

IOWA LIQUOR SALES ANALYSIS

GROUP K - TEAM 4

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Iowa Alcoholic Beverages Division **OVERVIEW**

\$191 M

Total Revenue

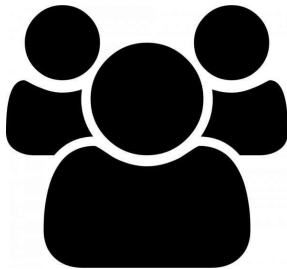


1.903 k

Total Orders
(January 2021 - 2022)

1817

Stores



99 Counties

430 Cities

BACKGROUND

- Iowa Alcoholic Beverages Division (ABD) is the alcoholic beverage control authority for the U.S. state of Iowa.
- Alcohol has always played a huge role in the social lives of humans. Even during the COVID-19 pandemic, the liquor industry, actually saw sizable growth. In 2020, data on spirits or liquor saw a monthly per capita sales increase of 5% compared to the prior three year average (NIAAA).



- Recognizing liquor sales in different counties, most popular brands and types of liquor sold across different stores is a primary step in developing a better marketing strategy.
- Our goal is to study the trends of data and provide answers to research questions.

SCOPE DEFINITION

- Using Data Iowa Liquor Sales from kaggle.
- The data is contains the spirits purchase information of Iowa Class “E” liquor licensees by product and date of purchase from January 2021 to January 2022.

Research Questions

How was the trend of the number of bottles sold between January 2021 to January 2022?

1

How much revenue does Iowa make from the business each month? Which product drives the most sales?

2

Are there any variations among regions in terms of the most popular product?

3

How many bottles will Iowa sell in the next three months?

4



Project objective:

How can we increase liquor sales by 10% within one year?



METHODOLOGY

Define The Objective

Determine the scope &
objective

Data Cleaning

Conduct data cleaning using
Excel & Python

Recommendation

Business recommendation

Data Gathering

Conduct data gathering

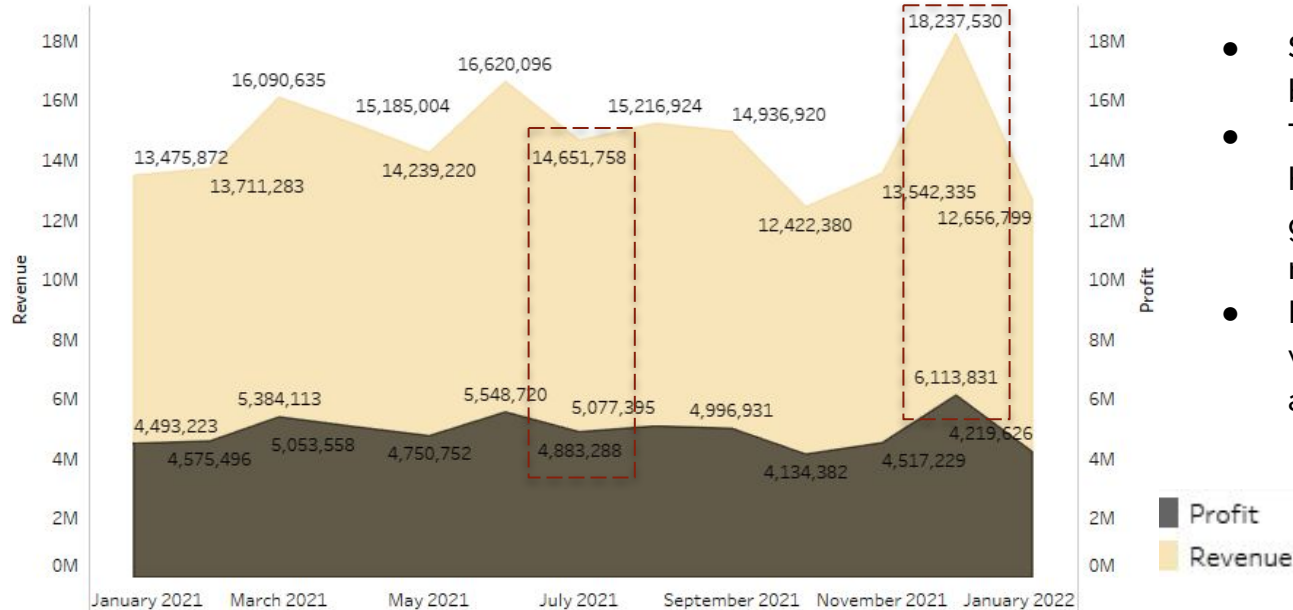
Data Analysis

Conduct data analysis using
python & tableau



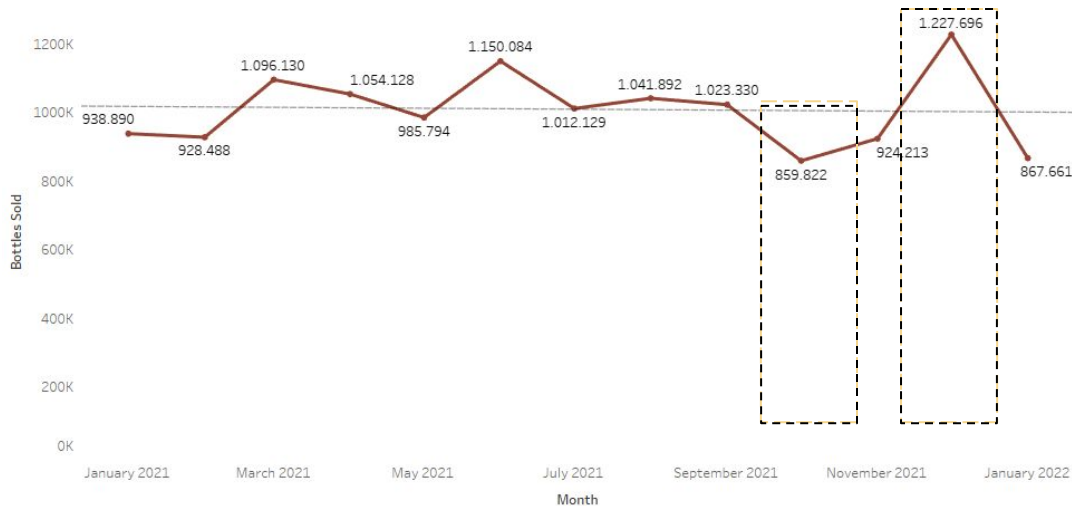
EXECUTIVE SUMMARY

Monthly Revenue vs Profit



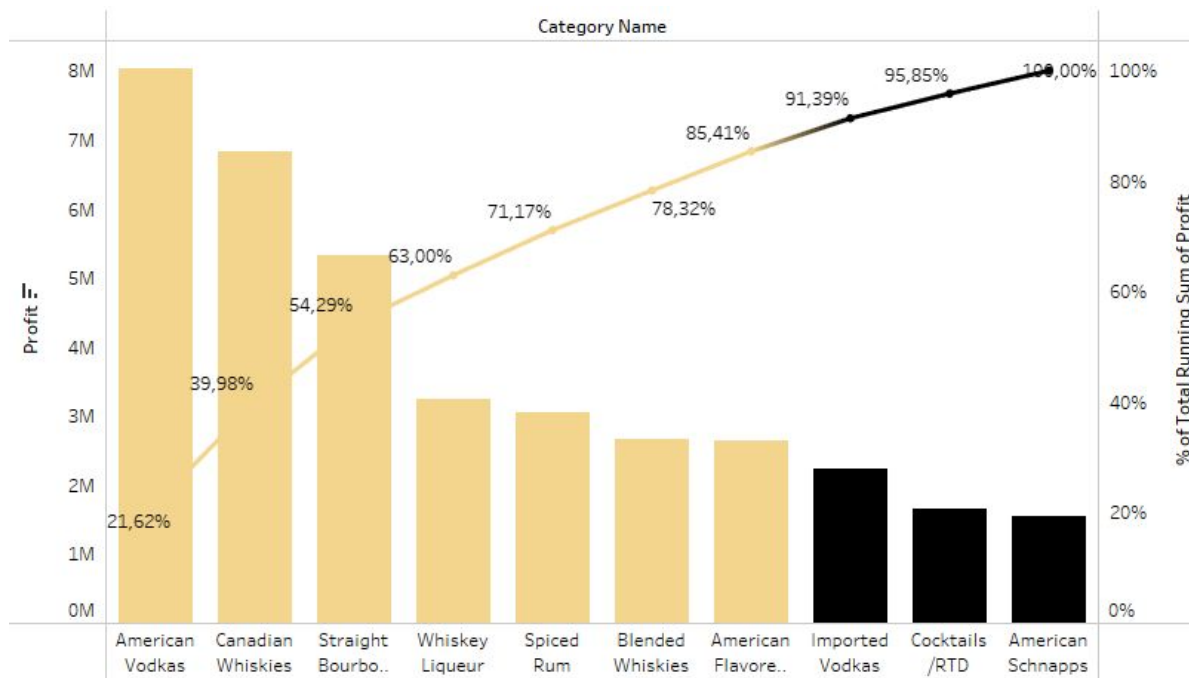
- Sales dropped to 4.8M in July because it is Summer season.
- The month of December 2021 had the highest revenue generated which was about 18 million USD.
- From the chart, it shows that when sales increase, there is also an increase in Profit.

Monthly Trend Bottle Sold



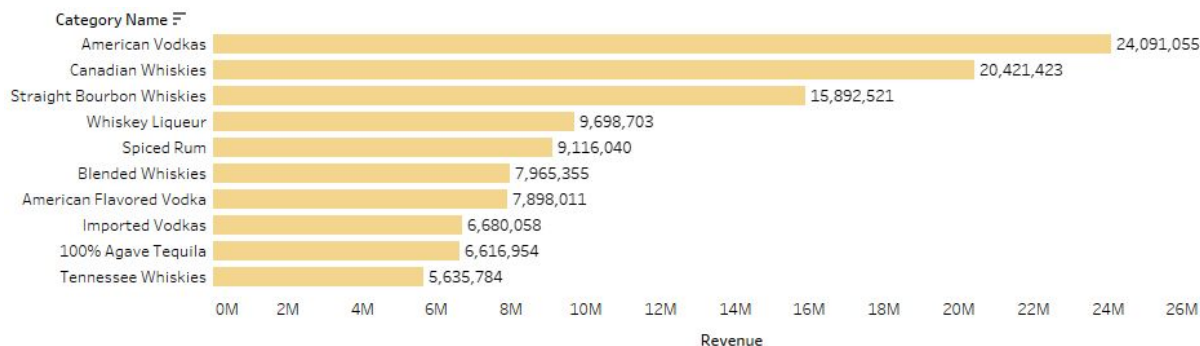
- Bottle sales have dropped in October, most likely as a result of the store reducing sales supplies in anticipation of a spike in demand in December.
- In December, we see a higher monthly order compared to other months with 1.227K orders. This probably happens because December is the Christmas holiday month when families gather and drink for celebrations and often gift each other various liquors.

Categories that deliver 80% our Profit



From American Vodkas to american flavored vodka, the top 7 categories contribute for 80% of the total profits from the top 10 categories.

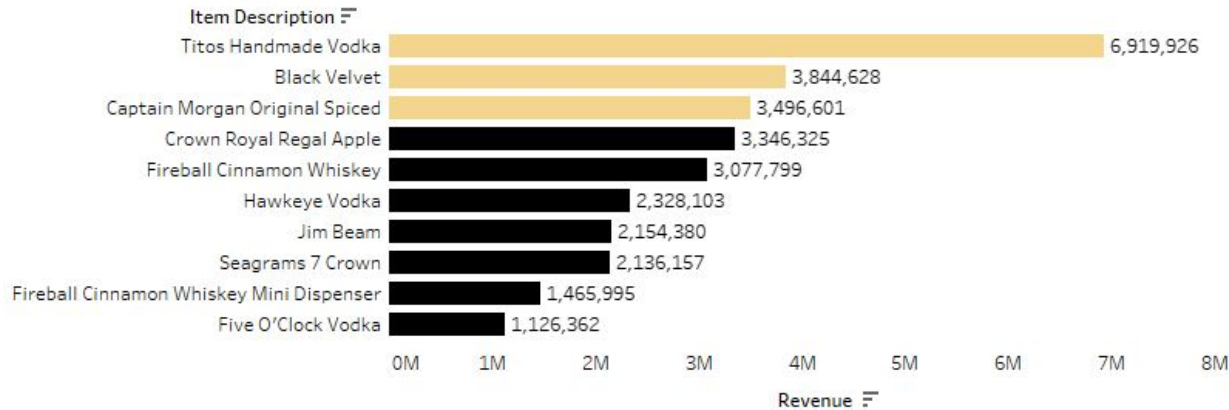
Top 10 Categories based on Sales



Category Name	Bottles Sold	City
American Vodkas	2.265K	428
Canadian Whiskies	1.334K	427
Straight Bourbon Whiskies	869K	424
American Flavored Vodka	685K	414
Whiskey Liqueur	637K	426
Spiced Rum	608K	426
Blended Whiskies	597K	424
American Schnapps	497K	410
Cocktails /RTD	437K	385
Flavored Rum	415K	418

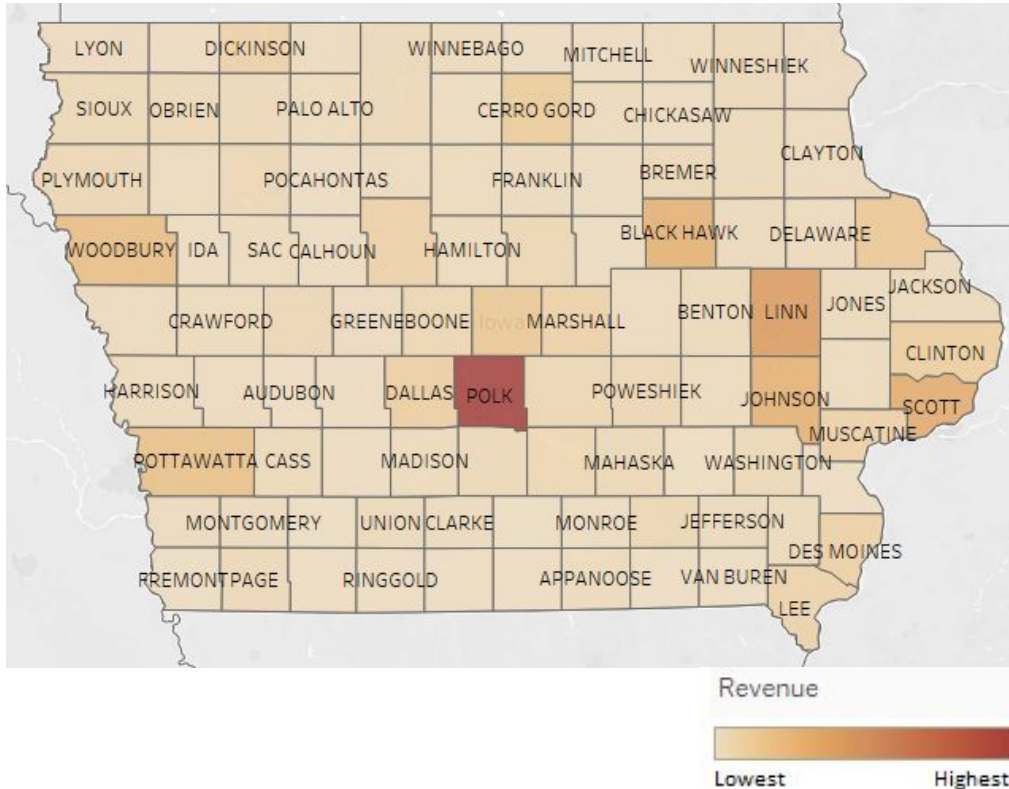
- The most popular product is American vodkas with total sales **24M** and ordered by 428 cities.
- Whiskey and vodka have the highest overall sales volume. Following whiskey and vodka were rum and tequila.
- For some product such as Whiskey Liqueur, eventhough it have a lower bottles sold, it generate more value than american flavored vodka.

Top 10 Brands based on Sales



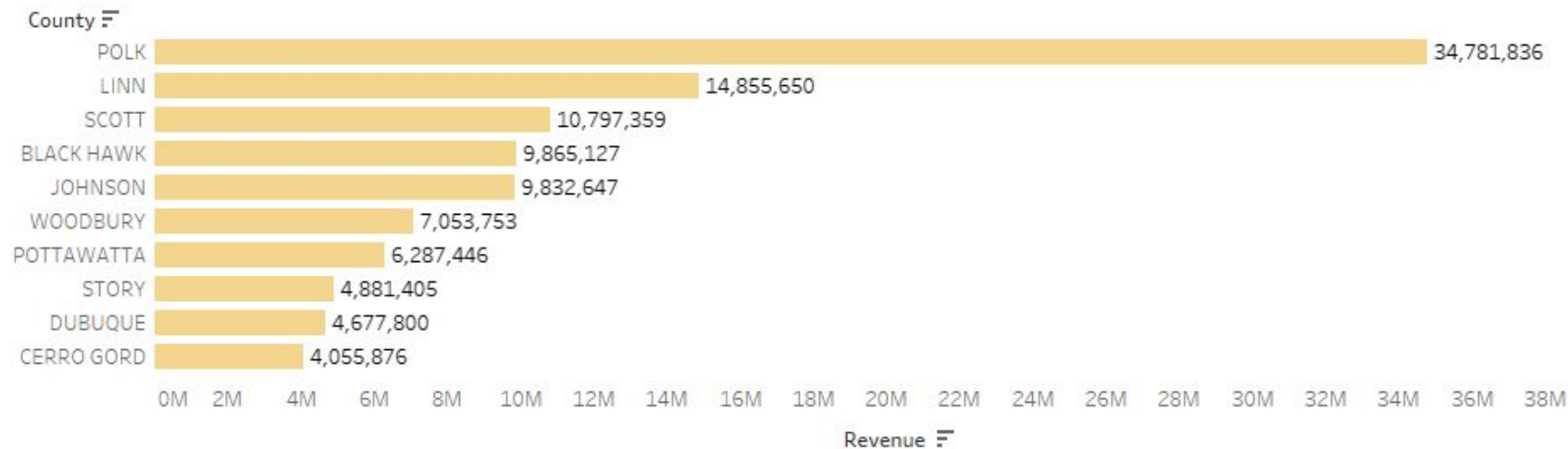
- The most popular brand is Tito's Handmade Vodka which generates 6.9M revenue. It is one of the most successful distilleries out there and remains one of the cleanest spirits available.
- Black Velvet and Captain Morgan Original Spiced are two of the most affordable liquors on the market.
- In late 2010, it was reported that alcohol consumption in Iowa was climbing, and that some consumers were shifting their preferences toward lower-priced products as the result of recent economic conditions.

Map Counties based on Sales

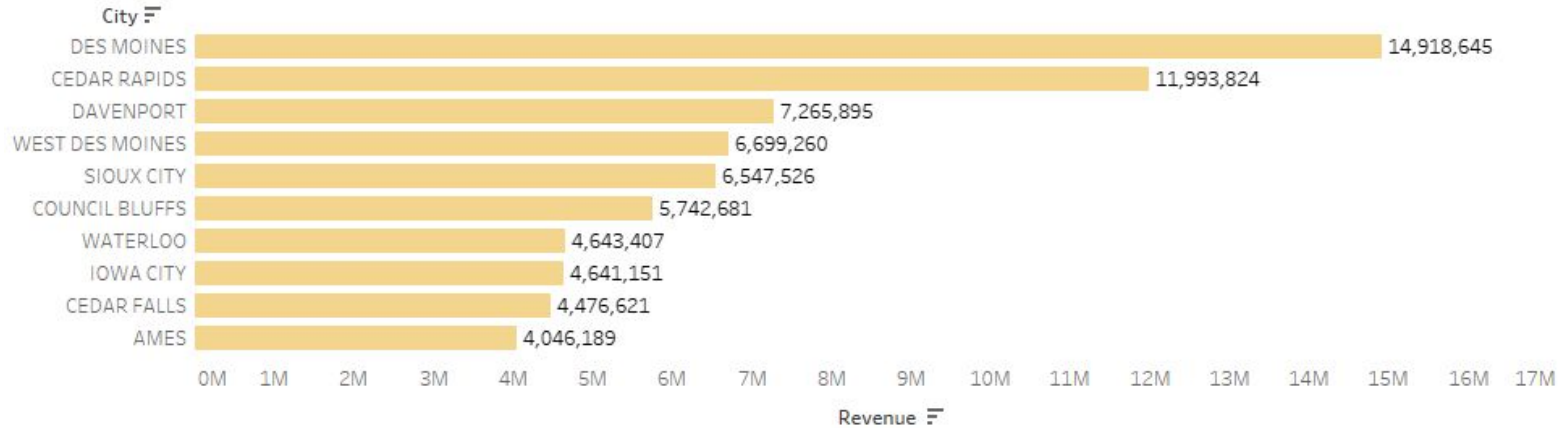


- Polk County contains the state capital, Des Moines, and is the most populous county in Iowa. It can also be deduced that higher population area impacts sales and profit.
- Following Polk are Linn, Scott, Black Hawk, Johnson, Woodbury, and Pottawattamie.

Top 10 Counties based on Sales



Top 10 Cities based on Sales



- Des Moines is city with the most sales, because they hosts a lot of annual festivals and events including Des Moines Beer Week, Oktoberfest, Iowa's Premier Beer, Wine & Food Show, and so on. That is probably why Des Moines spend the most money on liquors in Iowa state.
- Major crossroads and highways also impact sales. Cities with highest profit per bottle like Des Moines, Cedar Rapids, Davenport, all enjoy the accessibility offered by major highways.

Forecasting Bottle Sold for the next 3 months



- 1,004,409 K bottles are expected to be sold during the next three months. However profit are expected to be static.
- There is a gap between the estimate number with the highest peak around 223.287K bottle sold.
- If there are no new marketing campaigns that increase sales, this number sales are predicted.

RECOMMENDATION

- Following consumer trends, we should stock up on more top best-selling brands.
- Establish relationships with local bar owners and vendors, such as caterers and wedding planners. Use these relationships to establish regular bulk liquor orders. Offer these business owners fee-based delivery option to help accommodate the customer and generate increased revenue.
- Offering promos or discounts during events like Oktoberfest, Des Moines Beer Week, Iowa's Finest Beer, Wine & Food show and others with the intention of increasing sales.
- Try making an offer, such as a price reduction for the expensive item to make it more affordable and a buy 2 get 1 offer for the less expensive item because customers typically purchase it in big quantities, especially during the high season, and make an analysis if these promotion can make an impact.



THANK YOU!

DASHBOARD SNAPSHOT



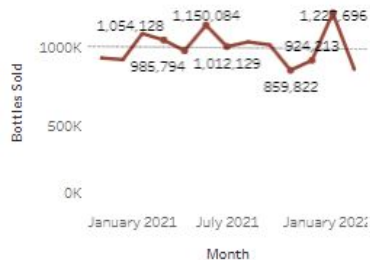
IOWA STATE LIQUOR SALES

Date: January 2021 January 2022
County: (All)
Category Name: (All)

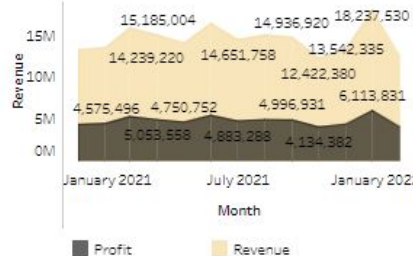
PERFORMANCE DASHBOARD

Revenue	Profit	Total Bottles Sold	Total Orders	Average Order Value
\$190,986,755	\$63,748,545	13,110,257	1,903,481	100

Trend Bottle sold



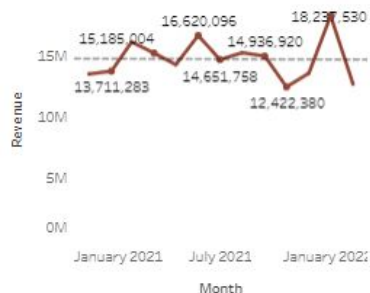
Revenue vs Profit



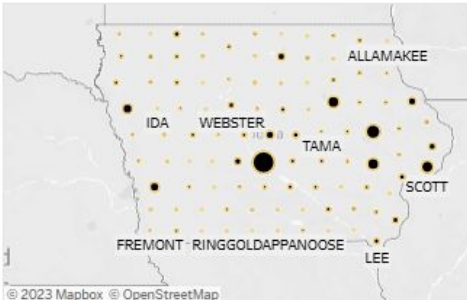
Total % of Category based on Revenue

Category Name	%
American Vodkas	12.61%
Canadian Whiskies	10.69%
Straight Bourbon Whiskies	8.32%
Whiskey Liqueur	5.08%
Spiced Rum	4.77%
Blended Whiskies	4.17%
American Flavored Vodka	4.14%
Imported Vodkas	3.50%
100% Agave Tequila	3.46%

Trend Revenue



Sales (\$) per County



Orders per Store

Store Name	#
Hy-Vee Food Store / Cedar..	13,377
Hy-Vee #3 / BDI / Des Moi..	12,933
Central City Liquor, Inc.	12,233
Hy-Vee Wine and Spirits / ..	10,613
Hy-Vee Food Store #2 / St..	10,599
Happy's Wine & Spirits	10,509
Hy-Vee Food Store / Coral..	10,487
Benz Distributing	10,023
Hy-Vee #4 / WDM	9,784
Hy-Vee #7 / Cedar Rapids	9,784
Hy-Vee Food Store #2 / Co..	9,687
Hy-Vee Food and Drug #6 ..	9,258

APPENDICES

Dataset

Script

Visualization