Capstone Project - The Battle of Neighborhoods

Yulian Adhitama

Background

- Jakarta is the largest city and capital of Indonesia with large population and opening a new venue could be a great idea.

Problem

- Each borough and neighborhood has its own culture and uniqueness.

What is best venue to open in Jakarta?

Data Acquisition & Cleaning

Data Acquisition & Cleaning

- Data resources obtained from Wikipedia: https://id.wikipedia.org/wiki/Daftar_kecamatan_dan_kelurahan_di_Daerah_Khusus_Ibukota_Jakarta
- Borough name of ‘Kepulauan Seribu’ dropped, since that borough is not business borough with large population. Also, only neighborhood and borough columns kept, since we only interested in both information only.

Methodology

Get Nearby Venues

- Use geopy to extract latitude and longitude for given neighborhood.
- Use foursquare API to get nearby venues based on latitude and longitude each neighborhood.

Find the Top 10 Most Common Venue

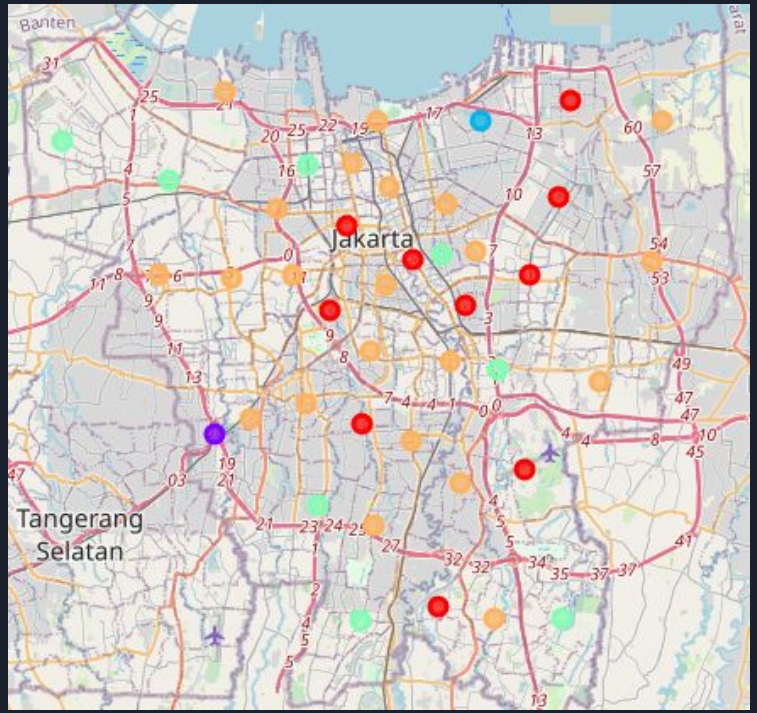
- Convert categorical variable into numerical variable.
- Find the Top 10 Most Common Venue each neighborhood by aggregating mean.

Clustering Neighborhood

- Cluster Neighborhood based on venues each neighborhood.
- Use K-Means Clustering Algorithm with K=5

Result

Result Map



Result Table

	Cluster	Venue Name
0	Cluster 1	Indonesian Restaurant
1	Cluster 2	Pizza Place
2	Cluster 3	Bakery
3	Cluster 4	Food Truck
4	Cluster 5	Asian Food Restaurant

Conclusions

Discussion & Conclusions

- The neighborhood is not equally separated into 5 different clusters. Cluster 1, 4, and 5 have many neighborhoods, whereas cluster 2 and 3 only have 1 neighborhood.
- We can increase the number of neighborhood of these clusters by increasing radius of nearby venues. Or, if we think we should not increase the radius of nearby venues each neighborhood, we can drop these 2 clusters that have 1 neighborhood by setting k=3. So that 1 neighborhood that previously assigned to each of cluster 2 and 3, now assigned to either cluster 1, 4, or 5.
- The 1st most common venue from cluster 1 to cluster 5 is food place, like restaurant, food truck, or bakery. So, we conclude that food place is a good idea if we want to open new venue in Jakarta.