CAPSTONE - APPLIED DATA SCIENCE FINAL SUBMISSION

FULL REPORT

INTRODUCTION

Anyone who would like to open a restaurant in Toronto would be interested in this project. As restaurant sector is growing due to busyness of people, less tendency to cook at home and more appetite to spend less time during meals, more number of restaurants are opening day by day. The problem in here is to determine what kind of restaurant to open and in which location.

DATA

The data which I thought to use

- Toronto Demographic (Wikipedia): In order to determine the restaurant type (in terms of cuisine), I decided to use population changes in Toronto in terms of ethnic groups. I will use ethnic groups because we can predict a type of foods for our restaurant by ethnic groups. As there are data for year 2016 and 2011, I will calculate the increase in population changes in the ethnic groups. At the same time this data will not be enough for us to determine because we also need to take the percentage of this ethnic group in overall population into consideration in order to eliminate noises and outliers.
- Toronto borough, neighborhoods lists (Wikipedia, locations): We will use postal codes in order to have a clean list of boroughs with neighborhood values.
- Venues in that locations (from Foursquare): We will use Foursquare to find out how many venues are there in each neighborhood, density of venues in that location, what type of venues there are.

METHODOLOGY

The data for Toronto Demographic is for years 2016 and 2011 in Wikipedia. I needed to clean the data as there are some ethnic group which are representing bulk ethnic groups. I calculated the increase in population changes for each ethnic groups. At the same time this data was not enough to determine because it will not give me, we also need to take the percentage of this ethnic group in overall population into consideration in order to eliminate noises and outliers.

When I decided to open a Filipino restaurant, I needed to check how many Filipino restaurant there are, in which locations, how many other venues in the location in order to understand the potential of the location, there are any other Filipino restaurant in the same location (if yes how many) in order to determine the competition.

RESULT & DISCUSSION

Restaurant type: Filipino

Location: Kensington Market, Chinatown Grange Park

In order to determine target ethnic group, I evaluated 2 data (Increase in percentage and Percentage in total population) at the same time. As it can be observed from the list, although the increase in population percentage is highest in ‘Metis’ however percentage in total population is

too low. On the other side, Arab's and West Asians cant be selected as they are not specific ethnic groups and it is not easy to determine the kitchen.

	Ethnic Group	Population (2016)	Population (2011)	Increase_In_Percentage	Percentage_In_Total_Population2016
15	Métis	7270	4875	49.13	0.27
6	Arab	36030	28920	24.59	1.34
8	West Asian	60325	50235	20.09	2.24
4	Filipino	152715	132445	15.30	5.67
9	Korean	41640	37225	11.86	1.55

Conclusion, Filipino is the highest percentage in total population in our top 5.

As a second part of the analysis, I needed to determine the best location, I checked the locations Filipino restaurants and I observed only one (Kensington Market,Chinatown Grange Park) which is quiet a good spot.

However, this would not be enough to decide because I need to understand whether this location has a potential or not. I decided to check number of venues in that location. It is 63 and then I felt that I need to benchmark that number with another one. I decided to check the average venues for the locations and compare it with my potential location. The average was 22 while my location has 63. This proves that the location has potential.

```
Total venue number is 63
Average venue for neighborhood  is 22.020833333333332
```

CONCLUSION

Based on my analysis, I recommend to open a Filipino restaurant in Kensington Market, Chinatown Grange Park location.

FULL REPORT

Introduction