Open the Bakery on Manhattan, NY

Research Project

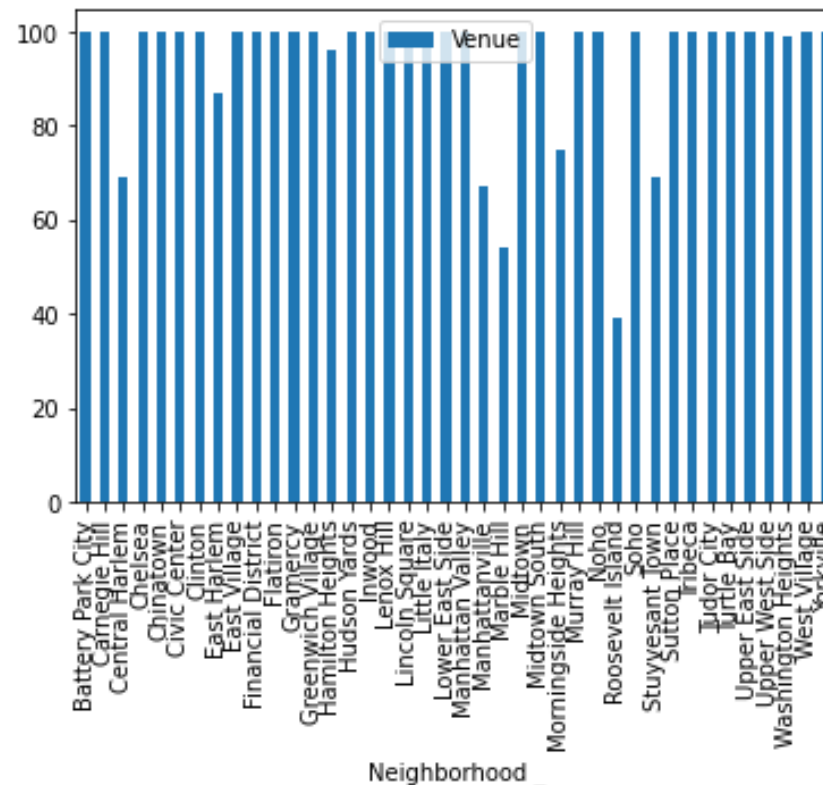# Make the market research to plan new openings

- The recommendation is based on the currently existing venues in the neighborhoods which will determine the 'profile' of neighborhood

- Along with the general profile it's considered how well projected demand on bakeries is already satisfied with existing bakeries nearby

- Useful for business owners and investors

Data acquisition and cleaning

- The list of New York neighborhoods with respective geographical coordinates.

- Foursquare's venues listings with information about places' coordinates and categories. This will allow to identify the relation of places to neighborhoods and analyze the profile of each neighborhood in terms of what places are typically located there.

- Foursquare's categories dictionary which defines the tree-structure of all available place categories on Foursquare. This will allow to apply some grouping over places list to have comparable categories over different neighborhoods.

- Geopy to find the NY geographical location for map drawing.

Data availability

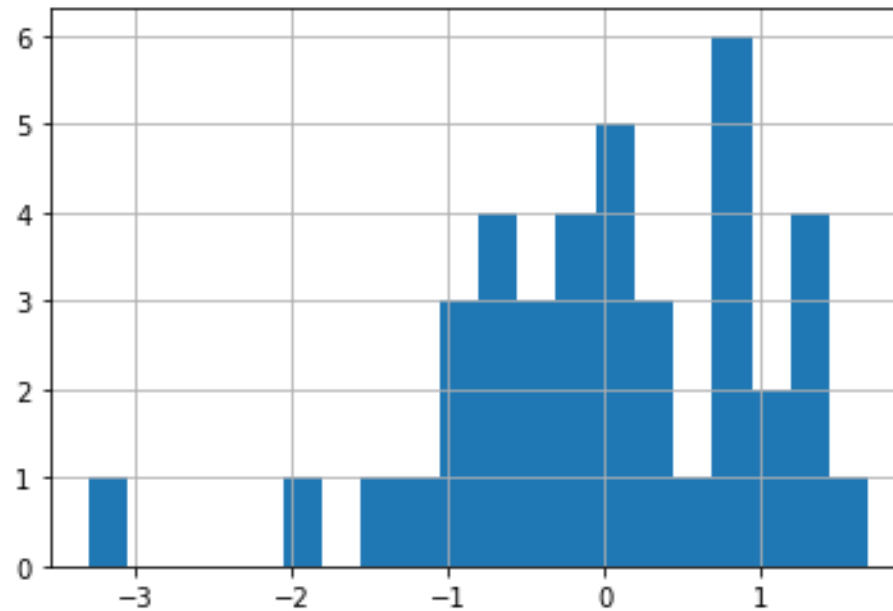- Up to 100 venues per neighborhood were analyzed

Demand evaluation

- Demand was evaluated based on the formula: 'Demand Adjusted' = 'Demand Projected' – 'Actual availability'
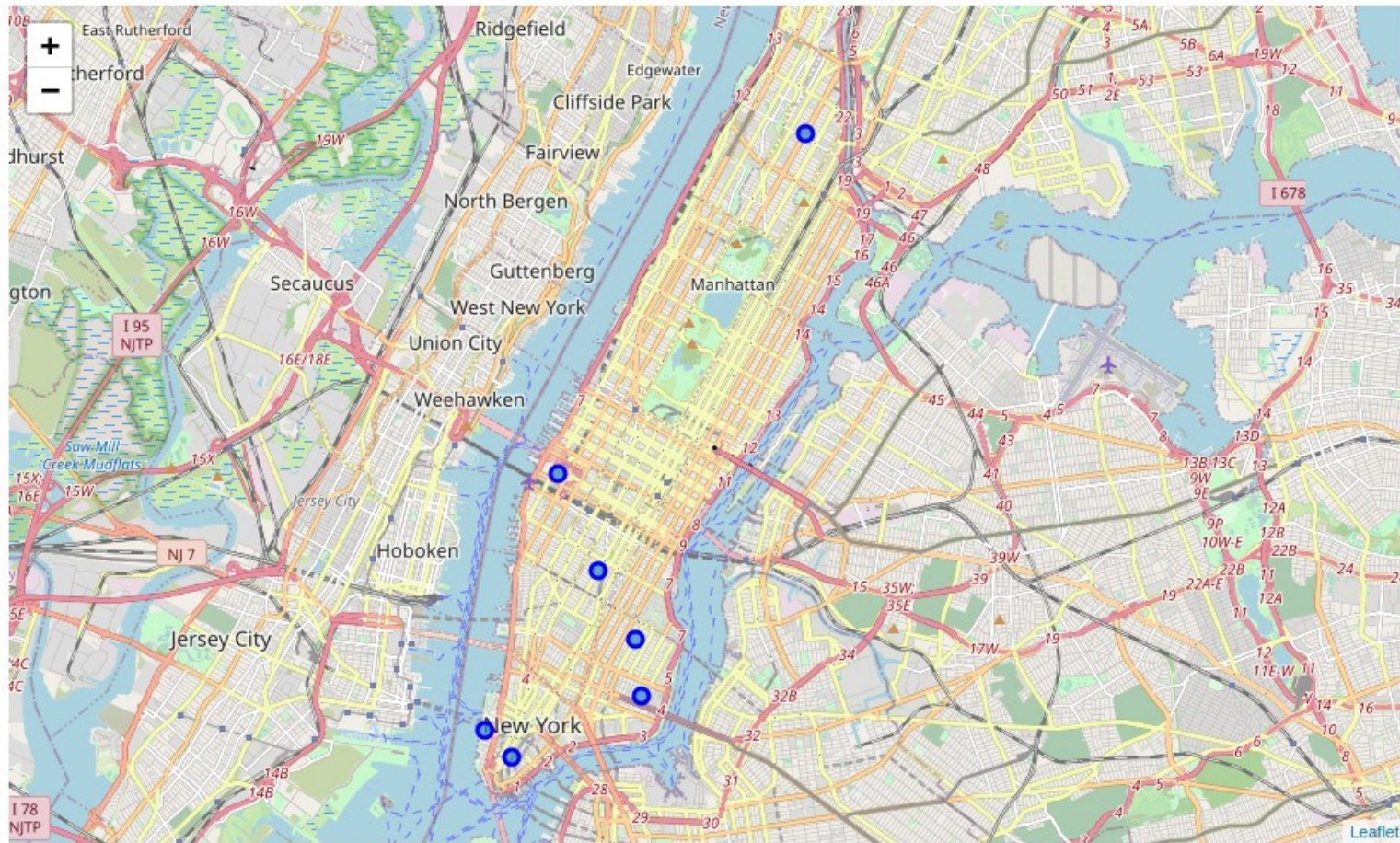
	Neighborhood	Bakery	DemandProjected	DemandAdjusted	DemandAdjustedStd
0	Battery Park City	0.010000	0.020845	1.084461e-02	1.322483e+00
1	Carnegie Hill	0.050000	0.044883	-5.117240e-03	-6.240393e-01
2	Central Harlem	0.000000	0.009774	9.774096e-03	1.191936e+00
3	Chelsea	0.050000	0.022984	-2.701588e-02	-3.294543e+00
4	Chinatown	0.100000	0.100000	5.551115e-17	6.695455e-15
5	Civic Center	0.010000	0.017463	7.462615e-03	9.100541e-01
6	Clinton	0.030000	0.023104	-6.896363e-03	-8.410006e-01
7	East Harlem	0.068966	0.068966	0.000000e+00	-7.404137e-17
8	East Village	0.010000	0.018280	8.280179e-03	1.009755e+00
9	Financial District	0.000000	0.008896	8.895548e-03	1.084798e+00

Demand Histogram

- Let's review the distribution over neighborhoods with histogram. Values are standardized.

Suggested locations for a new Bakery on the map

Conclusion and future directions

- Built a solution capable to provide recommendations for a location to open a new place

- Consider other approaches of splitting the geographical area (ZIP codes, honeycomb split)

- Consider making an application to provide interactive interface to user