

# Data Science Capstone Project

Data Driven Decision for the best place to open a restaurant in New York

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# Introduction

# WEEK 4

The presentation contains slides needed for Week 4 and Week 5. While week 4 is complete, week 5 is just a placeholder. Please ignore for the Week 1 submission.

# Introduction

- Prepared for IBM Data Science Capstone Project - The Battle of Neighborhoods
- Use techniques learned in the course for
  - Exploring and comparing geographical location
  - Leveraging the Foursquare APIs
- To lead to a data driven suggestion for opening a new restaurant in New York

Target Audience

# Target Audience

- Target Audience for this presentation are the potential Restaurateurs who would like to open a new restaurant
- It can also be used by potential investors for gauging the popularity of a particular restaurant
- Sample Template for Data Scientists for Exploratory Data Analysis techniques

# Problem Description



# Background

- Opening a new restaurant in New York
  - Concept
    - Target Market - Cuisine, service, or convenience is missing?
    - Business Model ?- Franchisee or own Business?
    - Competitors?
  - Location
    - Where ? – Depends upon the Target Market, Business Model and competitors
    - Parking?
    - Visibility?
    - Neighborhood?

# Location - Parking

- People are lazy. There is just no way around it. If they have to walk a fair distance to get to your restaurant, they may opt to go somewhere else "more convenient." If you live in an urban area where everyone walks and there is public transportation, this is less of a factor. If you are thinking of a restaurant location out of town, in a place that requires you to drive to get there, you'd better have parking available. If your restaurant location doesn't come with a large parking lot, is it near a municipal parking lot for patrons to use?

# Location - Visibility

- Setting up shop in a location with either high foot or car traffic is ideal. Making your restaurant (or restaurant sign) visible to the public is like free advertising. It reminds them that your restaurant exists and they should stop by for dinner sometime.

# Competition - Know Your Neighbours

- When looking for a restaurant location, consider who else is doing business in the neighbourhood. Are there already half a dozen restaurants with the same concept as yours? Is the area busy or full of empty storefronts? Successful businesses attract other successful businesses.

# Location – Off the Beaten path

- Many restaurants are located off the beaten path and do quite well. But choosing to open a restaurant out of town, in a remote area is a gamble. Customers might visit for special occasions, but not on a regular basis.

# Location - Zoning Ordinances

- Some locations are obviously in commercial zones, such as busy downtowns and developed strips of highway. Other locations may be on the fringes of a commercial and or residential zone. Find out if the building is properly zoned for a restaurant. Some towns prohibit the sale of alcohol within so many feet of a church or house of worship, while other towns still maintain “dry” ordinances left over from prohibition.

# Why Finding the Population Base Is Important

- You might assume that you know enough about a particular location if you're opening in your own hometown or a local neighbourhood. You might think that doing any further research is unnecessary. This can be a costly mistake.
- Really digging into the numbers in your area, from housing values, average household income to average age, then contrasting this information with the number of competing restaurants in the area, will help you determine the best type of restaurant to open.
- You might tailor your concept to millennial customers rather than a baby boomer population if the average age in the area is 27.

# Location – Nearby Points of Interests

- ***Institutions and Attractions***
- Find out if there any big businesses or attractions, either presently in the area or planning to come in, that will draw lots of people to the location. For example, a sports stadium or major medical facility will attract thousands of visitors from outside the local area, all of whom will want to eat at some point.



# Data Sources

# Open Data – NYC

- Open Data is a veritable source of openly available data for New Yorkers that is produced and used by City government.
- Existing Restaurants
  - <https://data.cityofnewyork.us/Health/DOHMH-New-York-City-Restaurant-Inspection-Results/rs6k-p7g6>
- Parking lots
  - <https://data.cityofnewyork.us/City-Government/Parking-Lots/e2f7-cs7i>
  - <https://data.cityofnewyork.us/Business/parking-garage-list/5bhr-pjxt>
- Zoning
  - <https://data.cityofnewyork.us/City-Government/Zoning-GIS-Data-Shapefile/kdig-pewd>

# Additional Data Sources

- About New York
  - [https://en.wikipedia.org/wiki/New\\_York\\_City](https://en.wikipedia.org/wiki/New_York_City)
  - [https://en.wikipedia.org/wiki/Economy\\_of\\_New\\_York\\_City](https://en.wikipedia.org/wiki/Economy_of_New_York_City)
  - [https://en.wikipedia.org/wiki/Portal:New\\_York\\_City](https://en.wikipedia.org/wiki/Portal:New_York_City)
  - [https://en.wikipedia.org/wiki/Cuisine\\_of\\_New\\_York\\_City](https://en.wikipedia.org/wiki/Cuisine_of_New_York_City)
- Neighbourhoods
  - [https://geo.nyu.edu/catalog/nyu\\_2451\\_34572](https://geo.nyu.edu/catalog/nyu_2451_34572)

# References

- These links actually were very helpful in collating and collecting information for understanding the business domain
  - <https://www.thebalancesmb.com/how-to-find-out-the-population-base-of-an-area-2888660>
  - <https://www.fundera.com/blog/starting-a-restaurant>
  - <https://www.thebalancesmb.com/before-you-choose-a-restaurant-location-2888548>
  - <https://www.thebalancesmb.com/choosing-restaurant-location-2888543>

# WEEK 2

The following slides will be updated while completing the week 2 of the capstone project.

Methodology

Notebook Link

# Results



Discussions

# Conclusions

# References