Capstone Project - Battle of the Neighborhoods

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Introduction

New York City's demographics show that it is a large and ethnically diverse metropolis. It is the largest city in the United States with a long history of international immigration. New York City was home to nearly 8.5 million people in 2018, accounting for over 40% of the population of New York State and a slightly lower percentage of the New York metropolitan area, home to approximately 23.6 million. Over the last decade the city has been growing faster than the region. The New York region continues to be by far the leading metropolitan gateway for legal immigrants admitted into the United States.

This final project explores the best locations for Mexican restaurants throughout the city of New York. As New York is the most diverse city in the world (800 languages are spoken in New York), it has a long tradition of different ethnical restaurants. People ove hot food! That's why Potentially the owner of the new restaurant can have great success and consistent profit. However, as with any business, opening a new restaurant requires serious considerations and is more complicated than it seems from the first glance. In particular, the location of the restaurant is one of the most important factors that will affect whether it will have success or a failure. So our project will attempt to answer the questions "Where should the investor open a Mexican Restaurant?" and "Where should I go If I want great Mexican food?"

Business Problem

The objective of this Capstone Project is to analyse and select the best locations in the city of NY, to open a cozy Mexican restaurant.Using Data Science we will be able to achieve the answers to the business problem : Where in the city of NY should the investor open a Mexican restaurant?

Target Audience and Demographic

This project is particularly useful to developers and investors looking to open or invest in a Mexican Restaurant n the city of NY.

Overall NY is a great place to open a restaurant, with very diverse cultures. With the diverse cultures comes the need for diverse food choices. Many foreign tourists come to experience the diversity, and explore different food types.

Data

To solve the problem, we will need the following data:
- ✓ New York City Data containing neighborhoods and boroughs.
- ✓ Latitude and longitude coordinates of the neighborhoods, this will also assist in plotting the map.
- ✓ We will also require venue data, related to restaurants.

New York City data containing the neighborhoods and boroughs, latitudes, and longitudes will be obtained from the data source: https://cocl.us/new_york_dataset

All data related to locations and quality restaurants will be obtained via the FourSquare API utilized via the Request library in Python.
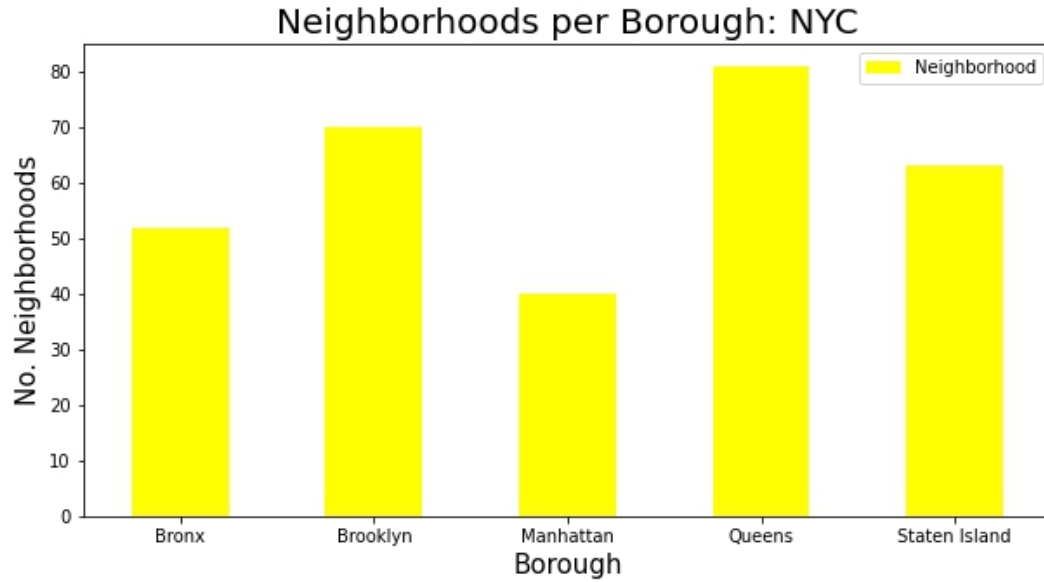
Methodology

• Data will be collected from https://cocl.us/new_york_dataset and cleaned and processed into a data frame.

• FourSquare be used to locate all venues and then filtered by Mexican restaurants. Ratings, tips, and likes by users will be counted and added to the data frame.

• Data will be sorted based on rankings.

• Finally, the data be will be visually assessed using graphing from Python libraries.

Problem Statement What is / are the best location(s) for Mexican cuisine in New York City? In what Neighborhood and/or borough should the investor open a Mexican restaurant to have the best chance of being successful? Where would I go in New York City to have the best Mexican food?
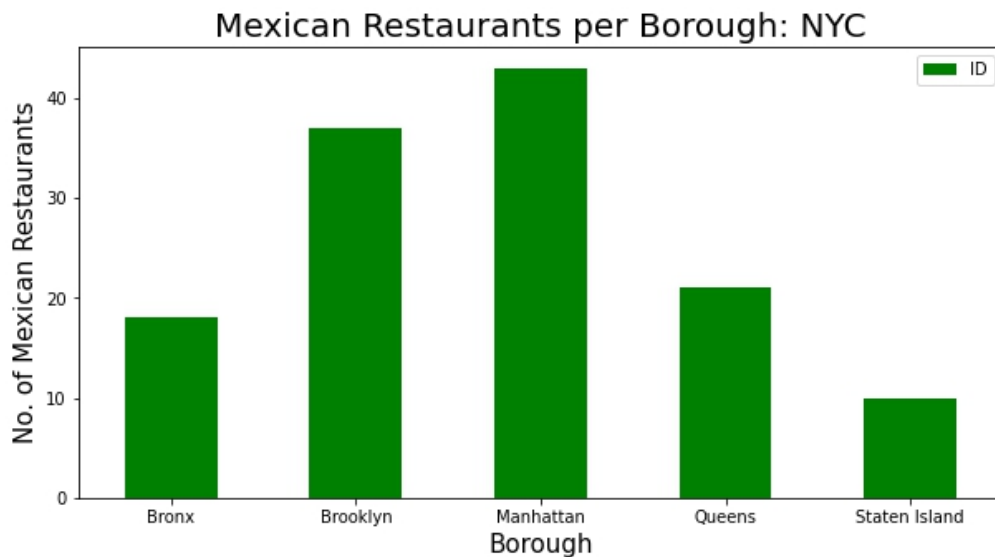
Results:
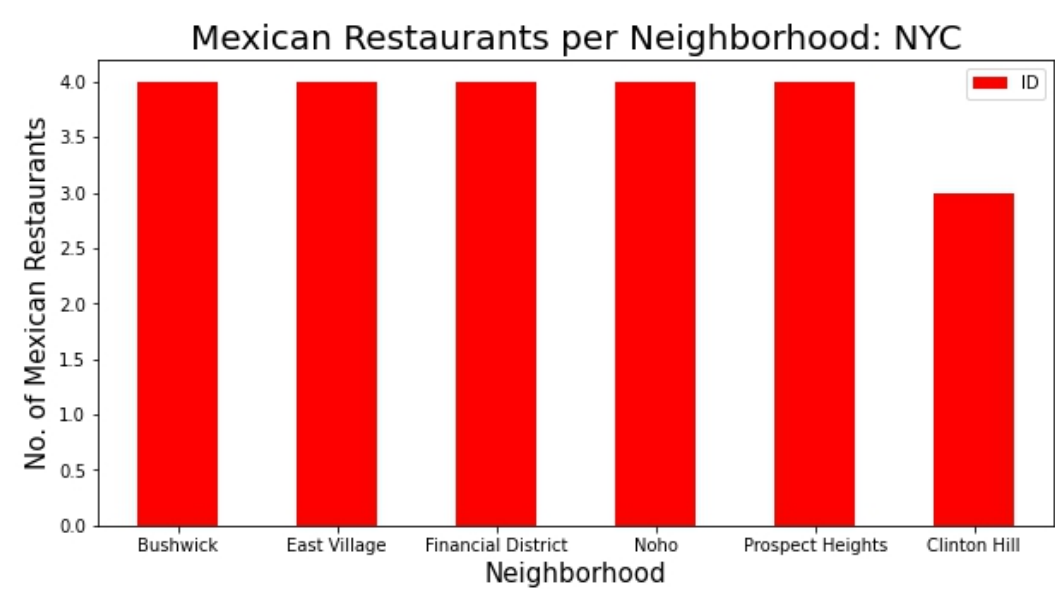**The results of our analysis showed below:**

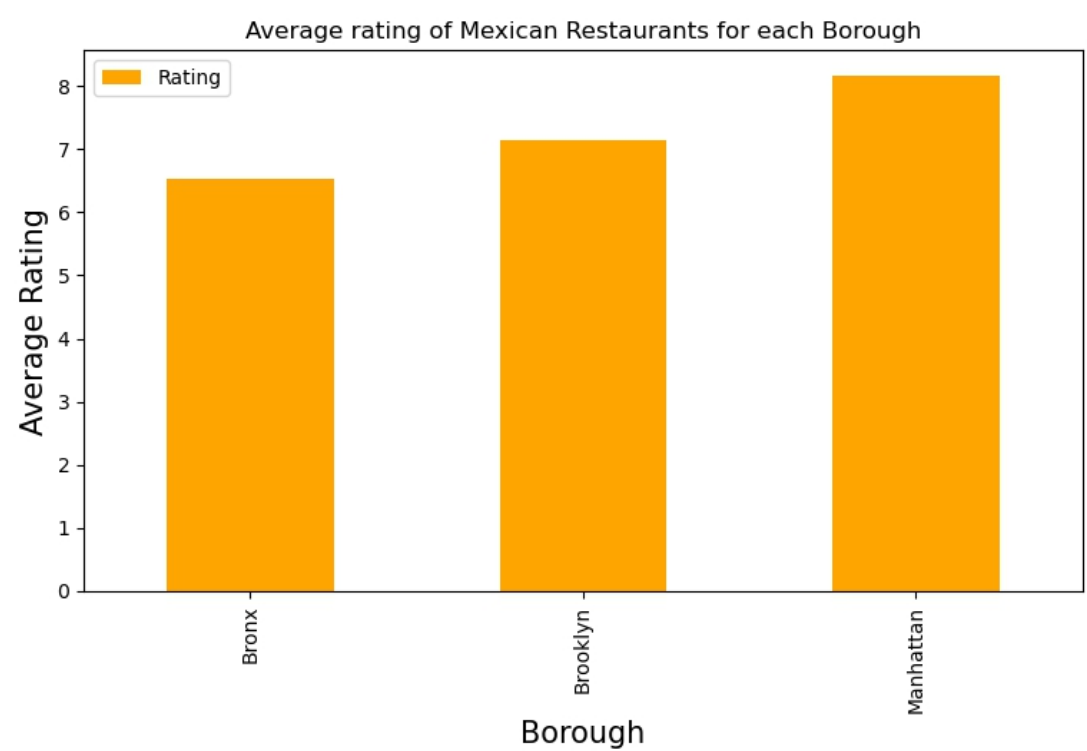1. We see that Queens has the highest number of neighborhoods

2. Although Manhattan had the least number of Neighborhoods, is does have the highest number of Mexican Restaurants

3. The Clinton Hill in Brooklyn has the lowest number of Mexican Redcurrants with a total count of 3

4. Manhattan has the highest average rating for Mexican restaurants.
Brooklyn goes right behind the Manhattan with the average rating of its Mexican Restaurants, only a little lower.The next Neighborhood just under Brooklyn, is the Bronx.

	Neighborhood	Average Rating
4	Bushwick	8.075000
5	Chinatown	8.650000
13	Greenpoint	8.433333
19	North Side	8.600000
23	Parkchester	9.100000
28	South Side	8.200000
31	Westchester Square	8.000000

Top Neighborhoods with Mexican Restaurants with the best average rating

Discussion

Manhattan and Brooklyn have the best rated Mexican restaurants on average. Staten Island and The Bronx have the least amount of Mexican restaurants per borough. However, Manhattan and Brooklyn has the highest number of Mexican Restaurants in all of NY. Despite Manhattan having the least number of neighborhoods in all five boroughs, it has the most number of Mexican restaurants. Based on the above information, I would state that Manhattan and Brooklyn are the best locations for Mexican Resistant in NYC. To have the best shot of success, I would open a Mexican restaurant in Brooklyn. Brooklyn has multiple neighborhoods with average ratings exceeding 7.0 on a scale of 1.0 to 10.0 and has less amount of Mexican restaurants than Manhattan, making competition easier. Also we should keep in mind, that real estate prices in Brooklyn are much cheaper than in Manhattan. Finally, I would go to Parkcheser for the best Mexican resistant, with the highest rating.

Limitations and suggestions

All the above analysis depended on the accuracy of the Foursquare data.
A more comprehensive analysis and future work would need to incorporate data from other external databases.

Conclusion

In the project we have gone through the process of identifying y=the business problem, specifying the data required, extracting and preparing the data, preforming data analysis and providing recommendations to investors.

During the project we have utilized the Data Science methods to answer the question: *Where in NY should an investor open a Mexican restaurant?*
The findings of this project willl help relevant investors better understand the advantages and disadvantages of the Neighborhoods in NY.

END - Thank you