

Capstone Project - The Battle of Neighborhoods

Analysis for Indian Restaurants in NYC, USA

Introduction & Background: -

New York City (NYC), USA is a world famous metropolitan/cosmopolitan city and there is large presence of International community, students, working professionals, Immigrants. There is huge potential for restaurant business considering multi-culture/ethnicity. Asian/Indian is such a large community in NYC and It will help the investors to identify the best location for their upcoming restaurant to attract Indian/Asian students, immigrants and anyone interested in Indian food or multi-cuisine.

Business Problem: -

The objective of this project is to analyze the Indian restaurants in New York City so that potential customer and investor can have better understanding of the locations which will help them to take decisive action for their investment in restaurant in best location and reap the benefits accordingly.

This project will leverage IBM Watson platform and Data analysis & visualization tools to solve the below business problems: -

- 1- Find the top locations/neighborhoods for Indian restaurants in NYC.
- 2- Choose the best location to invest.

Target Audience: -

This project is particularly useful for real estate developers and investors who are looking to open or invest in an Indian restaurant in the NYC.

Data Requirements: -

For this project, we will need following data for analysis: -

- 1- Indian restaurants location data in NYC (New York City).
- 2- Latitude and longitude coordinates of those locations.
- 3- Restaurant details including ratings, likes etc.

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Data Sources: -

We will use below data sources for Indian Restaurants details: -

- 1- Open data source for New York locations and coordinates.
(https://cocl.us/new_york_dataset)
- 2- Foursquare API to get the venue data for the neighborhoods.
(<https://developer.foursquare.com/>)

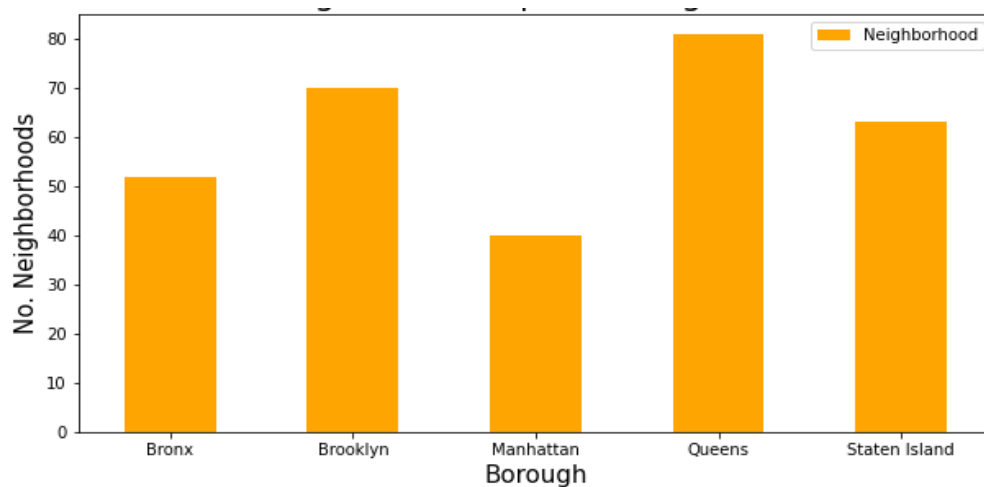
Methodologies: -

- 1- Collect the data from https://cocl.us/new_york_dataset . Clean and process the data.
- 2- Using Foursquare API's, find all venues for Indian restaurants.
- 3- Sort the data based on rankings.
- 4- Analyze and Visualize the data by Python libraries.

Results: -

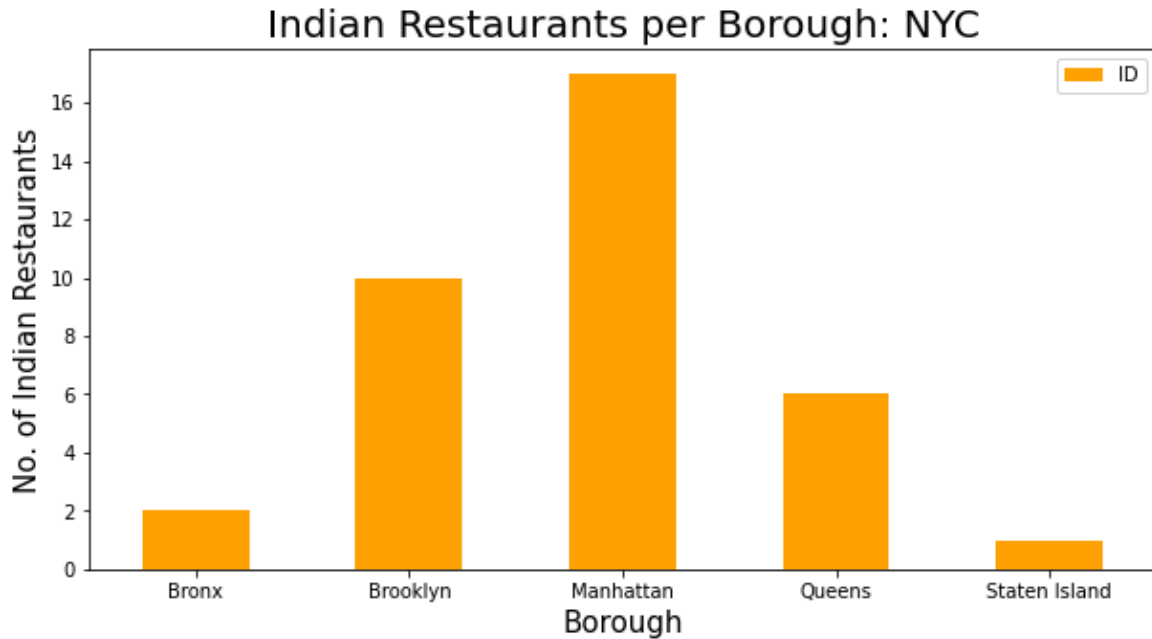
Below are the results of our analysis:

- 1- Queens has the highest number of Neighborhoods.

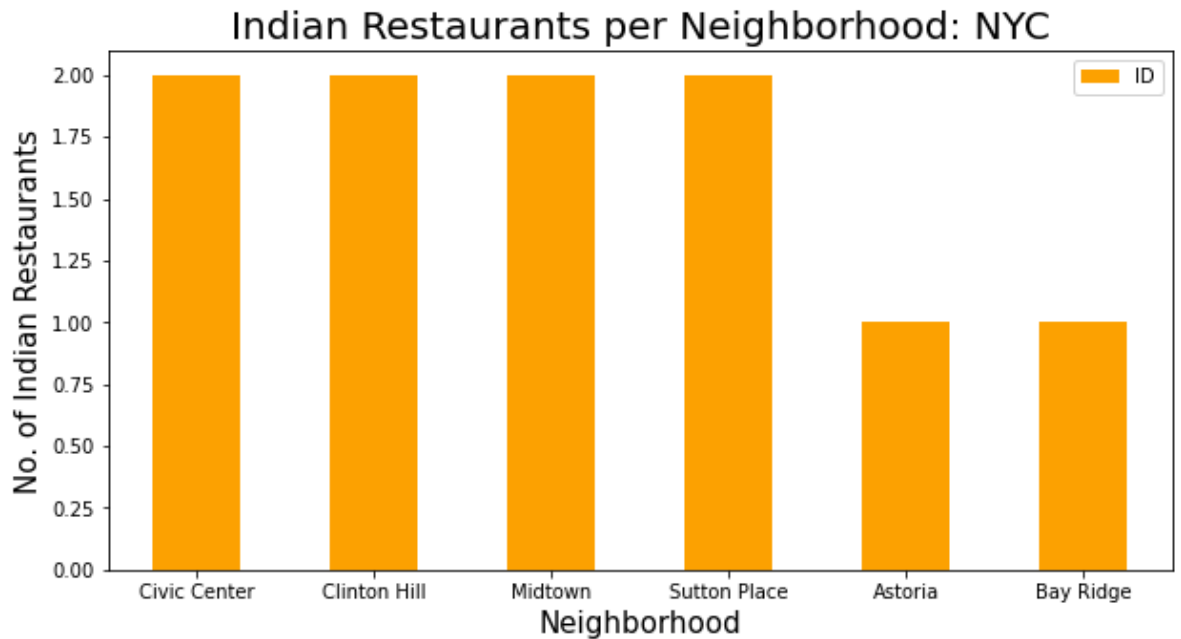


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- 2- Although Manhattan have the least number of neighborhoods, it does have the highest number of Indian restaurants.

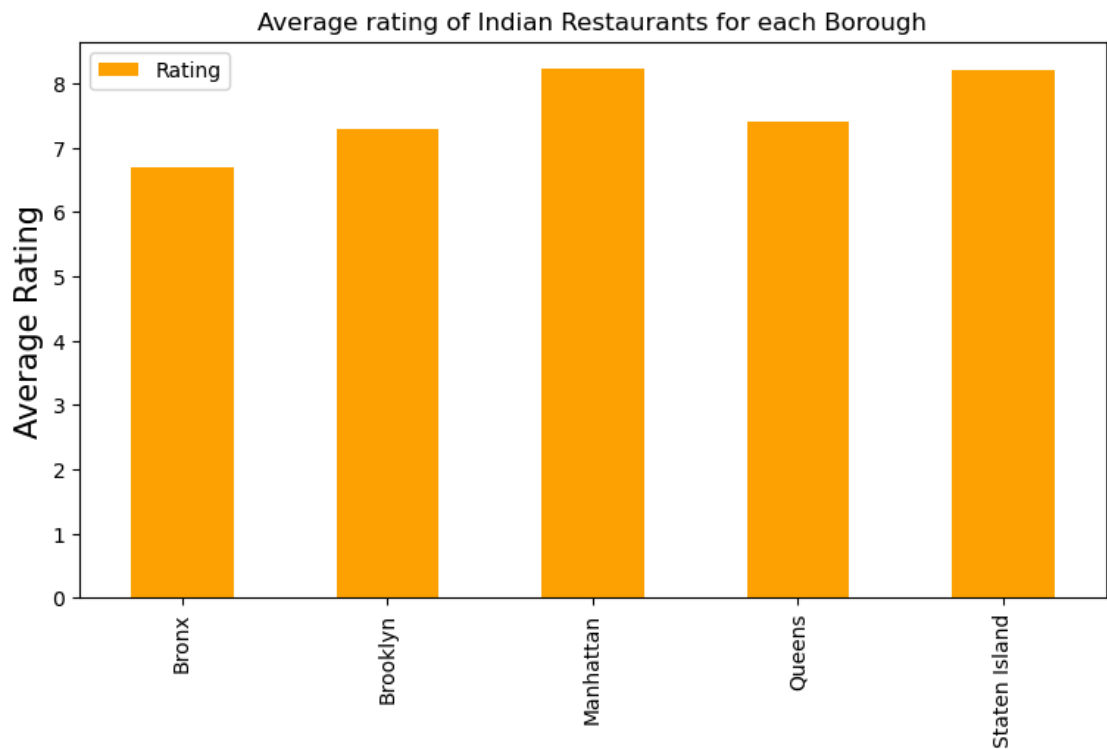


- 3- The Civic Center in Manhattan has the highest number of Indian Restaurants.



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- 4- Manhattan has the highest average rating for Indian Restaurants. Staten Island goes right behind the Manhattan with the average rating of its Indian restaurants only a little lower than Manhattan. Two neighborhoods with the highest average rating for Indian Restaurants are located in Manhattan (Tribeca & Noho).



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	Neighborhood	Average Rating
26	Tribeca	9.10
22	Noho	8.70
23	Prospect Lefferts Gardens	8.70
6	Chelsea	8.70
10	Fort Greene	8.50
30	West Village	8.50
13	Greenwich Village	8.40
20	Midtown	8.35
9	Flatiron	8.30
25	Sutton Place	8.25

	Borough	Neighborhood	Latitude	Longitude	Average Rating
0	Queens	Astoria	40.768509	-73.915654	8.00
1	Queens	Bayside	40.766041	-73.774274	8.10
2	Brooklyn	Boerum Hill	40.685683	-73.983748	8.00
3	Manhattan	Chelsea	40.744035	-74.003116	8.70
4	Staten Island	Chelsea	40.594726	-74.189560	8.70
5	Manhattan	Flatiron	40.739673	-73.990947	8.30
6	Brooklyn	Fort Greene	40.688527	-73.972906	8.50
7	Manhattan	Greenwich Village	40.726933	-73.999914	8.40
8	Manhattan	Midtown	40.754691	-73.981669	8.35
9	Staten Island	New Dorp	40.572572	-74.116479	8.20
10	Manhattan	Noho	40.723259	-73.988434	8.70
11	Brooklyn	Prospect Lefferts Gardens	40.658420	-73.954899	8.70
12	Manhattan	Sutton Place	40.760280	-73.963556	8.25
13	Manhattan	Tribeca	40.721522	-74.010683	9.10
14	Manhattan	West Village	40.734434	-74.006180	8.50

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Discussion Sections: -

Based on the results of our analysis, Manhattan and Brooklyn are the best locations for Indian restaurants in NYC. In addition, we should keep in mind, that real estate prices in Brooklyn are much cheaper than in Manhattan however Manhattan is the prime location and it will have advantage in terms of return on investment hence investors need to make decision based on feasibility and future prospects.

Conclusion: -

- 1- Based on the results of our analysis, Manhattan and Brooklyn are the best locations for Indian restaurants in NYC.
- 2- Manhattan is preferred location to open a new Indian restaurant followed by Brooklyn.
- 3- In Manhattan, neighborhoods like Tribeca & Noho are the best places to open a new Indian restaurant.