Coursera Capstone
IBM Applied Data Science Capstone

- ***Opening a New Shopping Mall in Kuala Lumpur, Malaysia***
- By: OSAMA MOHAMAD ALADIB
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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 analyse and select the best locations in the city of Kuala Lumpur, Malaysia 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 Kuala Lumpur, Malaysia, if a property developer is looking to open a new shopping mall, where would you recommend that they open it?

Data

- Data required:

i. List of neighborhoods in Kuala Lumpur

ii. Latitude and longitude coordinates of the neighborhoods

iii. Venue data, particularly data related to shopping malls

- Sources of data

I. Wikipedia page for neighborhoods(https://en.wikipedia.org/wiki/Category:Suburbs_in_Kuala_Lumpur)

II. Geocoder package for latitude and longitude coordinates

III. 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 neighborhood 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 neighbourhoods into 3 clusters :

- Cluster 0: Neighbourhoods with moderate number of shopping malls

- Cluster 1: Neighbourhoods with low number to no existence of shopping malls

- Cluster 2: Neighbourhoods with high concentration of shopping malls
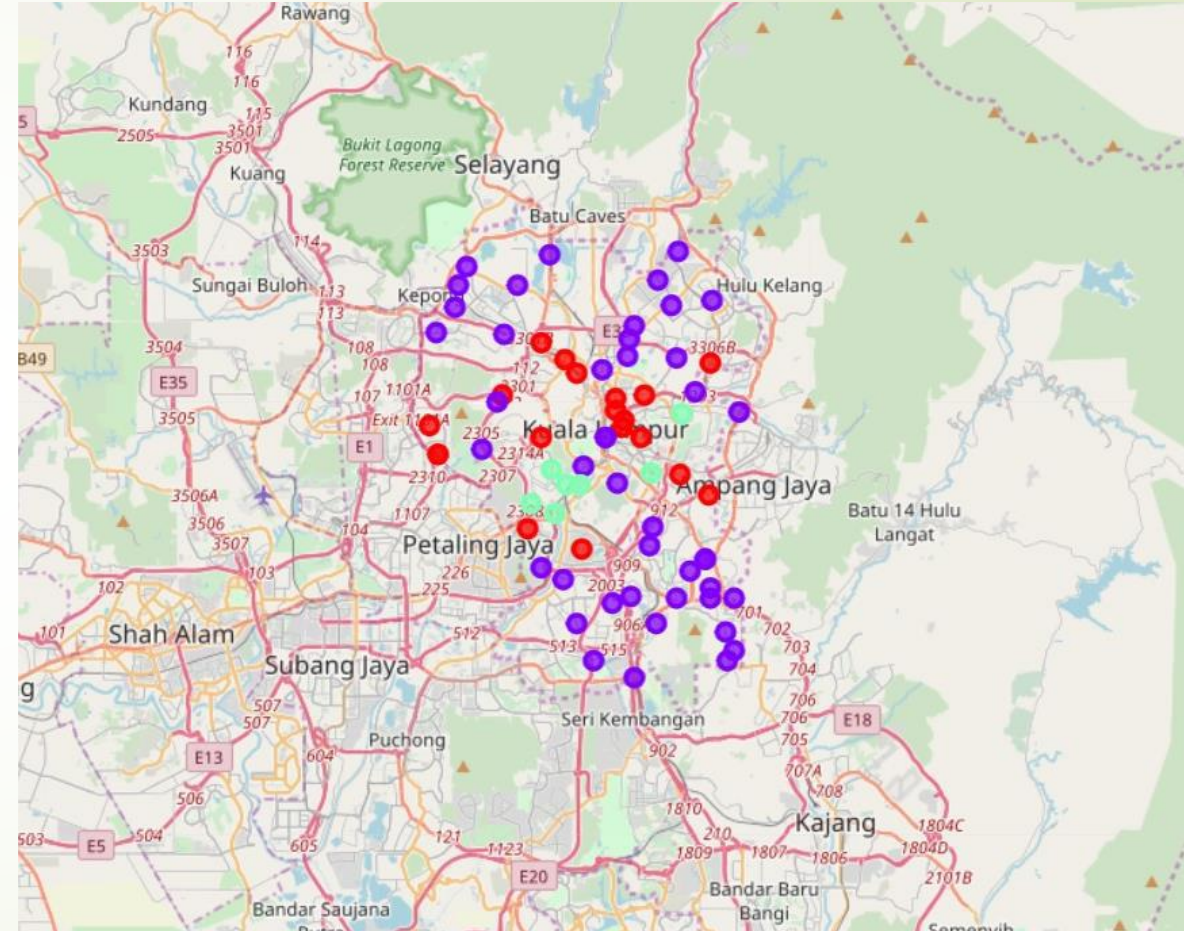
Discussion

- 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 neighbourhoods

- Oversupply of shopping malls mostly happened in the central area of the city, with the suburb area still have very few shopping malls

Recommendations

- Open new shopping malls in neighbourhoods in cluster 1 with little to no competition

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

- Avoid neighbourhoods in cluster 2, already high concentration of shopping malls and intense competition

Conclusion

- Answer to business question: The neighbourhoods in cluster 1 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

Thank you!