

# The Battle of Neighbourhoods





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# Introduction

- Real estate buyers searching for a new home always face big decisions. There are lots of factors effecting where to buy, such as the trend of price growth, local amenities and other factors which might make negative effects on the property value.



# Problem and Target

- Key Question is:  
How to decide which borough in London the property to buy?
- Target Location: London, U.K.
- Audience: Buyers who want to find and purchase property in London targeting at the features of local restaurants and grocery stores.



# Data

- **London boroughs**

Source: [https://en.wikipedia.org/wiki/List\\_of\\_London\\_boroughs](https://en.wikipedia.org/wiki/List_of_London_boroughs)

Description: The data will be scraped from web url.  
Selected columns: borough, population, coordinates

- **Foursquare Location Data**

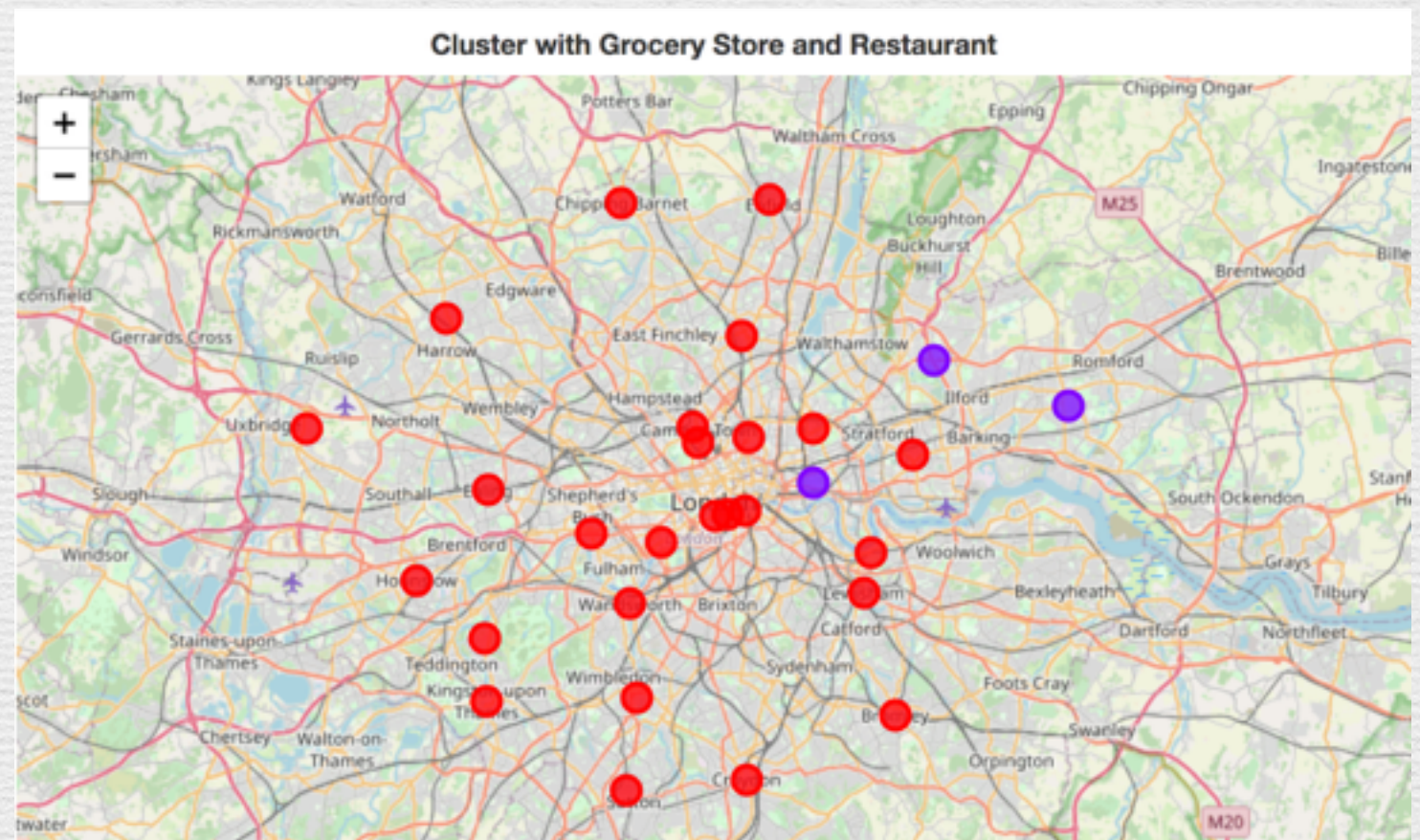
Source: <https://foursquare.com>

Description: Retrieve the venues in each borough and filter grocery stores and restaurants.



# Methodology

- Machine Learning K-means clustering was performed.
- Boroughs was segmented into two clusters. The determination of K was done by silhouette coefficient.





# Results

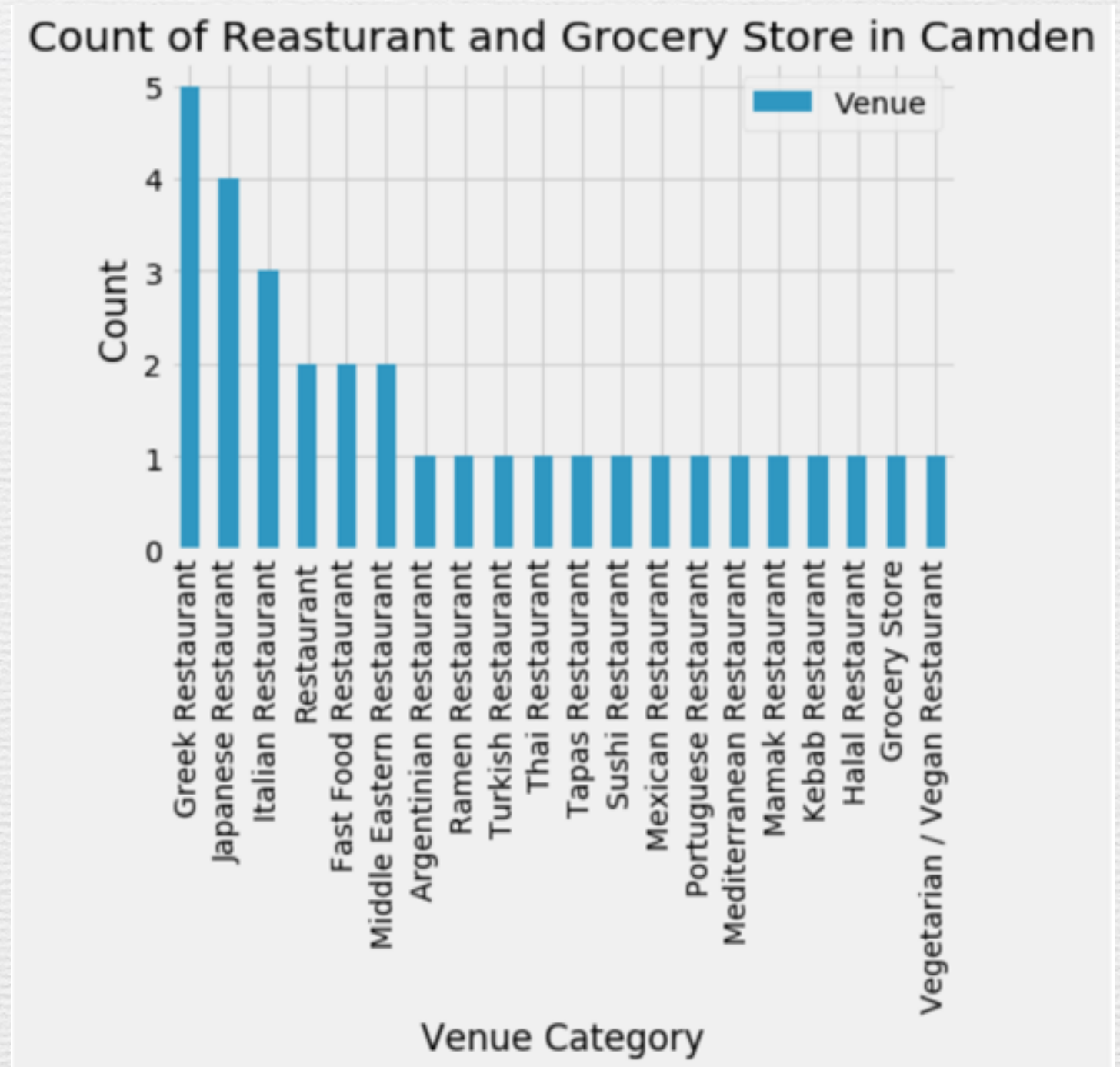
- Before clustering, boroughs were extracted with grocery stores and restaurants. The figure on right side shows that Camden, Ealing, Southwark, Kingston upon Thames, Islington, Hammersmith and Fulham have around 20 - 30 restaurants and groceries in the borough.





# Results

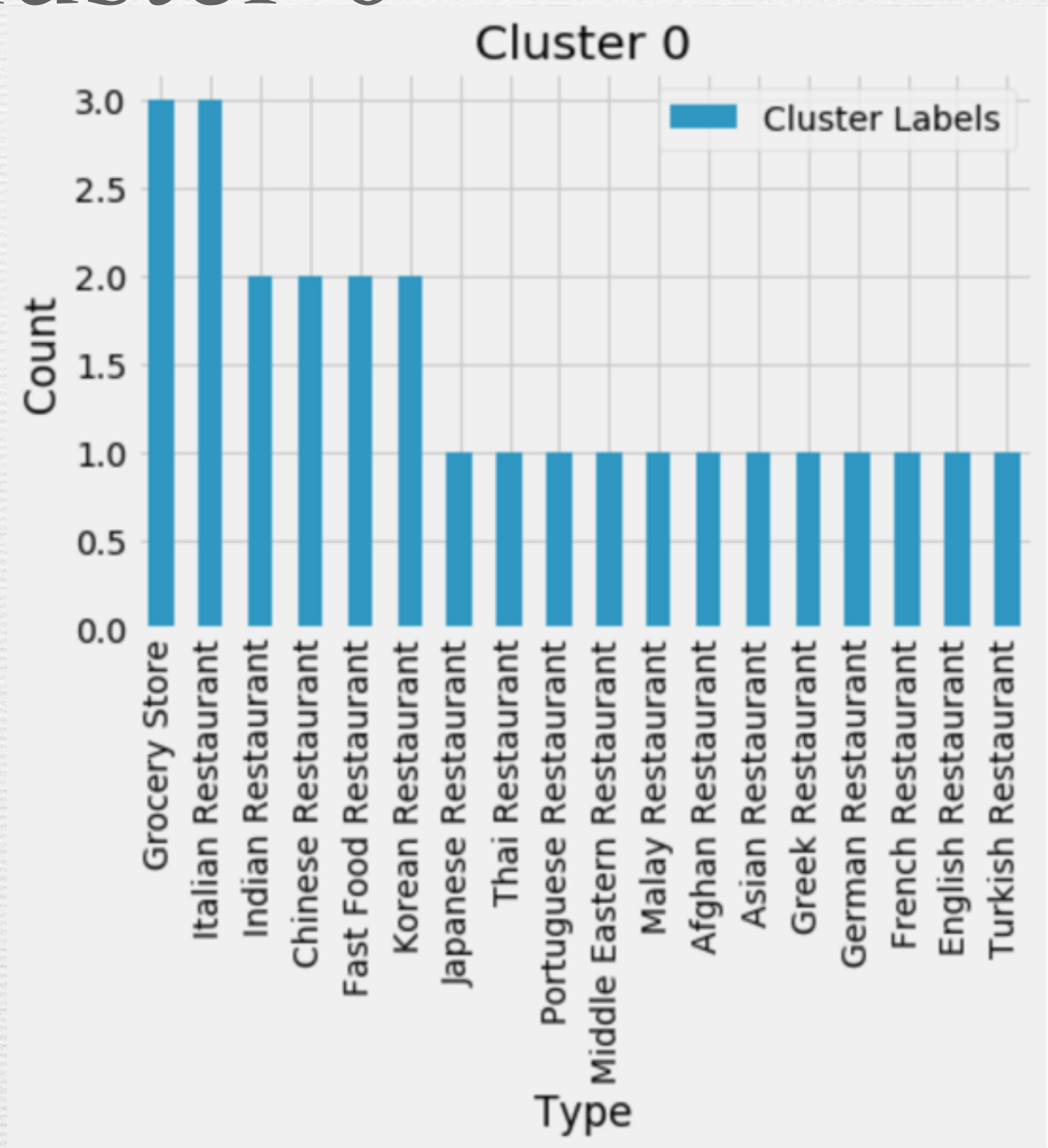
- In Camden, there are diverse style of restaurants.





# Cluster 0

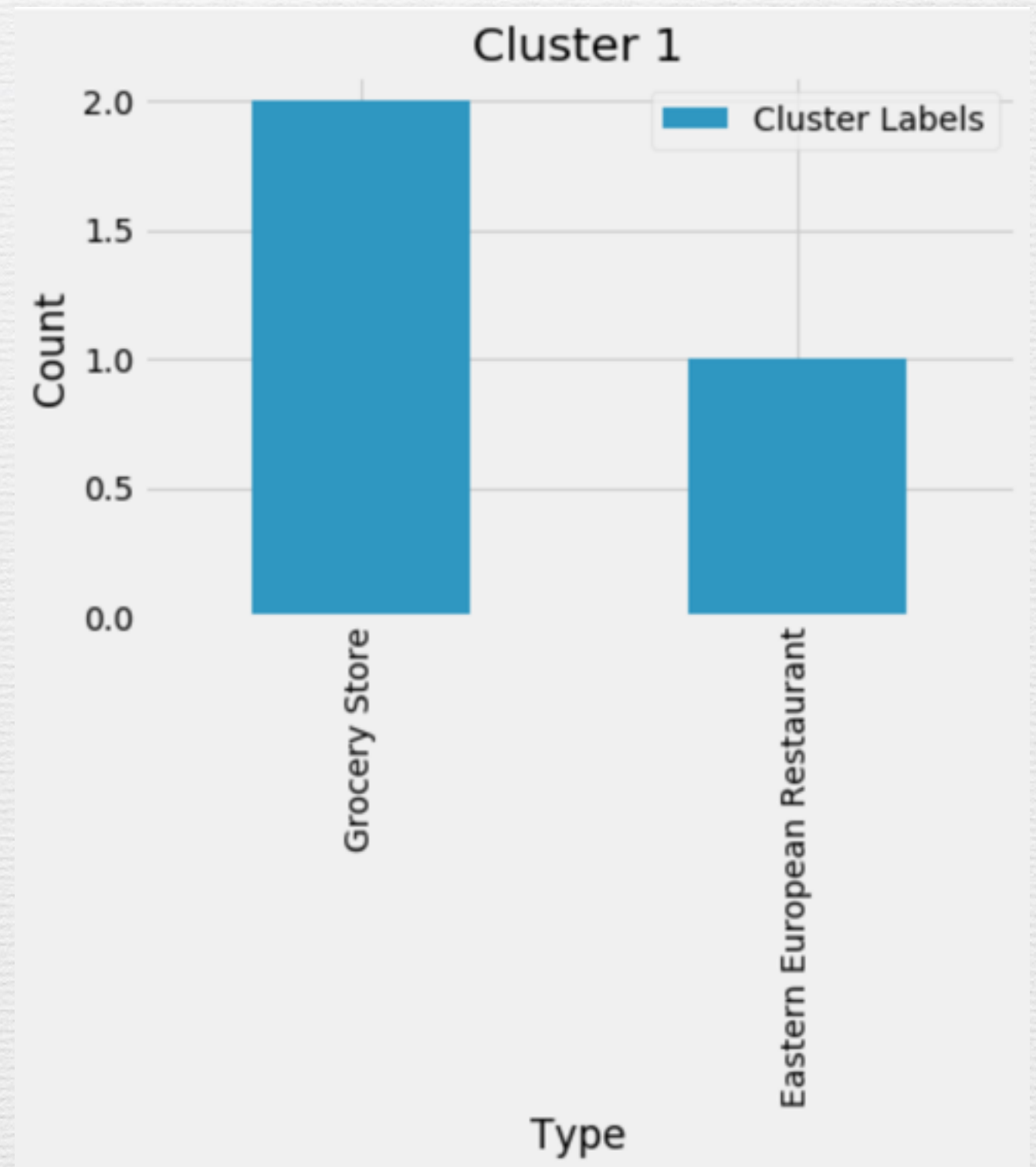
- In cluster 0, there were more options of different type of restaurants. These boroughs is suitable for those who enjoy trying various type of restaurants.





# Cluster 1

- In the contrast, cluster 1 is relatively simple, which could be considered for those buyers who do not go out for dining often.
- These boroughs include Barking and Dagenham, Redbridge and Tower Hamlets.





# Conclusion

- Although there are some limitations and improvements on this project, it still gives an insight for those property buyers to discover which borough is filled with diverse restaurants and which borough has limited restaurants but does not lack of grocery stores. This is supportive to the decision making at a very first stage of borough screening.
- Future recommendation: The features can consider more aspects, such as the distance to city center, the development of transportation, historical sale price, etc. for more advanced discovery.