

The Battle of Neighborhoods Project

New restaurant location in New York city (Manhattan)

Introduction/Business Problem

ABC Chinese chain restaurant is from western coast and currently looking for a new store in New York city. However, New York city is very diverse and is the financial capitals of the country. It has a total of 5 boroughs and 306 neighborhoods, which makes it hard to find a good location manually. Therefore, ABC company asked me to assist them to make data-driven decisions on the new locations that are most suitable for their new stores in Manhattan.

The audience for this project will be the leaders from ABC restaurant or any other similar owners who would like to open a new store in Manhattan.

Data

Data1:

Neighborhood has a total of 5 boroughs and 306 neighborhoods. In order to segment the neighborhoods and explore them, we will essentially need a dataset that contains the 5 boroughs and the neighborhoods that exist in each borough as well as the latitude and longitude coordinates of each neighborhood. Luckily, this dataset exists for free on the web. Here is the link to the dataset: https://geo.nyu.edu/catalog/nyu_2451_34572

Data2:

New York city geographical coordinates data will be utilized as input for the Foursquare API, that will be leveraged to venues information for each neighborhood. We will use the Foursquare API to explore neighborhoods in New York City. The features from Foursquare will include venue, Latitude, Longitude, and venue category.

Methodology

Data manipulation and analysis:

1. Foursquare location data will be leveraged to explore the area interested
2. Data manipulation and analysis to derive subsets of the initial data
3. Identifying the high-density areas using data visualization. Data visualization using various mapping libraries.
4. Exploratory data analysis

Result

From the analysis, we can see the 3 good places to open a new restaurant are Chinatown, Central Harlem and Chelsea.

Discussion and Observations

I think it's not a surprise that Chinatown is the top one since our criteria is Chinese restaurant. Central Harlem and Chelsea was selected due to "Market" criteria that client is also interested in. Without data, there are so many choices. We have narrowed the search area down significantly from multiple potential districts to 3 that should suit the client's restaurant business.

Conclusion

In this analysis, we used online data to help ABC restaurant to narrow down the options for a new store. This project shows us the power of data analysis to resolve a real scenario that has impacting marketing industry. There are many different method and different data source to resolve same question, which require us to explore and learn more.