

The Battle of the Neighborhoods - Report

1. Introduction & Business Problem:

- **Problem Background:**

The City of Berlin, is the most populous city in the Germany. It is diverse and is the financial capital of Germany. It is multicultural. It provides lot of business opportunities and business friendly environment. It has attracted many different players into the market. It is a global hub of business and commerce. The city is a major center for banking and finance, retailing, world trade, transportation, tourism, real estate, new media, traditional media, advertising, legal services, accountancy, insurance, theater, fashion, and the arts in the Germany.

This also means that the market is highly competitive. As it is highly developed city so cost of doing business is also one of the highest. Thus, any new business venture or expansion needs to be analyzed carefully. The insights derived from analysis will give good understanding of the business environment which help in strategically targeting the market. This will help in reduction of risk. And the Return on Investment will be reasonable.

- **Problem Description:**

A restaurant is a business which prepares and serves food and drink to customers in return for money, either paid before the meal, after the meal, or with an open account. The City of Berlin is famous for its excellent cuisine. It's food culture includes an array of international cuisines influenced by the city's immigrant history.

1. Central and Eastern European immigrants, especially Jewish immigrants - bagels, cheesecake, hot dogs, knishes, and delicatessens
2. Italian immigrants - Berlin-style pizza and Italian cuisine
3. Jewish immigrants and Irish immigrants - pastrami and corned beef
4. Chinese and other Asian restaurants, sandwich joints, trattorias, diners, and coffeehouses are ubiquitous throughout the city
5. mobile food vendors - Some 4,000 licensed by the city
6. Middle Eastern foods such as falafel and kebabs examples of modern Berlin street food
7. It is famous for not just Pizzerias, Cafe's but also for fine dining Michelin starred restaurants. The city is home to "nearly one thousand of the finest and most diverse haute cuisine restaurants in the world", according to Michelin.
8. Even though well - funded XYZ Company Ltd. need to choose the correct location to start its first venture. If this is successful they can replicate the same in other locations. First move is very important, thereby choice of location is very important.

- **Target Audience:**

To recommend the correct location, to XYZ Company Ltd. The objective is to locate and recommend to the management which neighborhood of Berlin city will be best choice to start a restaurant. The Management also expects to understand the rationale of the recommendations made.

- **Success Criteria:**

The success criteria of the project will be a good recommendation of borough/Neighborhood choice to XYZ Company Ltd based on Lack of such restaurants in that location and nearest suppliers of ingredients.

2. Data

One city will be analyzed in this project: Berlin City.

We will be using the below datasets for analyzing Berlin city.

Data: Neighborhood has a total of 5 boroughs and 306 neighborhoods. To segment the neighborhoods and explore them, we will essentially need a dataset that contains the 5 boroughs and the neighborhoods that exist in each borough as well as the latitude and longitude coordinates of each neighborhood.

	Borough	Neighborhood	Latitude	Longitude
0	Bronx	Wakefield	40.894705	-73.847201
1	Bronx	Co-op City	40.874294	-73.829939
2	Bronx	Eastchester	40.887556	-73.827806
3	Bronx	Fieldston	40.895437	-73.905643
4	Bronx	Riverdale	40.890834	-73.912585

3. Methodology

Business Understanding:

Our main goal is to get optimum location for new restaurant business in Berlin City for XYZ Company.

Analytic Approach:

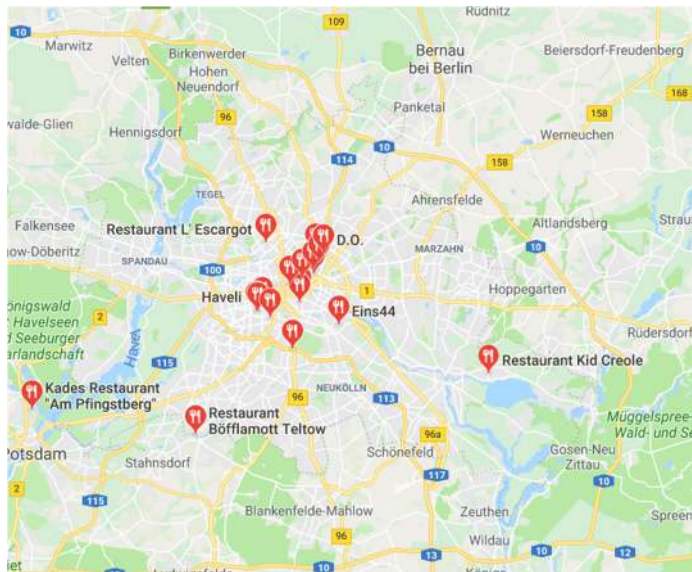
Berlin city neighborhood has various no of neighborhoods. This is done because of the following Exploratory data analysis.

Exploratory Data Analysis:

Data-: Berlin city Geographical Coordinates Data.

1. In this we load the data and explore data from file.
2. Transform the data of nested python dictionaries into a pandas data frame.
3. This data frame contains the geographical coordinates of Berlin city neighborhoods.
4. This data will have used to get Venues data from Foursquare.
5. We used geopy and folium libraries to create a map of Berlin city with neighborhoods superimposed on top.

Berlin neighborhood visualization



4. RESULTS

From this venues data we filtered and used only the restaurant data for restaurant. As we focused only on restaurants business.

Neighborhood K-Means clustering based on mean occurrence of venue category:

To cluster the neighborhoods into two clusters we used the K-Means clustering Algorithm. k-means clustering aims to partition n observations into k clusters in which each observation belongs to the cluster with the nearest mean. It uses iterative refinement approach.

5. DISCUSSION

1. There is scope to increase Farmers markets in Berlin.
2. There is scope to explore cuisines of various countries in Berlin.
3. In Berlin restaurants of cuisines of many countries are available. So, if risk can be taken with great menu on board. It also shows people love eating cuisines of various countries.

6. CONCLUSION

This analysis is performed on limited data. But if good amount of data is available there is scope to come up with better results. If there are lot of restaurants probably there is lot of demand.