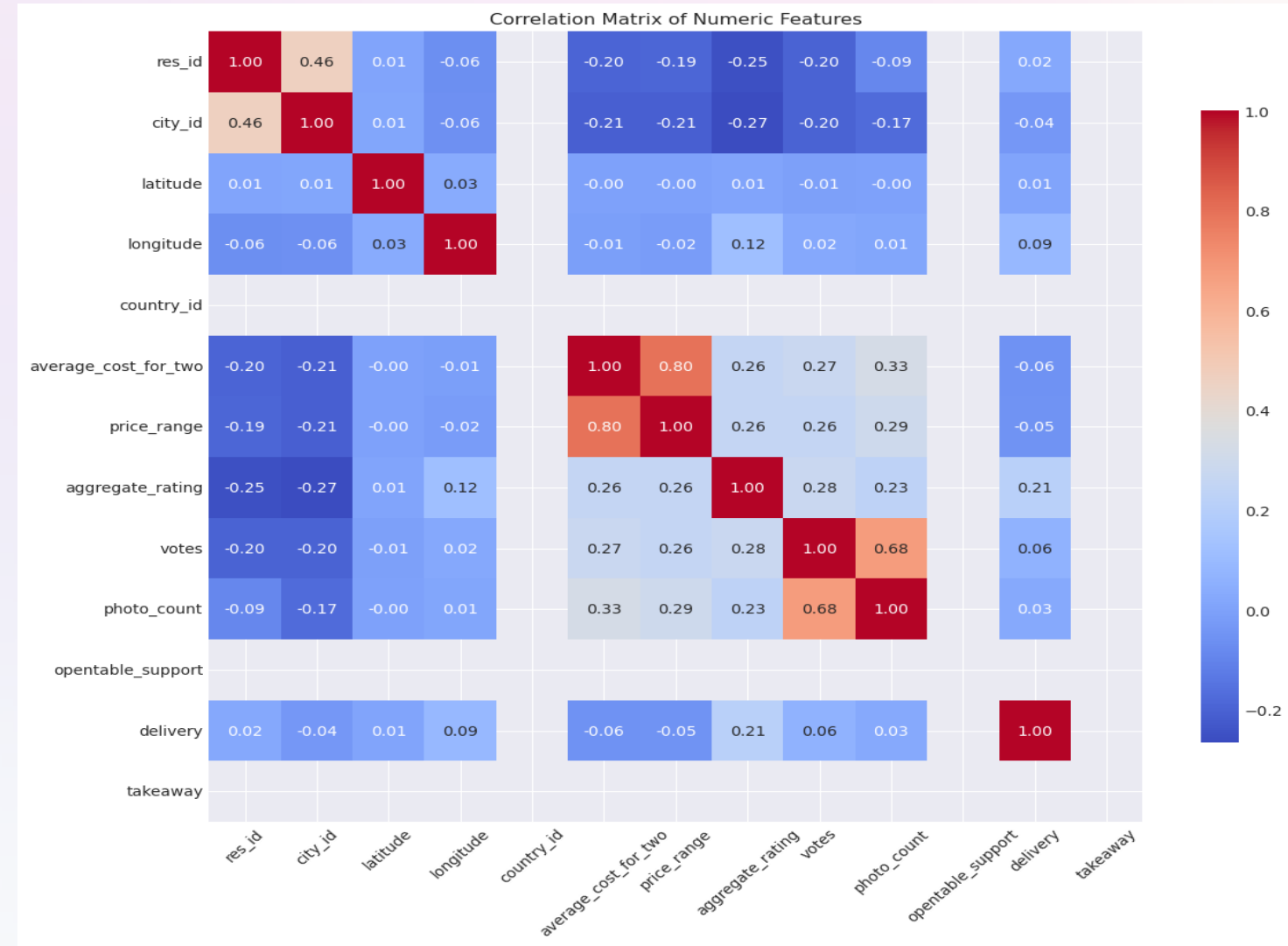
## Cuisine Diversity

The cuisine analysis revealed a high prevalence of North Indian and Chinese cuisines across most regions, with a noticeable scarcity of Mediterranean and African cuisines.



### 3 Price and Quality correlation

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# Regional Dining Preferences

## Metropolitan Cities

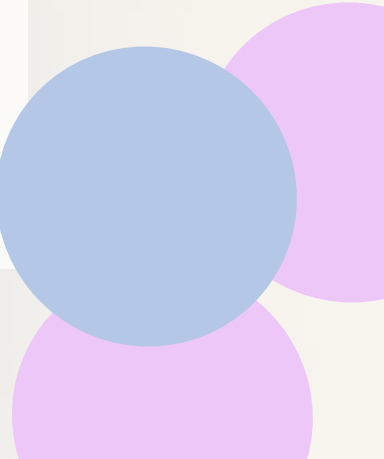
Metropolitan areas like Mumbai and Delhi displayed a diverse array of dining options including international cuisines, reflecting the cosmopolitan nature of these urban centers.

## Smaller Cities

Smaller cities showed a stronger preference for local cuisines, with a more limited presence of global culinary offerings. This suggests an opportunity to introduce new dining experiences in these markets.

## Coastal Regions

Cities like Goa showed a higher preference for seafood and Portuguese cuisines, aligning with the local cultural and historical influences in these coastal regions.





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# Understanding Customer Preferences



## North Indian Cuisine

North Indian cuisine was universally popular across the regions analyzed, reflecting a strong demand for this culinary style.



## Coastal Cuisines

Specific regional preferences, such as a higher demand for seafood and coastal cuisines in Chennai, were also observed.



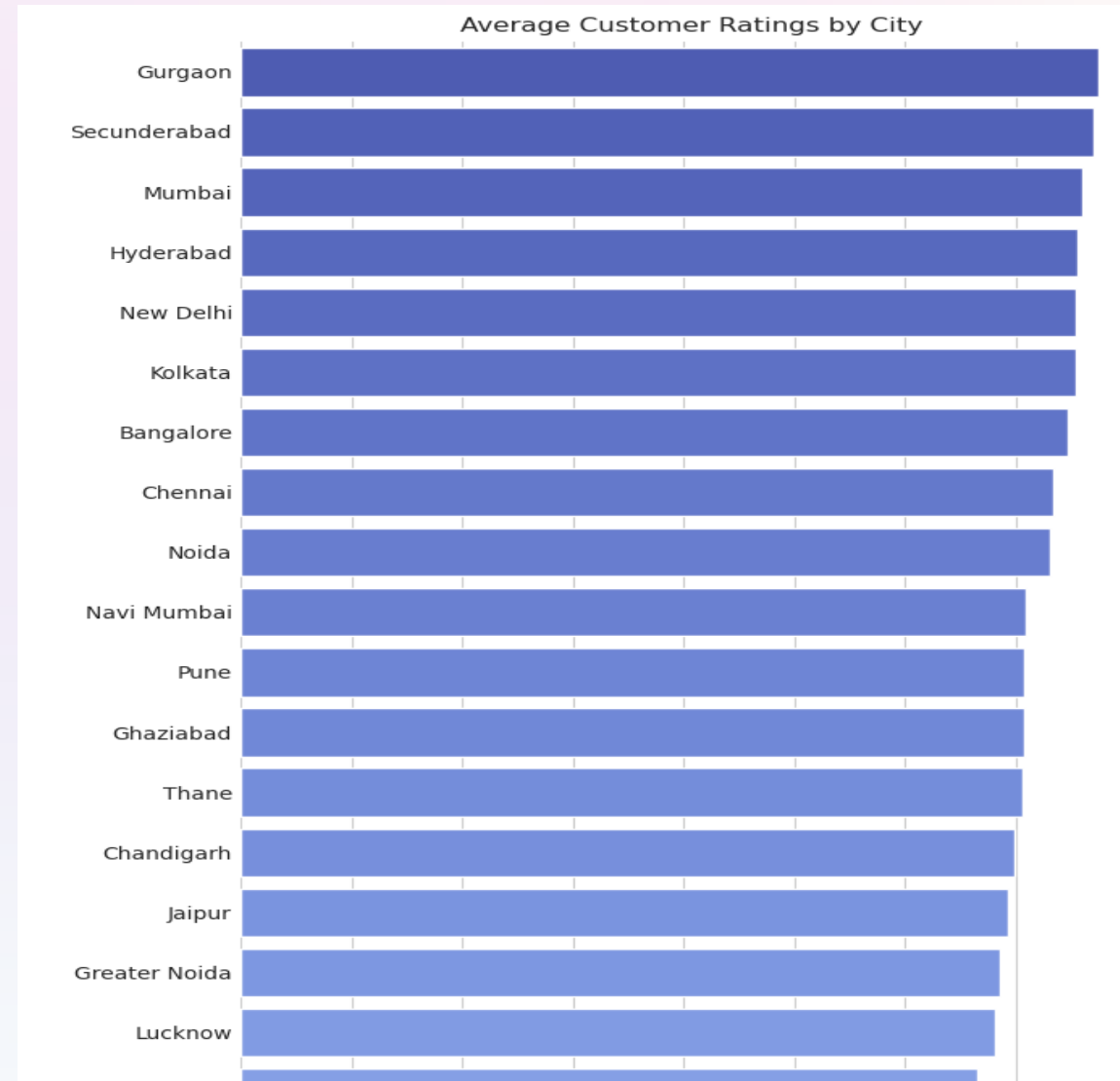
## Street Food Favorites

In Kolkata, there was a notable preference for local street food, highlighting the appeal of authentic and unique dining experiences.

# Understanding Customer Preferences

## Insights

This graph highlights the analysis of highly rated cities by the customers. Gurgaon is on the top followed by Secunderabada and Mumbai being on the third in the list.



# Competitive Landscape Analysis

## Market Leaders

My analysis identified the leading restaurants and chains that dominate in major cities with their superior service and diverse cuisine offerings. Understanding these market leaders' strengths is crucial for developing a competitive strategy.

## Filling Market Gaps

The market gap analysis revealed significant opportunities for introducing more international cuisines in urban centers and expanding mid-range dining options in smaller cities, where the current offerings may not fully meet customer demands.

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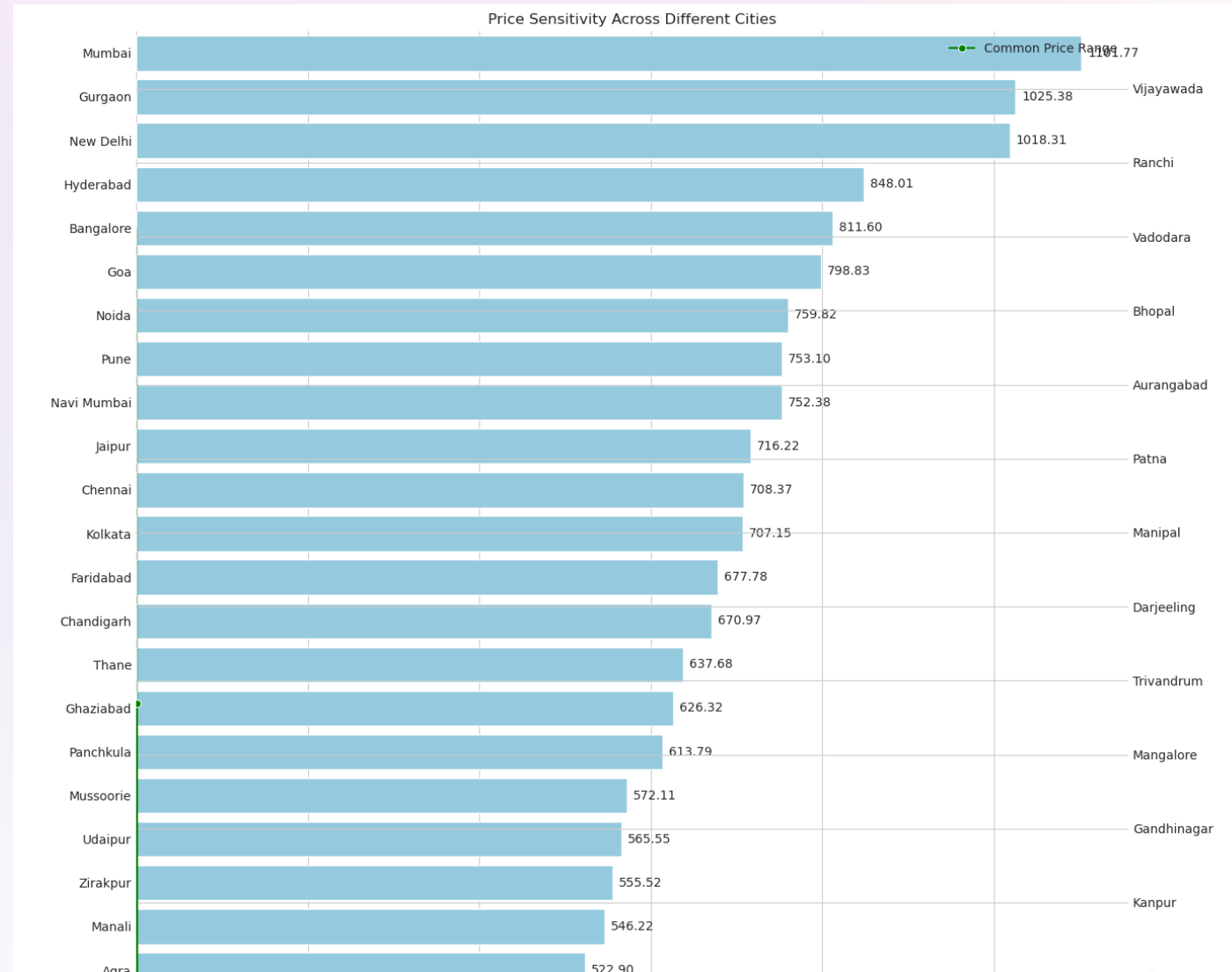
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## Strengths and Weaknesses

High-performing restaurants typically excelled in customer service and ambiance, whereas the common weaknesses included inconsistent food quality and higher price points. Identifying these industry trends can inform opportunities for improvement.

# Price sensitivity Analysis

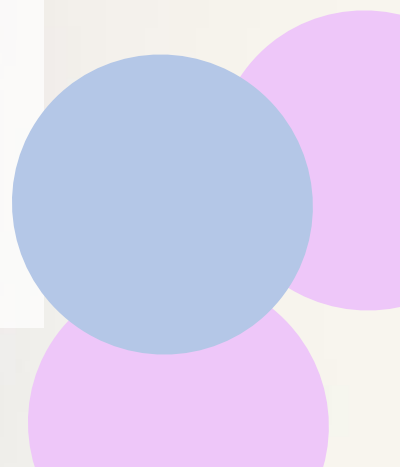
The following graph shows the visual representation of price sensitivity across various cities. Shown are the top most affected cities. The issue of price sensitivity is common in cities like Mumbai, Gurgaon, and Dehli.





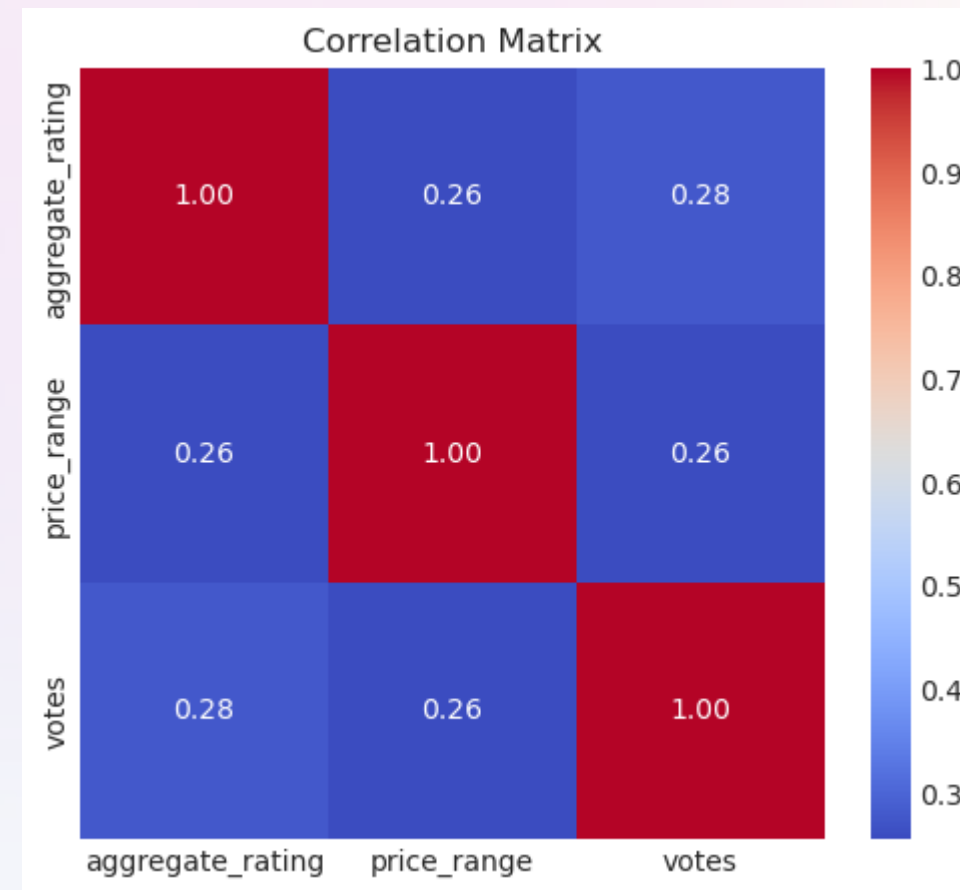
# Ratings and Popularity Insights

Metric	Insight
Ratings vs. Popularity	Restaurants with higher ratings generally had higher review counts, indicating that customer satisfaction significantly impacts popularity and brand reputation.
Pricing Strategies	While higher-priced restaurants were perceived as offering better quality, there was still a significant demand for mid-range dining options, suggesting an opportunity to optimize pricing strategies.
Cuisine Diversity	The prevalence of North Indian and Chinese cuisines across regions highlights the need for diversifying the culinary offerings to cater to evolving customer preferences.



# Correlation between ratings, price and popularity

The following graph shows the visual representation of the correlation matrix among different features of restaurants. It is evident that these components are not impacting each other.

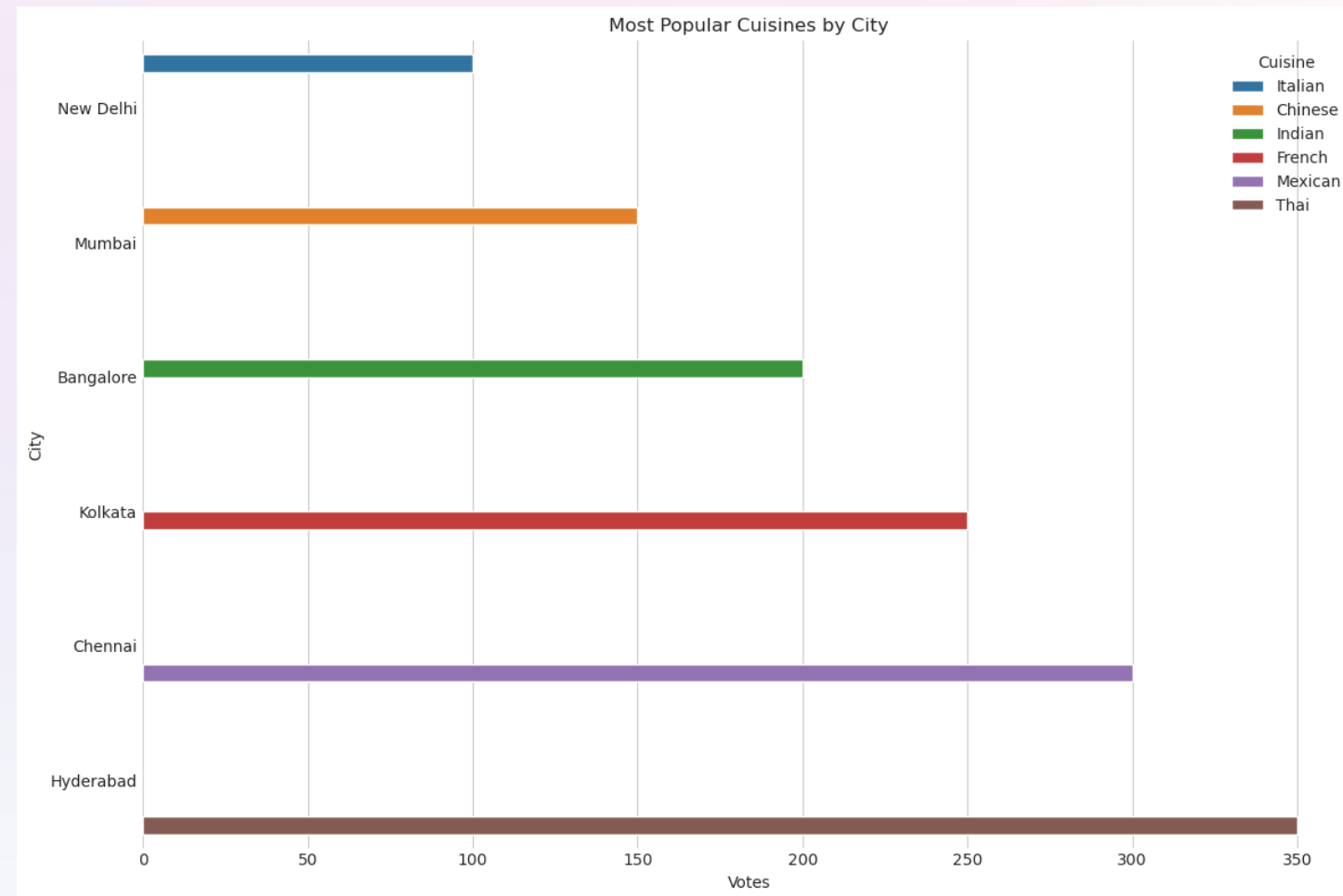


# Competitive Analysis

## Cusine

**Chennai:** Mexican cuisine has the highest number of votes, which is notable as this isn't commonly seen as a top cuisine in many Indian cities, indicating a unique market preference or perhaps the influence of a few particularly popular restaurants.

**Hyderabad:** Thai cuisine has received a substantial number of votes, suggesting a strong popularity which might be due to taste preferences, quality of offerings, or lack of competition.





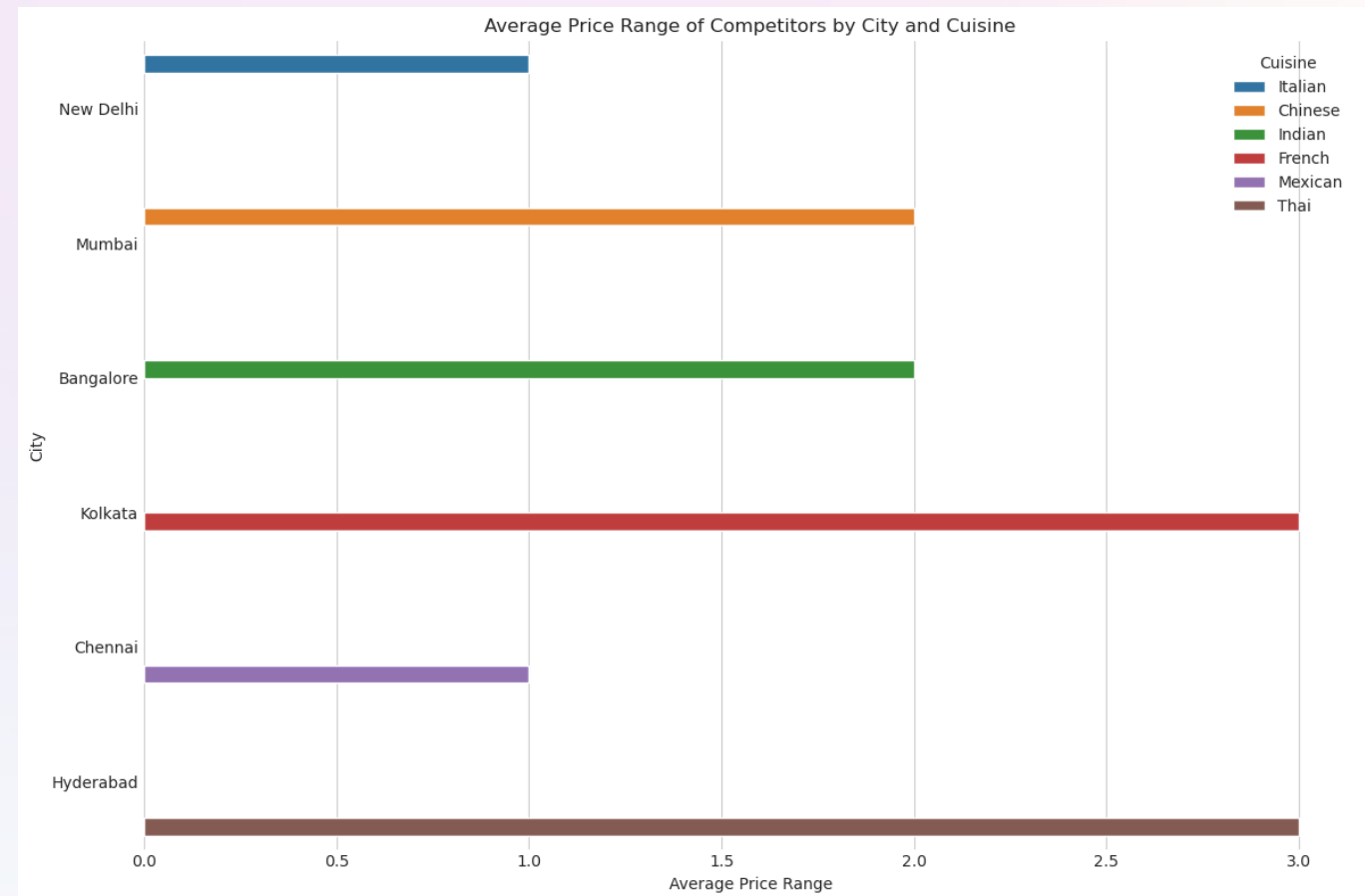
# Competitive Analysis

## Price Range

**Kolkata:** French cuisine has the widest average price range, which may suggest that French restaurants in Kolkata are positioned at a more premium price point.

**Hyderabad:** Displays a smaller average price range for Thai cuisine, potentially indicating a niche market with limited competition or focused affordability.

**Mumbai:** Has a wide range of price points for Italian cuisine, which may indicate a large variety of Italian dining options from budget to high-end.



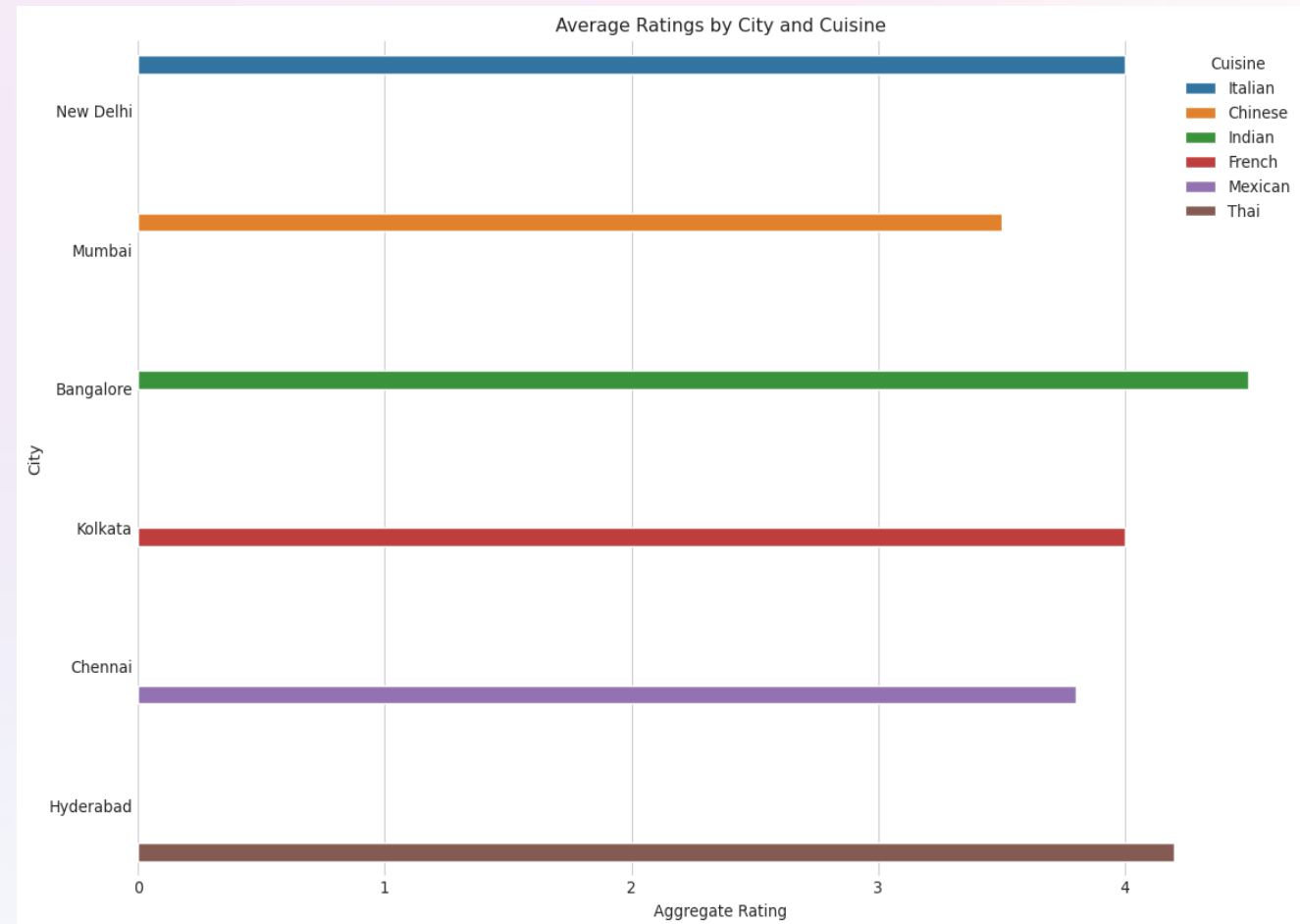
# Competitive Analysis

## Ratings

**Indian Cuisine:** Seems to be highly rated in Bangalore, which might indicate either a larger number of high-quality Indian restaurants or a preference for Indian cuisine among the city's diners.

**Italian Cuisine:** This shows a solid performance in New Delhi with ratings close to 4, suggesting a strong presence of quality Italian dining experiences there.

**Chinese Cuisine:** Also performs well in New Delhi, indicating a potential for this cuisine to be a popular choice among customers in the capital city.





# Recommendations for the Restaurant Chain

1

## Diversify Cuisine Offerings

Expand the menu to include a broader range of international and regional cuisines to appeal to the diverse customer base across India's metropolitan and smaller cities.

2

## Optimize Pricing Strategies

Carefully review pricing structures to ensure a balance between customer perceptions of quality and affordability, catering to the demand for mid-range dining options.

3

## Focus on Customer Experience

Emphasize enhancing the overall customer experience, with a focus on consistent food quality, attentive service, and appealing ambiance to drive positive reviews and brand loyalty.



# Conclusion

The in-depth exploratory data analysis has provided valuable insights into the competitive dynamics and customer preferences across India's diverse restaurant landscape. By leveraging these findings, the restaurant chain can develop a targeted marketing strategy that addresses the identified market gaps, enhances its brand image, and resonates with the evolving dining preferences of customers across different regions. This strategic approach will enable the chain to strengthen its market presence and effectively engage with its target audience, ultimately driving growth and success in the highly competitive Indian restaurant industry.

