

Finding the best spot for a vegan restaurant in Curitiba, Brazil

1. Introduction

The vegan food market is one of the most exponential markets today. According to Grand View Search, the global vegan food market size was valued at USD 12.69 billion in 2018 and is projected to expand at a CAGR of 9.6% from 2019 to 2025. Increasing awareness about the benefits of following vegan diet is the key factor responsible for the growth of this market. North America, Europe, and Asia Pacific, in particular, have a large percentage of vegan population.

In Brazil, this is not different. Even though the country is one of the largest exporters of animal meat in the world, among its population, the consumption of vegetarian and vegan food is in an exponential rise.

The problem to be resolved, in my case, is a client's. My client desires to open a vegan restaurant in Curitiba, Brazil, my hometown. As a large city (more than 2 million inhabitants), the population is distributed among 75 neighborhoods, each one with its characteristics.

The vegan community is a new one in Curitiba, Brazil. Even though it is a rising community, it is not very easy to find where this community gathers around. So the challenge was to find out where is the best spot to open this restaurant.

As my client is going to invest a large amount of money opening this restaurant, we couldn't make a mistake in this mission.

2. Data

The first part of the data used to solve the problem was a list of the neighborhoods in the city of Curitiba, Brazil. As there was no ready list for the job, I had to copy it from Wikipedia, and then add the geographic coordinates one by one, by searching them in <https://www.openstreetmap.org/>.

The second part of the data used to solve the problem was the Foursquare's database, available from its API, which allows the users to download a .json file with the information requested. For this particular job, I needed the most popular venues in each of neighborhoods of Curitiba.

3. Methodology

The methodology used was an exploratory data analysis, following these two main goals:

3.1. A neighborhood full of restaurants

First of all, I needed to find a target neighborhood, where people go out to eat. This is an elementary issue, because people are not going to eat in a restaurant they can't find.

One of the things about vegan restaurants is that not everyone who's gonna eat there is necessarily a vegan person. One might even not be a fan of eating only vegetables, but it generally does not go against one's beliefs and convictions.

Actually, once a person proves vegan food, if it is a tasty one, it is very probable that she is gonna eat it once again. So one thing that might raise the chances of a vegan restaurant to be visited, specially by non-vegan people, is to put it just among other kinds of restaurants.

That being said, it is also important to remember that, vegan or not vegan, a good restaurant hardly is gonna be empty if there's a lot of people walking around it when it's time to eat. That is why my first choice was to find, in Curitiba, a neighborhood where the most frequent venue was restaurants.

3.2. A neighborhood with some vegan identity

The other important thing when searching for a spot where a vegan restaurant would be a good idea was to find any sort of "vegan identity".

After finding the neighborhoods in the city which were crowded with restaurants, the objective was to find one where there would be a higher probability of having certain kind of people walking around.

For this particular filter, I've thought about other venues where this community would also gather around. And I thought of no other better than a Farmers Market.

One thing is for sure: whoever considers herself a vegan person, will, essentially, eat plant based food. So probably, that same person will once in a while

go to a Farmers Market to buy fruits and vegetables to be able to have something to eat at home.

And there was the solution: once I found one of the most restaurant-filled neighborhoods in Curitiba that contained, also, Farmers Markets, that would be the spot to open the vegan restaurant.

3.3. The exploratory data analysis

Using the Data Science skills learned, I've come up with a solution by, first, loading to a Jupyter Notebook a .csv file where there were all the neighborhoods in Curitiba, with their respective geographic coordinates.

Then, I used the Foursquare API to find, in each neighborhood, all the available venues. Once these were listed, it was possible to find which kinds of venues were more frequent in each of the city's neighborhoods.

With that information in hand, the next step was to filter the neighborhood which contained, at the same time, the characteristics mentioned above.

	1	2	3	4	5	6	7	8	9	10
Neighborhood										
Abranches	Concert Hall	Department Store	Soccer Field	Farm	Exhibit	Food Court	Food & Drink Shop	Food	Flower Shop	Flea Market
Agua Verde	Pizza Place	Brazilian Restaurant	Beer Store	Dance Studio	Bakery	Martial Arts Dojo	Soccer Field	Burger Joint	Sandwich Place	Breakfast Spot
Ahu	Restaurant	Pizza Place	Steakhouse	Burger Joint	Italian Restaurant	BBQ Joint	Café	Bar	Sandwich Place	Dessert Shop
Alto Boqueirao	Gym / Fitness Center	Stadium	Irish Pub	Supermarket	Women's Store	Exhibit	Food & Drink Shop	Food	Flower Shop	Flea Market
Alto da Gloria	Café	Brazilian Restaurant	Buffet	Soccer Stadium	Chocolate Shop	Coffee Shop	Yoga Studio	Portuguese Restaurant	Chinese Restaurant	Clothing Store
Alto da XV	Restaurant	Brazilian Restaurant	Bar	Bakery	Dessert Shop	Gym / Fitness Center	Gym	Chinese Restaurant	Sporting Goods Shop	Juice Bar

4. Results

And after this method, I found out the best spot to place the vegan restaurant: Santa Felicidade (Portuguese for “Holy Happiness”), a neighborhood full of restaurants and farmers markets.

Out[21]:

	1	2	3	4	5	6	7	8	9	10
Neighborhood										
Santa Felicidade	Italian Restaurant	Bakery	Café	Farmers Market	Snack Place	Ice Cream Shop	Chocolate Shop	Bar	Gift Shop	Restaurant

5. Discussion

After all the work done, and the filtering which resulted in finding the “Santa Felicidade” neighborhood as the right spot for opening the vegan restaurant, it is easy to tell that this is the right choice, once, observing the table above, one may find that the top 10 most frequent venues in the mentioned neighborhood are food related.

Santa Felicidade is, actually, the most touristic restaurant neighborhood in Curitiba, so its restaurant are always full of people.

6. Conclusion

One can make the conclusion that, using Data Science skills, the best neighborhood for opening a vegan restaurant in Curitiba, Brazil, is Santa Felicidade.