**1. Introduction & Business Problem:**

The City of New York is the most populous city in the United States. It is diverse and  
is the financial capital of USA. It is multicultural. It provides lot of business  
opportunities and business friendly environment. It has attracted many different  
players into the market. It is a global hub of business and commerce. The city is a major  
centre for banking and finance, retailing, world trade, transportation, tourism, real  
estate, new media, traditional media, advertising, legal services, accountancy,  
insurance, theatre, fashion, and the arts in the United States. This also means that the  
market is highly competitive. As it is highly developed city so cost of doing business is  
also one of the highest. Thus, any new business venture or expansion needs to be  
analysed carefully. The insights derived from analysis will give good understanding of  
the business environment which help in strategically targeting the market. This will help  
in reduction of risk. And the Return on Investment will be reasonable.

**Business Problem**  
The City of New York is famous for its excellent cuisine. Its food culture includes an  
array of international cuisines influenced by the city's immigrant history. Sushi  
restaurants have become so popular in the United States now it seems that there is one  
on every corner, not only in major cities but also in smaller cities. Starting a sushi  
restaurant can be a great business opportunity, but you need to distinguish yourself  
from others to enjoy long-term success.  
If you plan a real restaurant that can demand higher prices for fresh fish, delivered daily  
from Japan, focus on neighbourhoods and outlets that already attract a sophisticated  
Japanese client. If you plan a cheap buffet restaurant, points to the masses looking for  
affordable high-traffic locations with large shopping centres and other local points of  
interest.  
My client wants to open his business in Manhattan area, so I focus on that borough  
during my analysis. We define potential neighbourhood based on the number of sushi  
bars which are operating right in each neighbourhood. Manhattan has full potential but  
also is a very challenging district to open a business because of high competition. New  
sushi bar should be open in an area that inadequate neighbourhood in this way the bar  
can attract more customers. Therefore, this analysis necessary to ensure that we have  
enough customers and that we are not so close to other sushi places.

**2. Data**

**Data 1:** Neighbourhood has a total of 5 boroughs and 306 neighbourhoods. In order to  
segment the neighbourhoods and explore them, we will essentially need a dataset that  
contains the 5 boroughs and the neighbourhoods that exist in each borough as well as the  
the latitude and longitude coordinates of each neighbourhood. This dataset exists for free  
on the web. Link to the dataset is: https://geo.nyu.edu/catalog/nyu\_2451\_34572  
**Data2:** Network city geographical coordinates data will be utilized as input for the  
Foursquare API, that will be leveraged to provision venues information for each  
neighbourhood will use the Foursquare API to explore neighbourhoods in New York  
City. The below is image of the Foursquare API data.  
In addition, Sushi category Id 4bf58dd8d48988d1d2941735 is used for retrieving data  
from Foursquare API.

**3. Methodology**

In this project, basic methodology as taught in Week 3 lab will be used.  
Above, I have done convert addresses into their equivalent latitude and longitude  
values. Then we will use the Foursquare API to explore neighbourhoods in Manhattan,  
New York. After that, explore function to get sushi restaurant categories in each  
neighbourhood.  
Sushi bars in Manhattan  
Then use this feature to group the neighbourhoods into clusters K-means clustering  
algorithm will be used to complete this task. And, the Folium library to visualize  
the neighbourhoods in Manhattan and its emerging clusters.

**4. Results**

**K-mean Cluster** Using K-mean to clustering data area with less number of sushi bars  
  
Based on data frame analysis above Cluster 3 (Upper West Side ) and Cluster 4  
(Morningside Heights) areas are the best places to open a new sushi bar business.

**5. Discussion**

In this section, I would be discussing the observations I have noted and the  
recommendation that I can make based on the results.  
This analysis is performed on limited data. This may be right or may be wrong. But if  
good amount of data is available there is scope to come up with better results.  
• There is high competition in Midtown and Soho so it is very risky to open  
business in these areas.  
• Central Harlem has also potential where closes to Morningside Heights area.  
• It can be done more detailed analysis by adding other factors such as  
transportation, demographics of inhabitants.  
Finally, Foursquare proved to be a good source of data but frustrating at times.  
Despite having a Developer account I regularly exceeded my hourly limit locking me  
out for the day.

**6. Conclusion**

Although all the goals of this project were met there is room for further  
improvement and development as noted below. However, the goals of the project were  
met and, with some more work, could easily be developed into a fully pledged  
application that could support the opening a business idea in an unknown location.  
As per the neighbourhood or restaurant type mentioned like Sushi restaurants analysis  
can be checked. A venue with lowest risk and competition can be identified.