THE BATTLE OF NEIGHBORHOODS

Office in Toronto
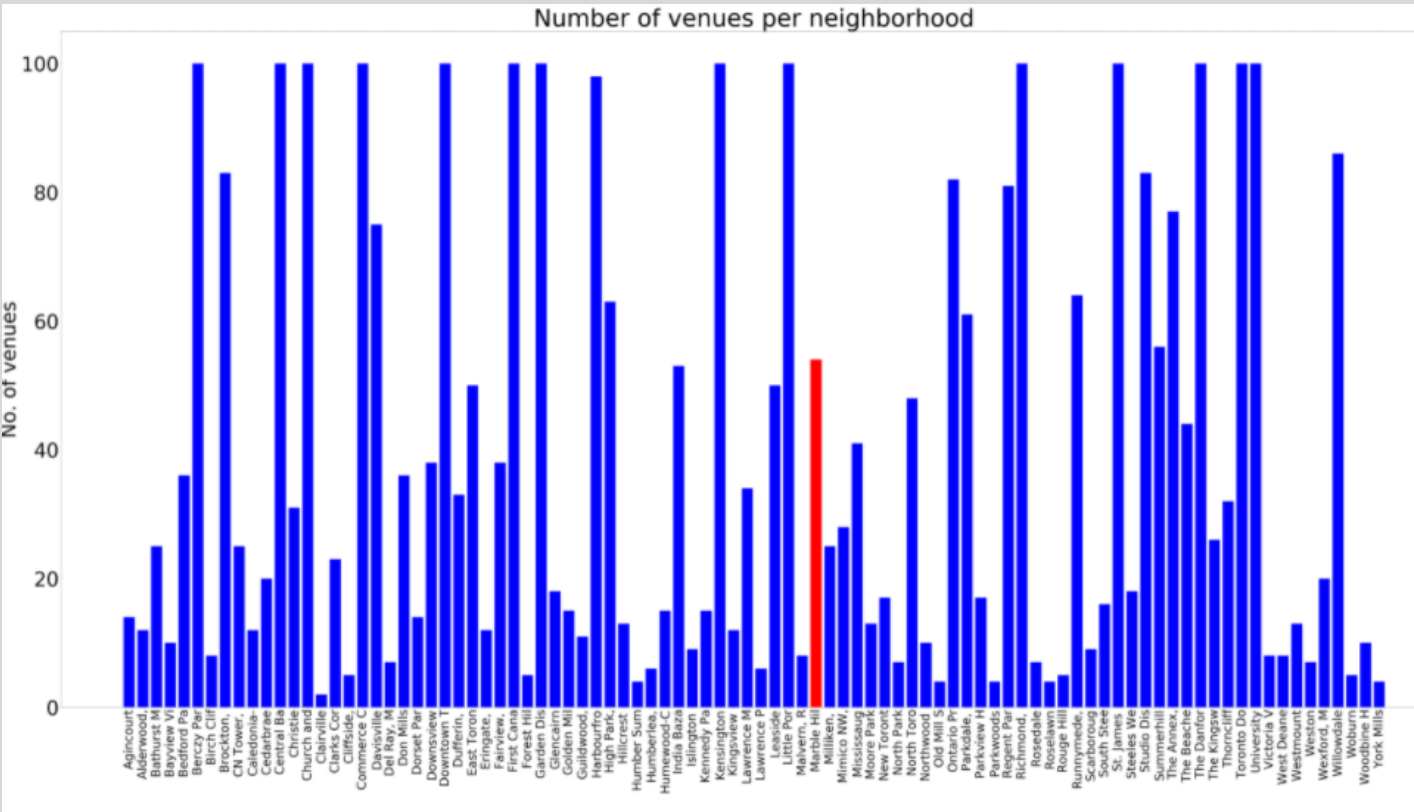
The battle of neighborhoods - office in Toronto

◦ Both cities – New York and Toronto are quite large and have many common features.

  ◦ are the biggest cities in their respective countries.

  ◦ are the financial capitals in their respective countries.

  ◦ are the most crowded cities in their respective countries.

◦ According to ranking Best Places to Live in North America Toronto seems to be better place to live – ranked on the first place.

◦ In the era of high mobility of employees, striving to improve the quality of life by employees, looking for work-life balance but also seeking lower costs of running a business, finding the answer on asked question can be interesting for a large group of entrepreneurs who want to move their headquarters to other countries:

Where would I recommend to open the new office taking into account similarity of the new and old location (venues availability)?

Data acquisition and cleaning

○ Toronto City data that contains Borough, Neighborhoods

○ Geographical Location data using Geocoder Package

○ New York data that contains Borough, Neighbourhoods, latitude and longitude

○ Venue Data using Foursquare API

○ In total 3717 rows and 7 features in the raw dataset.

○ All data has been cleaned.
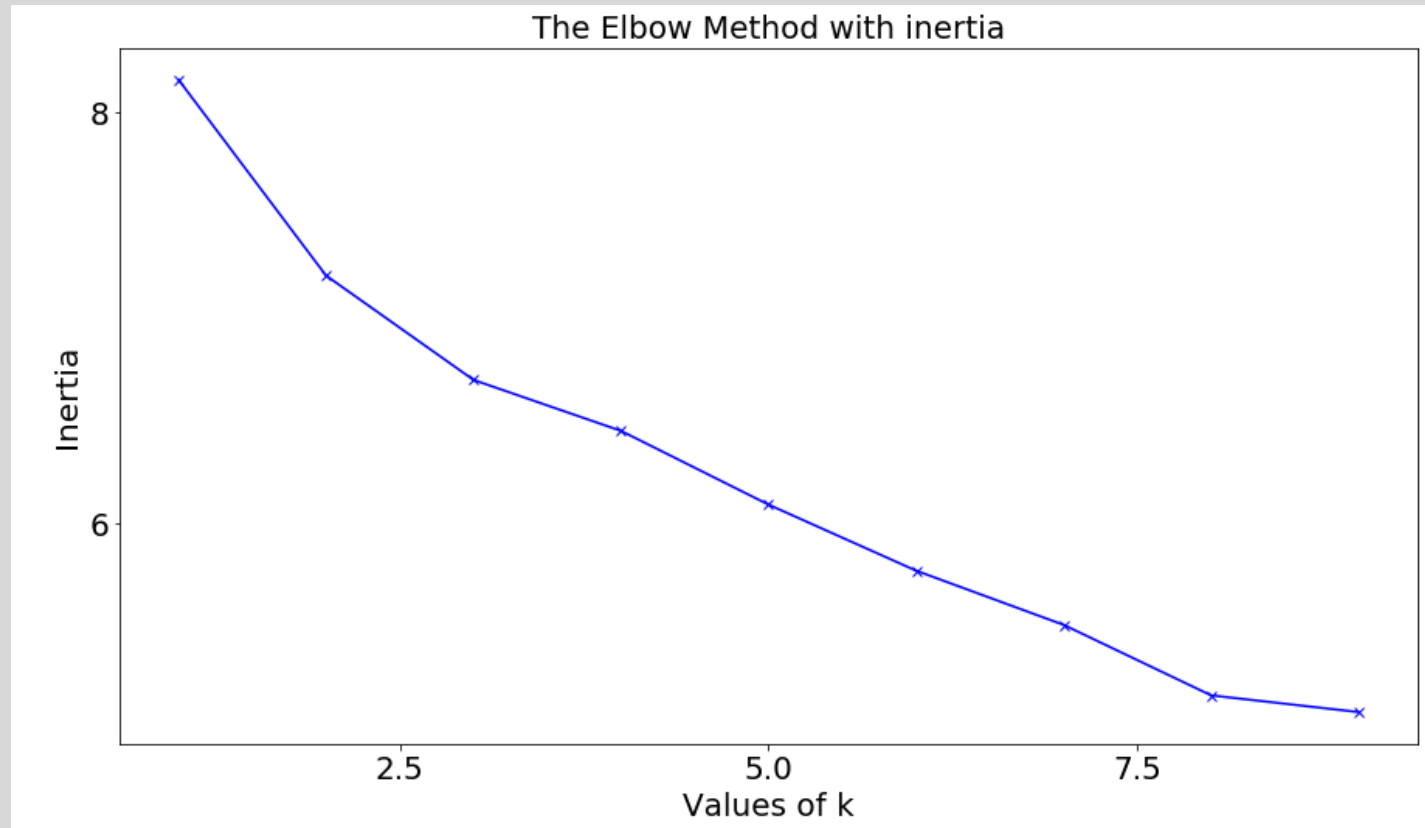
Analysis of neighborhoods

Number of venues per neighborhood

	Categories	Number of venues
0	Coffee Shop	277
1	Café	149
2	Restaurant	113
3	Pizza Place	109
4	Park	105
5	Italian Restaurant	92
6	Sandwich Place	82
7	Bakery	82
8	Japanese Restaurant	75
9	Grocery Store	65
10	Hotel	60

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----Marble Hill----
                   venue   freq
0            Pizza Place   0.07
1             Donut Shop   0.06
2         Sandwich Place   0.06
3      Spanish Restaurant  0.06
4                   Bank   0.04
5      Mexican Restaurant  0.04
6          Grocery Store   0.04
7                    Gym   0.04
8                   Café   0.04
9            Coffee Shop   0.04
```

Cluster Neighborhoods

The Elbow Method with inertia

◦ resulting of 8 clusters

Cluster Neighborhoods - KMean

	Postal Code	Borough	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
0	M1B	Scarborough	Malvern, Rouge	43.806686	-79.194353	3.0	Fast Food Restaurant	Trail	Spa	Martial Arts School	Paper / Office Supplies Store	Hobby Shop	Coffee Shop
1	M1C	Scarborough	Rouge Hill, Port Union, Highland Creek	43.784535	-79.160497	0.0	Breakfast Spot	Burger Joint	Italian Restaurant	Bar	Yoga Studio	Eastern European Restaurant	Doner Restaurant
2	M1E	Scarborough	Guildwood, Morningside, West Hill	43.763573	-79.188711	3.0	Fast Food Restaurant	Restaurant	Pizza Place	Sports Bar	Beer Store	Bank	Fried Chicken Joint
3	M1G	Scarborough	Woburn	43.770992	-79.216917	1.0	Park	Coffee Shop	Business Service	Dumpling Restaurant	Distribution Center	Dive Bar	Dog Run
4	M1H	Scarborough	Cedarbrae	43.773136	-79.239476	0.0	Coffee Shop	Indian Restaurant	Yoga Studio	Pharmacy	Flower Shop	Burger Joint	Fried Chicken Joint

Conclusion and future directions

◦ There is a great number of locations in Toronto which are similar to Marble Hill (56 places).

◦ I would suggest to choose important venues for him or add other factors that would lead to a shortlist.

◦ It would be useful to analyze the number of clusters once again with different method - The Elbow Method with inertia plot both k = 3 and k = 8 formed the elbow

◦ The venue itself does not constitute an unequivocal decision as to whether a given venue is similar to the current office location. I recommend to use additional factors in the next analysis like:

  ◦ attractiveness of each location,

  ◦ traffic,

  ◦ public transport,

  ◦ cost of the rented space,

  ◦ space availability,

  ◦ social and economic dynamics of every neighborhood,

  ◦ neighborhood safety etc.

◦ Usually, in the vicinity of offices, there are the same attractions.

◦ Final decision on optimal office location will be made by stakeholders based on specific characteristics of neighborhoods and locations in every recommended zone, taking into consideration The analysis performed may be the first step in the further search for the best place, depending on stakeholders decision.