Coffee Shop Site Selection in Paris

Capstone Project: the Battle of Neighborhoods

Opening Coffee Shop is always a good Business

- Coffee is 107th most traded product
- French market is 13% of the European Union
- In 2015, french people consumed 366 thousand tonnes of green coffee

Data acquisition and cleaning

- Geographic data from **data.gouv.fr**: 20 boroughs and 80 neighborhoods
- Venue data are downloaded using Foursquare API
- Demographic data from **INSEE** website: *Median household income, Population density, Unemployment Rate, Preferred Sector Employee Density*
- Neighborhood dataframe: 80 records x 5 features

Number of Coffee Shops

Number of Coffee Shops per neighborhood in Paris
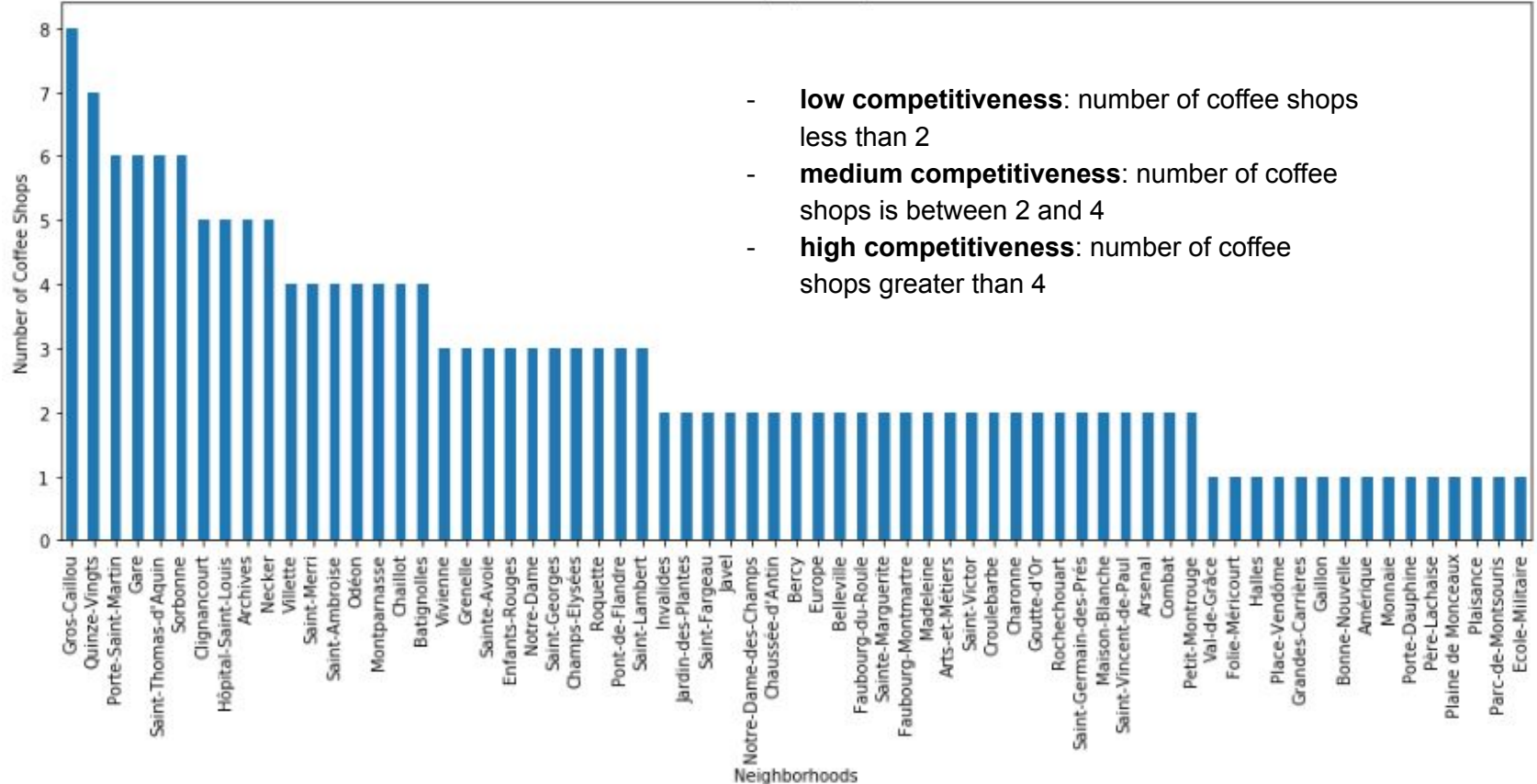
- **low competitiveness**: number of coffee shops less than 2
- **medium competitiveness**: number of coffee shops is between 2 and 4
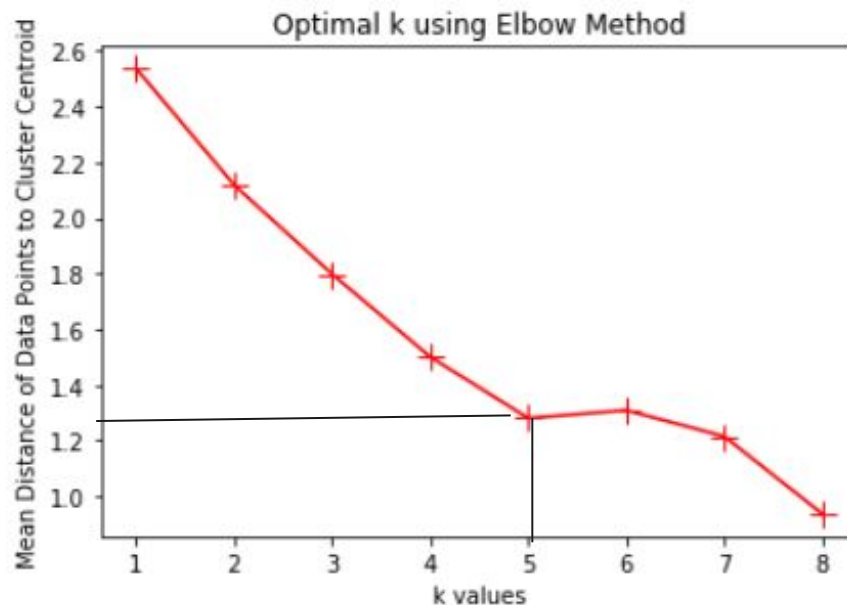- **high competitiveness**: number of coffee shops greater than 4

Preferred Sector Employee Density

Preferred Sector Employee Density

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Preferred Sector Employees/Borough Surface

Clustering Paris Neighborhoods

- **Kmeans algorithm is chosen**
- **k optimal is determined using elbow method: k = 5**
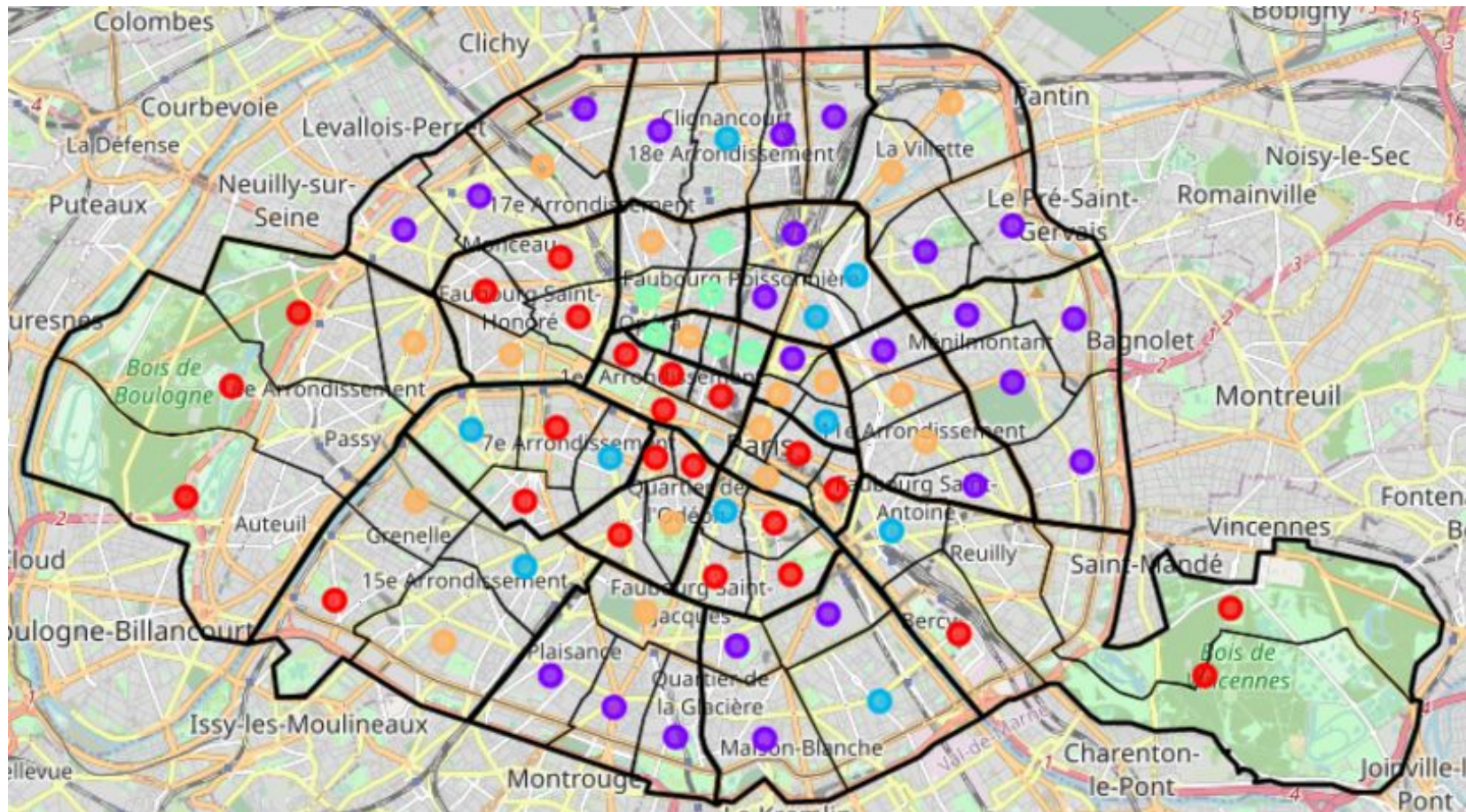
Optimal k using Elbow Method

Cluseters

- **Cluster 0: Low Competitiveness, Low Population and Preferred Sector Densities**
- **Cluster 1: Low Competitiveness, High Unemployment Rate**
- **Cluster 2: High Competitiveness**
- **Cluster 3: Low Competitiveness, High Population and Preferred Sector Densities**
- **Cluster 4: Medium Competitiveness**

Paris Map with Clusters

Rochechouart - Chaussée-d'Antin - Faubourg-Montmartre
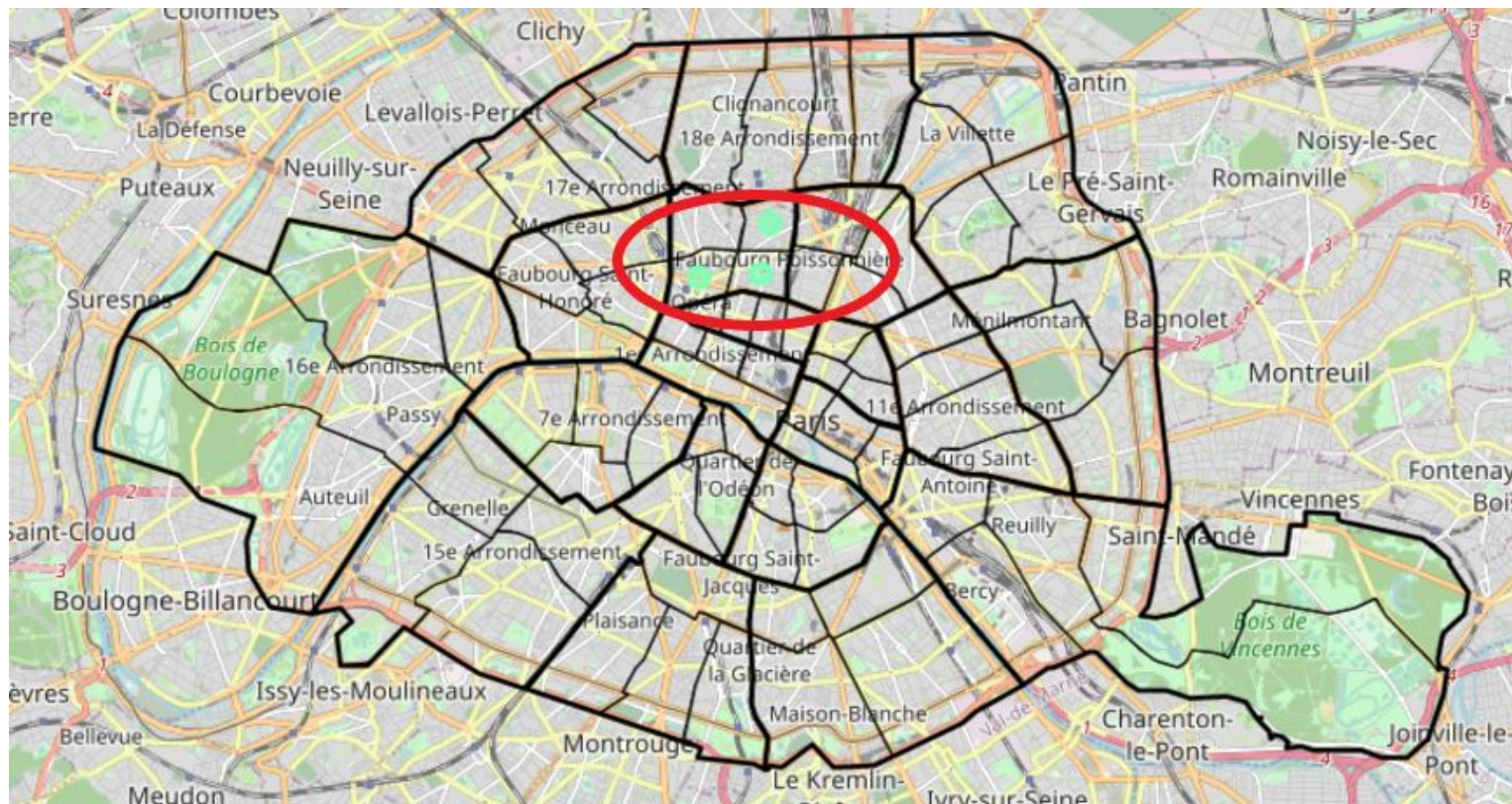
Conclusion

- Cluster Paris neighborhoods to recommend the best site for a business starter
- Analysis can be applied to any production site selection
- After choosing the neighborhood, further analysis can be performed to select the exact location