



Opening a New Shopping Mall in Delhi, India

Data Science Project

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Business Problem

- Location of a shopping mall is an important factor when deciding to build a new shopping mall. It contributes a lot in the failure or success of the shopping mall.
- Objective: To analyse and select the best location in the city of Delhi, India to open a new shopping mall.
- Problem Question:

In the city of Delhi, India if a property builder is looking for a location to open a new shopping mall, where would you recommend that they open it?

DATA

Data Required:

- List of neighbourhoods in Delhi, India.
- Latitude and longitude co-ordinates of the neighbourhoods.
- Venue data, particularly related to shopping malls.

Sources of Data:

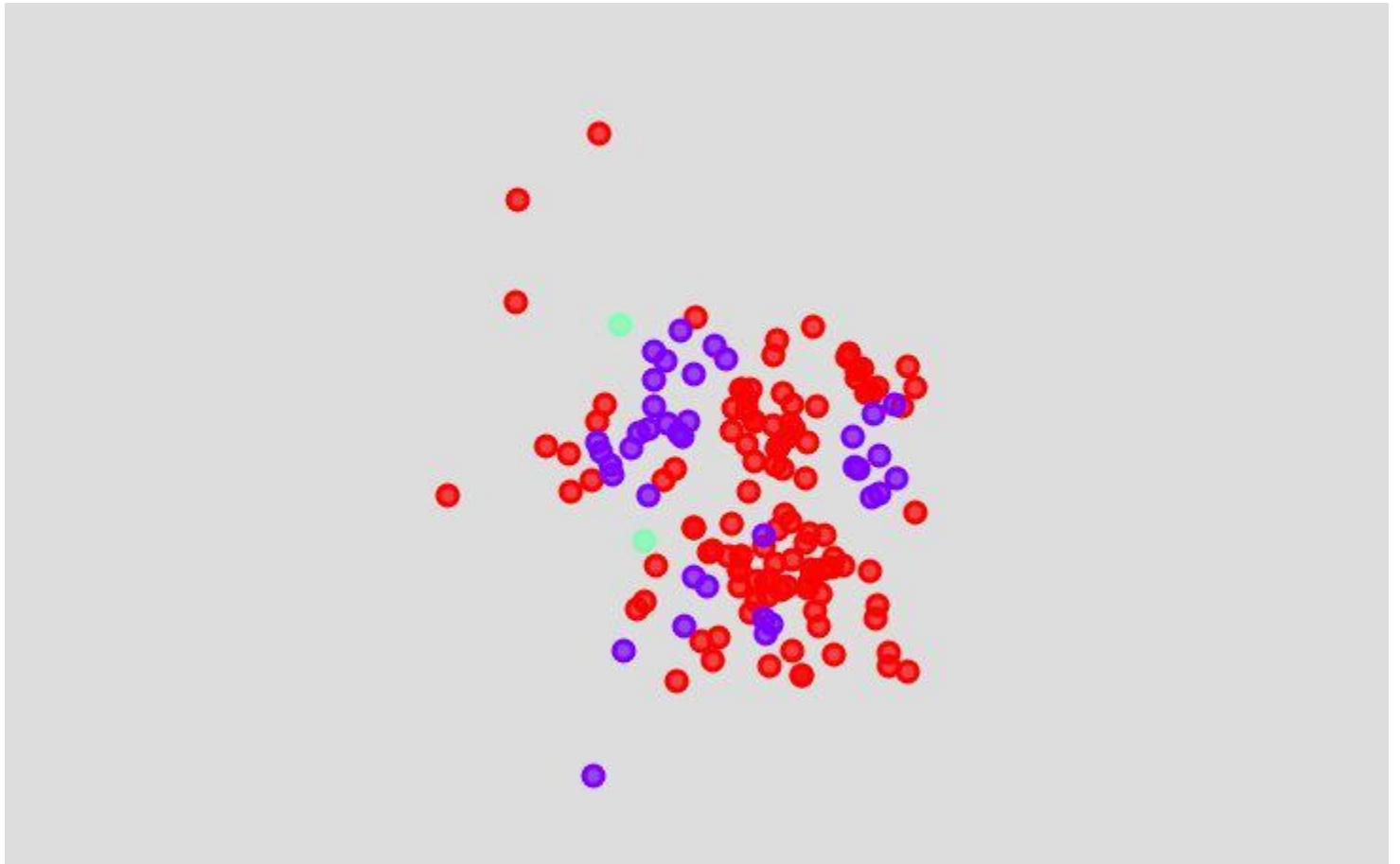
- Csv file from Kaggle.com
- Foursquare API for venue data

METHODOLOGY

- Getting data from csv database.
- Cleaning the data for better results.
- Use Foursquare API to get venues.
- Group data by neighbourhood and take the mean of frequency of occurrence of each venue category.
- Filter venue category by shopping mall.
- Perform clustering on the data using k-means clustering.
- Visualize the clusters in a map using Folium.

RESULTS

- Categorized the neighbourhoods into 3 clusters:
 1. Cluster 0: Neighbourhoods with low or no existence of shopping malls.
 2. Cluster 1: Neighbourhoods with moderate number of shopping malls.
 3. Cluster 2: Neighbourhoods with high concentration of shopping malls.





DISCUSSION

- Highest number of shopping malls are in cluster 2.
- Cluster 0 has low to no existence of shopping malls.
- Maximum number of neighbourhoods come under cluster 0, which means, most of the neighbourhoods of Delhi, India have low to no shopping malls.



RECOMMENDATIONS

- Open new shopping malls in neighbourhoods of cluster 0 with little or no competition.
- Can also open in cluster 1, in neighbourhoods which have a few shopping malls if your idea is unique and can compete with the existing ones.
- Avoid cluster 2 as it has high concentration of existing malls and thus, will have a huge competition.

CONCLUSION

- Answer to the business question:
The neighbourhoods in cluster 0 are the most preferred locations to open a new shopping mall.
- Findings of this project will help the relevant stakeholders to capitalize on the opportunities on high potential locations while avoiding overcrowded areas in their decision to open a new shopping mall.



Thank You!