Coursera Capstone IBM Applied

Data Science Capstone

Opening a New Shopping Mall in Kuala Lumpur, Malaysia

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

- 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

RESULTS

- 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 mall

DISCUSSIONS

- 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 competitio

Conclusion

- 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

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Thankyou