Battle of Neighborhoods Mobile Phone Shops

Coursera Capstone Project

Applied Data Science

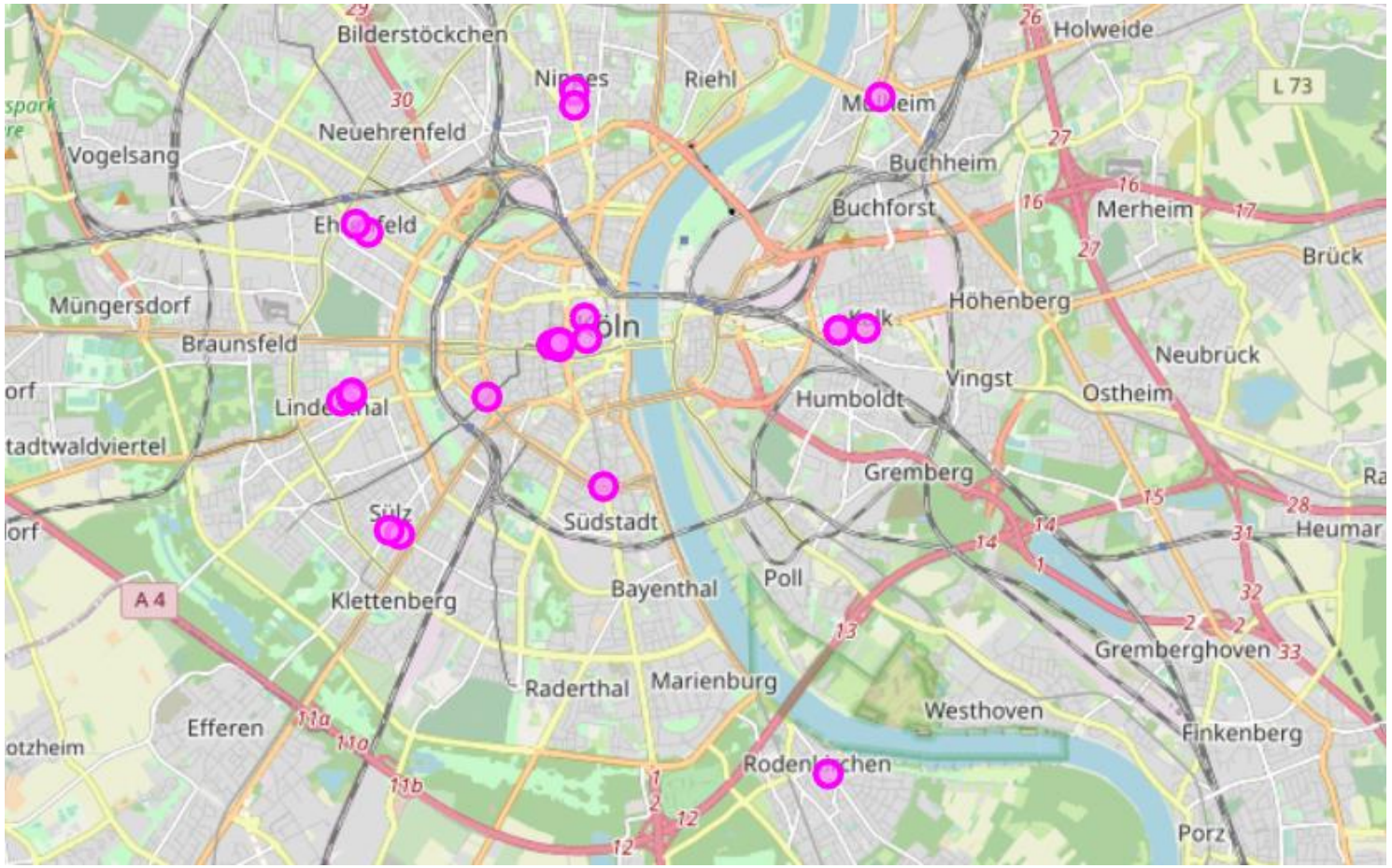
Introduction

- Selection of a location for a Point Of Sale (POS) is a key decision for any retail or service business.

- Clustering of existing Mobile Phone Shops may reveal some patterns

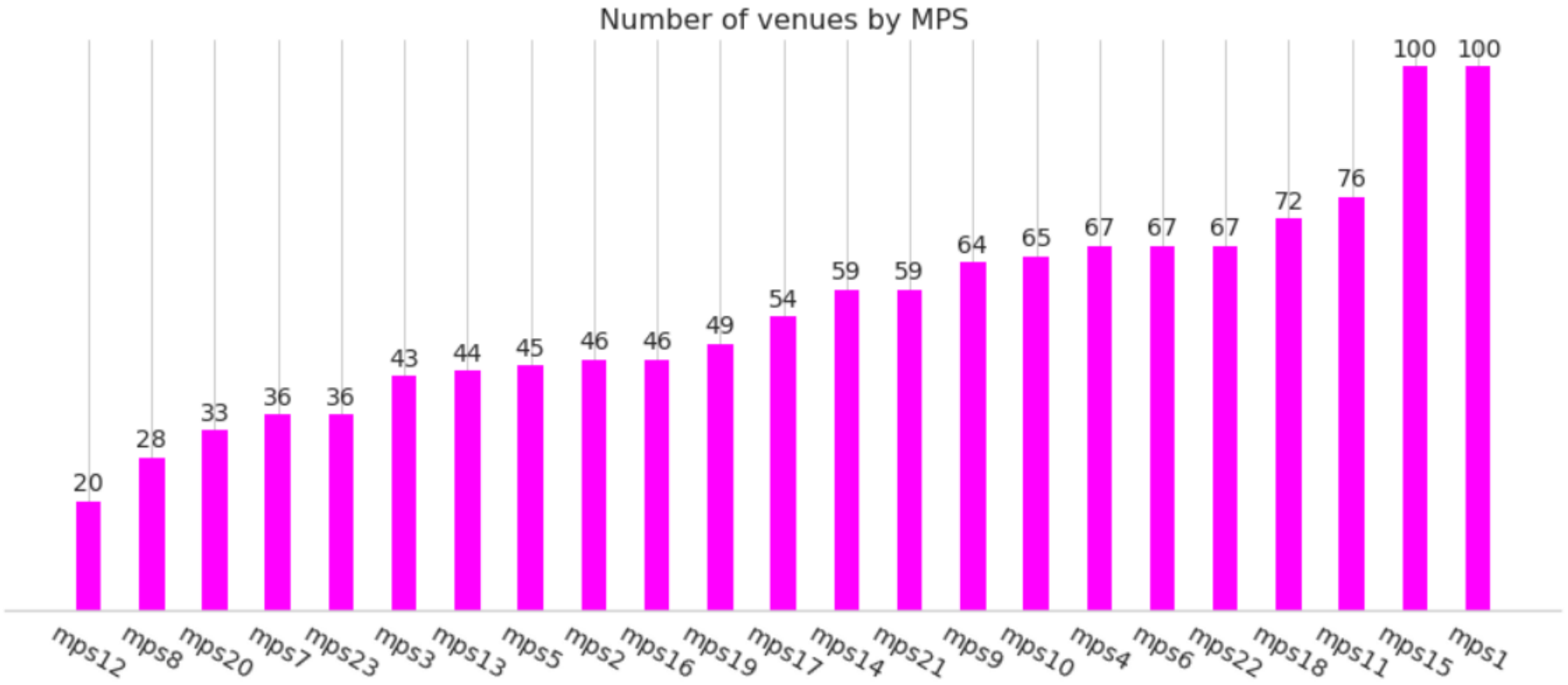
- That may be of interest of mobile operators or independent entrepreneurs

Data Scrapping & Cleaning



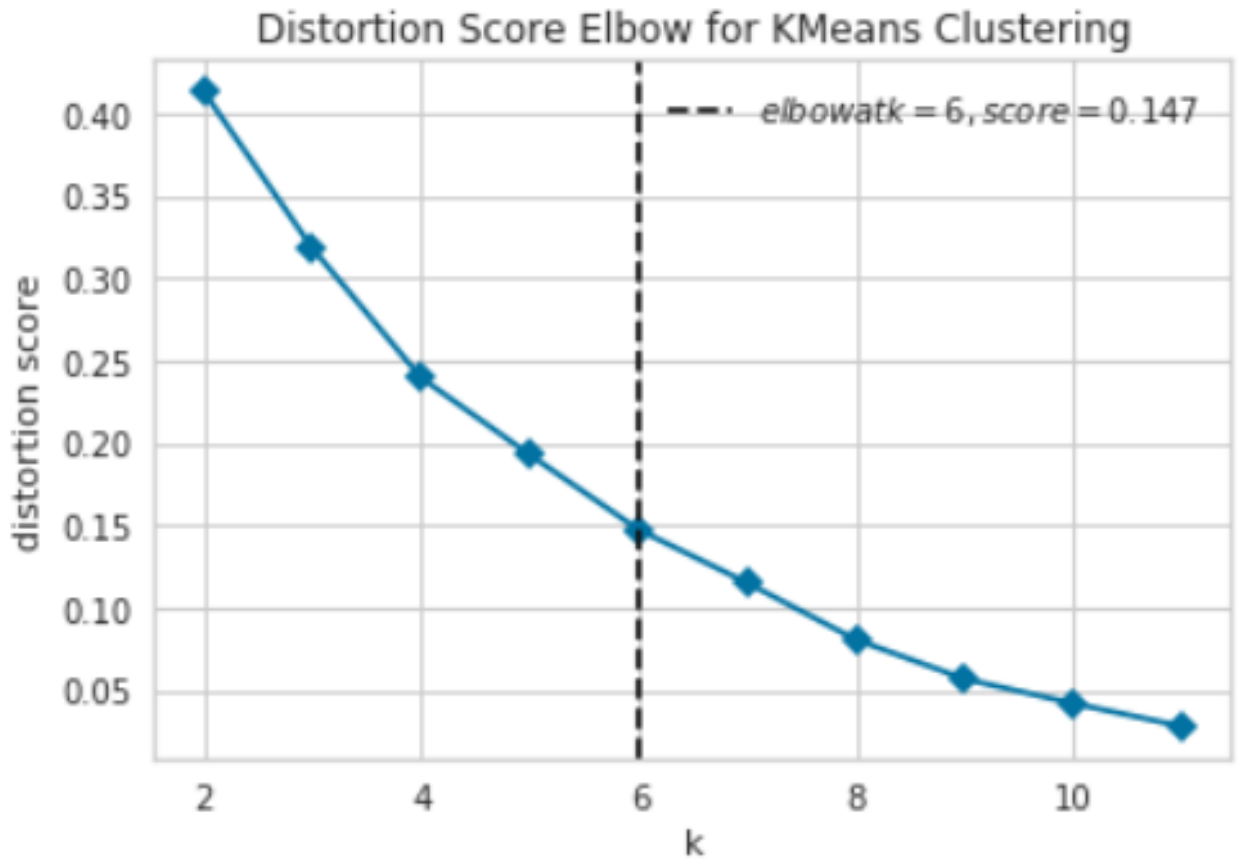
- Mobile Phone Shops within 7 km from city center
- Venue Categories limited to Mobile Phone Shops only
- Final selection of venues operated by T-Mobile, o2 and Vodafone

Data Scrapping & Cleaning



Venues explored within radius od 500 from each MPS

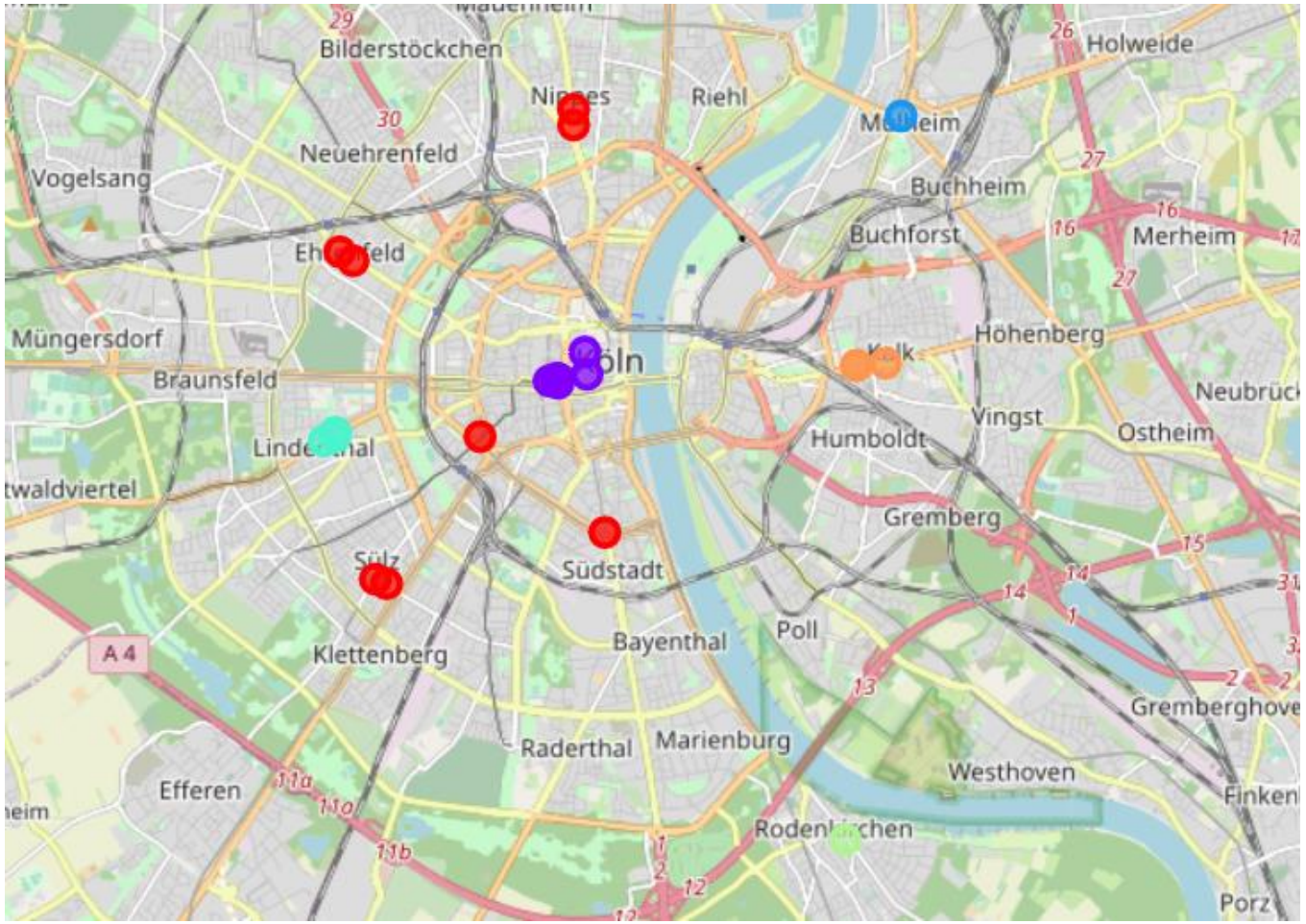
Results



Clustering based on Kmeans algorithm requires a specified number of clusters

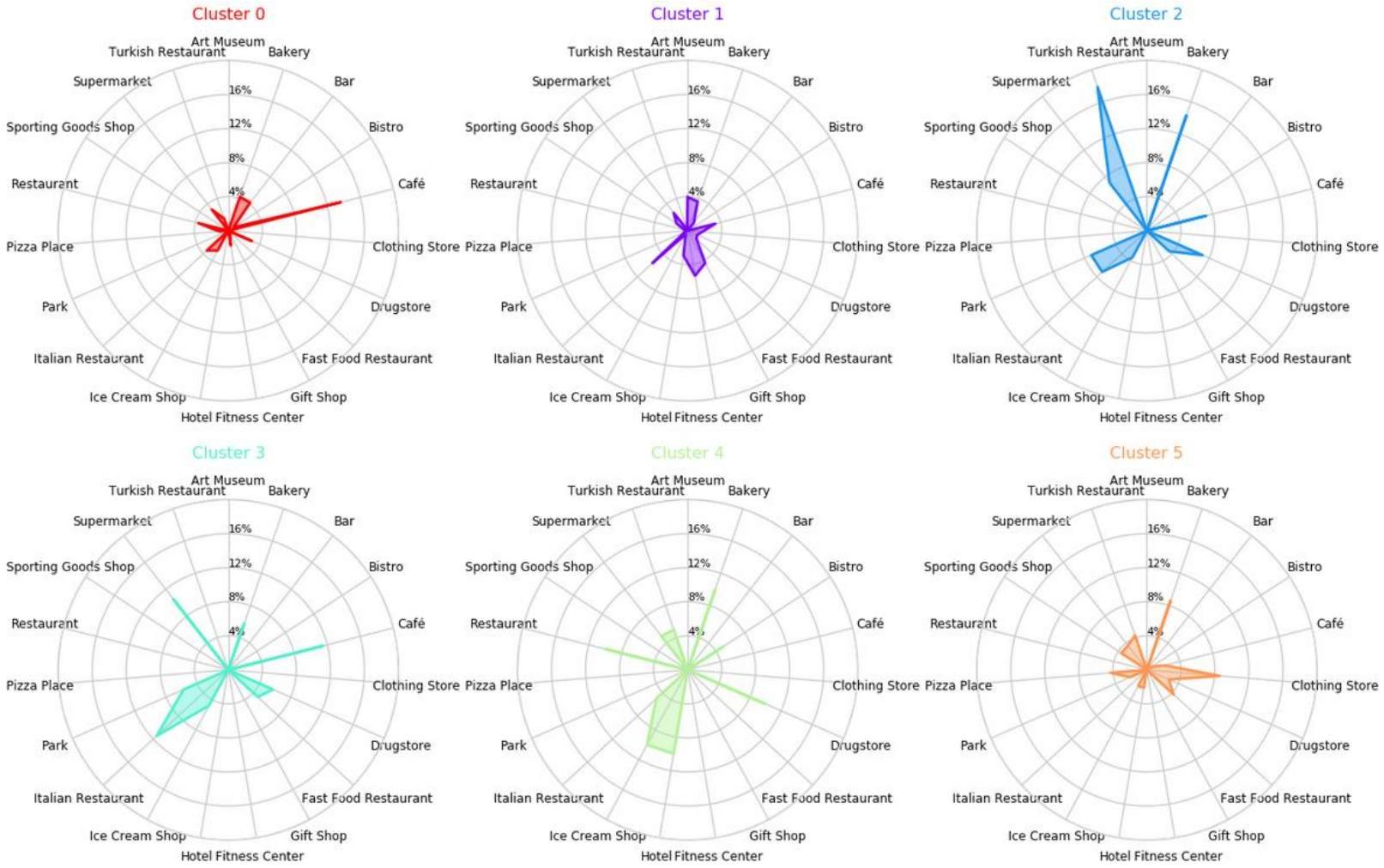
Elbow method

Results



Final results of clustering based on KMeans algorithm

Results



Top Venue Categories by Clusters

Discussion

Both charts show some clear patterns:

- Clusters 2, 3 and 4 more diversified with more numerous venues in fewer categories and Clusters 0, 1 and 5 on the contrary,
- all Clusters include significant number of ‘Bakery’, ‘Supermarket’ and ‘Drugstore’,
- the very center of the city (Cluster 1) well diversified with significant numbers of ‘Art Museum’, ‘Café’, ‘Gift Shop’ and ‘Italian Restaurant’,
- locations around the city center (Cluster 0) less diversified and ‘Cafes’ are dominant,
- other neighborhoods (Clusters 2-5) are least diversified and have different combinations of a few dominant categories.

Conclusions

- Some interesting patterns in locations of Points Of Sales
- Only a first step to recommendation of a suitable place for new POSes
- The following one to leverage the use of Machine Learning and to help verify all potential locations based on the similarity of their neighborhoods to the ones with existing POSes.