

Coursera Capstone

Opening a New Shopping Mall in Ho Chi Minh city, Vietnam

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Business Problem

- Location of the shopping mall is one of the most important decisions that will determine whether the mall will be a success or a failure
- Objective: To analyze and select the best locations in the HCM city to open a new shopping mall
- This project is timely as the city is currently suffering from oversupply of shopping malls
- Business question:
 - In the city of HCM city, if a property developer is looking to open a new shopping mall, where would you recommend that they open it?



Data

- Data required
 - List of neighborhoods in HCM city
 - Latitude and longitude coordinates of the neighborhoods
 - Venue data, particularly data related to shopping malls
- Sources of data
 - Wikipedia page for neighbourhoods:
https://en.wikipedia.org/wiki/Category:Districts_of_Ho_Chi_Minh_City
 - Geocoder package for latitude and longitude coordinates
 - Foursquare API for venue data



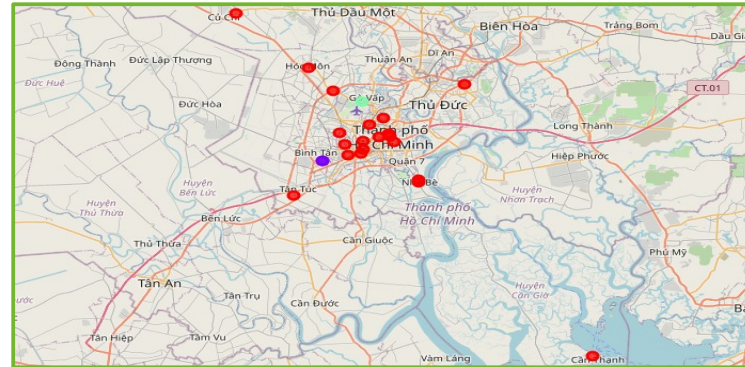
Methodology

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



Results

- Categorized the neighborhoods into 3 clusters :
 - Cluster 0: Neighborhoods with high concentration of shopping malls
 - Cluster 1: Neighborhoods with moderate number of shopping malls
 - Cluster 2: Neighborhoods with low number to no existence of shopping malls



Discussion

- Most of the shopping malls are concentrated in the central area of the city
- Highest number in cluster 2 and moderate number in cluster 0
- Cluster 1 has very low number to no shopping mall in the neighborhoods
- Oversupply of shopping malls mostly happened in the central area of the city, with the suburb area still have very few shopping malls

