

# Tastes of Norway



DATA SCIENCE CAPSTONE PROJECT

# Background

- The culinary scene in Norway is very different through the entire country – from very sophisticated and posh Michelin-starred restaurants in the biggest cities to simple food places in smaller towns.
- Each year many restaurants get opened but also many get closed due to mismatch between the restaurant type and specific culinary tastes in the Norwegian towns.

# Aim of the study

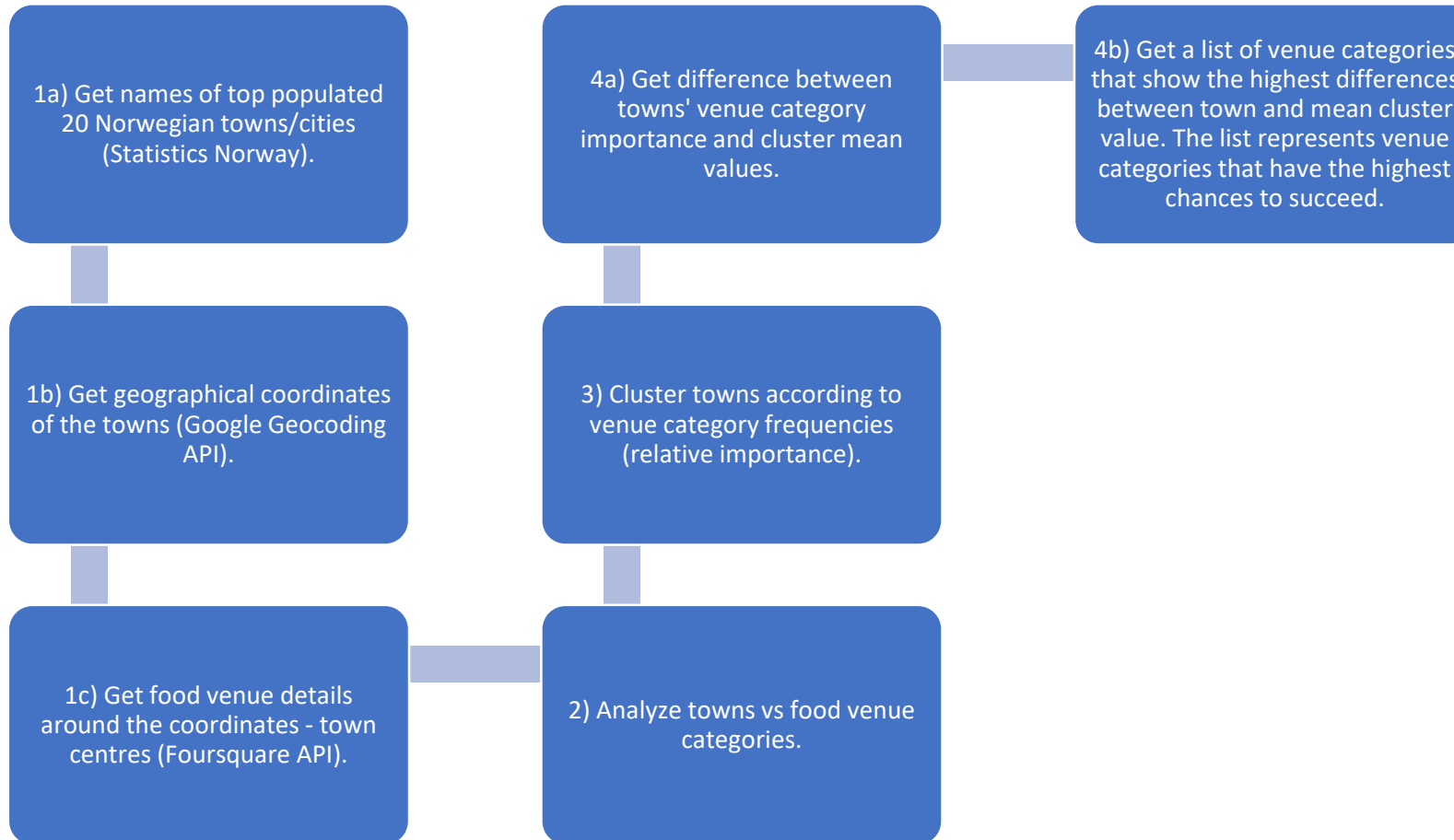
- Show which food venue type has the best chances to succeed in the biggest 20 Norwegian cities and towns.
- Understand the culinary preferences of different regions and infer what may it say about the culture.
- Give some food background information for travelers.



# Data

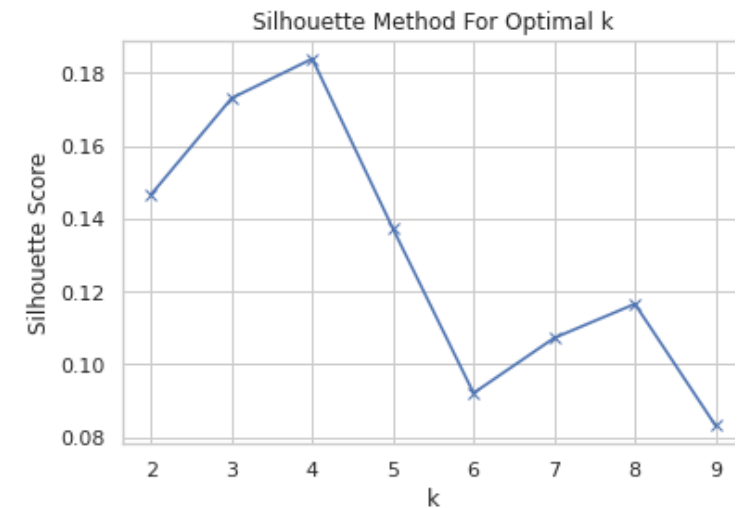
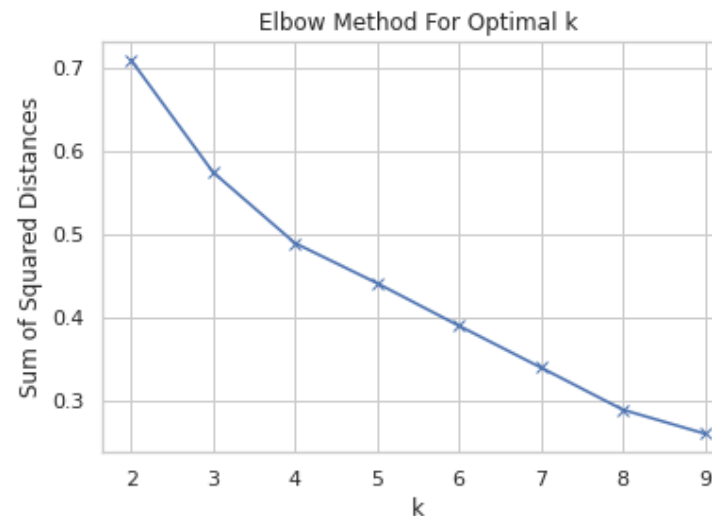
- Data from Statistics Norway (population)
- Data from Foursquare API (venue details)
- Data from Google Geocoding API (geographic locations)

# Workflow of the study



# Method

- K-means clustering. Optimized cluster number by using Elbow and Silhouette methods. 4 clusters.
- Recommender system based on difference between number of venues in a town and mean value for a relevant cluster.





# Results

Classic Restaurant

Burger Joint

Indian Restaurant

BBQ / Steakhouse

The most  
common food  
venue types in  
top 20 populated  
Norwegian  
towns

Italian Restaurant

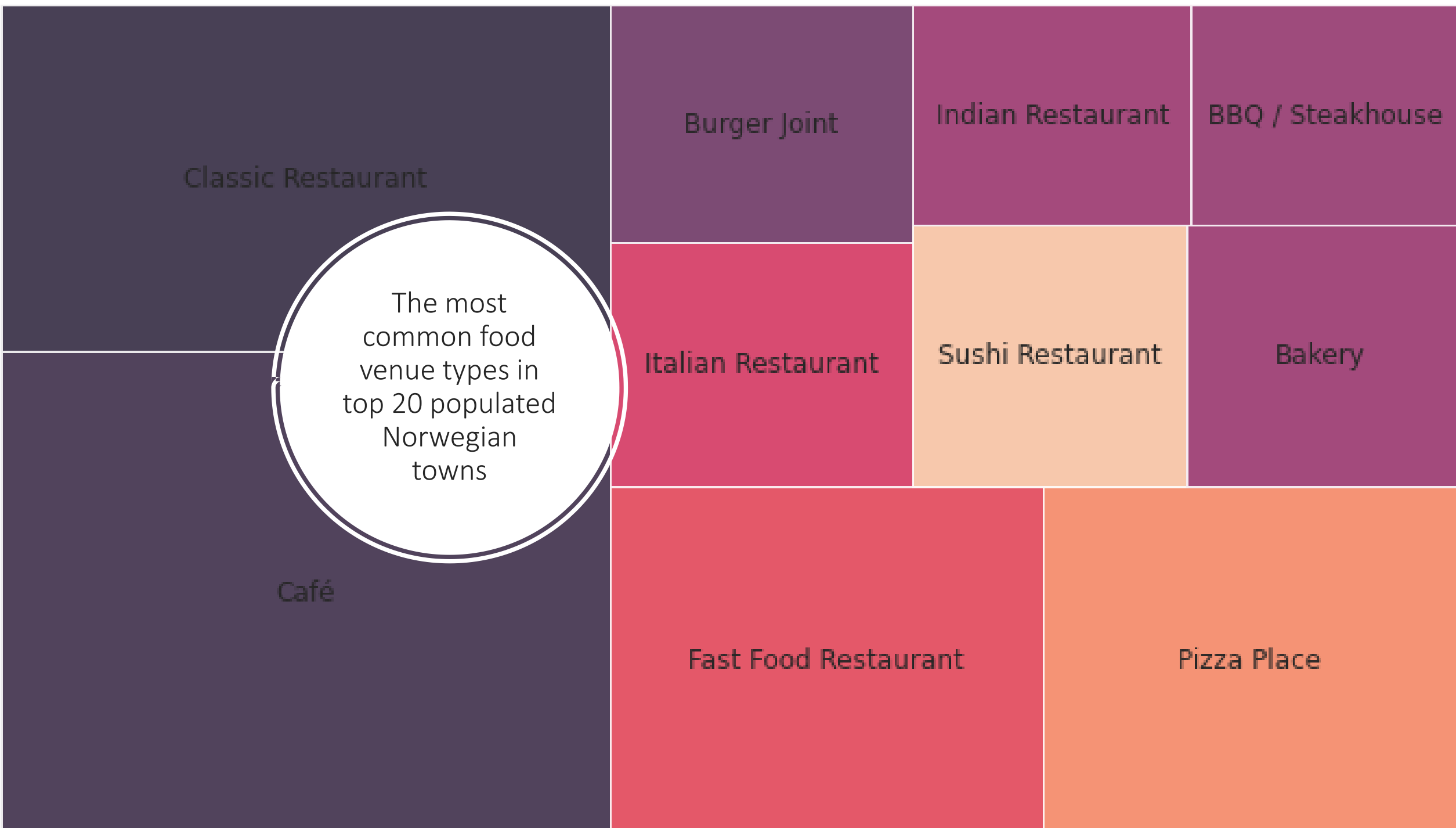
Sushi Restaurant

Bakery

Café

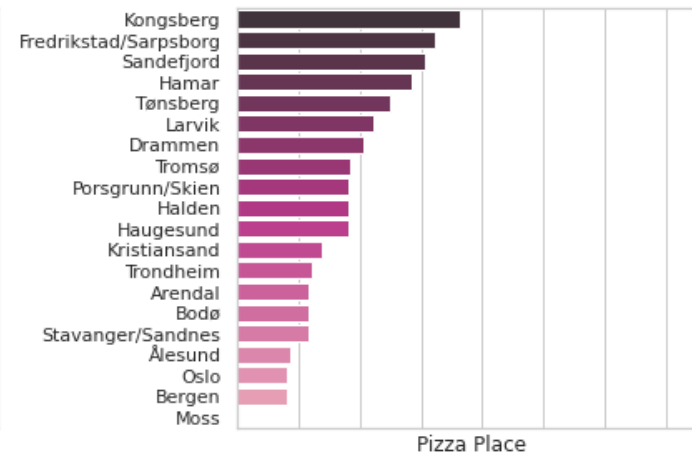
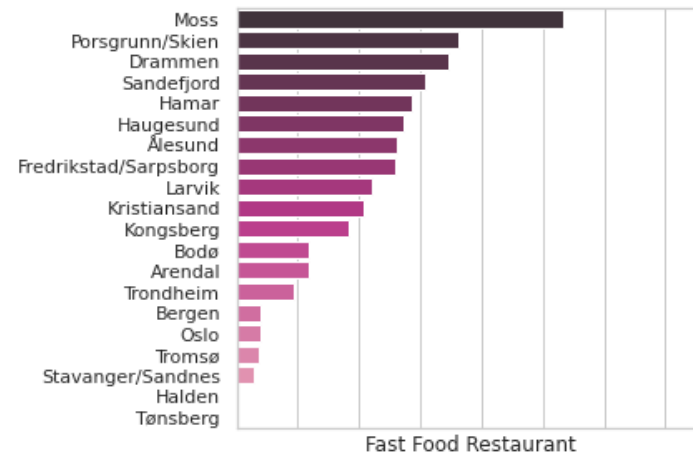
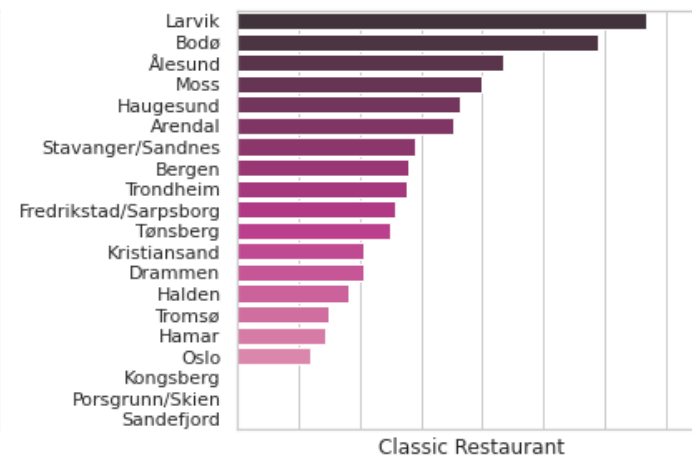
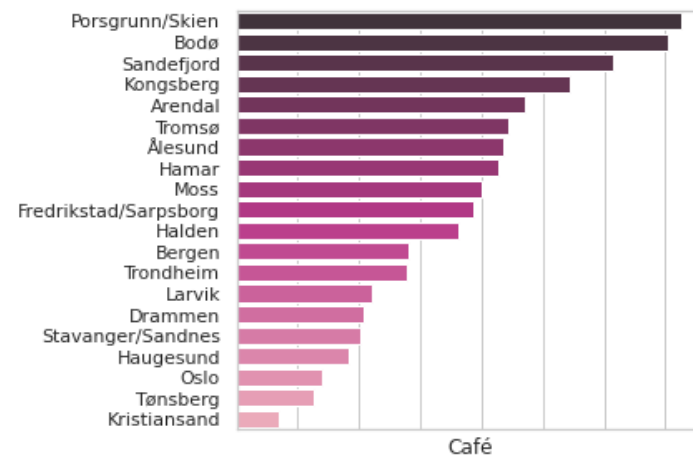
Fast Food Restaurant

Pizza Place

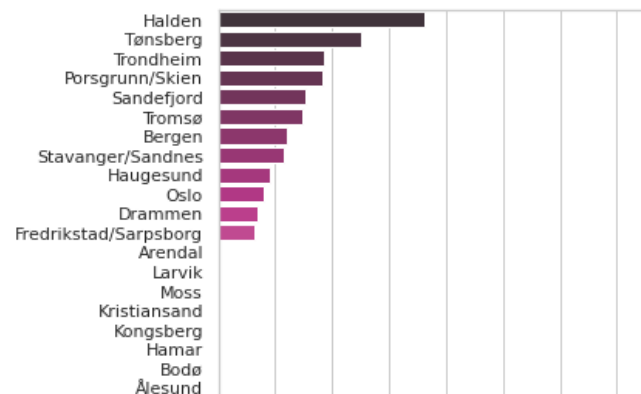




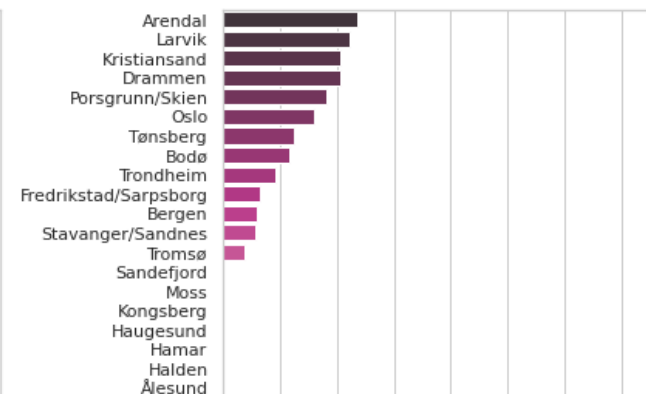
# Relative importance of top 10 food venue types in Norwegian towns (1)



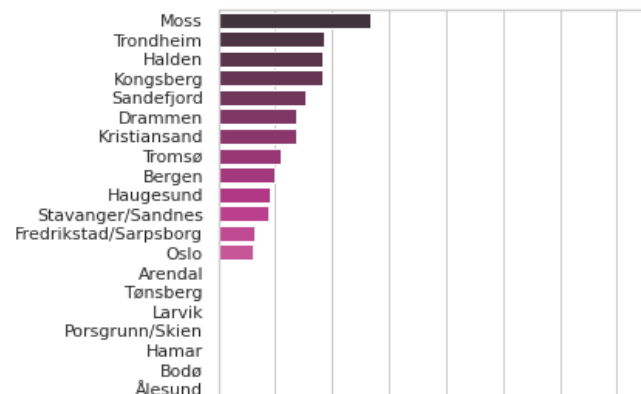
# Relative importance of top 10 food venue types in Norwegian towns (2)



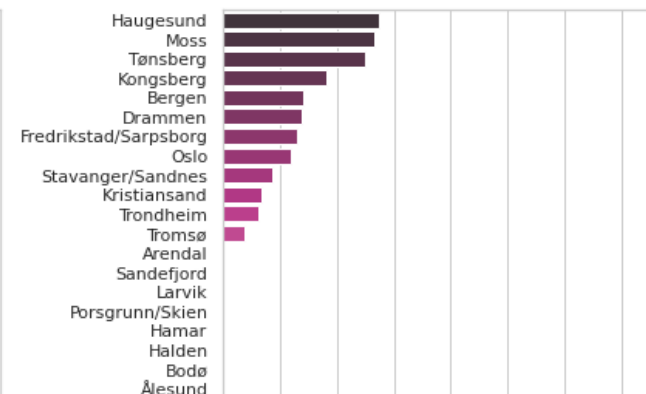
Italian Restaurant



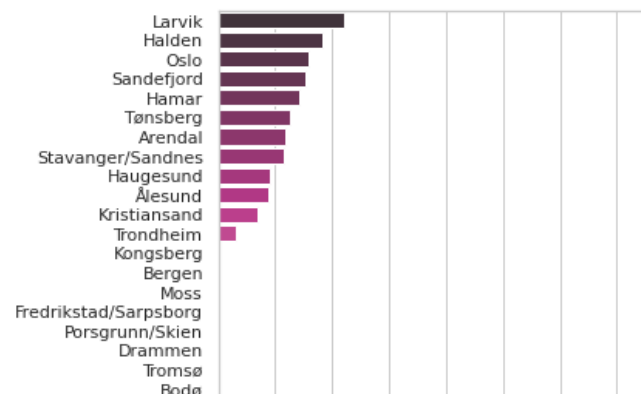
Burger Joint



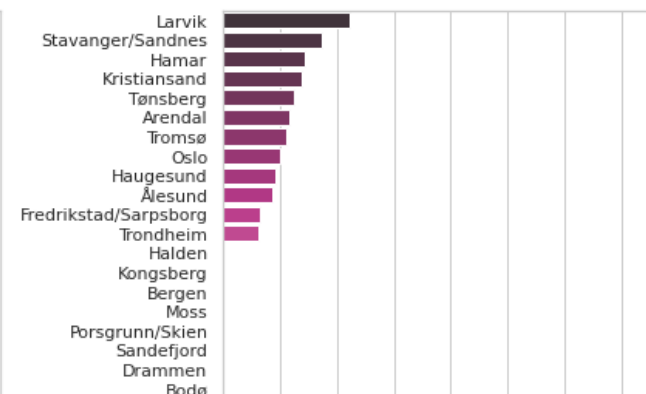
Sushi Restaurant



Bakery

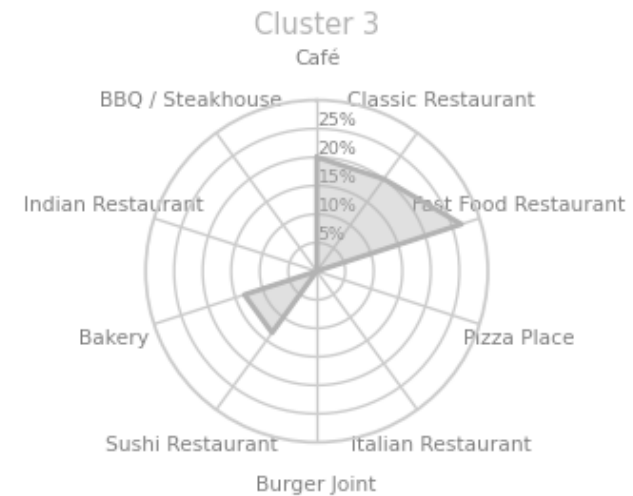
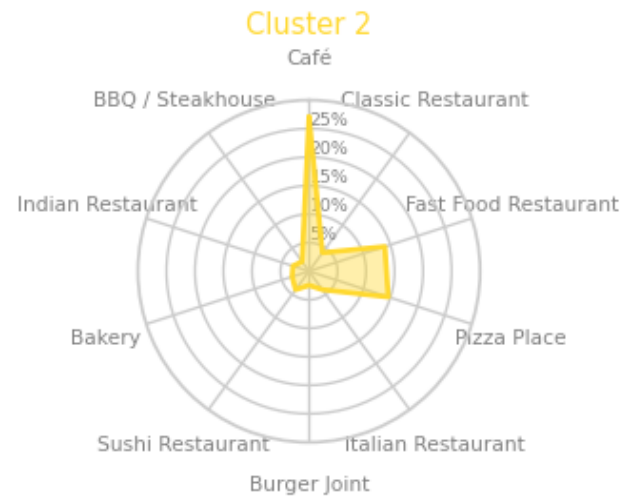
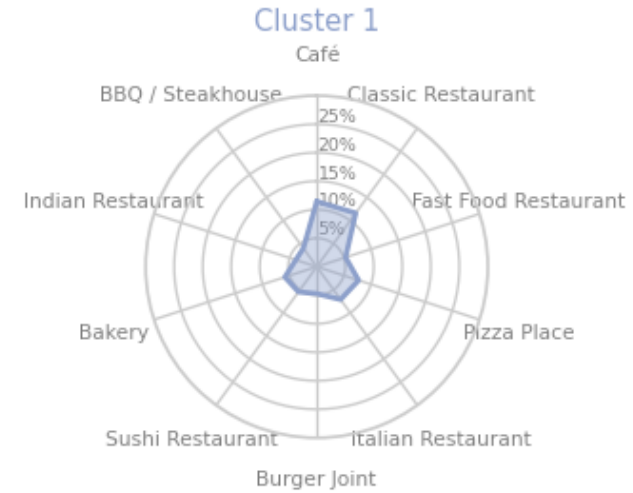
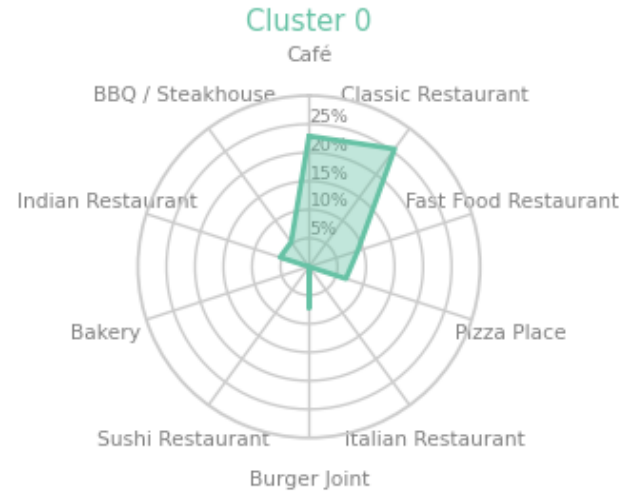


Indian Restaurant



BBQ / Steakhouse

# Cluster characteristics (1)



# Cluster characteristics (2)

## **Cluster: 0 | Towns: Arendal, Bodø, Larvik, Ålesund**

The most popular venue categories (fraction):

Classic Restaurant 0.255328

Café 0.229184

Fast Food Restaurant 0.089798

Burger Joint 0.071895

Pizza Place 0.068059

## **Cluster: 1 | Towns: Bergen, Drammen, Halden, Haugesund, Kristiansand, Oslo, Stavanger/Sandnes, Tromsø, Trondheim, Tønsberg**

The most popular venue categories (fraction):

Classic Restaurant 0.116209

Café 0.114529

Pizza Place 0.077133

Italian Restaurant 0.071111

Bakery 0.058758

## **Cluster: 2 | Towns: Fredrikstad/Sarpsborg, Hamar, Kongsberg, Porsgrunn/Skien, Sandefjord**

The most popular venue categories (fraction):

Café 0.270378

Pizza Place 0.146144

Fast Food Restaurant 0.139693

Gastropub 0.051822

Classic Restaurant 0.040092

## **Cluster: 3 | Towns: Moss**

The most popular venue categories (fraction):

Fast Food Restaurant 0.266667

Café 0.200000

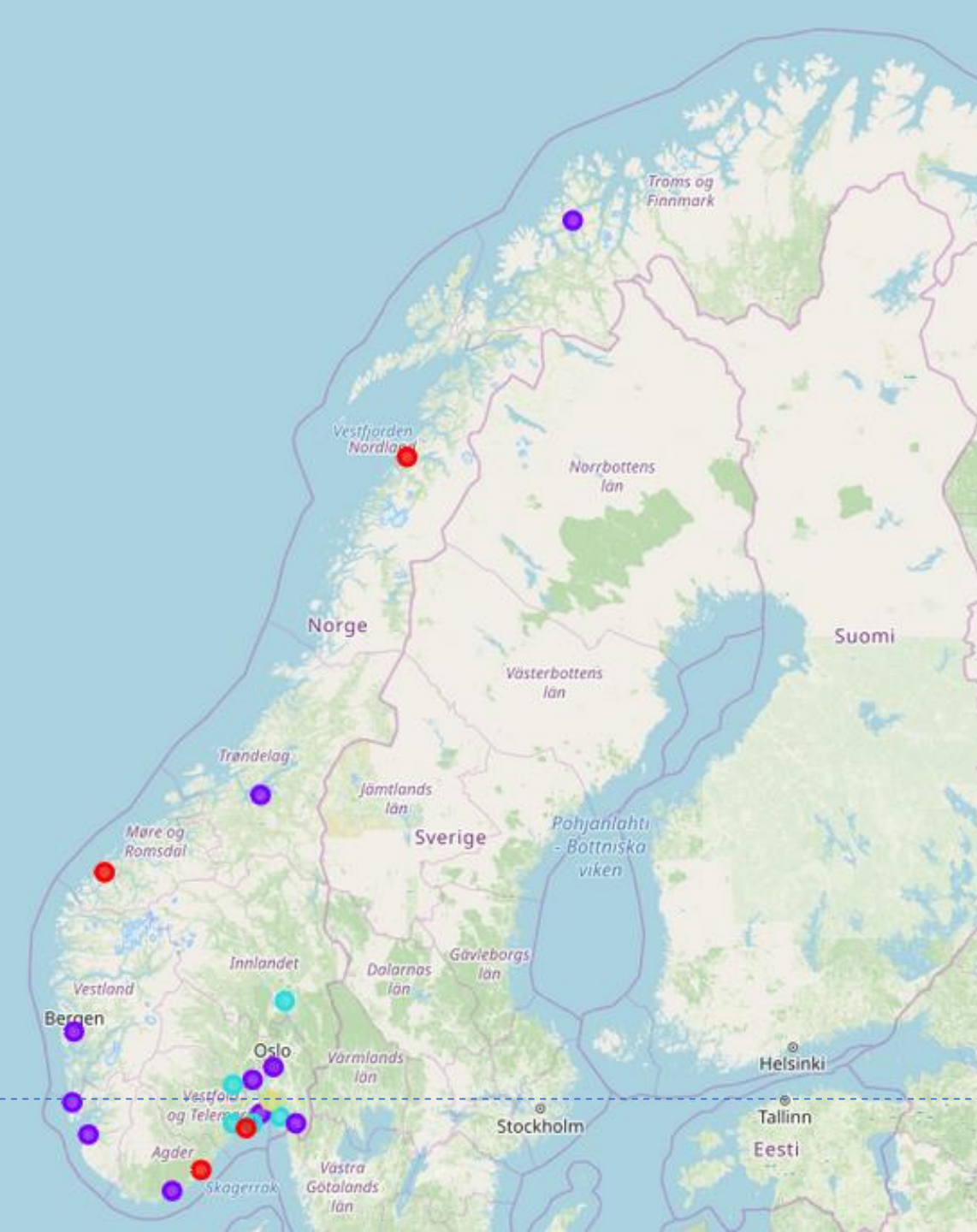
Classic Restaurant 0.200000


Bakery 0.133333

Sushi Restaurant 0.133333

# Location of the analyzed towns including their cluster labels (colors)

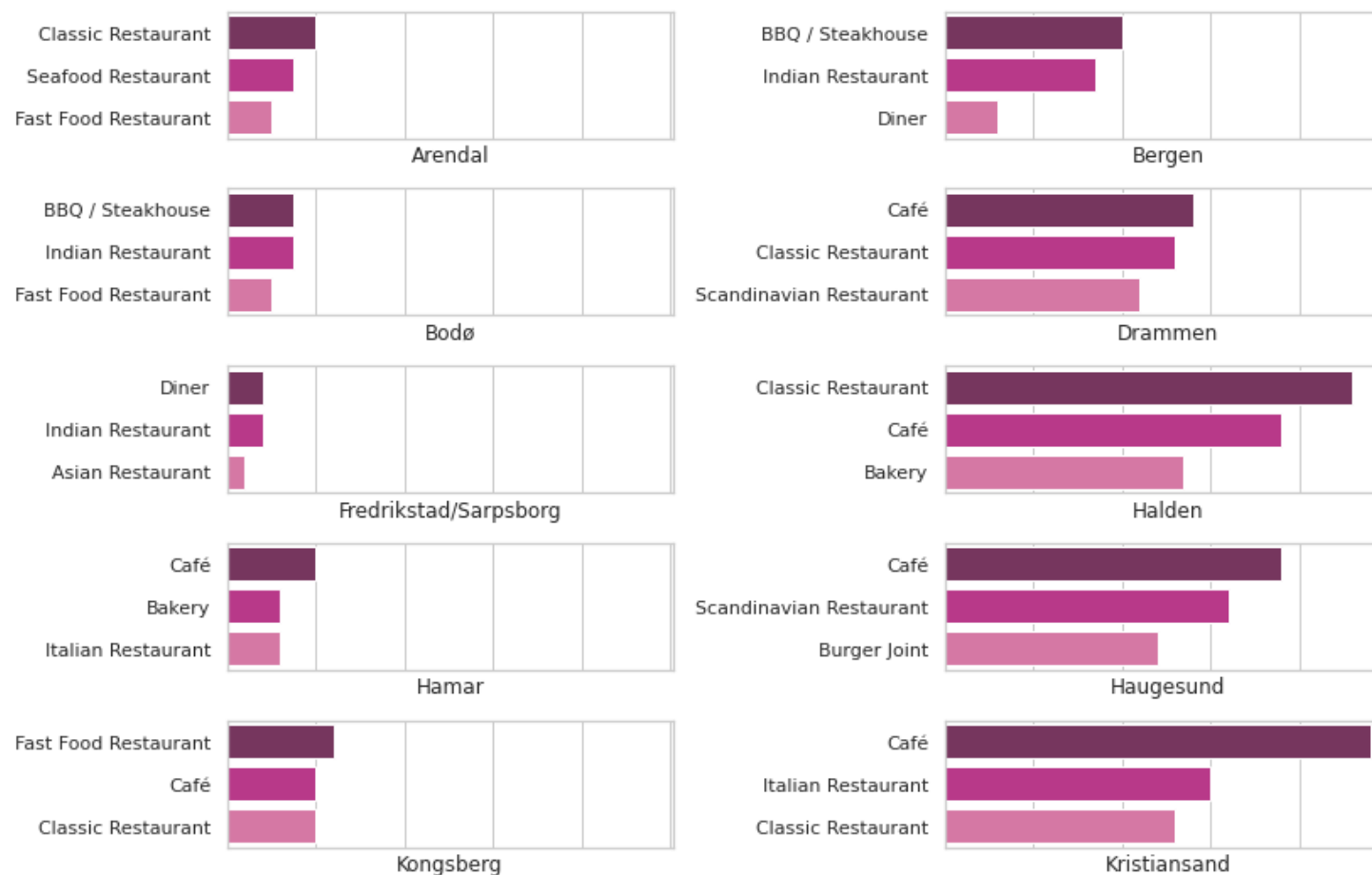
Cluster 0: red, cluster 1: purple, cluster 2: blue, cluster 3: yellow.





# Recomender system

# The best new food venue type choice (1)



# The best new food venue type choice (2)

