Finding alternative cities to emigrate from Venezuela

IBM Applied Data Science Capstone Project

Heberto Alarcon

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Introduction

Background

A socioeconomic and political crisis that began in Venezuela during the presidency of Hugo Chávez has continued into the presidency of Nicolás Maduro (still 2020). It is marked by hyperinflation, escalating starvation,[1] disease, crime and mortality rates, resulting in massive emigration from the country[2]. Over the past 2 decades, many Venezuelans (Around 4-6 millions[3]) have flee the country searching a better lifestyle than the precarious one Venezuelan regime offers. Such rapid growth of emigrants, however, has caused a general sense of crowding in certain countries (like Colombia, Peru, etc. [4]) .

Problem

The steep rise in the cost of living, insecurity and low wages are pushing Venezuelans to seek alternative places to live in. The question for this subset of people that leave the country is ***how to even get started browsing prospective places to move***, as Spanish speaking countries alone are 21 cities (Mexico, Colombia, Spain, Argentina, Peru, **Venezuela**, Chile, Guatemala, Ecuador, Cuba, Bolivia, Replica Dominicana, Honduras, El Salvador, Paraguay, Nicaragua, Costa Rica, Puerto Rico, Panama, Uruguay, Guinea Equatorial, Bel, Sahara Occidental).

To answer this question, we'll start with the assumption that potential Venezuelan emigrants looking to move are still interested in in living in Spanish speaking country and seek to find alternative cities with similar amenities as their current one (In this case, Maracaibo city). Given this scope, we can sample the superset of cities with **most high GDP** to create a kind of "fingerprint" of popular venues (such as certain types of restaurants, stores and natural areas) for each city, and then use this to identify potential similarities with other cities. The findings of this exercise could then be used as a recommendation guide for further, in-person demographics research.

Audience

The primary audience of this study might include Venezuelan immigrants as well as other Latin American emigrants planning on leaving their country. The findings could also be used by Latin American entrepreneurs looking to open new businesses or even a way of fostering outreach and partnerships among Spanish speaking municipal chambers of commerce.

Data

Sources

To obtain a list of cities with their GDP, we'll scrape Wikipedia for a list of cities by GDP[5]. We'll use the Foursquare venue recommendation API [5] to obtain a list of the most popular venues for each

city and query location data (latitude/longitude) using the Mapquest Geocoding API [7] in order to map all the cities and visualize the clusters.

Footnotes

[1] https://www.theguardian.com/world/2020/feb/24/venezuela-hungry-food-insecure-un-world-food-program
[2] https://www.nytimes.com/2018/11/01/magazine/venezuela-inflation-economics.html?rref=collection%2Fsectioncollection%2Fmagazine&action=click&contentCollection=magazine&region=rank&module=package&version=highlights&contentPlacement=3&pgtype=sectionfront
[3] https://en.wikipedia.org/wiki/Venezuelan_refugee_crisis#:~:text=The%20Venezuelan%20migration%20and%20refugee,because%20of%20the%20Bolivarian%20Revolution.
[4] https://r4v.info/en/situations/platform
[5] https://en.wikipedia.org/wiki/List_of_cities_by_GDP
[6] https://developer.foursquare.com/docs/api/venues/explore
[7] https://developer.mapquest.com/documentation/geocoding-api/