

BATTLE OF NEIGHBORHOODS QUITO - ECUADOR

IBM APPLIED DATA SCIENCE CAPSTONE PROJECT

Opening a Sweet Bakery in Quito - better business opportunity based on location & competition

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Introduction

1. Background

Ecuador officially known as the Republic of Ecuador is a country in northwestern South America, border by Colombia on the north, Peru on the East and South and the Pacific Ocean on the West.

Quito is the capital of Ecuador, the country's most populated city with around 1'874,000,000 population. Quito is located in the highlands of Ecuador at an elevation of 2,850 metres (9,350 ft) above sea level; it is the second-highest official capital city in the world.

The historic centre or Old Town of Quito is one of the largest, least altered and best-preserved in the Americas.

Quito doesn't have specific either extreme seasons. It can be really warm/hot and rainy the same day. People are very traditional and love having afternoon coffees every day which usually is accompanied with bread and pastries. So you can find Bread bakeries in every neighborhood however the bakeries specialized in sweet pastries are not very common.

Quito tourism numbers exceeded half a million visitors in the first nine months of 2019, 48% of all arrivals in Ecuador, which is 5% more than the number of visitors recorded in the first nine months of the previous year.

For entrepreneurs looking to invest in business like specialty sweet bakeries, cafe and bake shops would be a great opportunity considering the locals and tourist visitors.

2. Business Problem

Given that Quito is a very traditional city and that as I mentioned before there is Bread stores (Bakeries) in almost each neighborhood, we need to figure out what will be the best location to open a Sweet Bakery (Sweet pastries) business. We will be focusing our audience to crowded and busy locations as they are the "new" downtown and the Old Town.

To choose the best location of the city we need to compare the neighborhoods particularly the "new" downtown where most business of the financial district are located, and the historic center or

Old Town. We will need to find out where are most business located and their categories to find out the best business opportunity.

Data

I will briefly describe the two neighborhoods selected for the comparison.

1. Quito downtown

This is the modern Quito, with high-rise buildings, shopping centers, the financial district, and upper-class residential areas and some working-class housing areas. This modern area is the city's entertainment hub. It is a meeting point for both residents and tourists. Its cosmopolitan atmosphere is expressed in a wide variety of culinary, artistic, and cultural options, and the large number of hotels, inns, travel agencies, shops, bars, and discothèques that light up when the sun sets.

2. Quito Historic Centre – Old Town

Quito has the largest, least altered, and best-preserved historic center in the Americas. This center was, together with the historic center of Kraków in Poland, the first to be declared a World Heritage Site by UNESCO on 18 September 1978. There are about 130 monumental buildings (which host a variety of pictorial art and sculpture, mostly religiously inspired, in a multi-faceted range of schools and styles), and 5,000 properties registered in the municipal inventory of heritage properties.

3. Foursquare API:

I will be using the Foursquare API to explore the nearby venues for both neighborhoods to find the most accurate place to open the Shop. I looked for venues up to **2km** range from the latitude and longitude of neighborhoods

From the foursquare API, I will be retrieving the following for each nearby venue:

- Name
- Category
- Latitude
- Longitude

Methodology

In order to accomplish the comparison between the 2 locations I used Python Library Nominatim, including the city location as a parameter.

I utilize Python Folium Library to visualize geographic details of Quito Downtown and Quito Old Town, using latitudes and longitudes to get the visuals of venues for each location.

To be able to use Foursquare API and look for the nearby venues we had to create a foursquare developer account to have a personal API key.

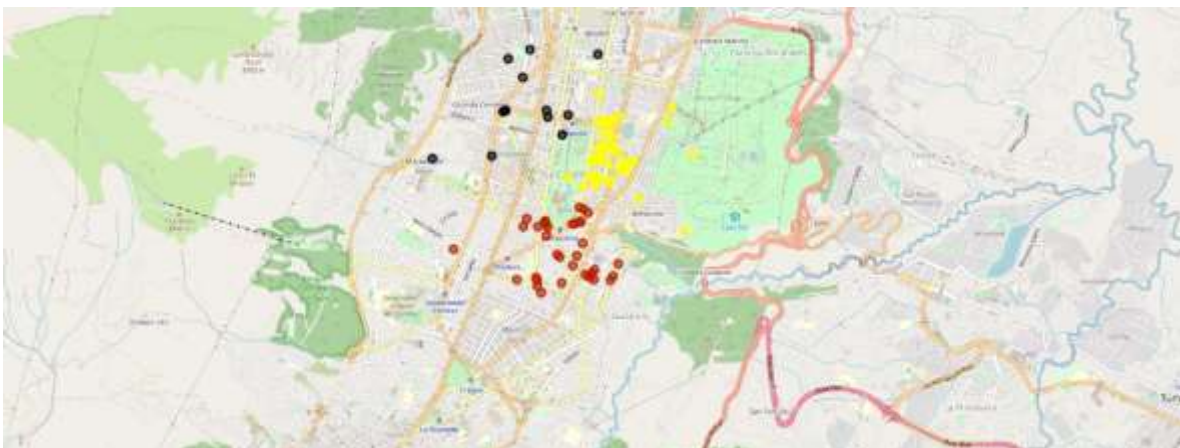
I used Foursquare API to explore the venues for each location. I decided to limit to 100 venues so it can be easy to deal with and compare, in a 2000 meters (2 Km) radius. I used Matplotlib to plot the different venues for each location.

After getting the nearby venues, I filtered by unique categories in the two locations, and I created clusters per each location to visually see the venues density in order to have a more in-depth analysis.

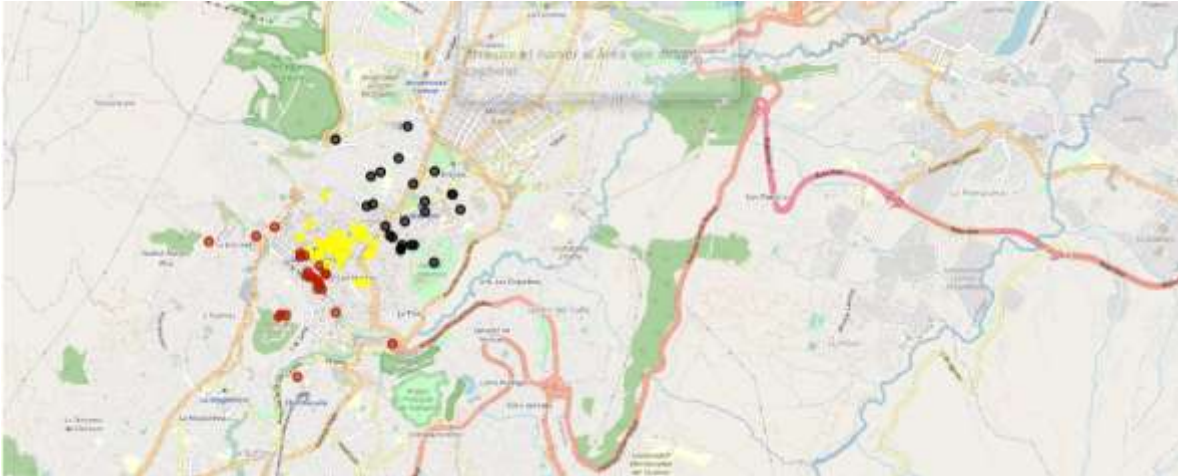
Finally I counted the number of venues that where interesting for the purpose of knowing which location bring the best business opportunity.

Results

1. Quito Downtown

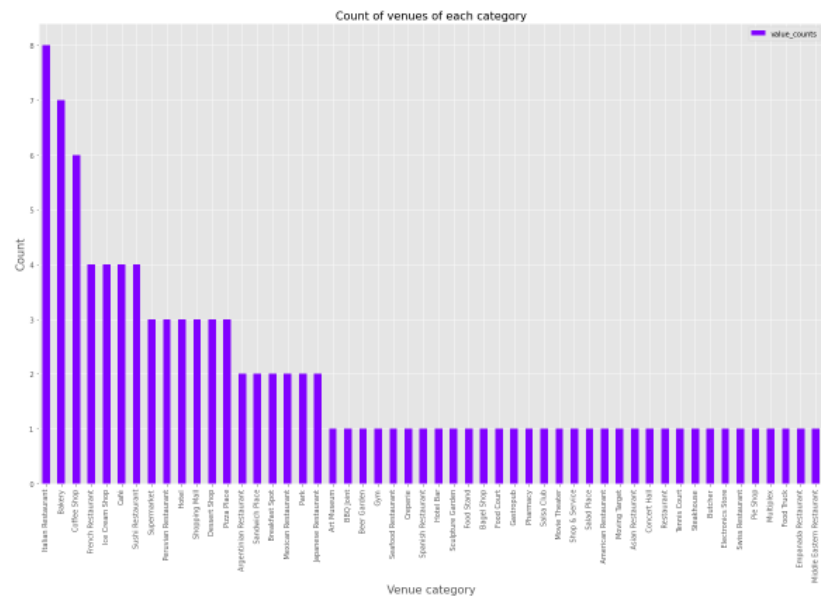


2. Quito Historic Center – Old Town

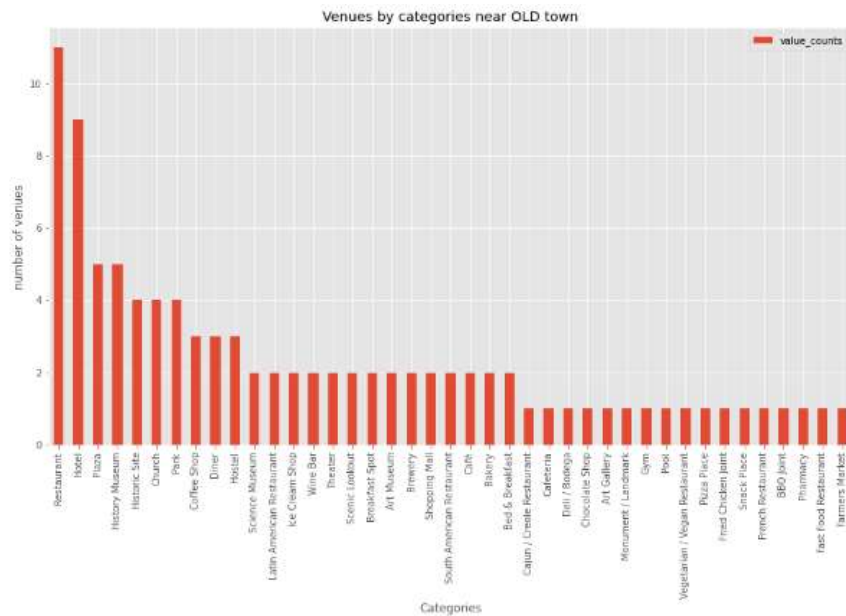


We put the categories in a separate data frame to be able to visualize them in a bar chart.

3. Quito Downtown



4. Quito Historic Center – Old Town



As we see above, there are lots of different venues and categories. We are only interested in analyzing the Bakery, Coffee Shop, Café, Dessert Shop, Pie Shop, Creperies for each location as these venues might be considered as “Sweet Bakeries”.

5. Quito Downtown

The results are 42 “Sweet Bakeries” or similar in Downtown.

Out[31]:

	value_counts
Bakery	7
Coffee Shop	8
Café	4
Dessert Shop	3
Pie Shop	1
Bakery	7
Coffee Shop	8
Café	4
Dessert Shop	3
Pie Shop	1

6. *Quito Historic Center – Old Town*

The results are only 7 “Sweet Bakeries” or similar in Old Town.

Out[49]:

	value_counts
Coffee Shop	3
Bakery	2
Café	2

Conclusion

Based on the analysis of the number of "Sweet Bakeries" in Quito Downtown and Quito Old Town, we noticed that there are 42 in Downtown and only 7 in Old Town. Because Quito is considered as a very touristic city and considering that the Old Town is the place to go for tourist and local people we recommend that the best place to open a Sweet Bakery is Old Town. However although the competition is fewer in Old Town there are a lot of business and offices in Downtown and lots of people searching for a nice place to go for Coffee and Sweet pastries.

Ultimately and based on the previous analysis of competition and the business opportunity we recommend to open the Sweet Bakery in Quito Old town.

Resources

- ❖ <https://en.wikipedia.org/wiki/Quito>
- ❖ <https://github.com/JessiFM/Capstone-Project-JFM/blob/master/Final%20Project%20-%20%20Applied%20Data%20Science%20Capstone%20.ipynb>