

The National Beer Market: Inferences from Data

Anheuser-Busch Marketing Consultation
October 18, 2018

Presentation video found at https://youtu.be/O4ApbhmVJ_E

K n A Marketing Consultants

Our Expertise:

- Study and apply data analytics
- Recommend marketing solutions based on the outcome
- Go-to-market strategies as well as competition monitoring
- Consumption analytics – pricing and promotions
- Sales growth

Anheuser-Busch Ltd

- Headquartered in St. Louis, MO
- One of the top brewers in the U.S.
- Brews more than 100 brands
- Flagship Budweiser and Bud Light brands
- Owns 23 breweries
- Has several craft partners, agricultural facilities and manufacturing plants
- 40+ billion in revenue per year

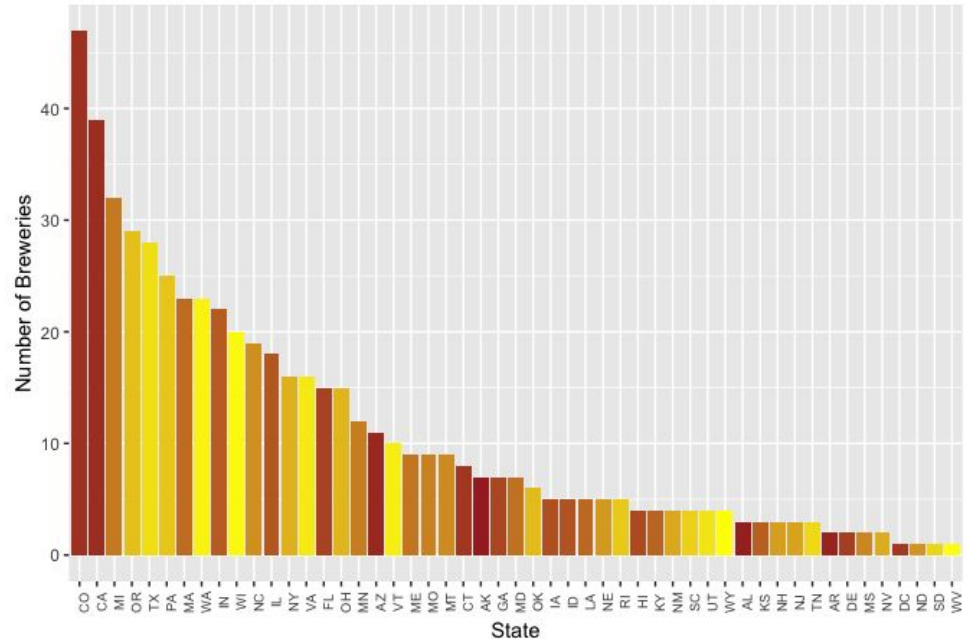
Brewery_Name	City	State	Beer_Name	ABV	IBU	Style	Ounces
Ukiah Brewing Company	Ukiah	CA	Pilsner Ukiah	0.055	NA	German Pilsener	12
Butternuts Beer and Ale	Garrattsville	NY	Porkslap Pale Ale	0.043	NA	American Pale Ale (APA)	12
Butternuts Beer and Ale	Garrattsville	NY	Snapperhead IPA	0.068	NA	American IPA	12
Butternuts Beer and Ale	Garrattsville	NY	Moo Thunder Stout	0.049	NA	Milk / Sweet Stout	12
Butternuts Beer and Ale	Garrattsville	NY	Heinnieweisse Weissebier	0.049	NA	Hefeweizen	12
Sleeping Lady Brewing Company	Anchorage	AK	Urban Wilderness Pale Ale	0.049	NA	English Pale Ale	12

Beer and Brewery Merged Data

Brewery Facts

- All states have breweries
- Vast local resources to tap into
- Customer satisfaction localized
- Most breweries concentrated in top 10 beer producing states

Figure 1: Number of Breweries per State



Missing Values

- IBU: 1005 NAs
- ABV: 62 NAs
- Remaining variables: 0 NAs

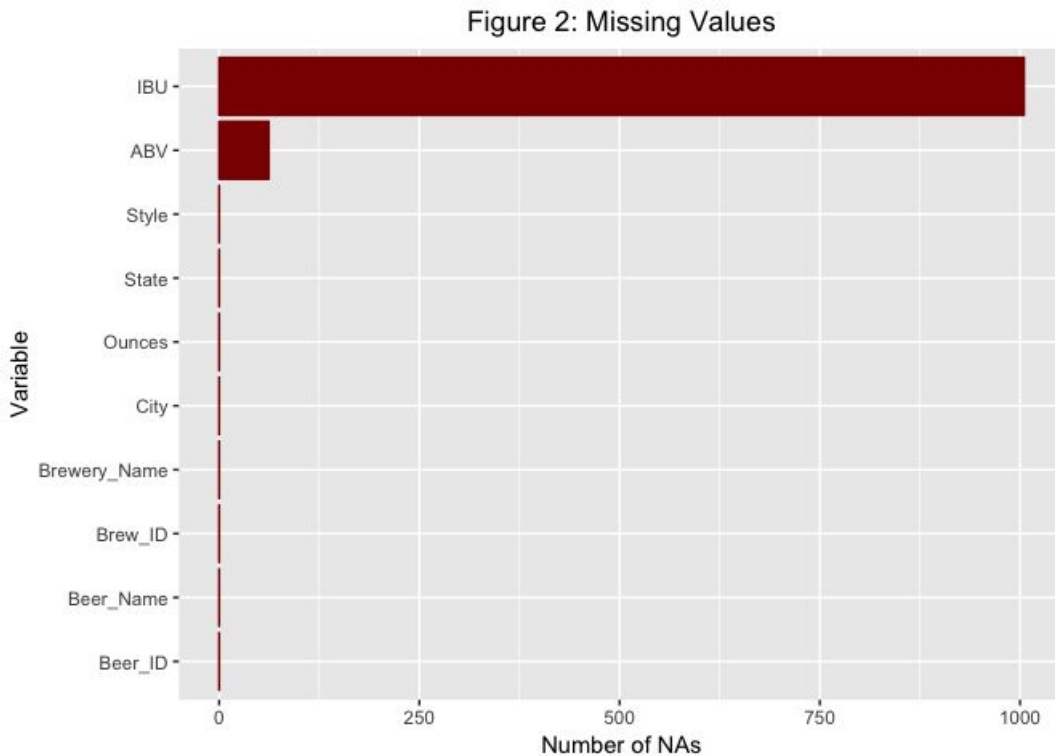


Figure 3: Median Alcohol Content of Beers by State

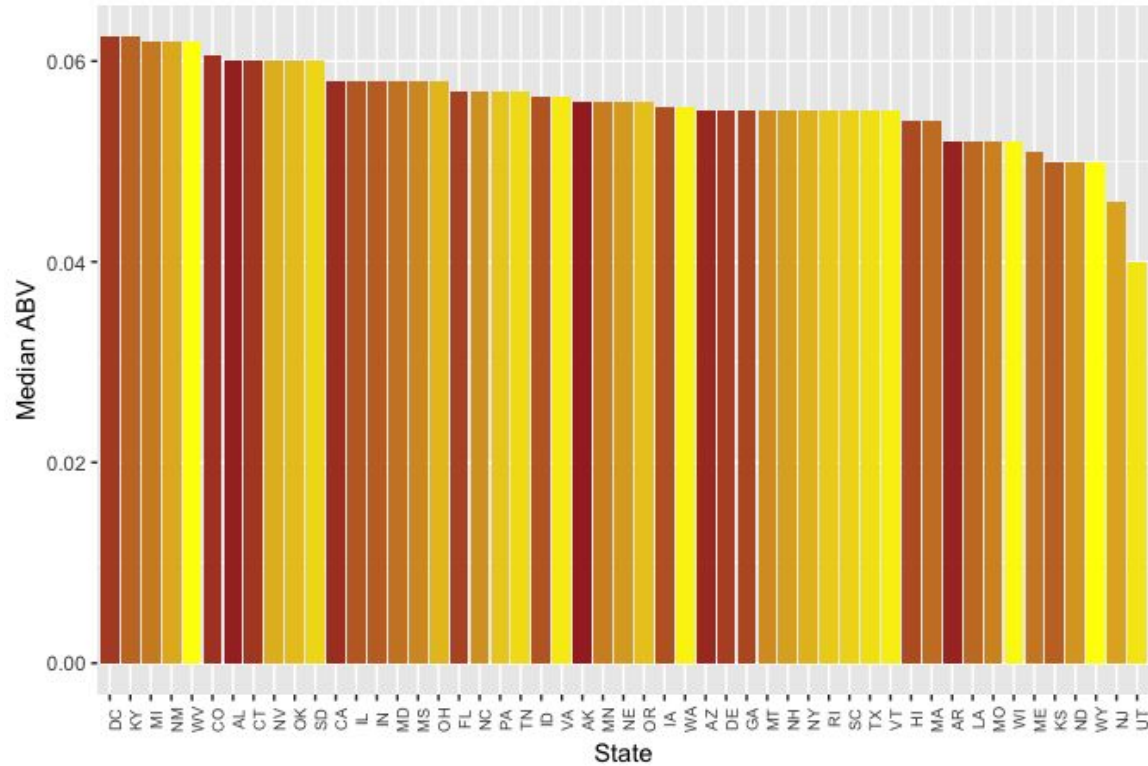
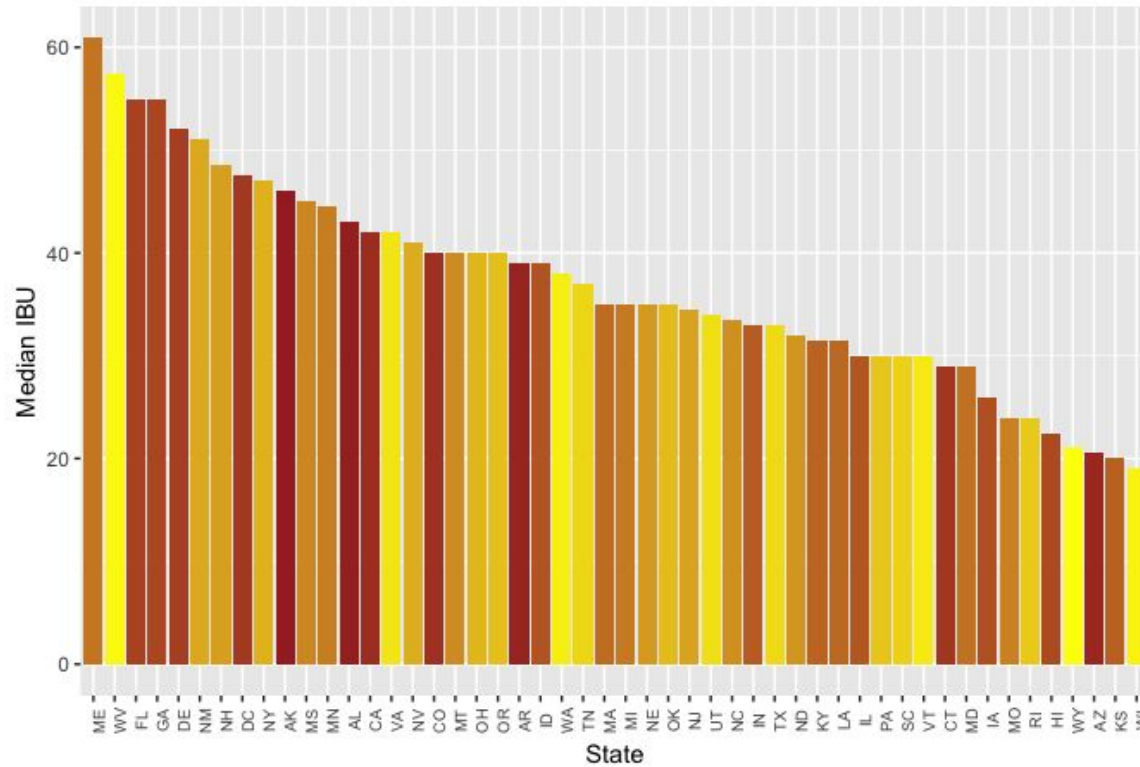


Figure 4: Median Bitterness of Beers by State



Maximum ABV and IBU

Table 4: Highest ABV

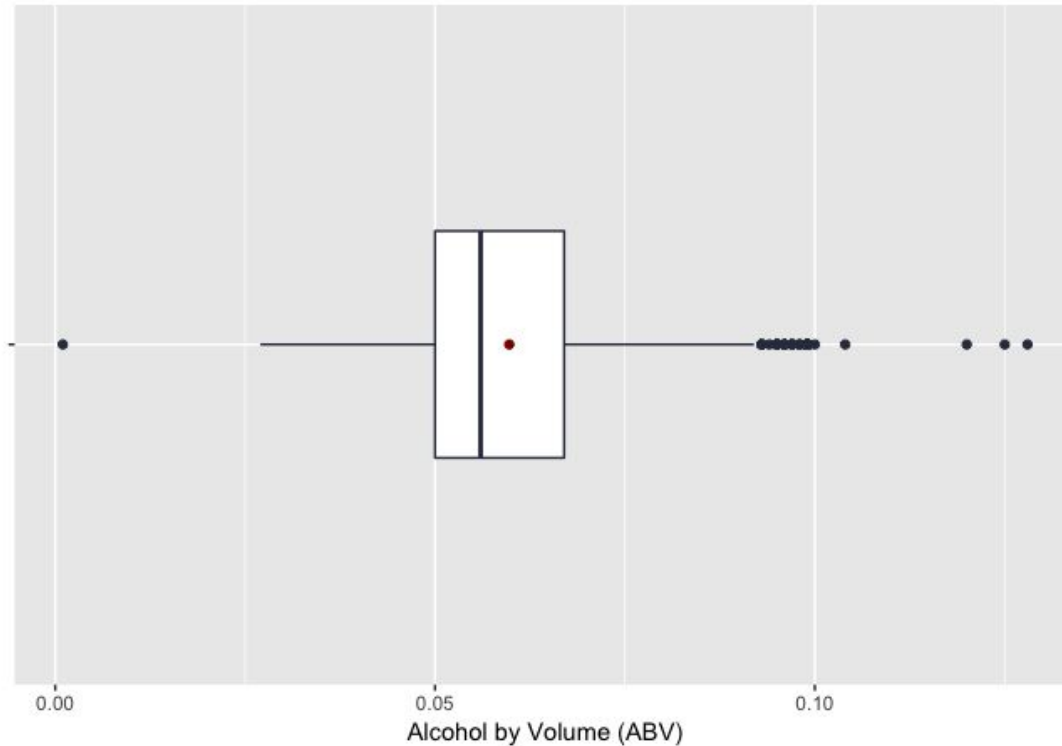
State	Beer_Name	ABV	Brewery_Name
CO	Lee Hill Series Vol. 5 - Belgian Style Quadrupel Ale	0.128	Upslope Brewing Company
KY	London Balling	0.125	Against the Grain Brewery
IN	Csar	0.120	Tin Man Brewing Company

Table 5: Highest IBU

State	Beer_Name	IBU	Brewery_Name
OR	Bitter Bitch Imperial IPA	138	Astoria Brewing Company
VA	Troopers Alley IPA	135	Wolf Hills Brewing Company
MA	Dead-Eye DIPA	130	Cape Ann Brewing Company

ABV Summary Statistics

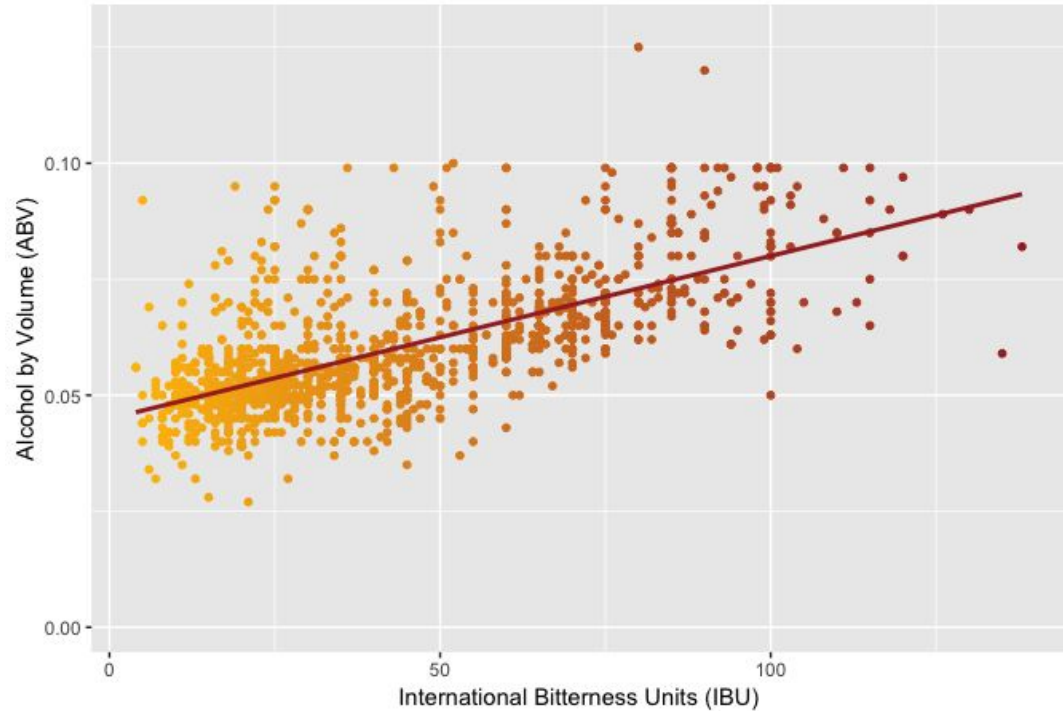
Figure 5: Alcohol Content Summary



ABV and IBU Relationship

- Positive linear relationship
- Correlation coefficient: 0.67
- Significant correlation ($p < 0.0001$)

Figure 6: Alcohol Content vs. Bitterness of Beers



Informed Decision

- Launch new product or tweak existing product with new flavors
- Initially introduce in top 10 consuming states
- Follow linear IBU and ABV relationship
- Future follow-up