

Capstone Project - The Battle of Neighborhoods

Report

1. Introduction / Business Problem

Problem background

In the era of globalization there are many companies with subsidiaries all over the world. They have production facility in the countries with relatively cheap resources and not too far away from the markets where it's product to be sold. The headquarter or main offices of the business units are usually located in the financial centers of continents or influential global cities.

To be competitive those companies have developed strategies, policies and procedures based on the values essential for today's business environment. Human factor is considered as the most important for a technological breakthrough and long-term development.

One of the options to retain and develop talented employees is to offer an international assignment contract. It definitely keeps a person within the company and allows to bring a new ideas/methods or even style into a different subsidiary – Diversity is a key for innovation!

Problem description

A company "Con**" with over 150 thousand employees has headquarters located in Germany, 50 plants all over the globe and presented in closed to 140 countries by sales offices.

An employee from Moscow sales office, Russia has been offered an international assignment for 3 years to work in Con**'s office in Toronto, North York Borough in particular, Canada. He has been working in Con** for 10 years, has a family with 2 kids of school age. Moreover, he is quite active, with healthy lifestyle and willingness to develop his children as much as possible. And they all are Christians.

This employee has accepted the new job opportunity. Now it's time to decide what are the main preferences to consider for relocation. After a short family meeting they came to a list:

- Safe and developed neighborhood
- Gym nearby
- Sport facility for kids
- Restaurants of different cuisine in a walking distance
- Music hall or a theatre in proximity
- Also walking distance to a Catholic school

Target audience

An employee of Con** and his family with different interests and life habits. Also there is an HR department of Con** to approve the relocation costs and cover rent and insurance expenses in a particular district of North York, Toronto, Canada for 3 years of assignment.

2. Data

Toronto city will be a subject of analysis only.

The following datasets is in use for this project:

Dataset 1

City of Toronto with Postal codes, Boroughs and Neighborhoods.

The dataset will be used as a starting point to go for exploratory analysis with a help of Foursquare API and Folium visualization, and then for clustering the neighborhoods.

This dataset is available on Wikipedia:

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

Out[8]:

	PostalCode	Borough	Neighborhood
0	M1A	Not assigned	Not assigned
1	M2A	Not assigned	Not assigned
2	M3A	North York	Parkwoods
3	M4A	North York	Victoria Village
4	M5A	Downtown Toronto	Harbourfront

Dataset 2

City of Toronto with Postal codes linked to their geographical coordinates.

The geo coordinates will be linked via postal codes to the Toronto info (dataset 1) and used for exploratory analysis and clustering the region.

This dataset is available to download from Coursera (from the previous assignment over this course):

http://cocl.us/Geospatial_data

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	Latitude	Longitude
PostalCode		
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

Dataset 3

Toronto Catholic District School Board is a governmental web site representing online resources for catholic schools around the city. It gives the full list of schools with names linked to their addresses and postal codes.

The dataset will be used to visualize an opportunity to find a right Catholic school in the assigned cluster of North York.

This dataset is available on the following link to parse:

<https://www.tcdsb.org/school/Alphabeticalschooldirectory/Pages/default.aspx>

	SchoolName	Panel	Address
17	Bishop Allen Academy	Secondary	721 Royal York Road Etobicoke ON M8Y 2T3
19	Bishop Marrocco/Thomas Merton	Secondary	1515 Bloor Street West Toronto ON M6P 1A3
24	Brebeuf	Secondary	211 Steeles Avenue East Willowdale ON M2M 3Y6
28	St Basil-The-Great	Secondary	20 Starview Lane North York ON M9M 3B2
38	Cardinal Carter Academy	Secondary	36 Greenfield Avenue Willowdale ON M2N 3C8