

# Data Analysis Report

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**GitHub Repository: -**

[https://github.com/mmanuherts/231227](https://github.com/mmanuherts/23122728)

[28 Manuwardhan madala.git](#)

**Report: - Swiggy data analysis**

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## INTRODUCTION

we focused on cleaning and organizing data from Swiggy, an online food delivery app in India. The goal was to make the dataset more accurate, understandable, and useful for analysis. By checking for errors, standardizing information, and removing inconsistencies, we created a clean dataset that can help us understand customer preferences, popular cuisines, and trends in delivery and pricing. This process ensures that the insights drawn from the data are reliable, helping Swiggy make informed decisions to improve customer satisfaction and optimize their offerings.

## Swiggy Data Cleaning Process Report

Cleaned the data from Swiggy so that we could make good decisions about restaurants. Let's go step-by-step and explain each part in a way that even an 8-year-old can understand!

### 1. Checking Ratings (Step 1)

- We made sure that the ratings were all between 1 and 5 stars. If any restaurant had a rating that wasn't between 1 and 5, we removed it.
- Ratings should always be between 1 and 5 stars, like when you give your favourite toy a score from 1 to 5. If a score wasn't in that range, it meant something went wrong, so we needed to get rid of it.

### 2. Making Short Names for Cities and Areas (Step 2)

- We made short, three-letter names for cities and areas. For example, "Bangalore" became "BAN" and "Mumbai" became "MUM".
- Long names can make it harder to understand things quickly, like

when you have a long name for your pet and it's hard to say it all the time. Short names make it easier to read and work with the data.

### 3. Breaking Down Food Types (Step 3)

- We took the list of food types of each restaurant served and broke them into separate pieces. If a restaurant served Chinese, Fast Food, and Desserts, we split those into three different rows.
- Imagine you have a plate with different candies on it, and you want to count how many of each candy you have. It's easier to count if each type of candy is put in a separate group. Splitting food types helps us understand which foods are popular and easier to count.

### 4. Finding Delivery Time Outliers (Step 4)

- We looked at how long it took to deliver food from each restaurant and checked if there were any times that were too different from the rest—either way too fast or way too slow. If the delivery time looked very strange, we removed it.
- Imagine all your friends run a race and finish in similar times, but one friend says they finished in one second or one day—those times sound a little weird, right? Delivery times that are too different might not be true, so we removed them to get a better idea of how long deliveries usually take.

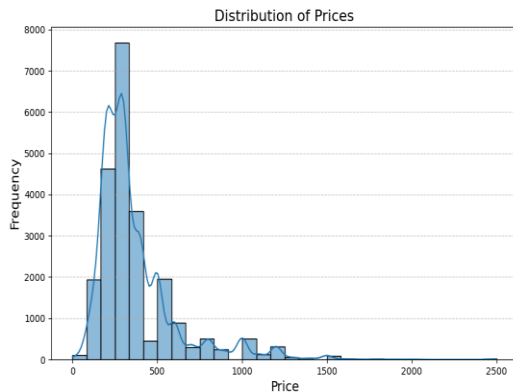
### 5. Saving the Cleaned Data

- Finally, after all the cleaning, we saved the new, cleaned-up data in a new file.
- After you clean your room, you don't want to mess it up again, right? So, we saved the clean data to make sure we could use it again without needing to clean it all over again.

# Data Analysis Report

## Swiggy Data Analysis Report

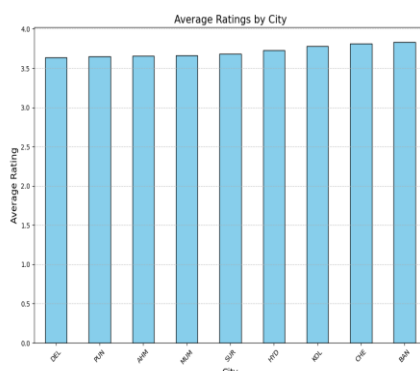
### 1. Price Distribution (Histogram)



**Observation:** Most restaurant prices fall below 500, with a noticeable drop-off in frequency as prices rise. This suggests that many restaurants aim to keep their prices low to attract a wide customer base. Fewer restaurants have premium pricing, indicating that high pricing isn't the main focus for the majority of Swiggy's partners.

**Analysis:** This distribution shows that Swiggy's restaurants mostly offer affordable meals, which likely appeals to a broad demographic, including students, young professionals, and families. However, Swiggy also provides higher-end dining options to serve customers seeking premium experiences. This balance allows Swiggy to attract both budget-conscious users and those willing to pay more for premium meals.

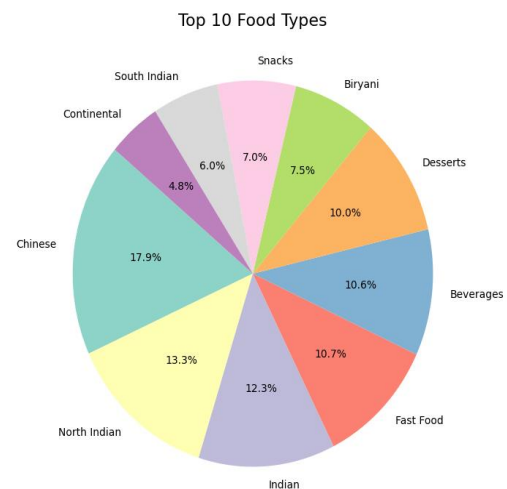
### 2. Average Ratings by City (Bar Chart)



**Observation:** The average ratings across cities are very consistent, with each city showing an average rating close to 4.0. This suggests that Swiggy has maintained a standard quality of service regardless of geographic location.

**Analysis:** Consistent ratings across cities imply a uniform customer satisfaction level, indicating strong quality control. Swiggy's ability to maintain high ratings in various locations suggests that they effectively partner with reliable restaurants to provide a good experience everywhere. This consistency can be leveraged in marketing campaigns to highlight the reliable quality of Swiggy's services across cities, helping to build customer trust and loyalty.

### 3. Top 10 Food Types (Pie Chart)



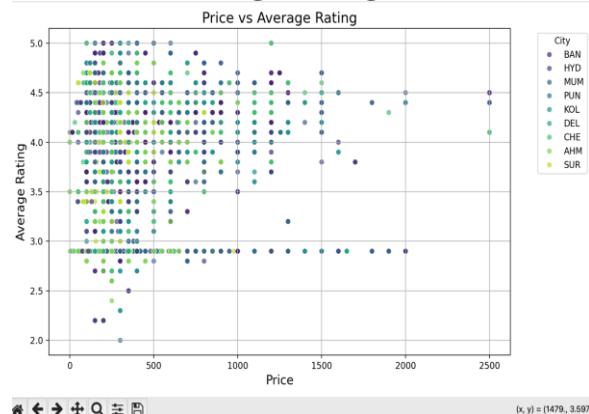
**Observation:** The most popular food types are Chinese (17.9%), North Indian (13.3%), and Indian (12.3%). Other popular categories include Fast Food, Desserts, and Beverages.

**Analysis:** The popularity of Chinese and North Indian cuisines suggests that Swiggy should continue focusing on these options to appeal to customer preferences. Swiggy could expand partnerships with more restaurants specializing in these cuisines.

# Data Analysis Report

and promote special deals or discounts on these popular categories. The popularity of Fast Food, Desserts, and Beverages also presents an opportunity to offer combo deals or meal bundles to boost average order value. Targeted marketing campaigns emphasizing popular food types could further increase customer engagement.

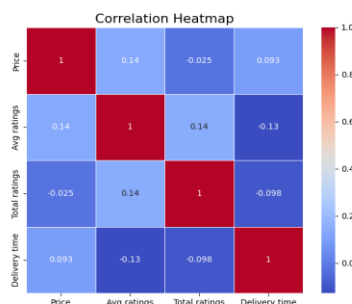
## 4. Prices vs Average Rating (Scatter Plot)



**Observation:** There is no distinct relationship between price and average rating. Both low- and high-priced restaurants receive high ratings, indicating that price does not heavily influence customer satisfaction.

**Analysis:** Customer satisfaction appears to be more influenced by factors such as food quality, delivery speed, and packaging rather than price. This suggests that customers value the overall experience over cost. Swiggy should encourage restaurants to focus on improving service quality rather than solely competing on price. Promoting customer reviews that highlight good experiences, regardless of price, can help demonstrate that both affordable and premium restaurants provide value.

## 5. Correlation Heatmap



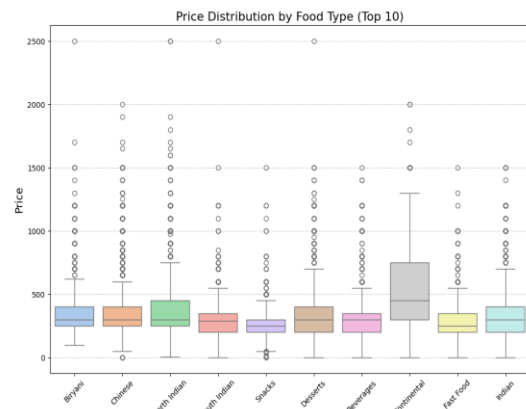
**Observation:** The correlation matrix shows:

A mild positive correlation between Price and Average ratings (0.14), suggesting that higher-priced restaurants tend to receive slightly better ratings.

Weak correlations among other metrics, implying no significant relationships between factors like Total ratings, Delivery time, and others.

**Analysis:** The slight positive correlation between price and ratings suggests that customers may be willing to pay more for a better experience, but the impact is not substantial. The weak correlations across other metrics indicate that quality and experience are more important for customer satisfaction than price, delivery speed, or total ratings. Swiggy can use these insights to emphasize quality across all price segments, ensuring both premium and budget-friendly options maintain high standards.

## 6. Price Distribution by Food Type (Box Plot)



**Observation:** Among the top 10 food types, Continental food has the highest median price and a wider price range, while Fast Food and Snacks are among the lowest-priced. The variability in prices for Continental cuisine suggests a range of restaurant types and pricing strategies.

**Analysis:** The higher pricing for Continental food is likely due to the use of

premium ingredients and specialized preparation, whereas Fast Food and Snacks are typically more cost-effective to prepare. Swiggy could use this information to create pricing strategies targeted at different customer segments. For example, promoting affordable options for budget-conscious customers and highlighting premium Continental dishes for customers seeking upscale experiences could help maximize engagement. Understanding these pricing dynamics also helps in designing effective promotions for different types of users.

## 7. Delivery Time vs. Average Rating (Scatter Plot)



**Observation:** Ratings between 3.0 and 5.0 are spread across a broad range of delivery times, indicating that delivery time does not significantly affect ratings. Both shorter and longer delivery times receive similar ratings.

**Analysis:** This suggests that delivery time alone is not a key driver of customer satisfaction. Customers seem to care more about the quality of the food, its temperature, and overall service. Maintaining consistency in delivery time seems sufficient, as reducing delivery times further may not directly increase customer ratings. Instead, Swiggy should focus on enhancing other aspects of service, such as ensuring accurate orders, maintaining food quality, and providing excellent customer support, to improve satisfaction.

## Summary: -

**Customer Satisfaction:** Consistent high ratings across cities indicate that Swiggy has successfully maintained service quality, ensuring that customers receive a reliable experience regardless of their location.

**Popular Cuisines:** Chinese and North Indian cuisines are the most popular, which should guide Swiggy's restaurant recommendations and marketing efforts. Expanding offerings in these categories could help meet customer demand and drive more frequent orders.

**Pricing Insights:** Continental cuisine tends to be more expensive, while Fast Food and Snacks are lower-priced. Swiggy can leverage this by offering targeted promotions to both budget-conscious and premium-seeking customers, appealing to diverse segments.

## Conclusion: -

This analysis provides valuable insights into customer preferences, pricing strategies, and potential areas for improvement. By understanding customer behaviour, Swiggy can continue optimizing its services to balance affordability with quality, meeting the diverse needs of its customer base. These insights can also guide future marketing strategies to better serve customers and enhance their overall experience.