PREDICTING SÃO PAULOS' FINANCIAL DISTRICTS LOCATION USING COFFEE SHOPS CONCENTRATION THROUGH CLUSTERING TECHNIQUES

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INTRODUCTION / BUSINESS CASE

According to the International Coffee Association (ICO), Brazil is the biggest Arabica coffee producing country on earth, exporting around 58 million bags of grains per year [1]. With around 200 million citizens, it's also the 5th biggest country in the world in terms of population [2] and a developing economy according to the UN standards [3].

Besides all the contribution that coffee does to Brazilian's GDP, it's value for the average brazilian stands way beyond money. For the most of us, a good cup of coffee is an everyday-must-have.

However, as surprising as it may seem, having breakfast at a coffee shop is not part of the Brazilian's routine. That's because we usually have coffee at home by tradition and affording a good cup of steaming caffeine at a local coffee shop is kind of a luxury. Coffee shops are seen like they were built for business meetings or once in a while purchases.

That said, these observations around the average brazilian's habits leaves us the question around how improbable it is that coffee shops appearance in brazil tend to represent economic prosperity since they are not used on an everyday basis. One way of proving this thesis is by testing our capability of correlating coffee shops distributions with financial districts in the city.

This analysis is relevant for both business and economy enthusiasts as well as for government officials who look out for possible economic indicators of development.

Is it possible to predict the location of the biggest business/financial districts of São Paulo just staring at coffee shops?

DATA

For this analysis we'll use Foursquare's API to find all coffee shops in São Paulo's territory as well as their latitude and longitude. With this data we'll be able to identify clusters as agglomerations of venues and their proximities to each other. Having this dataset and being aware of which are the main financial districts in São Paulo will be sufficient to test our main thesis.

According to Wikipedia, the 3 main financial zones in the city of São Paulo are:

1. Avenida Brigadeiro Faria Lima
2. Avenida Paulista
3. The historical Downtown

[1] http://www.ico.org/prices/po-production.pdf

[2] http://www.worldometers.info/world-population/brazil-population/

[3] https://www.un.org/en/development/desa/policy/wesp/wesp_current/2014wesp_country_classification.pdf