

THE BEST LOCATION TO OPEN A RESTAURANT IN MADRID

IBM Coursera - Capstone Project

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1. Business Problem

One of our Italian clients wants to expand their business throughout Europe. The client has experience with restaurants in maritime cities. His first restaurant outside Italy is in Valencia, in the El Carme neighborhood. He wants to open his second restaurant in the capital of Spain, Madrid.

The client has obtained very good results in Valencia and now wants to know how saturated is the Italian restaurant market in Madrid. He is looking for a neighborhood with characteristics very similar to those of El Carme.

Madrid is the most populous city of Spain. The city has almost 3.3 million inhabitants and a metropolitan area population of approximately 6.5 million. It is the third-largest city in the European Union (EU), surpassed only by London and Berlin. The average of international tourists each month is more than 500.000.

Problem:

Which neighborhood in Madrid has similar characteristics as those of El Carme to eat well and with the possibility of doing good business?

2. Data

The data for this project will be taken from three different pages and we will use the Foursquare API that will provide us a list of venues with their specific location based on the coordinates Latitude and Longitude and a radius.

- Madrid Neighborhood Names and geographic coordinates. It will be used to obtain the neighborhood location info.
 - We will use the data available on this page: https://datos.madrid.es/
- Valencia Neighborhood Names and geographic coordinates. It will be used to obtain the neighborhood location info.
 - We will use the data available on this page:
 - http://mapas.valencia.es/lanzadera/opendata/Barrios/SHAPE
- Madrid Census data for population and income
 We will use the data available on this page: http://www-2.munimadrid.es/CSE6/jsps/menuBancoDatos.jsp

As mentioned before, we will use the Foursquare API. Foursquare is a database of more than 105 million places worldwide and an API that enables location data. The purpose of Foursquare is to help discover and share information about businesses and attractions like for example entertainment, drinking and dining venues. The API can be used to query their database in order to find information about location, tips, reviews, etc.

Data collection

2.1 Madrid Neighborhood Names and geographic coordinates.

We will use the public series of datasets provided by the Madrid government. The zip file from the following link: https://datos.madrid.es/egob/catalogo/200078-10-distritos-barrios.zip will be converted to a dataframe with geopandas python library.

2.2 Valencia Neighborhood Names and geographic coordinates

It will be used to obtain the neighborhood location info. We will use the data available on this page:

http://mapas.valencia.es/lanzadera/opendata/Barrios/SHAPE

2.3 Madrid Census data

The data is provided by the municipality data bank: http://www-2.munimadrid.es/CSE6/jsps/menuBancoDatos.jsp from where we will use the statistics of population and income.

Data comparison

2.4 Foursquare API

We will use the "explore" endpoint from the API. We will get a JSON with a detailed information for the request. We will use the coordinates of each venue to locate it with the corresponding neighborhood. Then we will categorize the neighborhoods and use the information to make the comparison between the neighborhoods from Madrid and the el Carme.

- 3. Methodology
- 4. Results
- 5. Discussion
- 6. Conclusion