**Location Analysis of Opening a New Turkish Restaurant (Manhattan/USA)**

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**1. Introduction: The Business Case**

The D Group, a large conglematore based in Turkey , founded in 1940 , sets standards for a better living by being at the forefront of discoveries that shape modern life.

D Group , which aspires to be a global house of best in class lifestyle brands that create aspiration, not only for customers but also employees, partners and even competitors, continues to work in all of its fields of operation with the aim of becoming a global player.

The D Group, active in seven core businesses including automotive, construction, media, tourism and services, real estate, energy and food & beverage, sustains its growth with new investments in the areas of technology, sports, and entertainment along with its current operations. With over 200 companies and more than 25,000 employees, the Group serves its customers with advanced technologies, highest brand quality and a dynamic human resource.

One of the sectors that the group operates is food sector and the company that owns more than 40 restaurant brand is called DRM (D Group Restaurant Management) . DRM , founded in March 2012, reached a unique position in food and beverage sector through the variety and number of restaurants it operates globally. With the support of D Group, DRM has rapidly become the market leader in Turkey and an international player by introducing innovative concepts and a wide variety of dining experiences worldwide.

Now , operating mostly in Turkey and very few in Dubai and London , group decides to start a new business across Atlantic with a new fresh brand . The brand will serve from Turkish cusine with a modern concept targeting young urban proffesionals . So , New York Manhattan is decided to be the first place to start.

As they do not know Manhattan in detail , they contact to a Data Analytics company to undestand Manhattan demography to decide on where to look for a place to open as a restaurant ?

1. **It has to be not far away from Business Centers or University campuses**
2. **There should be not too much Turkish cuisine serving places around**

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**2. Data**

**a. Sources**

For This study we will use New York data, with Foursquare API data:

 **Geospatial Coordinate** : The data will be used to draw Manhattan Map to show the locations and venues

 **Foursquare** : Forsquare API will provide the venues around the neighborhoods we will provide. The will merge those informations the NewYork data for the study. The startup location is chosen as Bryant Park .

**New York Business Center Data** : By using FourSquare API query we list the Business Centers located between 10Km radius of Bryant Park . The data includes Business Center Id , Name , Category , Lattitiude , Longitude and Distance . The returned json data is moved into a pandas DataFrame .

**New York Universities Data** : By using FourSquare API query we list the Universities located between 10Km radius of Bryant Park . The data includes University Id , Name , Category , Lattitiude , Longitude and Distance . The returned json data is moved into a pandas DataFrame .

**New York Business Center Venue Data** : By using FourSquare API query we list the venues within 500m radius of each Business Center listed . The data includes Business Center Name , Lattitiude , Longitude ,Venue Id , Venue Name , Venue Lat , Venu Lng , Venue Category ., The returned json data is moved into a pandas DataFrame .

**New York University Venue Data** : By using FourSquare API query we list the venues within 500m radius of each Business Center listed . The data includes Business Center Name , Lattitiude , Longitude ,Venue Id , Venue Name , Venue Lat , Venu Lng , Venue Category .The returned json data is moved into a pandas DataFrame .

**New York Final Venue Data** : Combination of Two DataFrames of NY University Venue Data and Business Center Venue Data .

**New York Turkish Restaurant Venue Data** : Created by filtering ‘Turkish Restaurant’ from New York Final Venue Data . The data includes Business Center Name , Lattitiude , Longitude ,Venue Id , Venue Name , Venue Lat , Venu Lng , Venue Category.

**3. Methodology**

For this study GeoSpatial Maps will be our main tool and we will focus on the location of Venue and Business Centers .

**https://api.foursquare.com/v2/venues/search?client\_id=CLIENT\_ID&client\_secret=CLIENT\_SECRET&ll=LATITUDE,LONGITUDE&v=VERSION&query=QUERY&radius=RADIUS&limit=LIMIT**

Our Data is from FourSquare API from Manhattan .

We will use the Longitude and Lattitude of Bryant Park as Center Location in Manhattan as a starting point.

As the target segment will be Young Urban Proffesionals (or future ones) we will be looking for places that are not far away from :a) Business Centers b) Universities in Manhattan . It might easily be said that there would be thousands of Business locations , banks , commercial companies etc . But as we do have a limit to analyse the data , we have chosen Business Center and Universities as a first draft report.

So we will collect all Business Centers and Universities on 10 km range from Bryant Park , put into a DataFrame and and show them on the map. Depending on the final number of Turkish restaurants , 10 km Radius can be changed.

Now for each Business Center ,sorted according to distance to Bryant Park , we will start a process of :

* we will use getNearbyVenues function
* we will search for all the Restaurants in 500 M Radius to BC/University
* list them with Venue Id, Venue Name , Venue Lat,Venue Lng ,Venue Category
* put them into a DataFrame

Group all Restaurants according to its Venue Category The reason we put is that , if company changes idea from Turkish restaurant to another concept we can use the new category for analysis

As we are going to open a Turkish restaurant , the idea is to find a place , a) with no Turkish restaurant b) within a range of 500m at least Check 'Turkish restaurants' as a total

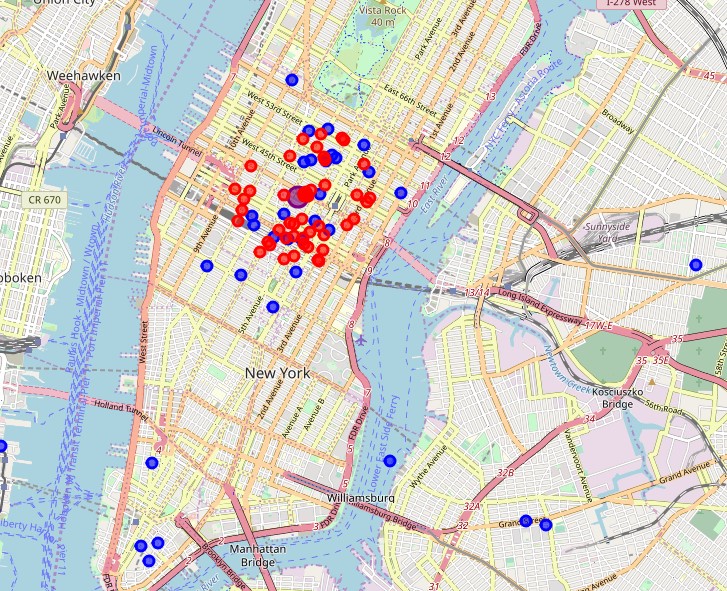
For each Turkish restaurant show them on the previous Map showing Business Centers and Universities

Decide on where to look for placing the new restaurant !!!

**4. Analyse**

For this study let’s first have the map of Manhattan .

**a. Map of Business Center and Universities**

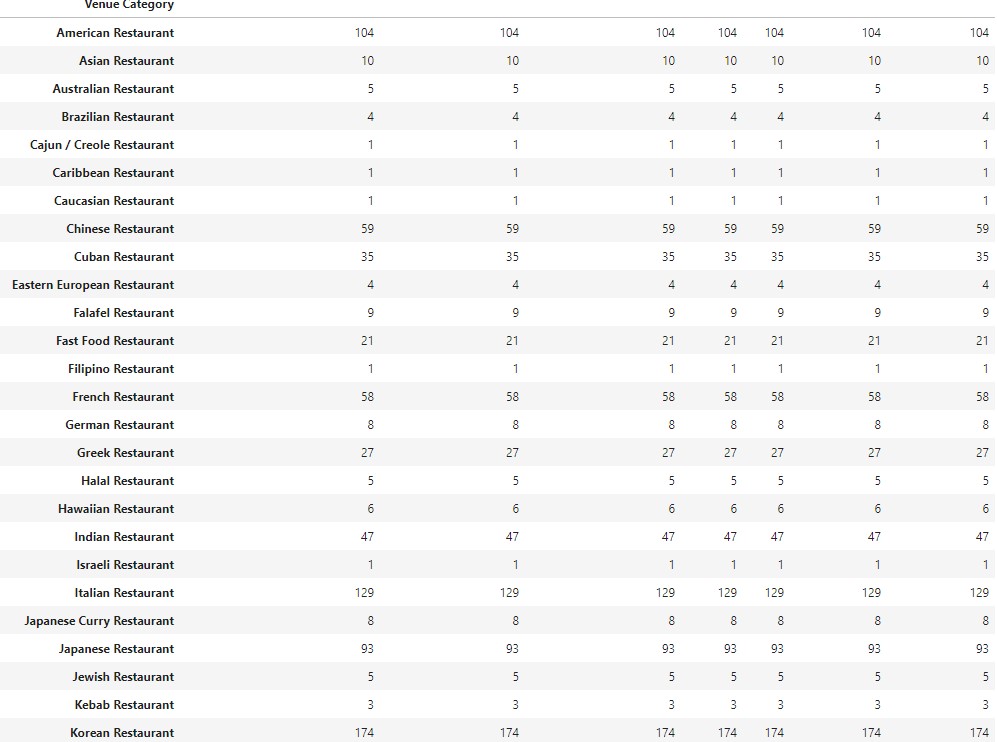


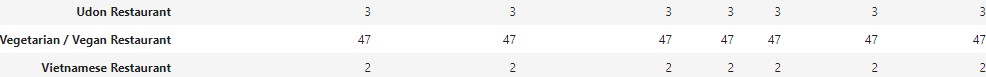
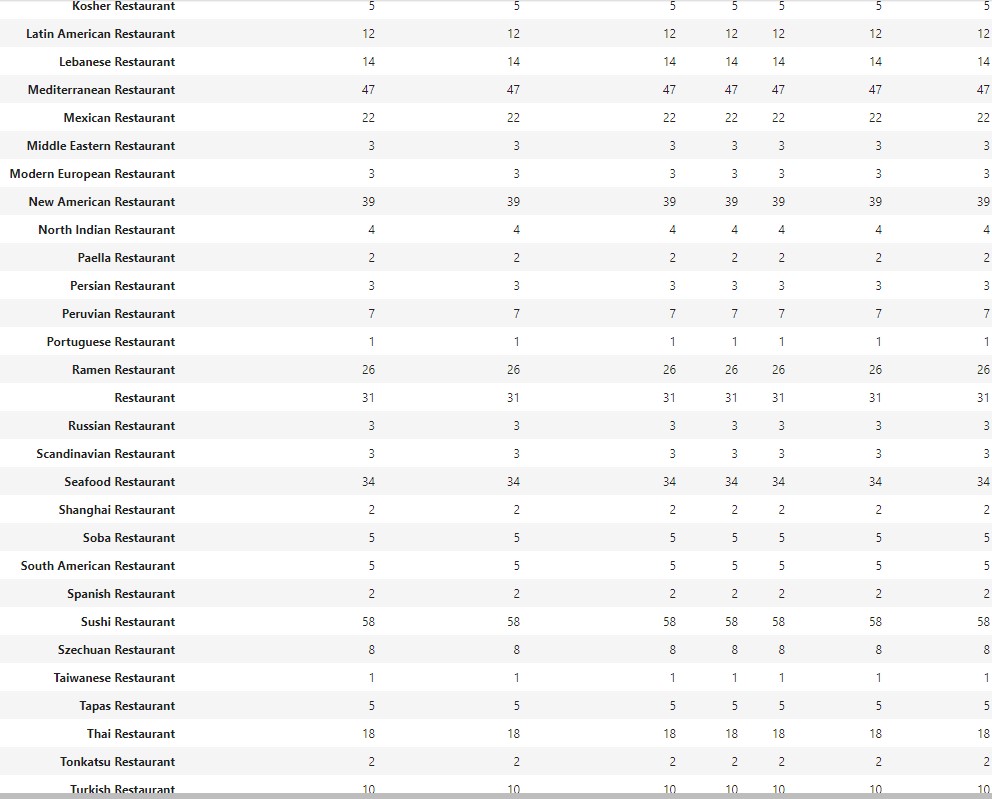
There are 3 different colors in the first Map. The Purple represents starting longitutude/latitude , Bryant Park. The Blue points represent Business Centers in 10 kilometers radius . It can easily be seen that there are Business Centers located mostly in Manhattan , but quite a few at Brooklyn as well.

The Red ones represent the Universities or University Offices located as well. As you see from the map almost all of them are located Mid-Manhattan .

After putting into DataFrame all Business Centers and Universities we start to search , for each red/blue point , all venues within 500m radius . This makes a DataFrame of size 4787 rows with 8 columns.

After grouping them according to all categories we filter them using keyword ‘Restaurant’ . The result Data Set show the number of Restaurants for each Restaurant Category.





By using this one can easily decide which Restaurant Category is feasible to start .

The list of Turkish Restaurants is as follows :



According to this there seems to be 10 restaurants within that range but do not forget there are duplicate rows inserted to DataFrame as the same restaurant is within the same radius to different places.

**Venue ID Count**

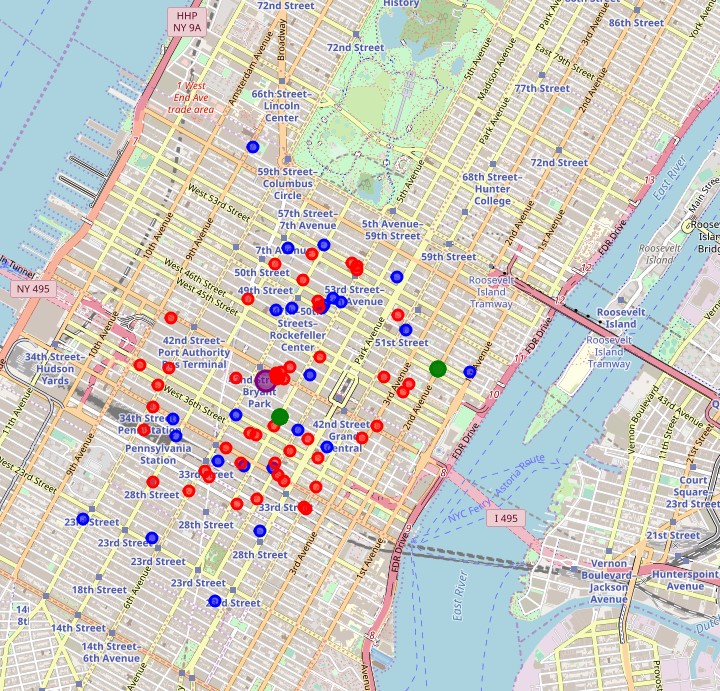
542aa73f498e550c05e178d7 5

50fc9a88e4b04cfffaebe2cf 3

4cc703b101fb236a977dbaba 1

4a75dd5af964a52076e11fe3 1

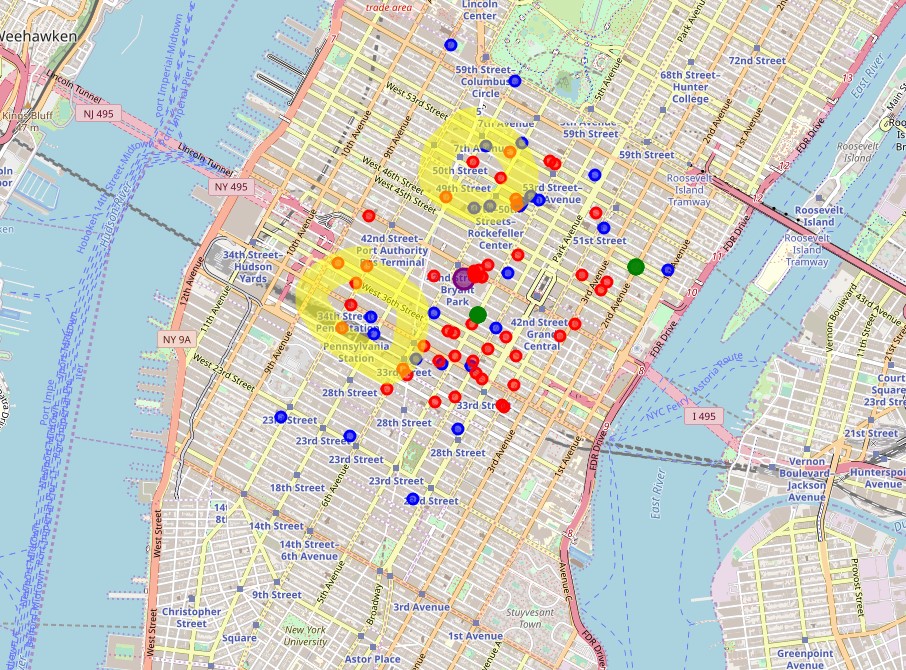
According to this we see that there are 4 unique Venue ID’s and restaurants . Only two are them are in Manhattan and they are located on the map as Green where Blue is Business Centers and Red are Universities.



Our principle is to find places crowded with Young and Professionals and a district without a Turkish restaurant . Now , we all know that with a city like Transportation facilities all around it is impossible for one to ‘lock’ the customers but with a new concept , delicious food and right pricing method it might attract younger people .

**b. Result and discussion**

When we concentrate to the map we see two places that is crowded with offices and have a unique value as a single Turkish restaurant around some place.



**The one around 59th Street seems to be better as it is also not far away from Central Park as well.**

**5. Conclusion**

The objective of this study was to find place for a new concept Turkish restaurant. After analyzing Geospatial data we find two alternative locations to decide. Of course there are some other parameters needed to take into consideration like Marketing , Branding , Pricing . But at least we can decide on the location for a startup.

**Maps**