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Findings:

Wrong data on the 2 most expensive bottles?

Absolut w/ Zing Zang Bloody Mary Mix: is \$1599 state cost / \$2398 per bottle

Absolut Zing Zang Bloody Mary Mix: \$11.49/ \$17.24 per bottle

Cedar Ridge Barrel Proof Bourbon: only 2 sales of 1 bottle each at convenience stores.
Real cost should be around \$40/bottle

Sources: <http://whiskeyreviewer.com/2017/09/cedar-ridge-bourbon-review-092217/>
<https://www.wine-searcher.com/find/cedar%20ridge%20distil%20bourbon%20whisky%20iowa%20usa#t1>

Counties

Per capita spending – counties with 100k+ population

County	Population	nr_of_stores	total_sales	sales_per_capita
Polk	430640	197	\$86,397,461.79	\$200.63
Linn	211226	102	\$34,460,047.49	\$163.14
Scott	165224	64	\$27,902,848.67	\$168.88
Black Hawk	131090	78	\$22,967,283.29	\$175.20
Johnson	130882	49	\$24,200,402.25	\$184.90
Woodbury	102172	40	\$13,242,016.16	\$129.61

Linn, while being the second most populated county, has similar sales results as smaller counties with fewer stores.

Iowa liquor data analysis – SQL

Per store sales over the period – counties with 100k+ population

County	Population	nr_of_stores	total_sales	sales_per_store
Polk	430640	197	\$86,397,461.79	\$438,565.80
Linn	211226	102	\$34,460,047.49	\$337,843.60
Scott	165224	64	\$27,902,848.67	\$435,982.01
Black Hawk	131090	78	\$22,967,283.29	\$294,452.35
Johnson	130882	49	\$24,200,402.25	\$493,885.76
Woodbury	102172	40	\$13,242,016.16	\$331,050.40

Linn, Black Haw and Woodbury have smaller sales per store compared to the other counties.

Iowa liquor data analysis – SQL

Stores

Name	County	Nr of sales	Total sales	Avg sales	% of sales 100+ btl
Hy-vee #3 / Bdi / Des Moines	Polk	2046	\$13,920,087.22	\$472.43	9%
Central City 2	Polk	2143	\$11,942,399.97	\$462.40	10%
Sam's Club 6344 / Windsor Heights	Polk	1310	\$6,159,480.06	\$1,106.23	35%
Sam's Club 8162 / Cedar Rapids	Linn	1477	\$5,734,721.57	\$803.75	30%
Hy-vee Wine and Spirits / Iowa City	Johnson	2401	\$5,665,143.70	\$235.67	6%
Costco Wholesale #788	Dallas	877	\$4,907,465.88	\$1,825.69	32%
Lot-a-spirits	Scott	1302	\$4,289,169.59	\$319.73	3%
Sam's Club 8238 / Davenport	Scott	1021	\$3,308,625.56	\$623.56	24%
Average		1572	\$6,990,886	\$731.18	18.45%

The top 10 stores in total sales on average have 18.45% transaction involving 100+ bottles. This indicates that sales are more consumer oriented than wholesale.

Products

10 products make 25% of all sales in \$

Total sales: \$392,293,023

Description	Category	Sales	% of total sales
Black Velvet	CANADIAN WHISKIES	\$18,315,550.64	4.67%
Captain Morgan Spiced Rum	SPICED RUM	\$13,772,752.25	3.51%
Jack Daniels Old #7 Black Lbl	TENNESSEE WHISKIES	\$13,701,656.82	3.49%
Fireball Cinnamon Whiskey	WHISKEY LIQUEUR	\$10,622,967.34	2.71%
Crown Royal Canadian Whisky	CANADIAN WHISKIES	\$9,714,022.78	2.48%
Hawkeye Vodka	80 PROOF VODKA	\$8,730,823.84	2.23%
Absolut Swedish Vodka 80 Prf	IMPORTED VODKA	\$7,431,864.05	1.89%
Grey Goose Vodka	IMPORTED VODKA	\$6,444,939.38	1.64%
Jagermeister Liqueur	MISC. IMPORTED CORDIALS & LIQUEURS	\$6,298,430.40	1.61%
Jim Beam	STRAIGHT BOURBON WHISKIES	\$5,163,920.19	1.32%
Total		\$100,196,927.69	25.54%

Iowa liquor data analysis – SQL

Item	avg btl price	avg sale	avg btl qty	count
Black Velvet	\$10.17	\$225.85	20.62	81,095
Hawkeye Vodka	\$7.31	\$117.56	16.06	74,264
Seagrams 7 Crown Bl Whiskey	\$12.40	\$109.43	8.95	39,577
Captain Morgan Spiced Rum	\$17.65	\$367.78	20.48	37,448
Smirnoff Vodka 80 Prf	\$11.82	\$134.95	11.77	36,136
Fireball Cinnamon Whiskey	\$15.58	\$294.55	18.47	36,065
Jack Daniels Old #7 Black Lbl	\$25.33	\$385.22	15.36	35,568
Absolut Swedish Vodka 80 Prf	\$19.28	\$224.27	11.02	33,138
Bacardi Superior Rum	\$13.40	\$150.40	10.8	32,552
Jim Beam	\$16.16	\$161.85	9.88	31,906
<i>Top 10 average</i>	<i>\$14.77</i>	<i>\$223.33</i>	<i>14.84</i>	<i>45,094</i>
<i>All sales average</i>	<i>\$14.37</i>	<i>\$128.62</i>	<i>9.86</i>	

The top 10 products by unit sold all have at least 8 bottles sold per transaction with an average of 14.84 bottles sold per transaction, which is higher than the average of all sales. Also, of note is that the average transaction of these products is higher by almost \$100 than all the sales.

Iowa liquor data analysis – SQL

Margins

Description	Bottle price avg.	Bottle state cost avg	Total profit	Margin %	nr_sales
Black Velvet	\$10.17	\$6.75	\$6,144,705.67	50.69	81095
Captain Morgan Spiced Rum	\$17.65	\$11.77	\$4,590,286.75	49.99	37448
Jack Daniels Old #7 Black Lbl	\$25.33	\$16.88	\$4,567,750.22	50.01	35568
Fireball Cinnamon Whiskey	\$15.58	\$10.39	\$3,541,448.72	50.01	36065
Crown Royal Canadian Whisky	\$24.99	\$16.66	\$3,237,724.15	50	28453
Hawkeye Vodka	\$7.31	\$4.87	\$2,913,004.84	50.07	74264
Absolut Swedish Vodka 80 Prf	\$19.28	\$12.84	\$2,482,433.43	50.21	33138
Grey Goose Vodka	\$24.23	\$16.14	\$2,149,997.33	50.1	27845
Jagermeister Liqueur	\$17.81	\$11.87	\$2,099,928.40	50.02	28714
Jim Beam	\$16.16	\$10.74	\$1,730,013.78	50.44	31906

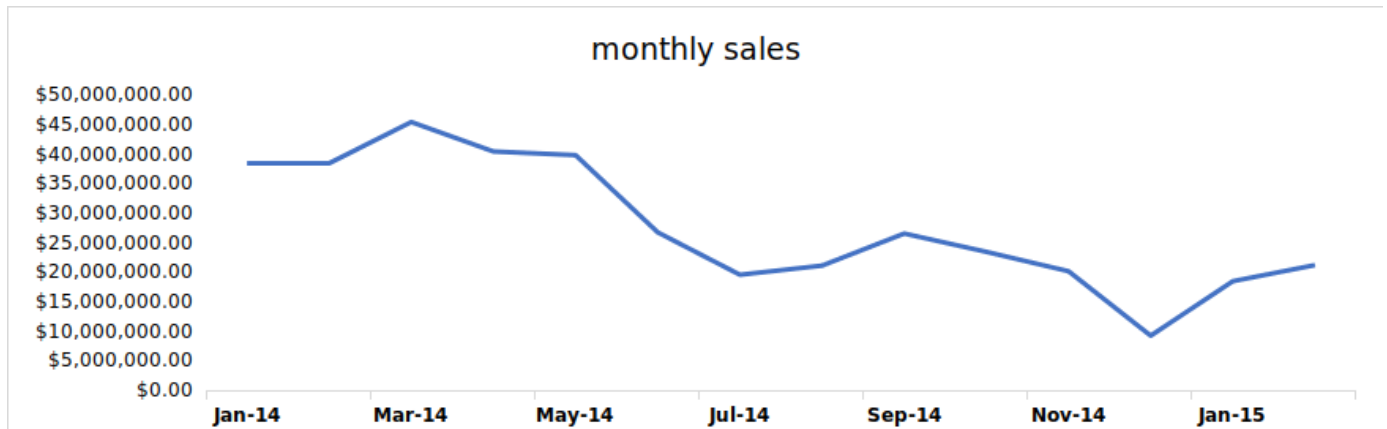
Almost all products have a margin around 50%

Iowa liquor data analysis – SQL

Description	Total profit	Margin %	nr_sales
Jim Beam Operation Homefront	\$83,589.16	124.43	238
Jose Cuervo Silver w/1L Classic Light Margarita Mix	\$19,451.58	106.41	120
Maestro Dobel	\$5,356.08	86.74	60
Ole Smoky Apple Pie w/Flask	\$1,897.92	78.36	50
Passion XO Pink	\$324.22	72.83	24
Passion XO Blue	\$391.30	70.37	26
Jose Cuervo Gold w/1L Classic Margarita Mix	\$25,767.13	70.08	214
Passion XO Sun	\$301.86	69.33	18
Absolut Tune	\$3,234.32	58.73	60
Skyy Infusions Texas Grapefruit	\$836.67	58.52	19

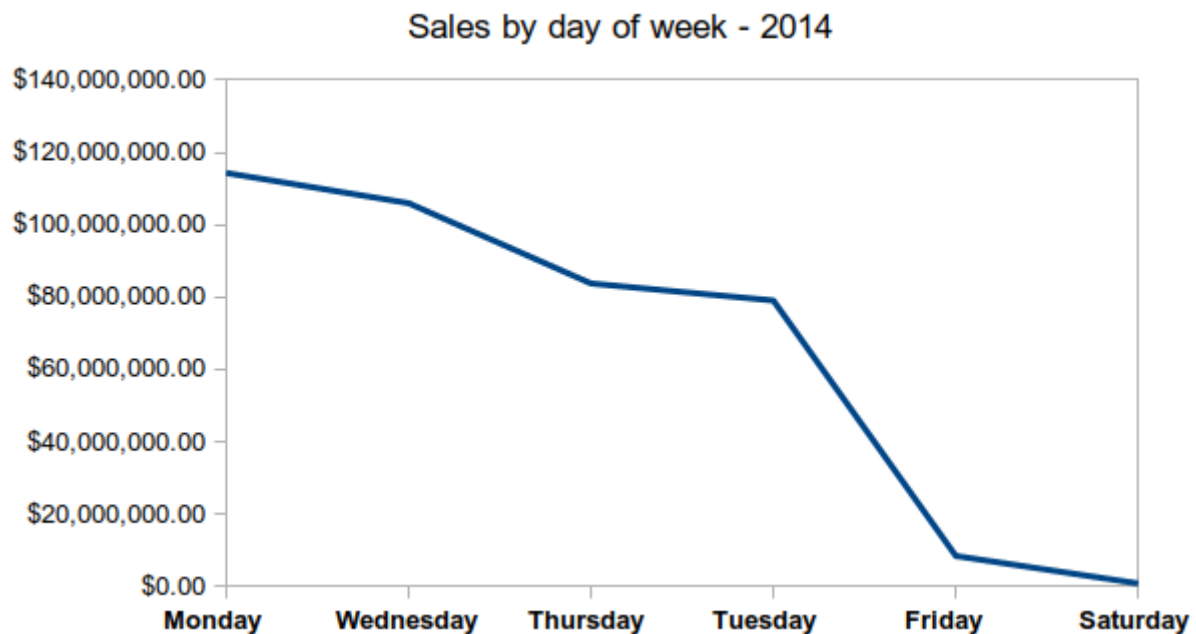
The only products with a margin higher than 50% are niche products.

Timeframe



Significant drop in sales from May 2014 onward.

Daily trend



Most sales are made at the start of the week.

No data on Sundays:

Only Class E liquor licensees (carryout liquor) and Class B wine permittees (carryout

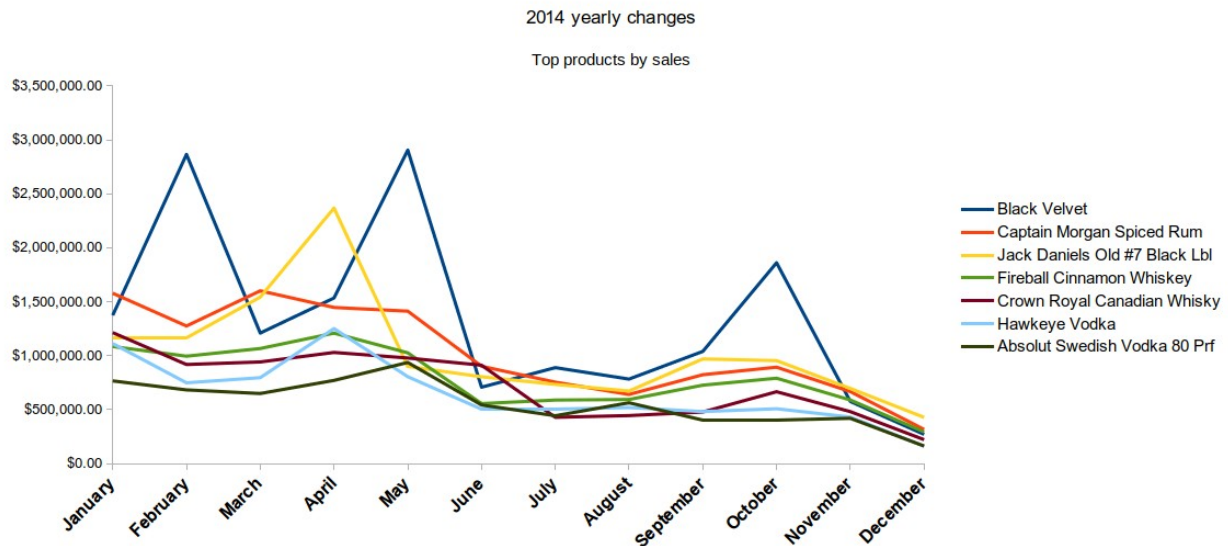
Iowa liquor data analysis – SQL

wine) have a Sunday sales privilege as part of their basic license.

Source: <https://abd.iowa.gov/alcohol/alcohol-laws/hours-sale>

Iowa liquor data analysis – SQL

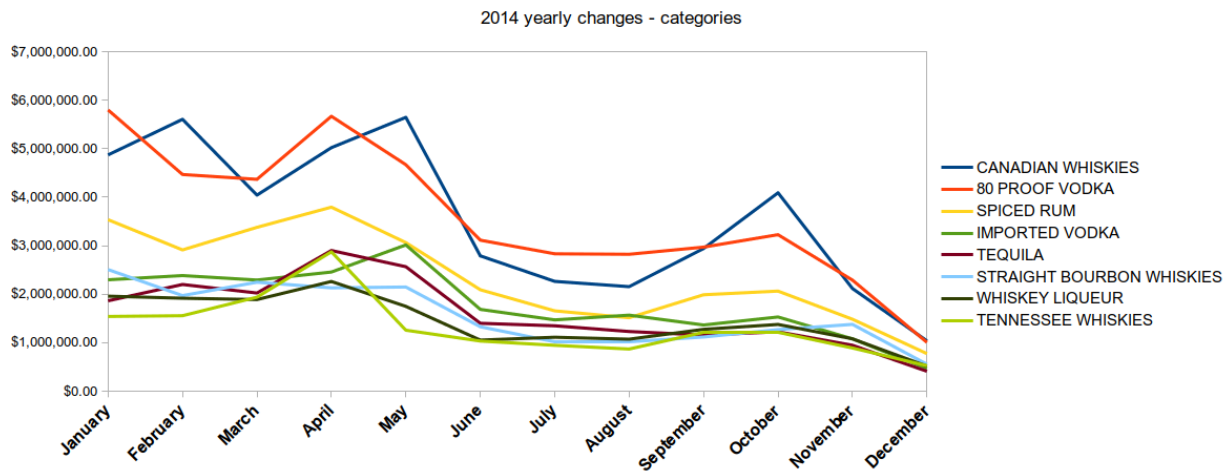
Yearly change / growth



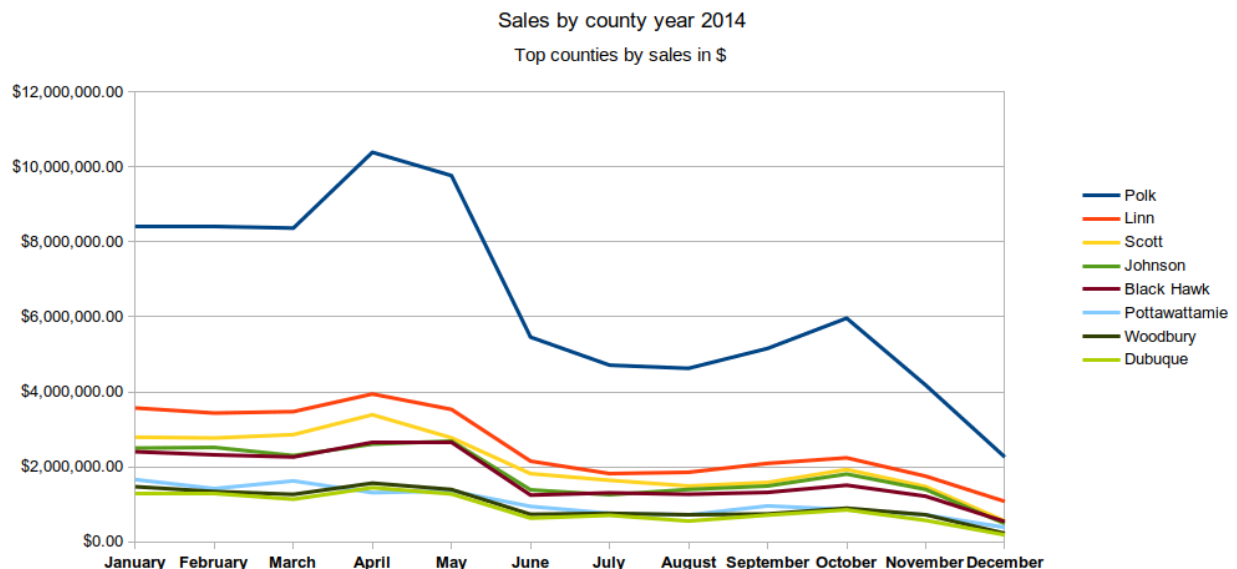
The top products by sales amount reflect the monthly sales trend seen above. The best-selling products by amount of sales is Black velvet, a Canadian whisky. This product, unlike the other, fluctuated wildly over the year, with spikes in February, May and October.

Another product, the American whisky Jack Daniels Old #7, shows some milder variations but still with a notable peak in April.

Iowa liquor data analysis – SQL



Looking at categories, the shape is similar with a downward trend towards the end of the year. However, the two most prominent categories do not reflect the products above. Canadian Whiskies and 80 proof vodka are the products selling the most.



Looking at the top counties by sales, Polk, the most populated one, is far ahead of the rest. With a peak from March to June. The October rebound seen in the charts preceding this one is also present.