Analysis of restaurant trends in Bengaluru for setting up a new Restaurant

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1 Introduction

The main data used for this project will be from two sources:

- The restaurants in each neighbourhood scraped from the Zomato website.
- Explore trending venues in a neighbourhood particularly restaurant (FourSquare API). Other supporting data:
- Coordinates (Geocoder Python)
- GeoJson (https://github.com/openbangalore)

2 Data Collection Process

The data was scraped from Zomato in two phase. After going through the structure of the website I found that for each neighbourhood there are 6-7 category of restaurants viz. Buffet, Cafes, Delivery, Desserts, Dine-out, Drinks & nightlife, Pubs and bars.

2.1 Phase I In Phase I of extraction only the URL, name and address of the restaurant were extracted which were visible on the front page. The URL's for each of the restaurants on the zomato were recorded in the csv file so that later the data can be extracted individually for each restaurant. This made the extraction process easier and reduced the extra load on my machine. The data for each neighbourhood and each category can be found here

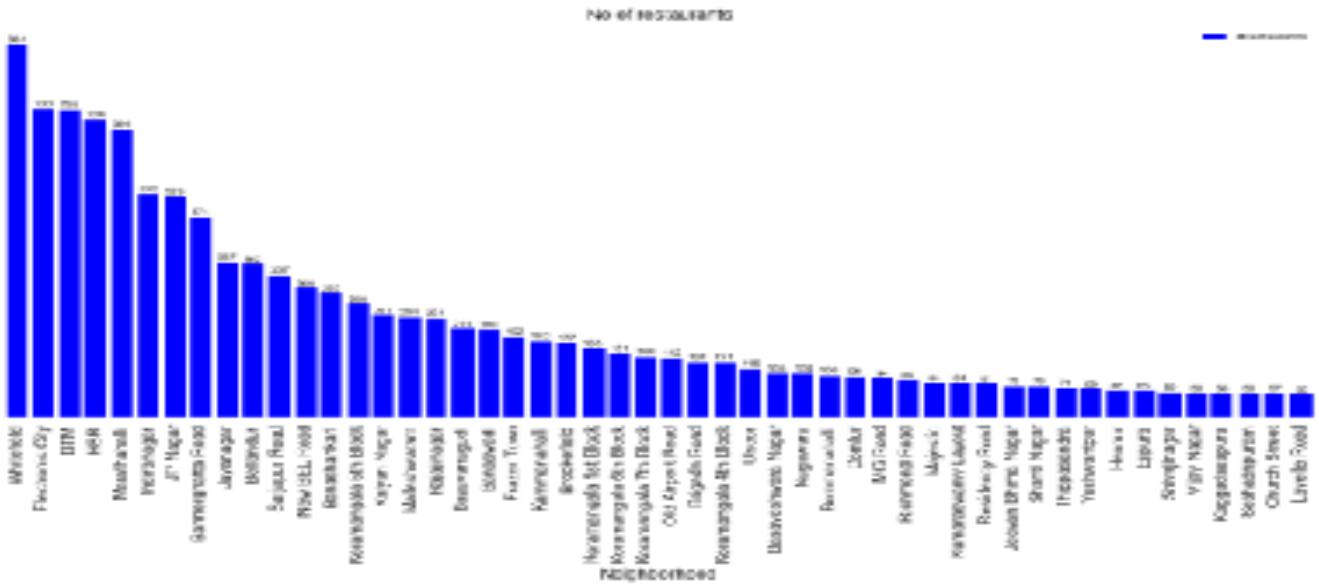
2.2 Phase II In Phase II the recorded data for each restaurant and each category was read and data for each restaurant was scraped individually. 15 variables were scraped in this phase. For each of the neighbourhood and for each category their online order, book table, rate, votes, phone, location, rest type, dish liked, cuisines, approx cost(for two people), reviews list, menu item was extracted. See section 5 for more details about the variables.

2.3 Foursquare API For each neighbourhood, guppy module to convert an address into latitude and longitude values. For each neighborhood's coordinate, call FourSquare API to get the trending venues in that location.

3 Using data to solve the problem

The basic idea of analysing the Zomato dataset is to get a fair idea about the factors affecting the establishment of different types of restaurant at different places in Bengaluru, aggregate rating of each restaurant, Bengaluru being one such city has more than 12,000 restaurants with restaurants serving dishes from all over the world. With each day new restaurants opening the industry hasn't been saturated yet and the demand is increasing day by day. Inspite of increasing demand it however has become difficult for new restaurants to compete with established restaurants. Most of them serving the same food. Bengaluru being an IT capital of India. Most of the people here are dependent mainly on the restaurant food as they don't have time to cook for themselves. With such an overwhelming demand of restaurants it has therefore become important to study the demography of a location. What kind of a food is more popular in a locality. Do the entire locality loves vegetarian food. If yes then is that locality populated by a particular sect of people for eg. Jain, Marwaris, Gujaratis who are mostly vegetarian. These kind of analysis can be done using the data, by studying the factors such as

- Approx Price of food
- Location of the restaurant
- Theme based restaurant or not
- Which locality of that city serves that cuisines with maximum number of restaurants
- The needs of people who are striving to get the best cuisine of the neighbourhood
- Is a particular neighbourhood famous for its own kind of food.

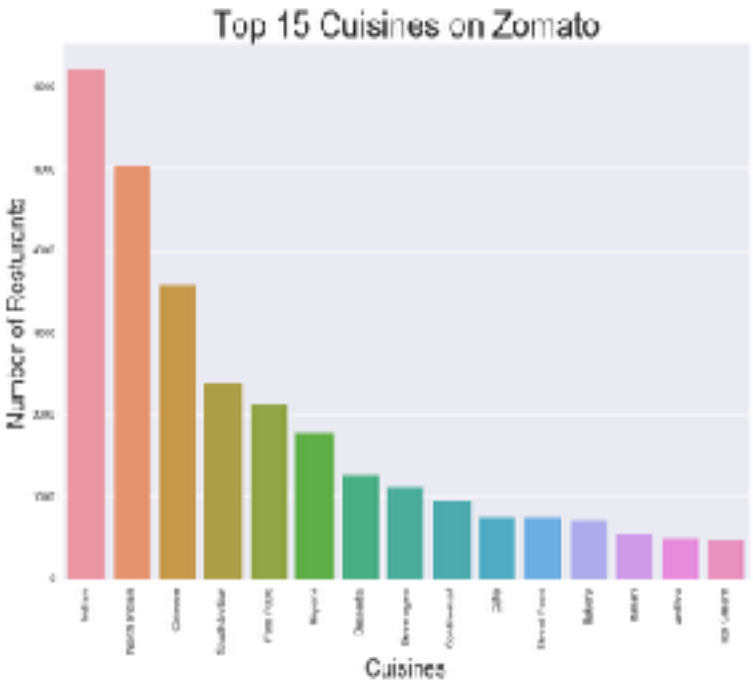


Here we looked into various trends of restaurants the neighbourhoods hold, Including WordClouds :

We looked into the fact that people in Bengaluru , despite the fact that it is based in South India prefer North Indian Food the most , along with Chinese , Continental etc.
The ever increasing growing Food Joints indicate that Bengaluru is in no position to get saturated by means of Restaurants in near future due to the trending lifestyle of the influx crowd.

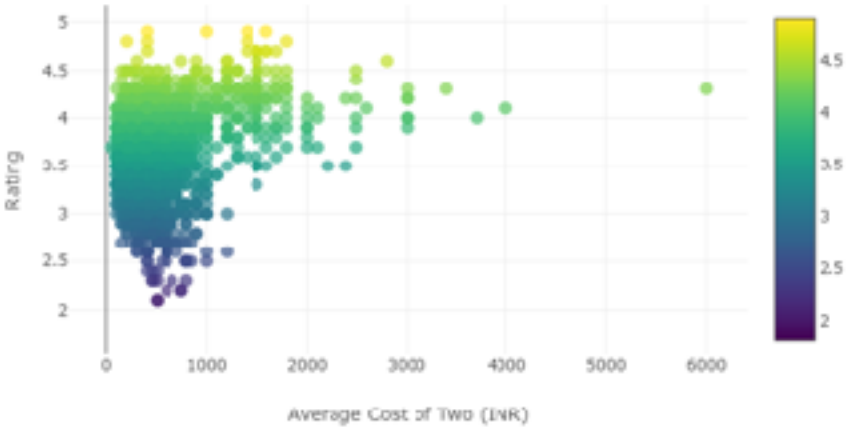
Here we Can also look into the trending Restaurants via the wordCloud.

Here we Can check out the most popular Restaurants are based out of Central Bengaluru.
It is because of the density of Population and IT Hubs in those areas such as CTS,Wipro,Accenture,IBM etc.



I also Looked over the Top 15 cuisines liked by People in Zomato as well as tried to assess what people mostly favour/like to spend money on.

I have analysed the relation between rating and expenses of a restaurant using Pearson's Correlation



Coefficient , where we generate a very low P value which rejects our null hypothesis and indicates a strong relationship between Rating and Cost(For approx 2 people)

Conclusion

- Via the visualisations and analysis we can present the client with variety of restaurant options to go with.
- The trending cuisines
- The preferred location
- The ease of online order to generate returns
- The Pricing preferences
- The highest rated food
- Growing taste of Bengaluru people
- There are unending options based on the choice of restaurant that can be opened based on what is the priority - Rating , Quick Profit , Customer Satisfaction, Franchise etc.