



Predicting A Better Location for a New Food Business

Introduction

A new wholesale business will be established in New York.

The business will particularly target other businesses that have many employees in offices, and also restaurants, coffee shops where people are expected to eat their meals and use single-use disposable utensils.



<https://www.pinterest.com/pin/815433076253740709/>

Most Suitable Location

The client is looking for the most suitable location that will be located close to potential customers and be able to deliver ordered products with same day delivery service option.



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<https://www.dreamstime.com/royalty-free-stock-photos-its-all-location-destination-best-area-spot-written-dry-erase-board-to-illustrate-top-neighborhood-image39022218>

Data Acquisition

Data will be mainly scraped via Foursquare API location data from the city of New York. Scrape data will include but not limited to, longitude, latitude of neighborhoods, zip codes, business names, business types.

| | Unnamed: 0 | Neighborhood | Neighborhood Latitude | Neighborhood Longitude | Venue | Venue Latitude | Venue Longitude | Venue Category |
|---|---------------|--------------|--------------------------|---------------------------|---------------------|-------------------|--------------------|-------------------|
| 0 | 0 | Wakefield | 40.894705 | -73.847201 | Lollipops Gelato | 40.894123 | -73.845892 | Dessert Shop |
| 1 | 1 | Wakefield | 40.894705 | -73.847201 | Rite Aid | 40.896649 | -73.844846 | Pharmacy |
| 2 | 2 | Wakefield | 40.894705 | -73.847201 | Carvel Ice Cream | 40.890487 | -73.848568 | Ice Cream Shop |
| 3 | 3 | Wakefield | 40.894705 | -73.847201 | Walgreens | 40.896528 | -73.844700 | Pharmacy |
| 4 | 4 | Wakefield | 40.894705 | -73.847201 | Dunkin' | 40.890459 | -73.849089 | Donut Shop |

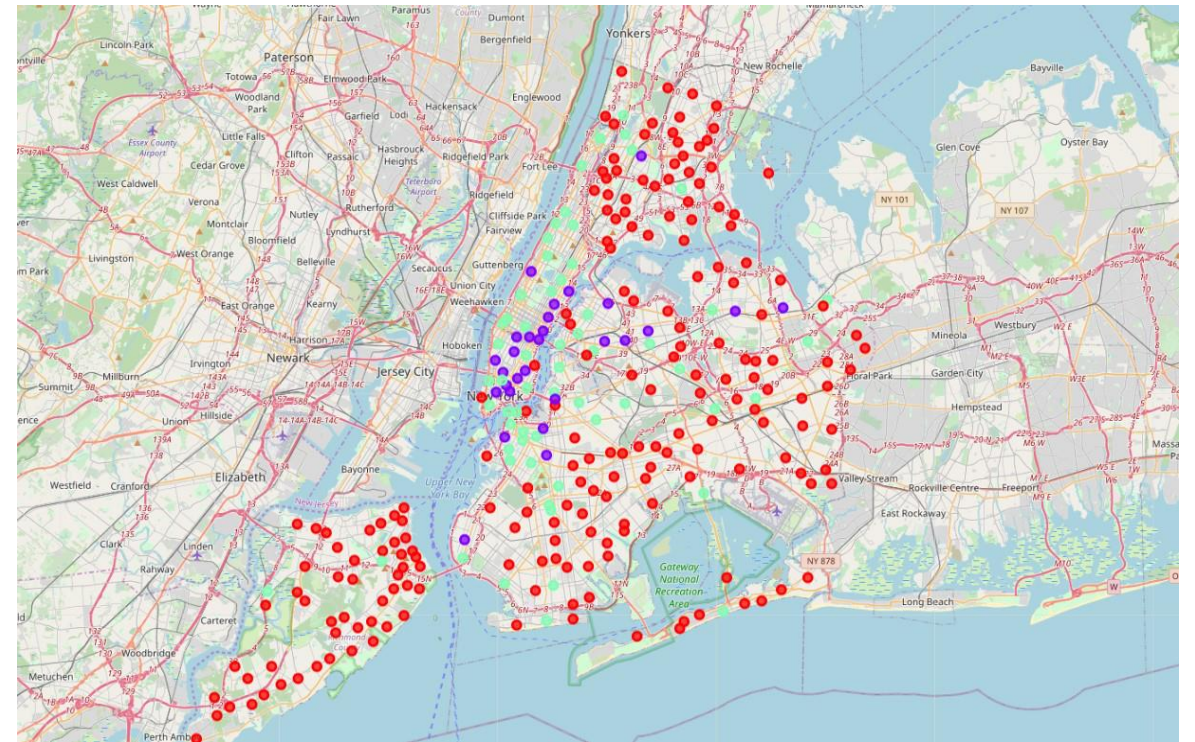
Data Acquisition

Data will be used to explore businesses, cluster and rank neighborhoods which may have a high potential customer such as restaurants, cafes, bars, bakeries and etc.

| | Neighborhood | Rest_Total | Bakery | Bar | Cafe | CShop | Deli |
|---|---------------|------------|--------|-----|------|-------|------|
| 0 | Allerton | 4 | 1 | 0 | 0 | 0 | 2 |
| 1 | Annadale | 2 | 0 | 0 | 0 | 0 | 1 |
| 2 | Arden Heights | 0 | 0 | 0 | 0 | 1 | 0 |
| 3 | Arlington | 1 | 0 | 0 | 0 | 0 | 1 |
| 4 | Arrochar | 5 | 0 | 0 | 0 | 0 | 2 |

K-Cluster Modelling

K-Means clustering is used to discover insights from our unlabeled data. The purpose of running cluster analysis is to observe segmentation of different type of food service businesses and reveal patterns in New York area.



Observations

Restaurants are the most common food serving business in New York. They appear to be spread and not concentrated in a particular neighborhood. Deli and Coffee Shops appear to be the second most popular food serving business. Coffee Shops and Bars are populated in Manhattan area.

| | Neighborhood | 1st Most Common Venue | 2nd Most Common Venue | 3rd Most Common Venue | 4th Most Common Venue | 5th Most Common Venue |
|-----|--------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 274 | Woodhaven | Rest_Total | Deli | CShop | Cafe | Bar |
| 275 | Woodlawn | Deli | Bar | Rest_Total | CShop | Cafe |
| 276 | Woodrow | Rest_Total | CShop | Bakery | Deli | Cafe |
| 277 | Woodside | Rest_Total | Bar | Bakery | Deli | CShop |
| 278 | Yorkville | Rest_Total | CShop | Bar | Deli | Cafe |

Conclusions

Restaurants are far the most common food serving business in NY, however they are spread over a large area.

This makes daily order deliveries difficult for the new business. Because, Manhattan area densely populated, and more importantly,

Deli and Coffee Shops are found at high numbers at close distance. This will make daily delivery much more cost effective.

Since the new business is targeting mostly single-use disposable utensils and also deliver orders in the same day, Manhattan area appears to be a suitable place.

Deli and Coffee Shops type of food serving businesses will need single disposables more than restaurants.

Thanks

Questions?