

Business Ecosystem Analysis

Introduction

Finding communities with underdeveloped markets in different business categories can inform investors, entrepreneurs, and public officials of opportunities for growth. Here we will analyze various communities to determine which business segments are least represented.

For example, if most communities of a certain size have X restaurants, a community with $X/2$ restaurants might be a prime location to consider opening a restaurant. Another signal for an opportunity to open a new business would be customer ratings of existing businesses. If a particular business segment is rating poorly, that could indicate an opportunity to enter that segment with new competition or at the very least consulting.

Data

Foursquare data is used along with census data and the OpenStreetMap API. Foursquare will be used as the source of venue information.

Foursquare

The relevant Foursquare data uses the “explore” endpoint. We will use the venue category information from this data. Example: “Gourmet Shop”. The categories they assign to each business will be the basis for assessing the level of competition of the market in that category.

OpenStreetMaps

This API will give what they call the bounding box for cities.

Example:

"41.327988", "41.373571", "-85.147331", "-85.097333",
which are the minimum latitude, maximum latitude, minimum longitude, maximum longitude,
respectively, of the city. We will use this box as the area to search Foursquare data for venue
information.

Census Data

We use the 2017 census data obtained in their sub-est2017_all.csv file to get the populations of
the cities that are evaluated.

Example: "Indianapolis" : 872680.