The Battle of Neighborhoods in Brussels

1. Introduction

Brussels is a multicultural and multilingual city in the heart of Europe where more than one-third of the population is foreign. Thanks to this ever-growing foreign population, Brussels has a thriving expat community. According to statbel.fgov.be, Brussels gathered 180 different nationalities in 2018.

Dining in Brussels is always a delight and the city offers an extensive variety of cuisines for all the foodies. The city that houses numerous world-famous attractions is also famous for its gastronomy which is considered to be one of the best in the entire European region. For instance, to highlight some influences on the Belgian cuisine we can name the Italian, French, Asian, Romanian and Turkish cuisines.

Given so many options to eat and drink in Brussels you might wonder whether you can become a restaurateur. In this project, we investigate the key to be successful with a new restaurant opening. Our results are based on a careful study of several datasets involving many factors such as location, target market, competition, and so on. This data analysis will make your restaurant succeed and be sustainable through time.

2. Problem Statement

Our goal is to find the best location for a new restaurant in Brussels. As mentioned earlier, there is a great variety of restaurants in the city. Then it is clear that in order to succeed in this area we must follow a strategical plan. In this scenario, we highlight some points that we need to take into account :

◇ Location ;

◇ Demographic Considerations ;

◇ Target Market ;

◇ Competition.

The classic real estate saying "location, location, location" applies to choosing a site for a new restaurant. Location influences the success or failure of a restaurant in a host of ways, from attracting enough initial customer interest to being convenient to visit. But the restaurant's location is also interrelated to other factors, some of which are changeable, while others are not. A great restaurant location, for instance, must have an affordable rent, or it does not matter how much foot traffic the site receives.

Choosing the right location for a new restaurant is important, not to say critical. We need to establish what is most important to our business : being close to the market, good transport links, price or neighbourhood. The availability of specific technology and facilities (in industrial zones, for instance) may also be critical.

The location ties the cuisine and concept to local demographic mixes of residents and people who work in the area. Therefore, we should choose the right area by studying the region before committing to any plan. Common market targets include business professionals, urban hipsters, families with children, sports enthusiasts, culture aficionados and fast-food customers.

A demographic analysis that is based on information about the patrons' backgrounds is a helpful predictor what our customers' tastes will be. This analysis helps us make an informed choice about whether our restaurant is in the right area. Basically, demographics means data about a given population. The data can include a number of categories, such as age, gender, ethnicity, religion, household size, marriage status, income and education level, just to a name a few. Demographics often tell us a lot about purchasing behaviour and dining habits.

In order to identify the exact target restaurant customer, we divide the market buyer groups that require distinct products. To do that we use data about the area of our business to segment the market into variables :

◇ Demographical (age, gender, occupation, income, household composition, etc.) ;

◇ Geographical (neighbourhood) ;

◇ Psychographic (concerning lifestyles, regardless of demographical and geographical).

We then proceed to define the target market. Here, we evaluate the attractiveness of the segments and pick the one or more we intend to hit. Roughly speaking, the target market is the types of people, who are most likely to enjoy what we want to offer.

Finally, we deal with the competition. We all know that restaurants with plenty of competitors around can create foot traffic. Thus, this can affect our revenue. It's a good idea to check out the neighbourhood to see if there are other restaurants nearby. Are there already too many restaurants in the area ? Do any of these have the same concept as ours ?

3. Target Audience

The objective of this project is to recommend the best location for opening a new restaurant in Brussels. Our target is anyone who is interested in becoming a successful restaurateur.

4. Data Analysis

In this section we give a description of the data and how it will be used to solve our problem. All the data used in our research is available on the following websites :

◇ statbel.fgov.be

◇ opendata.brussels.be

◇ data.gov.be

As part of the Open Data initiative, all these datasets available to everyone.

Once we get all the dataset in our hands we begin our analysis by doing the data wrangling and cleaning. We divide this step into four analysis dealing with the factors location, demographic considerations, target market, and competition.

We use then FourSquare API to obtain the venue data for all neighbourhoods in Brussels. In this part we will analyse the type of restaurant that makes most success. Finally, we employ the cluster analysis to identify the features, and so we can obtain the clusters. We create a new DataFrame that includes the clusters, and we proceed to visualize the resulting clusters. To get an idea of the area we use folium.map to plot the areas where the clusters are. Our last step consists in examining these clusters. In doing so, we allocate the most suitable areas for opening our restaurant.