OPENING A NEW BAKERY IN AMSTERDAM

Capstone project

IBM Applied Data Science Capstone

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INTRODUCTION. BUSINESS PROBLEM

- Bakeries are types of small manufacturing facilities providing first-need food products (such as bread, croissants, cakes, etc). This is type of shop people visit every day, so there's an urge for them.
- Location of the bakery is one of the key aspects of its success or failure.
- Business question: A property developer is looking for the best place to set up a new bakery in the city of Amsterdam, the Netherlands. Where would you recommend to open it?
- Objective: To analyze and select the best location for the bakery in Amsterdam

DATA SOURCES AND NEEDS

This project requires the following data:

- List of districts in Amsterdam
- Latitude and longitude coordinates of the neighborhoods
- Venue data (location of current bakeries in each neighborhood)

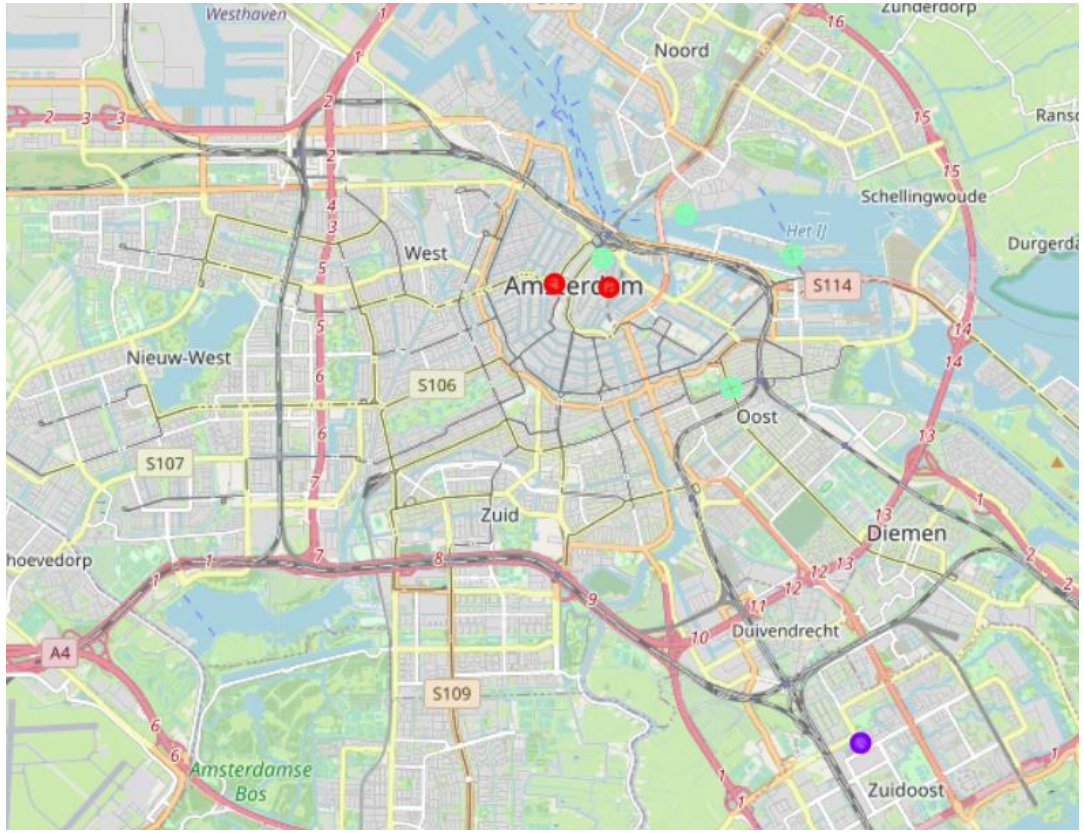
Data sources:

- Boroughs of Amsterdam (https://en.wikipedia.org/wiki/Boroughs_of_Amsterdam)
- Python Geocoder package for the coordinates
- Foursquare API (https://foursquare.com/) to get the venue data

METHODOLOGY

- Web scraping using Python+beautiful soap to extract the list of the neighborhoods
- Geographical coordinates of the neighborhoods using Python Geocoder package
- Foursquare API (https://foursquare.com/) to get the venues in the neighborhoods
- Analyze venues in each neighborhood paying attention and taking the mean of the frequency of each venue category occurrence
- Filter categories by "Bakery"
- Apply clustering on the data using K-means

RESULTS



There are no/few bakeries in Cluster 0

There are moderate number of bakeries in Cluster 1

There are many bakeries in Cluster 2

CONCLUSION

After analyzing the data on each neighborhood of Amsterdam, the best place to set up a new bakery is either **Nieuw-West or West** (Cluster 0)neighborhood, as it has the lowest number or bakeries open, and thus the competition for the customer in these areas will be low.

LINKS

Boroughs of Amsterdam (https://en.wikipedia.org/wiki/Boroughs_of_Amsterdam)

Foursquare API (https://foursquare.com/)