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# Food View : Visualizing insights from Zomato, Swiggy and market trends

Ritwika Das Gupta (2348049)
Soham Chatterjee (2348062)
Swarnashish Banerjee (2348066)
Sayantan Ray (2348057)

Department of Statistics and Data Science
CHRIST (Deemed to be University)
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**Abstract**

The data used in this project is from two of the biggest food delivery platforms across India: Zomato and Swiggy. It focuses on the Bangalore market and elaborates on various aspects of the food delivery ecosystem concerning the restaurant distribution, rating, pricing strategies, and cuisine preference. It further incorporates data visualization techniques in order to present insights on market dynamics and consumer behavior. It includes the comparative study of both platforms, therefore, underlining their distinctive features and market approaches. In addition, the sentiment analysis is conducted with respect to customer reviews to get an overview of the level of satisfaction as a whole. Finally, for Zomato, the study goes ahead and elaborates on its stock performance from when it listed in 2021 for context on market perception and performance of the business. This study is focused on Bangalore; however, the methodology and insights developed in this study could be applied to a wider market analysis in the Indian food delivery sector.

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## 1 Introduction

In this analysis, we aim to provide a evaluation of restaurant data from two major food delivery platforms: Swiggy and Zomato. The analysis is segmented into three primary parts:

- **Individual Dataset Analysis:** Each dataset from Swiggy and Zomato will be analyzed separately to understand the key characteristics, such as restaurant categories, customer ratings, cost, and location. This section will highlight the distinct features and trends within each platform.

- **Stock Analysis:** An analysis will be conducted on the stock data of these platforms to understand market performance and trends over time. This will include visualizations and comparative insights into how the stock values fluctuate in relation to the restaurant data.

- **Comparative Analysis:** The datasets from Swiggy and Zomato will be compared to identify similarities, differences, and unique offerings of each platform. This comparative analysis will provide insights into customer preferences and platform strengths.

- **Sentiment Analysis:** A sentiment analysis of customer reviews will be conducted to categorize and quantify the frequency of positive, negative, and neutral sentiments. This analysis will provide a deeper understanding of customer satisfaction and areas of improvement for the restaurants listed on these platforms.

Through this multi-faceted approach, the analysis aims to provide significant insights into the restaurant industry's dynamics as reflected on Swiggy and Zomato, helping stakeholders make informed decisions based on data-driven evidence.

## 2 Objectives

The primary objectives of this analysis are as follows:

1. **Individual Dataset Analysis:** To analyze each dataset from Swiggy and Zomato individually, identifying key characteristics such as restaurant categories, customer ratings, cost for two, and geographic distribution. This objective aims to uncover patterns and trends specific to each platform.

2. **Stock Analysis:** To perform a stock analysis of Swiggy and Zomato, examining market trends and performance over time. The objective is to correlate stock movements with restaurant data to gain insights into market dynamics.

3. **Comparative Analysis:** To conduct a comparative analysis between Swiggy and Zomato, identifying similarities, differences, and unique selling points of each platform. This comparison will provide a understanding of how each platform caters to customer preferences.

4. **Sentiment Analysis:** To perform a sentiment analysis on customer reviews, categorizing

them into positive, negative, and neutral sentiments. The objective is to determine the frequency of each sentiment type, providing insights into customer satisfaction and potential areas for improvement.

## 3 Swiggy Data Description

The dataset used in this analysis contains information about various restaurants listed on Swiggy. Below is a description of each attribute in the dataset:

| Restaurant Name | Category | Rating | Cost for Two (in Rupees) | Area |
|---|---|---|---|---|
| THE GRILL & CO. | Indian, Tandoor, Biryani | 3.8 | 300 | Arekere |
| SNACKITAREA | Continental, Indian, Chaat, Beverages, Desserts | 3.8 | 300 | Arekere |
| Iyengar Amma Pastries | Bakery, Snacks, Sweets | 3.8 | 300 | Arekere |
| Soup Station | Continental, Healthy Food | 3.8 | 300 | Arekere |
| Pastas By Pizza Hut | Pastas, Pizzas, Italian, Fast Food, Beverages | 3.8 | 300 | Arekere |
| NOTO - Healthy Ice Cream | Ice Cream, Healthy Food, Desserts | 3.8 | 300 | Arekere |
| PizzaByte | Pizzas | 3.8 | 300 | Arekere |
| SLV REDDY MILITARY HOTEL | Biryani, Indian | 3.8 | 300 | Arekere |
| Wrapasta | American | 3.8 | 300 | Arekere |
| Cafe Baha | Beverages, Indian, Fast Food | 3.8 | 300 | Arekere |
| A2B Veg | South Indian, North Indian, Sweets, Chinese | 3.8 | 300 | Arekere |
| COORG HUT | Indian | 3.8 | 300 | Arekere |
| Anand Sweets and Savouries | Sweets, Chaat, Snacks, Desserts, North Indian | 3.8 | 300 | Arekere |
| Chow San | Chinese, Seafood | 3.8 | 300 | Arekere |
| KING NON-VEG PARK | Biryani, Chinese, Tandoor | 3.8 | 300 | Banashankari |
| Rolls On Wheels | Fast Food | 3.8 | 300 | Banashankari |
| MADIKE BIRIYANI | Biryani, Indian, Desserts | 3.8 | 300 | Banashankari |
| A2B Veg | South Indian, North Indian, Sweets, Chinese | 3.8 | 300 | Banashankari |
| Koli Mane Biryani Center | Biryani, South Indian, Chinese | 3.8 | 300 | Banashankari |
| Mini Punjabi Dhaba | Indian | 3.8 | 300 | Banashankari |
| Wow! Momo | Tibetan, Healthy Food, Asian, Chinese, Snacks, Continental, Desserts, Beverages | 3.8 | 300 | Banashankari |
| CORNER BIRIYANI | Biryani | 3.8 | 300 | Banashankari |

Figure 3.1: Swiggy : Dataset preview

1. **Restaurant Name:** The name of the restaurant, which serves as a unique identifier for each entry in the dataset.

2. **Category:** The types of food categories or cuisines offered by the restaurant. This can include multiple categories, providing insights into the variety of food available.

3. **Rating:** The average customer rating of the restaurant. This value is an indicator of customer satisfaction and the quality of service provided.

4. **Cost for Two (in Rupees):** The estimated cost for two people to dine at the restaurant. This is given in Indian Rupees and serves as an indicator of the restaurant's pricing level.

5. **Area:** The geographic area or neighborhood where the restaurant is located. This helps in identifying the restaurant's market segment based on its location.

## 4 Zomato Data Description

The dataset used in this analysis contains information about various restaurants listed on Zomato. Below is a description of each attribute in the dataset:

| name | online_order | book_table | rating | location | rest_type | dish_liked | cuisines | approx_cost(for t | listed_in(type) | location_blr |
|---|---|---|---|---|---|---|---|---|---|---|
| World Of Asia | Yes | No | 4 | BTM | Quick Bites | | Asian | ₹ 300.00 | Delivery | BTM, Bangalore |
| World Of Asia | Yes | No | 4 | BTM | Quick Bites | | Asian | ₹ 300.00 | Delivery | BTM, Bangalore |
| World Of Asia | Yes | No | 4 | BTM | Quick Bites | | Asian | ₹ 300.00 | Delivery | BTM, Bangalore |
| World Of Asia | Yes | No | 4 | BTM | Quick Bites | | Asian | ₹ 300.00 | Delivery | BTM, Bangalore |
| RB Food Point | Yes | No | 3.9 | BTM | Quick Bites | | North Indian, Chinese | ₹ 300.00 | Delivery | BTM, Bangalore |
| RB Food Point | Yes | No | 3.9 | BTM | Quick Bites | | North Indian, Chinese | ₹ 300.00 | Delivery | BTM, Bangalore |
| Manchu Cafe | Yes | No | 3.8 | BTM | Quick Bites | | Chinese, Fast Food, Asian, Beverages | ₹ 300.00 | Delivery | BTM, Bangalore |
| The Hungers Zone | Yes | No | 3.8 | BTM | Quick Bites | | Fast Food, Italian, Pizza | ₹ 300.00 | Delivery | BTM, Bangalore |
| Manchu Cafe | Yes | No | 3.8 | BTM | Quick Bites | | Chinese, Fast Food, Asian, Beverages | ₹ 300.00 | Delivery | BTM, Bangalore |
| Cafe Alchemist | Yes | No | 3.8 | BTM | Quick Bites | | Fast Food, Juices | ₹ 300.00 | Delivery | BTM, Bangalore |
| The Hungers Zone | Yes | No | 3.8 | BTM | Quick Bites | | Fast Food, Italian, Pizza | ₹ 300.00 | Delivery | BTM, Bangalore |
| King Punjabi Restaurant | No | No | 3.8 | BTM | Quick Bites | | North Indian | ₹ 300.00 | Delivery | BTM, Bangalore |
| Thottathil Restaurant | No | No | 3.8 | BTM | Quick Bites | | Kerala, South Indian, Biryani | ₹ 300.00 | Delivery | BTM, Bangalore |
| Tarbouche | Yes | No | 3.8 | BTM | Quick Bites | | Turkish, Rolls | ₹ 300.00 | Delivery | BTM, Bangalore |
| Tarbouche | Yes | No | 3.8 | BTM | Quick Bites | | Turkish, Rolls | ₹ 300.00 | Delivery | BTM, Bangalore |
| Cafe Alchemist | Yes | No | 3.8 | BTM | Quick Bites | | Fast Food, Juices | ₹ 300.00 | Delivery | BTM, Bangalore |
| Manchu Cafe | Yes | No | 3.8 | BTM | Quick Bites | | Chinese, Fast Food, Asian, Beverages | ₹ 300.00 | Delivery | BTM, Bangalore |
| The Hungers Zone | Yes | No | 3.8 | BTM | Quick Bites | | Fast Food, Italian, Pizza | ₹ 300.00 | Delivery | BTM, Bangalore |
| Mongolian Kitchen | No | No | 3.8 | BTM | Quick Bites | | Chinese, Mongolian | ₹ 300.00 | Delivery | BTM, Bangalore |
| Tarbouche | Yes | No | 3.8 | BTM | Quick Bites | | Turkish, Rolls | ₹ 300.00 | Delivery | BTM, Bangalore |
| Manchu Cafe | Yes | No | 3.8 | BTM | Quick Bites | | Chinese, Fast Food, Asian, Beverages | ₹ 300.00 | Delivery | BTM, Bangalore |
| The Hungers Zone | Yes | No | 3.8 | BTM | Quick Bites | | Fast Food, Italian, Pizza | ₹ 300.00 | Delivery | BTM, Bangalore |
| RB Food Point | Yes | No | 3.8 | BTM | Quick Bites | | North Indian, Chinese | ₹ 300.00 | Delivery | BTM, Bangalore |
| Cafe Alchemist | Yes | No | 3.8 | BTM | Quick Bites | | Fast Food, Juices | ₹ 300.00 | Delivery | BTM, Bangalore |
| Manchu Cafe | Yes | No | 3.8 | BTM | Quick Bites | | Chinese, Fast Food, Asian, Beverages | ₹ 300.00 | Delivery | BTM, Bangalore |
| The Hungers Zone | Yes | No | 3.8 | BTM | Quick Bites | | Fast Food, Italian, Pizza | ₹ 300.00 | Delivery | BTM, Bangalore |
| Thottathil Restaurant | No | No | 3.8 | BTM | Quick Bites | | Kerala, South Indian, Biryani | ₹ 300.00 | Delivery | BTM, Bangalore |

Figure 4.1: Zomato : Dataset Preview

1. **Name:** The name of the restaurant, which serves as a unique identifier for each entry in the dataset.

2. **Online Order:** A categorical variable indicating whether the restaurant accepts online orders. The possible values are `Yes` or `No`.

3. **Book Table:** A categorical variable that indicates whether table booking is allowed at the restaurant. The possible values are `Yes` or `No`.

4. **Rate:** The average customer rating of the restaurant, typically presented in a format such as `4.1/5`. This rating reflects customer satisfaction and the quality of service.

5. **Votes:** The total number of votes or reviews the restaurant has received. This attribute often indicates the popularity of the restaurant.

6. **Location:** The geographic area or neighborhood where the restaurant is situated. This helps in identifying the restaurant's market segment based on its location.

7. **Restaurant Type:** The type of restaurant, such as Casual Dining, Café, etc. This attribute describes the dining experience and service style of the restaurant.

8. **Dish Liked:** Popular dishes that are frequently enjoyed by customers at the restaurant. This field can contain multiple dishes that have received positive feedback.

9. **Cuisines:** The types of cuisines offered by the restaurant. This can include multiple cuisine types, providing insights into the variety of food available.

10. **Approximate Cost (for two people):** The estimated cost for two people to dine at the restaurant. This value is usually given in local currency and serves as an indicator of the

restaurant's pricing level.

11. **Reviews List:** A list of customer reviews, often including ratings and detailed comments about the dining experience. This attribute provides qualitative insights into customer satisfaction and specific feedback.

12. **Menu Item:** The items listed on the restaurant's menu. In some cases, this might be an empty list if the information is not available or provided.

13. **Listed In (Type):** The category or type under which the restaurant is listed on the platform, such as Buffet, Dine-out, etc. This helps in classifying the restaurant based on its service offerings.

## 5 Zomato Share Prices Data

| Date | Price | Open | High | Low | Change % | Vol. |
|---|---|---|---|---|---|---|
| 16 August 2024 | 264.43 | 260.7 | 266.2 | 257.01 | 0.0165 | 42.93 |
| 14 August 2024 | 260.14 | 260.3 | 264.5 | 255.5 | 0.0119 | 41.74 |
| 13 August 2024 | 257.08 | 265 | 265.4 | 256 | -0.0241 | 26.13 |
| 12 August 2024 | 263.43 | 263.5 | 266.49 | 261.35 | -0.0137 | 33.51 |
| 09 August 2024 | 267.09 | 267.73 | 272.9 | 265.55 | 0.0056 | 52.6 |
| 08 August 2024 | 265.59 | 265 | 267.5 | 260 | -0.0003 | 57.92 |
| 07 August 2024 | 265.67 | 261.53 | 267.6 | 251.81 | 0.0666 | 127.38 |
| 06 August 2024 | 249.08 | 265.9 | 275 | 247.2 | -0.0281 | 143.46 |
| 05 August 2024 | 256.29 | 254 | 265.55 | 249 | -0.0231 | 156.11 |
| 02 August 2024 | 262.34 | 244.5 | 278.7 | 243 | 0.1207 | 389.06 |
| 01 August 2024 | 234.09 | 231 | 238 | 228 | 0.0202 | 87.89 |
| 31 July 2024 | 229.45 | 227.61 | 230.14 | 226.05 | 0.0102 | 25.01 |
| 30 July 2024 | 227.13 | 226.95 | 231.2 | 225.11 | 0.0011 | 39.38 |
| 29 July 2024 | 226.89 | 226.62 | 229.46 | 224.1 | 0.0101 | 40.64 |
| 26 July 2024 | 224.62 | 219 | 226.62 | 216.85 | 0.0242 | 35.69 |
| 25 July 2024 | 219.31 | 221 | 223.97 | 216.95 | -0.0187 | 26.12 |
| 24 July 2024 | 223.49 | 217.85 | 225.5 | 215.6 | 0.0256 | 32.36 |

Figure 5.1: Share prices for Zomato 2021-2024 : Dataset preview

The dataset presented in this analysis includes information about Zomato's stock prices over a specified period. Below is a description of each attribute in the dataset:

1. **Date:** The trading date for the stock, presented in `DD-MM-YYYY` format. Each entry corresponds to one trading day.

2. **Price:** The closing price of Zomato's stock on the given date. This value represents the last price at which the stock was traded before the market closed.

3. **Open:** The opening price of Zomato's stock on the specified date. This is the price at which the first trade of the day was executed.

4. **High:** The highest price at which Zomato's stock traded during the day. This represents the

peak value reached by the stock within the trading session.

5. **Low:** The lowest price at which Zomato's stock traded during the day. This indicates the minimum value that the stock fell to during the trading session.

6. **Change %:** The percentage change in the stock's closing price from the previous trading day. This value is positive if the stock price increased and negative if it decreased.

7. **Volume (Vol.):** The total number of shares traded during the day. This metric reflects the liquidity and trading activity of Zomato's stock on the given date.

## 6 Data Preprocessing

Data preprocessing is a crucial phase in the data analysis pipeline, ensuring that the dataset is clean, consistent, and ready for further analysis. The following detailed steps outline the procedures for cleaning and preparing the data:

### 6.1 Major Preprocessing

1. **Cleaning the Data:**

   - **Rating:**

     – **Handling Null or New Ratings:** For entries where the rating is either `null` or marked as `new`, we will standardize these entries by categorizing them as `unrated`. This approach addresses the issue of incomplete or missing rating information, allowing us to handle such cases consistently across the dataset.

     – **Rationale:** Treating null or new ratings as `unrated` helps to maintain data integrity and prevents the introduction of bias or inaccuracies that could arise from missing rating values. This method ensures that all ratings are represented uniformly and that missing values do not skew the analysis.

   - **Location:**

     – **Removing Entries with Missing Location Data:** Entries where the location field is `null` or missing will be excluded from the dataset. The location attribute is critical for analyzing the geographic distribution of restaurants, and missing values in this field could compromise the validity of spatial analyses and insights.

     – **Rationale:** Removing records with missing location data ensures that the dataset accurately reflects the geographic scope of the analysis. This step helps to avoid incomplete or biased results that could arise from the absence of location information.

   - **Ratings Imputation:**

- **Imputing Missing Ratings:** For restaurants with missing or unavailable rating data, we will impute the missing ratings with the average rating of that particular restaurant. This imputation was performed using the available ratings of the restaurant, if any, or based on similar restaurants if specific data is not available.

- **Rationale:** Imputing missing ratings with average values helps to maintain the continuity and consistency of the dataset, allowing for more reliable analysis. This method ensures that missing data does not introduce significant gaps or distortions in the analysis

## 6.2 Additional Data Sourcing and preprocessing

- We included the **Zomato trends** analysis from here in the Zomato main dashboard. This was represented through the graph titled *Demand for Cuisine*.

- We added relevant events to the Zomato share price movement by **scraping Zomato stock news**.

- In preprocessing, we **categorized the locations** into different regions: North (N), South (S), East (E), West (W), and Central (C).

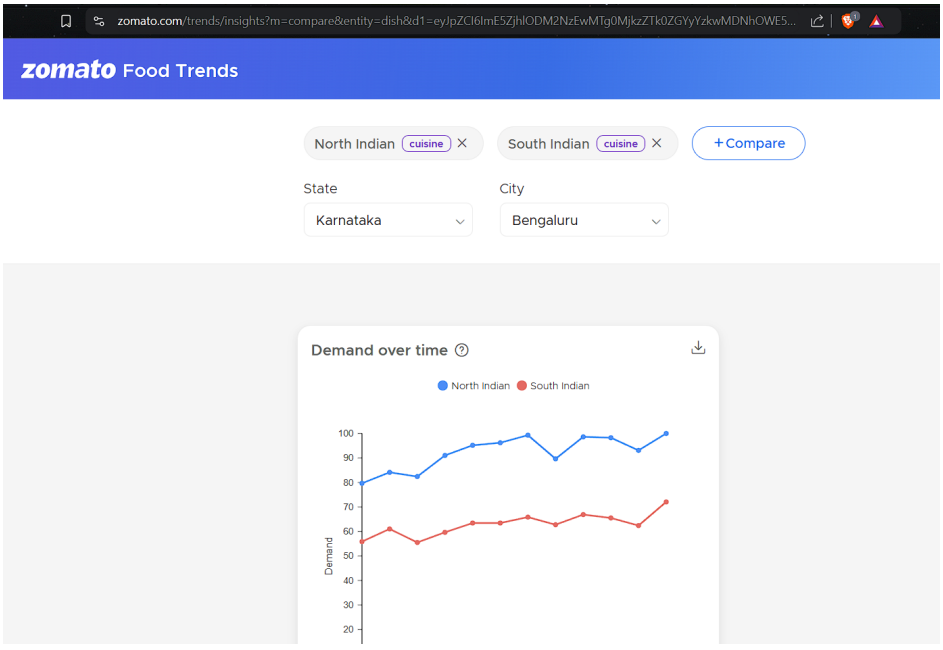


Figure 6.1: Sourcing Data from Zomato Trends.

## 6.3 Sentiment Analysis of Reviews

To analyze the sentiment of restaurant reviews, we employed a pre-trained transformer model. Specifically, we used the **cardiffnlp/twitter-roberta-base-sentiment-latest** model,

which is based on the RoBERTa architecture. This model is fine-tuned for sentiment analysis and is well-suited for categorizing text into positive, negative, and neutral sentiments.

The implementation steps are as follows:

- **Tokenization:** The reviews were tokenized using the `AutoTokenizer` from the Hugging Face library, which converts the textual data into a format suitable for the model.
- **Model Configuration:** The model's configuration was loaded using `AutoConfig`, ensuring that the model operates with the correct parameters.
- **Sentiment Classification:** Finally, the sentiment of each review was classified using `AutoModelForSequenceClassification`. The output labels were organized into three categories: positive, negative, and neutral.

| name | positive | negative | neutral |
|---|---|---|---|
| Corner House Ice Cream | 178 | 11 | 5 |
| Mudpipe Cafe | 170 | 0 | 0 |
| Leon Grill | 162 | 24 | 3 |
| Empire Restaurant | 162 | 41 | 7 |
| Oye Amritsar | 158 | 48 | 4 |
| Faasos | 155 | 10 | 5 |
| The Grill House | 142 | 0 | 13 |
| Onesta | 139 | 18 | 3 |
| Barbeque Nation | 138 | 14 | 0 |
| XO Belgian Waffle | 134 | 0 | 0 |
| Marzipan Cafe & Bakery | 132 | 0 | 8 |
| Watson's | 132 | 46 | 10 |
| Smoor | 129 | 8 | 1 |
| Toscano | 129 | 5 | 0 |

Figure 6.2: Sample output of sentiment analysis code

### 6.4 Zomato Major Events Scraping

| Date | Description | Price on that day |
|---|---|---|
| *23 July 2021* | IPO debut | |
| *16 August 2021* | Stock hits record high | *136.4* |
| *24 November 2021* | Q2 results announcement | *151.1* |
| *24 January 2022* | Acquisition of Blinkit | *114* |
| *15 February 2022* | Stock price correction | *83.5* |
| *23 May 2022* | CEO resignation rumors | *58.7* |
| *10 August 2022* | Q1 FY23 results release | *56.2* |
| *20 January 2023* | Global market sell-off | *51.4* |
| *28 July 2023* | Delhivery stake sale | *85.6* |
| *20 April 2024* | Regulatory scrutiny | |

Figure 6.3: Major events relevant to stock movement after scraping

## 7 Zomato Dashboard Analysis: Key Insights

### 7.1 Dashboard Overview

This dashboard provides an in-depth view of restaurant-related data within a specific region, focusing on various aspects such as distribution, cost, ratings, and cuisine preferences. The primary aim of the dashboard appears to be offering insights into restaurant operations, customer preferences, and trends in the region.

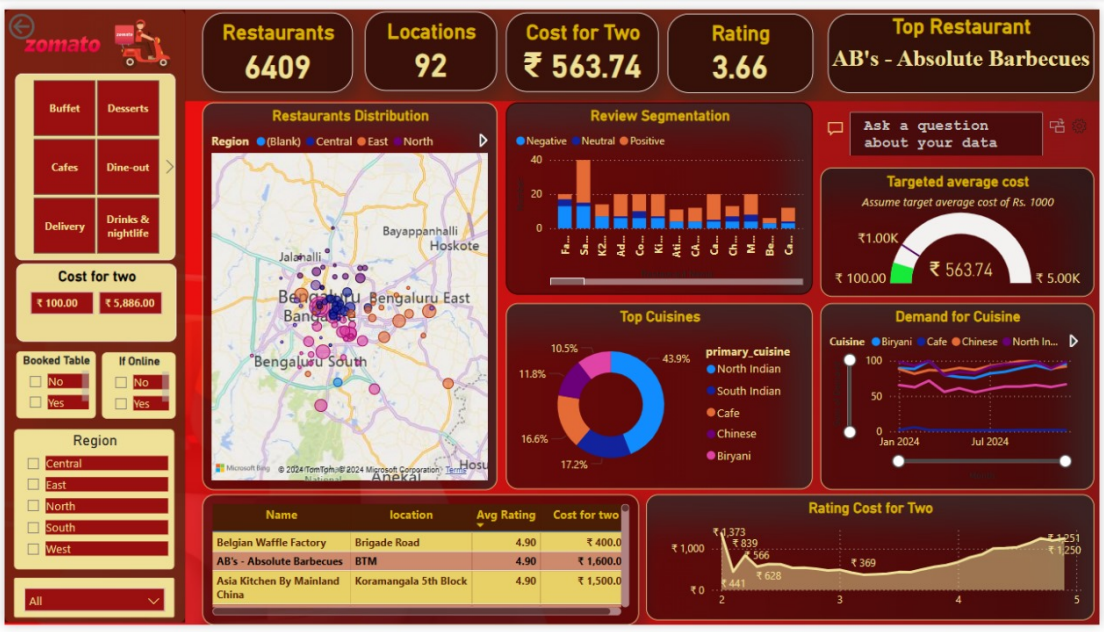


Figure 7.1: The entire dashboard for Zomato data insights

## 7.2 Key Metrics

### 7.2.1 Total Restaurants & Locations

The dashboard tracks **6,409** restaurants spread across **92** locations in Bangalore. This indicates a well-distributed presence across a substantial number of locations.

### 7.2.2 Cost for Two

The average cost for two people is displayed as **Rs. 563.74**. The distribution of costs ranges from **Rs. 100.00** to **Rs. 5,886.00**, providing a broad spectrum of dining options from affordable to premium.

### 7.2.3 Rating

The average restaurant rating is **3.66**, reflecting a general customer satisfaction level. Top-rated restaurants like "AB's - Absolute Barbecues" and "Belgian Waffle Factory" are highlighted with an average rating of **4.90**, indicating exceptionally high customer satisfaction.

## 7.3 Visualizations

### 7.3.1 Restaurant Distribution

The map in the center of the dashboard visualizes the distribution of restaurants across different regions in Bangalore. Each bubble represents a restaurant, color-coded by region, providing an intuitive geographic view of restaurant count density.

### 7.3.2 Review Segmentation

A bar chart categorizes reviews into Negative, Neutral, and Positive segments across various regions. This helps in understanding the sentiment distribution and identifying areas with higher negative feedback.

### 7.3.3 Top Cuisines

A pie chart shows the popularity of different cuisines. North Indian cuisine leads with **43.9%**, followed by South Indian, Cafe, Chinese, and Biryani, indicating the culinary preferences of the region's population.

### 7.3.4 Demand for Cuisine

The line chart visualizes the demand trends for various cuisines over time. It provides insights into how the popularity of certain cuisines fluctuates, which can inform restaurant owners about changing customer preferences.

### 7.3.5 Rating vs. Cost for Two

The bottom-right chart correlates the cost for two with restaurant ratings, offering a perspective on how pricing might influence customer satisfaction.

### 7.3.6 Targeted average cost KPI

The dashboard displays a gauge indicating the **Targeted Average Cost** with an assumed target of Rs. 1000. The current average cost is shown as Rs. 563.74, which is below the targeted value.

- The gauge visualizes the target range with color-coded sections:
  - The green section represents values significantly lower than the target (closer to Rs. 100).
  - The white section near the target marks a more desirable range.
  - The remaining range extends up to Rs. 5000, indicating costs that far exceed the target.
- The current cost (Rs. 563.74) lies in the green zone, suggesting that the actual costs are well below the target. This could imply efficient cost management or a potential to increase expenditure towards the target.

## 7.4 Analysing Dashboard Dynamics with Applied Filters

### 7.4.1 Based on Region

- **Number of Restaurants:**
  - The **South** region has the highest number of restaurants, indicating a dense concentration of dining options.
  - The **West** region has the fewest restaurants, suggesting a potential gap in restaurant availability.
- **Cost for Two:**
  - The **Central** region has the highest average cost for two, suggesting a preference for premium dining establishments.
  - The **West** region has the lowest average cost, reflecting more affordable dining options.
- **Average Rating:**
  - The **Central** region leads with the highest average rating, indicating higher customer satisfaction.

  - The **East** and **West** regions have the lowest average ratings, suggesting potential areas for improvement.

- **Review Volume:**

  - Restaurants in the **North** region receive the fewest reviews, indicating either lower customer engagement or fewer patrons.

- **Notable Restaurants:**

  - **Tuffles** in the North, **Absolute Barbecues** in the South, and **Belgian Waffle Factory** in the Central region are particularly notable for their high ratings and visibility.

- **Cuisine Preferences:**

  - The **Central** region's primary cuisine is **North Indian** food.

  - **South Indian** food, though less popular in the Central region, has higher demand in the **West** and **North** regions.

- **Cost Variability:**

  - The **Northern** region exhibits the highest variability in the average cost for two, suggesting a wide range of dining options catering to diverse demographics.

### 7.4.2 Based on Category of Food

- **Highest Ratings:**

  - **Cafes** have the highest average ratings, suggesting they are the most favored by customers in terms of experience and satisfaction.

- **Number of Restaurants:**

  - The **Dine-out** category has the highest number of restaurants, indicating a strong preference for dining experiences outside the home.

- **Cost for Two:**

  - The **Drinks** category exhibits the highest cost for two, reflecting the premium pricing of beverages and nightlife venues.

- **Top Restaurant by Delivery Rating:**

  - **Asia Kitchen by Mainland China** stands out as the top-rated restaurant in the delivery

category, showcasing excellence in service and food quality for home delivery.

- **Top Cuisines for Delivery:**
  - The most popular cuisines for delivery, in order, are **North Indian**, followed by **South Indian**, and **Chinese**. This sequence reflects customer preferences when ordering food at home.
- **Cost Variability:**
  - The **Cafes** category shows the maximum variability in cost for two, indicating a wide range of pricing options that cater to different customer segments.
  - The **Drinks** category has the least variability in cost, suggesting a more uniform pricing structure across different establishments.

## 8 Analyzing Stock Movements for Zomato in the market

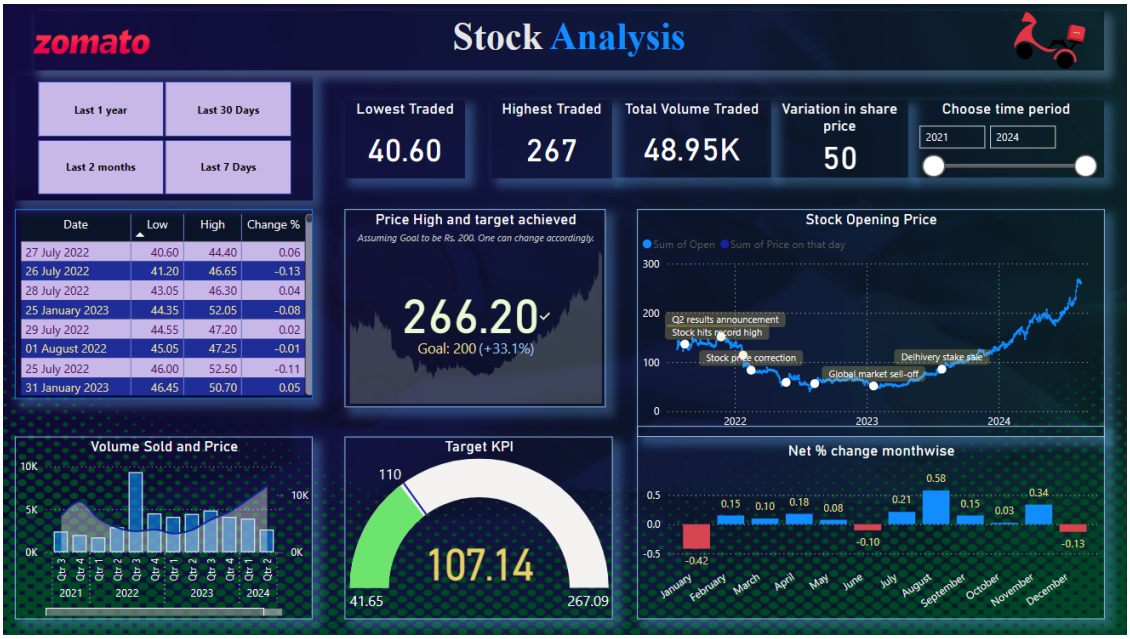


Figure 8.1: The dashboard for Zomato stock analysis

The Zomato stock analysis dashboard provides a view of the stock's performance over different time periods. The data is visually represented through various charts and key performance indicators (KPIs), offering insights into trading behavior, price variations, and volume trends. Below is a detailed description of the key components:

### 8.1 Time Period Filters

The dashboard allows the user to filter the data based on different time periods, including the last 1 year, last 2 months, last 30 days, and last 7 days. Additionally, there is a slider to select specific years, enabling a more focused analysis.

### 8.2 Key Metrics

- **Lowest Traded:** The lowest stock price recorded, which is Rs. 40.60.
- **Highest Traded:** The highest stock price recorded, which is Rs. 267.
- **Total Volume Traded:** The cumulative volume of shares traded, amounting to 48.95K shares.
- **Variation in Share Price:** The overall variation in the share price during the selected period, showing a change of 50 units.

### 8.3 Date-wise Stock Data

The table provides a summary of stock prices on specific dates, including the low, high, and percentage change in price. This allows for a quick comparison of stock performance over different days.

### 8.4 High Value and Target Comparison

The center chart displays the sum of the high prices for selected dates and compares it against a target value. For example, on a particular date, the sum reached 266.20, surpassing the goal of 200 by 33.1%.

### 8.5 Stock Opening Price

The line chart on the right tracks the stock's opening price over time, highlighting key events such as quarterly results announcements, market corrections, and other significant milestones affecting the stock price.

### 8.6 Volume Sold and Price

This chart shows the relationship between the volume of stocks sold and the corresponding price, segmented by quarters over several years. The visual helps identify trends and spikes in trading activity.

### 8.7 Target KPI

The target KPI gauge shows a current value of 107.14 against a target of 110, indicating how closely the stock's performance aligns with the predefined objectives.

## 8.8 Net % Change Month-wise

The bar chart at the bottom right visualizes the monthly percentage change in stock price, revealing positive and negative trends throughout the year. For instance, September showed the highest increase of 0.58%, while March had the largest decline of -0.42%.

## 8.9 Key Observations from Other Visualization


Figure 8.2: Forecast and Candlestick Charts (Here: Last 2 months)


Figure 8.3: Forecast and Candlestick Charts (Here: Last 7 days)

1. The stock exhibited significant volatility in the last 30 days, with a 44-point price variation.

2. Recent trading activity shows consolidation, with a narrower 3-point price range in the past week.

3. Volume traded decreased from 14.82K to 144.31 units, indicating reduced market activity.

4. The 5-step forecast suggests a potential slight decline followed by stabilization.

## 9 FoodFeud: Zomato vs Swiggy Comparative Insights

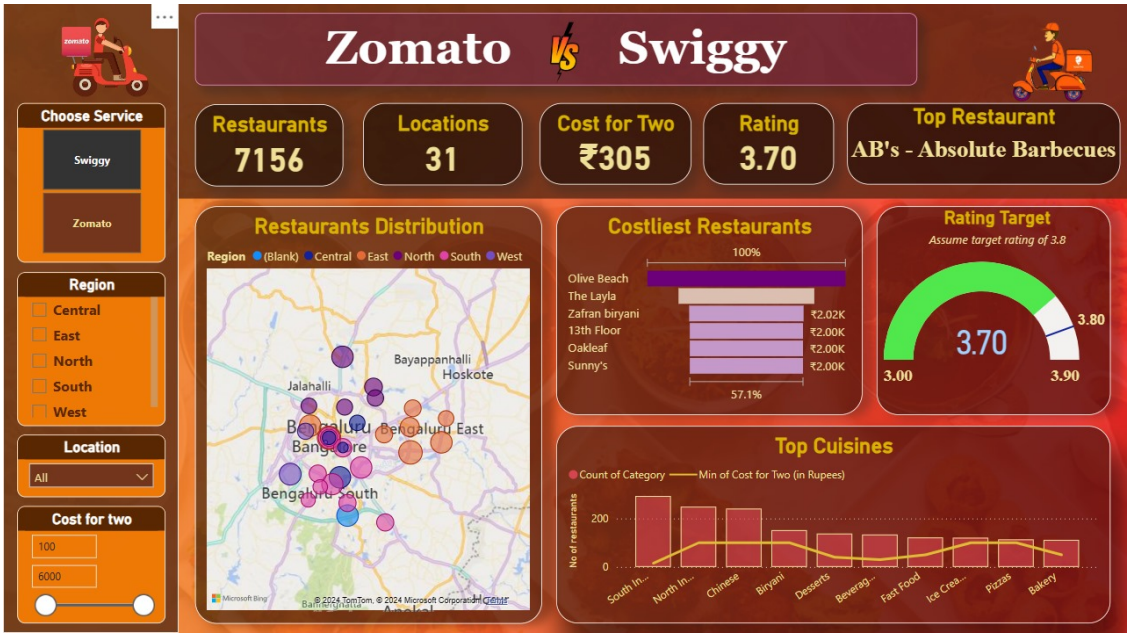


Figure 9.1: Dashboard for Zomato vs Swiggy Insights

### 9.1 Zomato

- **Restaurant Count & Locations**: Zomato offers 6,416 restaurants across 92 locations.
- **Cost for Two**: The average cost for two people is **Rs. 564**.
- **Average Rating**: Zomato's average rating stands at **3.66**.
- **Top Restaurant**: AB's - Absolute Barbecues is highlighted as the top restaurant.
- **Restaurants Distribution**:
  - **Central Region**: Concentrated with restaurants, higher average costs, and varied cuisines.

  - **North Region**: Displays the highest variability in costs, with prominent North Indian cuisine offerings.
  - **South Region**: Dominated by South Indian cuisine with lower costs.
  - **West Region**: Less variability in costs, with a lower average rating compared to other regions.
  - **East Region**: Features the lowest number of restaurants, with moderate average costs.

- **Costliest Restaurants**: The most expensive dining options include Le Cirque Signature and Royal Afghan, among others.
- **Top Cuisines**: North Indian and South Indian foods are the most popular, with cafes also showing a strong presence.

### 9.2 Swiggy

- **Restaurant Count & Locations**: Swiggy offers 7,156 restaurants across 31 locations.
- **Cost for Two**: The average cost for two people is **Rs. 305**.
- **Average Rating**: Swiggy's average rating is slightly higher at **3.70**.
- **Top Restaurant**: AB's - Absolute Barbecues is also the top restaurant on Swiggy.
- **Restaurants Distribution**:
  - **Central Region**: Centralized restaurants have a higher concentration, with North Indian cuisine dominating the menu.
  - **North Region**: Higher variability in costs for two, with a significant presence of South Indian cuisine.
  - **South Region**: Largest concentration of restaurants.

## 9.3 Cuisine Comparative Analysis through wordcloud

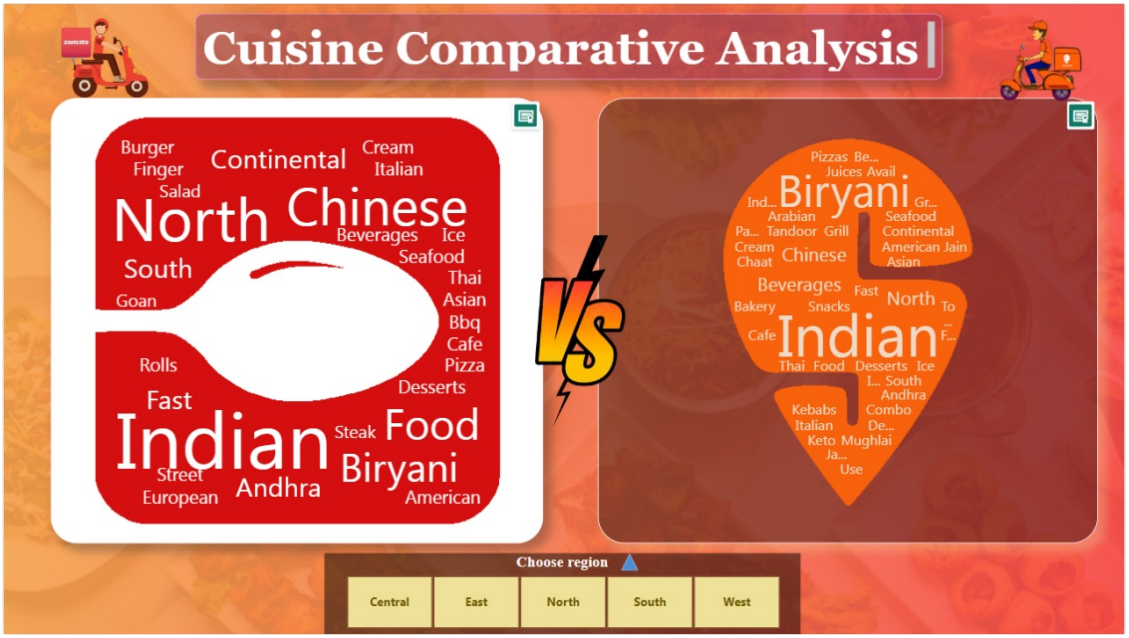


Figure 9.2: Wordcloud

- **Cuisine Diversity**
  - **Overview**
    1. **Zomato:** Offers a wide range of cuisines including Indian, Chinese, Continental, European, American, and Thai.
    2. **Swiggy:** Also diverse, but appears to have a stronger focus on Indian regional cuisines such as Andhra, South Indian, and North Indian.
  - **Indian Cuisines**
    1. **Zomato:** Includes a variety of Indian cuisines such as North Indian and South Indian.
    2. **Swiggy:** Focuses more on specific regional Indian cuisines like Andhra and South Indian.
  - **International Cuisines**
    1. **Zomato:** Highlights international options including Chinese, Italian, and Thai.
    2. **Swiggy:** Includes international options, but with less emphasis compared to Zomato.

- **Food Categories**
  - **General Categories**
    1. **Zomato:** Emphasizes broader categories like Fast Food, Seafood, Desserts, and Beverages.
    2. **Swiggy:** Highlights specific categories like Snacks, Bakery, and Desserts.
  - **Special Categories**
    1. **Zomato:** Features categories such as BBQ and Cafe.
    2. **Swiggy:** Includes categories like Street Food and Fast Food.
- **Signature Dishes**
  - **Popular Dishes**
    1. **Zomato:** Prominently features Biryani, along with international items such as Pizza, Burger, and Steak.
    2. **Swiggy:** Also highlights Biryani, but includes more Indian-specific items like Tandoor dishes.
  - **Regional Specialties**
    1. **Zomato:** Includes international items and popular dishes.
    2. **Swiggy:** Features more Indian-specific specialties like Tandoor.
- **Restaurant Types**
  - **Dining Experiences**
    1. **Zomato:** Mentions Cafe and BBQ, suggesting a variety of dining experiences.
    2. **Swiggy:** Includes Street Food and Fast Food, indicating a focus on quick-service options.
  - **Service Focus**
    1. **Zomato:** Features a range of dining styles from casual to fine dining.
    2. **Swiggy:** Focuses more on quick-service and fast-food options.

- **Regional Focus**
  - **Indian Regions**
    1. **Zomato:** Mentions North and South Indian cuisines.
    2. **Swiggy:** Offers more specific regional options such as Andhra, Hyderabadi, and Bengali cuisines.
  - **Other Regions**
    1. **Zomato:** Broader regional focus including multiple Indian regions.
    2. **Swiggy:** More emphasis on specific regional specialties.
- **International Influence**
  - **Cuisine Variety**
    1. **Zomato:** Highlights several international cuisines including Chinese, Italian, and Thai.
    2. **Swiggy:** Also includes international options, but seems to have fewer prominent mentions compared to Zomato.
  - **International Representation**
    1. **Zomato:** More diverse international cuisine options.
    2. **Swiggy:** Less emphasis on international cuisines.
- **Specialty Items**
  - **Unique Dishes**
    1. **Zomato:** Unique mentions of Goan cuisine and Finger food.
    2. **Swiggy:** Unique mentions of Mughlai cuisine and Kebabs.
  - **Regional Specialties**
    1. **Zomato:** Features dishes with a broader regional influence.
    2. **Swiggy:** Focuses on specific regional specialties.

- **Comparative Analysis**

  - The comparative analysis reveals distinct regional culinary preferences across India, with North highlighting diverse international cuisines and kebabs, East emphasizing Indian and Chinese options with biryani prominence, and South showcasing regional specialties like Andhra and Hyderabadi cuisines alongside a stronger seafood presence. While Indian cuisine remains dominant across all regions, each area exhibits unique food trends and international influences.

## 10 Conclusion

This analysis of Zomato and Swiggy data provides a good understaning of the food delivery landscape in India, particularly in Bangalore. Key findings include:

- **Market Presence**: Zomato offers 6,416 restaurants across 92 locations, while Swiggy has a larger network of 7,156 restaurants spread over 31 locations, indicating different strategies in market coverage.

- **Pricing**: Swiggy appears to cater to a more budget-conscious market with an average cost for two of Rs. 305, compared to Zomato's Rs. 564.

- **Customer Satisfaction**: Both platforms maintain high customer satisfaction, with Swiggy slightly edging out Zomato in average ratings (3.70 vs 3.66).

- **Cuisine Diversity**: While both platforms offer a wide range of cuisines, Zomato seems to have a broader international selection, whereas Swiggy focuses more on regional Indian specialties.

- **Regional Preferences**: The analysis revealed distinct culinary preferences across different regions, with international cuisines more prominent in the North and regional specialties dominating in the South.

- **Stock Performance**: Zomato's stock analysis indicates significant volatility, with recent trends showing consolidation and potential for stabilization.

## 11 Limitations

1. **Geographic Scope**: The study primarily focuses on Bangalore, which may not be representative of trends in other cities or rural areas of India.

2. **Platform Bias**: The analysis relies on data provided by Zomato and Swiggy, which may not include restaurants exclusive to other platforms or those not listed on any delivery app.

3. **Limited Time Frame**: Zomato offered share IPO recently in July 2021.

4. **Data Completeness**: There may be gaps in the data, such as missing reviews or incomplete restaurant information, which could affect the accuracy of some analyses.

5. **The datasets were highly inconsistent in columns like 'Rating' and cleaning removes lot of data. This suggests that data should be properly sourced by the organisations while they survey.**

## 12 Appendix

1. View our Github Repo Here

2. Zomato Trends Data Sourcing

3. Dashboard 1

4. Dashboard 2