Exploring Restaurants in Neighborhoods of Dubai
Applied Data Science Capstone Project

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Introduction

The restaurant industry has high demand and is a sought-after market in Dubai, the most famous and populous [1] city of United Arab Emirates. Starting a restaurant is one of the many profitable business ideas in Dubai [2] but investors are faced with a location dilemma in addition to the other expected questions and prerequisites. When a city is already home to a variety of restaurants, investors want to avoid competition and yet attract a good number of the population. The multicultural community of Dubai provides investors with a range of options to explore before deciding what specific project and category of restaurant they want to invest in. In this project, we will be exploring the different type of restaurants in neighborhoods of Dubai in hope to identify any gaps. The target audience of this project:

1. Investors interested in restaurant business – the project will give them a summary about the different categories of restaurants in neighborhoods of Dubai and potentially find a gap which they can target. It will also provide insights to the population in these neighborhoods to understand if a good customer base can be built.
2. Students of data science, who may want to study sample projects to understand how foursquare can be used to understand and help in solving business problems.

Data

To answer the above question, we require the following:

1. List of the neighborhoods in Dubai
   a. Latitude and longitude
   b. Population

We use the data provided by Government of Dubai, Population and Statistics [3], to obtain a list of neighborhoods along with their population. This data is available for download on their website and provides Number of Estimated Population by Sector and Community in the year 2019. For the latitude and longitude for each of the communities/neighborhoods, we use Geolocator python package [4].

In the data preparation stage, we clean the data by excluding neighborhoods with a population less than 500. We also merge different divisions of the same neighborhood into one and sum

their populations. For instance, Khawaneej One and Khawaneej Two are considered as Khawaneej. This is done for simplicity and after considering that the areas are not very large to require segregation. For this project, we only include the neighborhoods for which the coordinates are readily available through the geolocator. After all the data cleaning and wrangling, we have a total of 66 neighborhoods with their respective population and co-ordinates. Figure 1 shows a map of Dubai with all the 66 neighborhoods marked.
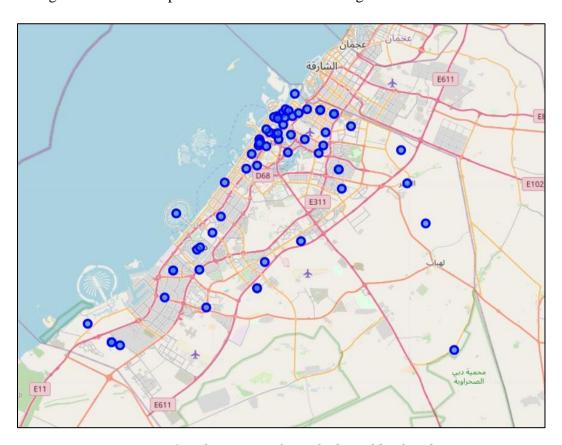

Figure 1 Dubai map with marked neighborhoods

2. Data on the different categories of restaurant around a neighborhood/community.

We find the data on nearby restaurants using the Foursquare API. In the venue search, we use the categoryId of 'Food' to include all venues that fall under this main category. Figure 2 shows a snapshot of the different categories of restaurants in one of the neighborhoods, i.e. Aweer, Dubai.

Figure 2 Snapshot of the results from FOURSQUARE when food related venues are searched for Aweer, Dubai.

References

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