

Small Dining Establishment Consolidation Opportunity in Manhattan post COVID-19

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Introduction

As the world is starting to recover health-wise from the coronavirus pandemic, businesses are still struggling. While some companies are capable of continuing operations in a remote, or work from home, basis, dining and personal service businesses typically cannot. As a result, a significant number of companies are struggling financially. This situation is especially true in New York City, where the coronavirus hit especially hard. Dining and personal service businesses have either already gone out of business, or will continue to face liquidity issues until consumers gain enough confidence to begin frequenting those types of companies. If those businesses haven't already closed their doors, there is a strong possibility that they may close their doors in the months to come.

A group of investors has assembled with a new model of dining establishments. Effectively, it is a mix between a restaurant, grocery store, and coffee shop. The design of this new concept intended to support social distancing and safe food and beverage preparation. The business plan that the investors have created calls for researching the neighborhoods in the New York City borough of Manhattan with the highest concentration of coffee shops and cafes. The investor's plan includes starting the concept in one Manhattan neighborhood and then expanding to other boroughs. Once a specific community has been identified, the investors will work through business brokers to start making contingent offers for all or part of each of the coffee shops and cafes in that neighborhood. Once a sufficient number of deals have been closed, the investment group will close all the arrangements and then begin remodeling and re-branding all of the establishments. They will also start a targeted marketing campaign for that neighborhood to educate the members of that community on the benefits and safety in visiting these new types of establishments.

Description of the Data

To complete this research, we need to identify cafes and coffee shops in each neighborhood in New York City. To do that, we will leverage location data that is available from Foursquare. With that data, we can identify venues within a geographical area, and we can also determine the category that best describes the place. Café and coffee shops are two separate categories of sites. So, once the data is collected, those categories will need to be combined. Once the data has been collected and grouped accordingly, we will be able to identify the neighborhood with the highest concentration of cafes and coffee shops.

The data that we receive from Foursquare is broken out by venue. An example of a specific venue record is below.

```
'venue': {'id': '57655be738faa66160da7527',  
  'name': 'Starbucks',  
  'location': {'address': '50 W 225th St',  
    'lat': 40.873754554218515,  
    'lng': -73.90861305343668,  
    'labeledLatLngs': [{'label': 'display',  
      'lat': 40.873754554218515,  
      'lng': -73.90861305343668},  
    {'label': 'entrance', 'lat': 40.873502, 'lng': -73.907986}],
```

```
'distance': 355,
'postalCode': '10463',
'cc': 'US',
'city': 'New York',
'state': 'NY',
'country': 'United States',
'formattedAddress': ['50 W 225th St',
'New York, NY 10463',
'United States']],
'categories': [{'id': '4bf58dd8d48988d1e0931735',
'name': 'Coffee Shop',
'pluralName': 'Coffee Shops',
'shortName': 'Coffee Shop',
'icon': {'prefix': 'https://ss3.4sqi.net/img/categories_v2/food/coffeeshop_',
'suffix': '.png'},
'primary': True}],
'photos': {'count': 0, 'groups': []}},
'referralId': 'e-0-57655be738faa66160da7527-8'},
{'reasons': {'count': 0,
'items': [{'summary': 'This spot is popular',
'type': 'general',
'reasonName': 'globalInteractionReason'}]}
```

Within the venue record there is another section of the data for categories. The categories part of the venue record is what we will leverage. By consolidating the categories information for the data, we will be able to answer the question for the investors.

Methodology

The methodology of this research is very straightforward. We will be using publicly available information to determine the geographic coordinates of each neighborhood within the Borough of Manhattan. Once we have that information, we will query Foursquare to return the data about the venues that are located within that area.

Once information for all the venues have been returned, we will look at the specific categories of venues that are located in the area. We will then calculate the frequency of occurrence for each individual type of venue. Once we have that information, we will add the frequency of Café venues with the frequency of Coffee Shop venues to get a total frequency of the types of shops that the investors are concerned about.

To conclude the study, we will sort the combined frequency in descending order to determine the neighborhoods with the highest frequency of Café and Coffee Shop venues.

Results

After analyzing the data, we found that the highest concentration of Café venues is located in the Tudor City neighborhood with a value of 6.67%. The next highest concentration is in Washington Heights at 5.68%. The top five neighborhoods are listed below:

Neighborhood	Café
Tudor City	6.67%
Washington Heights	5.68%
Inwood	5.17%
Lincoln Square	5.10%
Greenwich Village	5.00%

The highest concentration of Coffee Shops is in Manhattan Valley at a value of 10%. Second in line is Carnegie Hill at 9.2%. The top five neighborhoods for concentration of Coffee Shops is below:

Neighborhood	Coffee Shop
Manhattan Valley	10.00%
Carnegie Hill	9.20%
Manhattanville	8.51%
Financial District	8.00%
Chelsea	8.00%

Taking into account the concentrations of both Café and Coffee Shops, the priority order changes. Carnegie Hill comes in with the highest concentration of the two categories at 13.79%. It is then followed by Manhattan Valley (12.5%) and the Financial District (12.0%). The complete list of neighborhoods is below:

Concentration of Café and Coffee Shops in Manhattan by percentage of total venues

Neighborhood	Café	Coffee Shop	Total
Carnegie Hill	4.60%	9.20%	13.79%
Manhattan Valley	2.50%	10.00%	12.50%
Financial District	4.00%	8.00%	12.00%
Hamilton Heights	4.92%	6.56%	11.48%
Chelsea	3.00%	8.00%	11.00%
Manhattanville	2.13%	8.51%	10.64%
Lenox Hill	4.00%	6.00%	10.00%
Morningside Heights	2.38%	7.14%	9.52%
Civic Center	3.03%	6.06%	9.09%
Lower East Side	4.26%	4.26%	8.51%

Lincoln Square	5.10%	3.06%	8.16%
Marble Hill	0.00%	8.00%	8.00%
Yorkville	1.00%	7.00%	8.00%
Turtle Bay	4.00%	4.00%	8.00%
Tribeca	4.00%	4.00%	8.00%
Flatiron	4.00%	4.00%	8.00%
Tudor City	6.67%	1.33%	8.00%
Washington Heights	5.68%	2.27%	7.95%
Soho	3.13%	4.17%	7.29%
Midtown	2.00%	5.00%	7.00%
Noho	2.00%	5.00%	7.00%
Greenwich Village	5.00%	2.00%	7.00%
Inwood	5.17%	1.72%	6.90%
Hudson Yards	3.39%	3.39%	6.78%
Gramercy	1.22%	4.88%	6.10%
Sutton Place	0.00%	6.00%	6.00%
Clinton	1.00%	5.00%	6.00%
Midtown South	3.00%	3.00%	6.00%
Murray Hill	2.35%	3.53%	5.88%
Upper East Side	0.00%	5.62%	5.62%
Stuyvesant Town	0.00%	5.56%	5.56%
East Village	1.00%	4.00%	5.00%
Little Italy	3.00%	2.00%	5.00%
Upper West Side	2.44%	2.44%	4.88%
Battery Park City	0.00%	4.62%	4.62%
West Village	1.00%	3.00%	4.00%
Roosevelt Island	0.00%	3.45%	3.45%
Chinatown	0.00%	3.00%	3.00%
East Harlem	2.50%	0.00%	2.50%
Central Harlem	2.22%	0.00%	2.22%

Discussion

Carnegie Hill and Manhattan Valley are on opposite sides of Central Park in very affluent areas. With their close proximity, it may be prudent to treat both neighborhoods as one. Further analysis would be needed to determine if this was feasible. For instance, performing a k-means analysis may indicate that the neighborhoods could belong to the same cluster.

The data also contains similar venue categories that could be combined to generate a different result. For instance, the category Bistro could be added to the analysis to give a more complete understanding of small dining establishments.

Conclusion

In this study we looked at the concentration of Café and Coffee Shop venues within neighborhoods of the Borough of Manhattan. The initiation of the study was the desire of a group of investors to look at consolidating small dining establishments after the COVID-19 pandemic ravaged New York City. The group of investors feel that establishments in the small dining venue market have experienced a tremendous amount of pressure recently and will likely continue to experience the pressure for quite some time. By attempting to consolidate the industry, the investors hope to bring greater stability to the market.

The study concluded that Carnegie Hill has the greatest concentration of Coffee Shop and Café establishments within Manhattan and should be considered for merger and acquisition activity.