Capstone Project - The Battle of Neighborhoods (Week 1)

Finding a best place to open a restaurant in Singapore

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Summary

Introduction – Project Requirements

Now that you have been equipped with the skills and the tools to use location data to explore a geographical location, over the course of two weeks, you will have the opportunity to be as creative as you want and come up with an idea to leverage the Foursquare location data to explore or compare neighborhoods or cities of your choice or to come up with a problem that you can use the Foursquare location data to solve. If you cannot think of an idea or a problem, here are some ideas to get you started:

- In Module 3, we explored New York City and the city of Toronto and segmented and clustered their neighborhoods. Both cities are very diverse and are the financial capitals of their respective countries. One interesting idea would be to compare the neighborhoods of the two cities and determine how similar or dissimilar they are. Is New York City more like Toronto or Paris or some other multicultural city? I will leave it to you to refine this idea.
- In a city of your choice, if someone is looking to open a restaurant, where would you recommend that they open it? Similarly, if a contractor is trying to start their own business, where would you recommend that they setup their office.

These are just a couple of many ideas and problems that can be solved using location data in addition to other datasets. No matter what you decide to do, make sure to provide sufficient justification of why you think what you want to do or solve is important and why would a client or a group of people be interested in your project.

<u>Given I am based in Singapore, I have decided to answer a question: Where to open a restaurant in Singapore?</u>

Introduction – Business Problem

The City I have chosen to analyze is Singapore. **Singapore has a highly developed market economy**, based historically on extended entrepôt trade. Along with Hong Kong, South Korea, and Taiwan, Singapore is one of the Four Asian Tigers, but has surpassed its peers in terms of Gross Domestic Product (GDP) per capita.

The Singaporean economy is regarded as free, innovative, dynamic and business-friendly. For several years, Singapore has been one of the few countries with an AAA credit rating from the big three and the only Asian country to achieve this rating. Singapore attracts a large amount of foreign investment as a result of its location, skilled workforce, low tax rates, advanced infrastructure and zero-tolerance against corruption. It is the world's most competitive economy.

After this short **presentation**, I suppose that the city of **Singapore** is place with a great competition, especially, if you want to **open** a **restaurant** so I would like to help a possible stakeholder to understand better the town and the market with useful insights.

Introduction – Target Audience

- A business entrepreneur that wants open a new restaurant in Singapore.
- Someone curious about data that want to have an idea, how beneficial it is to open a restaurant and what are the pros and cons of this business.
- Business Analyst or Data Scientists, who wish to analyze the neighborhoods of Toronto using Exploratory Data Analysis and other statistical & machine learning techniques to obtain all the necessary data, perform some operations on it and, finally be able to tell a story out of it.

Data – Data Selection

- First of all we need some information about the area of Singapore such as planning areas of Singapore. It can be found at https://en.wikipedia.org/wiki/Planning_Areas_of_Singapore
- The coordinates of each area are retrieved through a geocoding open source service. The coordinates will be used to plot map maker on the map for visualization
- Lastly foursquare API is used to get the top 100 venues in each planning area.
- By combining above three data sets, futher data analysis can be performed. Correlations between density and all venue categories are calculated. Bar charts, histograms, and scatter plots can be plotted to visualize the relationship. Machine learning clustering algorithems are used to cluster data and find solutions to the business problem