# IBM Applied Data Science Capstone Report

EVALUATING LOCATIONS FOR A NEW ELEGANT MODERN CHIC RESTAURANT IN TORONTO POPULAR NEIGHBOURHOODS BASED ON DEMOGRAPHICS, LOCATION HIGH FOOT AND CAR TRAFFIC, AND VENUE COMPETITIONS

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### Introduction

The goal of the project is to find a suitable location for new elegant modern chic restaurant & bar within the Top 20 popular neighborhoods in Toronto.

### **Business Problem**

There is a demand for a new elegant modern chic restaurant that will serve delicious mouth-watering meals in a city of Toronto, Canada. Investor/Restauranteur are interested in a location with high foot and car traffic and low competition that will help to maximize the profit on investment. The plan is to have a restaurant that will provide excellent customer service and serve international-inspired cuisine lunch and supper meals.

Targeted customers: middle class

Audience & Stakeholders: restaurateurs/investors

#### **Data**

This project will extract insight from data to find the best location to open a new elegant modern chic restaurant with a bar in Toronto. The high foot and car traffic, accessibility, competition from similar kind of restaurant as well as the average income are used as criteria to find a suitable location. Thus, the project will utilize data for a list of popular/busiest neighborhood in the city of Toronto its venues and demographic data.

- 1. The search will be narrowed to the list of top 20 popular neighborhoods in Toronto that will be compiled manually based on research.
- 2. The demographic data for Toronto will be scrapped from Wikipedia https://en.wikipedia.org/wiki/Demographics\_of\_Toronto\_neighbourhoods and then cleaned before combined with other data to find a suitable location for a new restaurant. In this case, we are interested in demographics data for Toronto popular neighborhoods specifically population, average income, and density.
- 3. The list of postal code, neighbourhood and borough will be scrapped from Wikipedia page: https://en.wikipedia.org/wiki/List\_of\_postal\_codes\_of\_Canada:\_M using beautiful –soup. This list will be cleaned
- 4. The list of geographical coordinates (longitude and latitude) of each postal code: http://cocl.us/Geospatial\_data for the neighborhoods in Toronto. The location latitude and longitude will be used in foursquare to find more information.
- 5. The Foursquare API will be used to retrieve the list of most popular top 50 venues for each of the selected popular neighborhoods location in Toronto within a radius of 1.5 km.