



Best Place to start a new Firm

Introduction

- The problem statement is that if a person is willing to start a new business such as a restaurant in a locality, I should be able to show him the prospective location in which he can establish his business and gain more profits based on the location advantages.
- To start a new restaurant there should be many factors that should be considered before establishing the restaurant. The main focus point is, one should look for the number of people in the locality and their spending habits. If a restaurant is started in a location in which there are less number of people and they do not spend much amount, then that restaurant will not give returns.
- Also the new restaurant firm and its services should be available and in reach to the customers. So, if one establishes his business in far remote location where people cannot reach, it doesn't give visibility to the new restaurant and it results in the loss of the organization.

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- If there are similar kind of already established restaurants and if this new restaurant is established in that location, then there will be huge competition and there will not be much profits. So, whenever a person is starting a new business all the above mentioned points must be taken into consideration to gain more from the business.
- So one should have the previously established firm's data and the neighbourhood data so that he can get the insight of the locality.
- Now the question is where one can find that information? The possible answer is the usage of Foursquare location data services which provides ample information on how the data can be retrieved and how that can be used to get the insights from the data to solve the problem at hand.
- Foursquare provides the information on the venues that are available in a certain locality by passing the necessary inputs to the API, and in return it provides the list of places that are in and around the location
- The target audience for this will be those whoever is interested in starting a new restaurant in Toronto and wants to get the overview of the location possibilities through which one can improve their business.

Data Acquisition:

- I took the data required for this project by using the Wikipedia page https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M.
- We have the dataset which is having four columns which contains the postal code, borough, neighbourhood, latitude and longitude of the neighbourhoods. We can get the venues of that neighbourhood by passing the latitude and longitude of the neighbourhood to the four square API.
- We can take the count of the venues available in the neighbourhood and based on the count and the distance metrics we can predict the location in which one can make the better use of the location. We can also get the frequency of the venues available and then make a suggestion on which place is best suitable for establishing the new business.

Data Cleaning

- After scraping the data from the Wikipedia page using the beautiful soup, I then cleaned the data for which Postal codes, the boroughs are not assigned. After that I combined the neighbourhoods of similar boroughs and postal codes. The number of these rows are less, thereby removing them will not have much effect on the overall result

	Postcode	Borough	Neighbourhood
0	M3A	North York	Parkwoods
1	M4A	North York	Victoria Village
2	M5A	Downtown Toronto	Harbourfront
3	M5A	Downtown Toronto	Regent Park
4	M6A	North York	Lawrence Heights
5	M6A	North York	Lawrence Manor

Methodology

- The main focus of this project is to identify the suitable place in which one can start a new restaurant in the city of Toronto. The steps included in order to achieve our task are listed below.
- Task 1: Retrieve the data of the Toronto city venues using the Foursquare API.
- Task 2: Combine the venues of each neighbourhood using K Means clustering algorithm.
- Task 3: Get the top most venues of each location.
- Task 4: Take the least venue where there are less number of restaurants available, so that one can get more profits because of less competition.
- Task 5: The obtained Results can then be used to identify the suitable location for starting a new restaurant.

Results

- After doing all our analysis on exploring the Toronto city, we got the places where there are less number of restaurants. These places can be used by the investors who are planning to start a new business in the city of Toronto thereby increasing their profits.
- I used the less common places where the restaurants are available, so that one can use these places for starting the new restaurants.

Boroughs	
0	Scarborough
1	North York
2	Central Toronto
3	Downtown Toronto
4	York
5	West Toronto
6	East Toronto
7	Etobicoke

Conclusion

- The main purpose of this project is to find the places where one can start their new business such as a restaurant. Not only the restaurant, but we can also predict the places such as spa, parks, Coffee shops and many other places. These can be further used to explore the city to find the prospective place for starting a new business.