

IBM Applied Data Science Capstone



Opening a Mexican restaurant in London, UK.

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Business Problem

- ▶ The location of the Mexican restaurant is one of the most important decisions that will determine whether the restaurant will be a success or a failure.
- ▶ Objective: Analysing and selecting the best locations in the city of London, UK to open a new Mexican restaurant.
- ▶ This project is a good proposal as the city has only a few Mexican restaurants and there are many people who enjoy Mexican cuisine and culture.
- ▶ Business question:
 - ▶ In the city of London, UK, if a property developer is looking to open a new Mexican restaurant, where would you recommend that they open it?

Data

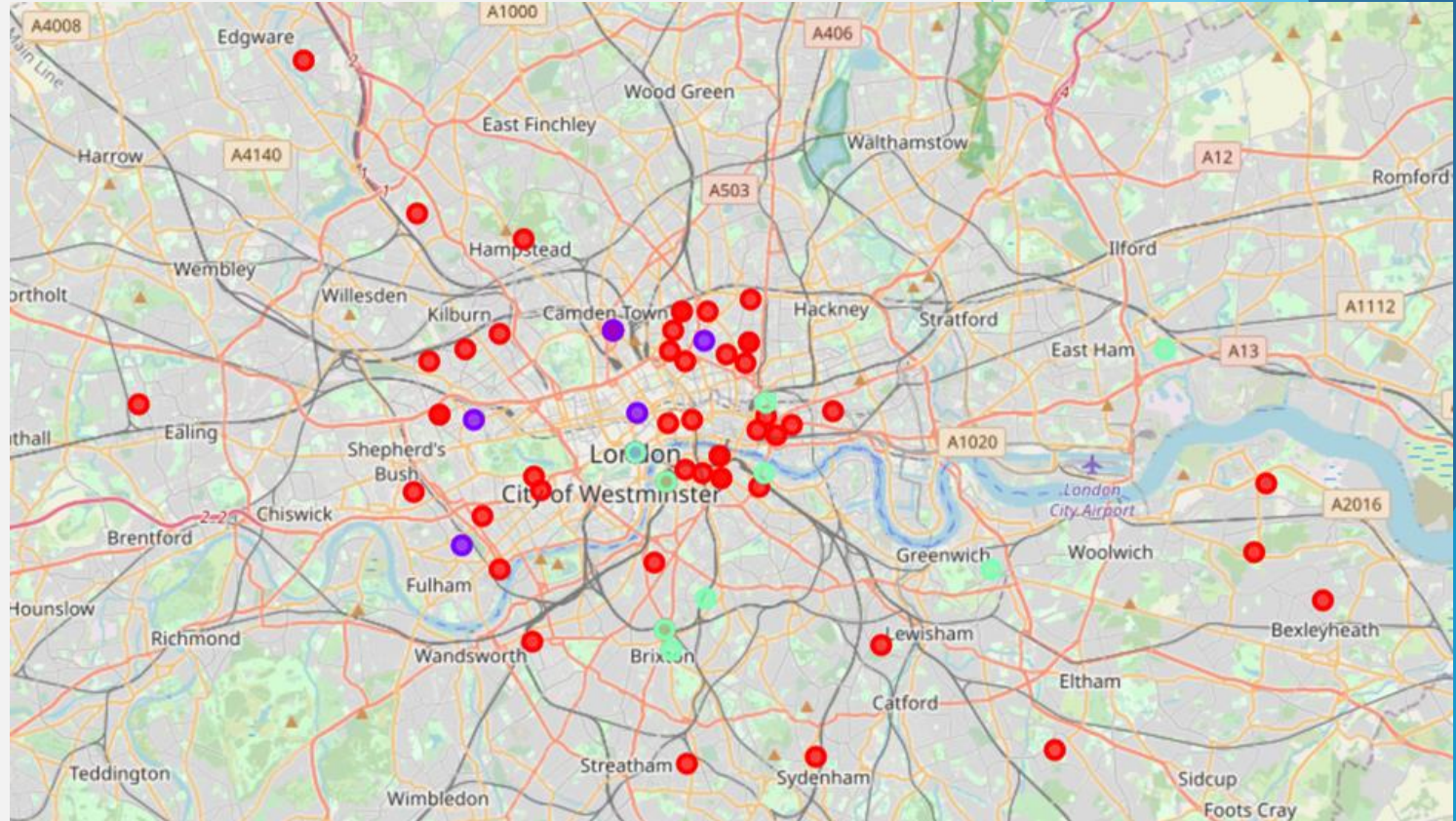
- ▶ Data required:
 - List of Neighbourhoods in London
 - Latitude and longitude coordinates of the neighbourhoods
 - Venue data, particularly data related to Mexican restaurants
- ▶ Sources of data
 - Wikipedia page for neighbourhoods (https://en.wikipedia.org/wiki/List_of_areas_of_London)
 - Geocoder package for latitude and longitude coordinates
 - Foursquare API for venue data

Methodology

- ▶ Web scraping Wikipedia page for neighbourhoods list
- ▶ Get latitude and longitude coordinates using Geocoder
- ▶ Use Foursquare API to get venue data
- ▶ Group data by neighbourhood and taking the mean of the frequency of occurrence of each venue category
- ▶ Filter venue category by Shopping Mall
- ▶ Perform clustering on the data by using k-means clustering
- ▶ Visualize the clusters in a map using Folium

Results

- ▶ Categorized the neighbourhoods into 3 clusters :
 - Cluster 0: Neighbourhoods with no number of Mexican restaurants.
 - Cluster 1: Neighbourhoods with low number to no existence of Mexican restaurants.
 - Cluster 2: Neighbourhoods with high concentration of Mexican restaurants.



Discussion

- ▶ Most of the Mexican restaurants are concentrated in the central area of the city.
- ▶ The highest number is in cluster 2 whereas there are no Mexican restaurants in cluster 0.
- ▶ Cluster 1 has a low concentration of Mexican restaurants in the neighbourhoods.
- ▶ There are still plenty of space to open more Mexican restaurants since there are not much competition, but let's not underestimate the established ones.

Recommendations

- ▶ Open a new Mexican restaurant in the neighbourhoods of cluster 0 with little to no competition.
- ▶ Avoid neighbourhoods in cluster 1 and 2, they already have a Mexican restaurant close even though they don't have more than one, but it's better to avoid the competition.
- ▶ Select Greenwich, Blackfriars or Woodford to open the restaurants, these neighbourhoods have the advantage of being close to the centre of London and being well connected to important landmarks of highways, besides not being included in cluster 1 and 2 where there is competition.

Conclusion

- ▶ Answer to business question: The neighbourhoods in cluster 0 are the most preferred locations to open a new Mexican restaurant, and more specifically Greenwich, Blackfriars or Woodford because of their strategic location.
- ▶ Findings of this project will help the relevant stakeholders to capitalize on the opportunities on high potential locations while avoiding unsuitable areas in their decisions to open a new Mexican restaurant in London.