

Predicting the best neighborhood to open a Friterie in Brussels

Belgium and French fries: a love story

❑ Brussels is the capital and the economic center of Belgium

- French and Flemish Communities.
- European Union institutions.
- More than 185,000 inhabitants with around 5.510,21 habitants/km².
- Thousands workers and tourists from all over the world.

❑ The French fry in Belgium

- An institution.

Business Problem

- ❑ Identify optimal neighborhoods to open a Friterie in Brussels.
- ❑ 3 criteria :
 - The number of existing friteries in each neighborhood.
 - The number of existing restaurants in each neighborhood.
 - Distance of neighborhood from Brussels center.
- ❑ Providing a clear indication of zones that involve less than three restaurants and no friture in radius of 500m.

Data

❑ Brussels boroughs and neighborhoods:

- https://fr.wikipedia.org/wiki/Mod%C3%A8le:Palette_Quartiers_de_la_ville_de_Bruxelles

❑ Brussels center and neighborhoods coordinates:

- The *nominatim* from geolocator,

❑ The number of fritures and restaurants and their respective location in the neighborhoods:

- *Foursquare* API.

4 Boroughs and 28 neighborhoods

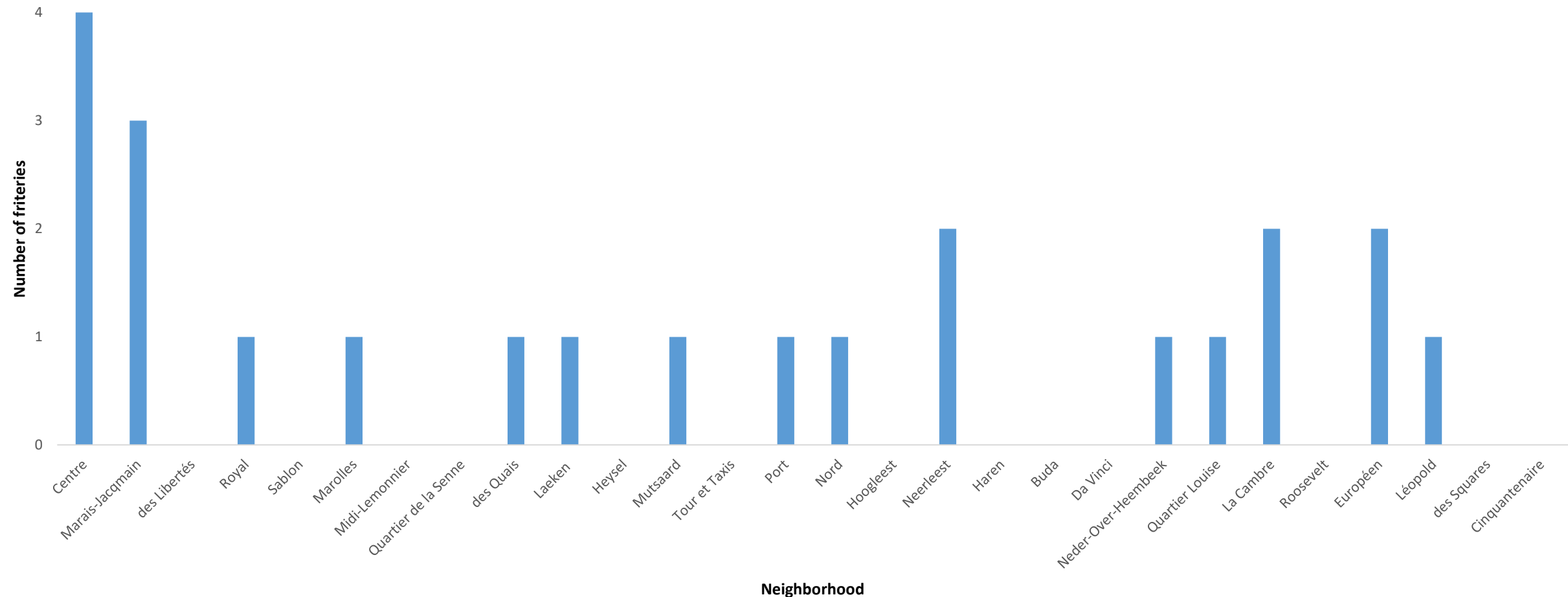


Distance between neighborhoods and Brussels center

	Postal Code	Borough	Neighborhood	Latitude	Longitude	Distances to center
0	1000	Center	Centre	50.846718	4.353221	109.525738
1	1000	Center	Marais-Jacqmain	50.853034	4.357105	820.291618
2	1000	Center	des Libertés	50.849882	4.366689	1125.978610
3	1000	Center	Royal	50.844352	4.363050	841.821817
4	1000	Center	Sablon	50.839958	4.356142	803.324866
5	1000	Center	Marolles	50.836740	4.346251	1165.039304
6	1000	Center	Midi-Lemonnier	50.843217	4.344633	625.009706
7	1000	Center	Quartier de la Senne	50.849088	4.341938	747.571882
8	1000	Center	des Quais	50.854210	4.347946	897.202954
9	1020	Nord	Laeken	50.883392	4.348713	4129.701476
10	1000	Nord	Heyssel	50.896874	4.335977	5742.870355

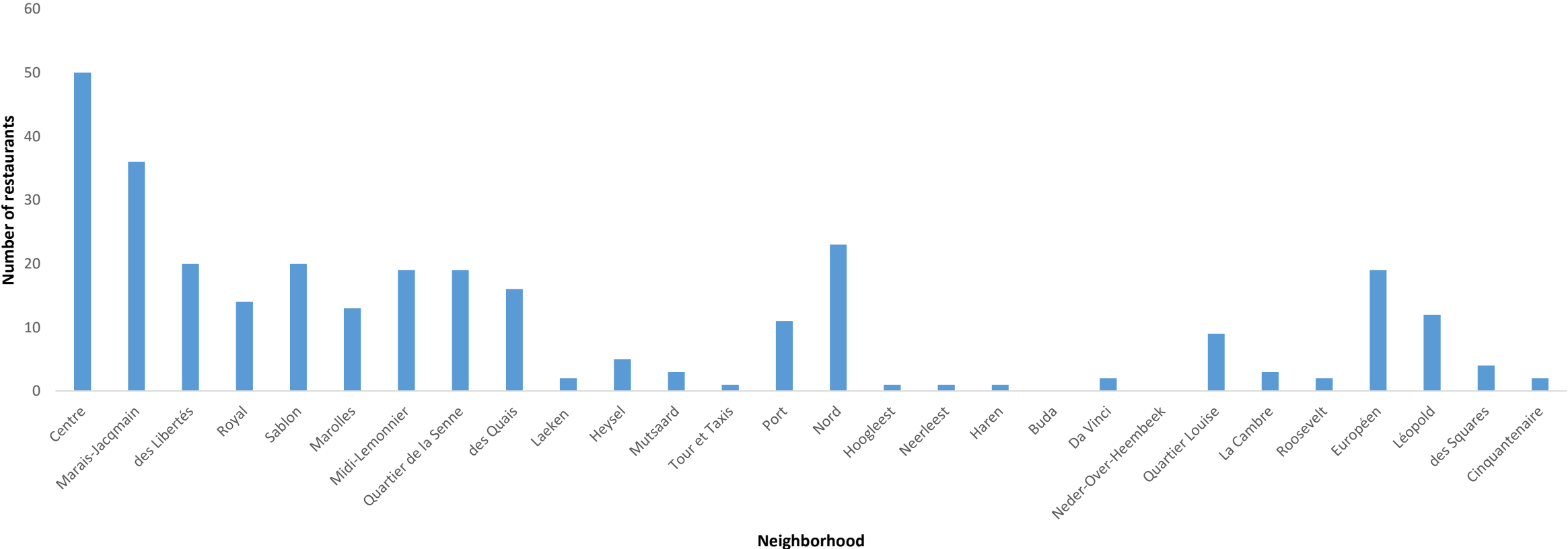
Data Analysis:

Calculation of the number of friteries in each neighborhood



Data Analysis:

Calculation of the number of restaurants in each neighborhood



Data Analysis:

Filtering

Postal Code	Borough	Neighborhood	Latitude	Longitude	Distances to center	Restaurant in area	Friterie in are
1000	Nord	Tour et Taxis	50.866598	4.348435	2255.826640	1.0	0.
1000	Nord	Hoogleest	50.887500	4.409167	6131.360230	1.0	0.
1000	Nord	Haren	50.890944	4.415755	6730.175989	1.0	0.
1000	Nord	Buda	50.905190	4.414150	7916.250241	0.0	0.
1000	Nord	Da Vinci	50.877144	4.416100	5705.641304	2.0	0.
1050	Sud	Roosevelt	50.800556	4.370833	5326.457160	2.0	0.
1040	Est	Cinquantenaire	50.841037	4.393492	3026.597180	2.0	0.

Results:

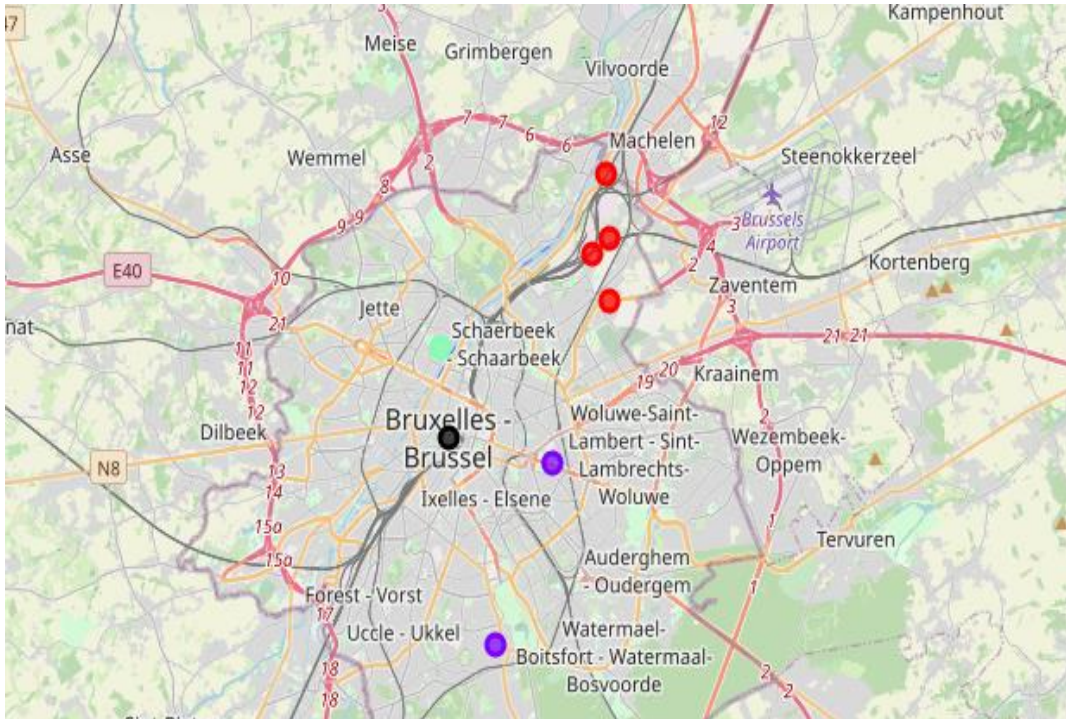
K-Means Clustering



*Number of
Clusters = 3*

Results:

K-Means Clustering



Cluster 1

Neighborhood	Restaurant in area	Friterie in area
Hoogleest	1.0	0.0
Haren	1.0	0.0
Buda	0.0	0.0
Da Vinci	2.0	0.0

*1-2 restaurants
No friterie*

Cluster 2

Neighborhood	Restaurant in area	Friterie in area
Roosevelt	2.0	0.0
Cinquantenaire	2.0	0.0

*2 restaurants
No friterie*

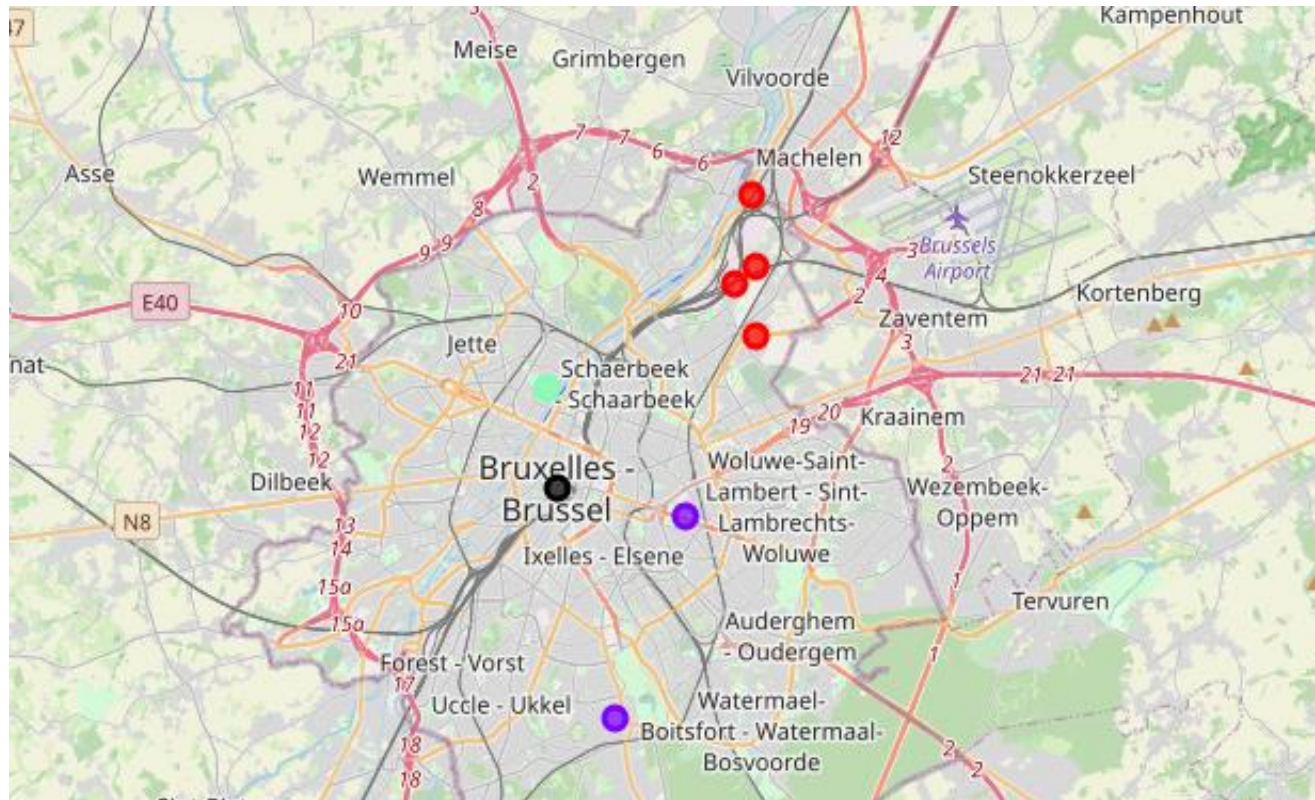
Cluster 3

Neighborhood	Restaurant in area	Friterie in area
Tour et Taxis	1.0	0.0

*1 restaurants
No friterie*

Results:

Distance between Cluster 1 and Cluster 3 from Brussels center



Cluster 1 -> Center (6.5 Km)

Cluster 3 -> Center (2.2 Km)

Discussion and Conclusion

- ❑ A great number of restaurants in Brussels, but the number of fritures is small.
- ❑ Neighborhoods in the center of Brussels include the greatest number of restaurants and fritures, whereas neighborhoods of the north, east and south include much less restaurants and fritures.
- ❑ 7 Neighborhoods from the north, east and south correspond to the two criteria: neighborhoods that involve less than three restaurants and no friture in radius of 500m.

Considering their distance from Brussels center, **Tour et Taxis** emerge as an optimal candidate to open a friture.