MeMyselfAndI

Italian Coffee Services

Getting into the Canadian Market

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Introduction

Italian Coffee Services is a company that sells products and services related to coffee. The most sold product/service to the consumer is "Coffee Education". It's a program that started in Italy and shows the customer which coffee taste better for them, their benefits, how is it done as well as selling the product to them. I.C.S are trying to get into the Canadian market. They are already selling in Vancouver. I.C.S. are expecting to find new cities that have similar behavior (constant growth trend in population and their income) such as, Toronto. I.C.S hired Consultant MeMyselfAndI to validate that Toronto is constantly growing in population, in their household income and to see where the first store should be placed. Since their customers normally go to a local or international brand, I.C.S. prefer the store in a place that is close to (but not precisely in the same place) as other coffee shops. At the same time I.C.S. does not like to be on top of other brands, sometimes they are their product customers too.

Problem: If Toronto does qualify to open a new store, where should the store be placed? They are confused since there are too many coffee shops around the city. Where should the first store be?

Data Used:

Consultant MeMyselfAndI are solving the following two questions:

1. Is Toronto the right city for opening a store?
2. If yes, where should the store be placed?

For the first question we are using a group of reports and dashboards from two sources. Both are from different census of Canada. They explain the demographic information of each state as well as Canada in general. Such sources are, Ontario Population Projections and Statistics Canada. For more information go to the References section.

The second question is answered by using three different sources:

- o Foursquare API which will tell us all the venues that exist in Toronto and in each of its zip codes
- o Wikipedia to get the zip codes, borough and neighborhoods around Toronto.
- o We will use the Geospatial Cordinates.csv file that we used in the previous session, which contains a report of zip codes their latitude and longitude. We could use a package from python to get the same information, but for simplicity of the project we will use this file since it comes from a trusted source (Coursera).

Analysis

In **Image 1.1** and **Image 1.2** we can validate that Toronto does achieve the constant growth in their population and their average income over the last years. So, Toronto is in fact a potential candidate for opening a store. Both images, in fact, shows a trend of increasing for the following years.
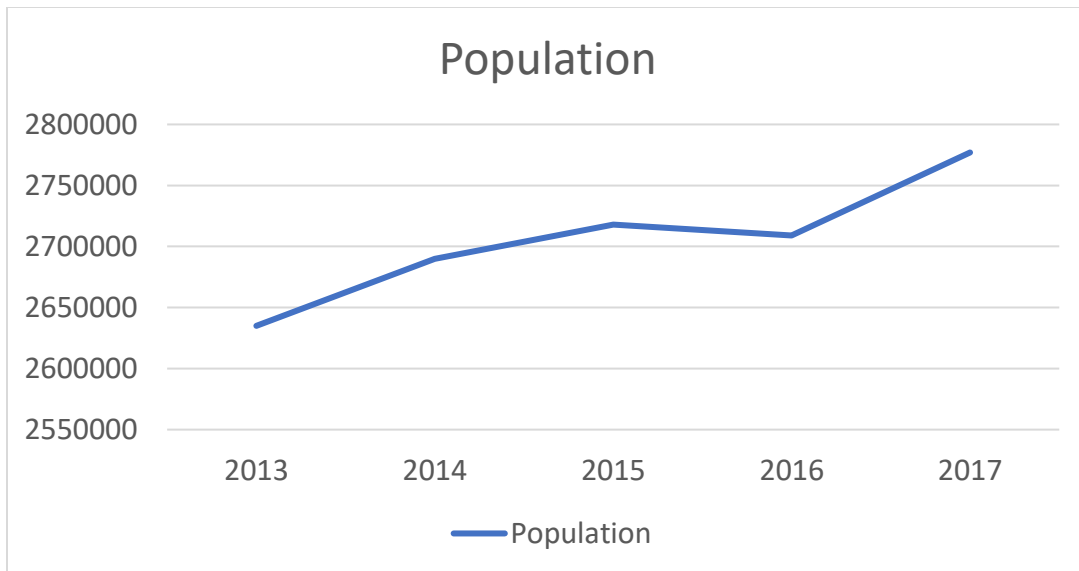
Image 1.1
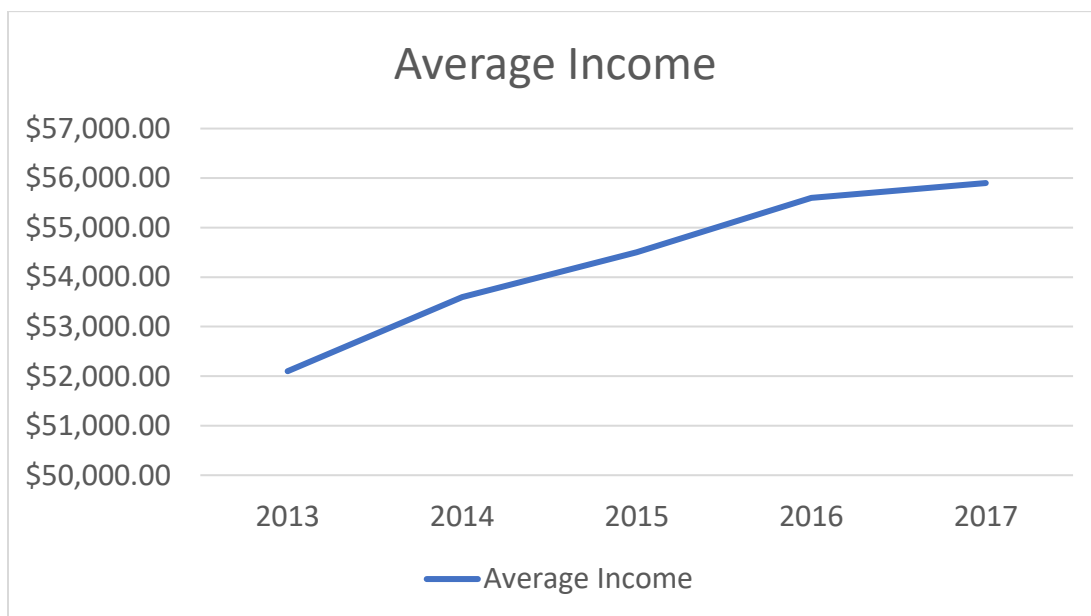
Population

Image 1.2

Average Income

To see where the store should open first, we will need to get the information from Wikipedia.

After cleaning and purifying the information our report looks like **Image 1.3**

Image 1.3

	Borough	Neighborhood
Postcode		
M1B	Scarborough	Rouge, Malvern
M1C	Scarborough	Highland Creek, Rouge Hill, Port Union
M1E	Scarborough	Guildwood, Morningside, West Hill
M1G	Scarborough	Woburn
M1H	Scarborough	Cedarbrae

We then use the information from the .csv file. The table looks like the one in **Image 1.4**

Image 1.4

	Latitude	Longitude
Postal Code		
M1B	43.806686	-79.194353
M1C	43.784535	-79.160497
M1E	43.763573	-79.188711
M1G	43.770992	-79.216917
M1H	43.773136	-79.239476

After running Foursquare APIs, we can see the venues and their neighborhood. **Image 1.5** shows (after cleaning and purifying the data) the venues information while **Image 1.6** shows (after cleaning and ordering the information) the neighborhoods selected for specific regions in the planet, in this case, Toronto.

Image 1.5

name	categories	lat	lng
Downtown Toronto	Neighborhood	43.653232	-79.385296
Textile Museum of Canada	Art Museum	43.654396	-79.386500
Japango	Sushi Restaurant	43.655268	-79.385165
Sansotei Ramen 三草亭	Ramen Restaurant	43.655157	-79.386501
Cafe Plenty	Café	43.654571	-79.389450

Image 1.6

Ryerson, Garden District
St. James Town
Berczy Park
Central Bay Street
Adelaide, King, Richmond

After joining the data between the .csv file, Wikipedia and the venues, we are ready to analyze where should the store be located.

We will be grouping the information by each neighborhood and see what is in each one. We are looking for a high offer of café or coffee shops to the consumer. **Image 1.7** displays the information after grouping the data and displaying the top venues for each neighborhood.

Image 1.8

```
              ----Cabbagetown, St. James Town----
                           venue  freq
              0          Coffee Shop  0.09
              1           Restaurant  0.07
              2    Italian Restaurant  0.04
              3          Pizza Place  0.04
              4              Bakery  0.04


              ----Central Bay Street----
                           venue  freq
              0          Coffee Shop  0.16
              1                Café  0.05
              2    Italian Restaurant  0.05
              3         Burger Joint  0.03
              4       Sandwich Place  0.03
```

Both neighborhoods show that their top venues are related to coffee. After digging in more into these neighborhoods we realize that both are part of the 'Downtown Toronto' Borough. We will filter the information of 'Downtown Toronto'. **Image 1.9** shows a summary of the neighborhoods and their venues in 'Downtown Toronto'.

Image 1.9

	Postal Code	Borough	Neighborhood	Latitude	Longitude	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	
0	M4W	Downtown Toronto	Rosedale	43.679563	-79.377529	1	Park	Playground	
1	M4X	Downtown Toronto	Cabbagetown, St. James Town	43.667967	-79.367675	0	Coffee Shop	Restaurant	
2	M4Y	Downtown Toronto	Church and Wellesley	43.665860	-79.383160	0	Coffee Shop	Japanese Restaurant	R
3	M5A	Downtown Toronto	Harbourfront, Regent Park	43.654260	-79.360636	0	Coffee Shop	Pub	
4	M5B	Downtown Toronto	Ryerson, Garden District	43.657162	-79.378937	0	Coffee Shop	Clothing Store	

We can see that most of the borough's neighborhoods shows that their top venue is a coffee shop. Rosedale does not show that.

Lets now **CLUSTER** the data and see our findings in a map. See the results section for all the information.

Results

After using K-Cluster, Image 1.10 shows how the map will look after clustering the data according to the venues and their geolocation.
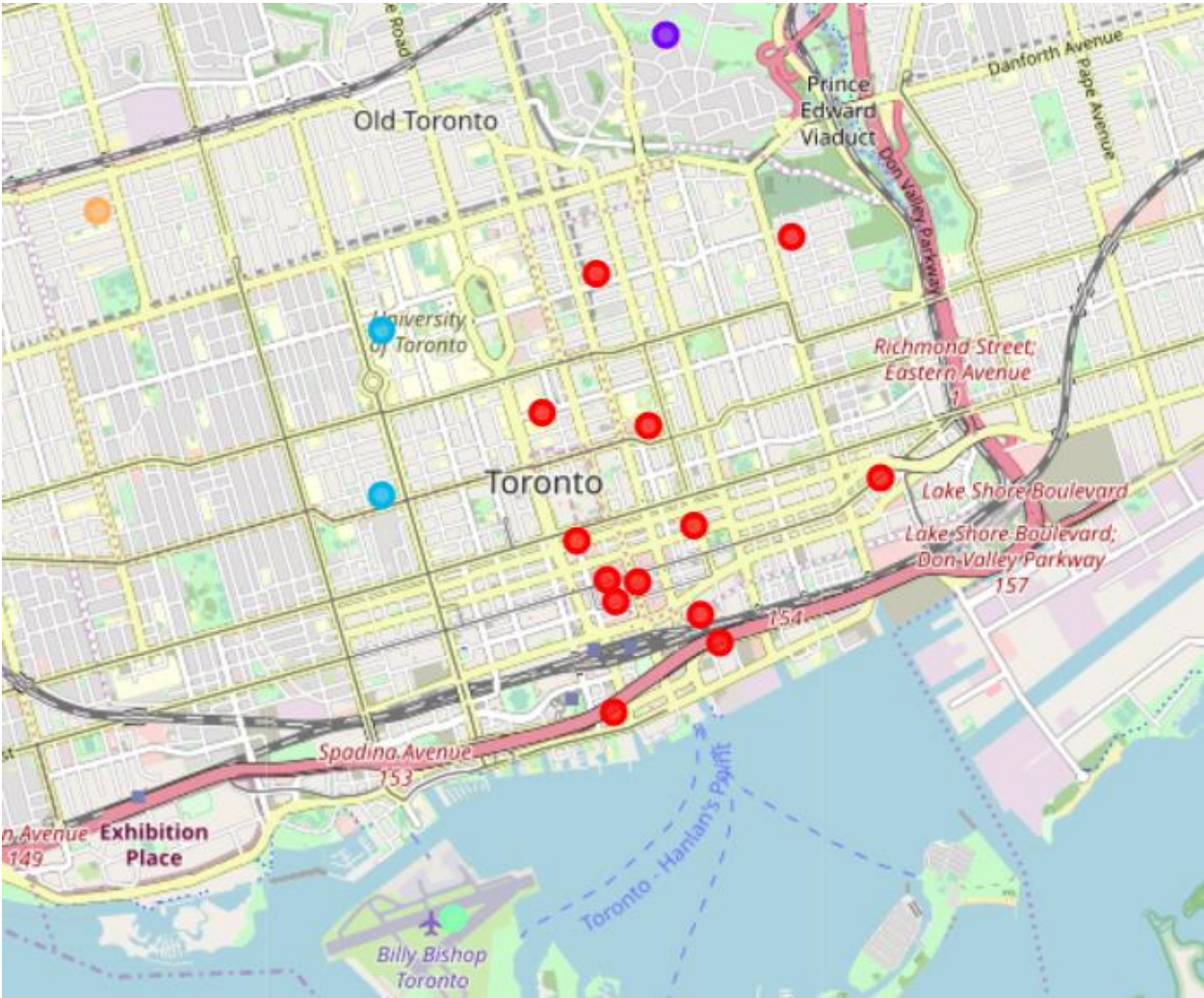
Each color represents a cluster and each dot represent a neighborhood.

The purple dot is ROSEDALE.

Rosedale seems like a good place to open a store to deliver the service of I.C.S. The image below shows that Rosedale does not have a coffee shop as a top venue.

Neighborhood	Latitude	Longitude	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue
Rosedale	43.679563	-79.377529	1	Park	Playground	Trail	Women's Store	Department Store	Ethiopian Restaurant	Electronics Store	Eastern European Restaurant	Dumpling Restaurant

The neighborhood achieves the three requirements:

1. It should be close to the coffee shops/services, to attract the consumers.
2. The store can not be on top of the coffee shops since sometimes they are their product customer too.
3. It is in a city where it has a constant growth in population and their income in the last few years.

Discussion and Observations

Import points:

- Other clusters might work too excluding the red cluster (red cluster is the one that must of their top venues are related to coffee).
- Rosedale was our best candidate since it does not have any top venue related to coffee.
- The other clusters could be an option but some of them have a coffee as one of their top venues.
- We believe that the airport cluster is not an option, even though its top venues are not related to coffee is not the best place to attract consumers.
- Downtown is a high traffic area; this could be the right spot to attract a lot of consumers.
- Most of the top venues in Rosedale are parks, that can be a plus for a coffee store.

Considerations and limitations:

- We are just considering statistics to make this decision.
- We are not considering safety of the neighborhood or borough.
- We are not considering any rule or policies regarding opening a coffee store/service
- We are not considering the environment of the place, this means if it is an old looking neighborhood or the price per square meter.
- With the previous tool we can just define which is the right neighborhood to open a store but not the exact coordinates for it.
- We are just considering the requirements of the customer and the people behavior towards the coffee.

Conclusion

From a statistical point of view this is an interesting case, since it uses different technologies to reach a result. We are using real information from different sources to make an important decision. Where should we open a new store? Statistics is a great way to solve this kind of problem. After searching several boroughs, we figure it out that the best place to open a store is in Rosedale – Downtown Toronto. Still we should increase the level of analysis to have a more accurate decision, but if those are the requirements (and we believe that any consumer-related store will need at least this requirements) it can show a high accuracy in the answer.

Link to my code

https://github.com/guzmanedsel/CapstoneProjectFinal/blob/master/Capstone%20Python%20Code.ipynb

References

Statistics Canada

https://www150.statcan.gc.ca/t1/tbl1/en/cv.action?pid=1110023901#timeframe

Ontario Population Projections

https://www.fin.gov.on.ca/en/economy/demographics/projections/

Geospatial_Coordinates.csv

Wikipedia Canada Zip codes

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

Foursquare API

https://api.foursquare.com/v2/venues/explore?&client_id={}&client_secret={}&v={}&ll={},{}&radius={}&limit={}