Learning Lab: Tableau 2-Beer Review

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Introduction:

I got the inspiration from a well-known Beer company [Boston Beer Co.](Beer), one of the oldest and most popular alcoholic beverages, has grown from small-scale brewing to a thriving industry, with companies like Boston Beer at the forefront. Understanding the evolution of this industry, popular brands, and customer experience will be interesting to explore new outlets where locals can enjoy a game with friends and family, complemented by a good beer and music.

Data Collection and Preprocessing details

The dataset used for this analysis is sourced from Kaggle and can be accessed via [this link](). This dataset includes information on various beer brands and their reviews across different provinces . The initial data collection focused on important details such as brand, style, and review scores.

This dataset has been analyzed to develop sentimental analysis for estimating beer preferences. Some data manipulation was performed to handle missing details and ensure accuracy in the analysis.

Handling Missing Values Using Data Manipulation

Data manipulation was performed on missing review data. Missing values were filled with true or false and few randomizations in excel to achieve more effective results, rather than leaving the data as N/A or deleting it.

Formatting

Ensured all textual data fields (e.g., names of breweries, beer styles, and reviewers) are consistently formatted as text. Ensured all numerical data fields, such as review scores and the number of reviews, were correctly formatted as numbers. Some ratings were inferred based on customer text reviews. Additionally, a new column was created to add "key phrases" for cloud text from text reviews. Using this, two new columns for "sentiment analysis" and "customer reviews" were created .Missing True and False Value was added based on review for columns " reviews.didpurchase" and reviews.do recommend"

Summary Report and Dashboard

The dashboard provides comprehensive insights into customer preferences, popular brands, and purchasing behaviour, highlighting the importance of maintaining high product quality and positive customer experiences.

The dashboard is divided into text analysis, highlighting keywords such as "taste," "price," and "love." "Cocktail Artist" stands out as the top-selling and highest-rated brand. Feedback varies widely among brands, with those receiving higher ratings generally seeing increased purchases. The time series forecast reveals fluctuating review ratings, likely due to shifting consumer preferences.
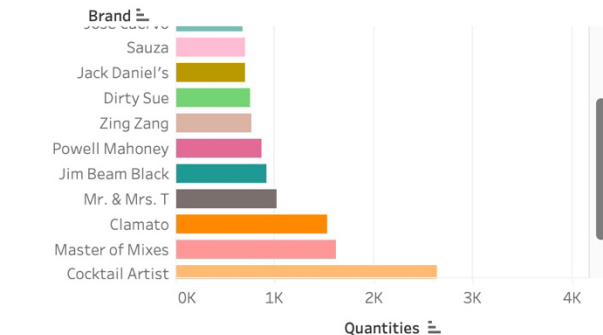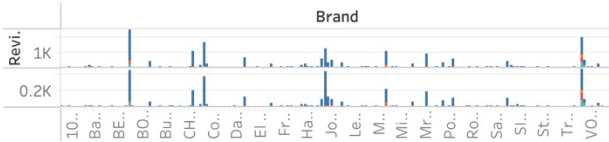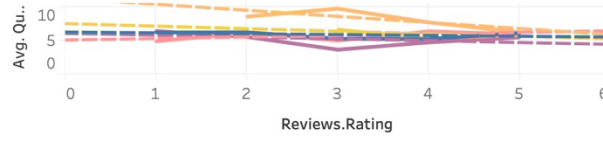

Beer Review

Avg. Reviews.Rating	Avg. Quantities	Avg. Score sentiment
4.465284974	5.904	1

Analysis of Text Review

For the first dashboard, I filtered the initial 200 customer reviews and used a pie chart to further analyse the ratings and review text. Customers mentioning "price," "aroma," "taste," and "love" predominantly gave 5-star ratings. Those with positive feedback often recommended the product and made repeat purchases. Below are the visualized results

Top Review Keywords:

    a. Finding**:** The word cloud highlights keywords such as "taste," "price," "best," "love," and "good."

    b. Description**:** These keywords suggest that taste, price, and overall quality are significant factors in customer reviews. Positive words like "love" and "best" indicate high customer satisfaction.
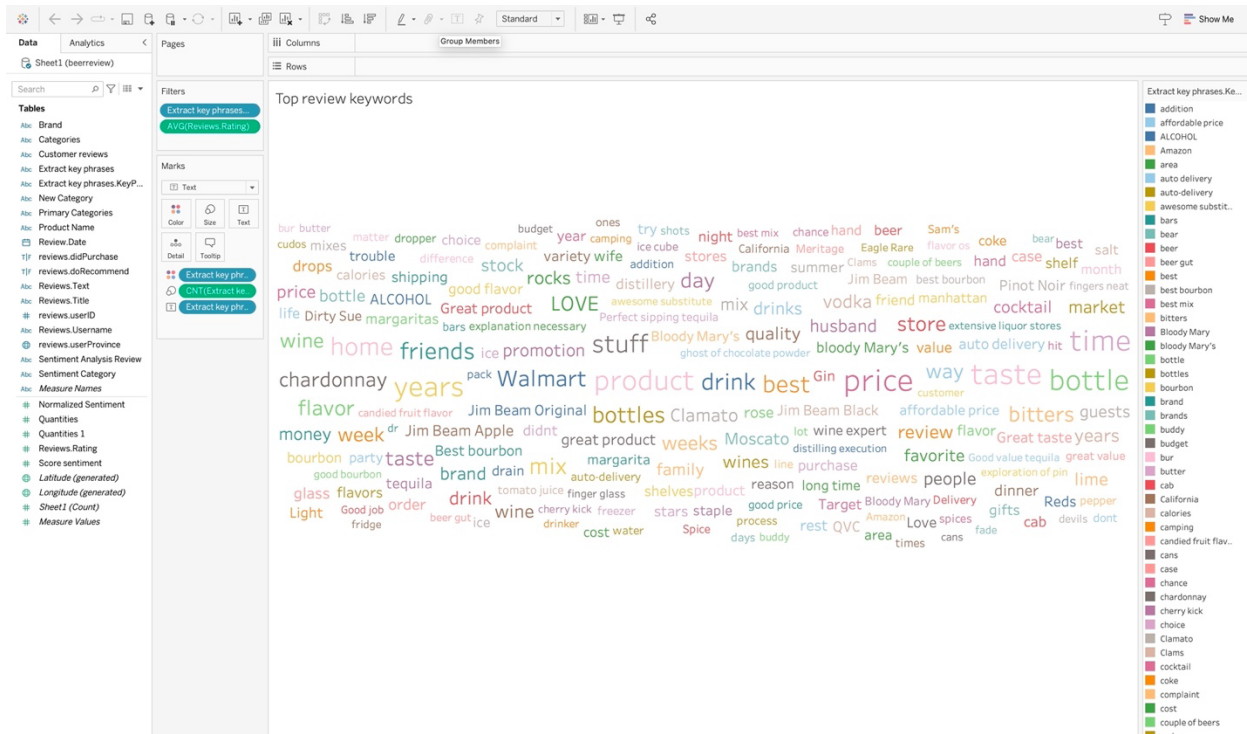

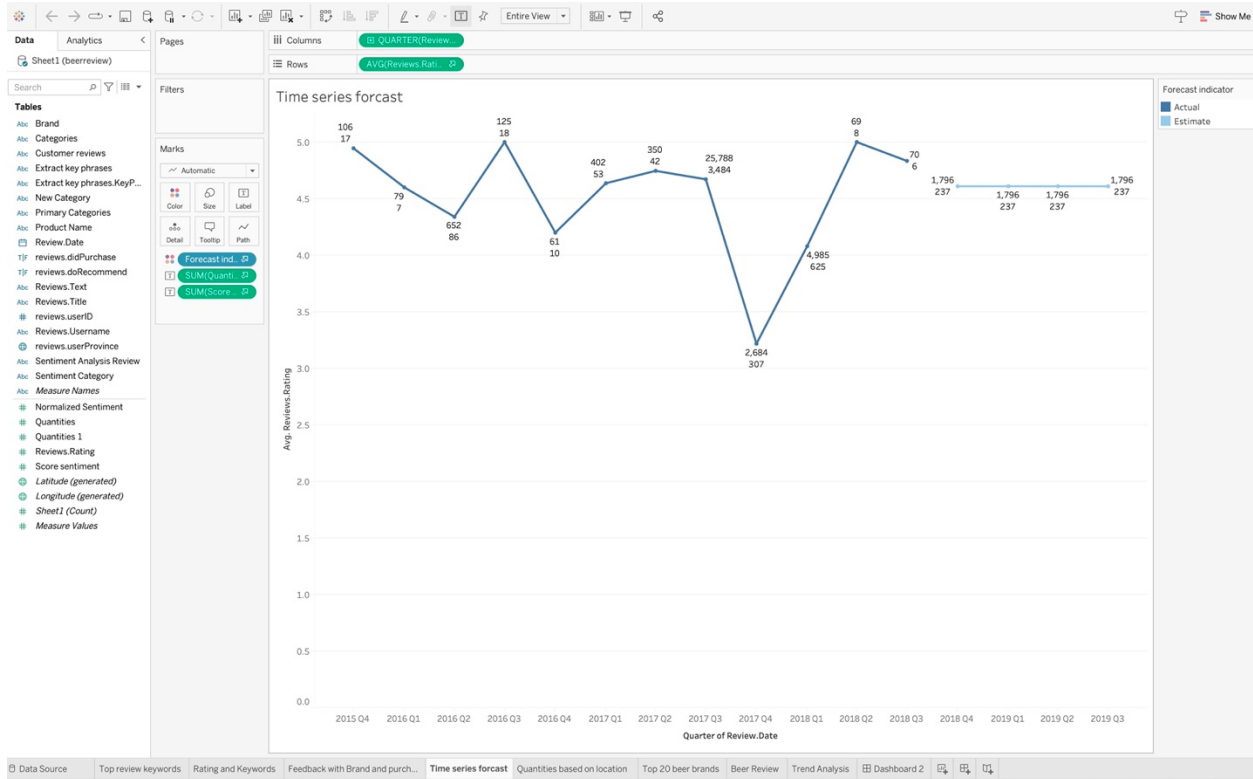   Figure 1: Top Review Keywords:

Figure 2 : Ratings and Keywords

Review Feedback Analysis

By creating two columns, "score sentiment" and "review rating," in Tableau and one "beer brand" column, I reviewed feedback - Excellent, Good, Very Good, Poor filter to show the relationship between popular brands and their feedback.

For example, the Bittermens Brand indicates "Excellent" customer reviews with a sentiment score of 1, and it was recommended and purchased as true. Similarly, "Good" customer reviews have a sentiment score of 0.9, while "Poor" reviews have a sentiment score of 0.7.

Feedback with Brand and Purchase:

a. Finding: The feedback graph shows varying quantities of feedback across different brands, with spikes for specific brands like "Cocktail Artist" and "Master of Mixes."
b. Description: The distribution of feedback suggests that certain brands receive more attention and reviews, which could be linked to their popularity or marketing efforts.
c.

Figure 3: Feedback with Brand and Purchase

Time-Based Analysis

The data was divided into quarters, revealing a spike in reviews during Q3 2016, a decline in Q4 2017, and another spike in Q2 2018. This suggests that reviews are influenced by seasonal factors. The quarterly forecast for the next year indicates an average review rating of 4.

The time series forecast shows fluctuating review ratings, likely due to shifting consumer preferences.

Time Series Forecast:

Figure 7: Time Series Forecast

Quantities Based on Location

a. Finding: The average quantity of beer purchased is 5.904 units.
b. Description: This metric indicates that on average, customers tend to buy nearly six units per purchase, reflecting a moderate level of consumer demand.
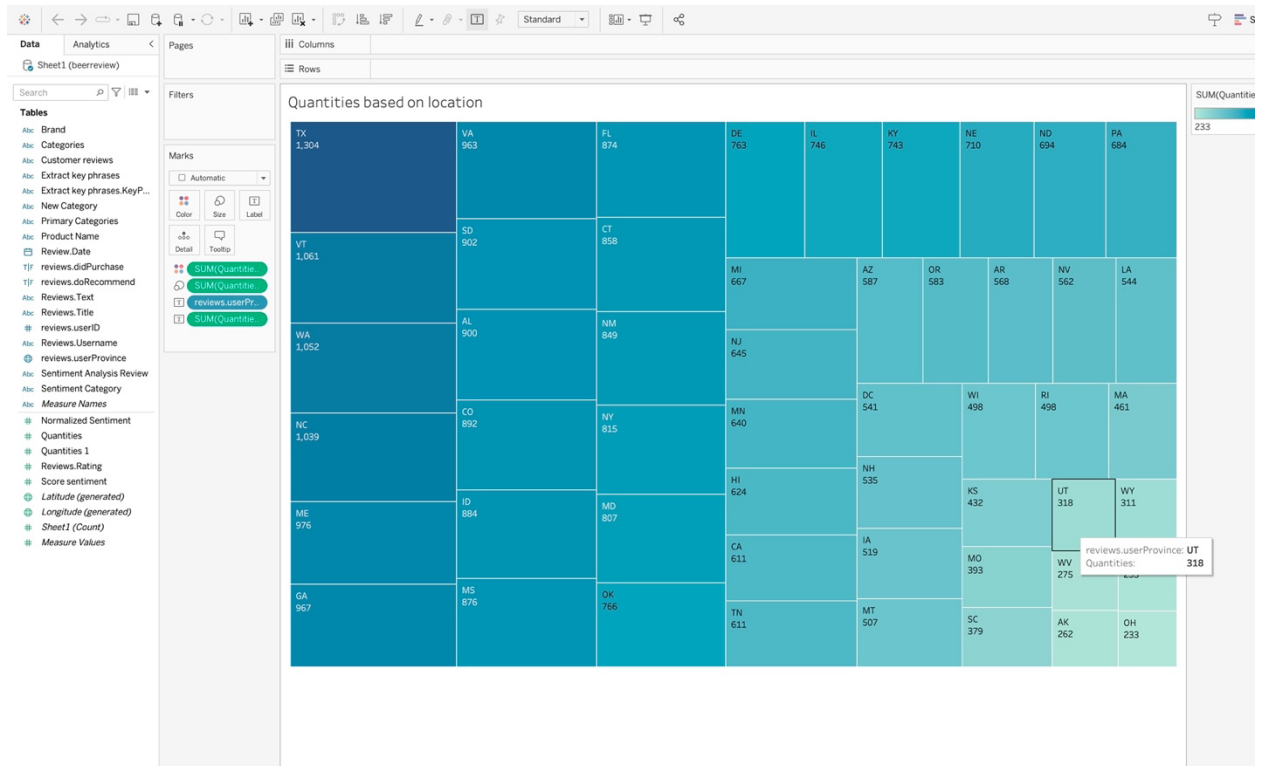
Figure 4 : Quantities Based on Location

Top 20 Beer Brands

a. Finding: The brand "Cocktail Artist" has the highest quantity sold, followed by "Master of Mixes" and "Clamato."

b. Description: This indicates that "Cocktail Artist" is a popular choice among consumers, potentially due to its brand reputation or product quality.
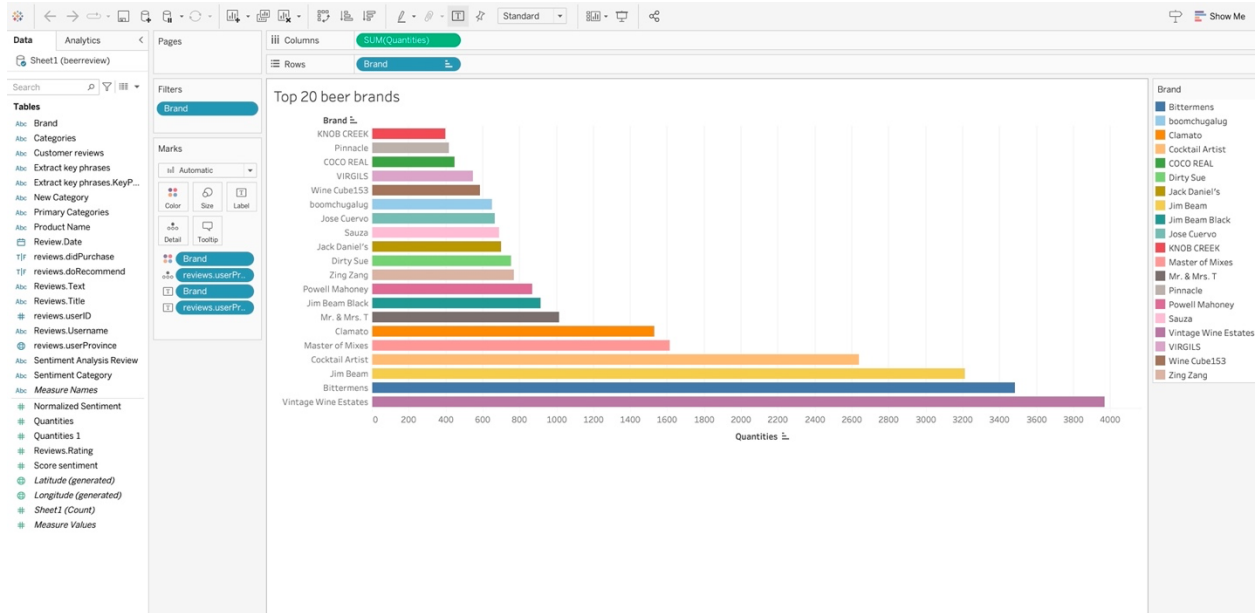
Figure 5. Top 20 Beer Brands

Trend Analysis

a. Finding: The trend analysis shows a correlation between review ratings and quantities purchased, with different brands following distinct patterns.

b. Description: This indicates that higher-rated brands tend to see higher quantities purchased, suggesting that customer satisfaction directly impacts sales.
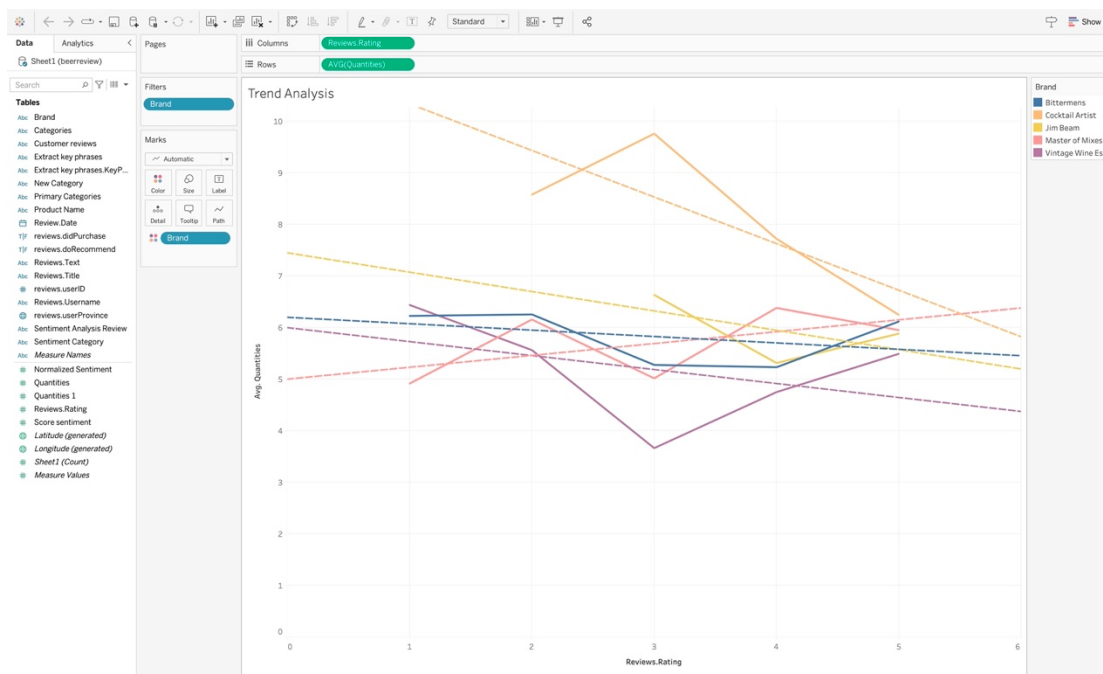
Figure 6. Trend Analysis

Beer Review

a. Finding: The average review rating is approximately 4.47.
b. Description: This high average rating suggests that most customers are satisfied with the beers they have reviewed, indicating a generally positive sentiment towards the products.

Beer Review

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Figure 8: Beer Review