CAPSTONE PROJECT WEEK 4

1)INTRODUCTION

In this project I have analyzed potential Greek restaurant place in Toronto, Canada.

2)BUSINESS UNDERSTANDING

Problem Definition: Opening a Greek Restaurant in Toronto, Canada

Question: If we want to make an restaurant investment in Toronto, Canada then where is the best to place to make this investment?

Method: Business Insights and Data Science Methodology

Algorithm: K-means Clustering

3)DATA

1.Neighbourhoods of Toronto and their geographical data as Latitude and Longitude

2.Greek Restaurant Venues

Source

1.Neighbourhoods on Wikipedia and Geocodes

2.Foursquare

Methodology

1. Get the list of neighbourhoods from Wikipedia.
2. Scraping the data with Pandas HTML.
3. Match the coordinates of Toronto Neighbourhoods with Geocoder Package.
4. Visualize the map of Toronto using Folium Package to verify correct coordinates.
5. Create Foursquare developer account.
6. Use Foursquare API to pull the list of top 100 venues within 500 meters Radius.
7. Analyze each neighborhood by grouping the rows by neighborhood and take the mean on the frequency of occurence of each venue category.
8. Look for Thai Restaurant.
9. Perform the clustering method by using KMeans.

10. Cluster the neighborhoods in Toronto into three clusters based on their frequency of occurence for Italian Food .
11. Recommend the ideal location to open the restaurant.

- Cluster 0 : Neighborhoods with no Thai restaurants.
- Cluster 1 : Neighborhoods with the more number of Thai restaurants.
- Cluster 2 : Neighborhoods with the less number of Thai restaurants.

Recommendations

- Most of the Indian restaurants are in cluster 1.
- Lowest in Cluster 0 which are in North Toronto. Also, there are good opportunities to open.
- Looking at nearby venues it seems cluster 2 might be a good location as there are not a lot of Thai restaurants in these areas.
- Therefore, this project recommends the entrepreneur to open an Thai restaurant in these locations.