FINDING A GOOD LOCATION FOR A NEW RESTAURANT IN LAGOS NIGERIA

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1.INTRODUCTION

Many restaurants are small businesses and they provide services ranging from inexpensive fast food restaurants and cafeterias to mild priced food restaurants, to high-priced establishments. The main goal of a restaurant is to maximize profit and to do this, many factors come to play, especially the location of such restaurant.

1.1 BUSINESS PROBLEM

The location of a restaurant plays a major role in its success. This project aims to predict the best place to open a new restaurant in Lagos Nigeria.

1.2 INTEREST

Property developers and investors will be very interested in the outcome of this project.

2 DATA ACQUISITION

2.1 DATA SOURCES

- List of neighborhoods in Lagos Nigeria from https://en.m.wikipedia.org/wiki/Category:Neighborhoods_of_Lagos
- Python Geocoder was used to get the geographical coordinates (latitude and longitude) of the neighborhoods in Lagos Nigeria.
- Foursquare API was used to get the venue distributions of the neighborhoods.

2.2 DATA CLEANING

Data was cleaned and wrangled. The data scrapped was combined with the longitude and latitude and made into a pandas table.

3 METHODOLOGY

Beautiful soup was used to scrap data containing the Lagos neighborhood from https://en.m.wikipedia.org/wiki/Category:Neighborhoods_of_Lagos

Python Geocoder was used to get the latitude and longitude of each neighborhood. These were made into a pandas data frame for better analysis.

Foursquare API was used to get 100 venues that were within the 2000 miles of each neighborhood. Each venue name, category, longitude and latitude were gotten.
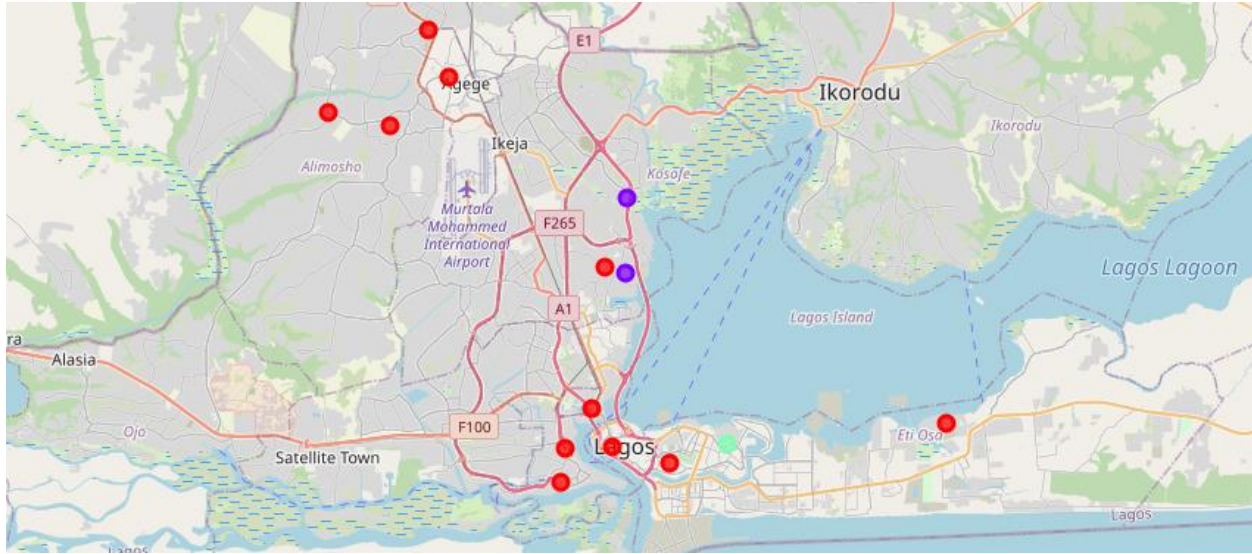
Each neighborhood was grouped into venue category. The data was then filtered by Restaurants as a venue category for each neighborhood.

K-means clustering was used to group the neighborhoods into 3 clusters based on restaurants so that the best locations can be determined.

4. RESULTS

From the analysis it was discovered that;

- Cluster 0: Neighborhoods with very few restaurants
- Cluster 1: Neighborhoods with moderate concentrations of restaurants
- Cluster 3: Neighborhoods with high concentrations of restaurants

5. DISCUSSIONS

From the analysis above, it shows that there are a lot of restaurant in cluster 1 and 2 (Bariga, Ogudu and Ikoyi). whereas there are very few restaurants in cluster 0. Any neighborhood in cluster 0 will make a good environment to locate a restaurant as there are very little competitions. This project recommends property developers to consider opening a restaurant in the neighborhoods of cluster 0.

6. CONCLUSION

In this study, I analyzed the different neighborhoods in Lagos, Nigeria and the restaurants concentration of each neighborhood. Neighborhood in cluster 0 is the preferred location of a new restaurant. This project will help project developers to make ample decisions in where to locate a new restaurant

7.REFERENCES

Suburbs in Lagos, Nigeria
https://en.m.wikipedia.org/wiki/Category:Neighborhoods_of_Lagos

Foursquare developers' documentation

https://developer.foursquare.com/docs