Coursera Capstone
IBM Applied Data Science Capstone

Opening a New Coffee Shop in New Delhi, India

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October 2019

Business Problem

- Location of the Coffee Shop is one of the most important decisions that will determine whether the shop will be a success or a failure

- Objective: To analyse and select the best locations in the city of New Delhi, India to open a new Coffee shop.

- This project is timely as the city is currently suffering from less coffee shops.

- Business question
  - In the city of New Delhi, if a shop owner is looking to open a new coffee shop, where would you recommend that they open it?

Data

- Data required
  - List of neighbourhoods in New Delhi
  - Latitude and longitude coordinates of the headquarters.
  - Venue data, particularly data related to Coffee shops.

- Sources of data
  - Wikipedia page for neighbourhoods (https://en.wikipedia.org/wiki/List_of_districts_of_Delhi)
  - Geocoder package for latitude and longitude coordinates
  - Foursquare API for venue data

Methodology

- Web scraping Wikipedia page for neighbourhoods list
- Get latitude and longitude coordinates using Geocoder
- Use Foursquare API to get venue data
- Group data by neighbourhood and taking the mean of the frequency of occurrence of each venue category
- Filter venue category by Coffee Shop
- Perform clustering on the data by using k-means clustering
- Visualize the clusters in a map using Folium

Results

- Categorized the headquaters into 3 clusters :
  - ➢Cluster 0: headquaters with moderate number of Coffee Shops
  - ➢Cluster 1: Headquaters with low number to no existence of Coffee Shops
  - ➢Cluster 2: Headquaters with high concentration of Coffee Shops
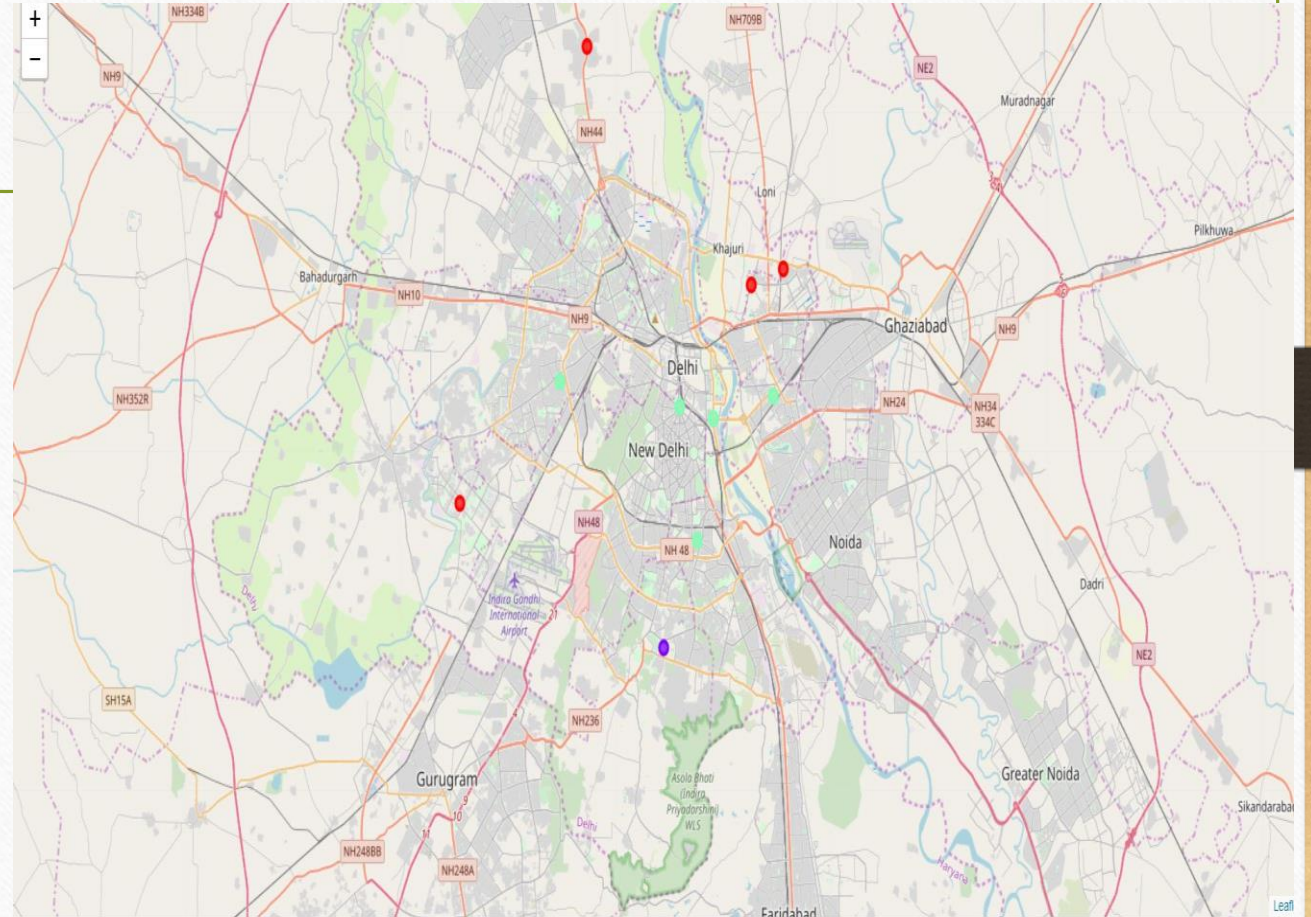
Recommendations

- Open new Coffee Shops in headquaters in cluster 1 with little to no competition

- Can also open in headquaters in cluster 0 with moderate competition if have unique selling propositions to stand out from the competition

- Avoid headquaters in cluster 2, already high concentration of Coffee shops and intense competition

Conclusion

- Answer to business question: The headquaters in cluster 1 are the most preferred locations to open a new Coffee Shops.

- Findings of this project will help the relevant stakeholders to capitalize on the opportunities on high potential locations while avoiding overcrowded areas in their decisions to open a new Coffee Shops.

Thank you!