

## Coursera IBM Capstone

### **Introduction to business problem**

-> Shopping malls are great way to relax and rejuvenate for people all around the world. This report looks at the aspect of opening a mall in Kuala Lumpur, Malaysia.

-> It is important that the shopping mall has a central location in the city and it can be said that the location of the shopping mall is one of the most important things to consider before opening a shopping mall.

-> This project will also be useful for retailers and investors looking to get into retail space in Kuala Lumpur.

### **Data**

-> To solve this problem, We will need the following data;

1. List of localities in Kuala Lumpur along with their population densities as the scope of this project must be limited to obtain better results.

2. Latitude and longitude coordinates of these areas. 3. Venue data to do clustering

->Data will be obtained by scrapping from wikipedia; [https://en.wikipedia.org/wiki/ Category:Suburbs\\_in\\_Kuala\\_Lumpur](https://en.wikipedia.org/wiki/Category:Suburbs_in_Kuala_Lumpur)

-> Further, we will use Foursquare API to obtain venue data of dense localities.

## Methodology

1. First we scrap neighbourhood data from wikipedia.
2. Next, we use foursquare API to get coordinate information.
3. We then use foursquare to return venue data.
4. Prepare foursquare data for use in clustering
5. Perform k-means clustering on the data

## Results

From k-means clustering, we are able to find 3 different clusters that will be useful for us.

1. With moderate number of shopping malls
2. With low or no existence of shopping malls
3. With high concentration

## Discussion

Most of the malls are located in the central part of the city. Most malls are in the third cluster and least in the second cluster. It can be said that there is a wonderful opportunity to open malls the second cluster as there is little to no competition. Property developers should focus on identifying cluster 2 areas and developing malls here.

## Conclusion

In this process we have dealt with the problem of identifying viable shopping mall locations. After successfully completing this project we are able to say that the most appropriate locations for building malls lie in the second cluster. We are able to recommend neighbourhoods to relevant stakeholders i.e property builders.