IBM-COURSERA DATA SCIENCE CAPSTONE PROJECT – week 1

NEW VEGAN RESTAURANT IN TORONTO

1.INTRODUCTION

1.1 Background

Toronto is the capital city of the Canadian province of Ontario. It is the most populous city in Canada and the fourth largest city in North America. It is made up of the former cities of Toronto, North York, Scarborough, York and Etobicoke, and the former borough of East York. The city is home to a large immigrant population, and is an international center of business, finance, arts, and culture.

It is recognized as one of the most multicultural and cosmopolitan cities in the world

The restaurant and food service industry is one of the fastest growing industries in Canada today. The annual sales generated by the restaurant industry in Ontario are $33 Billion and there are 9,1 Million visits to restaurants every day (Source: https://www.restaurantscanada.org/resources/#infographics)
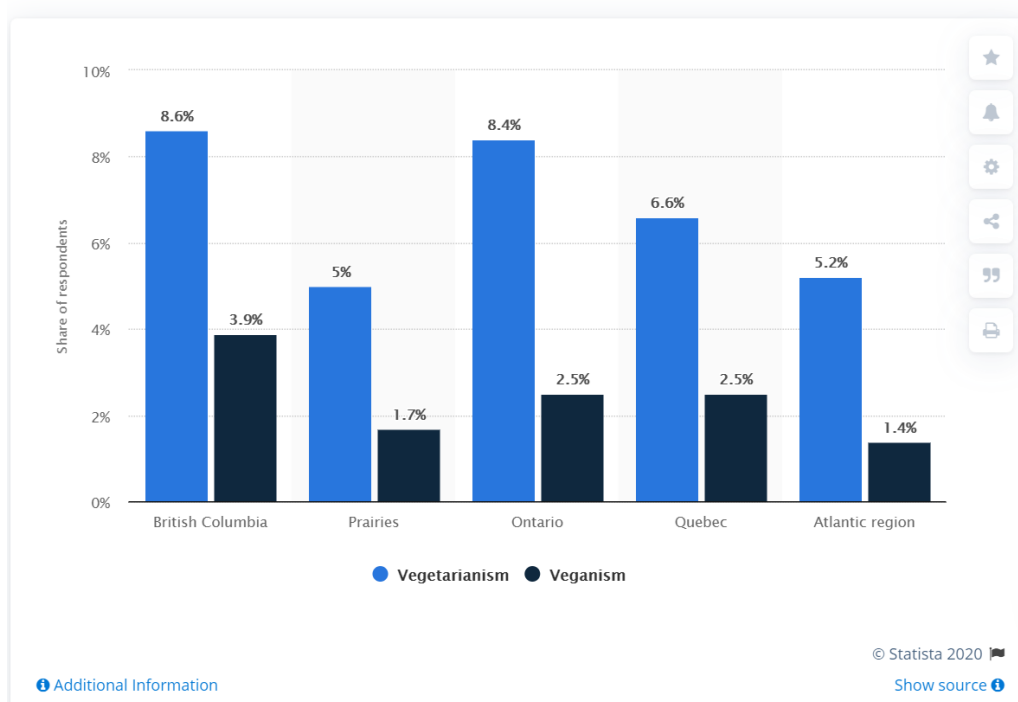
As a cosmopolitan and diversity city the resaruant offer is very wide blab bla...a lot of different cuisenis and . Vegan resatguran also important precent.

Veganism has emerged as one of the top food and lifestyle trends in the past few years. In 2020, the global market for veggie products (vegan, flexitarian and vegetarian) will reach 5 billion dollars and an exponential growth is expected in successive years.

The main reasons for becoming a veggie are sustainability, health and respect for animals.

Canada's is home to approximately 850,000 vegans and there are nearly 2.3 million vegetarians (source: Statista) That number is increasing, and it's estimated that the number of Canadians going meatless or eating less meat could exceed 10 million by 2025.

The following chart shows the percentage of vegetarians and vegans in Canada as of March 2018, by region (source Statista. https://www.statista.com/topics/3262/vegan-vegetarian-diets-in-canada). Ontario is the second region with the highest percentage of vegetarian and vegans

It seems like veganism is really catching on, with more vegan restaurants, more vegan options and more grocery stores carrying vegan food.

Moreover, people, especially in cosmopolitan cities like Toronto, are more open to trying and exploring vegetarian or vegan restaurants even if they do not follow a strictly vegan or vegetarian diet.

1.2 Problem

The objective of this project to determine which might be the 'best' neighborhoods in Toronto to open a vegan restaurant.

Location is one of the most important decision to make when you want to open a new restaurant, and even more when it comes to a niche business like a vegan restaurant.

There are several factors that would affect the success of a new restaurant which are directly related to the location such as visibility and accessibility (look for spots that have good street visibility and are easily accessible),demographics (you have to consider a location frequented by your potential client target) , or competition.

Moreover, veganism is often associated with a healthy and conscious lifestyle, therefore an ideal spot might be near a successful yoga studio or healthy shop...

1.3 Stakeholders

This study would be extremely useful for any entrepreneur that want to open a vegan restaurant in the city of Toronto.

The analysis will provide vital information about the more suitable locations for a vegan restaurant which can be used by this target audience.

2.DATA DESCRIPTION

The main data that we use for this project is:

- List of all borough in Toronto and their corresponding neighborhoods
- Coordinates of all neighborhoods
- Venues information for each neighborhood

In accordance with the objective of the project, the factors that will help to make a final decision (where is better to open a vegan restaurant) are:

- Number of existing Vegan restaurants in the neighborhood
- Number of existing Yoga Studio in the neighborhood
- Most common venues of each neighborhood

Data sources and acquisition

We make use of a few data sources to get the data required for this project.

1. Wikipedia

https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M

The Wikipedia provides almost all the information about the neighborhoods in Toronto. It includes the postal code, borough, and the name of each neighborhoods.

Since the data is not in a format that is suitable for analysis, scraping of the data is done from this site using Beautiful Soup Library. We put the data into a data frame.

2. Geospatial data.

https://cocl.us/Geospatial_data

The second source of data was given by the Coursera course and provides us with the geographical coordinates of all neighborhoods and venues. The file is in CSV format and we can read it using Pandas Library.

3. Foursquare API.

We will get the various location-related data, like the kinds of places in a particular neighborhood, using Foursquare API. This data will include the type of shops, restaurants, cafes, etc. in each neighborhood. We will make calls to Foursquare API using our credentials to acquire these location-related data.