COURSERA CAPSTONE

IBM APPLIED DATA SCIENCE CAPSTONE

OPENING A NEW RESTAURANT IN KULA LUMPUR, MALAYSIA

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BUSINESS PROBLEM

- Location of the restaurant is one of the important decisions that will determine whether the restaurant will be a success or a failure
- Objective : To analyze and select the best locations in the city of Kula 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 restaurant, where would you recommend that they open it?

DATA

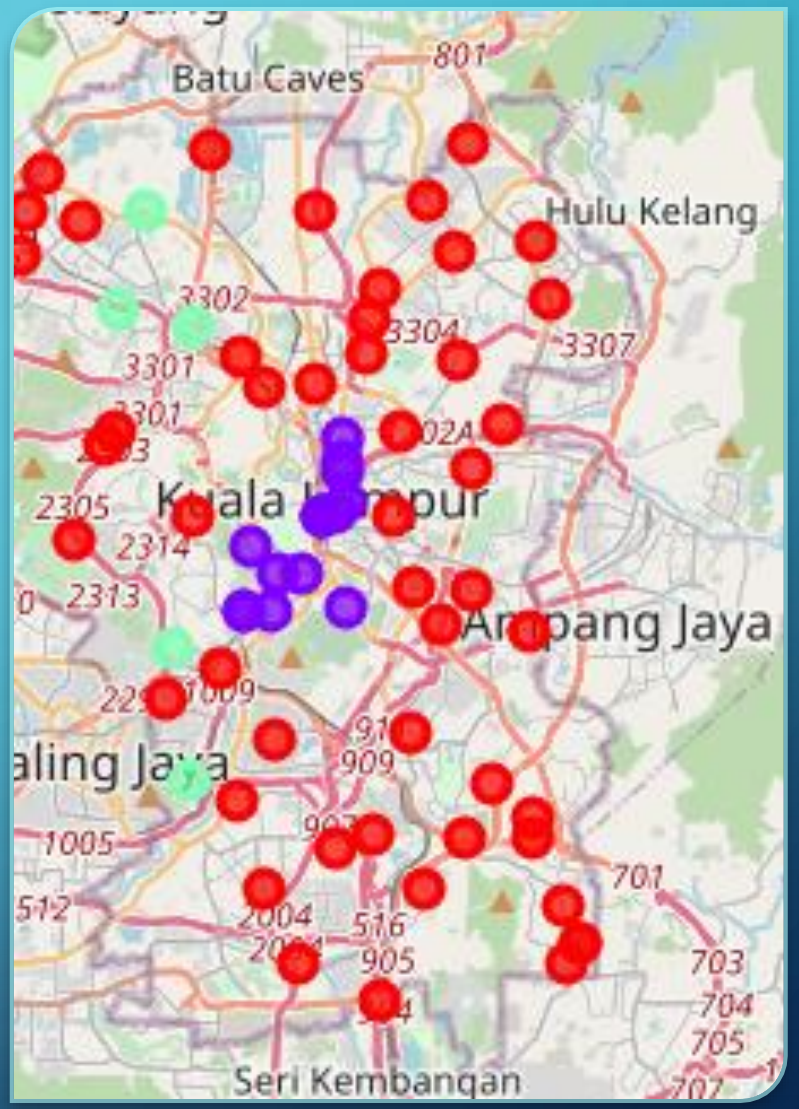
- Data required
  - List of neighborhoods in Kula Lumpur
  - Latitude and Longitude coordinates of the neighborhoods
  - Venue data, particularly data related to shopping malls
- Source of data
  - Wikipedia page for neighbourhoods (https://en.wikipedia.org/wiki/Category:Suburbs_in_Kuala_Lumpur)
  - 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 the venue data
- Group data by neighborhood and taking the mean of the frequency of occurrence of each venue category
- Filter venue category by Restaurant
- Perform clustering on the data by using k-means clustering
- Visualize the cluster in a map using Folium

RESULT

- Categorized the neighborhoods into 3 clusters:
  - Cluster 0: Neighborhoods with the with low number of Restaurants.
  - Cluster 1: Neighborhoods with the high number of Restaurants.
  - Cluster 2: Neighborhoods with the moderate number of Restaurants.



DISCUSSION

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

RECOMMENDATIONS

- Open a new restaurant in neighborhoods in cluster 0 with the little to no competition.
- Can also open in neighborhood in cluster 2 with the moderate competition if have unique selling propositions to stand out from the competition
- Avoid neighbourhoods in cluster 1 already high concentration of restaurants and intense competition.

CONCLUSION

- Answer to business question: The neighborhoods in cluster 0 are the most prefer locations to open a new shopping mall.
- Findings of this project will help the relevant stakeholders to capitalize on the opportunities on high potentials location will avoiding overcrowded areas in their decisions to open a new restaurants.

THANK YOU