COLLECTIVE.AI

The Borg's

Resistance Is Futile

Analysis performed by the **Collective.ai** group for **Beerborgs.com**

Collective.ai is company focused to provide machine learning tools to the business decision making process.

COLLECTIVE.AI

Nikhil Gupta

Machine Learning Engineer

Modeling Architect

Modeling Manager

SMU Data Science Student

James Harding

Google Customer Engineer

Google Data Engineer

Google Cloud Architect

SMU Data Science Student

Max Moro

HR Data Scientist

HR Program Manager

Operations Program Mgr

SMU Data Science Student

Data Science

RStudio

Public Data Sets

Untappd Data Sets

Industry Knowledge

DataScience@SMU

The problem

Resistance Is Futile

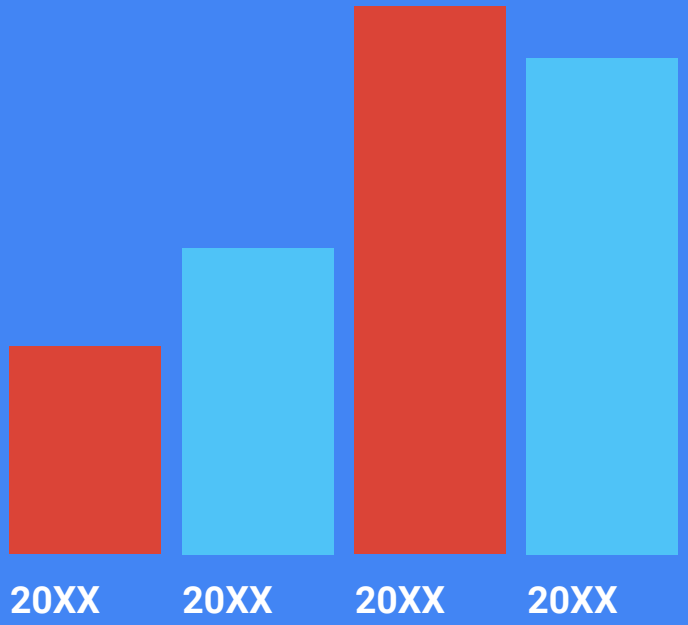
- Alcohol has gone to the dogs
  - Same old song (Coors, Miller)
- Rise of the craft brewery
- Lack of information
  - When do we expand
  - Where do we expand
  - What beer

Expansion

The solution

Beer & Analytics

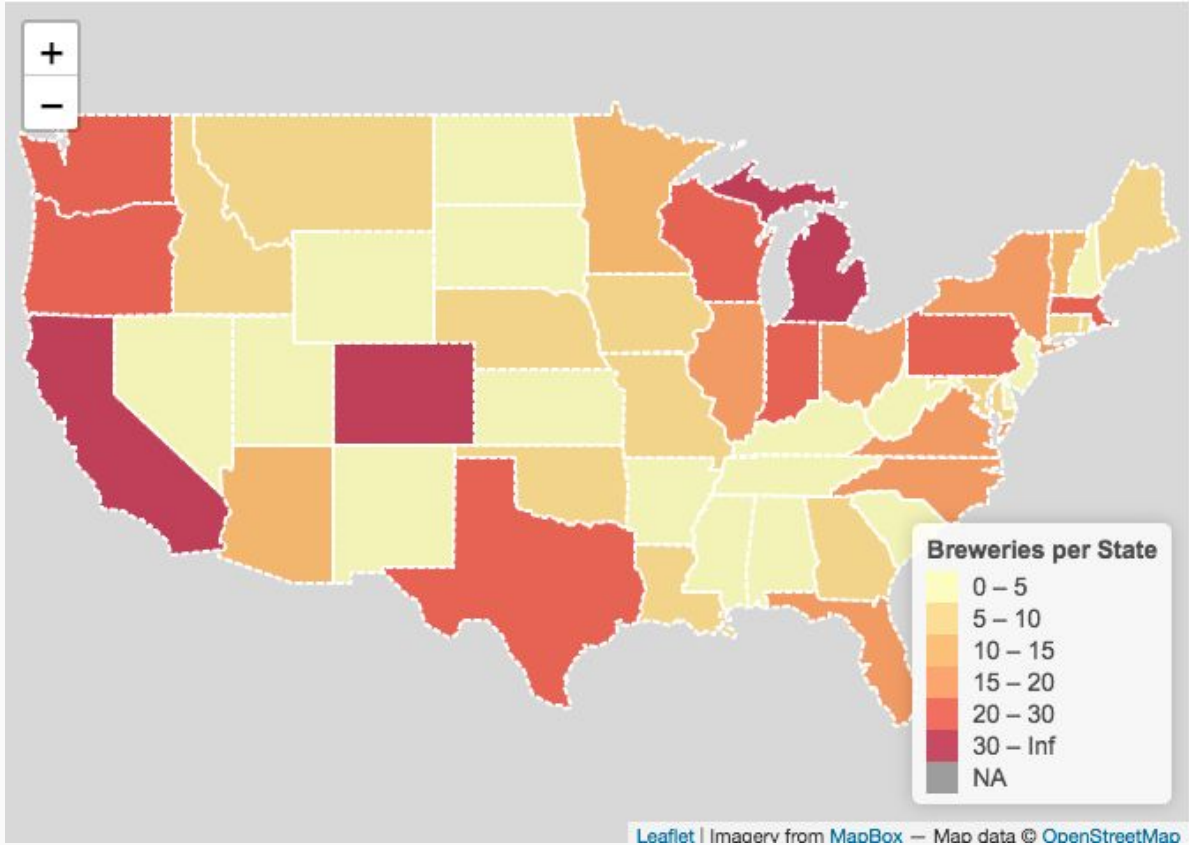
Summary



Our Focus

Focus our research

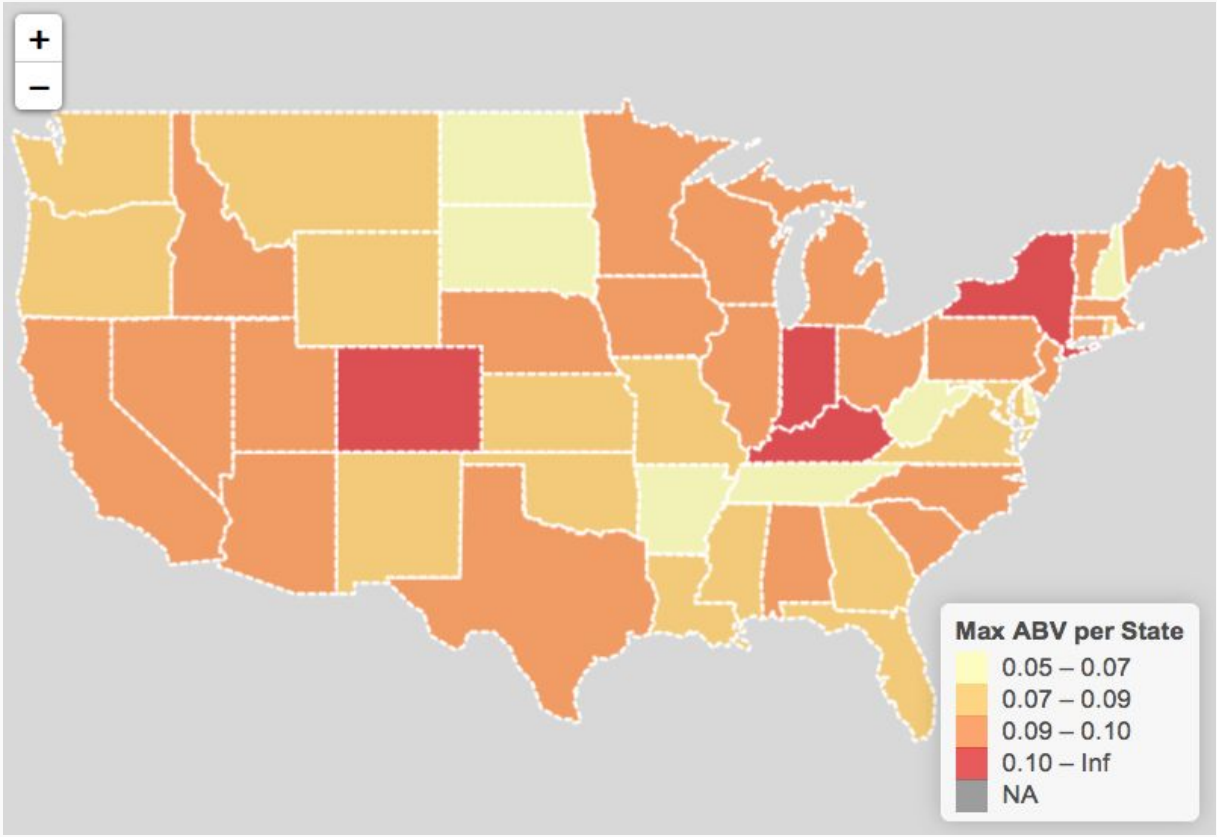
- # Breweries/State
  - Top 10 States
  - Bottom 10 States
- # Beers/State
  - ABV/State
  - IBU/State
- Preference questions
  - Alcohol content
  - Sweet/Bitter
- Correlation/Relationships



Max ABV per State

Interpret Max ABV

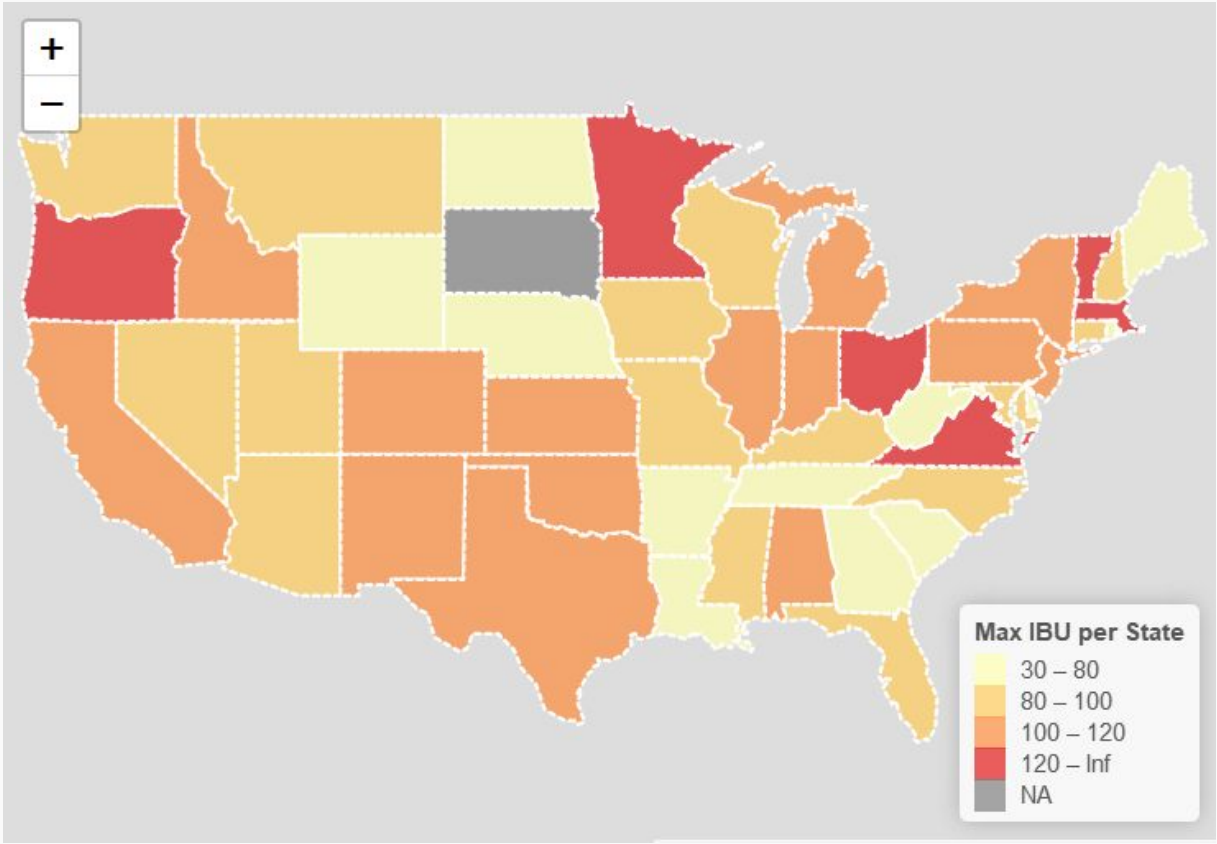
- States with highest ABV are Colorado, Kentucky, Indiana, New York; all with an ABV value at or above 0.100
- With the exception of Colorado, these states are located on the East of the country



Max IBU per State

Interpret Max IBU

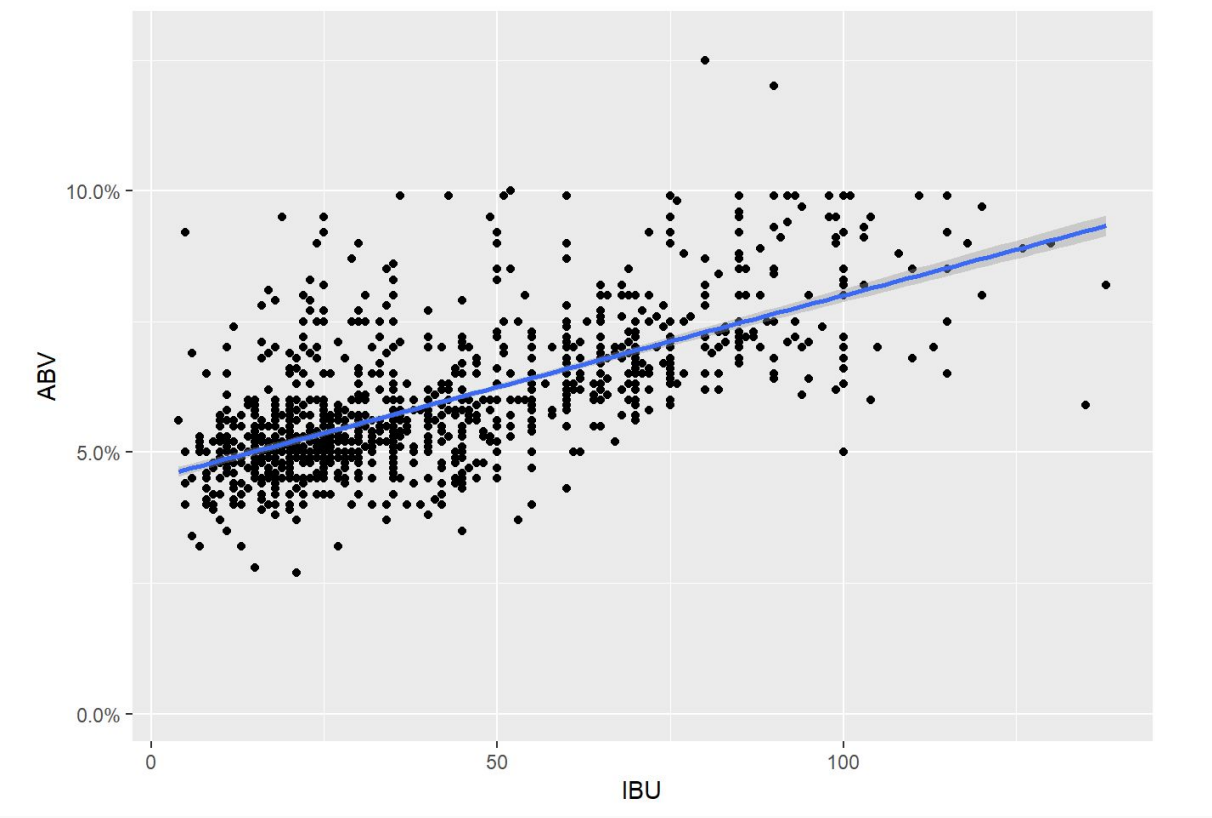
- States with Maximum IBU are: Oregon, Virginia, Massachusetts, Ohio, Minnesota, Vermont; all with an IBU value at or above 120.
- With the exception of Oregon, these states are located on the East of the country



ABV / IBU

Correlation

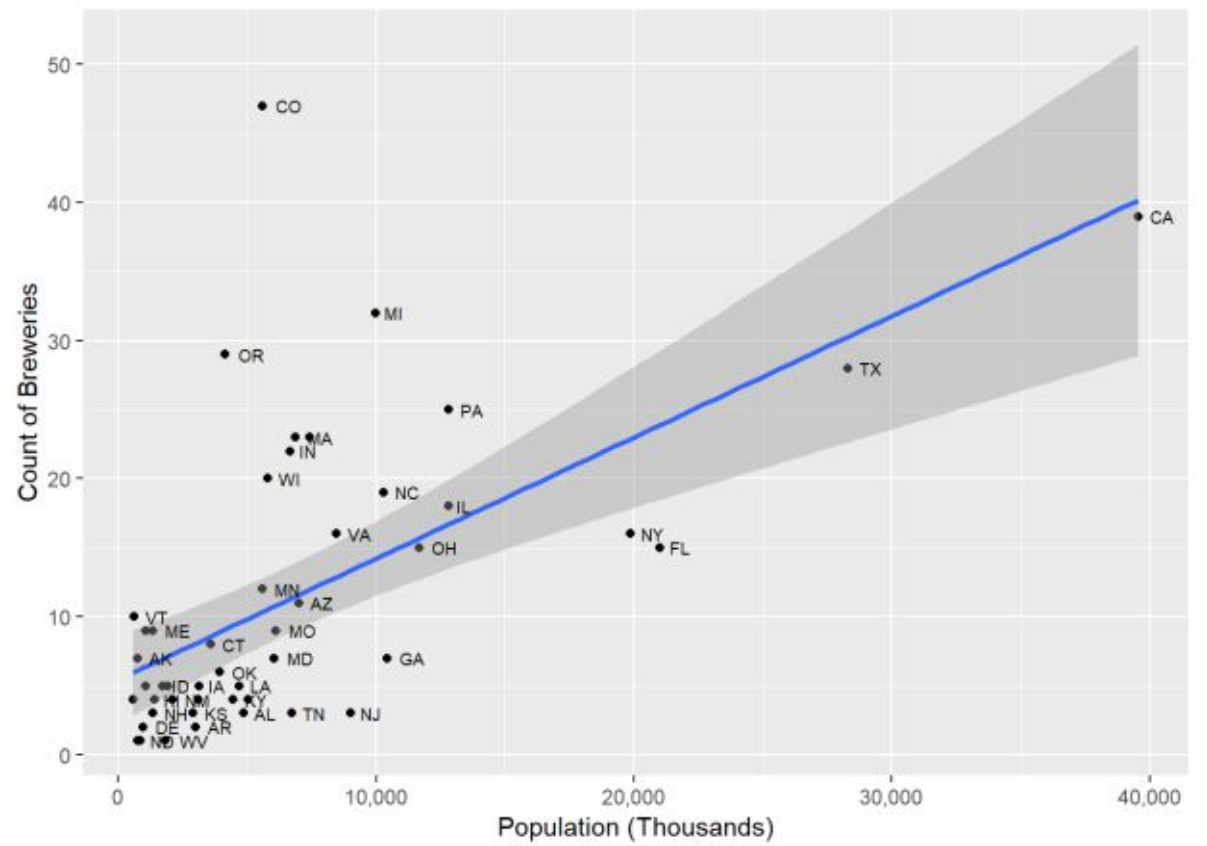
- We have a positive correlation between ABV and IBU by a factor of 0.67
- We have a slope of 0.0351% ABV per IBU point.



Brewers and Population

Correlation:

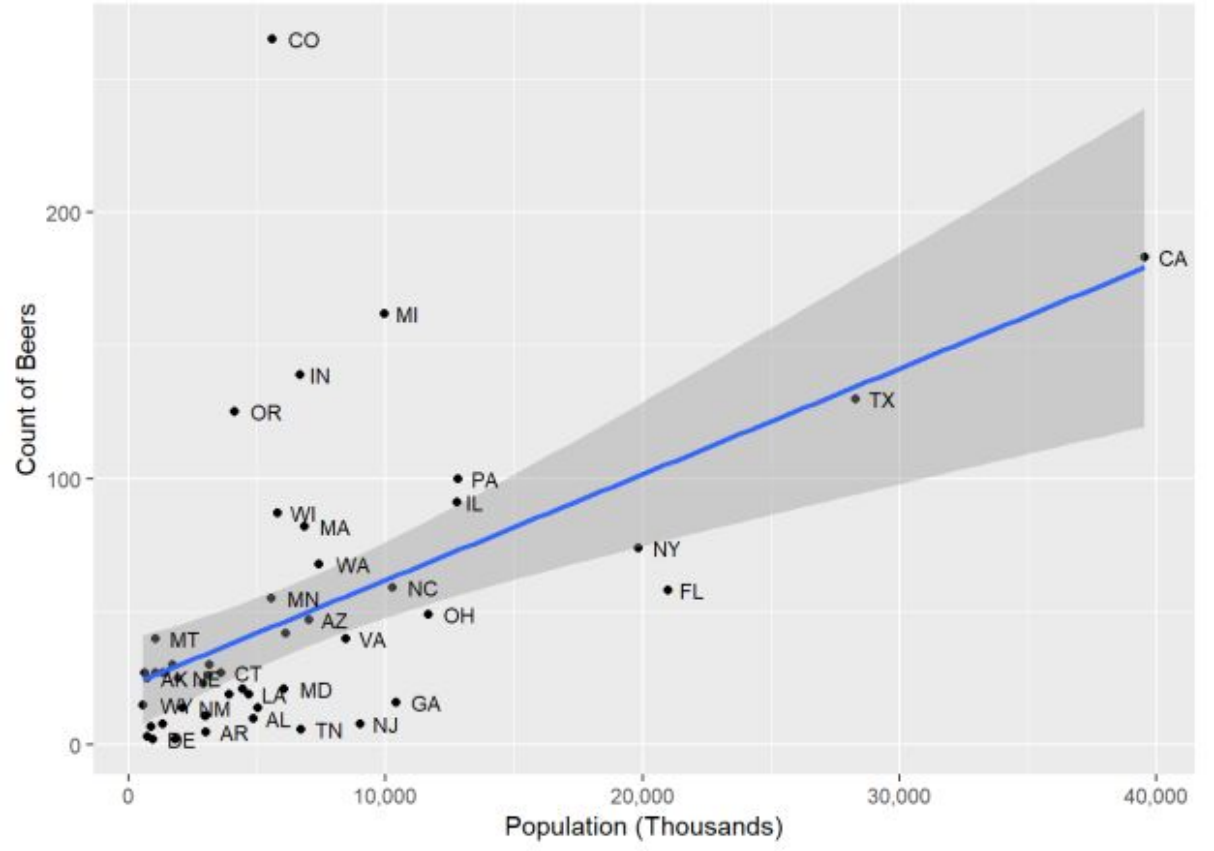
- We have a correlation of 0.60 between Population and number of Breweries in each State
- We have a slope of 420,090 people per Brewery
- States below the trend line have the highest opportunity for Market Expansion



Beers and Population

Correlation

- We have a correlation of 0.60 between Population and number of Beers in each State
- We have a slope of 75,275 people per Beer
- States below the trend line have the highest opportunity for Market Expansion



Summary of Findings

- There is a strong competition in the East and West of the country with more than 20 breweries per State
- Colorado is also a strong market with many breweries and Beers
- With few exceptions, the eastern States of the country tend to have highest ABV and IBU, in the Max and Median points of the distribution.
- There is a correlation between ABV and IBU (coefficient: +0.0351)
- There is a strong correlation between Beers and Population, with a new Beer per each 75K people
- There is a strong correlation between Breweries and Population, with a new Brewery per each 420K people

Full Analytics available here

Opportunities

- We see opportunities for Expansion in states like Florida, New York, Ohio, and Virginia that are below the Correlation Line between Beer, Breweries, and Population.

- Within above States, we would highlight New York and Ohio states having the strongest ABV and IBU. This could be a good fit for the strategy

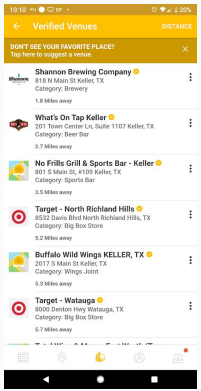
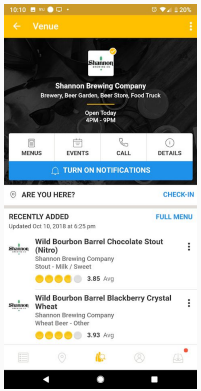
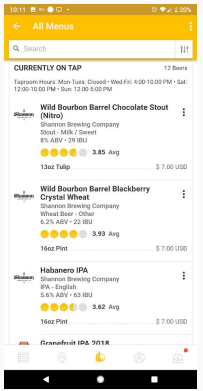
- At the same time, there are a group of states that are outliers in the number of beers and breweries per population (Colorado, Indiana, Minnesota, etc.). We would suggest to gather more data on these states to see the reason of such difference and seek if there is any opportunity for market growth.

- States that are way below the line need also more analysis. They can be a great opportunity, but can have a greater reason for cultural, political, or religious reason.

Next Steps

Team Expansion

- Increase team size (finance, real estate, legal, marketing)

Data Analysis

- What do we need to know
- Purchase Untappd Data Set
- Optional Survey