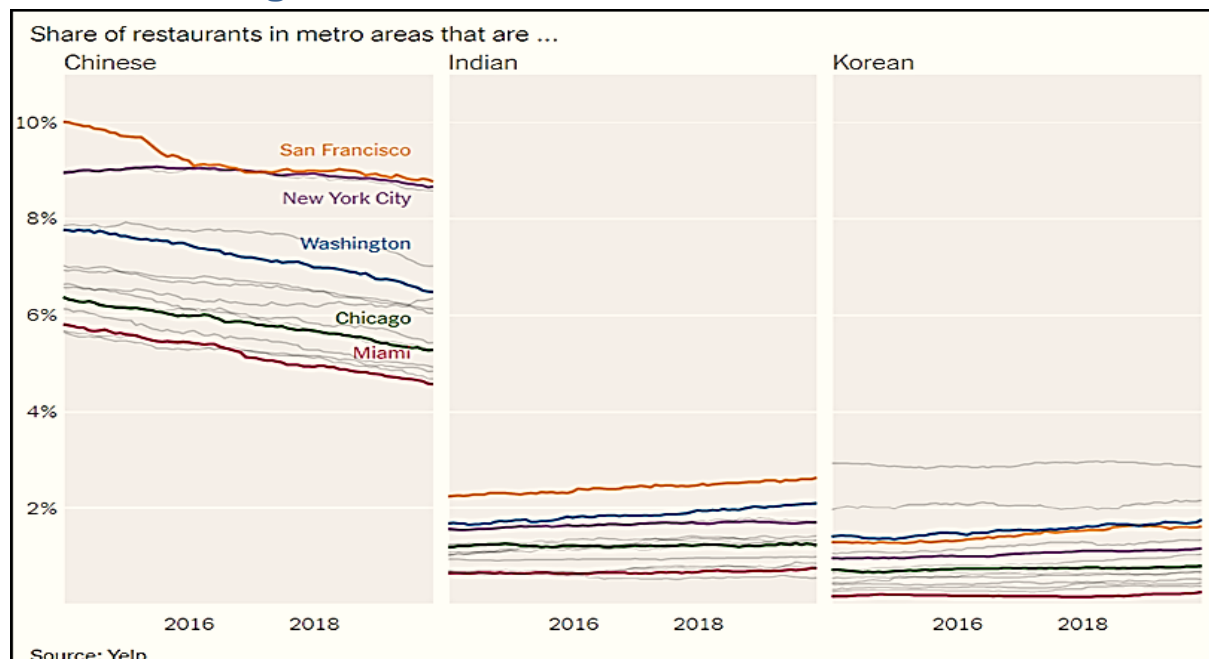# Finding a good location in New York for a new Chinese Restaurants

1. Introduction

1.1. Scenario

New York City's demographics show that it is a large and ethnically diverse metropolis. It is the largest city in the United States with a long history of international immigration. New York City was home to nearly 8.5 million people in 2014, accounting for over 40% of the population of New York State and a slightly lower percentage of the New York metropolitan area, home to approximately 23.6 million. Over the last decade the city has been growing faster than the region. The New York region continues to be by far the leading metropolitan gateway for legal immigrants admitted into the United States.Throughout its history, New York City has been a major point of entry for immigrants; the term "melting pot" was coined to describe densely populated immigrant neighborhoods on the Lower East Side. As many as 800 languages are spoken in New York, making it the most linguistically diverse city in the world. English remains the most widely spoken language, although there are areas in the outer boroughs in which up to 25% of people speak English as an alternate language, and/or have limited or no English language fluency. English is least spoken in neighborhoods such as Flushing, Sunset Park, and Corona.With its diverse culture, come diverse food items. There are many restaurants in New York City, each belonging to different categories like Chinese, Italian, Indian, French etc.So as part of this project, we will list and visualize all major parts of New York City that has great Chinese restaurants.

1.2. Background

Share of restaurants in metro areas that are …
Chinese · Indian · Korean
Source: Yelp

There is a noticeable decrease of Chinese restaurants in different cities of US from 2016 onwards. But those are not Chinese-restaurant-specific factors, and do not explain the wave of closings. The survey report tells that the big reason seems to be the economic mobility of the second generation going for high quality jobs. The owner of the Chinese restaurants demands that it is the economic success they gained from their restaurants.

A report from The New York Times Report, on Dec.24, 2019 describe well the scenario.

"It's a success that these restaurants are closing," said Jennifer 8. Lee, a former New York Times journalist who wrote of the rise of Chinese restaurants in her book "The Fortune Cookie Chronicles" and produced a documentary, "The Search for General Tso." "These people came to cook so their children wouldn't have to, and now their children don't have to."

This report helps us to conclude that there was a good market of the Chinese Restaurants and will be a good market for new good quality Chinese restaurants.

1.3. Problem

Even though the history of Chinese Restaurants tells the success stories, but finding a good location with optimized competition market is not so easy. Because still there exist high ratings Chinese restaurants and for the new restaurants the initial competition will be very high. Suppose if we open a new restaurant near a high rated famous restaurant then may be after some time we need to close the restaurant. On the other hand it will be a very bad idea if we plan to open a new restaurant in such a location where people don't like the Chinese Cuisine.

1.4. Possible way-out

If we study the data available in internet regarding peoples' opinions, choices, likes, ratings, tips for different locations of New York City then we can always choose a proper location for opening a new Chinese restaurant. From the data we can always find out quantitative competition of the market. The key of our analysis will be to compare Chinese Restaurants between different Boroughs and Neighborhoods and to find out "Peoples' Choices".

2. Data acquisition and cleaning

2.1. Data Source

Data For this project we need the following:

1> New York City data that contains list Boroughs, Neighborhoods along with their latitude and longitude. Data source: https://cocl.us/new_york_dataset Description: This data set contains the required information. And we will use this data set to explore various neighborhoods of New York City.

2> Chinese Restaurants in each neighborhood of New York City.

Data source : Fousquare API Description : By using this api we will get all the venues in each neighborhood. We can filter these venues to get only Chinese restaurants. GeoSpace data Data source: https://data.cityofnewyork.us/City-Government/Borough-Boundaries/tqmj-j8zm Description: By using this geo space data we will get the New York Borough boundaries that will help us visualize choropleth map.

2.2.   Data cleaning and processing methodology

New York City data

The data was not cleaned there were some duplicates. I used only "Borough", "Neighborhood", "Latitude", "Longitude" for creating a dateable. The shape of the data table was (306, 4)

Chinese Restaurants in New York City data

I used the data from above table to generate a data table having the information of Chinese restaurants. I created a table containing "Borough", "Neighborhood", "ID" and "Name". The shape of the data was (396, 4). Then the duplicate "Name" was removed. The dimension of the data after dropping the duplicates was (196, 4). Finally I merged the New York data and Chinese Restaurants' data. The final table containing columns "Borough", "Neighborhood" "ID", "Name", "Latitude", "Longitude".
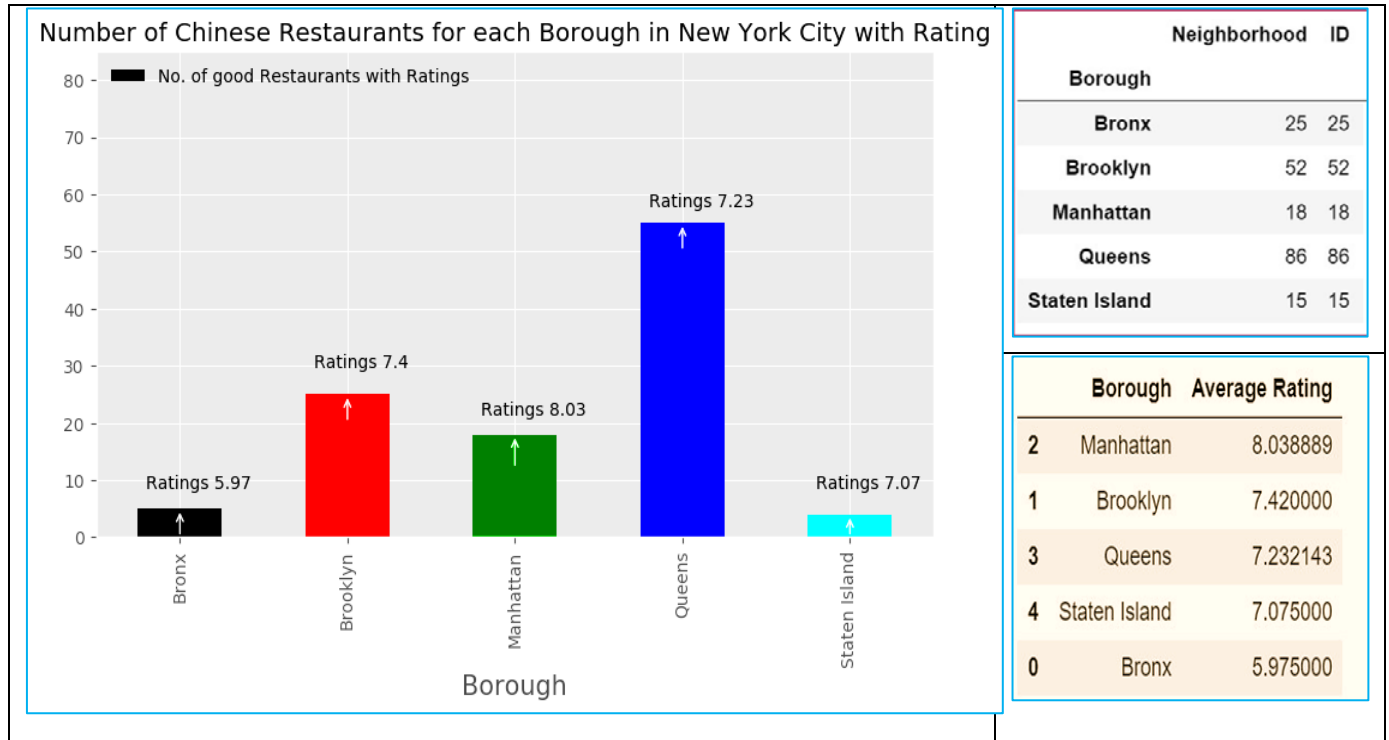
The final dimension of the table is (196, 6).

"Like", "Rating", "Tips" in Chinese Restaurants of New York City data

I used Four square API premium calls to generate a table which containing only the information's of all those Chinese restaurants for which "Like", "Rating", "Tips" were available. Those are the good Chinese restaurants. After filtering the data the final dimension of our table was (107, 9). The final table contains the information of **107 Chinese restaurants** and nine columns containing the data of **"Borough", "Neighborhood", "ID", "Name", "Latitude", "Longitude", "Like", "Rating", "Tips"**.

The final data (107, 9) was used for the analysis.

3. Analysis an discussions

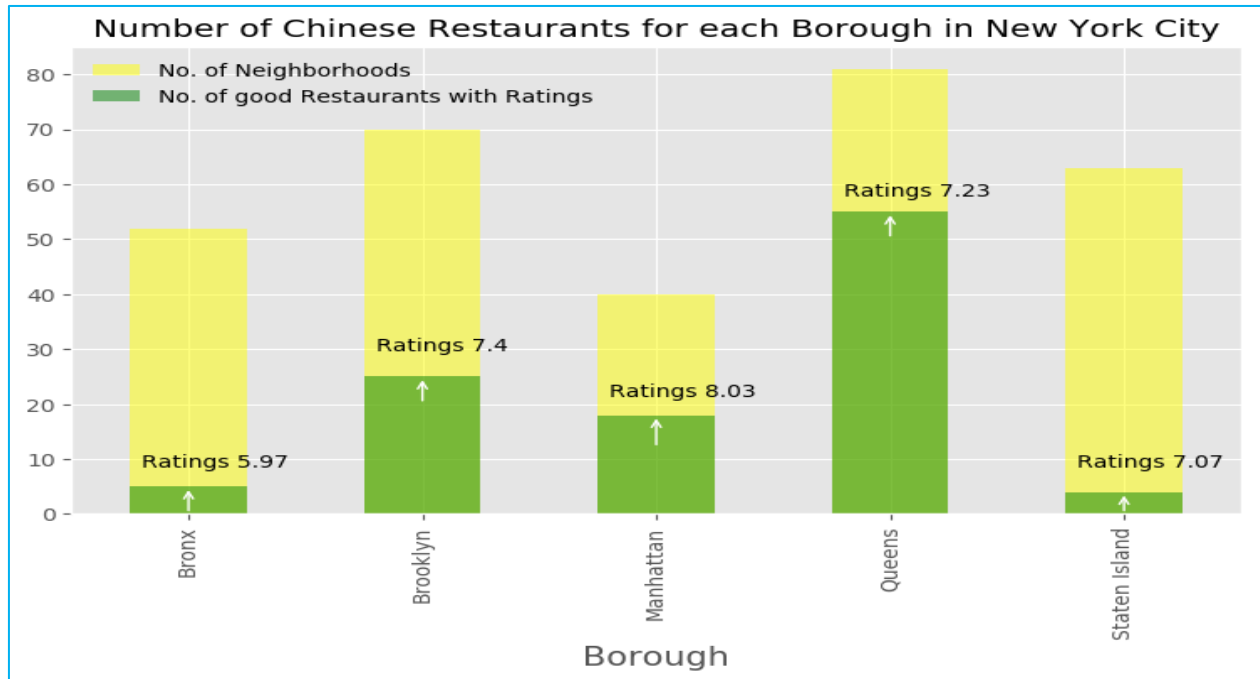## 3.1. Comparison of number of Chinese Restaurants Ratings between different Borough and Neighborhoods

There are five different Borough in New York City; Bronx (25 Neighborhoods), Brooklyn (52 Neighborhoods), Manhattan (18 Neighborhoods), Queens (86 Neighborhoods), and Staten Island (15 Neighborhoods).

Manhattans is in the top position in regard of ratings of Chinese Restaurants among others. But Queens is in the top position in regard of number of Chinese Restaurants among Borough. Even though Queens has higher number of Chinese restaurants, in terms of rating is in the third position (7.23).
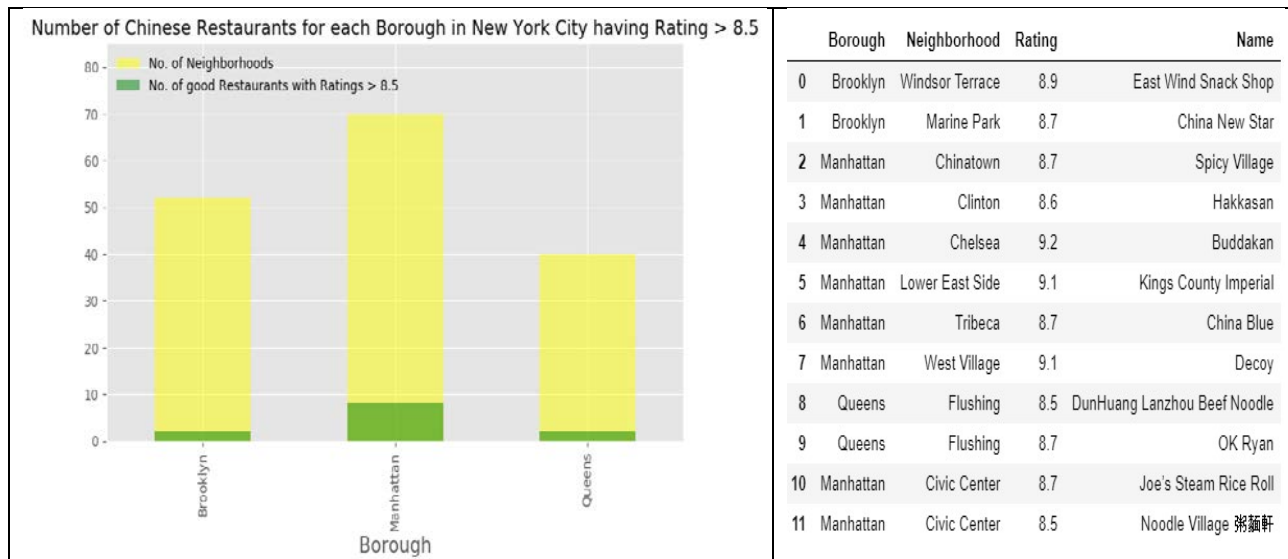
3.2. Comparison of Chinese Restaurants between different Borough and number of Neighborhoods [average rating]

Now if we compare number of neighborhoods of different Borough and the available restaurants then we will gain very valuable information. See the figure in the next page. The difference between the number of available Chinese restaurants and number of neighborhood is same for Queens and Manhattans. But, Manhattans is the place of high competitions compare to Queens. Because, the average rating of Chinese restaurants in Manhattan is 8.03 and for Queens it is 7.23. On the other hand in terms of the ratings of Chinese restaurants, Brooklyn is in between Manhattan and Queens. But the difference between number of Neighborhood and available Chinese restaurants number is higher than

Manhattan and Queens. This means there is still higher chances for the Chinese restaurant that can compete easily to get higher ratings than in Manhattan.
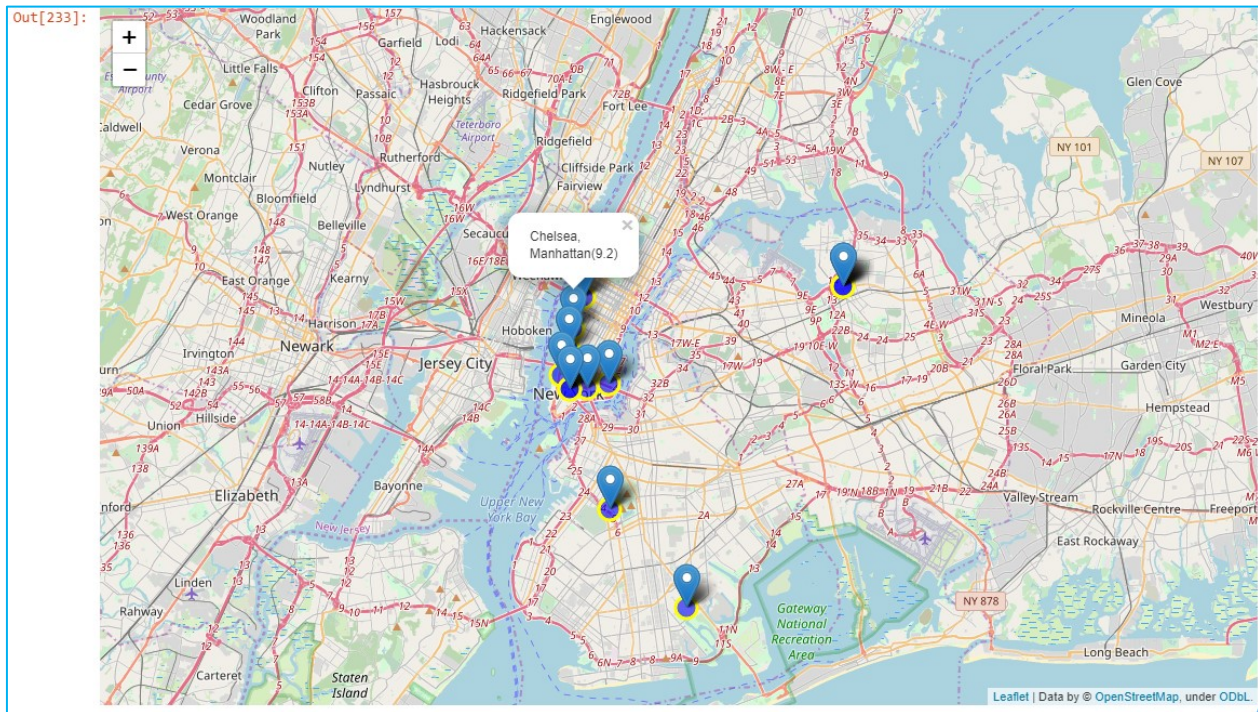

3.3. Chinese Restaurants having good ratings > 8.5 in different Borough [absolute rating value]

	Borough	Neighborhood	Rating	Name
0	Brooklyn	Windsor Terrace	8.9	East Wind Snack Shop
1	Brooklyn	Marine Park	8.7	China New Star
2	Manhattan	Chinatown	8.7	Spicy Village
3	Manhattan	Clinton	8.6	Hakkasan
4	Manhattan	Chelsea	9.2	Buddakan
5	Manhattan	Lower East Side	9.1	Kings County Imperial
6	Manhattan	Tribeca	8.7	China Blue
7	Manhattan	West Village	9.1	Decoy
8	Queens	Flushing	8.5	DunHuang Lanzhou Beef Noodle
9	Queens	Flushing	8.7	OK Ryan
10	Manhattan	Civic Center	8.7	Joe's Steam Rice Roll
11	Manhattan	Civic Center	8.5	Noodle Village 粥麵軒

If we sort out Chinese Restaurants having rating > 8.5 then Manhattan has 8 Chinese restaurants (high competitions).But, Brooklyn and Queens has only two restaurants with high ratings, in each. This observation also reconfirms the statement regarding the success of new Chinese restaurant in Brooklyn which is stated in earlier paragraph.

3.4. Chinese Restaurants having rating value > 8.5 and there visualization

4. Conclusions

- Chelsea (Manhattan, 9.2), Lower East Side (Manhattan, 9.1), West Village(Manhattan, 9.1), China Town (Manhattan, 8.7), Civic Center (Manhattan, 8.7),Tribeca (Manhattan, 8.7), Clinton (Manhattan, 8.6), Winsdor(Brooklyn, 8.9), Marine Park(Brooklyn, 8.7), Flushing(Queens, 8.7) are some of the best neighborhoods for Chinese cuisine.
- Manhattan is mostly high rating Chinese Restaurant Market
- The rank of Bronx in terms of average rating of Chinese Restaurants is last.
- Even though Staten Island is in the fourth position in terms of average rating, but the there are lots of space available for new chinese restaurnts with less competition (this data reveled from the Graph "Visual comparison between , No. of Chinese Restaurants and Average Rating w.r.t. neighborhood numbers in each Borough")
- Manhattan may be a good place for opening a new Chinese restaurant if we can compete with other High Rating restaurants.

5. My Opinion for opening a new Chinese restaurant

I will prefer Brooklyn for opening a new Chinese restaurant because Brooklyn is in the second position in terms of rating but in comparison to Manhattan the available locality is higher and at the same time the only two available restaurants having ratings above 8.5.

6. Assumptions

➢ The conclusion of the project totally depends on the Rankings, Likes and Tips available in Foursquare.

➢ I did not take into account those restaurants for which the data of the Rankings, Likes and Tips are not available.