Analyzing the best Neighborhoods to open an Indian Restaurant chain.

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1.Introduction

1.1 Background:

With all its exotic ingredients, unfamiliar dishes, and tongue-tingling flavors, Indian cuisine can be both exciting and intimidating. "It's such a complete world of taste. You combine all the techniques from other cuisines and add magical spices to get a titillating food experience.

Indian Cuisine has been very famous in United states, Especially in Manhattan. People in US love to explore different Cuisine and they love the punch of Spices which Indian cuisine offers.

A well-known Restaurant owner who has multiple franchises in India wanted to open his chain of Restaurants in different Neighborhoods Either in Toronto/Manhattan. However, he didn't not want to open his chain where Indian restaurants was already available. He wanted to open the restaurant in Neighborhoods where the people visiting most common Venues had different types of Restaurants and where there was a Lack of Indian Restaurant.

1.2 Problem:

The problem is to figure out on which Neighborhoods can he Open his Restaurants and succeed. But his only concern was he didn't want to open his Restaurant in a Neighborhood where people don't often go out seeking different Cuisine food. Also he wanted to open either in Toronto or Manhattan as he wanted to run the Chain of Restaurants himself. Opening in both locations would have caused Maintaining difficult. Instead he wanted in one City where he can maintain it himself.

2. Data Acquisition

2.1 Data Source.

Foursquare is a site which provide all the venue details and many more details regarding the venues which can be then analyzed to figure out a) Most visited Venues in each Cities and find top 10 according to Neighborhoods. b) Ratings of the Venues especially if they are restaurants.

We would also need the data which contains the Borough, Neighborhood names and their latitude and longitude locations for both the places which will be parsed from the web for Toronto and using readily available data for NY.

2.2 Data Cleaning.

There were several issues while gathering the Data for Toronto as the data was not available, hence I had to parse the data from the Wikipedia page to get the list of all Borough, Neighborhood names and their latitude and longitude locations. After Scraping the Borough, Neighborhood data I had to find the Lat and Longitude data for each neighborhood using the "Geopy" library which made the work easier. Once the data table was available with all the required

columns had to clean the data with all the Missing value and duplicate values by either dropping the rows or either by using the same Borough name for Neighborhood.

For the NewYork data the information was readily available hence it just needed some cleaning and figuring out the Lat and Lon data for each Neighborhood.

Once both the Tables were available the approach which I would be following is as follows.

3. Data Analysis

This is just an initial explanation of what I think I would be doing however once I analyze the data there might be changes in analysis pattern.

Explore both the data sets and the Cities to Figure out the how many Neighborhoods are their in each Borough find out the best Neighborhoods as per the count of venues in each Borough and then select the top once as there are multiple venues and the incoming traffic would be more compared to place where there would be less venues.

After selecting a specific Borough I am planning to use the Foursquare API to get the venue available on each neighborhood and analyze them accordingly.

1. Find the top 100 of the Venues in each neighborhood.
2. Check if after calling for top 100 Venues how many venues we got for each neighborhood.
3. Find out how many unique categories can be curated from all the returned venues.
4. Analize each neighborhood by One hot encoding.
5. Now grouping rows by neighborhood and by taking the mean of the frequency of occurrence of each category.
6. Sort them in Descending order to get the top 10.
7. Displaying the data frame shows the TOP 10 Venues in each neighborhood.
8. Now after further analysis figure out on which Neighborhood there are more restaurants.
9. Once figured out then check if it has Indian Restaurant.
10. If not then Let the Owner know that particular neighborhood would be the best place for him to open the restaurant as this place has more restaurants and lacks Indian cuisine.

The Detailed analysis will be shared on the complete report.

Thank you