

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

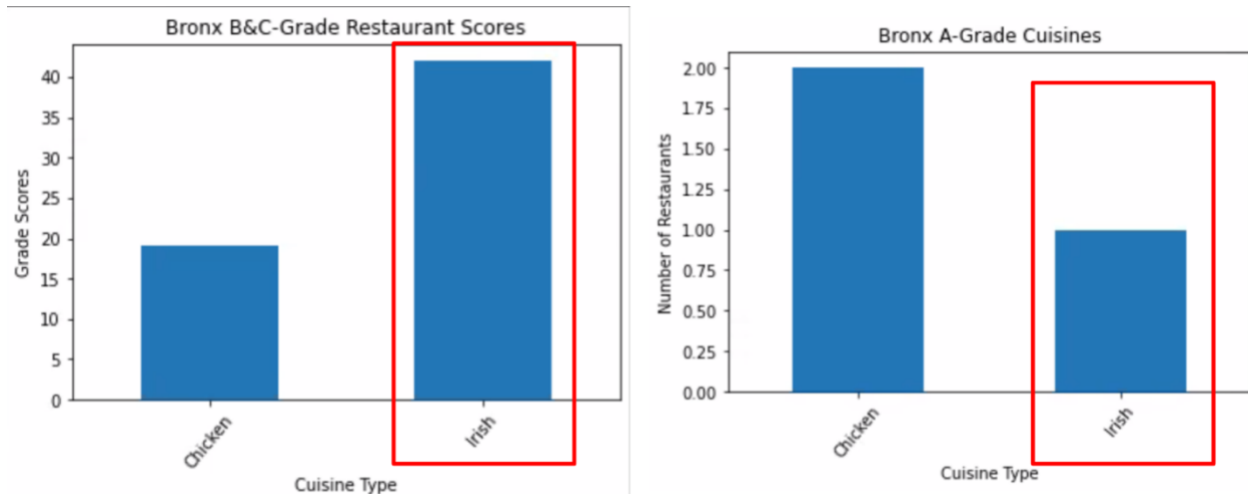
Our client would like to open a restaurant seeking the goal of longevity. The primary parameters we investigated for the conclusion are the boroughs, scores/grades, cuisine types and number of restaurants. Also, due to the goal of longevity we advise to buy property to ensure no future issues with said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

The methodology of the designed code is to combine restaurant_data with violations_data by similar identifiers. Then, remove the restaurants named “test” and have 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, and cleared duplicated restaurant names while adding neighborhoods that correspond to the restaurant’s zip code. This provides details like how long the restaurant has been open, the specific location of our zip codes and an accurate measure of the number of restaurants that exist in our database. 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 these changes and assumption, a data frame 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.

The next bulk of the code is related to finding the cuisine type with the lowest amount of competition. Our base data frame 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 data frame was created where the number of restaurants per cuisine type is less than or equal to 10. This condition helped find cuisine types that are absent and in turn would have minimal competition for successful restaurants. Next, two new groups of a data frame were created splitting into A-grades and B & C-grades. Within the A-grade level group, 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, we filtered for critical values since this would provide a basis for restaurants of a specific cuisine type providing insights for improvements on how to run a successful restaurant. These critical values represent harmful conditions such as foodborne illnesses in these B & C-grade restaurants; therefore, providing an opportunity for us to build a restaurant in this location with that cuisine type while learning from their mistakes. We would then compare these cuisines that have critical flags in B & C-grade with a low number of A-grade restaurants thus reducing entry competition, helping us maintain our goal of longevity. Looking at three zip codes of the highest scores in our B & C-grade restaurants and comparing it to the number of A-grade restaurants in that cuisine type, we could then find the neighborhood associated with that zip code.

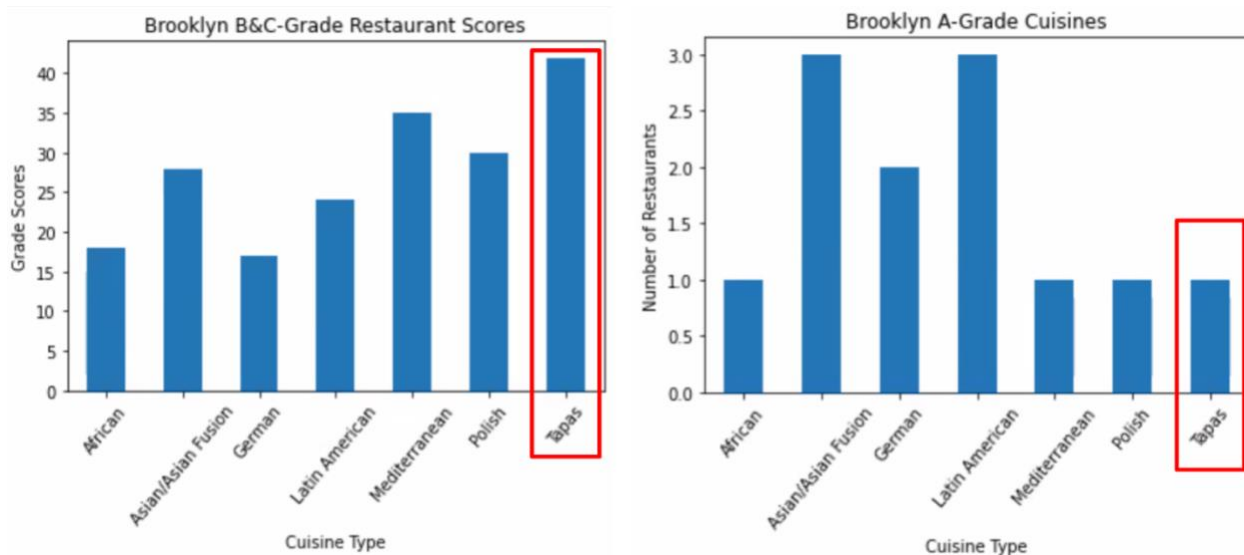
Despite some competition with A-grade restaurants, we plan to settle in a neighborhood near our three chosen restaurants that have B or C grades. We could overcome some of the violation descriptions that we have obtained from our data to dominate the scene with a cleaner restaurant suitable for consumers who prefer cleanliness. Once we've concluded our choices, we graphed the scores of each cuisine and the number of A-grade restaurants in our location's borough for visual comparison. This will help us find an optimal location with the goal of longevity in mind, as a limited number of A-grade restaurants and higher B&C scores would have less competition.

In conclusion, the three location and cuisine type are:



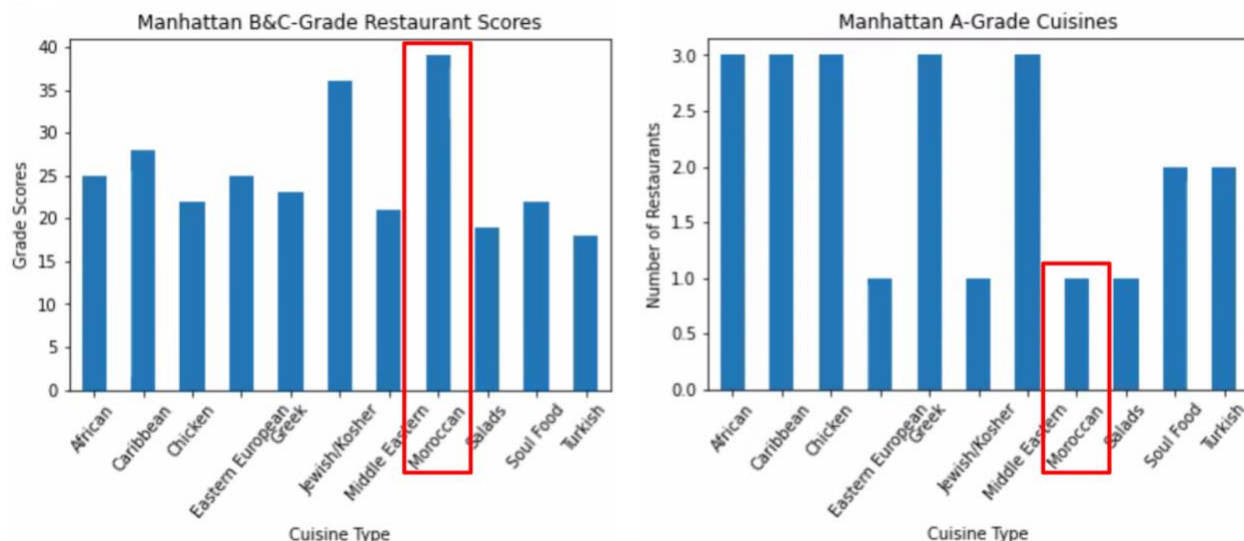
Northeast Bronx:

The Bronx is a cheaper alternative to Manhattan and has multiple tourist attractions, including the Bronx Zoo, Yankee Stadium, and multiple renowned parks. There are a significant number of young adults in this borough because of several institutions including Fordham University, Albert Einstein College of Medicine and select CUNY campuses. The location, Northeast Bronx, is highly desirable due to being located near a park and golf course allowing for greater attraction especially among the wealthier. With limited success of Irish cuisine in this borough, we can develop a clean restaurant to restore the demand.



Central Brooklyn:

Brooklyn is a hot spot for young millennials and this area is increasingly popular which is perfect for longevity. In addition to being a borough on the rise, Brooklyn also has the largest population estimate as of 2022. A restaurant in the neighborhood of Central Brooklyn with a Tapas cuisine type could attract a wide range of loyal customers as there are only three Tapas restaurants in this borough. Considering the large population of African Americans and Caribbean Americans in this neighborhood, a Tapas cuisine choice would be prosperous.



Greenwich Village and Soho Manhattan:

Manhattan is considered as a tourist epicenter of the world, including Times Square, Central Park, the Empire State Building, and the ONE World Trade Center. Due to being a tourist hub the prices are inflated, thus allowing for higher profit margins. This melting pot accepts any cuisine types, but there is a lack of high-quality Moroccan restaurants. With the goal of longevity, a restaurant in the Greenwich Village and Soho Manhattan neighborhood with a Moroccan cuisine type would be appealing especially since there are only two Moroccan restaurants positioned in this area.