

Opening Café in London

Coursera Capstone Project
IBM Applied Data Science Capstone



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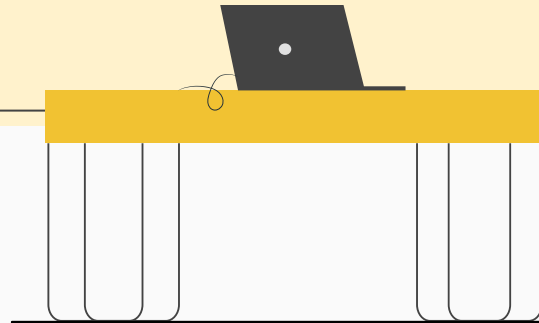
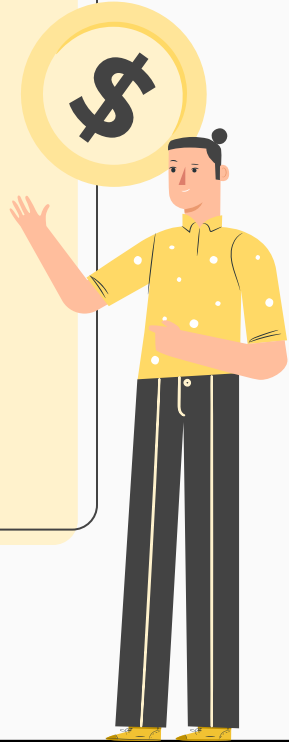
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INTRODUCTION

Café is one of the most visited places for people to eat, work, study, or just hangout with friends. Because of the reason, there are opportunities for person or maybe company to open Cafe business. Opening a Cafe requires deep knowledge of the location, business plan, and of course the coffee. In terms of location, opening a Cafe is a tricky process that will determine whether the Cafe able to attract customer around the area to visit or not able to compete with other restaurants.



BUSINESS PROBLEM

- Location of the Café is one of the important decisions for someone or company
- Analysis for location one by one takes lot of effort and budget

Question:

“Where would you recommend the location around London to open a Cafe for someone or some company?”

DATA



List of neighborhoods in London.
(https://en.wikipedia.org/wiki/List_of_areas_of_London)



Coordinates (Latitude and Longitude) of the Neighborhoods



Venue Data from Neighborhood Area

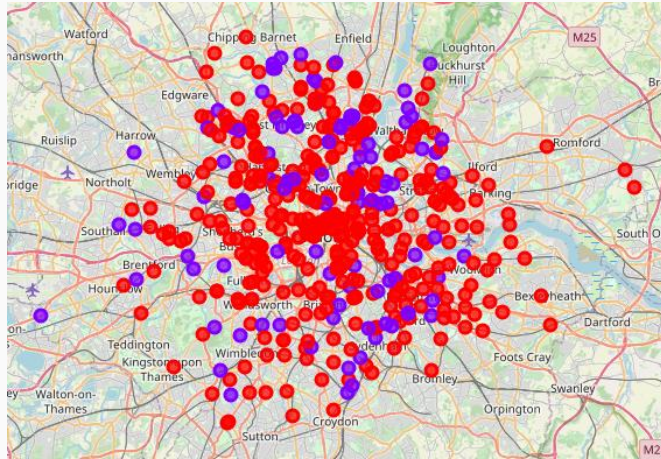
METHODOLOGY

1. Web scraping Wikipedia page to obtain neighborhood list in London
2. Get coordinate of those neighborhood using Arcgis Geocoder
3. Using Foursquare API to get venue data related from around neighborhood
4. Group the data by neighborhood and taking mean of the frequency of occurrence from each venue category
5. Filter venue category by Café
6. Perform Kmeans clustering on the data filtered and grouped
7. Visualize the cluster in map using Folium library

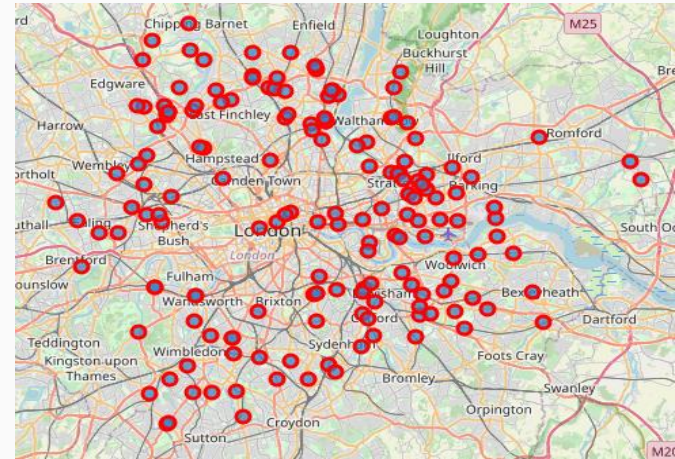
RESULTS

The results from the KMeans clustering show that there are 2 cluster of neighborhoods based on the frequency of occurrence for Cafe:

1. Cluster 0 : Neighborhoods with moderate number of Cafes
2. Cluster 1 : Neighborhoods with high number of Cafes



Cluster of London Neighborhood based on the frequency of Café



Great Neighborhood to open a new Café in London

LIMITATION & SUGGESTION

1. Include other factors such as type of district in the neighborhood, income of people in the surrounding area and other foods and beverages business that could influence the location decision of a new Café
2. With the enhancement and complexity of the future data, it requires more complex machine learning algorithm to perform the analysis
3. this project made use of the free Sandbox Tier Account of Foursquare API that came with limitations as to the number of API calls and results returned. Future research could make use of paid account to bypass these limitations and obtain more results.

CONCLUSIONS

Answer to Business Question:

The neighborhoods in cluster 0 are the most preferred locations to open a new Café



The findings of this project will help someone or company that want to capitalized the opportunities in food and beverages business to open a new Cafe on high potential locations without worrying about high competition due to many Cafés have been opened.

THANKS

