Capstone Project - The Battle of Neighborhoods

Opening Middle Eastern Restaurant in Ottawa (Canada)

1. Introduction

1.1 Background

- **About Ottawa:**

Ottawa is Canada's capital, in the east of southern Ontario, near the city of Montréal and the U.S. border. Sitting on the Ottawa River, it has at its center Parliament Hill, with grand Victorian architecture and museums such as the National Gallery of Canada, with noted collections of indigenous and other Canadian art. The park-lined Rideau Canal is filled with boats in summer and ice-skaters in winter. Ottawa is the nation's capital and the fourth largest urban region in Canada. It includes over 1.4 million people, 66% of whom live in Ottawa and the rest in neighboring municipalities, including Gatineau (located across the Ottawa River in Quebec). A special feature of the region is that both English and French are widely spoken and reflected in the City's culture and commerce. Ottawa is also multicultural with a large and growing immigrant population that enriches the city.

- **About Economic:**

On the economic front, Ottawa is a major economic engine, offering jobs and opportunities in high tech industries, government, and important sectors such as health and education. The City is home to world-class research centers, top notch academic institutions and operations by major international companies.

- **About Population:**

The city grew more than 9% from 2006 to 2011, surpassing the national average of 5.9%. Ottawa is currently bracing itself for a population boom outside of the Greenbelt, which is expected to grow from 291,000 now to 432,000 by 2031.

1.2. Problem

In this project, I will investigate that if there is any good location in Ottawa for opening Middle Eastern restaurant, And should I open an Middle Eastern restaurant restaurant to have the best chance of being successful?

1.3. Interest

Anyone who wants to open a new venue in any geographic location may be interested in this project by modifying search criteria.

2. Data

2.1 Data sources

To consider the problem we can list the data as below:

- I get the neighborhood data of Ottawa from Google Search.
- I will use python geocoder library to get geographical coordinates of neighborhoods.
- I will use Foursquare API venues explore method to get the venues of given neighborhoods of Ottawa.
- I will use Foursquare API venues method to get ranks and likes of restaurants by given venue id.

A. References:

- [1] Ottawa - Google Search
- [2] Ottawa Ranking Communities
- [3] Python Geocoder Library
- [4] Foursquare API

2.2 Feature Selection and Data Usage

I will use neighborhood location values to analyze Ontario geographical structure. I will use folium library of python to draw maps by using given latitude and longitudes of neighborhoods. Selected features will be as below

	Neighborhood	Latitude	Longitude
0	Orléans	45.481032	-75.510000
1	Downtown	34.042849	-118.247673
2	Barrhaven	45.265225	-75.765974
3	ByWard Market	45.427917	-75.692601
4	Stittsville	45.269066	-75.914523
5	Manotick	45.212412	-75.708178
6	Westboro	45.391962	-75.754290
7	Skyline	44.142188	-94.030789

Description of the problem

I will also classify neighborhoods by using venues distribution and counts. In this way, I will find similarities of neighborhoods which will help me to choose location for opening a new restaurant. Similar structured neighborhoods may handle same type of venue.

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
0	Barrhaven	Convenience Store	Health & Beauty Service	Playground	Tattoo Parlor	Dog Run
1	Bells Corners	Construction & Landscaping	Food Truck	Fast Food Restaurant	Thai Restaurant	Sandwich Place
2	Billings Bridge	Restaurant	Coffee Shop	Spa	Pet Store	Breakfast Spot
3	Blackburn Hamlet	Convenience Store	Pub	Skating Rink	Supermarket	Sandwich Place
4	Britannia Bay	Curling Ice	Insurance Office	Harbor / Marina	Women's Store	Donut Shop

I will use venue list category to find distribution of restaurants and Middle Eastern restaurants in neighborhoods.

Venue	Venue Latitude	Venue Longitude	Venue Category
Shenkman Arts Centre / Centre des Arts Shenkman	45.480352	-75.511153	Concert Hall
St. Martha's Brasserie d'Orléans	45.480228	-75.509322	French Restaurant
Farm Boy	45.477637	-75.513385	Grocery Store
Ruddy Family YMCA-YWCA	45.481075	-75.509561	Gym
D'Arcy McGee's Orleans	45.480339	-75.509677	Irish Pub
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Arturo's Market	45.440045	-75.675879	Italian Restaurant
Second Cup	45.440062	-75.676216	Coffee Shop
Metro	45.439402	-75.676033	Supermarket
Beechwood Oasis	45.440160	-75.675160	Spa
Quickie	45.440067	-75.675232	Convenience Store