Introduction

Business Problem:

A Michelin star chef wants to open an upscale restaurant in Manhattan. The menu for the proposed establishment has a high fixed price, the chef wants to ensure this is not a deterrent to his local population.

Background:

The location of a restaurant often contributes to many of the features that define it, such as its predominant clientele base, cost of food, and ambiance (Pillsbury, 1987). It is therefore important to define your target clientele prior to purchasing a location for a potential establishment. Koo *et al*. (1999) has found that high food costs at restaurants are less bothersome to individuals whose primary purpose is that of business, rather than family meal outings. Additionally, Kunst (2017) *et al*. (2019) found that nearly 57% of individuals travelling on business trips selected a hotel based on its proximity to restaurants and bars.

As the menu for the client has been set at a high cost, we have therefore determined the most optimal location for the restaurant to be in an area with a high density of offices and hotels. This study however can be expanded beyond the scope of this single client, and can be of interest to any individual seeking to open a high-cost restaurant.

Data

Source:

The two relevant variable we chose to utilize to approach this problem is frequency of **hotels** and **offices** in each neighborhood.

Neighborhood boundaries: This will be obtained from the [NYU Spatial Data Repository](https://geo.nyu.edu/catalog/nyu_2451_34572)[1]. It contains details of neighborhood names, location (latitude and longitude), and the bureau each neighborhood resides in. This will then be narrowed down to focus specifically on the borough of Manhattan. The neighborhood locations will be utilized when creating cluster locations in Foursquare API.

Neighborhood venues: Data for each neighborhood will be obtained from the foursquare database. Data will be "called" in the notebook using foursquare credentials, and the location of interest latitude and longitude.

By using the selected sources, we will find neighborhoods utilizing a K-means clustering analysis with the *Foursquare* venues data. Following our analysis, we will propose the best neighborhoods to open the new restaurant.

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[1] https://geo.nyu.edu/catalog/nyu_2451_34572

References

Pillsbury, R. (1987) FROM HAMBURGER ALLEY TO HEDGEROSE HEIGHTS: TOWARD A MODEL OF RESTAURANT LOCATION DYNAMICS, The Professional Geographer, 39:3, 326-344, DOI: 10.1111/j.0033-0124.1987.00326.x

Koo, L.C., Tao, F.K. and Yeung, J.H., 1999. Preferential segmentation of restaurant attributes through conjoint analysis. *international Journal of Contemporary Hospitality management*.

Kunst, A. (2017) How important are nearby restaurants and bars when choosing a hotel for a business trip? *Statista*. https://www.statista.com/statistics/719823/importance-of-restaurant-proximity-to-hotels-to-business-travelers-us/