Identification of a

suitable neighbourhood in Toronto

to start a retail store

to sell excellent Mediterranean olive oil

- Presentation -

Capstone Project – The Battle of Neighborhoods –
 IBM / Coursera

**April 2019** 



### The challenge is to find the most suitable neighbourhood for setting up a small sales outlet in Toronto to sell excellent Mediterranean olive oil

- A trading company specialized in trading with olive oil would like to expand internationally
- Because of
  - the large number of inhabitants with Mediterranean roots (who very much like to use olive oil)
  - the high average income (some olive oil varieties are expensive) and
  - the large number of Mediterranean restaurants (which are potential clients and can be considered multipliers)

Toronto was chosen to open a new retail store.

 However, Toronto is large. For this reason, the trading company has asked a consulting company to find the most suitable neighbourhood for setting up a small sales outlet in Toronto.



 Olive oil is a liquid fat obtained from olives, a traditional tree crop of the Mediterranean Basin. It is commonly used in cooking, whether for frying or as a salad dressing.

 Olive trees have been grown around the Mediterranean since the 8th millennium BC.

 Choosing a cold-pressed olive oil can be similar to selecting a wine. The flavor of these oils varies considerably and a particular oil may be more suited for a particular dish.



Sources:
Wikipedia,
International Olive Council,
https://atasteofolive.com/products/novello-di-gradassi

### Spain is the largest producer of olive oil, followed by Greece and Italy

- Largest Producers of Olive Oil -

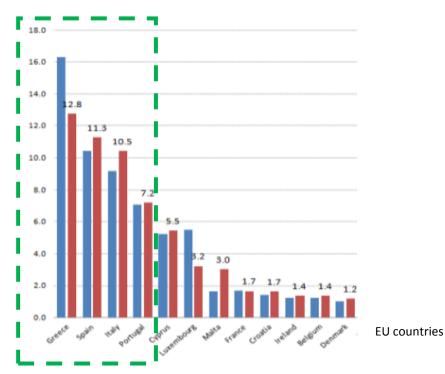
Country	Production [tonnes]	Production [% of global]
Spain	1,290,600	50
Greece	195,000	8
Italy	182,300	7
Turkey	178,000	7
World	2,586,500	100

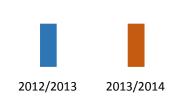
Source: International Olive Council

### Per capita consumption is highest in Greece, followed by Spain, Italy, and Portugal

- Per capita olive oil consumption in EU countries [kg] -

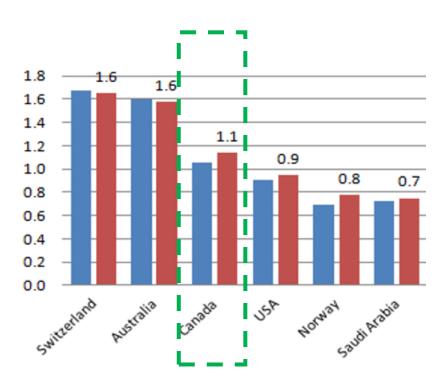
Per capita olive oil consumption [kg]

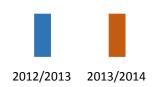




#### Consumption in Canada is far less, but rising

- Per capita olive oil consumption in some non-EU countries [kg] -





# Because of its size, importance within Canada and diverse population Toronto is well suited to be part of the international expansion

- Toronto is the provincial capital of Ontario and the most populous city in Canada, with a population of 2,731,571 in 2016.
- Toronto is a centre of business, finance, arts, and culture, and is recognized as one of the most multicultural and cosmopolitan cities in the world.
- The diverse population of Toronto reflects its current and historical role as an important destination for immigrants to Canada. Over 200 distinct ethnic origins are represented among its inhabitants.
- While the majority of Torontonians speak English as their primary language, over 160 languages are spoken in the city.



**Business Problem** 

# The trading company is looking for the most suitable neighbourhood for setting up a small sales outlet in Toronto taking into account three main parameters

- The trading company is looking for the most suitable neighbourhood for setting up a small sales outlet in Toronto.
- Important decision criteria are:
  - the **average income** in the neighbourhood as the olive oil varieties with the highest profit margins are expensive and
  - the **number of Mediterranean restaurants** as they are potential customers and can be considered multipliers
  - the **number of inhabitants with Mediterranean roots** as these inhabitants are the consumers who very much like to use olive oil
- The neighbourhood with the best combination of these parameters will be the first choice. However, because of the market entry strategy of the trading company (using restaurants as multipliers) and the quite expansive oils the two first criteria are most important

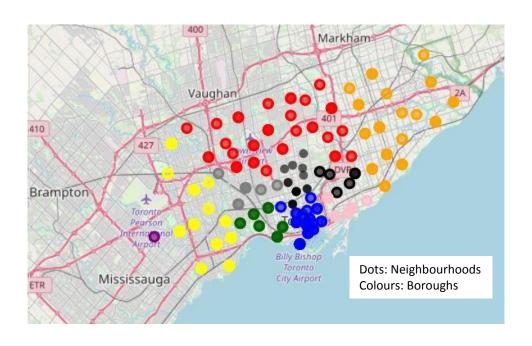


The analysis was made with information from Wikipedia and Foursquare using an approach with several distinct steps

Input: Wikipedia information on Wikipedia information Foursquare information Folium maps neigbourhoods on demographics on venue categories Filter on neighbourhoods with Mediterranean roots Steps: Filter on Mediterranean restaurants Cluster on number of restaurants, average income and inhabitants with Mediterranean roots Make final decision taking into account the location of the neighbourhood

#### Toronto has many neighbourhoods where a sales outlet for olive oil could be started

- Boroughs and neighbourhoods of Toronto -



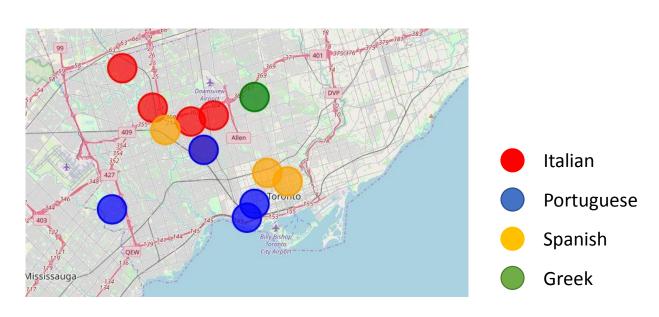
# However, as inhabitants with Mediterranean roots have a tradition of using olive oil the only neighbourhoods with Mediterranean languages (as a second language) have been selected

Language	Percentage	Average Income	Population	Longitude	Latitude	Borough	Postal Code	
ı								Neighbourhood
Italiar	15.0	29867	3769	-79.464763	43.718518	North York	M6A	Lawrence Heights
Portuguese	3.4	34789	8008	-79.577201	43.643515	Etobicoke	M9C	Eringate
Portuguese	23.8	29224	5013	-79.419750	43.647927	West Toronto	M6J	Little Portugal
Portuguese	19.9	27260	9039	-79.428191	43.636847	West Toronto	M6K	Brockton
Italiar	11.7	26751	36613	-79.490074	43.713756	North York	M6L	Downsview
Italiar	15.1	26117	12766	-79.565963	43.756303	North York	M9L	<b>Humber Summit</b>
Greel	0.7	80827	13749	-79.419750	43.733283	North York	M5M	Bedford Park
Spanish	7.3	23910	21284	-79.476013	43.691116	York	М6М	Mount Dennis
Portuguese	11.8	26291	17757	-79.476013	43.691116	York	M6M	Silverthorn
Italiar	11.1	30907	4327	-79.532242	43.724766	North York	м9м	Humberlea
Spanish	7.0	27446	16476	-79.518188	43.706876	York	M9N	Weston
Spanish	1.3	63636	15602	-79.405678	43.672710	Central Toronto	M5R	The Annex
Spanish	1.8	37653	13397	-79.383160	43.665860	Downtown Toronto	M4Y	hurch and Wellesley

Only neighbourhoods with the second language "Italian", "Portuguese", "Greek", "Spanish" are chosen

### The language clusters can also be identified on the Toronto map

- Analysis of suitable radius-



# The neighbourhoods with most inhabitants with Mediterranean roots are different from the neighbourhoods with the highest income

- Ranking neighbourhoods on inhabitants with Mediterranean root (top 5) -

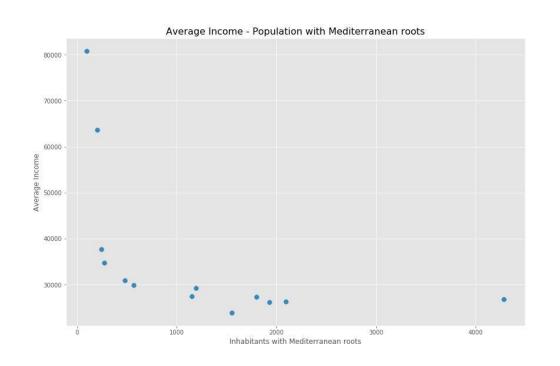
Neighbourhood	Population	Average Income	Percentage	Inhabitants with Mediterranean roots	Inhabitants Ranking
Downsview	36613	26751	11.7	4283	1.0
Silverthorn	17757	26291	11.8	2095	2.0
Humber Summit	12766	26117	15.1	1927	3.0
Brockton	9039	27260	19.9	1798	4.0
Mount Dennis	21284	23910	7.3	1553	5.0



- Ranking neighbourhoods on average income (top 5) -

Neighbourhood	Population	Average Income	Percentage	Average Income Rank
Bedford Park	13749	80827	0.7	1.0
The Annex	15602	63636	1.3	2.0
Church and Wellesley	13397	37653	1.8	3.0
Eringate	8008	34789	3.4	4.0
Humberlea	4327	30907	11.1	5.0

### There is an inverse relationship between average income and number of inhabitants with Mediterranean roots. For this analysis, average income is more important



Neighbourhoods

### There are four neighbourhoods with a high number of Mediterranean restaurants

	Number of Mediterranean restaurants	
Neighbourhood		
The Annex	10	
Little Portugal	9	
Bedford Park	8	
Church and Wellesley	8	
Mount Dennis	2	
Brockton	2	
Humber Summit	2	
Eringate	2	
Weston	2	
Silverthorn	2	
Downsview	2	
Lawrence Heights	1	

#### Mediterranean restaurants:

- 'Mediterranean Restaurant'
- 'Greek Restaurant'
- 'Pizza Place'
- 'Argentinian Restaurant'
- 'Portuguese Restaurant'
- 'Italian Restaurant'

As the number of restaurants, the average income and – to a lesser extend - the inhabitants with Mediterranean roots play an important role these neighbourhoods are chosen for the final recommendation

550	Average Income	Inhabitants with Mediterranean roots	Number of Mediterranean restaurants	Labe	els
0	29867	565	1		0
1	34789	272	2		0
3	27260	1798	2		0
5	26117	1927	2		0
7	23910	1553	2		0
8	26291	2095	2		0
9	27446	1153	2		0
2	29224	1193	9	٦.	1
6	80827	96	8	ı	1
10	63636	202	10	П	1
11	37653	241	8	i.	1
4	26751	4283	2		2

#### The Annex is the neighbourhood that offers the best combination of all important characteristics



- The Annex has the most restaurants, the most restaurants in its adjacent neighbourhoods and the second highest average income
- Little Portugal and Church and Wellesley are worse on number of restaurants and average income and have a smaller number of restaurants in their vicinity
- Bedford Park with higher average income ist too far away from the other interesting neighbourhoods
- Downsview is worse because of the low average income

Conclusion

- In this assignment neighbourhoods from Toronto were analyzed to identify the neighbourhood that is best suited to start a new retail store for excellent olive oil
- Taken into account
  - the Mediterranean roots of the inhabitants
  - the number of Mediterranean restaurants
  - the average income of the inhabitants
  - the location of the neighbourhoods

The Annex was chosen

 However, for the final decision on the location extra variables regarding the neighbourhood (rent, available store space, competitors, ...) have to be taken into consideration