
The background is a dark blue gradient. On the left, there is a circular inset showing a close-up of a circuit board. Overlaid on this and the background are two large, overlapping geometric shapes: a blue parallelogram and a light green parallelogram. In the top right corner, there is a faint, stylized pattern of white lines resembling a circuit or a city map.

The Battle of Neighborhoods

Recommending neighborhoods for Indian
Restaurants



Introduction : Business Problem

Delhi, officially the National Capital Territory of Delhi (NCT), is a city and a union territory of India containing New Delhi, the capital of India. It is highly densely populated city which holds a very import geographical, political, financial position for India.

We will explore this city by segmentation and clustering of its Neighborhoods on the basis of venue categories. We will analyse and visualize its neighborhoods and boroughs for different venue categories.

Next, we will recommend some neighborhoods in Delhi for opening new Indian Restaurants on the basis of the already existing restaurants in these neighborhoods.



Data

1. Neighborhoods of Delhi

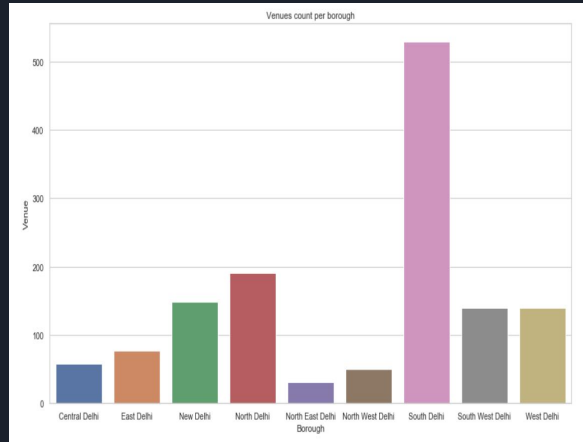
	Borough	Neighbourhood	latitude	longitude
0	North West Delhi	Adarsh Nagar	28.614192	77.071541
1	North West Delhi	Ashok Vihar	28.699453	77.184826
2	North West Delhi	Azadpur	28.707657	77.175547
3	North West Delhi	Bawana	28.799660	77.032885
4	North West Delhi	Begum Pur	28.723900	77.060900

2. Population of Delhi

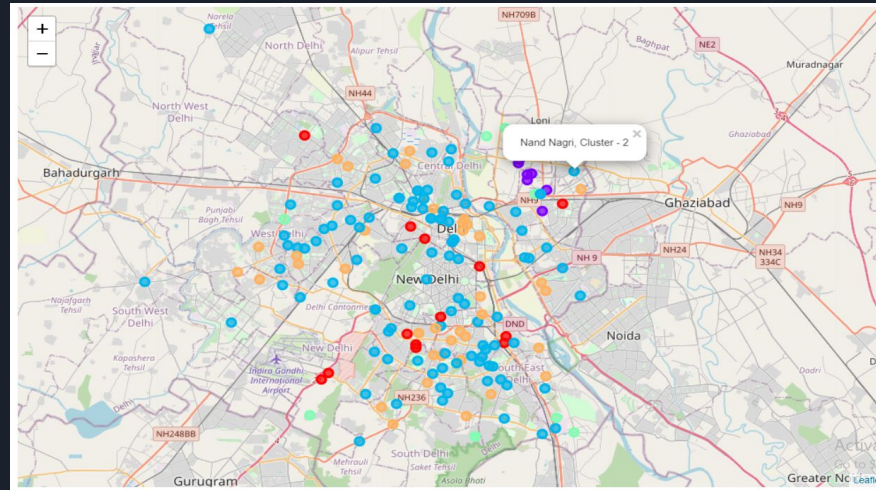
	Borough	Population
0	North West Delhi	3656539
1	South Delhi	2731929
2	West Delhi	2543243
3	South West Delhi	2292958
4	North East Delhi	2241624
5	East Delhi	1709346
6	North Delhi	887978
8	Central Delhi	582320
9	New Delhi	142004

Analysis

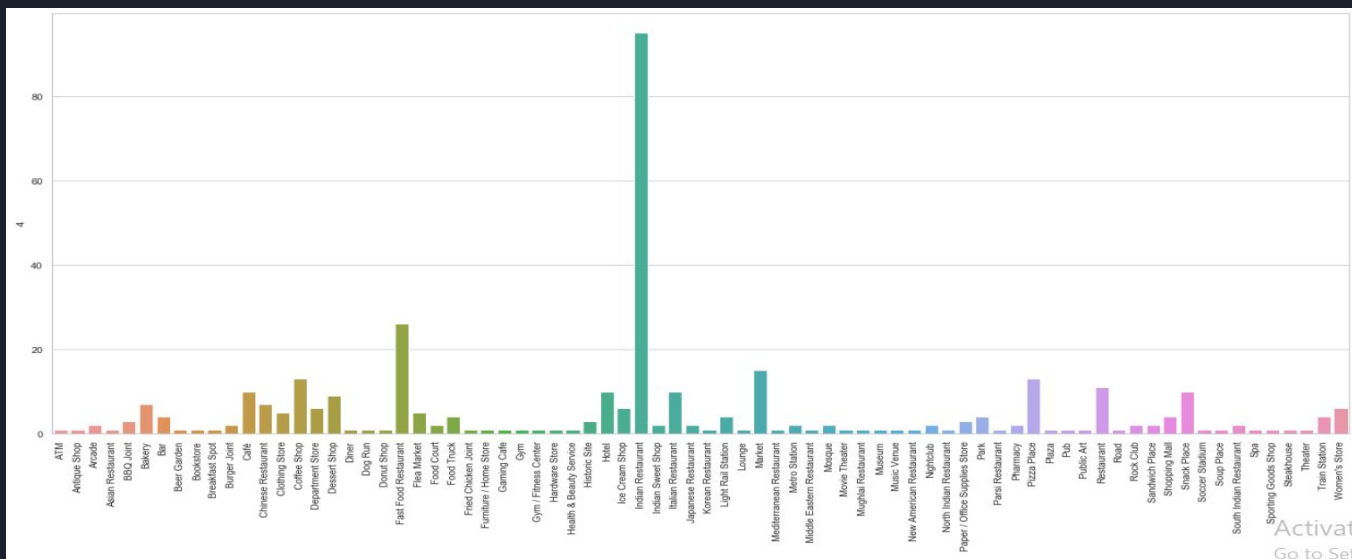
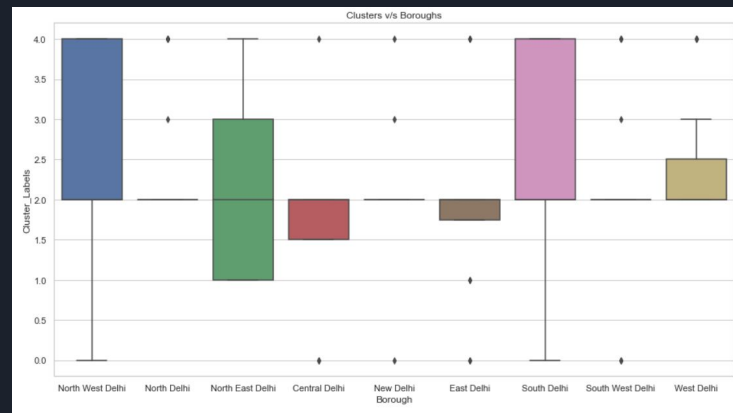
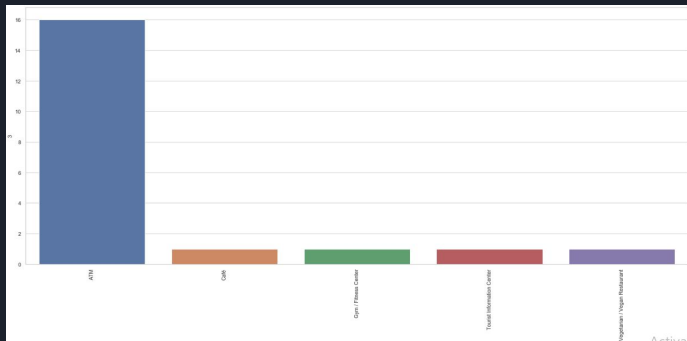
Part - 1 : Understanding the neighborhoods



	Neighbourhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
0	Adarsh Nagar	Indian Restaurant	Women's Store	Food & Drink Shop	Garden	Gaming Cafe
1	Alaknanda	Indian Restaurant	BBQ Joint	Pizza Place	Steakhouse	Middle Eastern Restaurant
2	Anand Vihar	Indian Restaurant	Soup Place	Clothing Store	Pizza Place	Furniture / Home Store
3	Ashok Nagar	Fast Food Restaurant	Ice Cream Shop	North Indian Restaurant	Metro Station	Women's Store
4	Ashok Vihar	Indian Restaurant	Diner	Bakery	Food & Drink Shop	Garden

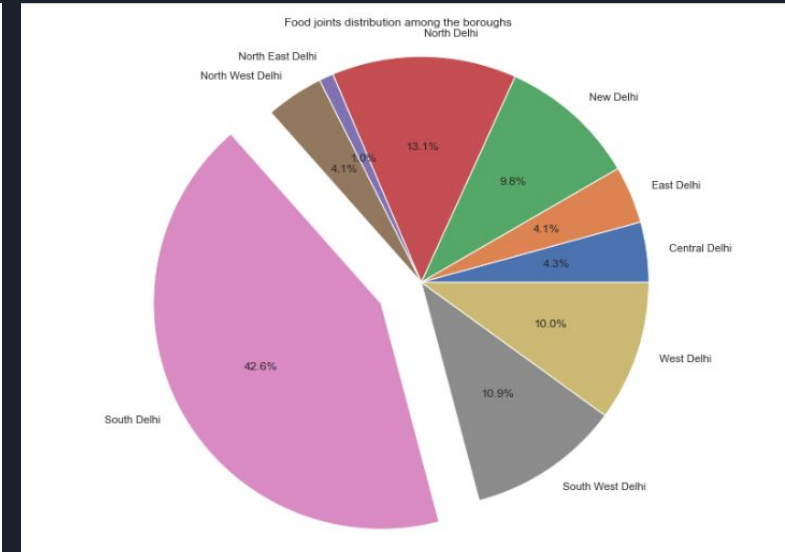
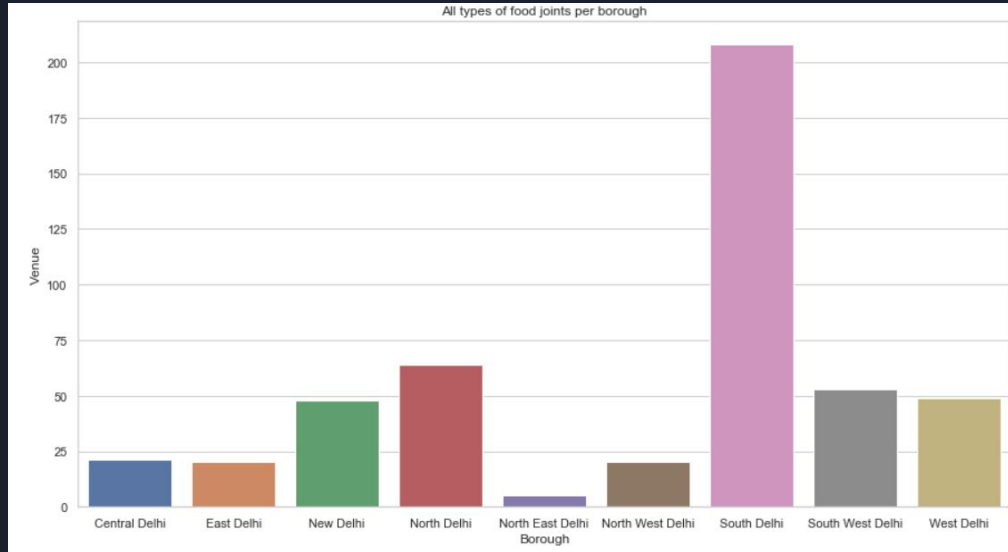




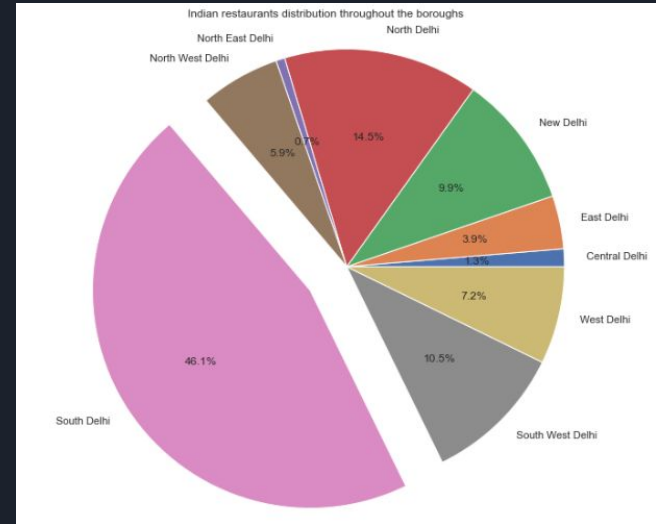
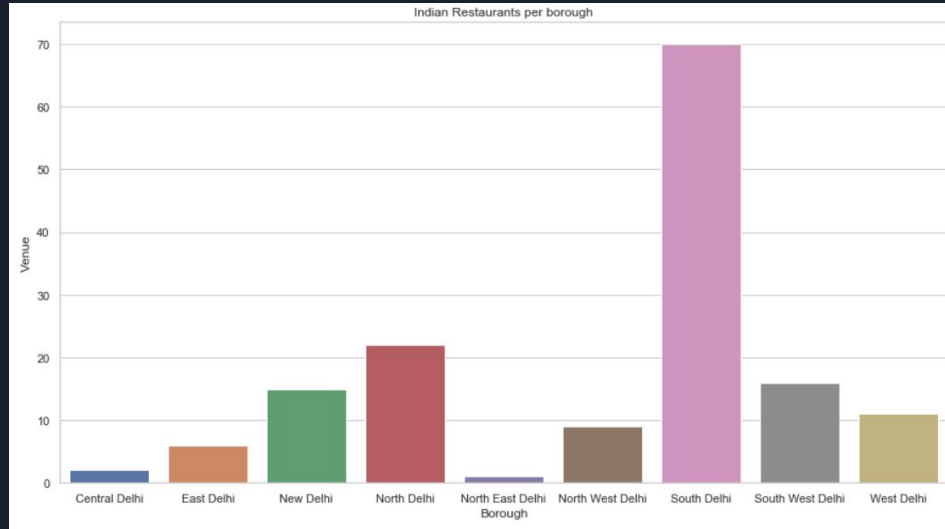


Part - 2 : Recommending Neighborhoods for Indian Restaurants

Visualizing all the food joints in Delhi

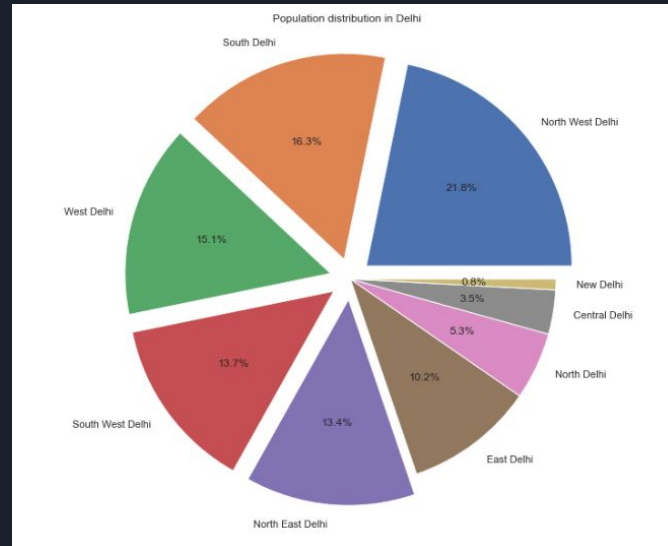


Visualising only Indian Restaurants in Delhi

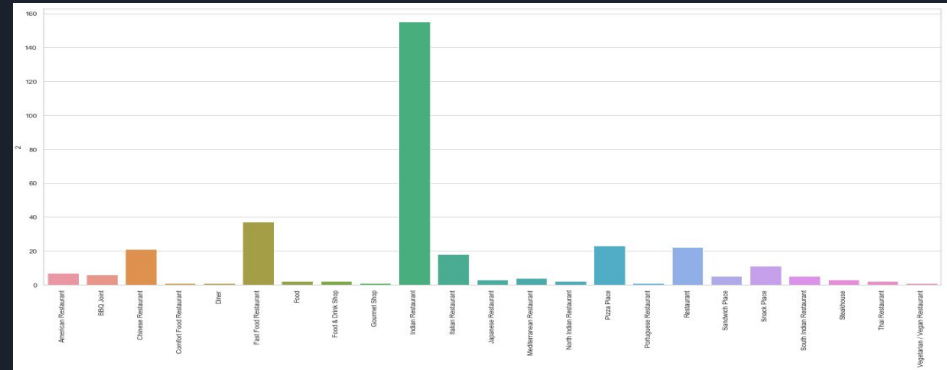
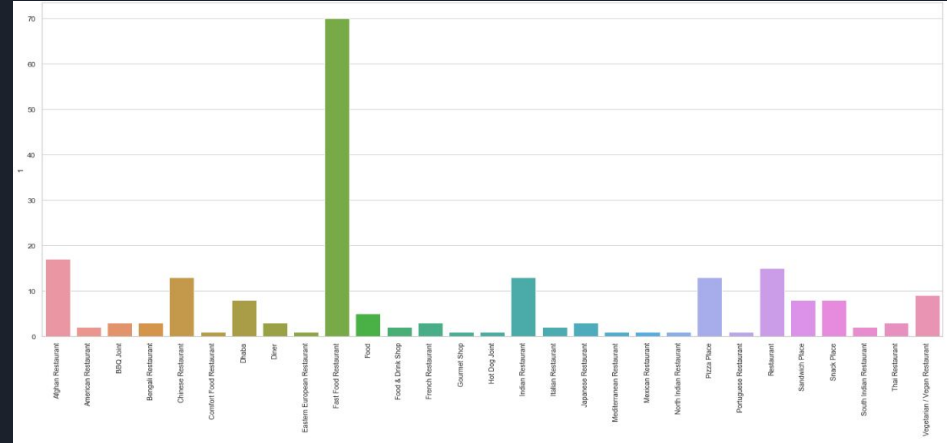
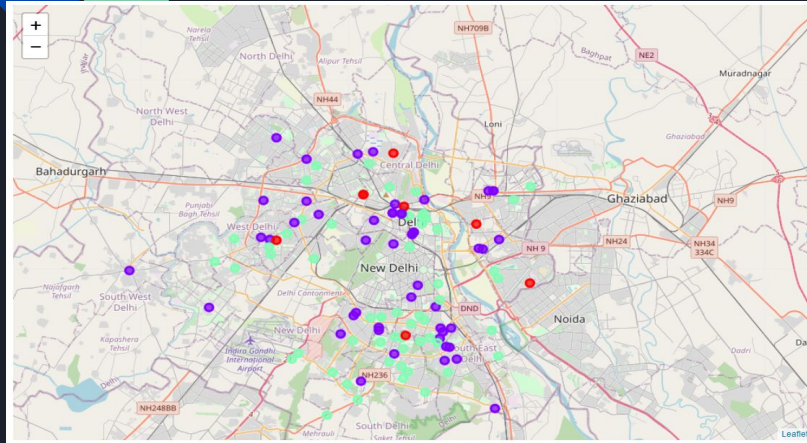


Delhi Population data

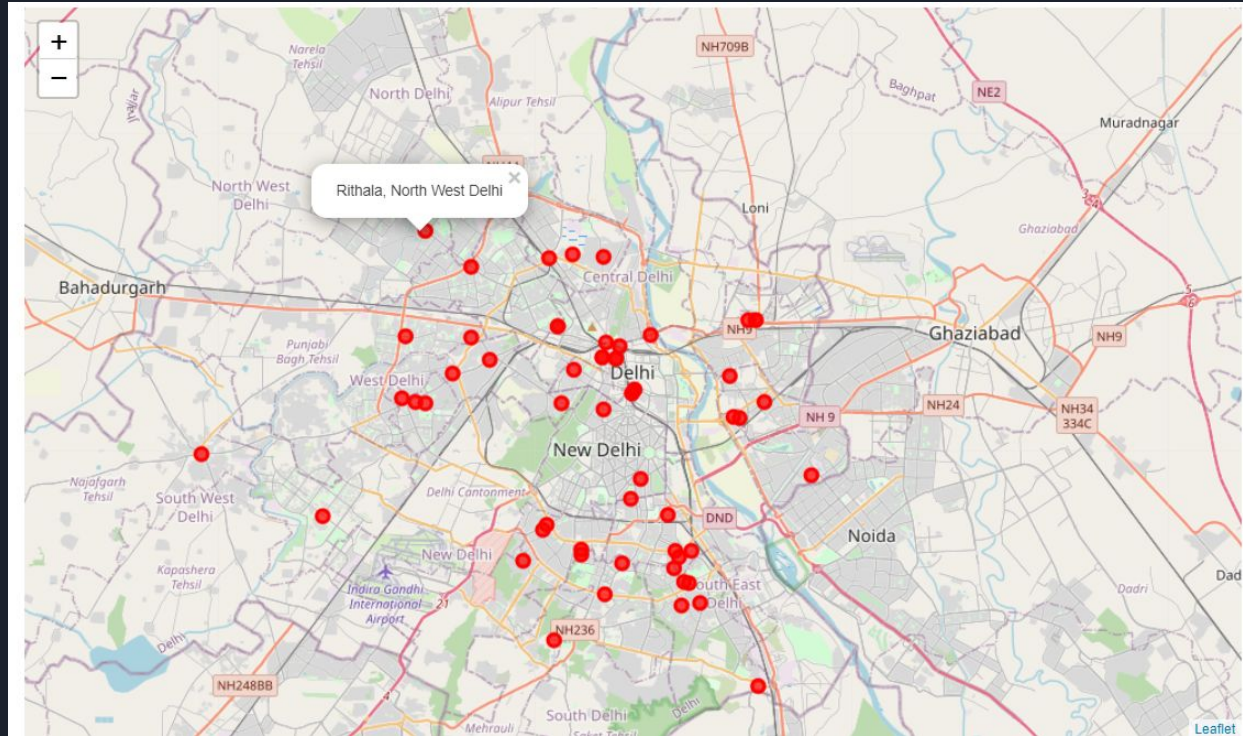
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Food Joints Clusters



Recommended Neighborhoods for Indian Restaurants





Results and Discussions

We took 185 Neighbourhoods in Delhi into account to firstly, explore the Neighbourhoods of Delhi by looking into its venues and places across different Boroughs. Secondly, we narrowed our analysis to look into the food venues in Delhi and how the distribution of total venues affect the food venues around different Boroughs as well.

We observed that although 5 Boroughs out of 9 accounts for more than 70% of the population but the same cannot be said about how the venues are distributed in Delhi. South Delhi was the one Borough which held most of the venues and the same was inferred from Food joints as well as Indian Restaurants as well.

Below are the most occurring venues in each venue cluster and how we might label each cluster as:

- Cluster-1 : Hotels
- Cluster-2 : Electronic and Mobile stores
- Cluster-3 : Multiple Venue categories
- Cluster-4 : ATMs
- Cluster-5 : Indian Restaurants

Below are the most occurring restaurants in restaurant cluster and how we might want to label them:

- Cluster-1 : Pizza Places
- Cluster-2 : Fast Food Restaurants
- Cluster-3 : Indian Restaurants



Conclusions

- South Delhi Borough is densely populated with venues and has a lot of competition for Indian Restaurants in comparison to other Boroughs
- Most Boroughs offers a variety of venue categories and have shown signs of similarities when compared in terms of clusters formed
- Cluster 3 is the most occurring cluster labels which contain multiple venues and indicates that most Neighbourhood are equipped with densely populated multiple venues, which in turns reflects Delhi's prosperity(2nd wealthiest city in India) as well as its high GDP per capita(2nd highest in India)
- The above map shows Neighbourhoods recommended by us for new Indian Restaurant in which we would further recommend Boroughs other than South Delhi, keeping in mind the population distribution in Delhi as well. Although, the large number of Indian Restaurants in South Delhi can also firmly mean that the restaurants here are a success, business wise, but we should keep in mind that it also offers a great amount of competition for new restaurants
- Also, we were successfully able to cluster food joints into broad categories i.e Pizza Places, Fast Food restaurants and Indian Restaurants which indicated the distribution of food joints all over Delhi.