THE BATTLE OF THE NEIGHBORHOODS

- **Business Problem :**

    - Choice of neighborhood to start the restaurant business.

    - Easy to replicate.

    - Low competition

    - High demand

    - Choice of cuisine

- **Success Criteria :**

    - Best neighborhood which meets the above criteria.

NEW YORK CITY - BUSINESS ENVIRONMENT

- Market is highly competitive

- Cost of doing business is also one of the highest

- New business venture or expansion needs to be analysed carefully

- One should strategically target the market in order to

   -to reduce risk.

   -to increase the Return on Investment

NEW YORK CITY - CUISINE

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

- Central and Eastern European immigrants, especially Jewish immigrants - bagels, cheesecake, hot dogs, knishes, and delicatessens

- Italian immigrants - New York-style pizza and Italian cuisine

- Jewish immigrants and Irish immigrants - pastrami and corned beef

- Chinese and other Asian restaurants, sandwich joints, trattorias, diners, and coffeehouses are ubiquitous throughout the city

- Mobile food vendors - Some 4,000 licensed by the city

- Middle Eastern foods such as falafel and kebabs examples of modern New York street food

- Famous for fine dining Michelin starred restaurants. The city is home to "nearly one thousand of the finest and most diverse haute cuisine restaurants in the world", according to Michelin.

- So it is evident that to survive in such competitive market it is very important to strategically plan.

FACTORS TO STUDY

- New York Population

- New York City Demographics

- Nearby suppliers like Farmers Markets, Wholesale markets, etc

- Nearby venues where moving population is high

- Location Competitiveness

- Targeted Audience

DATA INFORMATION - 1

- **Data 1: New York City Neighbourhood:** https://geo.nyu.edu/catalog/nyu_2451_34572

This dataset will give a general idea of the neighborhood. In order to segment the neighborhoods and explore them, we will essentially need a dataset that contains the number of boroughs in the neighborhoods, along with the co-ordinates of each neighborhood.

- **Data 2: Farmers Markets and Food Boxes:** https://data.cityofnewyork.us/dataset/DOHMH-Farmers-Markets-and-Food-Boxes/8vwk-6iz2

In order to have a better insight of the availability of the raw materials, an analysis of the major Farmers Markets and Food Boxes in the neighborhood is necessary, which aide the business. 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.

- **Data 3: GrowNYC's Fresh Food Box:** https://www.grownyc.org/greenmarketco/foodbox

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

DATA INFORMATION - 2

- **Data 4: New York Population:** https://en.wikipedia.org/wiki/New_York_City

The overall New York population has to be analysed to make a better prediction for the business, which will include various key factors like age, gender, area population, etc.

- **Data 5: New York City Demographics:** https://en.wikipedia.org/wiki/Economy_of_New_York_City , https://en.wikipedia.org/wiki/Portal:New_York_City

The City Demographic Analysis would help in narrowing the best fit locality of the restaurant.

- **Data 6: Cuisine of New York city:** https://en.wikipedia.org/wiki/Cuisine_of_New_York_City , https://en.wikipedia.org/wiki/List_of_Michelin_starred_restaurants_in_New_York_City

To run a restaurant business, a better understanding of the food preferences is required to make an informed decision.
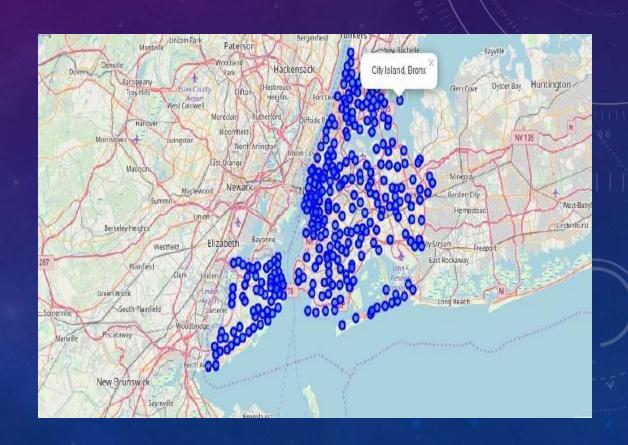
ANALYTIC APPROACH

- New York city neighbourhood has a total of 5 boroughs and 306 neighborhoods

    - PART 1 - Clustering of Manhattan and Brooklyn

    - PART 2 - Clustering of Bronx, Queens and Staten Island.

- Only restaurant data is filtered from foursquare.com venues data and utilized for this project.

- This is done because of the following Exploratory data analysis.

METHODOLOGY 1

New York City Geographical Coordinates Data.

A. We load the data and explore data from a json file.

B. Transform the data of nested python dictionaries into a pandas data frame.

C. The data frame will now contain the geographical coordinates of New York City neighborhoods.

D. This data will used to get venues data from Fouresquare.

E. We used geopy and folium libraries to create a map of New York city with neighborhoods superimposed on top.
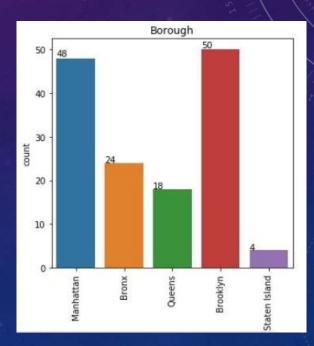
METHODOLOGY 2

Second data used is the Farmers Markets and Food Boxes dataset. In this we will be using the data of Farmers Markets data.

A. There are totally 144 Farmers Markets in New York City, highest being in Manhattan and Brooklyn. The lowest are in Queens, Bronx and Staten Island.

B. The proof of this is as shown in the picture.

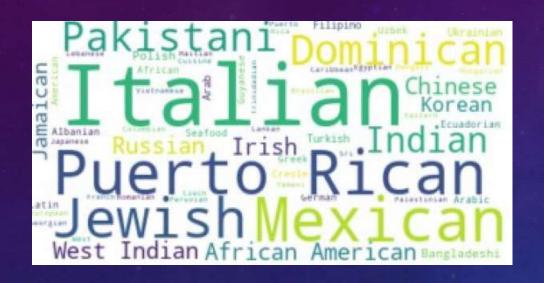C. We used geopy and folium libraries to create a map to visualise farmers markets of New York city.

METHODOLOGY 3 – NYC POPULATION

	Borough	County	Estimate_2017	square_miles	square_km	persons_sq_mi	persons_sq_km
0	Manhattan	New York	1,664,727	22.83	59.13	72,033	27,826
1	The Bronx	Bronx	1,471,160	42.10	109.04	34,653	13,231
2	Brooklyn	Kings	2,648,771	70.82	183.42	37,137	14,649
3	Queens	Queens	2,358,582	108.53	281.09	21,460	8,354
4	Staten Island	Richmond	479,458	58.37	151.18	8,112	3,132
5		City of New York	8,622,698	302.64	783.83	28,188	10,947
6		State of New York	19,849,399	47,214	122,284	416.4	159

METHODOLOGY 3 – NYC DEMOGRAPHICS

	Racialcomposition	2010	1990	1970	1940
0	White	44.0%	52.3%	76.6%	93.6%
1	—Non-Hispanic	33.3%	43.2%	62.9%	92.0%
2	Black or African American	25.5%	28.7%	21.1%	6.1%
3	Hispanic or Latino (of any race)	28.6%	24.4%	16.2%	1.6%
4	Asian	12.7%	7.0%	1.2%	–

METHODOLOGY 3 – NYC CUISINES

NEW YORK CITY CUISINE

BROOKLYN CUISINE

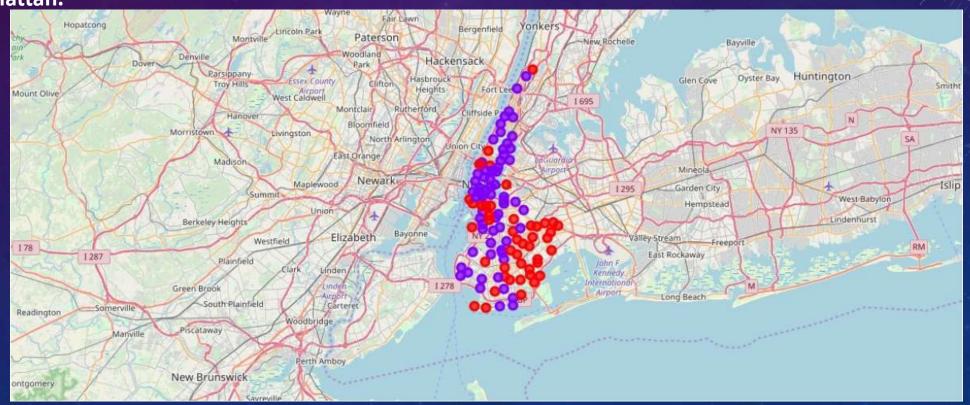# METHODOLOGY 3 – NYC CUISINES

MANHATTAN CUISINE

QUEENS CUISINE

BRONX CUISINE

METHODOLOGY 4 – NEIGHBORHOOD K-MEANS CLUSTERING BASED ON MEAN OCCURRENCE OF VENUE CATEGORY

- **Brooklyn & Manhattan: The analysis shows that there are no untapped neighborhood in Brooklyn and Manhattan.**

METHODOLOGY 4 – CONTD.

- **Bronx, Queens and Staten Island: There are untapped neighborhood. List is as given below.**

	Borough	Neighborhood	Latitude	Longitude	Total	Cluster_Labels
0	Staten Island	Todt Hill	40.597069	-74.111329	0	0
1	Staten Island	Port Ivory	40.639683	-74.174645	0	0
2	Staten Island	Bloomfield	40.605779	-74.187256	0	0

CONCLUSION

This analysis is performed on limited data. But if good amount of data is available there is scope to come up with better results. Brooklyn and Manhattan have high concentration of restaurant business. Bronx, Queens and Staten Island have some opportunity to tap in the restaurant business. A venue with lowest risk and competition can be identified. There is scope to increase Farmers markets in Bronx, Queens and Staten Island. In Manhattan and Brooklyn restaurants of cuisines of many countries are available. Risk can be taken with great menu on board.