Module-9-IBM-Capstone-Project-Notebook - Repository for Coursera's IBM Applied Data Science Capstone

In my Final Module in the IBM Data Science Professional Certificate Programed, this file, and other associated files, makes up my contribution to my final Assignment for the Coursera Capstone Project for IBM's Applied Data Science Capstone.

The notoriously difficult businesses to own or operate are Restaurants. Not only is it a relatively capital and employee-intensive business, restaurants are also highly regulated, low margin and in most cases have a plethora of competition to deal with.

In History there are more dining establishments and more diners now than during any other time. The National Restaurant Association reports over 1 million restaurant locations in the U.S. alone, a particular boon considering more than half the American population visits at least one of them each week.

To fill a niche and remain relevant, prospective, as well as established, restaurants have to hedge their bets with well-rounded and well-directed dataset. Data science provides valuable insights regarding market trends and evolving consumer lifestyles so that restaurateurs can better address and meet public demand.

Business Problem

No single restaurant is ever going to appeal to everyone. Some people like quiet, intimate settings; others prefer boisterous ones. Some people want to bring their kids along; others want to dine alone.

The preferences are as varied as the possible offerings, with specific generational cohorts preferring one thing, “people who like Indian food” preferring another and everyone else likes a million other things in between.

My client, a successful Indian restaurant chain in Tanzania is looking to expand operation into North America through New York (NYC).

Problem Statement

To locate and recommend to the client which neighborhood in New York City will be best choice to start a restaurant.

Before opening a new restaurant in NYC, the data science team will provide data and insight to:-

- Part 1: NYC Population & Demographic Characteristics.

Data source:

a) https://en.wikipedia.org/wiki/New_York_City
b) https://en.wikipedia.org/wiki/Demographics_of_New_York_City

Web scraping techniques was used to get NYC's population density and demographics data from Wikipedia. Preliminary finding indicates that Queens being the second most populous urban area in New York City (NYC), behind Brooklyn; and the most ethnically diverse urban area in NYC with the highest Asian ethnic minority population. Click here to view Python's script.

- Part 2: Who are the competitors in that location?

Data source:

a) https://cocl.us/new_york_dataset and
b) Foursquare.

These dataset was used to explore various neighborhoods and each Indian restaurants venue in the neighborhood. Click here to view Python's script.

Recommendations

New York City Map.

Clinton Hill or Fort Greene in Brooklyn would be the best choice to start an Indian restaurant given that:-

1. It is the First most Population urban area in New York City (NYC).
2. It has a Population Density of 13,957 People Per Square km.
3. It has the Fourth highest Asian Ethnic minority Population in NYC.
4. It has some of the Top Rated Indian Restaurants located in that area (i.e. ready-made customer base).

Brooklyn

Brooklyn (Kings County), on the western tip of Long Island, is the city's most populous borough. Brooklyn is known for its cultural, social, and ethnic diversity, an independent art scene, distinct neighborhoods, and a distinctive architectural heritage. Downtown Brooklyn is the largest central core neighborhood in the Outer Boroughs. The borough has a long beachfront shoreline including Coney Island, established in the 1870s as one of the earliest amusement grounds in the U.S.[174] Marine Park and Prospect Park are the two largest parks in Brooklyn.[175] Since 2010, Brooklyn has evolved into a thriving hub of entrepreneurship and high technology startup firms,[176][177] and of postmodern art and design.[177][178]