

Applied Data Science Capstone
*A New Mall in Kuala Lumpur, is it
worth it ?*

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Business Challenges

- 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 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 and Resources

- List of neighborhoods in Kuala Lumpur
- Latitude and longitude coordinates of the neighborhoods
- Venue data, particularly data related to shopping malls
- Wikipedia page for neighborhoods
(https://en.wikipedia.org/wiki/Category:Suburbs_in_Kuala_Lumpur)
- Geocoder package for latitude and longitude coordinates
- Foursquare API for venue data

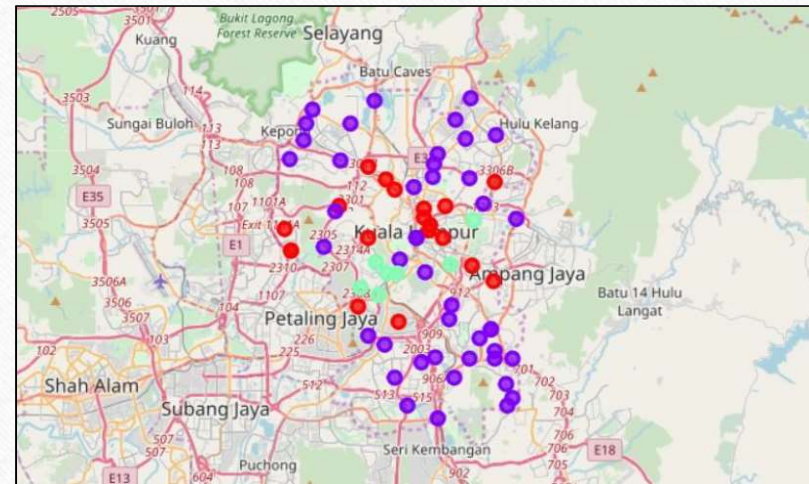
Methods and Technics

- 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 and Insights

Categorized the neighborhoods into 3 clusters :

- **Cluster 1:** Neighborhoods with moderate number of shopping malls
- **Cluster 2:** Neighborhoods with low number to no existence of shopping malls
- **Cluster 3:** Neighborhoods with high concentration of shopping malls



Discussion and findings

- Most of the shopping malls are concentrated in the central area of the city
- Highest number in cluster 3 and moderate number in cluster 1
- Cluster 2 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

Recommendations

- Open new shopping malls in neighborhoods in cluster 2 with little to no competition
- Can also open in neighborhoods in cluster 1 with moderate competition if have unique selling propositions to stand out from the competition
- Avoid neighborhoods in cluster 3, already high concentration of shopping malls and intense competition