US HEADQUARTERS LOCATION

SELECTING NEIGHBORHOODS IN NEW YORK CITY

PROBLEM

- SELECT A LIST OF NEIGHBORHOODS OF NEW YORK CITY FOR AN OVERSEAS CORPORATION TO LOCATE ITS US HEADQUARTERS.

METHODOLOGY

Explore, segment and cluster the 5 Boroughs and 306 Neighborhoods of New York City, using dataset that contains the geospatial location of each borough and neighborhoods (latitude & longitude coordinates).

Use coordinates to extract venue information from the Foursquare API.

Find out the most common venues in a selected, filtered list of neighborhoods and cluster them (TOP neighborhoods).

METHODOLOGY

Top-down analysis: Boroughs first, Neighborhoods, second.

Boroughs must have > 5 neighborhoods with 50+ venues to be considered for the next phase.

Next, explore Top Neighborhoods of the selected Boroughs, segmenting by their 10 most common venues.

Machine Learning algorithm K-Means will form clusters of different kind of venues from the selected Top Neighborhoods.
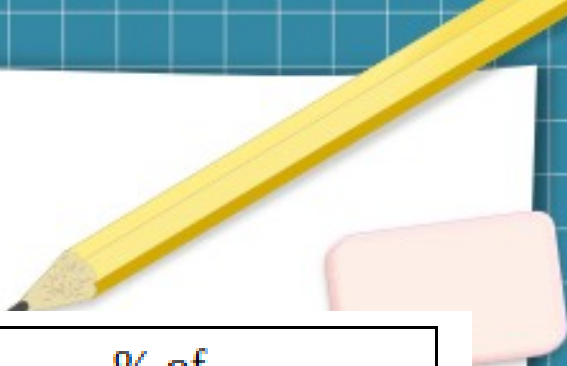
METHODOLOGY

REQUIREMENTS FOR NEIGHBORHOOD SELECTION:

-Must be commercial area, as neighbors in pure residential areas can be negatively affected.

-High density of hotels nearby for the overnight staying of overseas employees, vendors, visitors, corporate meetings, etc.

-Good number of coffee shops, restaurants and entertainment venues for employees quality of life.
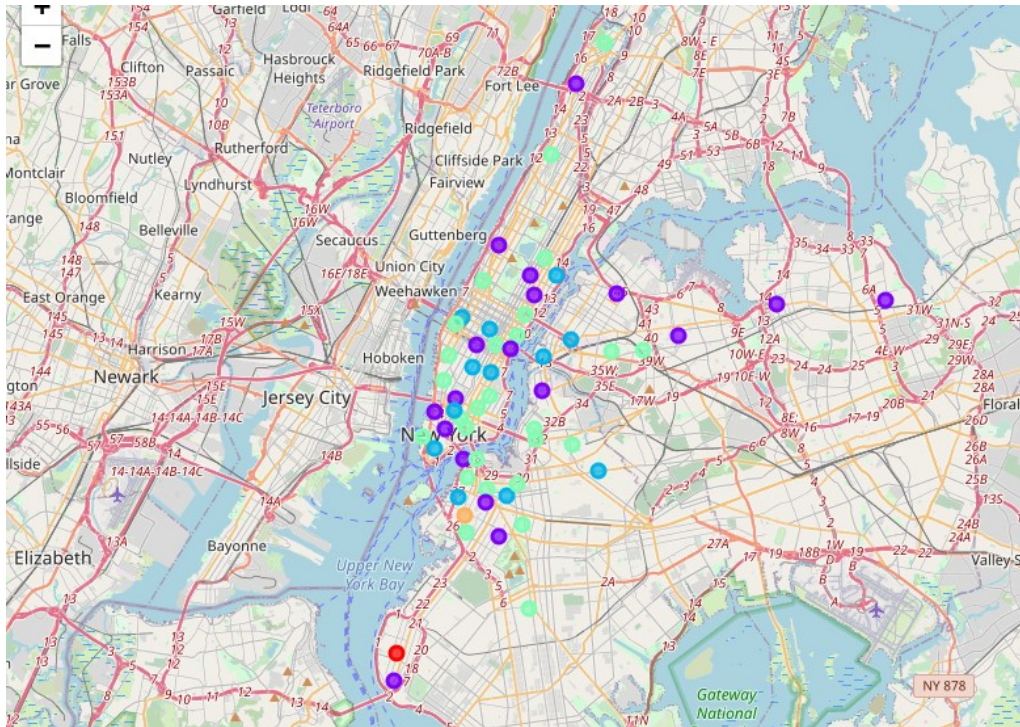
RESULTS

Borough	Total amount of Neighborhoods	Total amount of Top Neighborhoods*	% of Top Neighborhoods
Queens	81	9	11.1
Brooklyn	70	20	28.6
Manhattan	40	31	77.5
Bronx	50	3	6.0
Staten Island	63	0	0.0
Total	306	63	20.5

*Neighborhoods with 50+ venues.

➔ Bronx and Staten Island do not have the minimum of 5 Top Neighborhoods, so they can not be considered for the next step.

RESULTS

MAP SHOWING
60 TOP
NEIGHBORHOODS
CLUSTERED BY 10
COMMON VENUES

RESULTS

	Neighborhood	Cluster Label	1st MCV	2nd MCV	3rd MCV	4th MCV	5th MCV	6th MCV
Cluster 2								
0	Long Island City	2	Hotel	Coffee Shop	Pizza Place	Bar	Mexican Restaurant	Café
1	Rockaway Beach	2	Beach	Ice Cream Shop	BBQ Joint	Pizza Place	Seafood Restaurant	Food Truck
2	Hunters Point	2	Café	Japanese Restaurant	Italian Restaurant	Wine Shop	Scenic Lookout	American Restaurant
3	Yorkville	2	Coffee Shop	Italian Restaurant	Gym	Bar	Deli / Bodega	Sushi Restaurant
4	Clinton	2	Theater	Gym / Fitness Center	Coffee Shop	Wine Shop	Gym	Hotel
5	Midtown	2	Hotel	Clothing Store	Coffee Shop	Theater	Cuban Restaurant	Pizza Place
6	Soho	2	Italian Restaurant	Coffee Shop	Mediterranean Restaurant	French Restaurant	Spa	Gym
7	Gramercy	2	Coffee Shop	Italian Restaurant	Grocery Store	Pizza Place	Playground	Bar
8	Financial District	2	Coffee Shop	Hotel	Gym / Fitness Center	Salad Place	Cocktail Bar	Park
9	Flatiron	2	Gym / Fitness Center	Yoga Studio	Outdoor Sculpture	Cosmetics Shop	Park	Wine Shop
10	Bushwick	2	Bar	Mexican Restaurant	Deli / Bodega	Coffee Shop	Pizza Place	Bakery
11	Cobble Hill	2	Playground	Coffee Shop	Bar	Pizza Place	Yoga Studio	Cocktail Bar
12	Fort Greene	2	Italian Restaurant	Flower Shop	Wine Shop	Coffee Shop	Yoga Studio	Theater

➜ Clustering resulted in 2 large, relevant, homogeneous clusters to compare: Cluster 2 and Cluster 3.

CONCLUSION

➜ Cluster 2 better fit Minimum Requirements.

➜ Final report to the Board of Directors of the Company, considering a recommended location for US Headquarters in New York City will list the following neighborhoods:

Neighborhood	Borough
Long Island City	Queens
Rockaway Beach	Queens
Hunters Point	Queens
Yorkville	Manhattan
Clinton	Manhattan
Midtown	Manhattan
Soho	Manhattan
Gramercy	Manhattan
Financial District	Manhattan
Flatiron	Manhattan
Bushwick	Brooklyn
Cobble Hill	Brooklyn
Fort Greene	Brooklyn