

Opening organic based grocery stores in New York

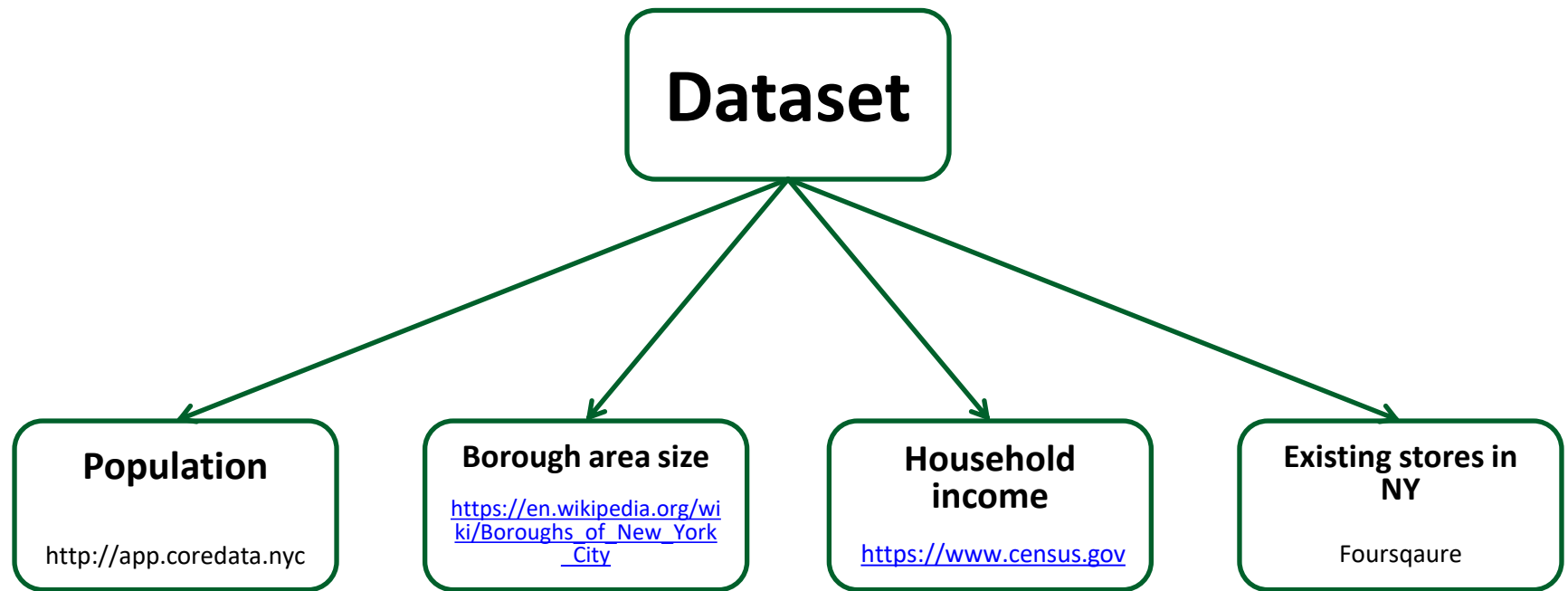
A Borough-based examination of potential locations

Business Problem

To answer the question which areas show the best market potentials for opening organic grocery stores in New York the following variables are considered within a Cluster-Analysis:

- Population Data of the five Boroughs of New York
- Land area sizes of the five Boroughs of New York
- Average per Capita income of the five Boroughs of New York
- Number of existing organic based grocery stores in the five Boroughs of New York

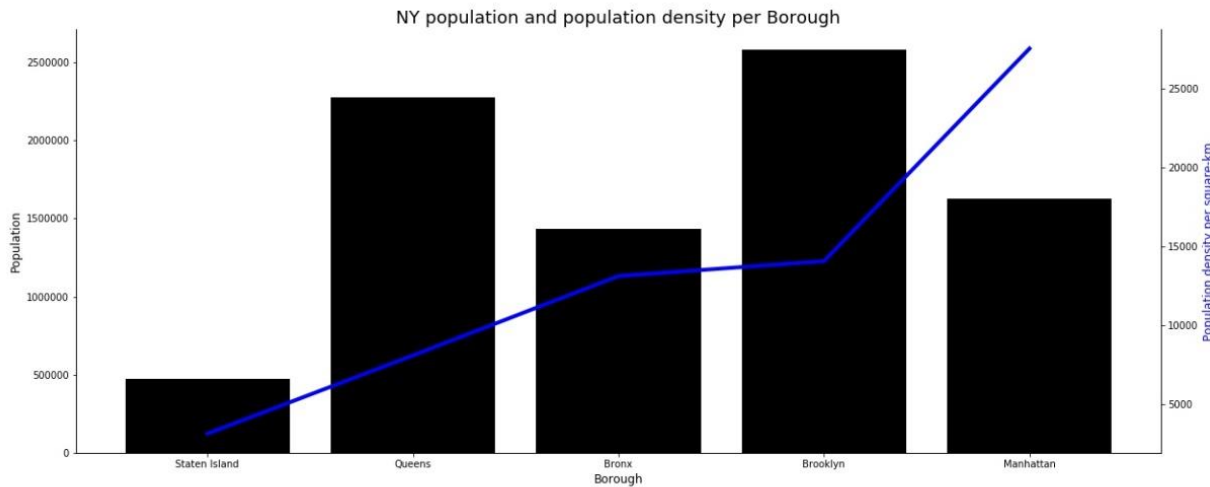
Data



Methodology:

Population

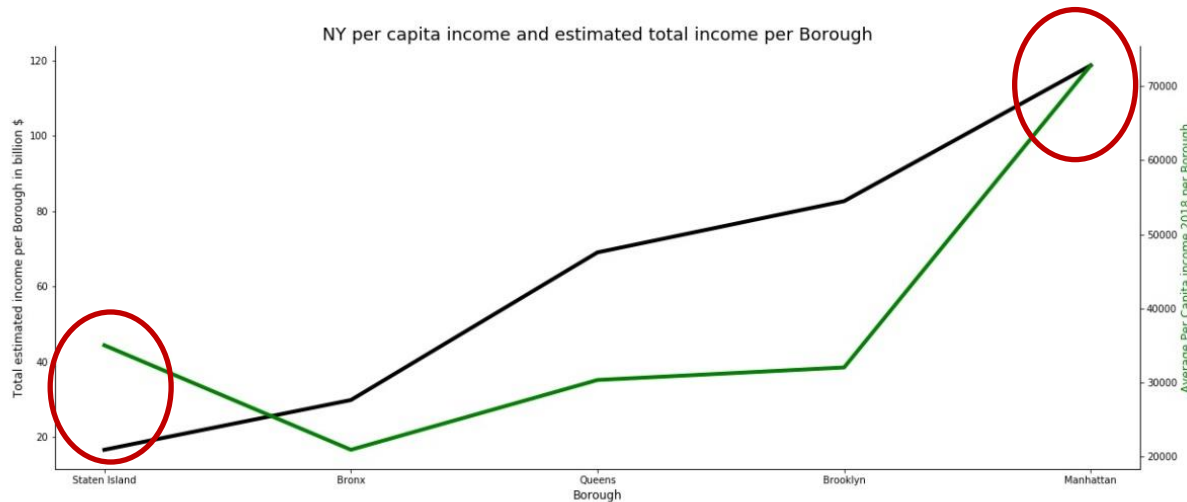
Data from all the data-sources were collected and merged into one file to run the following analyzes.



- Staten Island has the lowest total population and the lowest population density.
- Manhattan has the highest population density with an average total population.
- Bronx, Brooklyn and Queens have average population densities but high total population, especially Brooklyn and Queens.

Methodology:

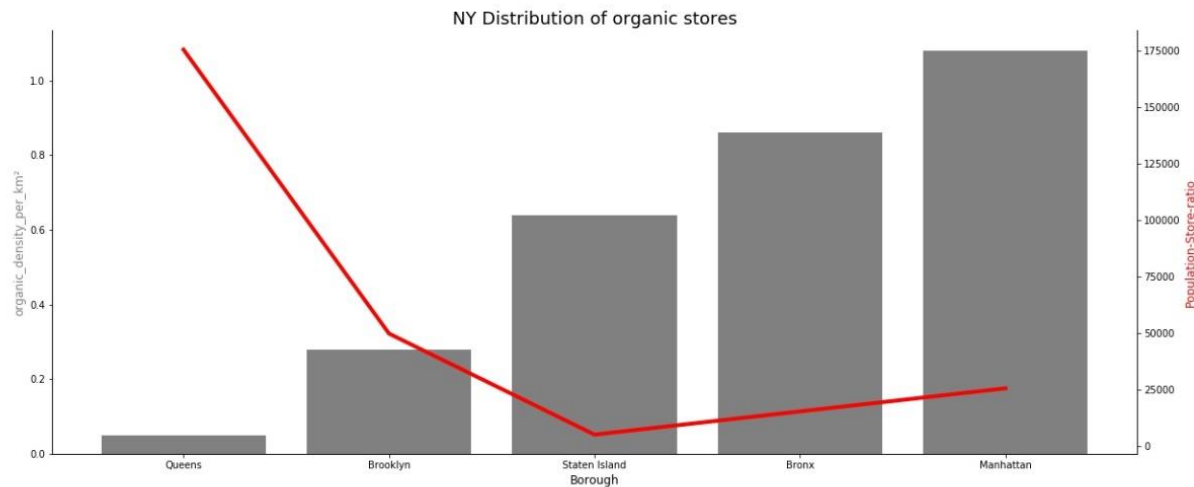
Income



The above Chart shows that in most Boroughs in New York, the per capita income and the estimated total income in each Borough are correlated, except Staten Island. This means that in Staten Island the total income is relatively low and is shared by only a relatively small number of people. Staten Island has also the second highest per capita income in New York. In Manhattan people have the highest per capita incomes and it's the Borough with the highest total purchase power in New York.

Methodology:

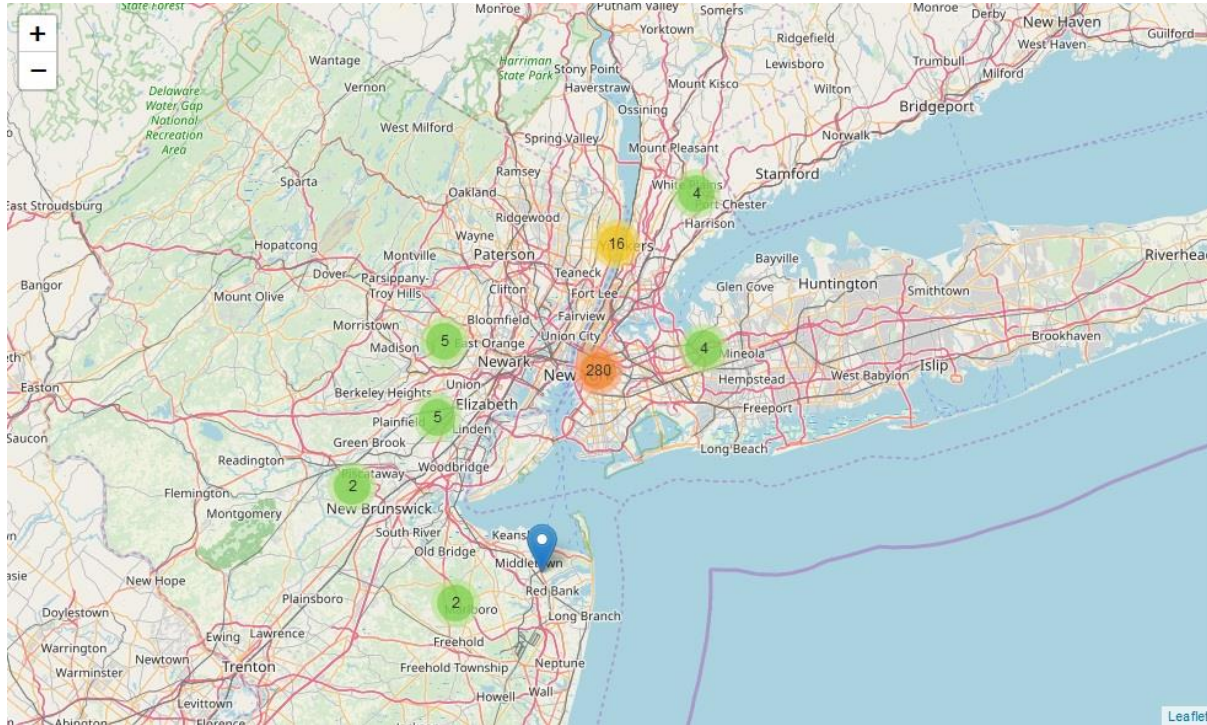
existing organic stores



In this Chart we see that the Boroughs differ in their distribution of organic stores. While in Queens there are just a few stores, in Manhattan there is a plethora of organic stores. On the other hand, in Queens there comes one organic store on about 175,000 people while in Manhattan one store comes for about 25,000 people.

Methodology:

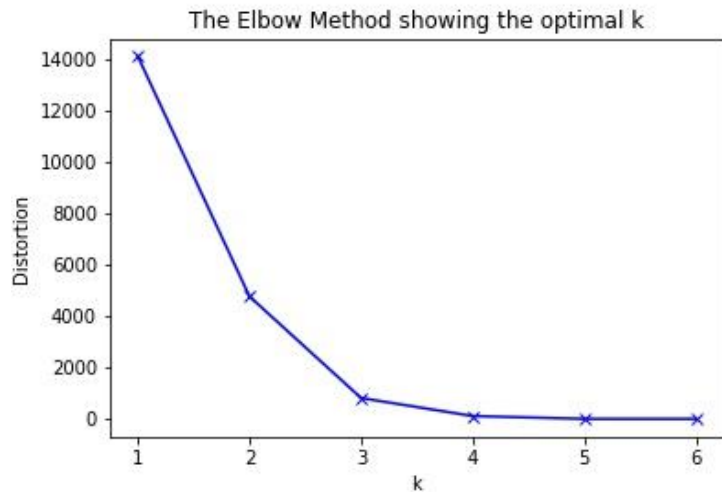
existing organic stores



→ High density of existing organic stores in the center of New York (Manhattan and Brooklyn)

Methodology:

Clustering



Clustering by:

- Average per Capita income
- density of stores per km²
- No of stores around 500 meters

Elbow Point shows up that k = 3 best fitting the Data

Methodology:

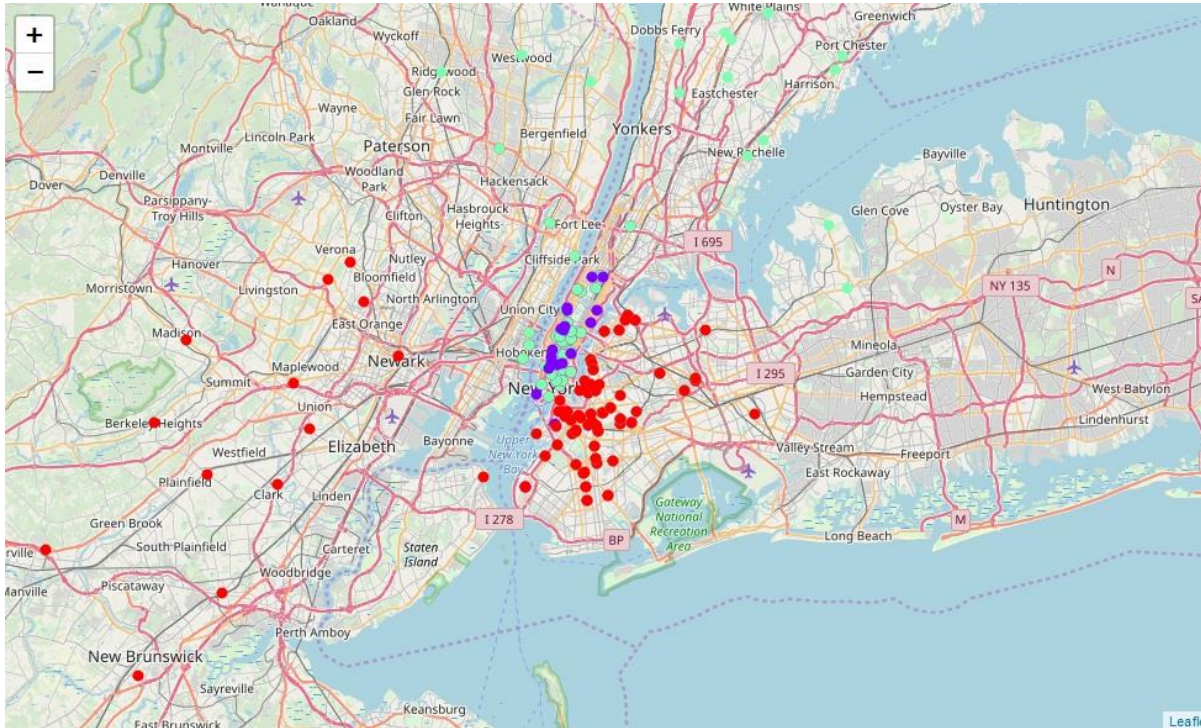
Clustering

	Average Per Capita income 2018 per Borough	organic_density_per_km ²	no_venues_500
Clusterlabel			
0	33637.745342	0.476087	3.583851
1	72832.000000	1.080000	3.875000
2	20850.000000	0.860000	3.691489

Clusters:

- Cluster 0: middle income; low density of existing stores; low number of stores around 500 meters
- Cluster 1: high income; high density of existing stores; high number of stores around 500 meters
- Cluster 2: low income; relatively high density of existing stores; relatively high number of stores around 500 meters

Results



Two valuable Cluster:

- Cluster 0 has the lowest density an number of stores around as well as a solid income-structure (red dots)
- Cluster 1 has already an existing market for organic stores but shows a very high-income structure

Discussion

- organic products are especially bought by people with relatively high incomes
- Another factor is clearly the already existing market (saturated markets vs. potential markets)
- These factors were included in the above analysis and showed, that 3 clusters show up in New York.
- All of those Cluster do differ but two of them can be seen as potential Clusters:
 - Cluster 0 has a low density of existing stores and a solid income structure
 - Cluster 1 has very high-income structure
 - Contrary, Cluster 2 has low income structures as well as relatively saturated markets and should not be preferred to open new stores

Conclusion

- above analysis is based on just a simple set of factors being considered
- Factors like rentals, leases or even purchase prices for new stores are not considered
- Also one could even go deeper into each Neighborhood or even streets
- This analysis was meant to search for top-level suggestions and future analyzes should consider these recommendations
- Nevertheless, this report gives a first impression of the structures of organic stores in the NY Boroughs in order to recommend deeper studies within this Borough or seek for possible Retail outlets