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Metis Online Flex

# Beyond Meat, New Horizons

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## Abstract

The goal of this project was to identify new Beyond Meat regions by leveraging demographic and Google Trends data of the regions where demand for Beyond meat products is established. Furthermore, this project hoped to demonstrate that a data science methodology, clustering, would result in a Beyond Meat City/Region cluster or profile that would aid in targeted marketing campaigns and supply chain optimization. Exploratory data analysis, including the application of the Manhattan Distance theorem on data from Scrape Hero, Google Trends, and the US Census bureau and data visualizations via Tableau highlighted regions where demand for Beyond Meat products might grow.

## Design

The goal of this project was to identify new cities, or regions where demand for beyond meat products might grow based on the features (demographic, Google Trend) of existing high demand (the number of locations per county or city served as a proxy for demand) areas. In order to achieve this we calculated the Manhattan distance on the aggregated data and used those values to pinpoint regions that were similar to our areas of presumed high demand. This can be seen as a preliminary version of a regression analysis. We then examined the resultant regions and evaluated potential cities based upon geographic region.

## Impact Hypothesis

Describing or identifying high/mean/low demand cities via feature analysis will aid in supply chain optimization (manufacturing and production capacity) and marketing campaign strategy (brand reputation) reducing risks and increasing profitability for Beyond Meat as they continue to expand into new geographic areas and grow brand partnerships.

## Data Description:

- A listing of locations that offer Beyond Meat products in the USA from Scrape Hero (organized by county, city, and state) obtained from Scrape Hero, ~38,000 rows, grouped by County and City for feature analysis, resulting in ~830 rows
- US Age & Gender Population distribution by County obtained from US Census Bureau, (zip code level data was mismatched with Scrape Hero data)
- US Education Attainment by county obtained from US Census Bureau
- Google Trend data on search terms: Veggie Burger Recipe, Vegan Restaurants at the State Level\*

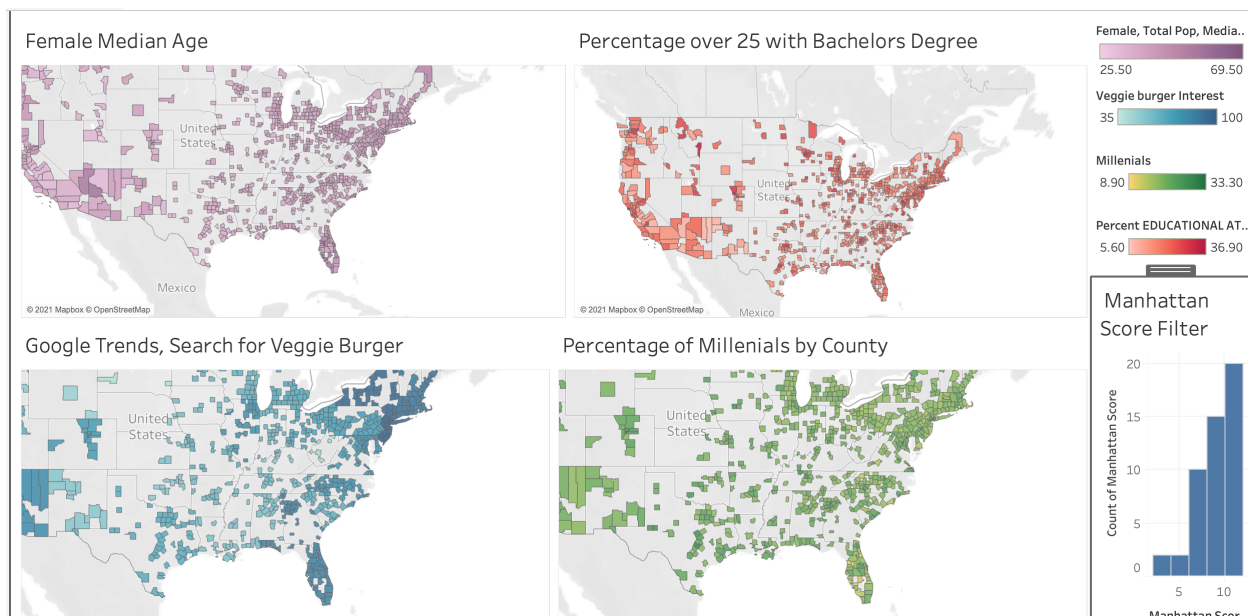
## Algorithms & Analysis

Cleaning, analysis, were performed using google sheets, most visualizations were conducted using Tableau. Minor preliminary feature selection was conducted for cleaning.

The Manhattan score was calculated for each county, using the averages of features for the top ten counties, histogram of these scores was used as a filter to identify regions with low scores (proxy for similarity to our top Beyond Meat counties) in an interactive Tableau visualization.

## Communication, [Data was visualized in Tableau](#)

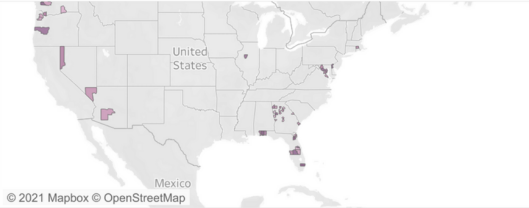
### Unfiltered Features



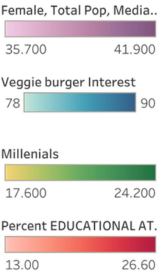
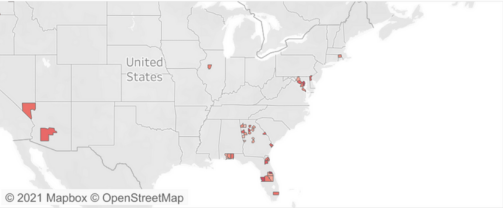
Filtered

Beyond Meat Feature Dashboard

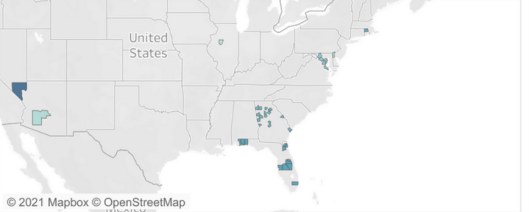
Female Median Age



Percentage over 25 with Bachelors Degree



Google Trends, Search for Veggie Burger



Percentage of Millenials by County

