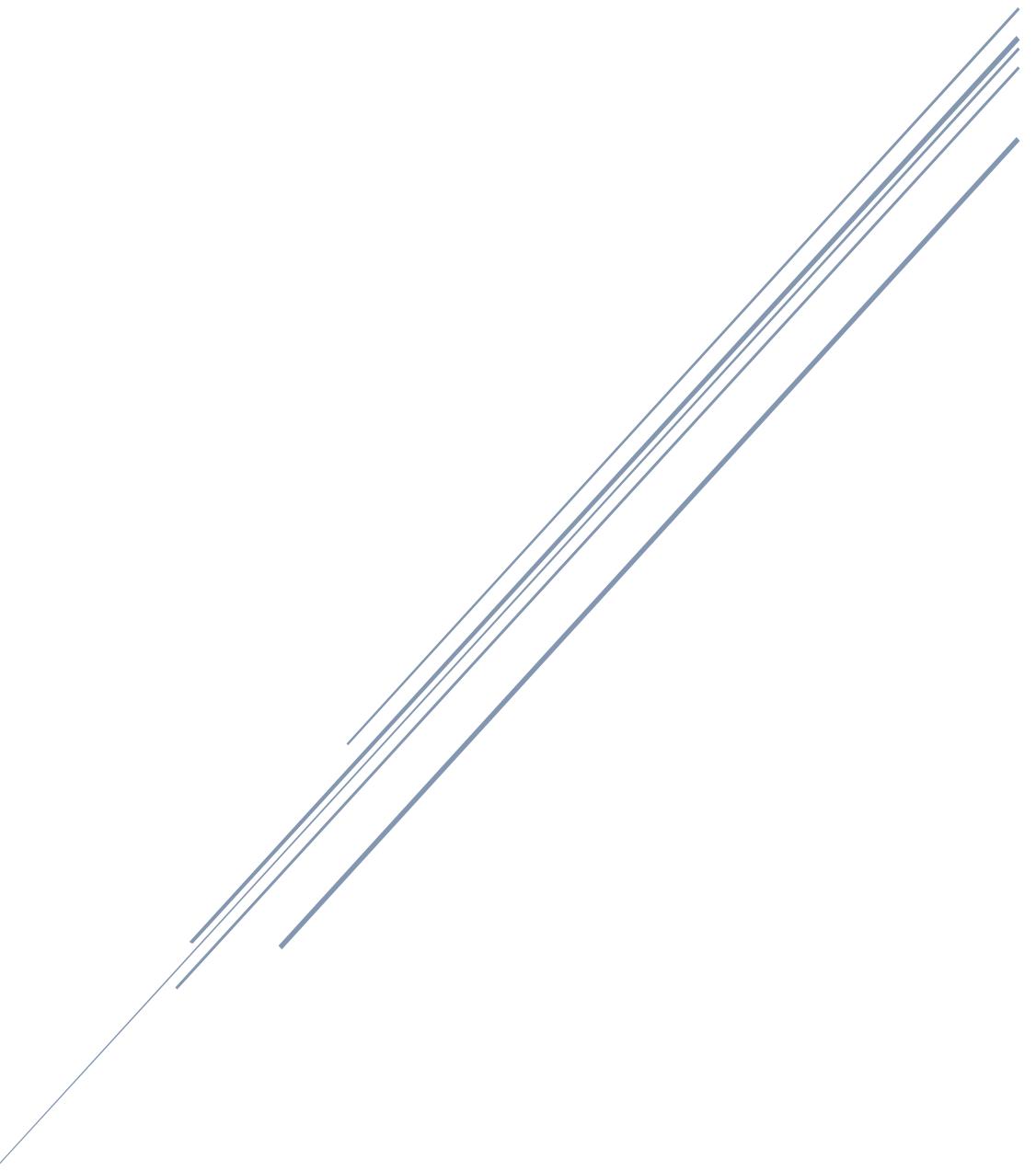


COURSERA CAPSTONE

IBM Applied Data Science Capstone



Where should a client open Japanese restaurant?



The Battle of the Neighborhoods - Week 2

Introduction

Problem Background:

The City of New York is the center of culture, finance, and technology of the world. Thanks to English, the most spoken language, and the potential of its business, many companies want to open their business there. Nowadays, New York City is home to more than 8 million people. The city is continuously growing with the growing immigrants and tourists into the United States.

Business Problem

- A client wants to open a Japanese restaurant in NYC
- The client is worried about high competition in NYC
- Before opening his restaurant, he needs recommendation where he should open his restaurant
- The recommendation should be data visualized with data analysis

Target Audience

People in USA are suffered from obesity and unhealthy food habit. The needs of Japanese foods as healthy cuisine have been rapidly increasing recently. Although there are restaurants like Chinese, French, Indian, and Italian, Japanese restaurants differ from them. Opening Japanese restaurants aim at attracting people who want to reduce their weights with diet and those who don't like meat. Fresh fish and vegetables are very attractive for many Americans.

Data

To solve the problem, we need the following data:

- New York City data containing neighborhoods and boroughs
- Latitude and longitude to coordinate their neighborhoods. These are required to plot map and venue data
- Venue data related with restaurants. It tells us potential competitors and synergy effects.
- Reviews of restaurants to judge how attractive boroughs are

Data Source:

New York City data containing the neighborhoods and boroughs will be obtained from the following open data,

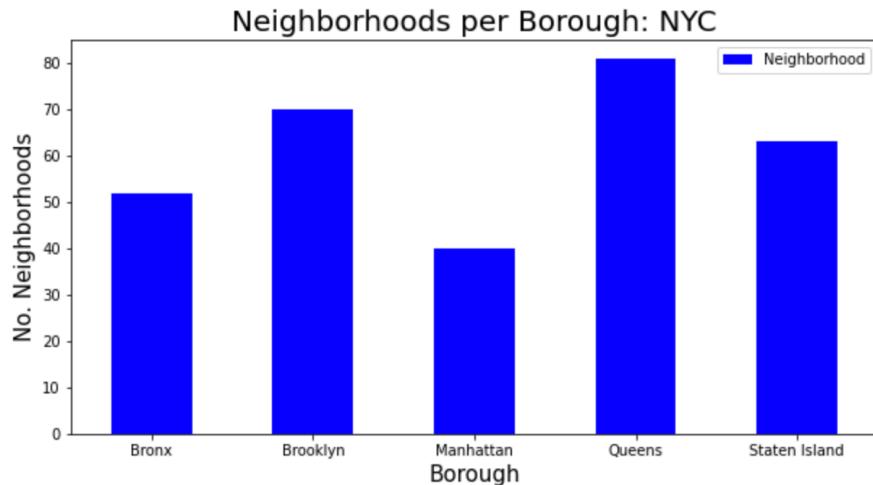
https://cocl.us/new_york_dataset

The method used for data analysis is web scrapping with Foursquare API and map visualization (Folium). This enables us to explore data and make data analysis.

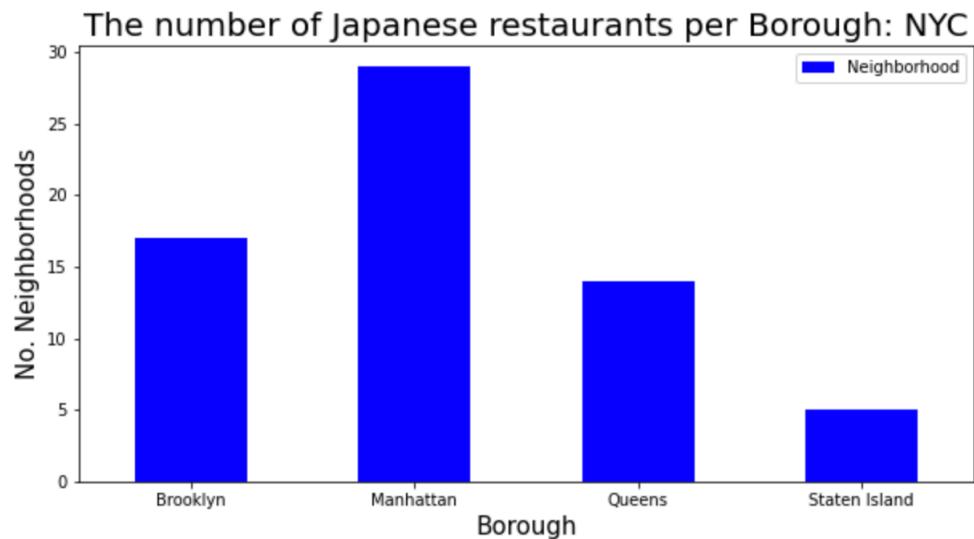
Results:

The following graphs are the number of all neighborhoods vs borough in NYC (Fig 1) and the number of Japanese restaurants per borough (Fig2). As you can see from the graph, although Manhattan is the least number of neighborhoods, it has the largest number of Japanese restaurants. This means that Manhattan is very popular especially for Japanese restaurants. This can provide a synergy to have more potential clients who want to have Japanese foods, compared with other regions where we need to earn new clients.

(Fig 1) Neighborhoods per Borough in NYC

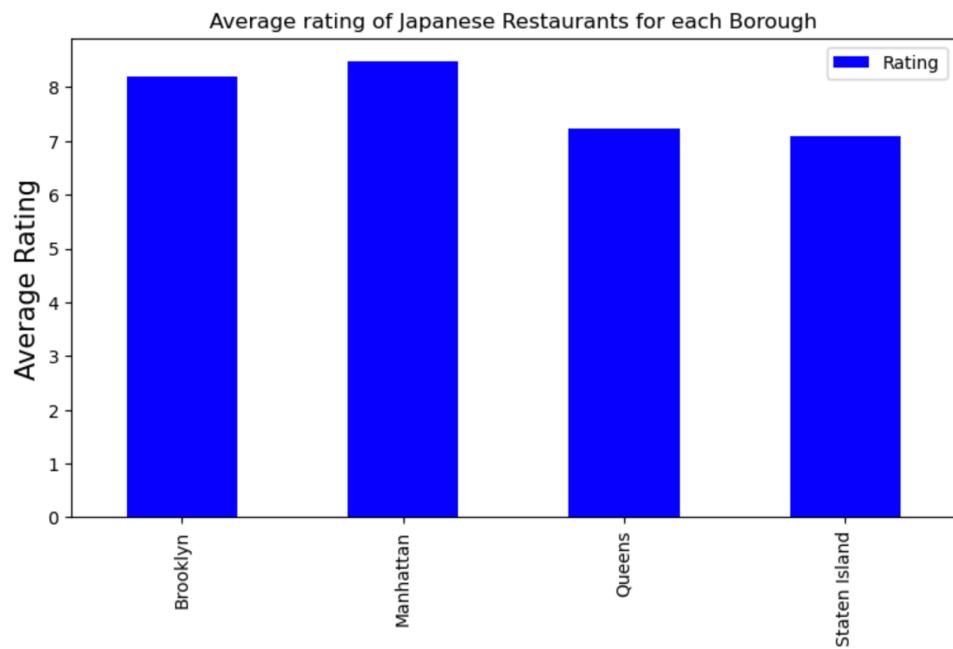


(Fig 2) The number of Japanese restaurants per Borough: NYC



Furthermore, average rating of Japanese restaurants in Manhattan is the best score among Boroughs. This shows that Manhattan has strategical advantage to gain potential clients thanks to its reputation and brand.

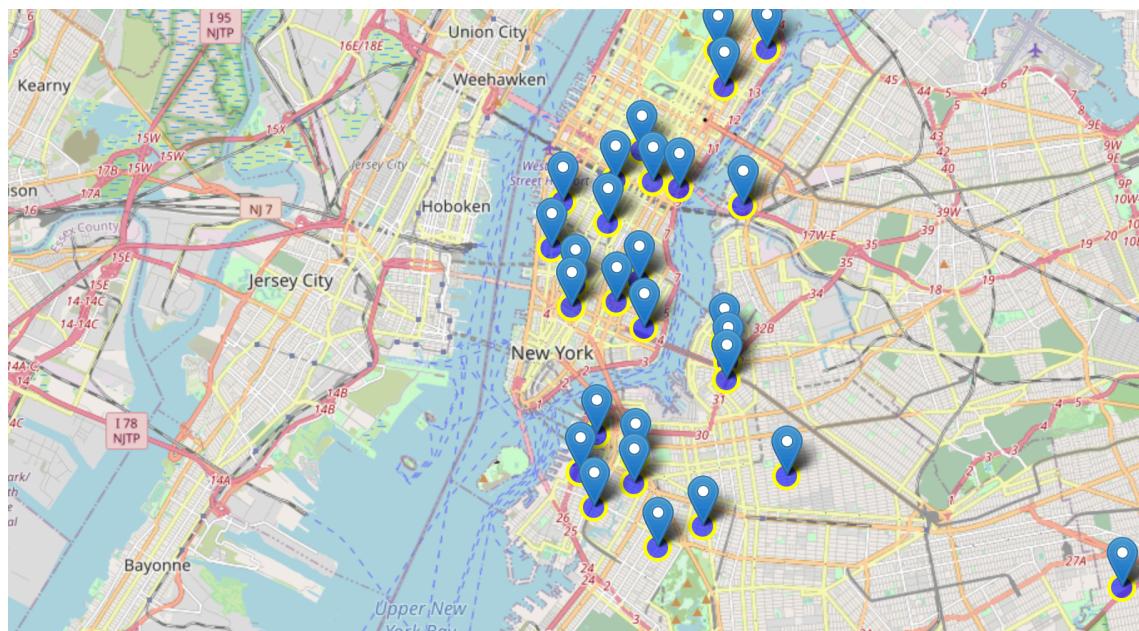
(Fig 3) Average rating of Japanese restaurants



Map:

As you can see below, the most of Japanese restaurants are located in Manhattan.

(Fig 4) The location of Japanese restaurants



Conclusion:

Among many boroughs, Manhattan is the most attractive place for Japanese restaurants if a client wants to open his restaurant. Basically, without any reputations, it is quite hard to earn customers. However, Manhattan has many positive feedbacks about Japanese restaurants from customers. Of course, some people worry about the competition and carnivalization among Japanese restaurants due to its concentration in Manhattan. But this is rather a positive sign because many customers will come to eat Japanese cuisine, and many people are attracted to this place. Whether the restaurant is successful or not is up to the client, and it depends on how he differentiates his taste and price from the other Japanese restaurants.