

Final Report

Using Data Analysis to predict a suitable place for opening malls and complexes in Delhi



Background

Delhi, being the capital of India and also being the cultural hub is home to a number of businesses and Industries. NCR includes the cities which neighbour Delhi and have a lot of investment in various malls and industries. Some of the cities of NCR include Noida, Gurugram, Ghaziabad etc.

As there are endless opportunities, each and every street is filled with some shopping complex, Bars, restaurants etc.

Business Statement

Due to endless opportunities, a Businessman has to think about various factors including the type of business, area where the business will flourish etc. As these are the important factors which generate customers. This problem can be solved using data analysis technique.

Data Analysis

To solve this problem, we will need the various neighbourhoods of Delhi NCR. I have used Wikipedia for this.

- Latitude and Longitude of the neighbourhood is required to plot the map.

The data is acquired using Foursquare API. The data analysis is done using the below factors:

- Type of Place
- Name
- Area
- City

Foursquare API will provide many categories of venue data. We are particularly interested in Shopping malls. The project will use various techniques including Web Scraping, Foursquare API, Data Cleaning, Map Clustering.

Technique Involved

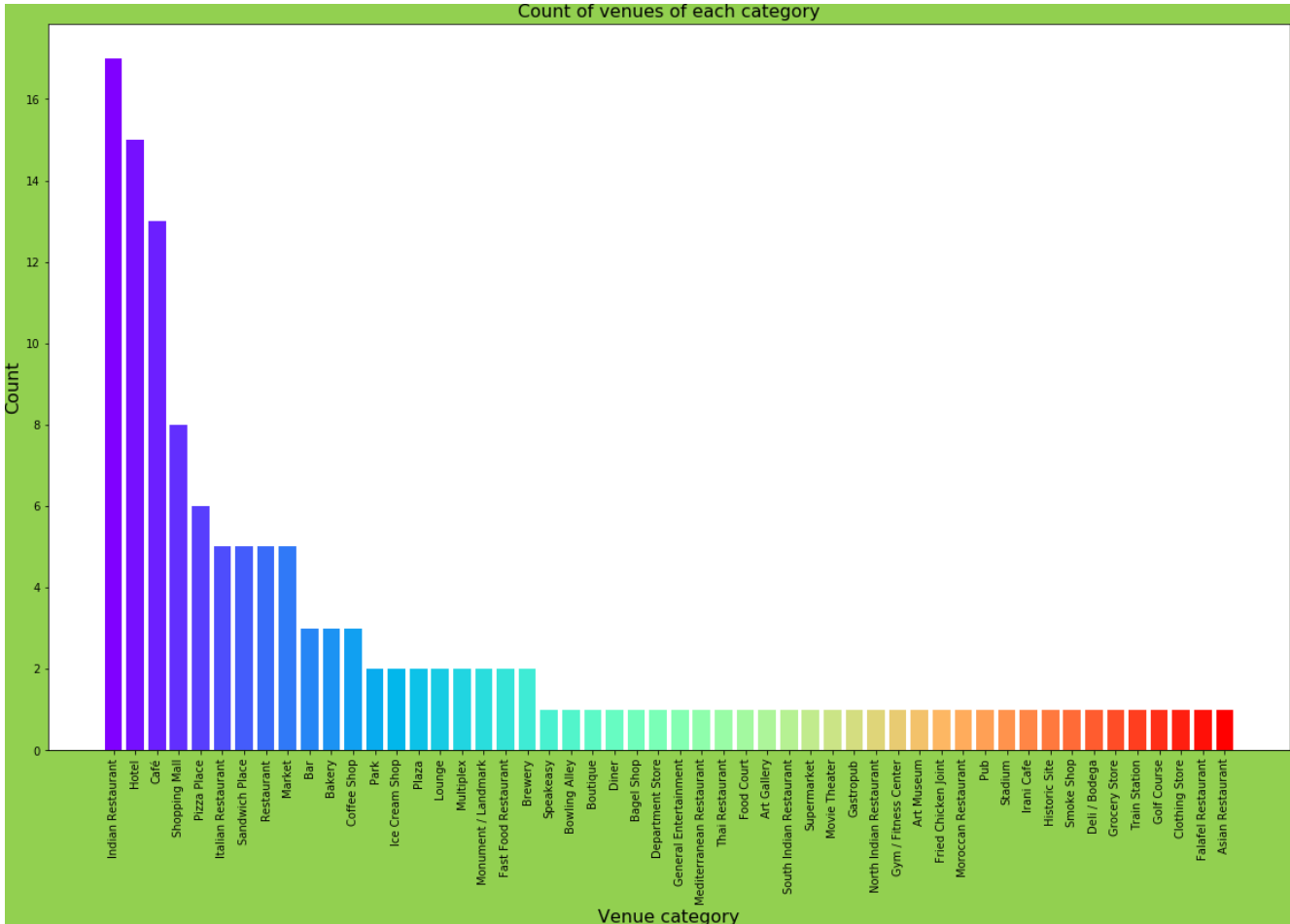
Data Preprocessing

The available data was checked for missing values. There were around 9 places where cities were not mentioned so instead of assigning the values, the observations were dropped.

Analysis

According to the analysis of the available data, it was found that most common place are Restaurants, preceded by Hotel, Cafés and then shopping malls and apart from them , there are other venues as displayed in the graph below.

Amongst the major brands and malls, most of them are either in Gurgaon or Delhi.



Further results are gathered by grouping on the basis of City and Type

The data was grouped into Several cities including Delhi and its borders.

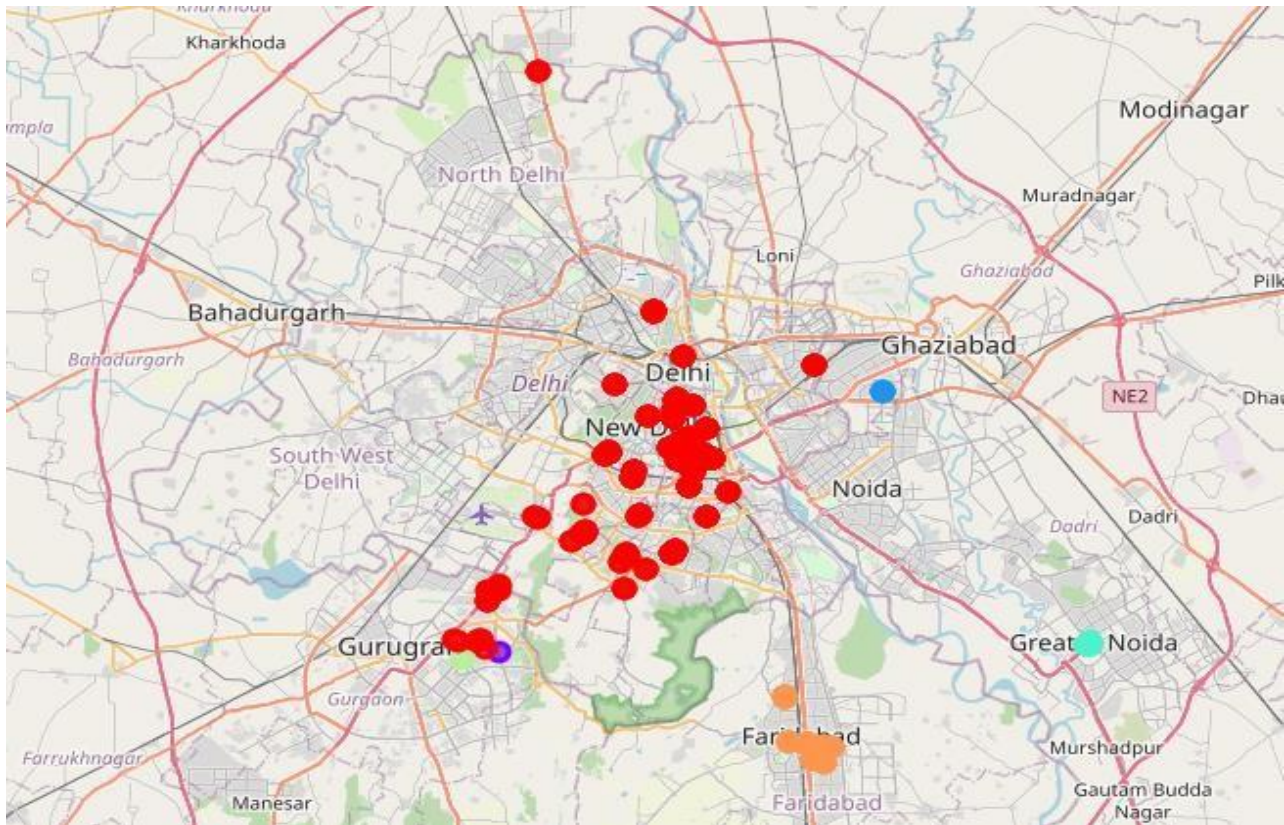
	city	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
0	Delhi	Indian Restaurant	Hotel	Speakeasy	Italian Restaurant	Lounge	Restaurant	Café	Department Store	General Entertainment	Gastropub
1	Faridabad	Pizza Place	Café	Hotel	Deli / Bodega	Indian Restaurant	Fried Chicken Joint	Sandwich Place	Restaurant	Multiplex	General Entertainment
2	Ghaziabad	Food Court	Train Station	Thai Restaurant	Gym / Fitness Center	Grocery Store	Golf Course	General Entertainment	Gastropub	Fried Chicken Joint	Fast Food Restaurant
3	Gurgaon	Indian Restaurant	Café	Hotel	Shopping Mall	Sandwich Place	Pizza Place	Fast Food Restaurant	Coffee Shop	Market	Brewery

After this, The Data was clustered using K value which will tell us the suitable place to open malls.

Result

After analyzing the result, Delhi is found to be most to be with maximum number of commercial places and is followed by Gurgaon and Faridabad.

Map



Conclusion

Based on the results, it is evident that Delhi and Gurgaon are ideal location for setting up of any new complex.

