# The Battle of Neighborhoods – Report

## 1. Introduction & Business Problem :

Problem background:

New York City is the most diverse and populous city in the United States. It is, in the eyes of many, the most attractive urban Centre in America. This City is very well known for its diverse, religiously varied, commercially driven and famously congested streets. As example, Wall Street means finance, Broadway is synonymous with theatre, Fifth Avenue is automatically paired with shopping, Madison Avenue means the advertising industry, Greenwich Village connotes bohemian lifestyles, Seventh Avenue signifies fashion, Tammany Hall defines machine politics, and Harlem evokes images of the Jazz Age, African American aspirations, and slums, etc…

For the past two centuries, New York has been the largest and wealthiest American city. More than half the people and goods that ever entered the United States came through its port, and that stream of commerce has made change a constant presence in city life. As a matter of fact, the City of New York offers many business opportunities on its markets and somehow they are highly competitive. With this being said, any new business idea must be strictly analyzed before venturing on this business environment.

Problem description:

In this paper we are trying to determine the best locations to start a new restaurant in the City of New York. For instance, we have a company named *"La belle bouche Ltd."* That is trying to open a new restaurant in New York and we will provide the best location to do it.

The City of New York is famous for its excellent cuisine. Its food culture includes an array of international cuisines influenced by the city's immigrant history.

1. Central and Eastern European immigrants, especially Jewish immigrants - bagels, cheesecake, hot dogs, knishes, and delicatessens
2. Italian immigrants - New York-style pizza and Italian cuisine
3. Jewish immigrants and Irish immigrants - pastrami and corned beef
4. Chinese and other Asian restaurants, sandwich joints, trattorias, diners, and coffeehouses are ubiquitous throughout the city
5. Mobile food vendors - Some 4,000 licensed by the city
6. Middle Eastern foods such as falafel and kebabs examples of modern New York street food
7. Pizzerias and Cafe's

In order to decide on the best Location of the restaurant, many factors need to be taken into account such as:

1. New York City Demographics
2. Are there any Farmers Markets, Wholesale markets nearby so that the ingredients can be purchased fresh to maintain quality and cost?
3. Are there any venues like Gyms, Entertainment zones or Parks nearby where floating population is high?
4. Who are the competitors in that location?
5. Cuisine served / Menu of the competitors
6. Segmentation of the Borough
7. Untapped markets
8. Saturated markets

All these factors are very important for anyone considering to start a new restaurant in New York. As a matter of fact, each of these factors will impact the business directly or indirectly. One should take the time to carefully analyze every parameters or factors to take the best decision. This paper will be very useful to anyone who intends to start a new restaurant in the City of New York.

## 2. Data :

Data Requirements:

For this project, we will be utilizing the Foursquare API to pull the following location data on restaurants in New York City:

- Venue Name
- Venue ID
- Venue Location
- Venue Category
- Count of Likes

We will be using the below datasets for analyzing New York City

Data 1: Neighborhood has a total of 5 boroughs and 306 neighborhoods. In order to segment the neighborhoods and explore them, we will essentially need a dataset that contains the 5 boroughs and the neighborhoods that exist in each borough as well as the latitude and longitude coordinates of each neighborhood.

This dataset exists for free on the web. Link to the dataset is :
https://geo.nyu.edu/catalog/nyu_2451_34572

| | Borough | Neighborhood | Latitude | Longitude |
|---|---------|-------------|----------|-----------|
| 0 | Bronx | Wakefield | 40.894705 | -73.847201 |
| 1 | Bronx | Co-op City | 40.874294 | -73.829939 |
| 2 | Bronx | Eastchester | 40.887556 | -73.827806 |
| 3 | Bronx | Fieldston | 40.895437 | -73.905643 |
| 4 | Bronx | Riverdale | 40.890834 | -73.912585 |

Data 2: Second data which will be used is the DOHMH Farmers Markets and Food Boxes dataset. In this we will be using the data of Farmers Markets.

https://data.cityofnewyork.us/dataset/DOHMH-Farmers-Markets-and-Food-Boxes/8vwk-6iz2

https://www.grownyc.org/greenmarketco/foodbox

GrowNYC's Fresh Food Box Program is a food access initiative that enables under-served communities to purchase fresh, healthy, and primarily regionally grown produce well below traditional retail prices.

A farmers' market is often defined as a public site used by two or more local or regional producers for the direct sale of farm products to consumers. In addition to fresh fruits and vegetables, markets may sell dairy products, fish, meat, baked goods, and other minimally processed foods.

| | FacilityName | Service Category | Service_Type | Address | Address 2 | Borough | ZipCode | Latitude | Longitude | AdditionalInfo | StartDate | EndDate | Monday | Tuesday | Wednesday | Thursday |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | Inwood Park Greenmarket | Farmers Markets and Food Boxes | Farmers Markets | Isham St bet Seaman & Cooper | NaN | Manhattan | 10034 | 40.869009 | -73.920320 | Open year-round | NaN | NaN | NaN | NaN | NaN | NaN |
| 1 | 82nd Street Greenmarket | Farmers Markets and Food Boxes | Farmers Markets | 82nd St bet 1st & York Aves | NaN | Manhattan | 10028 | 40.773448 | -73.948954 | Open year-round | NaN | NaN | NaN | NaN | NaN | NaN |
| 3 | 125th Street Farmers Market | Farmers Markets and Food Boxes | Farmers Markets | 125th St & Adam Clayton Powell Jr Blvd | NaN | Manhattan | 10027 | 40.808981 | -73.948327 | Market open dates: 6/13/2017 to 11/21/2017 | 06/13/2017 | 11/21/2017 | NaN | 10am-7pm | NaN | NaN |
| 4 | 170 Farm Stand | Farmers Markets and Food Boxes | Farmers Markets | 170th St & Townsend Ave | NaN | Bronx | 10452 | 40.840095 | -73.916827 | Market open dates: 7/5/2017 to 11/22/2017 | 07/05/2017 | 11/22/2017 | NaN | NaN | 2:30pm-6:30pm | NaN |
| 5 | 175th Street Greenmarket | Farmers Markets and Food Boxes | Farmers Markets | 175th St bet Wadsworth Ave & Broadway | NaN | Manhattan | 10033 | 40.845956 | -73.937813 | Market open dates: 6/29/2017 to 11/30/2017 | 06/29/2017 | 11/30/2017 | NaN | NaN | NaN | 8am-5pm |

Data 3: For the below analysis we will get data from Wikipedia as given below:

1. New York Population
2. New York City Demographics 3. Cuisine of New York city

https://en.wikipedia.org/wiki/New_York_City
https://en.wikipedia.org/wiki/Economy_of_New_York_City
https://en.wikipedia.org/wiki/Portal:New_York_City
https://en.wikipedia.org/wiki/Cuisine_of_New_York_City

Data 4: New York City geographical coordinates data will be utilized as input for the Foursquare API, which will be leveraged to provision venues information for each neighborhood. We will use the Foursquare API to explore neighborhoods in New York City. The below is image of the Foursquare API data.

| | Neighborhood | NeighborhoodLatitude | NeighborhoodLongitude | Venue | VenueLatitude | VenueLongitude | VenueCategory |
|---|---|---|---|---|---|---|---|
| 0 | Marble Hill | 40.876551 | -73.91066 | Arturo's | 40.874412 | -73.910271 | Pizza Place |
| 1 | Marble Hill | 40.876551 | -73.91066 | Bikram Yoga | 40.876844 | -73.906204 | Yoga Studio |
| 2 | Marble Hill | 40.876551 | -73.91066 | Tibbett Diner | 40.880404 | -73.908937 | Diner |
| 3 | Marble Hill | 40.876551 | -73.91066 | Sam's Pizza | 40.879435 | -73.905859 | Pizza Place |
| 4 | Marble Hill | 40.876551 | -73.91066 | Loeser's Delicatessen | 40.879242 | -73.905471 | Sandwich Place |