

Predicting the Best Place to Open a Restaurant in London, England

Nikita Roy

June 30, 2019

1. Introduction/Business Problem

1.1 Background

London, England is the largest city and capital of the United Kingdom, which means it is a cultural and political epicenter. A large variety of people and cultures make up London. It has a rich history with many cultural landmarks and museums as well as many modern businesses, vendors, and opportunities for growth and expansion. Therefore, opening a new business in London can result in major profit, if all factors are considered well.

1.2 Business Problem

A businessperson wants to open a brand-new restaurant in London. In order to do so, they have to consider many factors that describe London, including its demography, venues and corresponding locations, cuisines, potential competitors, the current status of the market, and many others.

As of now, the most important decision the businessperson needs to make is regarding the location and the cuisine of the restaurant. As such, it is important to extract location information about London and its venues in order to consider the factors mentioned earlier.

1.3 Interest

The businessperson would need to have this analysis performed in order to make preliminary decisions about the restaurant, such as finding an exact location and cuisine. These decisions are important in order to determine the restaurant's target audience (potential consumers), costs of supplies and ingredients, and the necessary staff.

Other restaurateurs would definitely be interested in this information to see where in London would be the best places to open a restaurant or even to see how different factors would play a role in making these decisions.

2. Data Information

2.1 Data Sources

The list of all the boroughs in London, along with their coordinates, are here: https://en.wikipedia.org/wiki/List_of_London_boroughs. As for venue information, that data can be

extracted and leveraged using the Foursquare API. Using all of these datasets together can result in a potential location and cuisine.

2.2 Data Cleaning

Scraping the data from the Wikipedia was done using pandas read_html function. I chose only to scrape the columns with the name of the borough, its population, and coordinates. Since I decided to consider the City of London as a borough, I had to add that data to the already-existing data for the rest of the boroughs.

The major change I had to make to the data was splitting the Coordinates variable into Longitude and Latitude values, and then converting from degrees-minute-second notation to decimal notation.

Once that was done, the dataset of the London Boroughs was ready.

3. Methodology

I started by visualizing the map of London with the boroughs superimposed on top, before using Foursquare API to extract venue information nearby all of the boroughs. This venue information was stored into a dataset and then subsetting it based on terms that can be contained in the Venue Category variable.

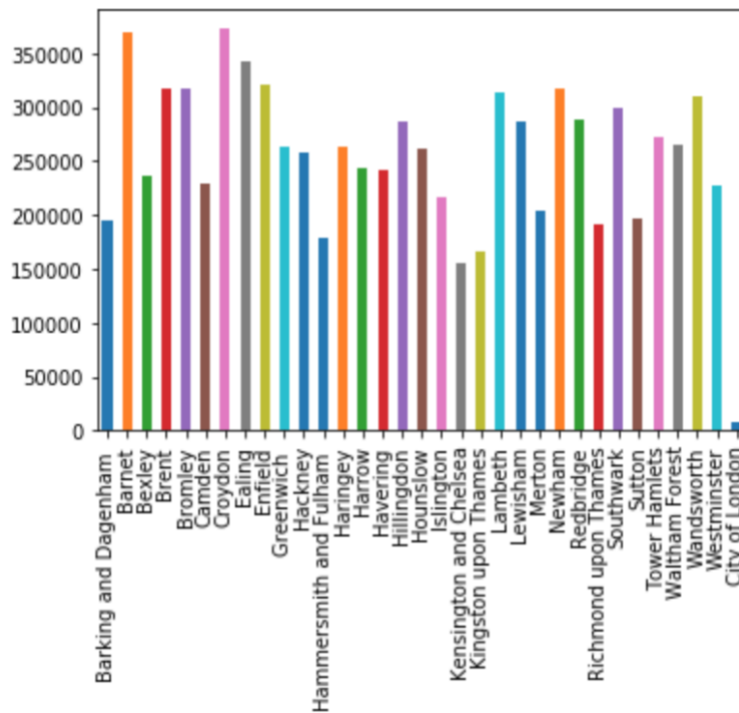
I subsetting the data so that the resulting London Restaurants dataset had Venue Categories that contained “Restaurant”, “Spot”, “Place”, “Steakhouse”, “Joint”, “Buffet”, “Café”, and “Diner.”

Finally, using the borough dataset, I determined which boroughs were the most populous, and examined the distribution (frequencies) of different cuisines in those boroughs.

4. Results

I saw that Croydon, Barnet, and Ealing are the three most populous boroughs in London.

According to the London Restaurants dataset, Croydon had a relatively even distribution of different types of restaurants, which indicates a good variety. Barnet, however, only had 2 Cafés, and Ealing had a bit of a larger number of restaurants than Croydon, which would make competition more likely between restaurants and would hinder the growth of the business.



```
In [19]: london_restaurants.groupby(['Borough', 'Venue Category']).size()
```

```
Out[19]: Borough Venue Category
Barnet Café 2
Bexley Chinese Restaurant 1
      Fast Food Restaurant 2
      Italian Restaurant 2
      Portuguese Restaurant 1
      Sandwich Place 1
Brent American Restaurant 3
      Asian Restaurant 1
      Brazilian Restaurant 1
      Burger Joint 1
      Café 1
      Fast Food Restaurant 2
      Indian Restaurant 2
      Italian Restaurant 3
      Latin American Restaurant 1
      Pizza Place 1
      Portuguese Restaurant 1
      Restaurant 1
```

Croydon	Asian Restaurant	2
	Breakfast Spot	1
	Burger Joint	1
	Burrito Place	1
	Café	1
	Caribbean Restaurant	1
	Greek Restaurant	1
	Indian Restaurant	1
	Korean Restaurant	1
	Malay Restaurant	1
	Mediterranean Restaurant	1
	Pizza Place	1
	Portuguese Restaurant	1
	Restaurant	1
	Spanish Restaurant	1
	Sushi Restaurant	1
	Thai Restaurant	1
Ealing	Asian Restaurant	1
	Burger Joint	2
	Café	3
	Caribbean Restaurant	1
	English Restaurant	1
	Fast Food Restaurant	1
	French Restaurant	1
	Greek Restaurant	1
	Italian Restaurant	3
	Persian Restaurant	1
	Pizza Place	2
	Polish Restaurant	1
	Portuguese Restaurant	1
	Ramen Restaurant	1
	Salad Place	1
	Sandwich Place	1
	Southern / Soul Food Restaurant	1
	Spanish Restaurant	1
	Sushi Restaurant	1
	Thai Restaurant	1

5. Discussion/Conclusion

The restaurants in Croydon all have unique cuisines, and there is a moderate number of them compared to those of other regions. Opening a restaurant in Croydon with a unique cuisine that would not compete with the restaurants already there, but is possibly successful in other boroughs, may be a good approach.

For example, restaurants with category "Sandwich Place" seem relatively common in other boroughs, but there is none in the dataset for Croydon.

Therefore, I would suggest opening a sandwich restaurant in Croydon, since that type of restaurant would be unique to the area and contribute greatly to the variety of its restaurant culture.