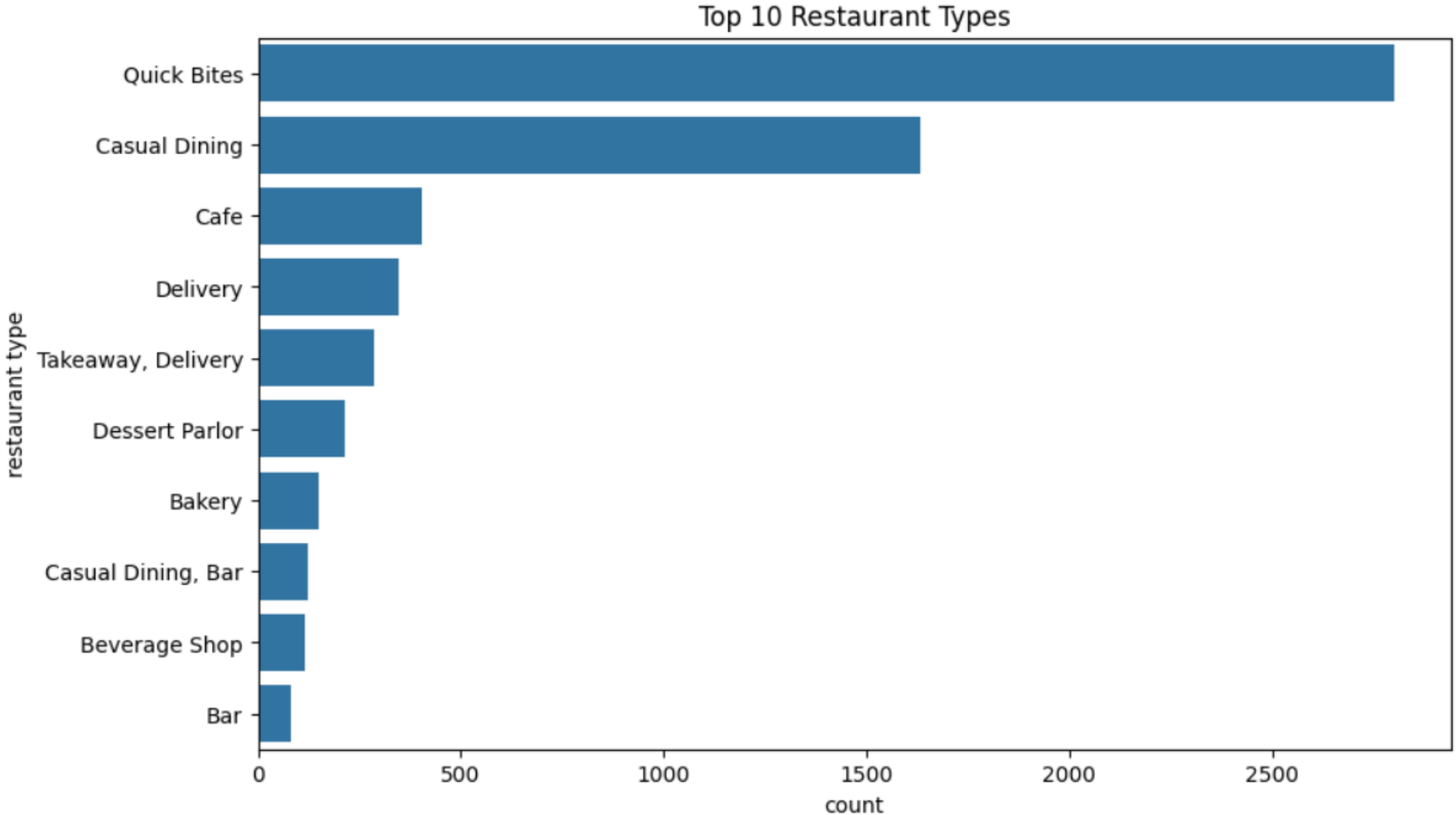
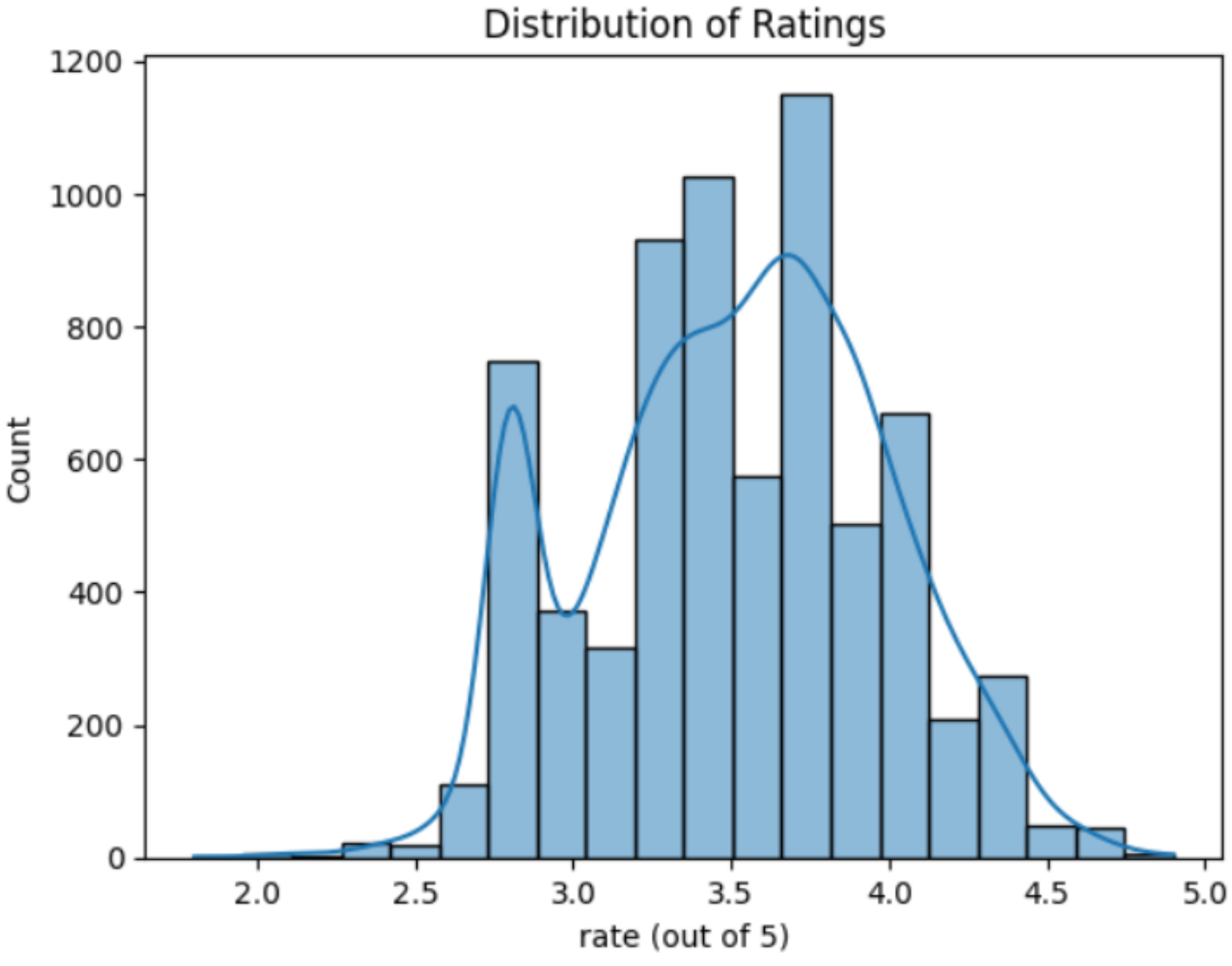


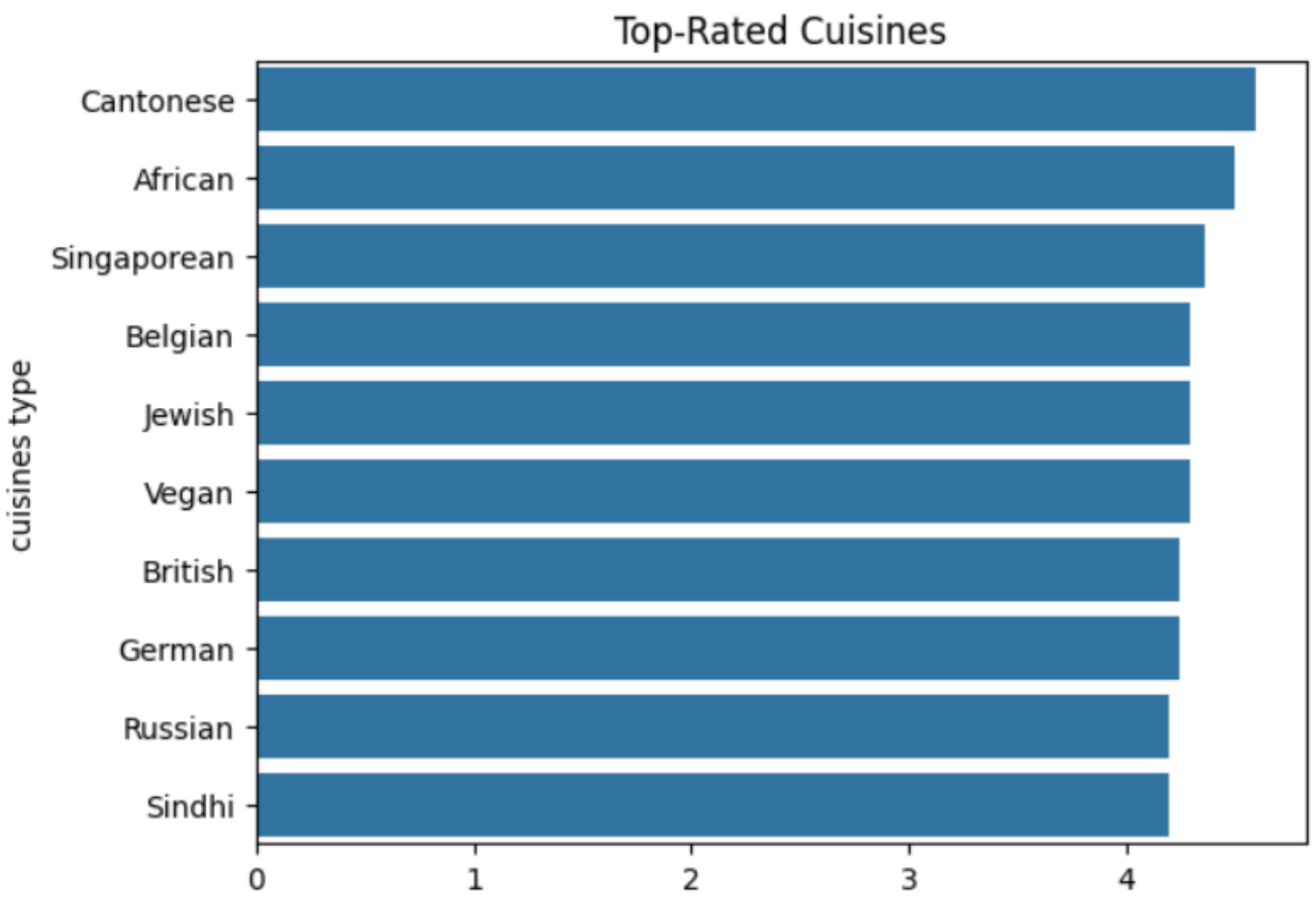
#Observation:Quick Bites and Casual Dining dominate the market.



#Observation: Most ratings are between 3.5 and 4.0, indicating generally positive experiences.

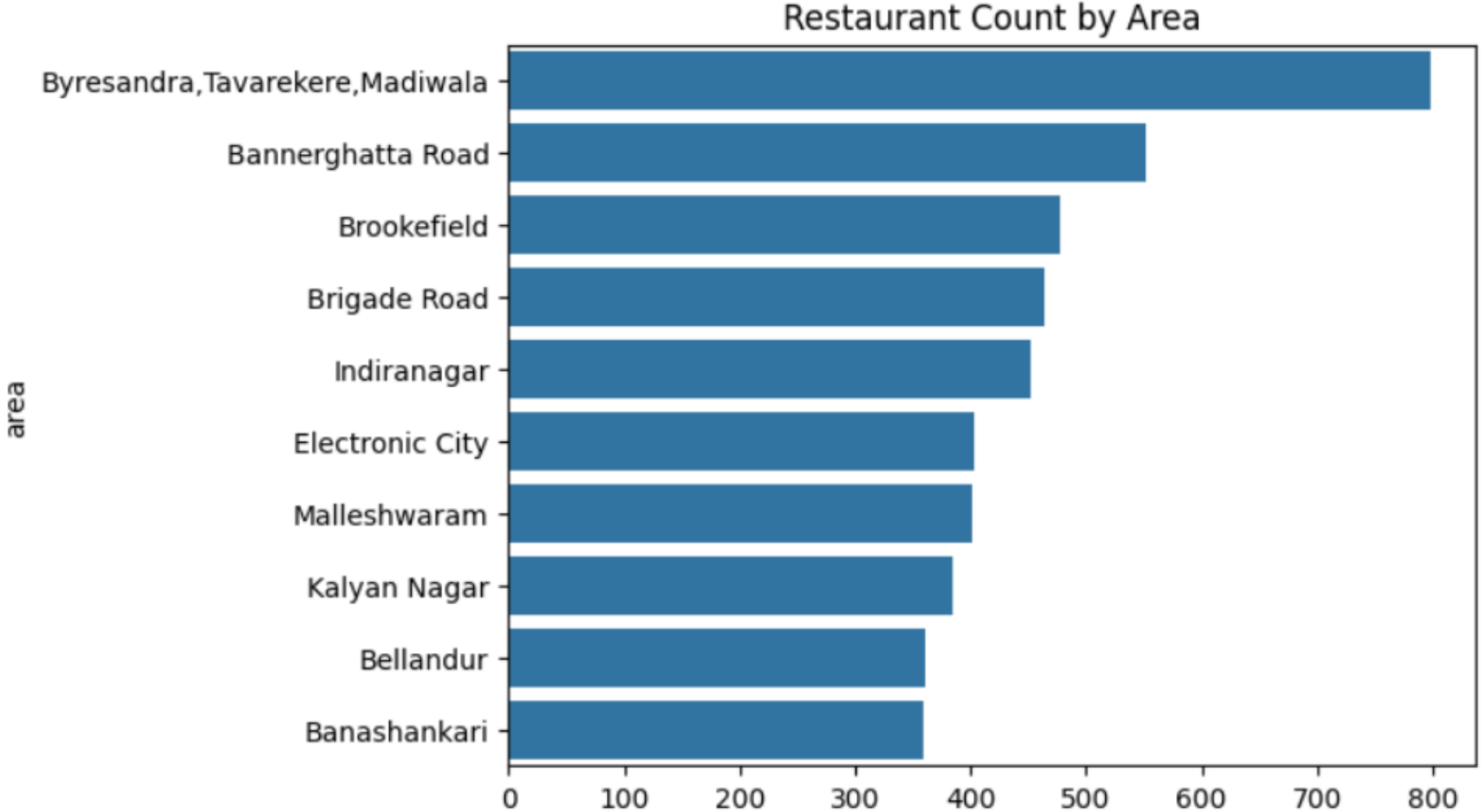
#Restaurants with online ordering availability tend to have slightly higher median ratings compared to those without. #Additionally, restaurants without online ordering show more low-rated outliers below 3.0.

Higher-rated restaurants (above 4.0) are spread across all cost ranges but are slightly denser in the ₹500–₹1500 range. Extremely high-cost restaurants (above ₹3000) are fewer and show mixed ratings, not always guaranteeing higher ratings.



"Cantonese cuisine tops the list as the highest-rated cuisine, showcasing its popularity and exceptional quality."

"The diversity in the top-rated cuisines, from African to Vegan, highlights a broad appreciation for global flavors among reviewers."



"Byresandra, Tavarekere, and Madiwala emerge as the area with the highest concentration of restaurants, indicating a thriving food hub."

"Popular neighborhoods like Brigade Road and Indiranagar also rank high, reflecting their status as key dining destinations in the city."

"Higher restaurant ratings (0.39 correlation) show a strong positive relationship with table booking availability, suggesting that establishments offering reservations tend to deliver better dining experiences."

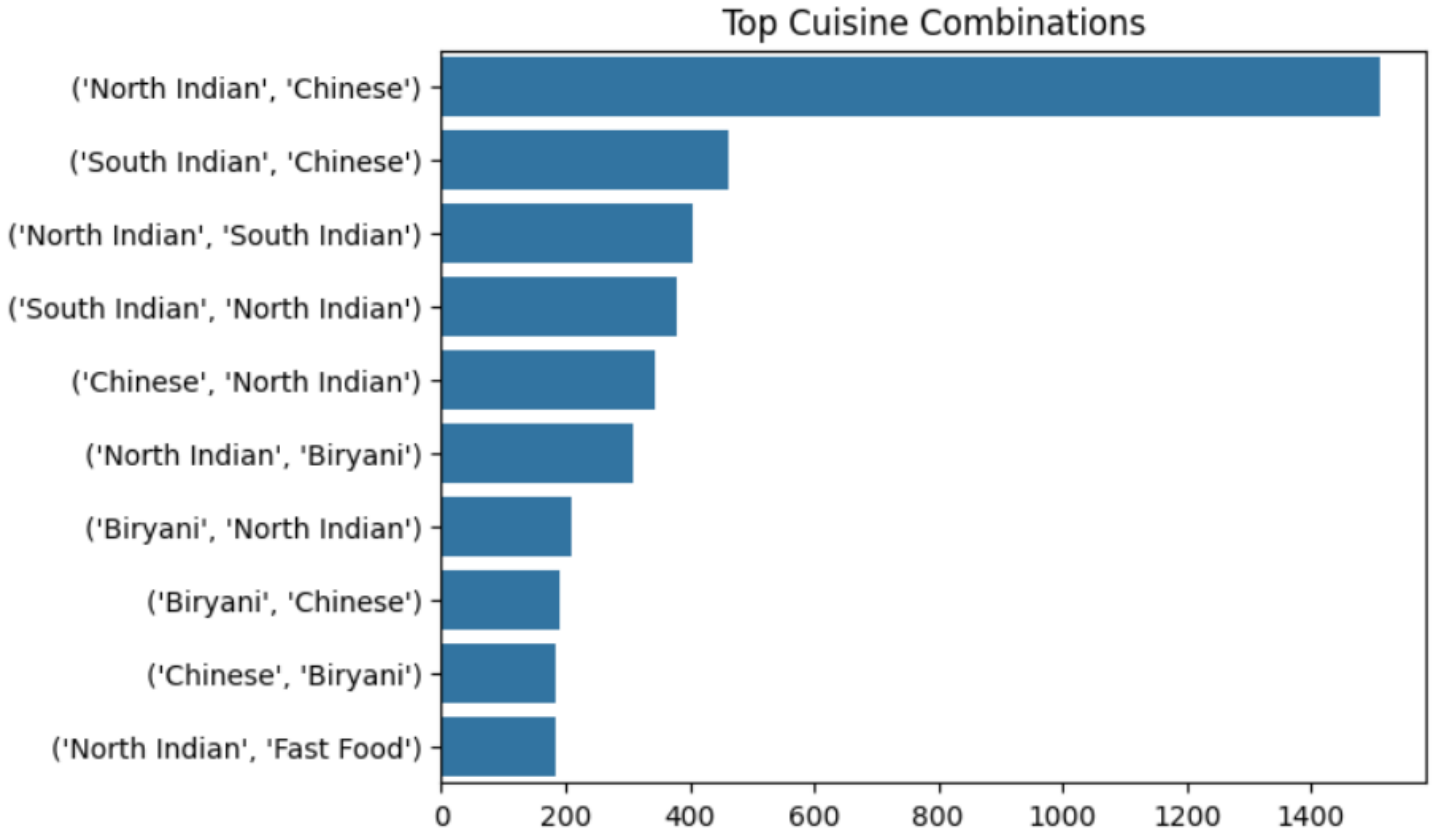
"The moderate correlation between cost and ratings (0.38) implies that customers associate higher prices with better quality, while the weak link to online orders (0.086) reveals that ordering method has little impact on perceived satisfaction."

	restaurant name	rating_per_100	\
5850	Srinidhi Sagar Food Line	9.250000	
5849	Srinidhi Sagar Deluxe	9.000000	
5303	Savera Cafe	7.200000	
4230	Nellore Dosa Camp	4.714286	
6024	Taaza Thindi	4.700000	
5779	Sri Laxmi Venkateshwara Coffee Bar	4.400000	
6556	The Sugar Fairy	4.300000	
5641	South Kitchen	4.300000	
1906	Dosa Cafe	4.250000	
5807	Sri Sairam's Chats and Juice	4.200000	

	area
5850	Brigade Road
5849	Koramangala 4th Block
5303	Lavelle Road
4230	Byresandra,Tavarekere,Madiwala
6024	Banashankari
5779	Banashankari
6556	Frazer Town
5641	Banashankari
1906	Rajajinagar
5807	Malleshwaram

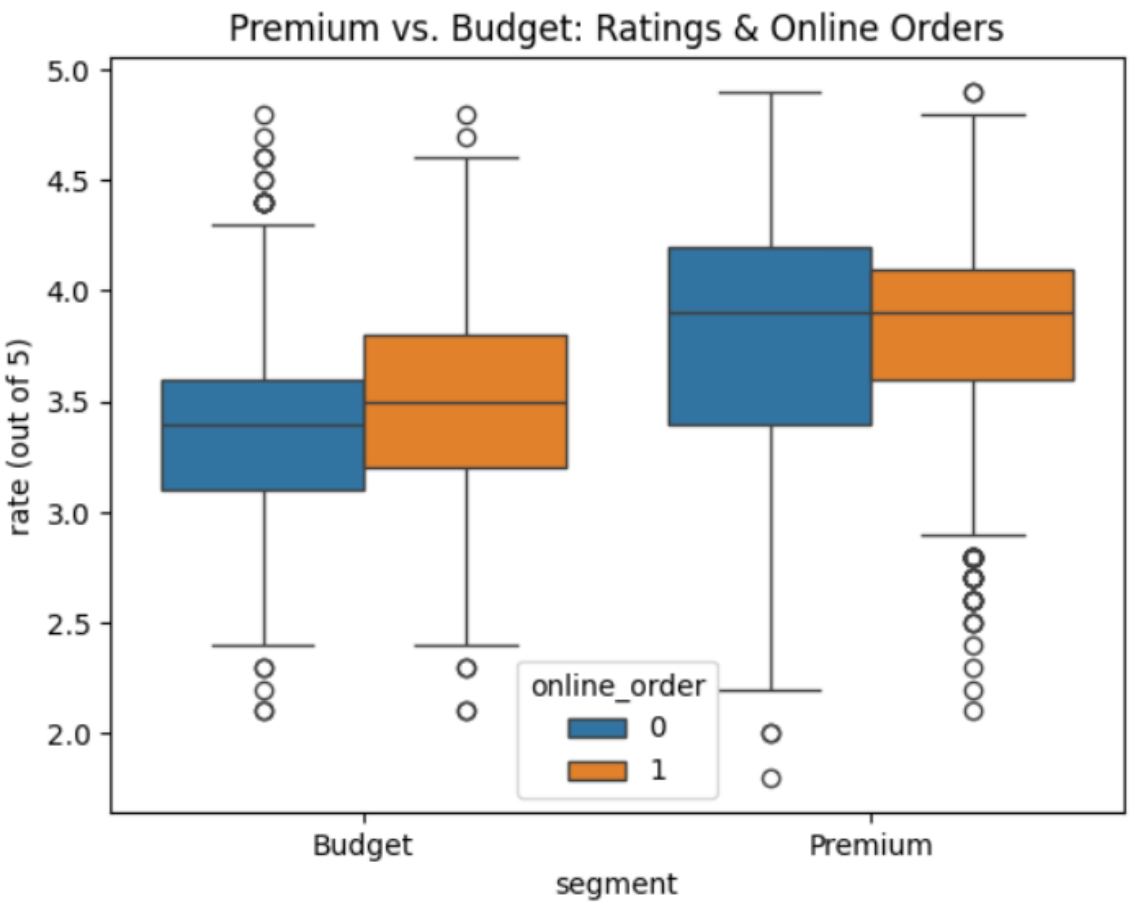
"Srinidhi Sagar Food Line and Deluxe offer exceptional value, delivering the highest rating-per-100-rupees ratio, making them standout budget-friendly dining options."

"Banashankari emerges as a hotspot for value-for-money eateries, with three restaurants in the top 10 list, catering to cost-conscious diners without compromising quality."



OBSERVATION "North Indian-Chinese fusion dominates as the most popular cuisine pairing, reflecting India's love for this classic cross-cultural flavor combination."

"The frequent appearance of Biryani in top combinations highlights its versatility as both a standalone dish and a complementary element in multi-cuisine dining experiences."



"Premium restaurants maintain higher ratings than budget options regardless of online order availability, confirming that perceived quality justifies higher prices."

"The wider rating gap between online/non-online budget restaurants suggests digital ordering creates disproportionately greater value for affordable dining experiences."

```
# Create a pivot table for area vs. online orders
area_online = pd.pivot_table(df, index='area', columns='online_order', values='restaurant name', aggfunc='count').fillna(0)
area_online['online_order_ratio'] = area_online[1] / (area_online[0] + area_online[1])

# Top areas with low online adoption
low_online_areas = area_online[area_online['online_order_ratio'] < 0.5].index.tolist()[:5]
print("Areas needing online push:", low_online_areas)
```

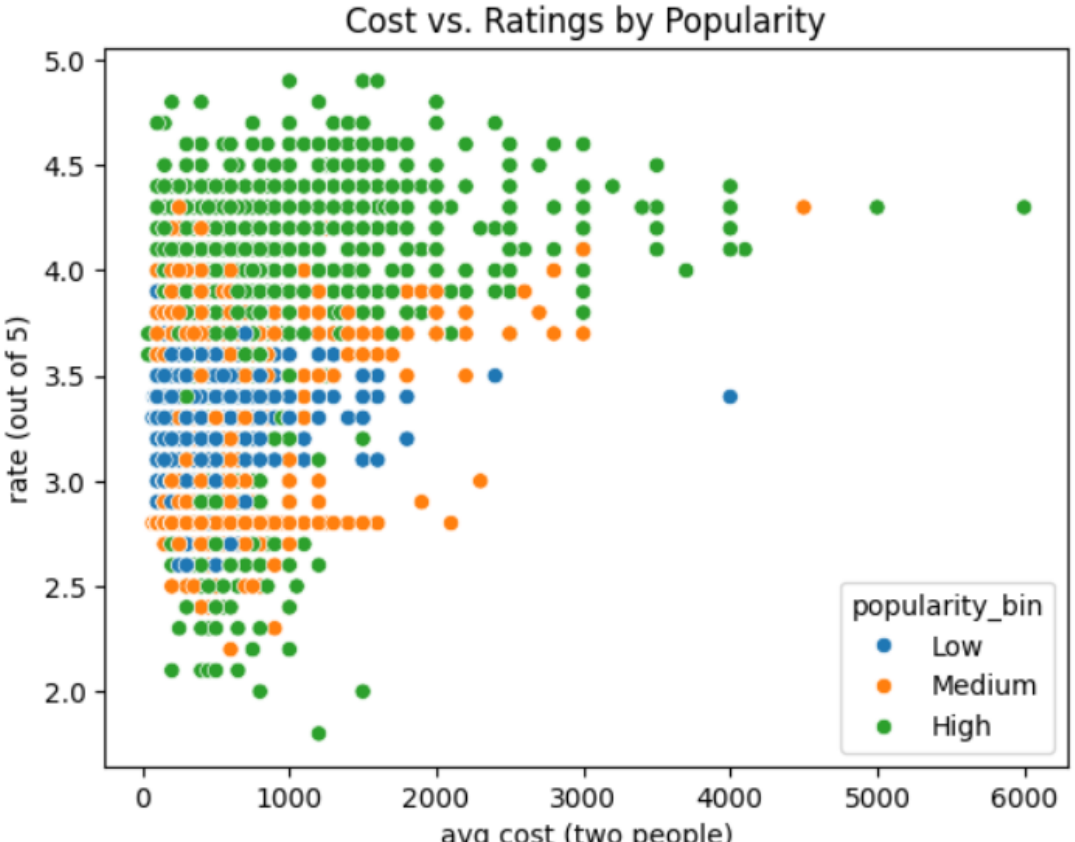
```
Areas needing online push: ['Basavanagudi', 'Brigade Road', 'Church Street', 'Electronic City', 'HSR']
```

"Traditional food hubs like Basavanagudi and Brigade Road show surprisingly low online order adoption (<50%), revealing untapped potential for digital expansion in these established dining areas."

"The presence of tech-centric zones like Electronic City and HSR in low-adoption areas suggests a mismatch between technological infrastructure and restaurant digitalization efforts."

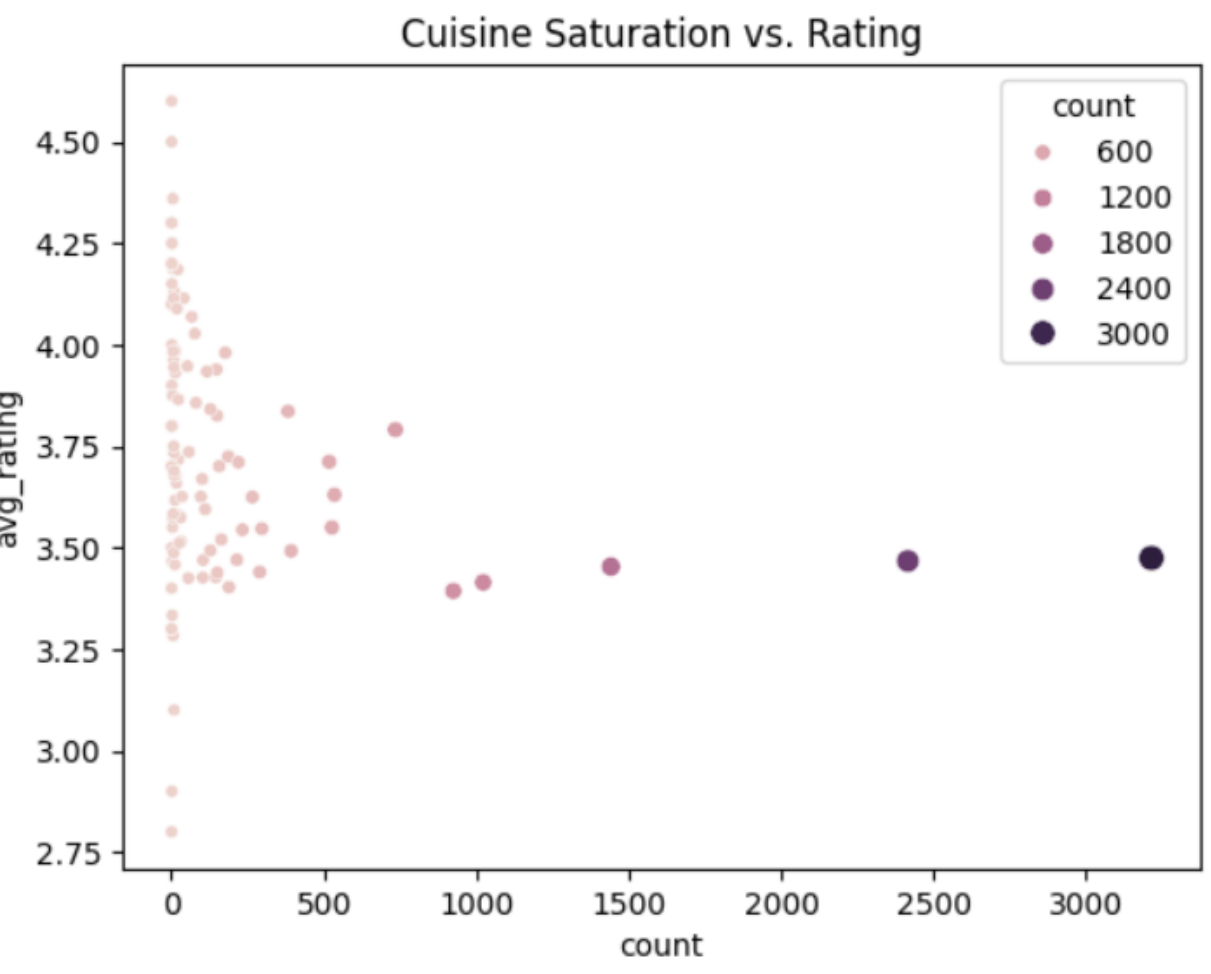
"Restaurants offering both online orders and table booking (True) show visibly higher average ratings than those without both services, highlighting the cumulative benefit of convenience features."

"The clear performance gap suggests customers increasingly expect and reward restaurants that provide multiple service options, making this a key competitive differentiator."



"High-popularity restaurants maintain strong ratings (4.0+) across all price points, proving that customer volume doesn't compromise perceived quality when properly managed."

"The steepest rating decline occurs in low-popularity establishments as prices exceed ₹3000, suggesting unknown restaurants face tougher scrutiny at higher price levels."



The inverse relationship between cuisine saturation and ratings suggests that as a cuisine type becomes more common (higher count), its average rating tends to decrea lightly, indicating potential quality dilution in oversaturated markets."

The most highly-rated cuisines (4.0-4.5) appear in the mid-range of saturation (500-1500 count), suggesting an optimal balance between availability and quality naintenance."

```
]: from scipy.stats import ttest_ind

# Test if online orders have significantly higher ratings
online = df[df['online_order'] == 1]['rate (out of 5)']
offline = df[df['online_order'] == 0]['rate (out of 5)']
t_stat, p_value = ttest_ind(online, offline)
print(f"p-value: {p_value:.4f}")  # If p < 0.05, difference is significant
```

```
p-value: 0.0000
```

"The extremely low p-value (≈0.0000) confirms that restaurants offering online orders receive statistically higher ratings than those without this service."

"This significant finding suggests that digital ordering capability correlates with better customer satisfaction, possibly due to convenience or operational efficiency."

Competitor Benchmarking/

[48]:
```
# Compare chains vs. independent restaurants
chains = df['restaurant name'].value_counts()[df['restaurant name'].value_counts() > 3].index.tolist()
df['is_chain'] = df['restaurant name'].isin(chains)

# Compare ratings and costs
print(df.groupby('is_chain')[['rate (out of 5)', 'avg cost (two people)']].mean())
```

```
          rate (out of 5)  avg cost (two people)
is_chain
False            3.514253             542.270001
```

"Independent restaurants (non-chains) maintain a competitive 3.51 average rating, proving standalone eateries can match chain establishments in quality."

"With an average meal cost of ₹542 for two, independent restaurants offer mid-range pricing, suggesting they strike a balance between affordability and quality in the dining market."

Text Analysis on Restaurant Names

[49]:

```
from wordcloud import WordCloud

# Generate word cloud for high-rated restaurants (4.5+)
high_rated_names = ' '.join(df[df['rate (out of 5)'] >= 4.5]['restaurant name'])
wordcloud = WordCloud(width=800, height=400).generate(high_rated_names)
plt.imshow(wordcloud)
plt.axis('off')
```

[49]: (-0.5, 799.5, 399.5, -0.5)

"Words like 'Bakehouse,' 'Barbeque,' and 'Asian' dominate high-rated restaurant names, suggesting customers associate these culinary themes with quality dining experiences."

"The prominence of unique, evocative terms like 'Chocolate Stories' and 'Communist Grand' in top-rated establishments highlights how creative branding can contribute to restaurant success."