**BBQ CHAIN EXPANSION**

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1. **Introduction** 
   1. **Background**

A BBQ restaurant chain wants to expand internationally, the client and fellow stake holders are interested in the city of Toronto, Canada. The Client was born and raised in the city, and after moving the southern states of America, began to open “Build your own plate” style BBQ restaurants (think Chipotle). The clients are interested in opening multiple location across the city of Toronto and have request the task we provide other established restaurant information.

The main objectives of this assignment is to identify the number of restaurants in a given location of Toronto to determine the amount of competition in the area, and to see if there is an established running BBQ restaurant in the area.

* 1. **Problem**

We will only be using Foursquare data, so the only information we will have available is information provided by Foursquare. Likewise, the postal code information data will have some missing values, but this will be discussed later in the document.

* 1. **City Data**

Toronto, Canada is the capital of the province of Ontario. The city consists of 6.19 million people (worldpopulation.com). The population of Toronto has a median income of $83,020. (statcan.gc.ca)

1. **Data**

**2.1 Sources**

The data for the restaurants will be provided by <https://developer.foursquare.com/> for the latest and update restaurant information. For the zip code and neighborhood locations we will be using a Wikipedia table <https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M>. For the location of the neighborhoods and postal codes provided via Wikipedia, we will be using <https://cocl.us/Geospatial_data> for the Latitude and Longitude values.

* 1. **Data Cleaning**

The data scraped from multiple sources will be place into a combined Pandas data frame table. Any missing “neighborhood” values will be replaced with “borough” information. If there is a cell with no “borough” information that cell will be ignored. The data will be grouped by “Postal Codes” and ‘Borough”. We will also be eliminating multiple entries. When working with Foursquare data, we will be mainly focusing on “Restaurants”, even though we will briefly discuss other venues in the area.

Below is an example result of the data cleaning.

See here:

A screenshot of a cell phone

Description automatically generated

* 1. **Feature Data**

After the data cleaning we are left with 100 rows of data by 5 columns. Those columns listed in order: Postal Code, Borough, Neighborhood, Latitude, and Longitude.

1. **Data Analysis**

**3.1 Target Variable**

Again, our main object was to assess the competition in the area, along with analyzing the amount of other venues in the area, including other restaurants. After running our analysis we are left with 50 different restaurants in each City (This is due to Foursquare rate limit).

* 1. **Data Visualizations**

The first thing analyzed was a map of Toronto, and the neighborhoods within. This is done to get a sense of the entire location the client is interested in along with the different areas. We generated this map with the neighborhoods superimposed on top with yellow circles.

See here:

A close up of a map

Description automatically generated

The client has expressed interested in a denser part of the city, so our first Borough we looked closely at Downtown Toronto. Downtown consist of several different neighborhoods, some of which share postal codes as seen.

A screenshot of a cell phone

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Here we can see a map with the neighborhoods superimposed on top of Downtown Toronto, blue circles indicate their neighborhood center.

See here:

A close up of a map

Description automatically generated

Next, we analyzed the restaurants in this area, allowing us to identify 50 different operating venues. (Reminder, Foursquare only allowed us to call 50, with a limit set to 500.)

List of restaurants in Downtown Toronto:

0 Hemispheres Restaurant & Bistro

1 Victoria's Restaurant

2 The Hot House Restaurant & Bar

3 Some Time BBQ Grill Restaurant 碳烤屋

4 Studio Restaurant

5 Azure Restaurant & Bar

6 Aroma Fine Indian Restaurant

7 North-East Chinese Restaurant 華北美食

8 Victor Restaurant & Bar

9 Cottage Restaurant & Lounge

10 360 Restaurant

11 Restaurant | Adelaide

12 Tundra Restaurant

13 Osgoode Hall Restaurant

14 Richtree Natural Market Restaurants

15 The Senator Restaurant

16 Cali Restaurant

17 Kyoto House Japanese Restaurant

18 Spring Rolls | Japanese Restaurant in Toronto

19 Castries Bar & Five Way Restaurant

20 Maezo Restaurant

21 Yueh Tung Chinese Restaurant

22 Maezo Restaurant & Bar

23 Wah Too Seafood Restaurant

24 New Treasure Restaurant

25 Terrace Restaurant at Elmwood

26 Hong Shing Chinese Restaurant

27 Yulla Asian Fusion Restaurant

28 Alio Restaurant & Wine Bar

29 Donatello Restaurant

30 Hendricks Restaurant & Bar

31 Vineyard Jamaican Restaurant

32 Anoush Restaurant

33 Joe's Indian Restaurant

34 Adega Restaurant

35 Mt. Fuji Japanese Restaurant

36 Akashiro Japanese Restaurant & Bar

37 The Elm Tree Restaurant

38 B.L.D Restaurant

39 Cru Restaurant

40 Golden Thai Restaurant

41 Queen Anne Restaurant

42 GEORGE Restaurant

43 T.C.J. Restaurant

44 Fune Japanese Restaurant

45 Carlton Restaurant

46 The Winding Road Restaurant

47 Citrus Restaurant & Lounge @ The Grand Hotel

48 Zhu's Restaurant

49 Dim Sum King Seafood Restaurant

We visualized and superimposed their location on a map of Downtown Toronto.

See here:

A close up of a map

Description automatically generated

From looking at the map above, we notice a cluster of different restaurants on the same street, Dundas Street West, within a few blocks between Younge Street, and Spadina Avenues, which happens to be the beginning of China Town.

Next, we take a close look at Scarborough, which is located West of Downtown Toronto. Scarborough consist of less neighborhoods and postal codes.

See here:

A screenshot of a cell phone

Description automatically generated

Just like above, we took a closer look at Scarborough with its neighborhoods superimposed on top.

See here:

A close up of a map

Description automatically generated

As we can see these neighborhoods are spread out a bit more than our previous location, Downtown Toronto.

Next, like before, we will analyze the restaurants in Scarborough.

List of restaurants in Scarborough:

0 Silver Spoon Pak-Indian Restaurant

1 Perfect Chinese Restaurant 雅瓊海鮮酒家

2 Karaikudi Chettinad South Indian Restaurant

3 Old Neighbour Restaurant 老街坊天津韩记包子铺

4 In Cheon House Korean & Japanese Restaurant 인천관

5 Beef Noodle Restaurant 老李牛肉麵

6 Sagano Japanese Restaurant

7 South Sea Fish Village Chinese Restaurant

8 Best Friends Chinese Restaurant 會賓樓

9 Sammy's Family Restaurant

10 Fortune House Restaurant

11 Wok Wok Restaurant 恒記粥麵小廚

12 Very Fair Chinese Restaurant 同德樓

13 JXY Dumpling Restaurant

14 Supreme Restaurant and Bar

15 Starlite Family Restaurant

16 Chopsticks SzeChuan Chinese Restaurant

17 The Royal Chinese Restaurant 避風塘小炒

18 Golden Seven Chinese Cuisine Restaurant

19 Federick Restaurant

20 Terry's Restaurant & Bar

21 terry's restaurant

22 Terry's Restaurant

23 La Mere Restaurant 老媽肉餅

24 Konner Chinese Restaurant 玉樓東

25 Restaurant 59

26 Jesse Jr. (Filipino Foods & Restaurant)

27 Timehri Restaurant

28 Susur Restaurant

29 Motimahal Restaurant

30 Yau's Lung Kee Restaurant

31 Joey Bravo's Italian Restaurant

32 Yummy Cantonese Restaurant 老西関腸粉

33 Woburn Garden Restaurant

34 May Yan Seafood Restaurant 陸福海鮮酒家

35 Continental Soiree Family Restaurant & Bar

36 Ox Land Restaurant

37 SINIPINO Chinese Restaurant & Take Out

38 Scarborough Grand Seafood Restaurant

39 King Huang Chinese Restaurant

40 Ocean Castle Seafood Restaurant

41 pengfuxuan Restaurant

42 Lucky House Restaurant

43 Twilight Family Restaurant & Bar

44 Inchen House Korean Restaurant

45 Yuan Yuan Chinese Restaurant

46 Tianjin Dumpling Restaurant 天津包子铺

47 Peking Duck Restaurant 北京烤鸭店

48 Santa roza family restaurant & lounge

49 Fortune Dynasty Chinese Seafood Restaurant

Again, we superimposed to location of the establishments on top of a map of Scarborough to better visualize the area.

See here:

A close up of a map

Description automatically generated

The majority of establishments are located again on one street, Sheppard Avenue East, and the biggest chunk of those are clustered between Brimley Road and Midland Avenue.

Finally, we look at the clients last request, East York. East York has few neighborhoods as we can see from the map below. East York is located between Downtown Toronto and Scarborough.

See here:

A close up of a map

Description automatically generated

We can see from the map that there are less neighborhoods in a much smaller area.

Again, we analyzed the restaurants in the area.

List of restaurants located in East York:

0 Caribbean Palms Restaurant

1 Red Chili Thai Restaurant

2 Abugida Restaurant & Lounge

3 Sunshine Caribbean Restaurant

4 Makkah Restaurant

5 Little Coxwell Restaurant

6 Sorento Restaurant

7 Restaurant Asal

8 Mi Mi Restaurant

9 Mt Everest Restaurant

10 Scarlet Ibis Family Restaurant

11 Faley Restaurant

12 Faley Restaurant

13 The Ritz Restaurant

14 Guest House Chinese Restaurant

15 Mainsha Restaurant

16 Mayettes Famous Restaurant Filipino food

17 Anatolian's Turkish Restaurant

18 Sunshine Bar & Restaurant Supply

19 Rendez-Vous Restaurant Bar & Cafe

20 Tender Trap Restaurant

21 The Curry & Roti Restaurant

22 Hamdi restaurant

23 Afghan Village Restaurant

24 Kabul Restaurant and Bakery

25 Cottage Restaurant & Lounge

26 Sandy's Restaurant

27 East York Restaurant

28 Studio Restaurant

29 Greek Garden Restaurant

30 Makkalchon Korean Restaurant 맛깔촌

31 #27 restaurant

32 Number One Chinese Restaurant

33 Fasiledes Ethiopian Restaurant

34 South Sea Chinese Food Restaurant

35 Danforth Dragon Restaurant

36 Zobel ethiopian restaurant

37 The Corner Place Restaurant Lounge

38 Emerald Restaurant

39 Katsu Japanese Restaurant

40 Lucy Ethiopian Restaurant

41 Occasions Restaurant

42 KABSA MANDI RESTAURANT

43 Carribbean Palms Restaurant

44 The Real Jerk Restaurant

45 Wazema Ethiopian Restaurant

46 Patris Restaurant

47 Al Mandi Restaurant مطعم المندي

48 Taha's restaurant

49 Valley Marketplace Restaurant

Again, we superimposed the location of the establishments on top of a map of East York.

See here:

A close up of a map

Description automatically generated

Again, most establishments are location on a single street, Danforth Avenue. With the majority located between the blocks of Jones Avenue and Coxwell Avenue.

1. **Results**

**4.1 Competition**

After assessing the data retrieved from Foursquare we can safely estimate that restaurant competition is very high, with a diverse choice of establishments and a growing and demanding business population.

**4.2 Restaurant uniqueness**

After assessing the data retrieved from Foursquare we can safely estimate that the client’s restaurant chain will be unique to the area, offering the residents, tourist, and business travels a different option in the area.

**4.3 Recommended starting location**

After assessing three different areas of the city, and assessing the type of restaurants in the area, we recommend opening a location in downtown Toronto. Doing so will offer a wide variety of clients while offering an experience that is totally unique to the area.

1. **Conclusion**

The client requested information regarding there BBQ chain, the information requested was about the local restaurants located in the greater Toronto area, a prospect city for expiation of the chain. We gathered this information using the latest Foursquare data. By being able to visualize and obtain restaurants in three selected areas of the city, Downtown Toronto, Scarborough, and East York, we came to the conclusion that the restaurant experience would be unique, but the competition in the areas are extremely high. Toronto has a growing, diverse, and business population, all of which could provide opportunity to grow the chain with this unique dinning experience for the area.