

# **Where to open fast food place?**

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June, 2020

## **1. Introduction**

### **1.1 Background**

Market analysis is a compilation of data on customers, competitors, and the market in which we want to develop, in general, which will serve for its subsequent study. From the analysis of these data, other information is obtained such as market trends, the positioning of the company, the product, among others.

Data from Raddar emphasize that what consumers are most looking for are fast foods, which in the country represent 15% of the total market, with hamburgers taking the biggest slice, with 32%. To the list are added chicken, with 26% of preferences, pizza, with 10% and grills, with 6%, typical 3%, sandwiches 2%.

The choice of menu for those who eat lunch in any establishment is concentrated in the fast food sector, showing that 53% of Colombians prefer this.

### **1.2 Problem**

In this case, it will be developed to understand the distributions of different businesses and to foresee the impact of locating a fast food place in a commercially active area with little presence of this service in differences zones in Bogota Colombia

## **2. Data acquisition and cleaning**

### **2.1 Data sources**

On the following web page is the list of postal codes in Bogota Colombia, <https://worldpostalcode.com/colombia/bogota/d-c>

The sites were obtained considering the distribution by postal code and using geolocation to obtain these samples, the Foursquare API was used to obtain the remaining information

## 2.2 Data cleaning

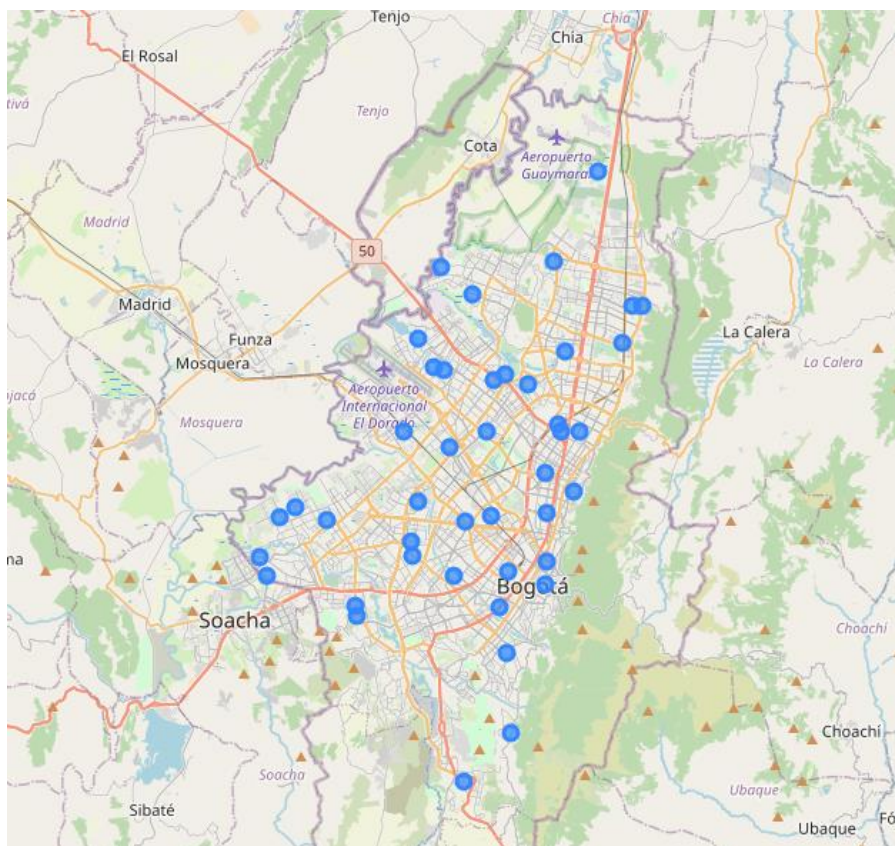
The data downloaded from multiple sources were combined in a table, the data extracted from the website by reading the html code and the data obtained through the Foursquare API were combined to be able to have a reference of which sites of interest were within a certain geographical area

There are several problems with data sets. First, some postal codes could not be identified by the geolocator, thus giving erroneous values, thus it was decided to maintain reasonable longitude and latitude values for the location of Bogota. This caused that around 80% of the Bogota geographical area could not be evaluated or studied.

## 3. Exploratory Data Analysis

### 3.1 Postal zone chart.

The distribution of the circles within the map covers most of the city, however, it is observed that there are places where it is observed that it is necessary to indicate the existence of a postal area, this given that the geolocator could not obtain all the values of longitude and latitude.



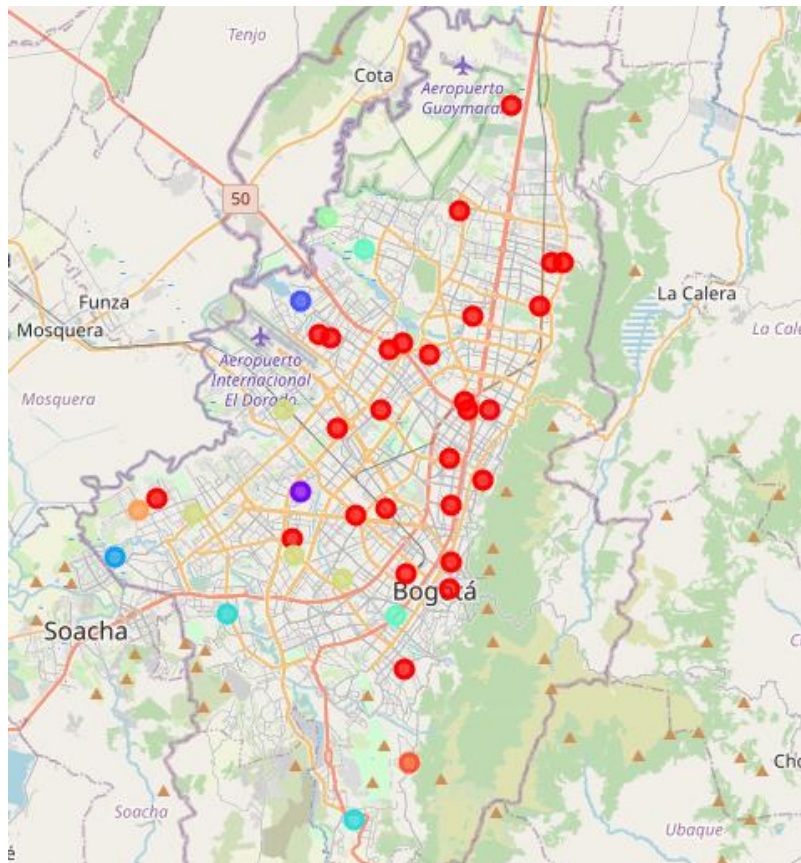
### 3.2 Common Venues.

Having the places for each zone with the help of the API geolocator, it is possible to establish which are the sites with the greatest presence by neighborhood.

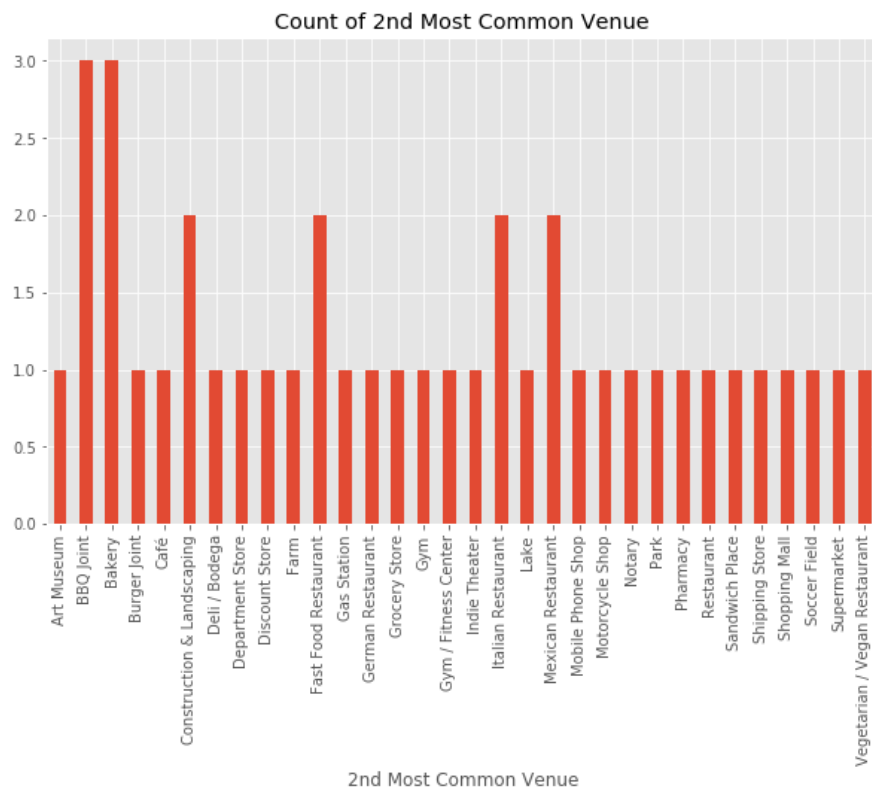
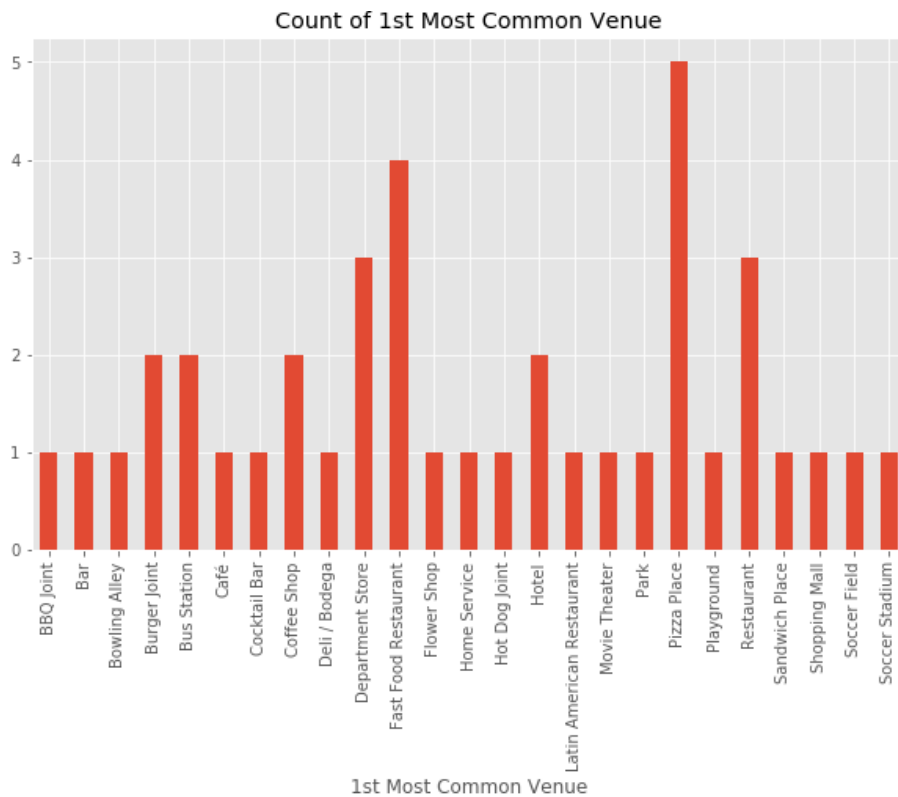
	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue
0	Acacias Usaquen, Bella Suiza, Bosque De Pinos ...	Fast Food Restaurant	Burger Joint	Italian Restaurant	Bakery
1	Acevedo Tejada, Campin Occidental, Campo Eucar...	Burger Joint	Gym	Music Venue	Caribbean Restaurant
2	Aeropuerto El Dorado, Atahualpa, Brisas Aldea ...	Hotel	Bakery	Pizza Place	Restaurant
3	Alamos	Mexican Restaurant	Department Store	Fast Food Restaurant	Lake
4	Alcazares Norte, Doce De Octubre	Music Venue	Pizza Place	German Restaurant	Burger Joint
5	Alcazares, Baquero, Benjamin Herrera, Colombia...	Department Store	Motorcycle Shop	Sandwich Place	American Restaurant
6	Alfonso Lopez, Armenia, Banco Central, Belalca...	Mexican Restaurant	Food & Drink Shop	Bookstore	Coffee Shop
7	Almirante Colon, Altos De Chozica, Andes Norte...	Latin American Restaurant	Convenience Store	Restaurant	Gym
8	Alqueria La Fragua, Alqueria La Fragua Norte, ...	Park	Restaurant	Fast Food Restaurant	Seafood Restaurant
9	Altos De Suba, Atenas, Britalia, Cantagallo, C...	Coffee Shop	Fast Food Restaurant	Park	Pharmacy

## 4. Predictive Modeling

Classification methods are used to find clusters within the data and thus be able to determine some pattern that allows us to select some characteristic that can be useful for deciding.



As can be seen in the graphs, the most common places are part of the food sector.



The two most optional sectors to place a restaurant or fast food place are part of the following clusters, considering their relatively central position and with a lower presence of businesses of this type

Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue
Barcelona, Batallon Caldas, Centro Industrial,...	Soccer Stadium	Soccer Field	Clothing Store	Electronics Store

Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue
Betania, Brasil, Brasilia, Canaveralejo, Canav...	Movie Theater	Shopping Mall	Yoga Studio	Flea Market
Colseguros, Eduardo Santos	Shopping Mall	Mobile Phone Shop	Department Store	Clothing Store

## 5. Conclusions

The use of these methods can help to make decisions regarding different problems, however, it is necessary to accompany them with other strategies that allow a better understanding of the problem, so that other techniques and tools can be used to help give greater clarity from different points of view and can provide a better supported solution.