COURSERA CAPSTONE IBM APPLIED DATA SCIENCE CAPSTONE

OPENING NEW COFFEE SHOP IN JAKARTA

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BUSINESS PROBLEM

- Location of the coffee shop is one of the most important decisions that will determine whether the coffee shop will be a success or a failure
- Objective: to analyze and select the best locations in Jakarta, Indonesia to open a new coffee shop
- This project is timely as the city is currently suffering from oversupply of coffee shops
- Business question: In Jakarta, Indonesia, if an investor is looking to open a coffee shop, where would you recommend them to open it?

DATA

- Data required:
 - List of districts in Jakarta
 - Latitude and longitude coordinates of the districts
 - Venue data, particularly related to coffee shop
- Sources of data
 - Wikipedia page for districts in Jakarta
 - Geocoder package for latitude and longitude coordinates
 - Foursquare API for venue data

METHODOLOGY

- Web scraping Wikipedia page for districts list
- Get latitude and longitude coordinates using Geocoder
- User Foursquare API to get venue data
- Group data by districts and taking the mean of the frequency of occurrence of each venue category
- Filter venue category by Coffee Shop/Café
- Perform clustering on the data using k-means clustering
- Visualize the clusters in a map using Folium package

RESULTS

- Categorized the districts into 3 clusters:
 - Cluster 0: Districts with low number to no existence of coffee shop/café
 - Cluster I: Districts with moderate number of coffee shop/café
 - Cluster 2: Districts with high concentration of coffee shop/café

The results of the clustering are visualized in the map below with cluster 0 in red, cluster 1 in purple,

and cluster 2 in mint green.



DISCUSSION

- Most of the coffee shops are concentrated in the central area of Jakarta
- Highest number in cluster 2 and moderate number in cluster I
- Cluster 0 has very low number to no coffee shops in the districts
- Oversupply of coffee shops mostly happened in the central area of the city

RECOMMENDATIONS

- Open new coffee shops in districts in cluster 0
- Can also open in districts in cluster I if you have unique selling propositions to stand out from the competitor
- Avoid cluster 2, there is intense competition there

CONCLUSION

- Answer to business question: The districts in cluster 0 are the most preferred locations to open a new coffee shop
- Findings of this project will help the relevant stakeholders to capitalize on the opportunities on high potential locations while avoiding overcrowded areas in their decisions to open a new coffee shop

