

What is the optimal location in NYC and cuisine type to open a new restaurant seeking longevity?

Our client would like to open a restaurant seeking the goal of longevity. The primary parameters we investigated for the conclusion are the boroughs, scores/grades and cuisine types. Also, due to the goal of longevity we advise to buy property to ensure no future issues with said lease term [change in landlord, price gouging, etc].

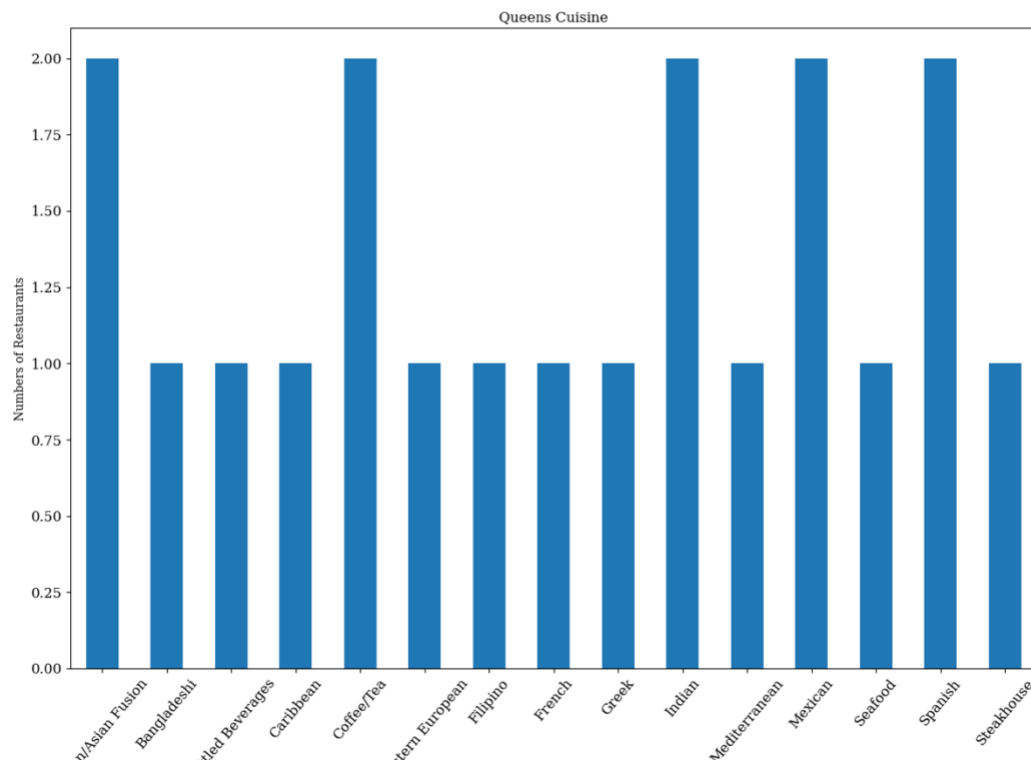
The methodology of the designed code is to combine `restaurant_data` with `violations_data` by restaurant names. Then, remove the restaurant named "test" and null scores. The reasoning for dropping null scores is due to requiring a score for grades. Furthermore, with these grades we can distinguish a restaurants' performance and learn from thriving restaurants. Next, we created a column for record inspection differences, which is record date minus inspection date. This provides how long the restaurant has been open. We are assuming that if a restaurant has been open for at least five years, then it will go on for 20 years due to overcoming the hardship of opening a new restaurant (most restaurants succumb to hardships within the first two years). With this new column, a dataframe is created with the filter of record inspection date being greater than or equal to five years. Restaurants with null grades are given a grade based on scores (A=0-13, B=14-27, C greater than 28). After giving scores, the data is sorted by inspection date then the score, descending respectively. The reasoning being when duplicates were dropped, we want the most recent inspection dates to be available. This also prompts the creation of non-duplicate data frame to have no duplicates and took out critical flags due to the severity with foodborne illnesses.

The next bulk of the code is related to the cuisine type. Another new dataframe was grouped by borough and cuisine description. This allowed us to count the number of restaurants in each borough with their respective cuisine. A subset of the dataframe was created where the number of restaurants per cuisine type is less than 7. This condition helped find cuisine types that are absent and in turn would have minimal competition. Additionally, we ensured that there were no duplicate restaurants to obtain an accurate number. Next, a new subset of a dataframe was created splitting into A-grades and B & C-grades. Within the dataframe with A-grade level, only if there are three or less restaurants per cuisine type was shown. This way, certain cuisine types would be eliminated due to having multiple successful restaurants in a borough. As for the B & C-grade restaurants, there were no further conditions placed since this would provide a basis for restaurants of a specific cuisine type providing insights for improvements on how to run a successful restaurant. Plotting B & C-grade restaurants shows us the amount of cuisine types per borough guiding our decision to choose a cuisine type. These dataframes were then compared by looking at the zip codes of the highest scores in our B & C-grade restaurants and comparing it to our A-grade restaurants; then finding the neighborhood associating with that zip code. This provides us an area with less competition, as higher scores would yield a lower grade, which helps us choose an optimal location to build our restaurant.

In conclusion, the three location and cuisine type are:

Northwest Queens Mediterranean:

Queens is the largest borough in New York City; therefore, this borough may be quite favorable to build the restaurant. With the goal of longevity, a restaurant in the Northwest Queens neighborhood with a Mediterranean cuisine type would be appealing especially since there are only three Mediterranean restaurants positioned in this area.



Southwest Queens Spanish:

Southwest Queens is another profitable yet competitive spot to build a Spanish cuisine restaurant as there are six similar restaurants in this neighborhood. Despite this competition, we plan to settle in a location near the two Spanish restaurants that have B or C grades hoping to dominate the scene with a cleaner restaurant suitable for consumers who prefer cleanliness.

Sunset Park Brooklyn Chinese:

Brooklyn is a hot spot for young millennials and this area is increasingly popular which is perfect for longevity. A restaurant in the Sunset Park neighborhood of Brooklyn with a Chinese cuisine type could attract a wide range of loyal customers considering that there are only three Chinese restaurants in this neighborhood.

