
The Battle of the Neighborhoods Report

Business Strategy for Opening a Third Wave Coffee Shop in the New York City

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1. Introduction

1.1. Description of the Problem and Discussion of the Background

The city of New York is the most populated in the United States. It's multi-cultural and provides many investment opportunities and a welcoming environment for businesses. The City of New York is a trade and commerce center worldwide. In the United States and around the world, it is a major center for banking and finance, world trade, tourism, real estate, new media, traditional media, advertising, insurance, fashion and the arts.

Now that we mentioned about investment opportunities, starting a coffee shop can be an incredible opportunity to build a profitable enterprise, impact your community, and completely change your lifestyle. With an increased demand for high-quality espresso drinks and in-store sales projected to remain high, a well-located and well-run coffee shop can be very successful.



Plus... everyone loves coffee, right?

So, why then do some coffee shops fail?

Even well-funded, well-located, and well-trained staff can fail. The goal of this research and analysis aims to provide aspiring coffee shop owners with the information and wisdom they need to make better decisions, plan their business better, and understand many of the common pitfalls that many new coffee shop owners encounter.

1.2. Main Reasons Why Coffee Shops Fail

There are several common beliefs about the failure of small businesses like coffee shops. One of the most common is that the majority of small startup businesses simply don't survive, and that it's only the select few that make it past the first year. High rates of coffee shop failure are explained as the result of naïve optimism by inexperienced business owners who sign a lease with visions of easy profits or a doctrinaire belief about serving only perfectly extracted specialty coffee rather than serving whatever's profitable.

Coffee businesses can fail for any number of reasons. **Generally, this is what we have found:** When coffee shops fail, it's not because of their coffee.

1.2.1. Failure to do the necessary research

Starting any business requires basic research, but many new coffee shop owners seem to skip research that would best benefit them for success. Most people jump into their companies for the coffee business without knowing what is needed to succeed.

It usually happens when a new owner of a coffee shop takes over an existing coffee stand without carrying out any research on the operations, performance or problems of the current business.

Research can include:

- Reading books & other resources about the retail coffee business
- Reading resources specific to opening a business entity (resources that beef up your skills in accounting, management etc.)
- Researching the cost elements that are required
- Looking at the cost around your business
- Learning about coffee (origin, roasting profiles)

1.2.2. Failure to plan

Since every coffee business is different, you should take the time to plan out your business in the following areas:

- Sorting out personal and business finances
- Developing your overall coffee business concept
- Writing a coffee shop business plan
- Developing your coffee shop's budget
- Establishing a timeline

1.2.3. Fail to have the “willingness and attitude” to learn and grow

A common misconception that a significant percentage of aspiring coffee shop owners have is that starting a coffee business is "easy." It's a very attractive concept. The truth is that starting and developing a coffee business requires real-time and investment in research and planning.

You'll find a lot of items (very expensive items) to handle when you start a coffee shop. Taking a proactive attitude that allows you to learn and master these things is clear to your success. Anything short of being willing to learn would jeopardize the future of your coffee shop.

1.2.4. Not understanding your “coffee shop concept”

There are a lot of things to focus on when you start a coffee shop. But when you set out to run your business without a business concept, you will spend a lot of time and resources on it. Determine what kind of coffee business you'd like to set up, and then base your decisions on it. Depending on your budget, location, or competition, you may need to adjust as you move forward, but having a central theme or concept will help you

stay on track. And "staying on track" and moving forward is one of the keys to your success.

1.2.5. Not preparing for your lease

Signing a lease can be one of the most frightening things a new business owner can do. Signing a lease means you are locked up quite a lot of time in the room you are about to occupy. You probably know that your rental can make your coffee retail business or break it off. Most owners of companies. All depends on your lease terms for your monthly payment to other items such as utilities, security, trash services, pest control, insurance, etc.

1.2.6. Spending too much on the wrong equipment

When you begin to think about your coffee business, your brand new shiny coffee equipment is one of the first things that you might think about. Commercial equipment for coffee can be costly. It is easy to skyrocket fast for coffee equipment costs. Sometimes those costs are avoidable to open a coffee shop. It's because new coffee companies will spend too much on equipment that they don't need. The cost of your equipment is mainly determined by your menu. Next, your space needs will depend.

Your budget plays a major role in determining your equipment requirements. You can overdrive your coffee shop or set up your coffee stand to bind up the huge debt or otherwise use funds. You can easily spend up to \$10,000 to \$30,000 on your coffee shop equipment or not.

1.2.7. Underestimating your cash flow and accounting

It is significant to have the cash flow to fulfil your coffee shop obligations. For beans, milk, cups, labour, and services, cash is important to keep in stock. It will always be necessary to estimate your cash flow, but in particular when you start.

1.2.8. Hiring the wrong people

Your customers will demand good service, therefore you should hire for it. The environment for retail coffee, especially some city or tourist areas, can be very competitive. The fact that you have good baristas who offer excellent service to your customers—every time—is critical to your success.

1.2.9. Poor management

Poor management can quickly deteriorate your business on a variety of fronts. Good management skills are needed with executing in the following areas:

- Inventory management
- Managing employees
- Managing payroll and HR related items
- Managing vendor relations
- Training
- Budget management

1.2.10. Too much debt

Debt may break down new or fledgeling business. It can be hard to get over too much debt. In addition to spending money and savings, bank loans, personal credit card debt, friends and family lending, they are all common ways of getting the money to start a coffee business. It will be necessary to have an accurate and projected budget and to stick to that. Developing your budget for the coffee shop from the outset will certainly help you avoid most surprises.

1.2.11. Overestimating sales

When you are just starting you will need to determine some sales estimates for a variety of different audiences. But the most important audience is you! Having accurate estimates can help you better budget and figure out your break-even point.

1.3. Selecting The Proper Location

Small business retailers know that finding a great location is crucial to their success, but the definition of "great" for a coffee house might surprise you. Many people think they need to be in a high-traffic area, when in fact this can often backfire.

In a high-traffic area, people are generally in a rush to get where they're going, and a successful coffee house is a destination. Even if customers don't hang around long enough to take advantage of your WiFi, they generally don't see coffee as an impulse purchase. If they want or need it, they'll go past the crowds to find you.

Various factors need the be considered to decide on the location such as:

- New York City Population
- Where the floating population is high?
- Who are the competitors in that location
- Concepts of these locations

2.DATA

In this research, various datasets are used. A detailed description will be available in the next chapters but speak of the used datasets, population data is used for selecting a target audience, Foursquare API is used for selecting the most crowded neighborhoods in the cities and getting the top venues in those areas to give a glance.

2.1. Data set 1: NYC Boroughs Data

NYC Boroughs Data is retrieved from Coursera Capstone Project's course materials:

https://cocl.us/new_york_dataset

2.2. Data set 2: NYC Demographics Data

Demographics data will be retrieved from Wikipedia Page.

https://en.wikipedia.org/wiki/New_York_City

2.3. Data set 3: Venues Data

New York City's geographical coordinates data will be used as input for the Foursquare API, that will be leveraged to provision venues information for each neighborhood. We will use the Foursquare API to explore neighborhoods in New York City.

2.4. Data set 4: NYC Boroughs GEOJSON File

New York City's Boroughs boundaries are downloaded from the New York City Open Data website.

<https://data.cityofnewyork.us/City-Government/Borough-Boundaries/tqmj-j8zm>

3. METHODOLOGY

Before starting the exploratory data analysis, we need to sum up all data sets and interpret them individually. As introduced the previous section, first, we need to understand the population distribution of the New York City as well as the number of neighborhoods of each borough.

Scraping Population data from Wikipedia

```
website_url = requests.get('https://en.wikipedia.org/wiki/Demographics_of_New_York_City').text
soup = BeautifulSoup(website_url,'lxml')
table = soup.find('table',{'class':'wikitable sortable'})
#print(soup.prettify())

headers = [header.text for header in table.find_all('th')]

table_rows = table.find_all('tr')
rows = []
for row in table_rows:
    td = row.find_all('td')
    row = [row.text for row in td]
    rows.append(row)

with open('BON2_POPULATION1.csv', 'w') as f:
    writer = csv.writer(f)
    writer.writerow(headers)
    writer.writerows(row for row in rows if row)
```

After reading the data as .csv file and some cleaning steps here is the final table.

	Borough	County	Estimate_2017	GrossDomesticProduct\n	square_miles	square_km	persons_sq_mi
0	The Bronx	Bronx	1,471,160	28.787\n	19,570	42.10	109.04
1	Brooklyn	Kings	2,648,771	63.303\n	23,900	70.82	183.42
2	Manhattan	New York	1,664,727	629.682\n	378,250	22.83	59.13
3	Queens	Queens	2,358,582	73.842\n	31,310	108.53	281.09
4	Staten Island	Richmond	479,458	11.249\n	23,460	58.37	151.18
5		City of New York	8,622,698	93,574	806,863	302.64	28,188
6		State of New York	19,849,399	78,354	1,547,116	47,214	416.4

According to the Wikipedia data, which is outdated, estimates the 2017 population of NYC. It might not accurate as expected, but it is still giving us a projection.

Data we obtained is not useable. I had to make some data wrangling and cleaning to use properly. Finally, in the final data frame, most populated boroughs are Brooklyn and Queens. So what happened to the Manhattan, the heart of the NYC? It is not possible to estimate the daily population as this data only indicates the number of residents. Thus, we need additional information before making a decision.

Boroughs data and GEOJSON File

Boroughs information is retrieved by scraping the Data set 1 feature and coordinates. It is a simple function that retrieves every Borough and Neighborhood's coordinates each time in a for loop.

```
def get_new_york_data():
    url='https://cocl.us/new_york_dataset'
    resp=requests.get(url).json()
    # all data is present in features label
    features=resp['features']
    # define the dataframe columns
    column_names = ['Borough', 'Neighborhood', 'Latitude', 'Longitude']
    # instantiate the dataframe
    new_york_data = pd.DataFrame(columns=column_names)
    for data in features:
        borough = data['properties']['borough']
        neighborhood_name = data['properties']['name']
        neighborhood_latlon = data['geometry']['coordinates']
        neighborhood_lat = neighborhood_latlon[1]
        neighborhood_lon = neighborhood_latlon[0]
        new_york_data=new_york_data.append({'Borough': borough,
                                             'Neighborhood': neighborhood_name,
                                             'Latitude': neighborhood_lat,
                                             'Longitude': neighborhood_lon}, ignore_index=True)

    return new_york_data

# NYC Neighborhoods Data
ny_ngh = get_new_york_data()
ny_ngh.head(20)

print('The New York City has {} boroughs and {} neighborhoods.'.format(
    len(ny_ngh['Borough'].unique()),
    ny_ngh.shape[0]))
```

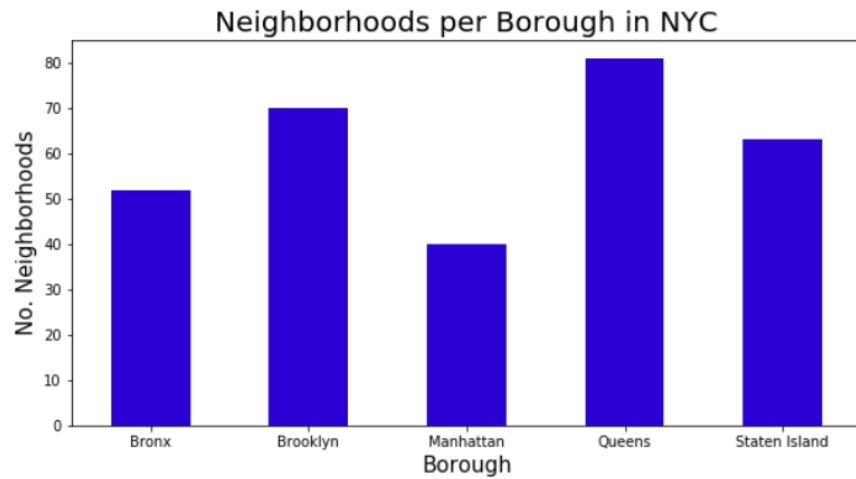
The New York City has 5 boroughs and 306 neighborhoods.

Eventually, we have total of **5 boroughs** and **306 neighborhoods**.

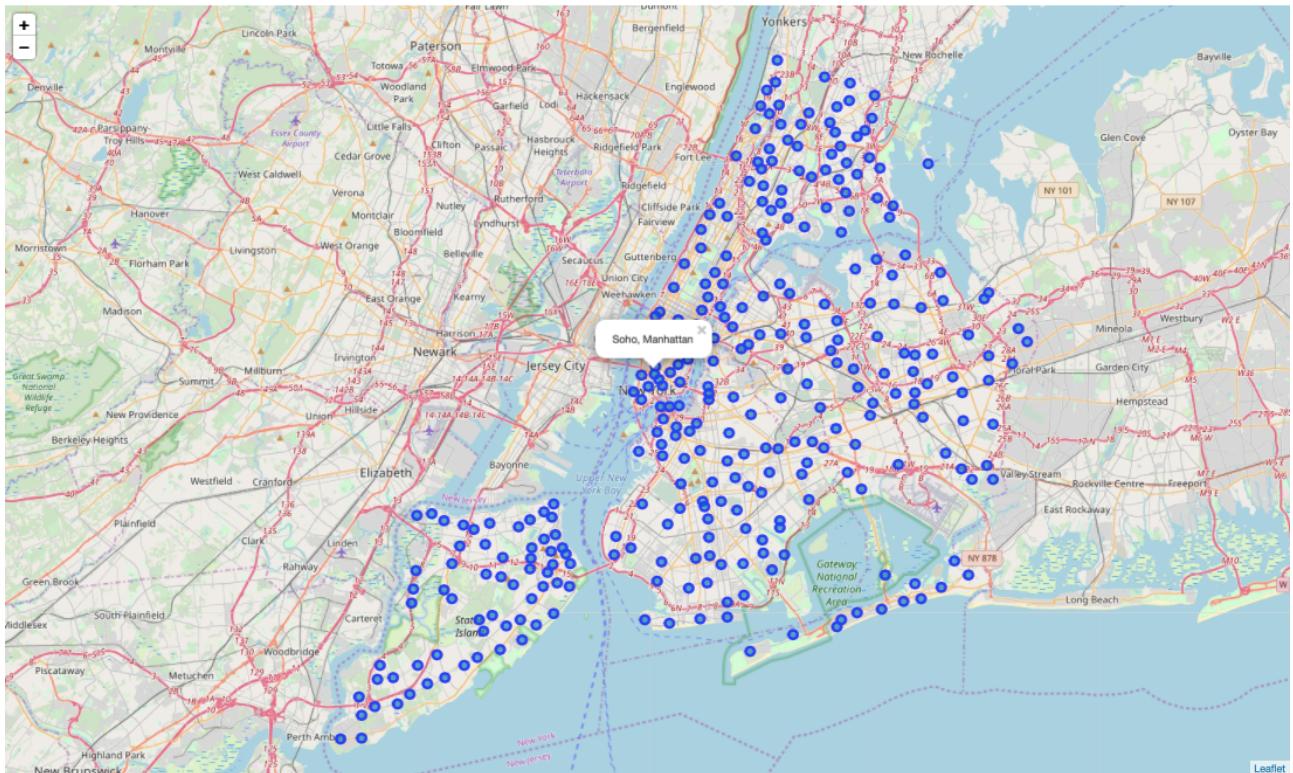
Neighborhoods per Borough in NYC

One popular feeling is that more neighborhoods tend to be more populated. If we look at the graph down below, Queens has the most neighborhood among them, followed by Brooklyn.

```
clr = "mediumblue"
ny_ngh.groupby('Borough')['Neighborhood'].count().plot.bar(figsize=(10,5), color=clr)
plt.title('Neighborhoods per Borough in NYC', fontsize = 20)
plt.xlabel('Borough', fontsize = 15)
plt.ylabel('No. Neighborhoods', fontsize = 15)
plt.xticks(rotation = 'horizontal')
plt.show()
```



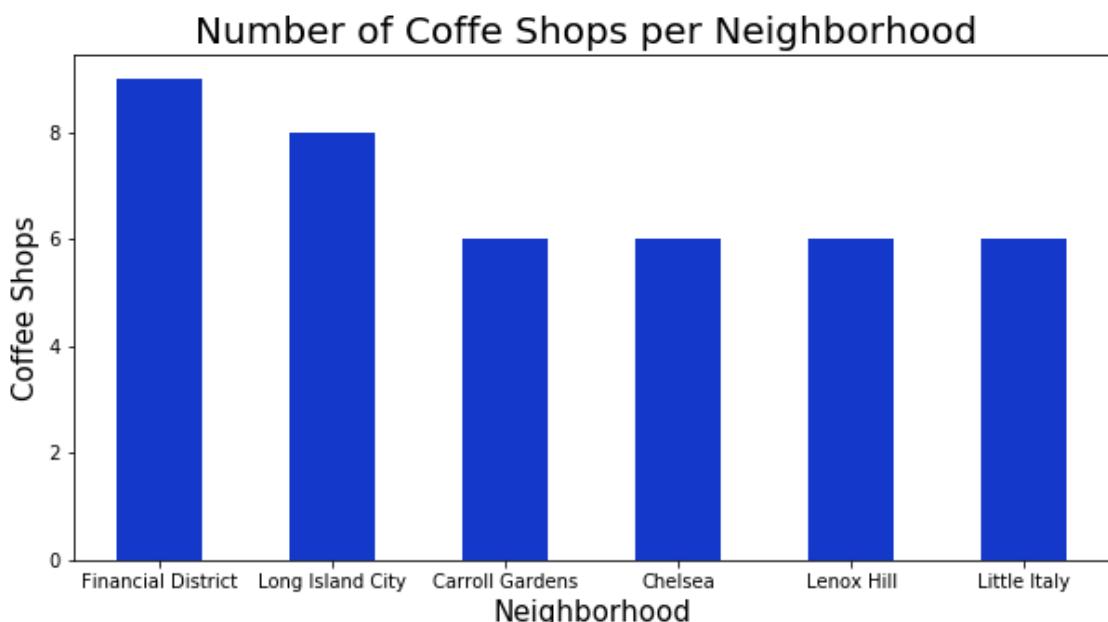
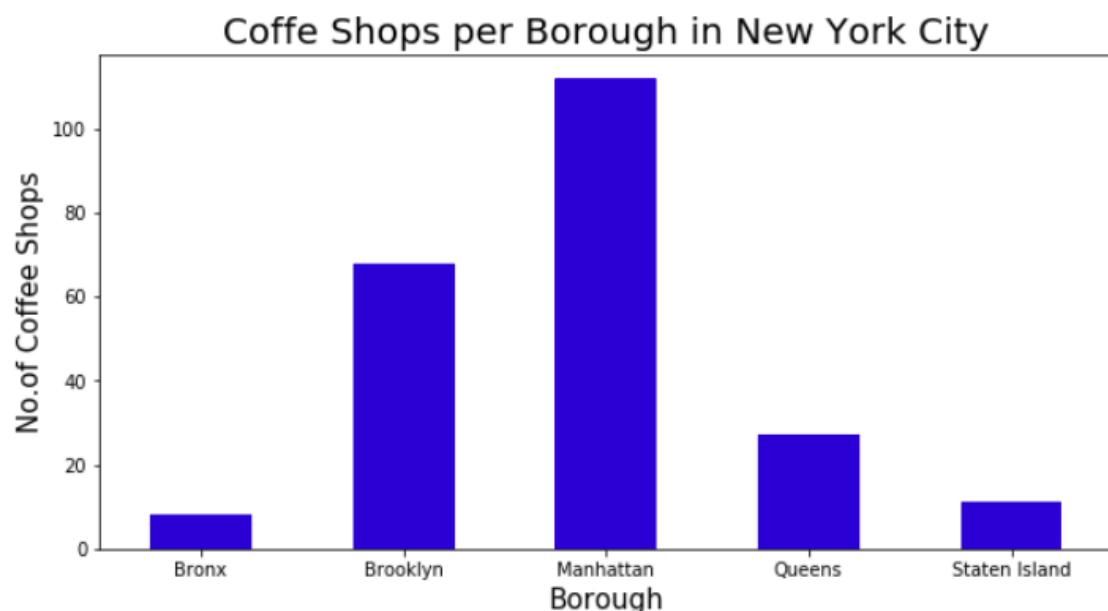
All the neighborhoods can be visualized on the NYC map as below;



Coffee Shops in All New York City Neighborhoods

In this study, I collected the venues data, including their 'Name, ID, Ratings, Number of Likes, Number of Tips' using Foursquare API with my Foursquare Developer Account.

Unfortunately, **Sandbox Tier in Foursquare Developer Account**, which is a free option, has its daily quota. Quota limit is 50 venue details including ratings, likes etc. We have roughly more than 200 coffee shops to analyze. To complete these analyses without restrictions, **I split the data set with a maximum number of 50 venues each**. Then, day by day I run the code and request those venues details. There is a **total of 228 Coffee Shops in NYC**, according to the Foursquare data.



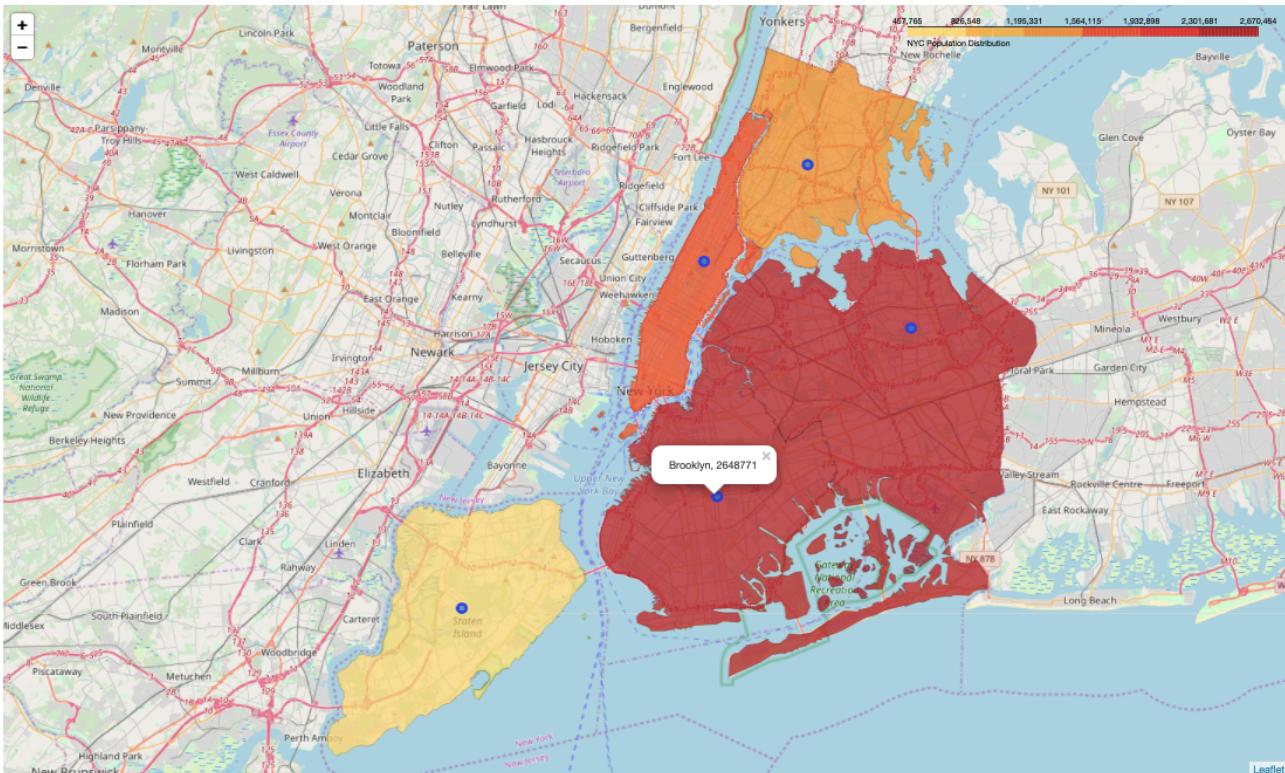
4. RESULTS

Looking just graphs and population distribution for making a proper decision might not be sufficient. So, when we quick look for the Coffee Shop data with Foursquare API, we can also check where the most rated, most liked and most tipped places. according to user feedbacks. Of course this is totally subjective, the goal is to get a general idea about the coffee lover community, as well as freelance workers.

NYC Population Distribution

```
address = 'New York City, NY'
geolocator = Nominatim(user_agent="ny_explorer")
location = geolocator.geocode(address)
latitude = location.latitude
longitude = location.longitude
world_geo = 'NYC_Borough_Boundaries.geojson'

world_map = folium.Map(location=[latitude, longitude], zoom_start=11)
world_map.choropleth(
    geo_data=world_geo,
    data=nyc_pop_edited,
    columns=['Borough', 'Estimate 2017'],
    key_on='feature.properties.boro_name',
    #threshold_scale=threshold_scale,
    fill_color='YlOrRd',
    fill_opacity=0.7,
    line_opacity=0.2,
    legend_name='NYC Population Distribution'
)
for borough, population, lat, lon in zip(nyc_pop_edited['Borough'], nyc_pop_edited['Estimate 2017'], nyc_pop_edited['Latitude'], nyc_pop_edited['Longitude']):
    label = '{}'.format(borough, population)
    label = folium.Popup(label, parse_html=True)
    folium.CircleMarker(
        [lat, lon],
        radius=5,
        popup=label,
        color='blue',
        fill=True,
        fill_color="#3186cc",
        fill_opacity=0.7,
        parse_html=False).add_to(world_map)
world_map
```



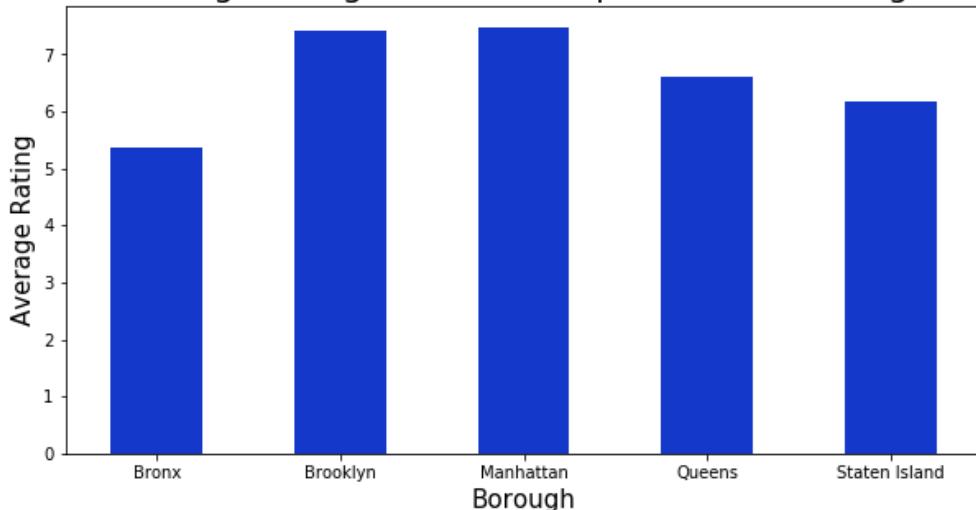
Average Ratings for each Boroughs

```
ny_brg_stats=coffee_shops_stats_ny.groupby('Borough',as_index=False).mean()[['Borough','Rating','Likes']]  
ny_brg_stats.columns=['Borough','Average Rating','Number of Likes']  
ny_brg_stats.sort_values(['Average Rating'],ascending=False).head()
```

	Borough	Average Rating	Number of Likes
2	Manhattan	7.473214	195.446429
1	Brooklyn	7.411765	117.897059
3	Queens	6.592593	55.851852
4	Staten Island	6.181818	15.545455
0	Bronx	5.375000	16.500000

```
coffee_shops_stats_ny.groupby('Borough').mean()['Rating'].plot.bar(figsize=(10,5), color=clr)  
plt.title('Average rating of Coffee Shops for each Borough', fontsize=20)  
#On x-axis  
plt.xlabel('Borough', fontsize = 15)  
#On y-axis  
plt.ylabel('Average Rating', fontsize=15)  
plt.xticks(rotation = 'horizontal')  
plt.show()
```

Average rating of Coffee Shops for each Borough

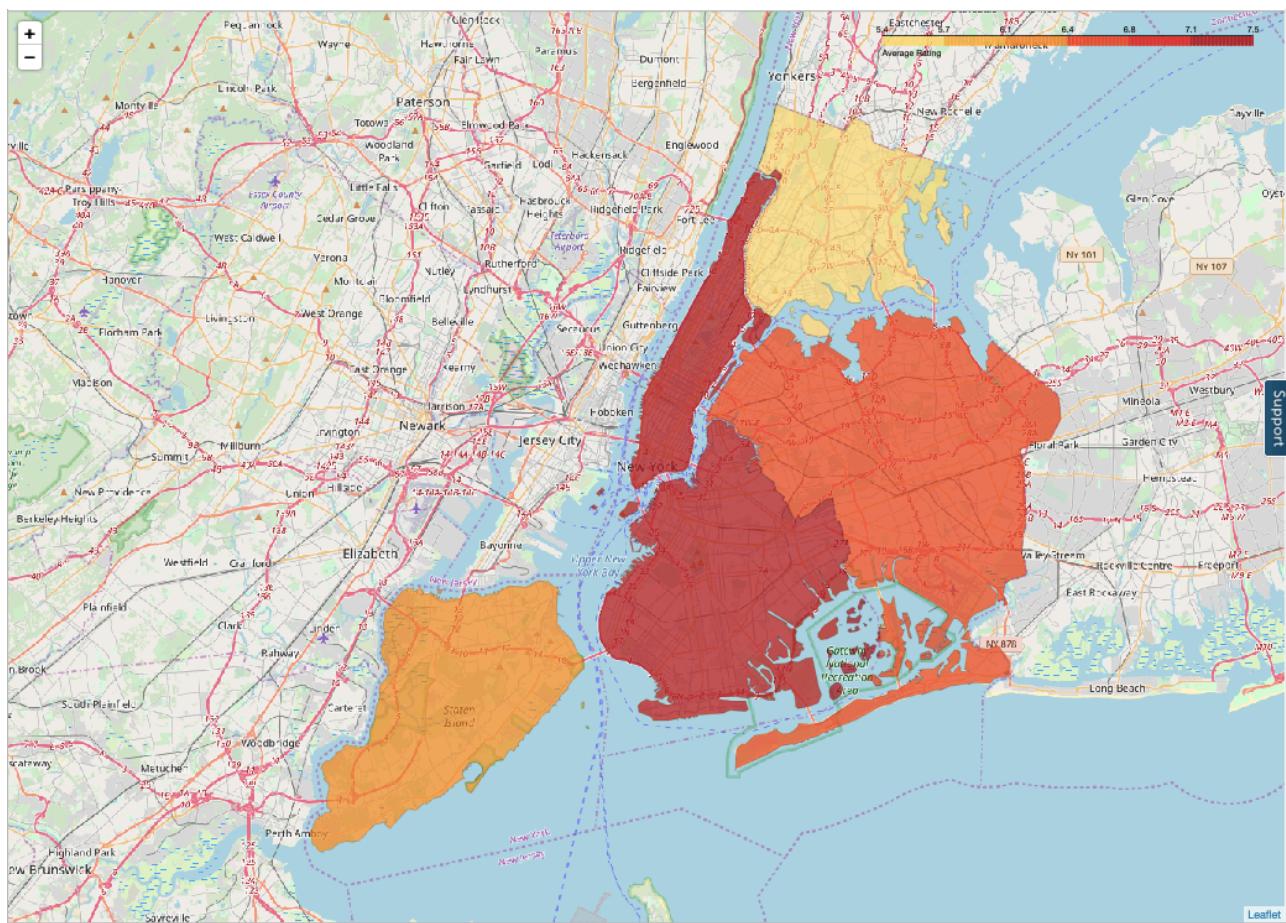


Average Borough Rating in Coffee Shops

```
nyc_map = folium.Map(location=geo_location('New York'), zoom_start=11)
nyc_geo = r'NYC_Borough_Boundaries.geojson'
nyc_map.choropleth(
    geo_data=nyc_geo,
    data=ny_brg_stats,
    columns=['Borough', 'Average Rating'],
    key_on='feature.properties.boro_name',
    fill_color='YlOrRd',
    fill_opacity=0.7,
    line_opacity=0.2,
    legend_name='Average Rating'
)

# as this is huge map data , we will save it to a file
nyc_map.save('nyc_borough_avg_rating.html')

# display map
nyc_map
```



Which Neighborhoods has the Most Popular Coffee Shops?

```
ny_ngh_stats=coffee_shops_stats_ny.groupby('Neighborhood',as_index=False).mean()[['Neighborhood','Rating','Likes']]  
ny_ngh_stats.columns=['Neighborhood','Average Rating','Number of Likes']  
#ny_ngh_stats.sort_values(['Average Rating'],ascending=False).head(5)
```

```
ny_ngh_stats=pd.merge(ny_ngh_stats,ny_ngh, on='Neighborhood')  
ny_ngh_stats = ny_ngh_stats[['Borough','Neighborhood','Average Rating','Number of Likes','Latitude','Longitude']]
```

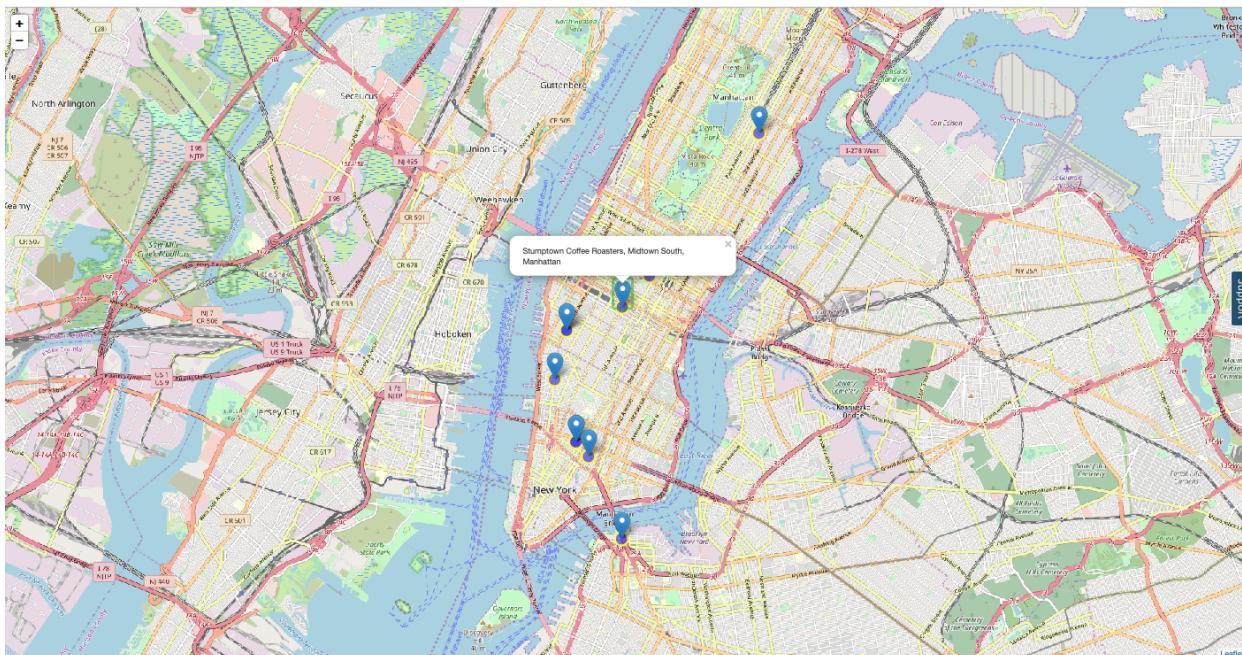
```
ny_ngh_stats.sort_values(['Average Rating'],ascending=False).head(5)
```

Borough	Neighborhood	Average Rating	Number of Likes	Latitude	Longitude
18	Manhattan	Chinatown	9.00	195.0	40.715618 -73.994279
54	Manhattan	Lower East Side	8.50	166.5	40.717807 -73.980890
59	Manhattan	Midtown South	8.50	682.0	40.748510 -73.988713
40	Manhattan	Greenwich Village	8.50	150.5	40.726933 -73.999914
27	Brooklyn	Dumbo	8.25	455.0	40.703176 -73.988753

Top 10 Coffee Shops in New York City

```
best_coffee_shops_ny = nyc_coffee_shops.sort_values(['Likes','Rating','Tips'],ascending=False)[:10]  
best_coffee_shops_ny.index = np.arange(1, len(best_coffee_shops_ny) + 1)  
best_coffee_shops_ny
```

Borough	Neighborhood	Latitude	Longitude	Name	Likes	Rating	Tips
1	Manhattan	Midtown South	40.748510	Stumptown Coffee Roasters	2437	9	690
2	Manhattan	Soho	40.722184	Ground Support	1638	8	515
3	Brooklyn	Dumbo	40.703176	Brooklyn Roasting Company	1512	9	317
4	Manhattan	Chelsea	40.744035	Blue Bottle Coffee	1084	8	269
5	Manhattan	Little Italy	40.719324	Happy Bones	855	8	208
6	Manhattan	Soho	40.722184	Happy Bones	855	8	208
7	Manhattan	Midtown	40.754691	Blue Bottle Coffee	731	9	145
8	Manhattan	Chelsea	40.744035	Intelligentsia Coffee	725	9	178
9	Manhattan	West Village	40.734434	The ELK	546	8	114
10	Manhattan	Carnegie Hill	40.782683	DTUT	517	8	152



5. DISCUSSION

Drinking coffee seems like a habit for most of us. But in reality, it became a passion for most of the people, more than just a tradition. Nowadays, coffee shops are not just for grabbing a cup of coffee and run to your boring work. They become a social zone, remote workspaces and modern libraries.

Small business retailers know that finding a great location is crucial to their success, but the definition of "great" for a coffee house might surprise you. Many people think they need to be in a high-traffic area, when in fact this can often backfire.

For selecting optimum coffee shop location, my approach was to search for best coffee shops in New York City using Foursquare API and venue details.

Even it seems like more neighborhoods and more population can lead us for selecting the proper location, population distribution and number of coffee shops per borough tables shows us vice versa.

There are two popular boroughs for coffee shop lovers according to Foursquare;

- ❖ Manhattan
- ❖ Brooklyn

But one thing should better be keeping in mind that is, the rent prices. This study is not covering the rent prices at all. But everyone knows that Manhattan has the most expensive rental rates in the world.

Another thing is, In a high-traffic area, people are generally in a rush to get where they're going, and a successful coffee house is a destination. Even if customers don't hang around long enough to take advantage of your WiFi, they generally don't see coffee as an impulse purchase. If they want or need it, they'll go past the crowds to find you.

So if you want to start your very new, boutique and one of its kind coffee shop business, my suggestion for perfect location is "Brooklyn".

If you need some inspirations about the concept, you can check out the most popular coffee shops and investigate their design languages. For that purpose, I investigated;

Where is the most liked Coffee Shop?

```
# Most Liked Coffee Shop
coffee_shops_stats_ny.iloc[coffee_shops_stats_ny['Likes'].idxmax()]

Borough           Manhattan
Neighborhood      Midtown South
ID                4aa52d50f964a520834720e3
Name              Stumptown Coffee Roasters
Likes             2437
Rating            9
Tips              690
Name: 197, dtype: object
```

Where is the most rated Coffee Shop?

```
# Max Rated Coffee Shop  
coffee_shops_stats_ny.iloc[coffee_shops_stats_ny['Rating'].idxmax()]
```

Borough	Brooklyn
Neighborhood	Carroll Gardens
ID	58d933702f91cb026f478e38
Name	East One Coffee Roasters
Likes	222
Rating	9
Tips	32

Which Coffee Shop has most tips?

```
# Most Tipped Coffee Shop  
coffee_shops_stats_ny.iloc[coffee_shops_stats_ny['Tips'].idxmax()]
```

Borough	Manhattan
Neighborhood	Midtown South
ID	4aa52d50f964a520834720e3
Name	Stumptown Coffee Roasters
Likes	2437
Rating	9
Tips	690

Name: 197, dtype: object

Most Liked & Tipped Coffee Shop is:

Stumptown Coffee Roasters, Midtown South, Manhattan



Most Rated Coffee Shop is:

East One Coffee Roaster, Carroll Gardens, Brooklyn



6. CONCLUSION

We mentioned the importance of detailed research at the very beginning of the business strategy. Research topics should include topics that did not cover in this research such as anticipated sales volume, the rent-paying capacity of your business, restrictive municipal ordinance, traffic density, proximity to other businesses etc.

Understand your target audience and select a concept. Will it a minimalist coffee shop or will it be more focused on their food menu?

Rent prices for a coffee shop depending on the location. But you can compensate it with a return rate. The main reason for starting this business strategy might be becoming a CEO or having a dream job. But in reality, you have to make money somehow. And here is where the return rate and cash flow is important. You have to make good assumptions about your income and expense balance.

Above all these to-do lists, you should be selecting the proper location. This is the first step to becoming the boss of your own business.

7. REFERENCES

<https://www.linkedin.com/pulse/13-reasons-independent-coffee-shops-fail-andrew-bowen/>

<http://coffeehouseonmain.com/7-reasons-why-coffee-shops-fail/>

<https://coffeeshopstartups.com/top-reasons-coffee-shop-fail/>

<https://texascoffeeschool.com/why-some-coffee-businesses-succeed-and-many-fail/>

<https://www.newyorkcoffeefestival.com/Blog/September-2015/Want-to-open-a-coffee-shop-Here-s-how>