

IBM Applied Data Science Capstone Project

Opening New Bar in Delhi, India

By

Kumar Sanu

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Business Problem

- Location of bar is the key factor that will determine the success or failure of bar.
- Objective:- To select the best locations in Delhi, India to open bar.
- If someone wants to open a new bar in Delhi, the capital of India, where they should open?

Data

- Data Required:-

- List of Neighborhoods in Delhi
- Latitude and Longitude of each Neighborhoods.
- Venue data especially related to bar category

- Data Source:-

- Wiki page for Neighbourhoods
(https://en.wikipedia.org/wiki/Neighbourhoods_of_Delhi)
- Geopy package for Latitude and Longitudes
- Foursquare API to get venue Data

Methodology

- Web Scraping to extract Neighbourhoods from wiki page
- Getting geographical co-ordinates using Geopy Package
- Venues Information through Foursquare API
- Grouping venue data by Neighbourhood and taking mean of frequency of occurrence of each category
- Filter venue category by Bar
- Perform Clustering using K-means Algorithm
- Visualizing Clusters on map using Folium
- Analyzing each Cluster

Results

- Categorized the Neighbourhoods into 3 clusters:-
 - Cluster 0: Neighbourhoods with moderate concentration of Bar (Red color in map)
 - Cluster 1: Neighbourhoods with non-existence of Bar (Violet color)
 - Cluster 2: Neighbourhoods with higher concentration of Bar(Aquamarine color)

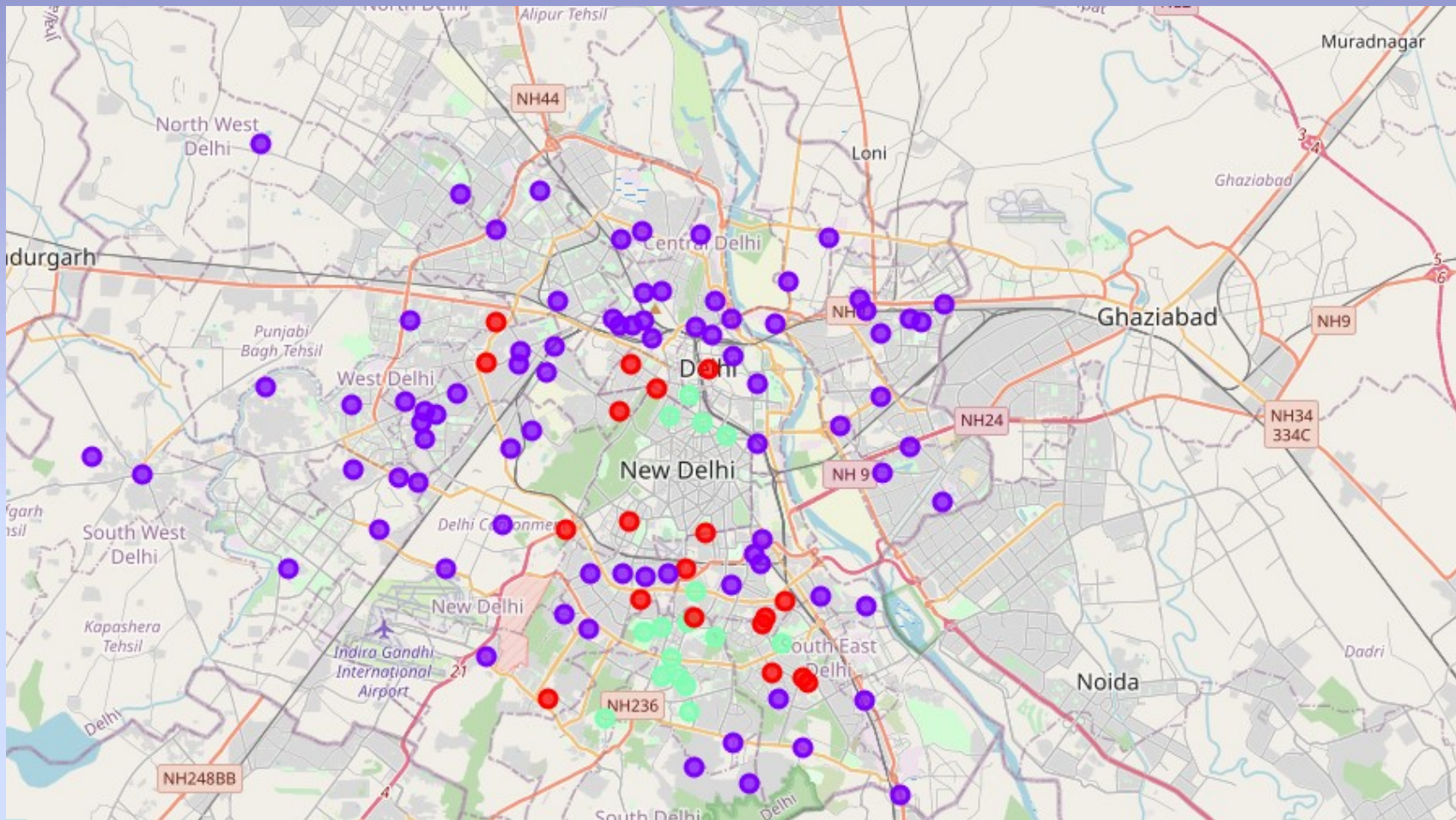


Fig. Map of Delhi and its Neighbourhood (Circle marker in different colour)

Discussion

- Most of the bar are concentrated in South Delhi and New Delhi with highest number in Cluster 2 and moderate in Cluster 0
- Cluster 1 Neighbourhoods have no bar.
- No competition in Cluster 1 while moderate competition in Cluster 0

Recommendation

- Open bar in cluster 1 Neighbourhoods with no competition.
- Open bar in cluster 0 Neighbourhoods with moderate competition
- Avoid considering cluster 2 Neighbourhoods which already have high concentration of Bar.

Future Scope

- Consider other factors for analysis by gathering data such as Demographics, Rent and Utilities Costs, Zoning restrictions etc. at Neighbourhood level.
- Using Paid account of Foursquare API for better results

Conclusion

- **Answer to the business problem** ‘If someone wants to open a new bar in Delhi, the capital of India, where they should open?’ **is:-**

Neighbourhoods of Delhi which is in cluster 1 are the best places to open new bar.

Thank You