

REPORT

The Battle of the Neighborhoods: Week 2

Introduction:

The city of Manhattan has always been in good records in terms of its plush and posh outlets pertaining to a variety of business, from beauty to food. It has always established itself as a potent avenue to invest on grounds of a flourishing market. The place is easily approachable and well-known to both the locals as well as tourists. Investing in such a place would bring a **hefty bounty**. But it is **not as easy as** it seems to be.

Business Problem:

Our main is to look out for the feasibility of setting up a posh beauty parlour in a prime location in Manhattan that is easy to spot and visit. We have to consider all the possible dependent **variables or features** that play a major role in determining if the parlour is worth setting up within the budget, if yes, then where etc.

The analysis should also be plotted using the **various visualizing tools** for better and clear comprehension.

Target Audience/Stakeholders:

The main people who will be benefitted are the investors who are planning to rent out to set up beauty parlours. This could also help new age entrepreneurs who are focussed on setting up their own beauty outlet

Data:

The data that we are using has to **be clear and precise**. The sources of data are **reliable**.

Multiple factors are identified as relevant information to provide to interested investors and entrepreneurs, namely:

- **Number and type** of competing parlours in the neighbourhood where parlour is located to calculate demand of the market.
- **Top venues categories** in the neighbourhood to check approachability and aesthetics of ambience
- **Population Distribution** in the neighbourhood to check the availability of customers
- **Economic conditions of the residents** and locals to check the potential customers

Sources:

- Scarping of data from Wikipedia to find population distribution of all avenues in Manhattan
<https://www.kaggle.com/new-york-city/new-york-city-population#new-york-city-population-by-borough-1950-2040.csv>
- Making calls to FourSquare API to get the details of the list of competing beauty parlours and their reviews
<https://foursquare.com/developers/apps>
- Statsitics on economy of Manhattan
<https://data.cityofnewyork.us/City-Government/New-York-City-Quarterly-Economic-Update/kpnf-saif/data?pane=manage>

Methodology:

- First step requires **scraping** of data from the webpage using **BeautifulSoup** and **importing** datasets from as **.csv file**
- To obtain information regarding **venues and explore** them, use **FourSquare API** by making call
- Converting raw data into **dataframe** using **Pandas library**
- **Pre-processing** data by removing **missing** values
- **Format** and **Normalize** the data
- **Analyse** the data well to find **correlation using ANOVA**
- Build the appropriate **model**
- Visualize the data using **Matplotlib Library**
- Represent the venues in **maps** using **Choropleth**
- **Cluster** the venues using **K-means** algorithm

Result:

The result of the analysis predicts that making a wise investment gives better returns than expected. However certain constraints have to be considered

Discussions:

It is observed that most people who drop by beauty parlours are middle aged women and young female adults belonging to both middle class and upper class of the economy. The prices when set somewhere between affordable costs of both tiers can largely attract customers of both categories. Also, the venues must be chosen far away from well established beauty outlets, although not too far away from the prime market area. Special inaugural offers can make a difference in a good way. Since the area is bustling, flashy advertisements are necessary.

Conclusion:

The analysis was carried out and the feasibility of setting up a beauty parlour in the Manhattan Area is predicted successfully.