EVALUATING THE BEST LOCATION FOR A NEW RESTAURANT IN MILAN

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1. Introduction

The restaurant business is among the most interesting ones at the present day, but it also involves big risks: newly set up restaurants require large capital investments and operational costs and, if a new outlet fails to break even in the first few years, the probability that the venue will close will largely increase, thereby incurring huge losses.

Among the many factors which may influence the success of the new venture, its location will undoubtedly play an essential role. Therefore, it is imperative for a newcomer to perform a thorough analysis of the future location before the investment is made.

The primary objective of this analysis is to help future investors make an informed and optimal decision about selecting a location for a new restaurant business in Milan, Italy, before actually opening the new outlet, helping them taking a calculated risk.

Since Milan's Expo in 2015, the city has enjoyed a remarkable gastronomic boom, with many new restaurant openings. So, the main idea to solve our business problem is to use the available information about already existing restaurants and neighborhood demographics to look for new opportunities in various locations within the city.

2. Data

I was able to obtain data about the restaurants currently existing in Milan by leveraging Foursquare's Global Database. Foursquare built an accurate dataset of location data by crowd-sourcing it, using the people's voluntary input to complete any missing information they had.

I leveraged the Explore endpoint from Foursquare's Places API to obtain data for all the food category venues in Milan, effectively filtering out all the places from other categories which are not in scope with this analysis (see the entire categories list here).

After cleaning up the API's output, I got a clean dataset containing the features I needed:

Restaurant Name	Restaurant Category ID	Longitude	Latitude

As per the neighborhood demographics data, luckily the government of the city of Milan has joined the Open Data movement and has made many datasets available to the general public. I was able to find data about the current neighborhood demographic here, and a projection of neighborhood population here.

The first dataset contained information about the population of the neighborhoods of Milan for the period 2011-2018, while the second one contained an estimate of the neighborhood population for each year up until 2038.

Finally, using the official geospatial data delimiting each neighborhood (also available from the Milan Open Data portal here), for each restaurant found from the Foursquare API I was able to get the corresponding neighborhood.

So, I had now all the data I needed to begin analyzing the relation between the restaurant locations and the density of the population of the restaurants' neighborhoods.