Coursera Capstone IBM Applied Data Science Capstone Opening a New Shopping Mall in Kuala Lumpur, Malaysia by Sneha Srikanth

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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 ➢ List of neighbourhoods in Kuala Lumpur ➢ Latitude and longitude coordinates of the neighbourhoods ➢ Venue data, particularly data related to shopping malls • Sources 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 neighbourhoods list • Get latitude and longitude coordinates using Geocoder • Use Foursquare API to get venue data • Group data by neighbourhood 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 their decisions to open a new shopping mall
- THANK YOU!!