

Business Case

- With the reopening of many areas after the initial outbreak of COVID-19, many restaurants have closed down, leaving open spaces for those who would like to open their own restaurants.
- One such company wants to open a very high end restaurant in the Toronto area, but wants to utilize data to ensure that they choose an area with fewer restaurants to compete with and a large amount of higher income families.
- By utilizing FourSquare I plan to aid this company in choosing the perfect neighborhood for them to open a new high end restaurant in.

Data Acquisition

- Toronto neighborhoods by postal code: https://en.wikipedia.org/wiki/List_of_ postal codes of Canada: M
 - 1. Completed in earlier assignment utilizing this data for the business case
- Toronto neighborhoods average tax income by postal code: https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/search-recherche/change-geo.cfm?Lang=E&Geo1=FSA
 - 1. Downloaded this data into csv format and pulled in/merged with above data
- 3. Toronto Restaurants by postal code: Foursquare and only extract Restaurants

 I utilized all of the data to create one set of data for clustering and mapping to show the best neighborhood to open a high end restaurant.

	PostalCode	AfterTaxIncome2015	Borough	Neighborhood	Latitude	Longitude
0	M5M	111821	North York	Bedford Park, Lawrence Manor East	43.733283	-79.419750
1	M5R	108271	Central Toronto	The Annex, North Midtown, Yorkville	43.672710	-79.405678
2	M4G	94853	East York	Leaside	43.709060	-79.363452
3	M1C	93943	Scarborough	Rouge Hill, Port Union, Highland Creek	43.784535	-79.160497
4	МЗВ	90841	North York	Don Mills North	43.745906	-79.352188

Data Analysis & Observations

- Through data analysis utilizing most common venues and clustering I was able to find the following table and some important insights:
 - North York (Bedford Park) has the highest after tax income, but its most common venue is a sandwich place
 - Its most common high end potential venue is an Italian restaurant
 - Other high end potential venues include a café and Indian restaurant
 - The next highest income borough is central Toronto (The Annex)
 - It has most commonly cafes so starting a café in this area would not be recommended
 - Not until the third highest income area is there a sushi restaurant

	PostalCode	AfterTaxIncome2015	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	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
0	M5M	111821	North York	Bedford Park, Lawrence Manor East	43.733283	-79.419750	4	Sandwich Place	Italian Restaurant	Coffee Shop	Pizza Place	Pub	Café	Fast Food Restaurant	Indian Restaurant	Restaurant	Comfort Food Restaurant
1	M5R	108271	Central Toronto	The Annex, North Midtown, Yorkville	43.672710	-79.405678	0	Café	Sandwich Place	Coffee Shop	Pizza Place	Middle Eastern Restaurant	Indian Restaurant	BBQ Joint	Pub	Burger Joint	Wings Joint
2	M4G	94853	East York	Leaside	43.709060	-79.363452	4	Coffee Shop	Sushi Restaurant	Burger Joint	Breakfast Spot	Mexican Restaurant	Sports Bar	Fish & Chips Shop	Restaurant	Sandwich Place	Fast Food Restaurant
3	M1C	93943	Scarborough	Rouge Hill, Port Union, Highland Creek	43.784535	-79.160497	4	Bar	Wings Joint	Food	Doner Restaurant	Dumpling Restaurant	Eastern European Restaurant	Empanada Restaurant	Ethiopian Restaurant	Falafel Restaurant	Fast Food Restaurant
4	МЗВ	90841	North York	Don Mills North	43.745906	-79.352188	4	Japanese Restaurant	Caribbean Restaurant	Café	Wings Joint	Fish & Chips Shop	Dumpling Restaurant	Eastern European Restaurant	Empanada Restaurant	Ethiopian Restaurant	Falafel Restaurant

Conclusion

- Based on the data and findings from the previous slide I would recommend one of the three following options for a potential high end restaurant opening:
 - A high end Indian restaurant in North York Bedford Park
 - A high end sushi restaurant in North York Bedford Park
 - A high end sushi restaurant in Central Toronto The Annex