Capstone Project – The Battle of Neighbourhoods

IBM Data Science

Opening a new Vegetarian/ Vegan Restaurant in Neighbourhood of Chennai

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Business Problem:

The objective of this Project is to find a location to start our business in and around location Chennai, India. Even though vegetarians are high in India, it is difficult find a good restaurant within their living area. Thus, through this project we are aiming the neighbourhood with a less or no Vegetarian/ Vegan Restaurant and provide a good environment to have their meals without searching or travelling long distance from their living area.

Data:

For our analysis, the following data are required:

- List of Neighbourhoods of Chennai.
- The Latitude and Longitude of the Neighbourhoods (fetched using geocoders).
- Venues Data in the Neighbourhoods (using Foursquare).

Data Collection and Cleaning:

- **List of Neighbourhoods:**

  Data is gathered from the following webpage (https://en.wikipedia.org/wiki/List_of_neighbourhoods_of_Chennai) and Data Frame is created.

- **Latitude and Longitude of Neighbourhoods:**

  "Geocoder" is used to fetch the Latitude and Longitude for the Neighbourhoods in the Neighbourhood table.

Data Collection and Cleaning:
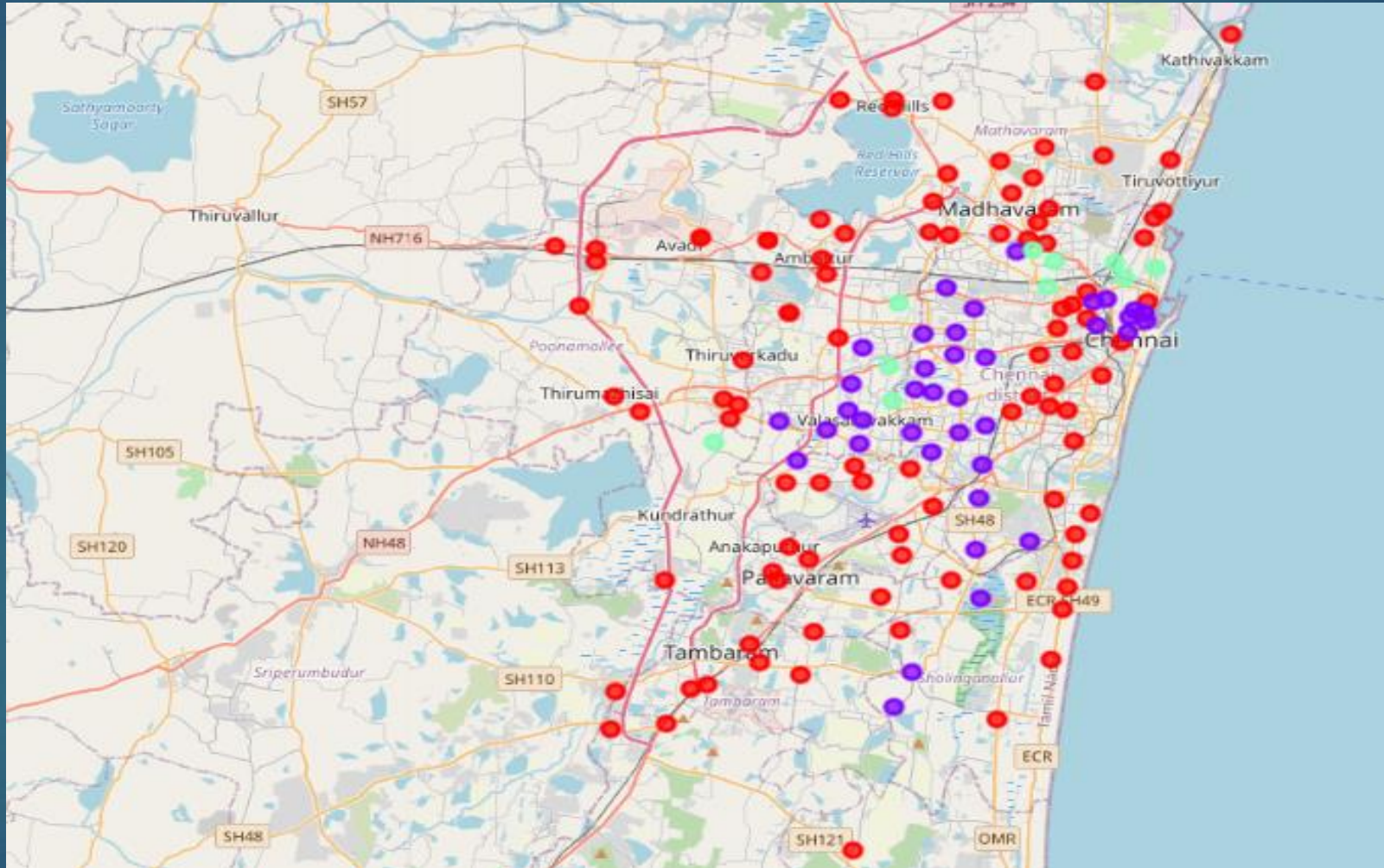
- **Venues Data:**

  Using the "Foursquare" the Venues Data has been collected for the List of Neighbourhoods table. Finally the table contains the Neighbourhoods, Latitude, Longitude and the Venues.

K-Means Clustering:

K-Means Clustering is used to cluster the data based on their similarities. Here K is taken as 3. The observation from this project indicates:

- Cluster 0: availability of Restaurant is moderate.
- Cluster 1: availability of Restaurant is high.
- Cluster 2: availability of Restaurant is less or no available.

Visualization:

Observation:

From this project, we can clearly understand that we can start our Vegetarian/ Vegan Restaurant in the cluster 2 area to achieve more profit since it only has a less or no restaurant. There will a high competition when we open our Vegetarian/ Vegan Restaurant in cluster 1 Neighbourhoods.

Thank You!