Final Assignment - Battle of Neighbourhoods

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Table of contents:

1. Introduction

'Fitpro' is an american based fitness gym chain with over 100 gyms in US. 'Fitpro' is looking to expand their business to new, emerging locations, where gym industry is not fully established.
The main market they are interested in is currently Canada, specifically Toronto. They want to expand their chain by one new facility in the Toronto area.

Given the increasing interest in health and sport in the recent years, they are aware that the industry is highly competitive. As such, their first Canada-based gym should be located in an area with small competition. To identify the best location in Toronto, they've approached our data anlalytics team to help them find the best neighbourhood in Toronto to establish new gym of 'Fitpro' chain.

Per the above, the business problem we are aiming to adress in the below analysis is as follows: "What is the best neighbourhood in Toronto to open a new gyn, taking into consideration the least number of other gyms in the area.

2. Data

For the purpose of our analysis, we obtained the data of all Toronto neighbourhoods using the most common and easily accesible source, i.e. wikipedia website. We formatted and cleaned the data for our purposes (please refer to corresponding Jupyter Notebook for details of our formatting).

Furthermore, we leveraged Foursquare API data to obtain list and locations of all venues in Toronto. After obtaining the list of all venues in Toronto, we filtered the results to include places relevant to our business problem. Since the investor is interested in opening new location for his gym chain, we've included venues that contain 'Gym' in the 'Venue category' for the purpose of our analysis.

Additionally, for the purpose of our analysis, we've included places which might potentially impact attendance at the gym, i.e. places which are considered natural competitors of gyms, that is any venues containing 'Park', 'Sport', 'Pool', 'Stadium', 'Studio'.

3. Methodology

In this project we will direct our efforts on detecting neighbourhoods in Toronto that have low sport area presence, particularly those with low number of existing gyms.

In first step we have collected the required data: location and type (category) of every venue in Toronto. We have also identified if the particular venue is a gym or some other sport area.

Second step in our analysis will be detecting which neighbourhoods are least populated with sport areas as a whole and and focus our attention on those areas with lowest number

In third and final step we will identiify whether a sport area is a gym or some other sport location to minimize the number of promising locations presented ot our stakeholders.

4. Results

Our results derived from the proposed methodoo=logy showed 6 most promising neighbourhodds we further presented to our stakeholders. The neighbourhoods shown below have only 1 sport area, none of which are considered typical gym.

	Neighbourhood	Venue	Venue Category
2	Queen's Park, Ontario Provincial Government	Queen's Park	Park
8	The Beaches	Glen Stewart Park	Park
32	The Danforth West, Riverdale	Charles Sauriol Parkette	Park
59	Forest Hill North & West, Forest Hill Road Park	Suydam Park	Park
60	High Park, The Junction South	Lithuania Park	Park
77	Kensington Market, Chinatown, Grange Park	Grange Park	Park

5. Discussion

Our analysis shows that although there is a great number of sport areas in Toronto, there are still neighbourhoods with no gym facilities. Highest concentration of gyms was detected in the south side of the city, so we focused our attention to to other areas.

After directing our attention to this more narrow area of interest we first performed analysis to detect neighbourhoods with the smallest population of sport areas.

Those location candidates were then sorted and we considered only those populated with only 1 sport venue. We categorized the venues and excluded those neighbourhoods that already have indoor sport facility, leaving only locations with only outdoor activities available for the citizens.

Result of all this is 6 neighbourhoods containing largest number of potential new gyms locations based on lowest number of additional competitors in the area. Please note that the purpose of this analysis was to only provide high-level information on the potential competitors located in Toronto's neighbourhoods and further analysis might be required. However, we can suggest with some level of confidence that proposed neighbourhoods will eliminate the potential treath of compiting with other gymc companies for the market.

6. Conclusion

Purpose of this project was to identify Toronto neighbourhoods with low number of gyms in order to aid stakeholders in narrowing down the search for optimal location for a new gym location. By calculating current number of existing gyms and other sport areas we first narrowed the search to 8 potential locations. Further, after excluding areas with exsiting gyms, we proposed 6 potential neighbourhoods in Yoronto for establishing new gym location.

Final decission on optimal gym location will be made by stakeholders based on specific characteristics of neighborhoods, taking into consideration additional f**actors.**