Predicting investment options with venue focus in Ecuador (2020)

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Problem Description
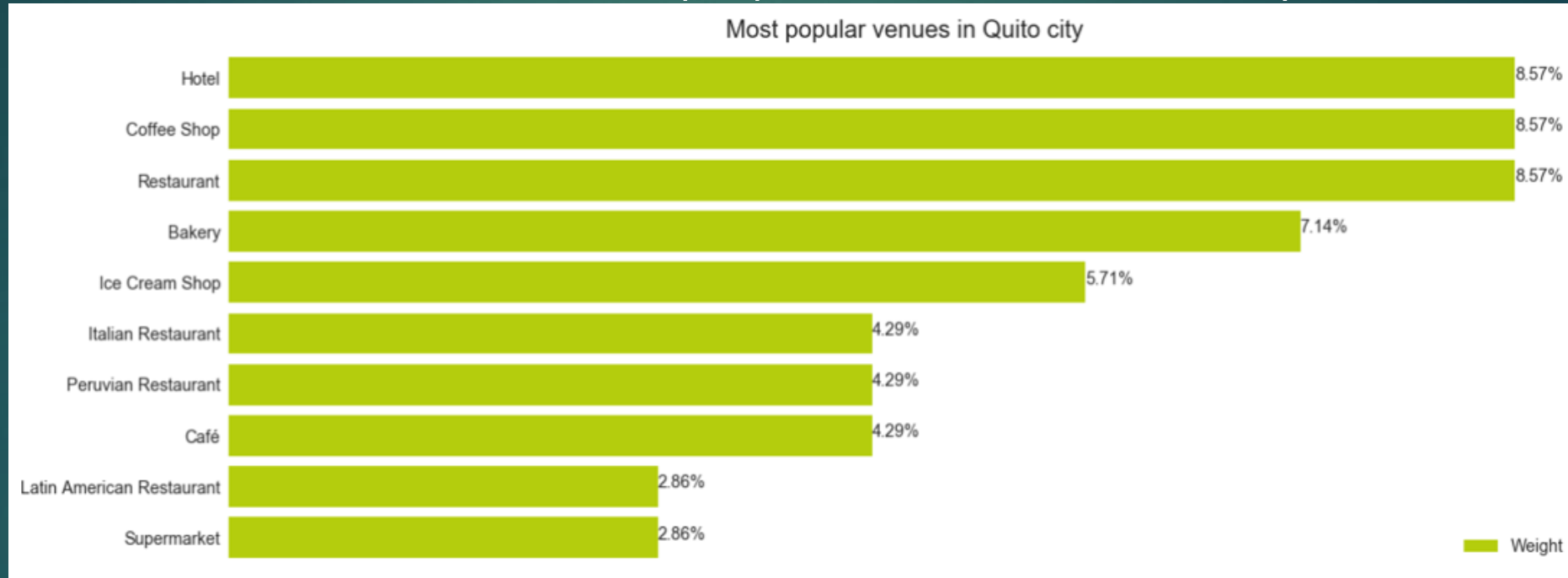
- Pandemics caused by SARS-CoV-2, caused economical recession worldwide, with a heavier impact in developing countries.

- Investors in such markets are very cautions when staring a new business, as the usually end up tied for long periods of time, but usually rely on empirical knowledge rather than an actual market study to chose.

- In this case, we decided to choose Ecuador as market for study, and determine possible suggested venue categories to start a business in, as well as providing similarity of markets nationwide.

Author: D. Espinosa, Nov. 2020

Data Acquisition and Cleaning

▶ Data was obtained form the following sources:

  ▶ Capital cities in Ecuador, scrapped from Wikipedia, using Beautiful Soup.

  ▶ Geographical locations will be extracted using GeoPy.

  ▶ Number of venues and their type, in every town will be obtained using Foursquare API.

▶ 643 samples and 7 categories were obtained in the raw dataset. Redundant and temporary features were dropped.

▶ Cleaned data reduced the sample number to 465.

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Top 'N' venues per city (graph & report)

▶ Function built to determine the popular venues in a city.

Most popular venues in Quito city

Venue	Weight
Hotel	8.57%
Coffee Shop	8.57%
Restaurant	8.57%
Bakery	7.14%
Ice Cream Shop	5.71%
Italian Restaurant	4.29%
Peruvian Restaurant	4.29%
Café	4.29%
Latin American Restaurant	2.86%
Supermarket	2.86%

	City	Top Venue # 1	Top Venue # 2	Top Venue # 3	Top Venue # 4
0	Ambato	Hotel	Mexican Restaurant	Latin American Restaurant	Pizza Place
1	Babahoyo	Pharmacy	BBQ Joint	Burger Joint	Fast Food Restaurant
2	Cuenca	Italian Restaurant	Restaurant	BBQ Joint	Latin American Restaurant
3	Esmeraldas	Hotel	Sandwich Place	Seafood Restaurant	Women's Store
4	Guaranda	Bar	Mountain	Coffee Shop	Cocktail Bar

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Interesting Investment Options

► Function built ot determine the "Least" common venues per city, but prone to have little to not competition with the corresponding city (and thus 'interesting investment option').

	City	Top Venue # 1	Top Venue # 2	Top Venue # 3	Top Venue # 4
0	Ambato	Hotel	Mexican Restaurant	Latin American Restaurant	Pizza Place
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Clustering: Types of markets

► AFTER

► BEFORE

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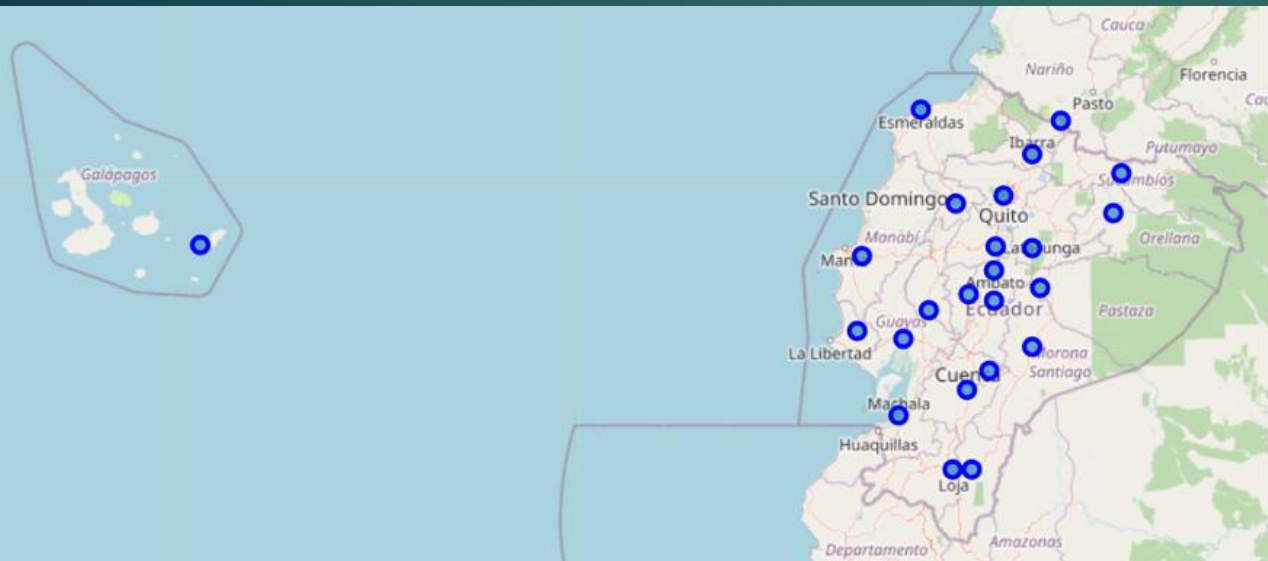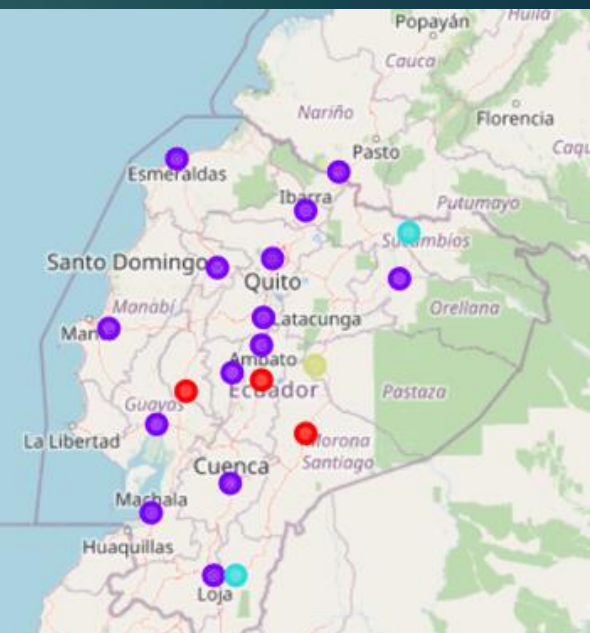
Clustering: Market Features

▶ 4 types of markets in Ecuador, based on venues:

  ▶ **Type 0:** big cities which offer, different popular venue categories, no specific trend.

  ▶ **Type 1:** smaller cities basically focused on tourism.

  ▶ **Type 2:** small cities which offer, different popular venue categories, no specific trend.

  ▶ **Type 3:** small cities with non-relevant venue offer.

▶ Markets suggested: 0, 1 & 2, each one with advantages and disadvantages, investor might need to choose what kind of market he / she feels more familiar with.

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Conclusions and future directions

▶ Conclusions:

  ▶ 4 types of markets in Ecuador were found to coexist in Ecuador, based on venues.

  ▶ The presence of Hotel and Restaurants allow to grasp a heavy tourism-focused country; these will be popular in every market type.

  ▶ Investor is provided with some tools to obtain both the popular venues, as well as venues with little competition for every market.

▶ Future directions:

  ▶ For a deeper understanding of an specific venue, further research might be needed.

  ▶ Data available in Ecuador (digitally or web) is scarce; maybe a similar study would be applied for bigger markets.

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