Project: Launching a Hair Salon Business in New York

 Business Summary:

The salon industry is growing steadily and is projected to continue growing. They estimate that the global spa and beauty salon market should reach approximately 190.81 billion USD in 2024. [In the U.S. alone](https://www.ibisworld.com/industry-statistics/market-size/hair-salons-united-states), the salon industry is estimated to be worth $47.1 billion, and the market size is expected to increase by 1.5 percent in 2020.

Problem Statement:

A hair salon / spa owner wants to relocate to the New York state from California. There are lots of key factors have to be analyzed before he gets relocated to New York and starts his business. The first question that needs to be answered is the Location of the Shop. Is the location is well populated, does it have good neighborhoods around, what is the crime rate of this location, how many salons are there on the same city. Also the salon should be in close proximity of metro stations as it would attract the commuters. Considering all these factors, applying data science in this process would help in decision making process.

We would be applying the below data sets to choose a location and find out more about the same.

* Total Population
* Number of existing Salons
* Rental Rates
* Easy Commute
* Crime Rates in the location (Optional)

Data Sets Required:

**Total Population:**

We would need the detailed data on population with the postal code to predict where the business owner would get more clients. This will be the base master data set and it can be obtained from the open source population data from New York City website.

<https://data.cityofnewyork.us/resource/swpk-hqdp.csv>

<https://www.newyork-demographics.com/cities_by_population>

**Existing Salon Count:**

NYC.gov provides the list of businesses with the location details. This would help to determine how many salons exist in the selected locations. The more shops would increase the competition to the business. The spa owner will be more interested in the locations with less salons / spa. We would get the total number of salons by grouping the city. At the end, this data will be merged with the master data set.

Json : <https://data.ny.gov/api/views/84h5-zxa9/rows.json?accessType=DOWNLOAD&sorting=true>

<https://data.ny.gov/Economic-Development/Upstate-New-York-Hair-Salons/84h5-zxa9>

**Income Data:**

Good economy is a key factor to run the business successfully with out any loss. Hence we are considering the income level of the community where owner planning to start the business.

<https://data.ny.gov/api/views/bui8-bb6g/rows.csv?accessType=DOWNLOAD>

**Rental Data:**

Zillow API would be used to analyze the rent trends of that particular location. We would be correlating this factor with the population information to make sure the business can afford the rent.

**Crime Data (Optional):**

Crime data is needed to ensure the safety of the neighborhood. We will be exploring the data for any robber or commercial space related crimes.

<https://odn.data.socrata.com/resource/h4kz-unyt.json>

**Foursquare API:**

Foursquare API would return all the salon businesses around the location what we choose. We would the total number of salons as well. Also we can explore the subway stations around the place that we choose.

Strategy:

* Choose the top 25 locations based on the population
* Provide a map to with the place holder. Get the location information using API
* Provide the number of existing salons in the specific locations
* Get the crime rate in each location and provide a screen shot.
* Use foursquare API to list out the neighborhoods.

Conclusion:

* Listed out top 25 locations around New york state with neighborhood locations
* Provided the list of places to avoid based on the Crime Data Rate and number of existing salons
* Provided the interactive map with the place holder for chosen locations
* The owner can explore more using this map

Notebook Link : [Project Notebook on Github](https://github.com/Sureshpmba/githubdemo/blob/master/Project%20-%20LAUNCHING%20A%20HAIR%20SALON%20BUSINESS%20IN%20NY.ipynb)

Powerpoint with Screenshots : [Project PPT](https://github.com/Sureshpmba/githubdemo/blob/master/Project%20PPT.pptx)