

Choosing cities to start a business in Central America

Luis Diego Quirós Gómez

Applied Data Science Capstone

IBM - Coursera



Introduction

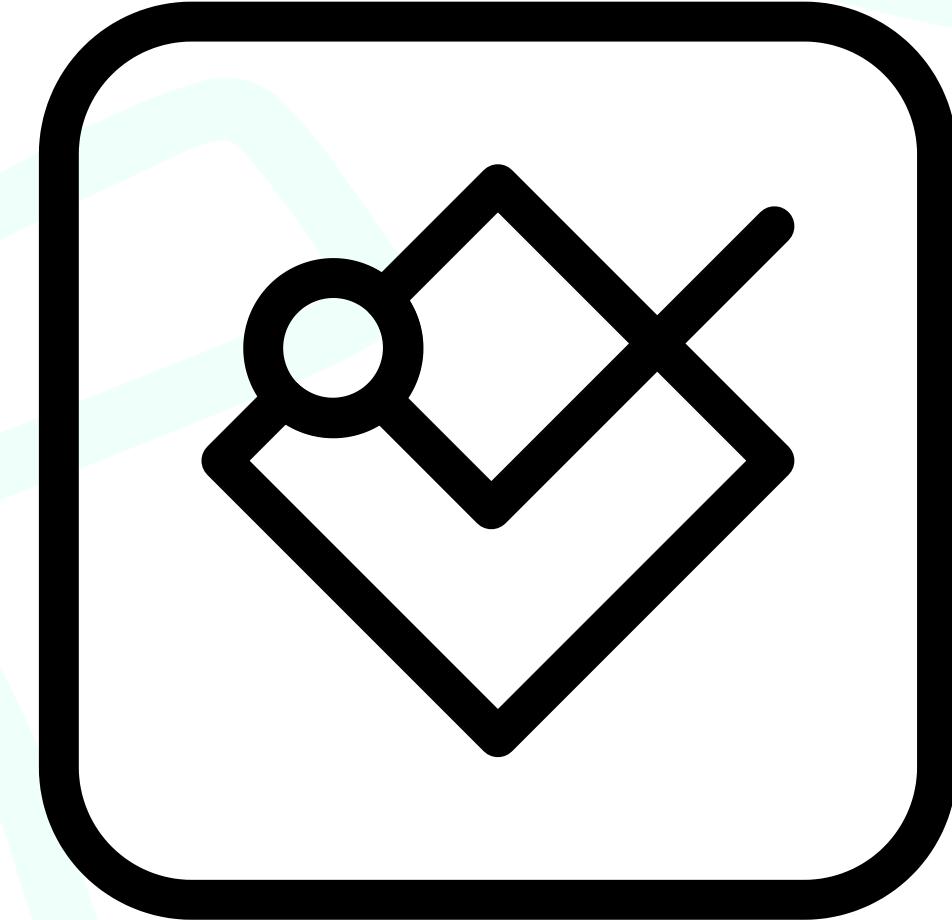
- The economic activity in Central America for the last 15 years has been growing more than in the rest of Latin America
- Investors are faced with very difficult decisions about the best cities and the category of business
- Understanding consumption patterns and trends are essential before starting a business

Data sources



Wikipedia

Get most important cities per country



Foursquare

Get trending venues per city

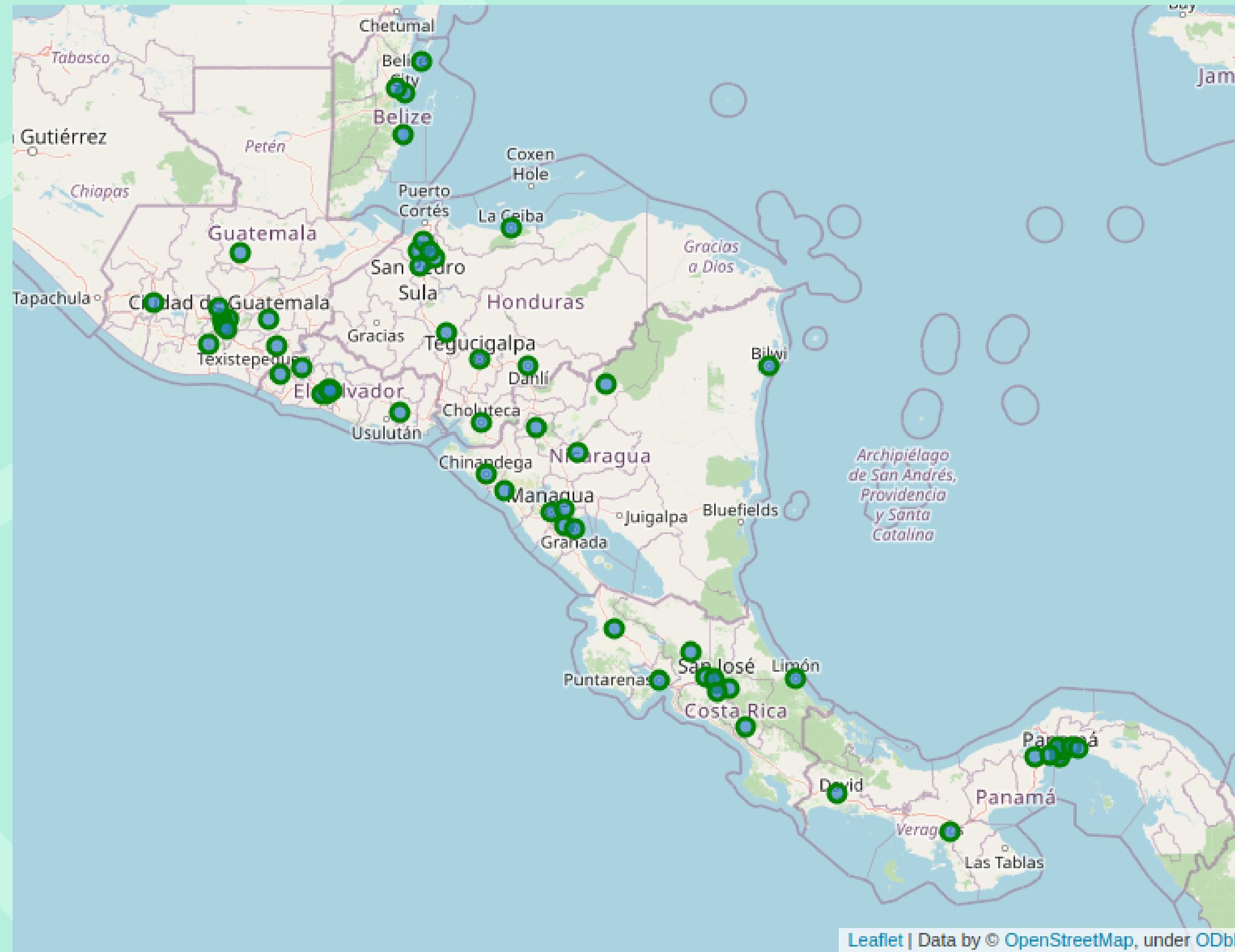
Methodology

- Select important cities in each country
- Identify trending venues
- Group the venues by categories
- Cluster cities with similar categories
 - K-means
 - Euclidean distance

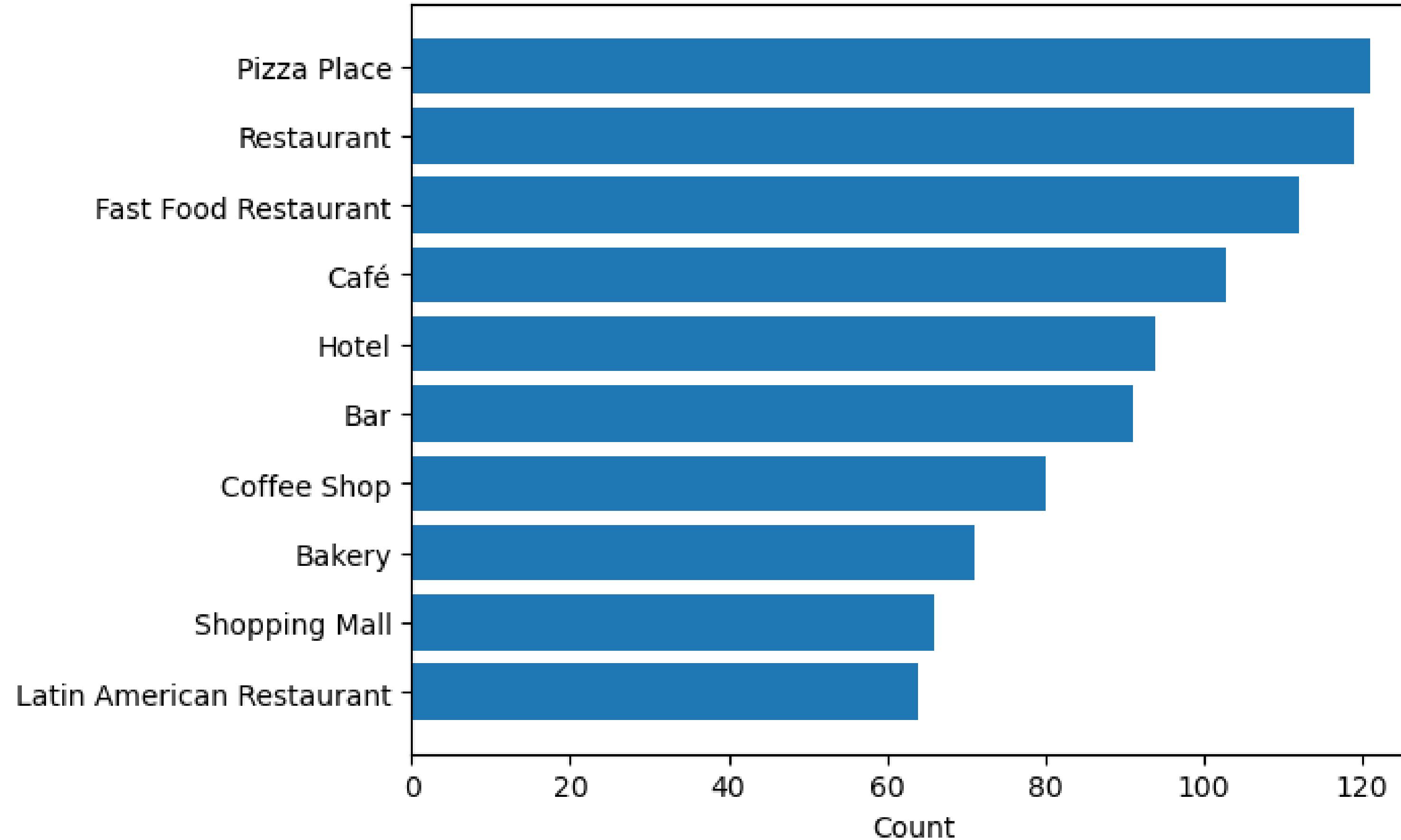


Results

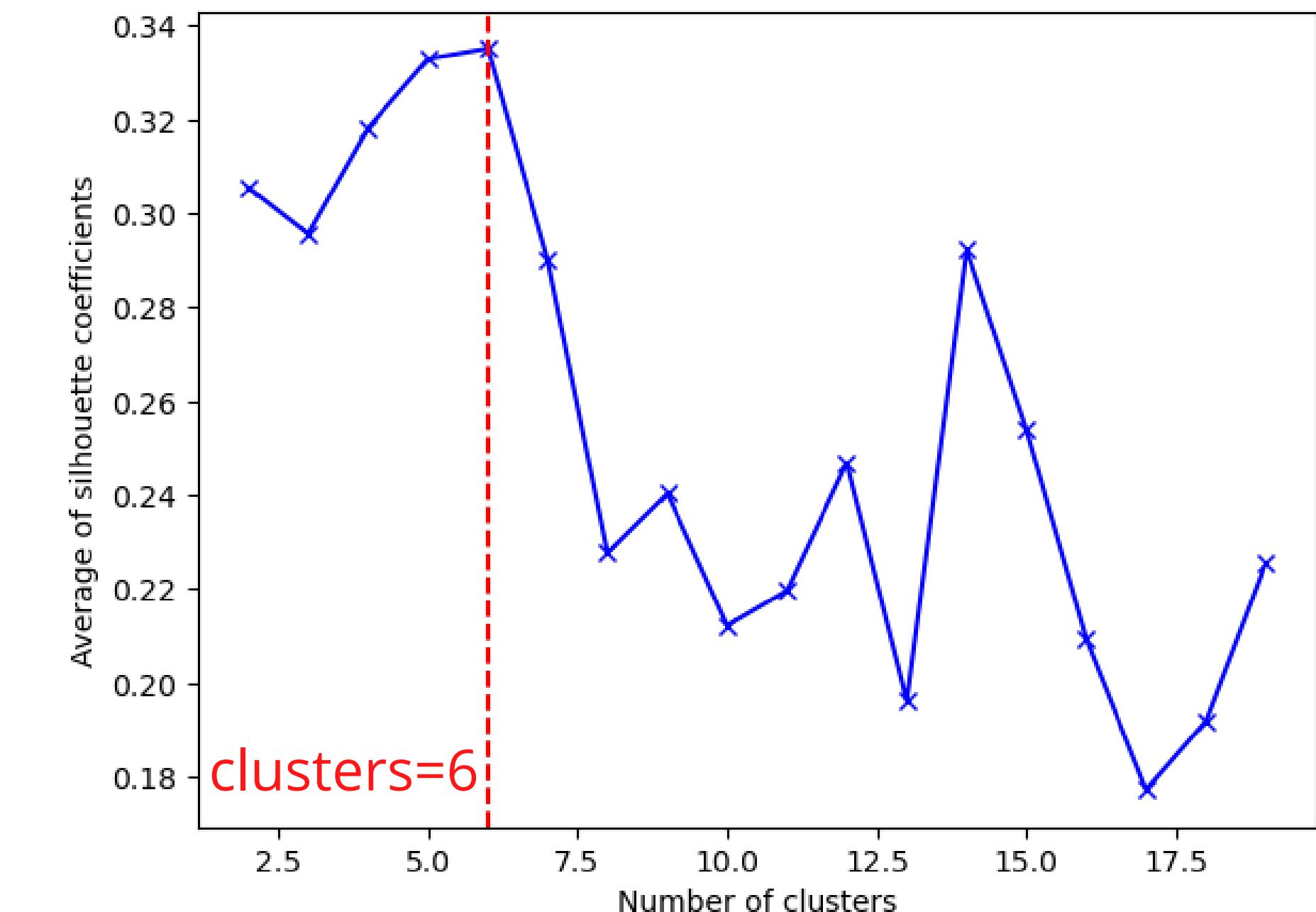
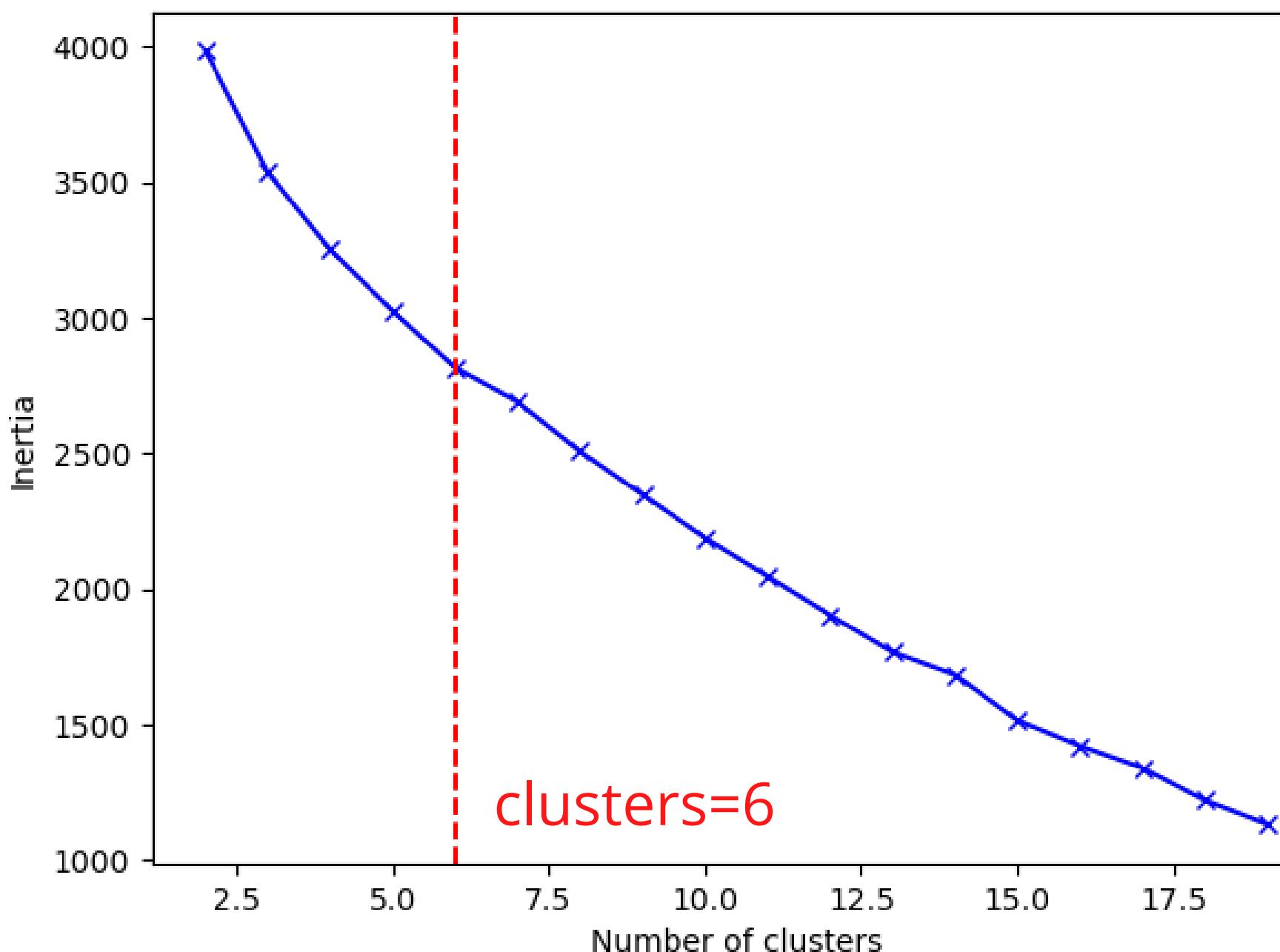
Selected cities



Top 10 venues category

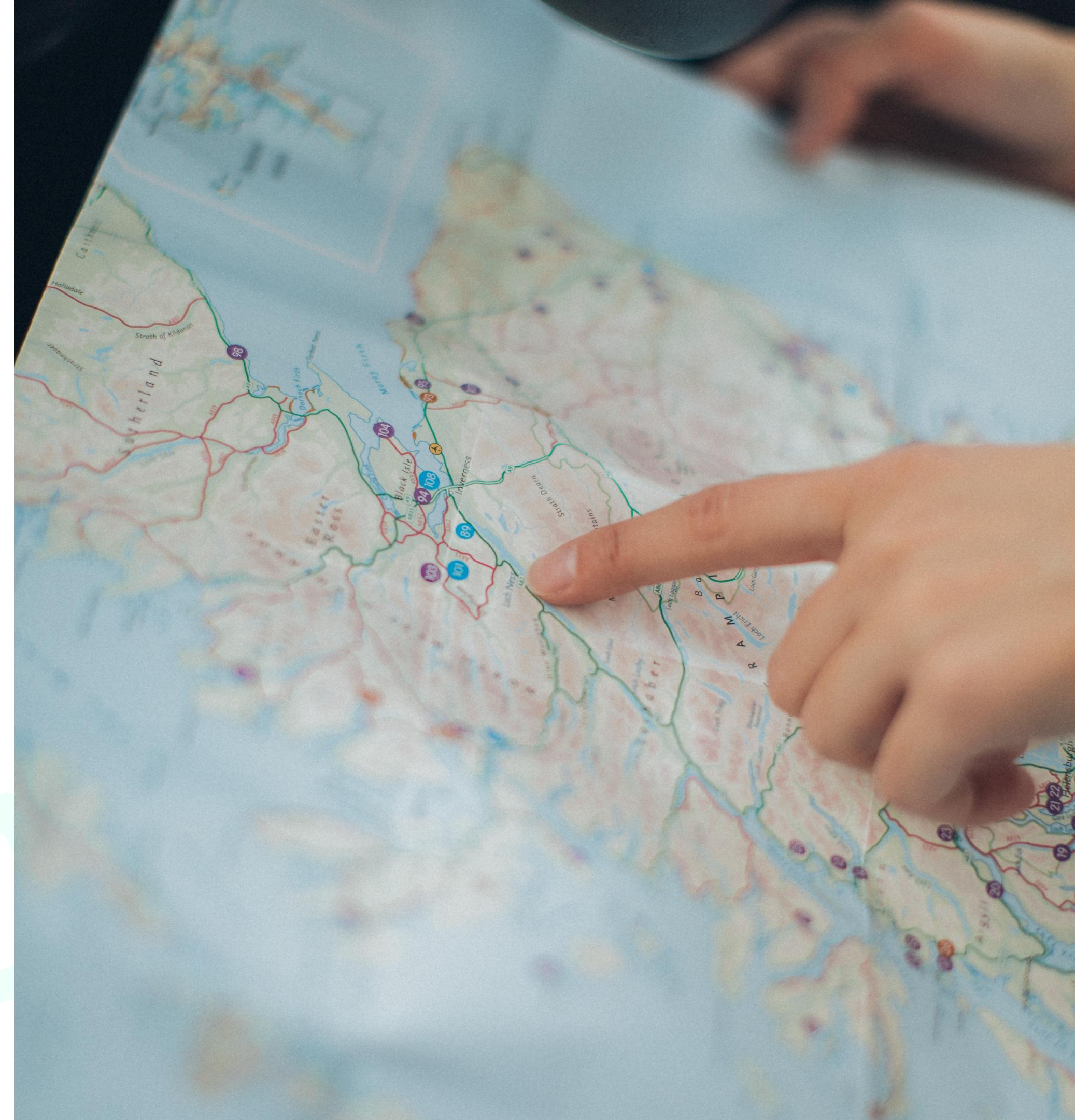


Number of clusters

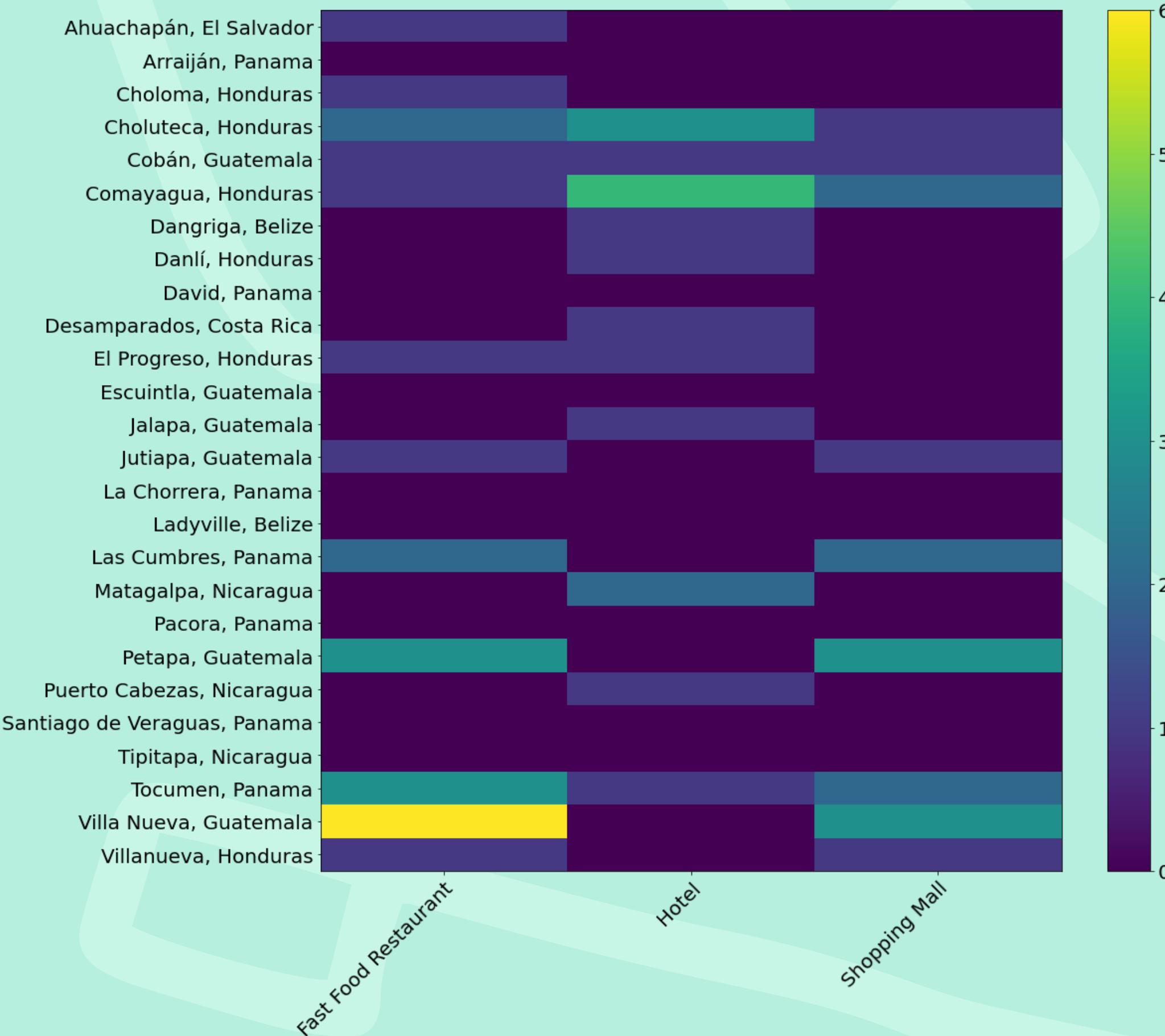


Elbow method to determine the number of clusters using inertia
and silhouette analysis

Clusters Description



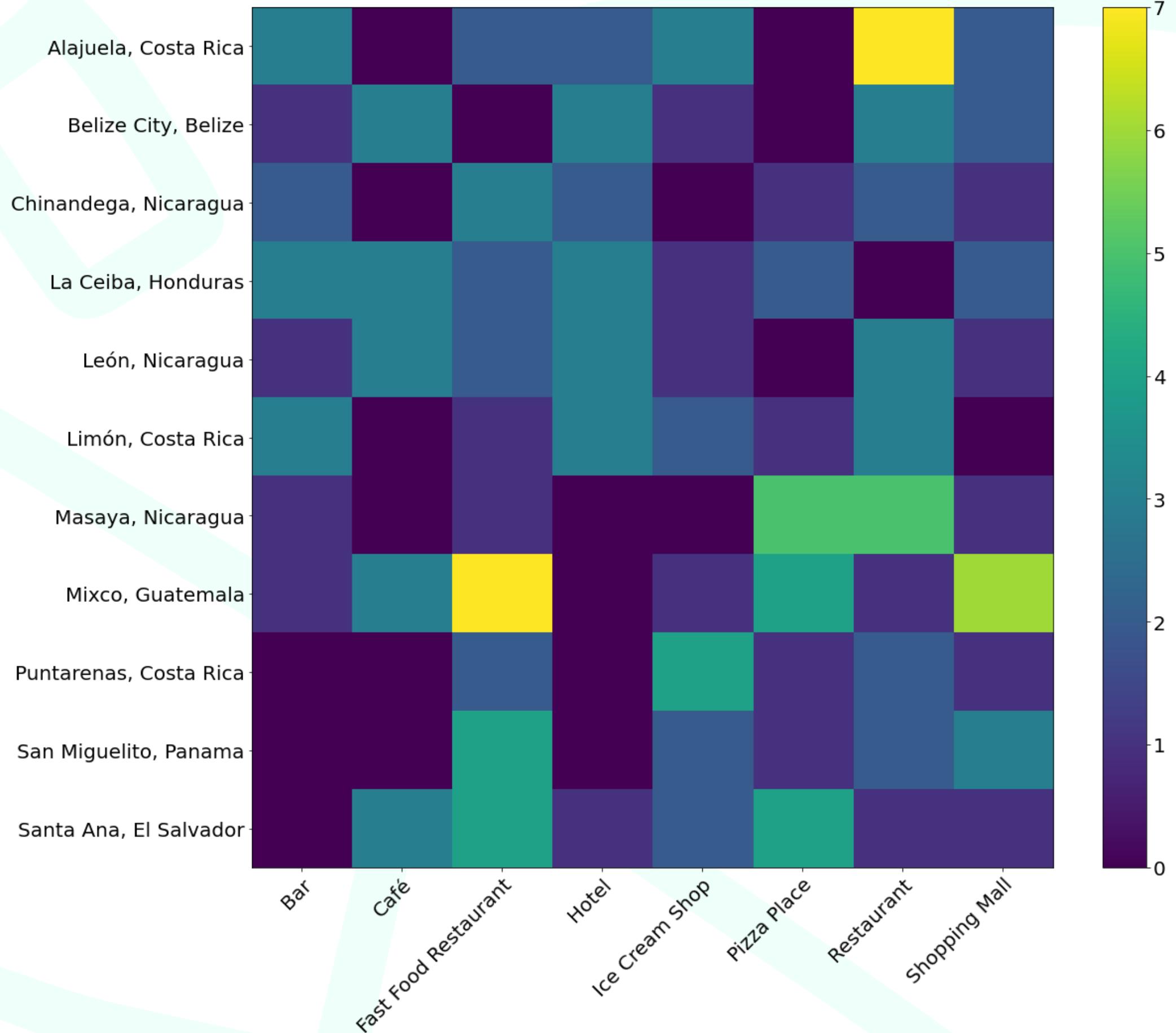
Cluster: Few businesses



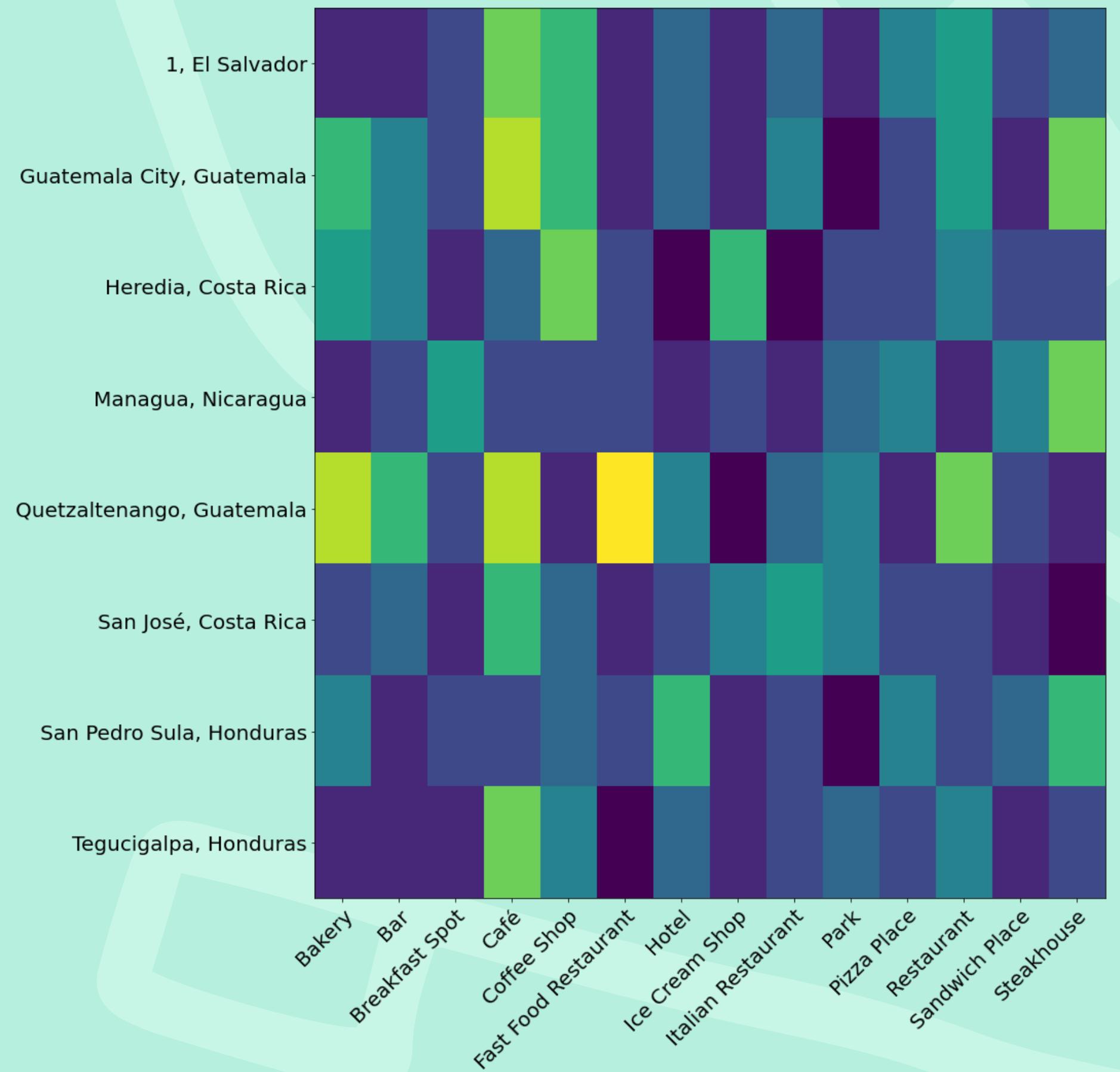
- Number of cities: 26
- Average venues per city: 11

Cluster: Gastronomic

- *Number of cities:* 11
- *Average venues per city:* 44



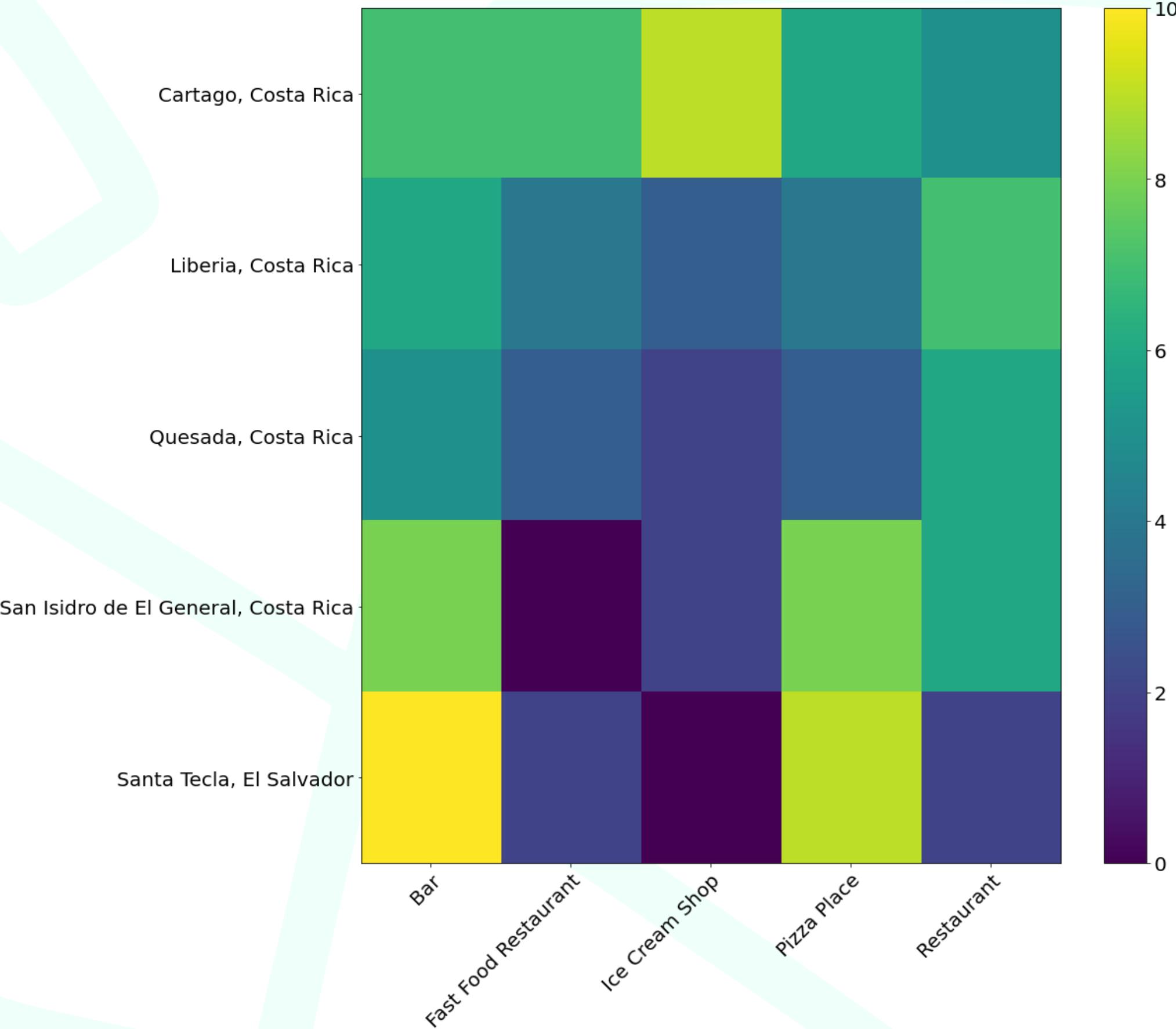
Cluster: Busy



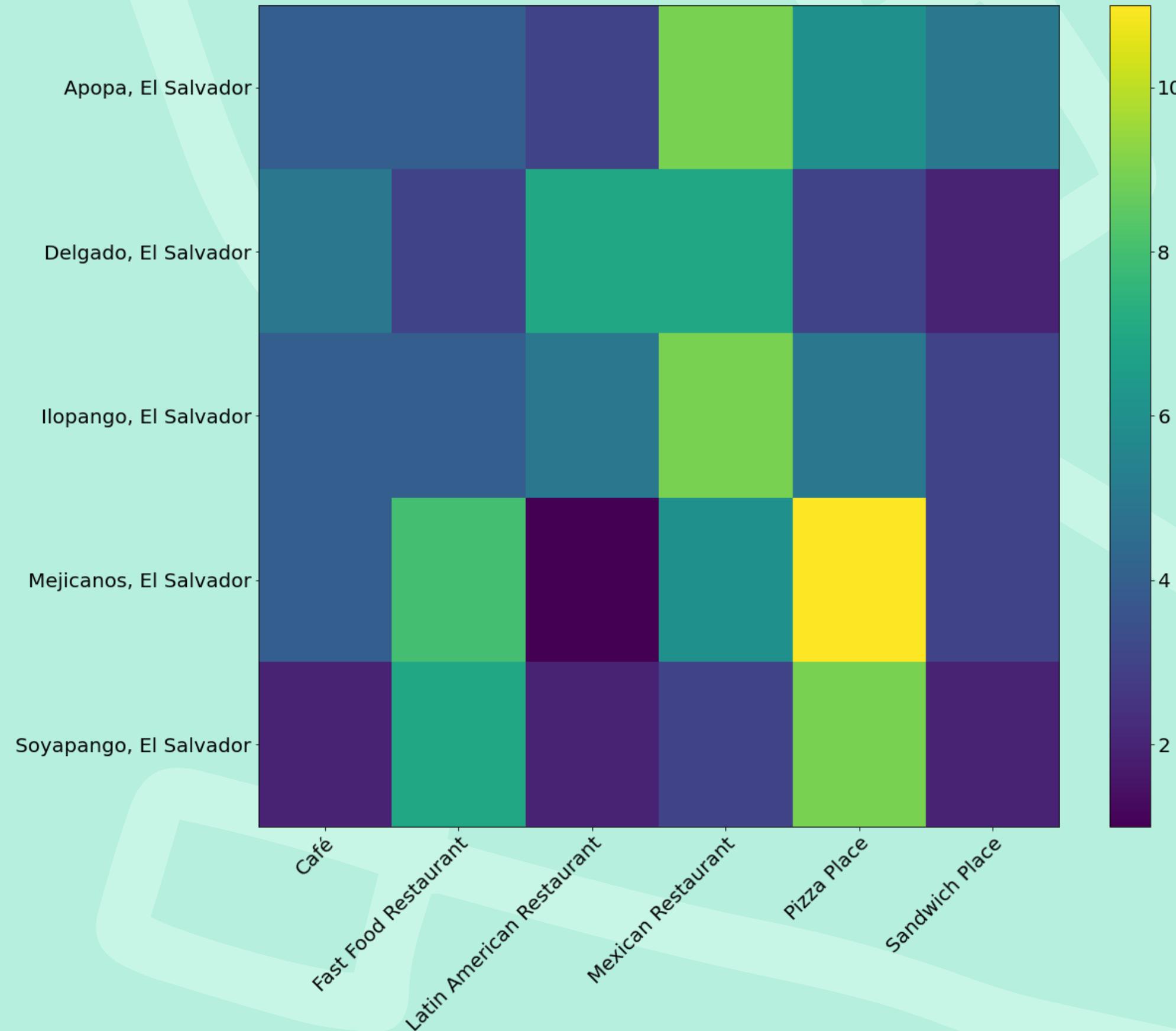
- *Number of cities: 8*
- *Average venues per city: 95*

Cluster: Smaller 1

- *Number of cities:* 5
- *Average venues per city:* 85
- Mainly cities from Costa Rica



Cluster: Smaller 2



- *Number of cities:* 5
- *Average venues per city:* 88
- All are cities from El Salvador

Cluster: Smaller 3

- *Number of cities:* 3
- *Average venues per city:* 69
- Lots of hotels

Granada, Nicaragua

Panama City, Panama

San Pedro Town, Belize



Hotel

Restaurant

Discussion

The most interesting clusters are the gastronomic and the busy cluster. Most of their venues are related to food. Two opportunities for investment can be made:

- Tap into the hospitality business and highlight those cities as gastronomical destinations combining it with the cultural heritage and natural resources that the region has to offer.
- Creating new venues or spaces in the same category. Always trying to separate the brand with unique characteristics that can be easily distinguished from the ones around it.



Conclusions

- The best cities to start a business are: Alajuela (Costa Rica), Belize City (Belize), Chinandega (Nicaragua), La Ceiba (Honduras), León (Nicaragua), Limón (Costa Rica), Masaya (Nicaragua), México (Guatemala), Puntarenas (Costa Rica), San Miguelito (Panamá) or Santa Ana (El Salvador).
- The category should be related to gastronomy or hospitality.



Conclusions

- Taking advantage of machine learning techniques helps to answer important business questions and removes uncertainty allowing to make better decisions.
- Investigating business insights, consumption trends and behavior patterns is a very heavy duty that can be simplify through technological tools and providing positive results.

