

## Introduction

### Background

Consumers across the world are becoming increasingly more conscious of their food and lifestyle choices. This trend is even more dominant for younger consumers, particularly millennial and Gen Z consumers.<sup>[1]</sup> Key trends in this area are the incredible growth of the overall health and wellness market and well as specific areas of the market such as the organic and vegan food markets.

Health and Wellness Food market is expected to see growth rate of 5.7% and may see market size of USD 1,253 billion by 2024.<sup>[2]</sup>

The vegan and vegetarian food market is a high growth segment with the number of vegans in the United States jumping from 1% in 2014 to 6% in 2017, while an estimated one in three Americans now identify as “flexitarians.”<sup>[3]</sup> This translates into an important industry trend as seen by the remarkable 20% growth in the dollar sales of plant-based food in the US versus a 2% growth in overall food sales.<sup>[4]</sup> While more dominant in the US market, this trend is on the rise globally as well, for instance Sales of organic food and drink in the UK rose by 4.5% in 2019 to a record GBP 2.45 billion.<sup>[5]</sup>

The organic food market is another high potential market segment. According to Market Research, it is estimated that the global organic food and beverages market will reach USD 323.56 Billion by 2024.<sup>[6]</sup>

San Francisco is amongst the leading major cities in the US and the world in the upsurge in this health-conscious food trend. It is considered one of the top 5 most vegetarian and vegan friendly cities in the US by Vitacost as well as the best city to live the organic foodie lifestyle by Organic Authority.<sup>[7][8]</sup> Lucy McDonald, a writer for the Guardian, calls San Francisco “the crucible of the world’s health food movement.”<sup>[9]</sup>

### Problem and Interest

The trends discussed make San Francisco one of the most promising locations to venture into the health food market. However, as a consequence of the overall market’s rapid growth and its massive popularity and success in San Francisco, any potential business venture in this space faces incredible competition. We turn to some data and analyse it to make sense of this competition and gain actionable insights such as market concentration, geographic saturation and other similar trends.

This analysis would be useful to individuals and businesses that are interested in venturing into the health food market in San Francisco and would to explore such data to help their analysis.

## Data Acquisition and Wrangling

For the Analysis, I will be using the Foursquare API to explore the features of neighbourhoods in San Francisco and to acquire data of various venue categories related to the health food market, namely Health Food Store, Organic Grocery, Farmers Market, Fruit & Vegetable Store and Vegetarian / Vegan Restaurant.

I will also scrape the following webpage for data of San Francisco neighbourhoods and their corresponding Zip codes: , <http://www.healthysf.org/bdi/outcomes/zipmap.htm> as well as the python database uszipcode to get the longitude and latitude values corresponding to each zip code.

The geopy geocoder class Nominatum will also be used for geocoding certain fields of data into longitude and latitude values.

I will use segmentation and clustering to find similar neighbourhoods and analyse the prevalence of existing health food businesses across the neighbourhoods to find potential gaps in the market.

For visualization, I will use the Folium library to map the neighbourhoods in San Francisco and their emerging clusters.