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.