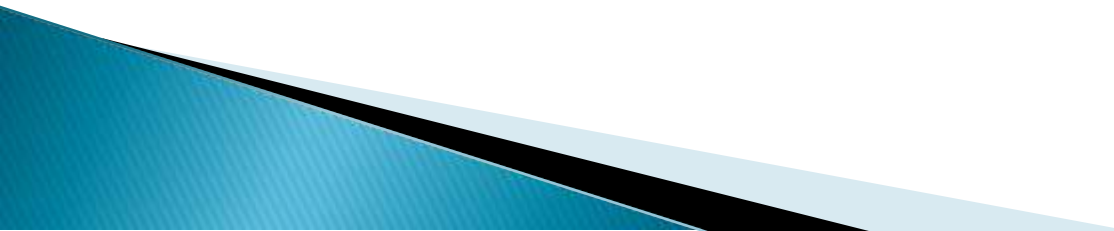# Opening a New Coffee Shop in the city of Toronto

Coursera Capstone

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Business Problem

- Location of the coffee shop is one of the most important decisions that will determine whether it will be a success or a failure.
- Objective: To analyse and select the best locations in the city of Toronto to open a new coffee shop.
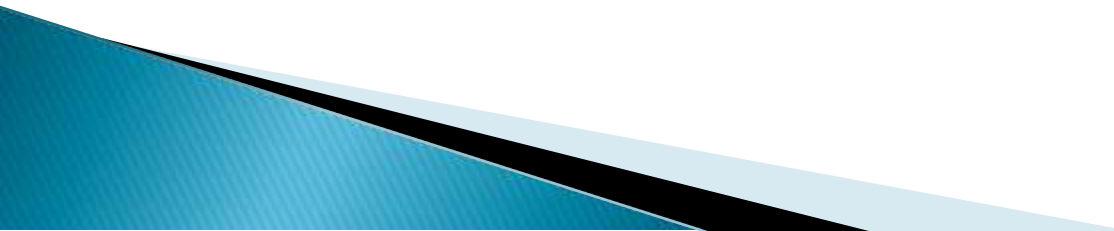- Business question ➢Recommend a good place to open a new coffee shop in the city of Toronto.

Data

- Data required
  - List of neighborhoods in Toronto
  - Latitude and longitude coordinates of the neighborhoods
  - Venue data, particularly data related to coffee shop.
- Sources of data
  - Wikipedia page for neighborhoods
  - Geocoder package for latitude and longitude coordinates.
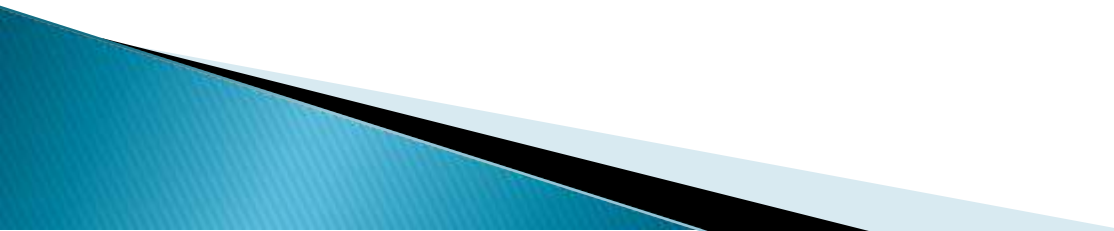 - Foursquare API for venue data

Methodology

- Web scraping Wikipedia page for neighborhoods list
- Get latitude and longitude coordinates using Geocoder
- Use Foursquare API to get venue data
- Group data by neighborhood and taking the mean of the frequency of occurrence of each venue category
- Filter venue category by Coffee Shop.
- Perform clustering on the data by using k-means clustering
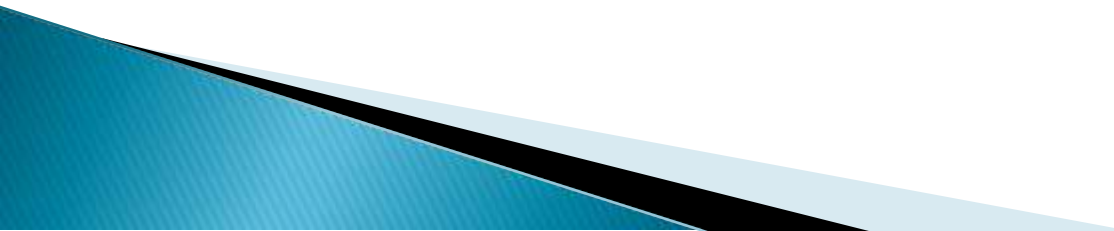- Visualize the clusters in a map using Folium

Results

- Categorized the neighborhoods into 3 clusters :-

  ➢Cluster 0: Neighborhoods with moderate number of coffee shops

  ➢Cluster 1: Neighborhoods with low number to no existence of coffee shops

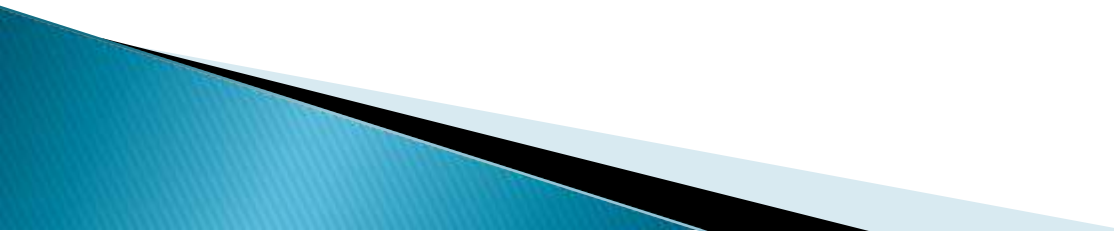 ➢Cluster 2: Neighborhoods with high concentration of coffee shops

Discussion

- Most of the coffee shops 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 of coffee shops in the neighborhoods.
- Oversupply of coffee shops mostly happened in the central area of the city, with the suburb area still have very few coffee shops.

Recommendations

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

Conclusion

- Answer to business question: The neighbourhoods in cluster 1 are the most preferred locations to open a new coffee shop.
- 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 coffee shops.

Thank You!