

Liquor Sales Analysis Project

using Python & Tableau

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The Liquor Industry

- The Liquor industry contributes to 1.65% of the GDP of United States.
- In North America, the market for spirits was predicted to be worth USD 154.0 billion in 2020 and is expected to grow at a 7.7% annual pace from 2021 to 2028.
- The U.S. retail market for beer, wine, and spirits has a total economic impact of \$363.33 billion annually.



DATASET

- Data source link:
<https://www.kaggle.com/residentmario/iowa-liquor-sales>



Source: Kaggle.



The dataset gives details of liquor sales in Iowa state of US, such as the amount and price of liquor sold, the type of liquor, vendor, store location, and so on.



The dataset is originally obtained from an open data source published by the State of Iowa.

PROJECT AGENDA

MARKET RESEARCH FOR SALES

- The data is analyzed based on various factors, to draw insights into the liquor market.
- The data includes the time of purchase, which can be harnessed to study the sales market for liquor stores across the year, during various seasons, climate changes and holiday seasons.
- The analysis would also include studying which type of liquor and vendors are generating more revenue.
- The category in which the vendors are doing good can be analyzed.

SALES ANALYSIS

Steps:

Data Cleaning & Data
Transformation

Key Insights

Visualization



Data Cleaning & Data Transformation:

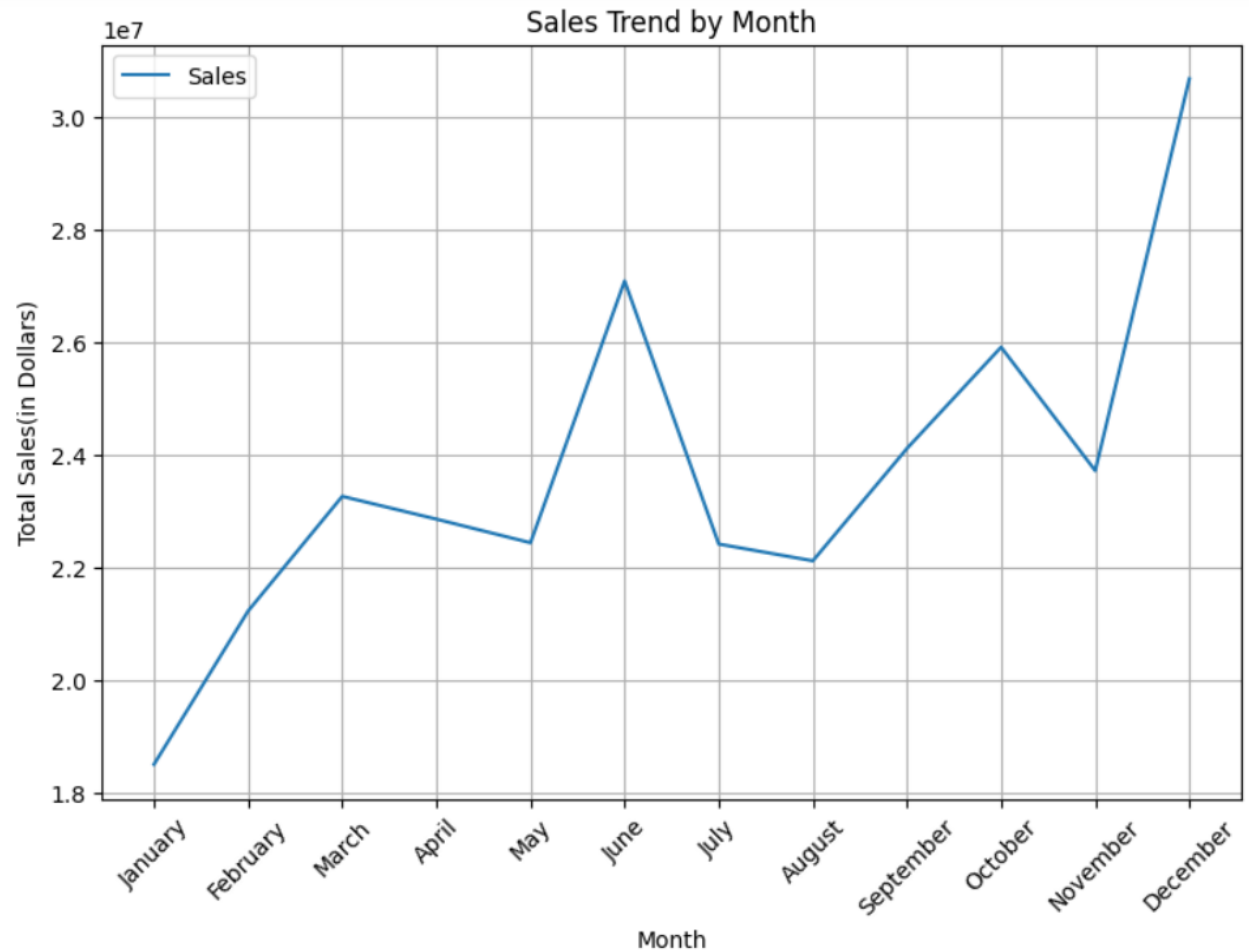
- Since the data has 12 million records for sales data, we will filter the data and only work with data from the year 2015 for analysis purpose of this project.
- We then sort the data by date of purchase.
- We extract the month from the date column to form a new column.
- Renamed columns for ease of use during analysis.
- Removing the Dollar sign from the price columns for calculation purpose.
- Removed the duplicate columns.



KEY INSIGHTS

Liquor Sales by Month

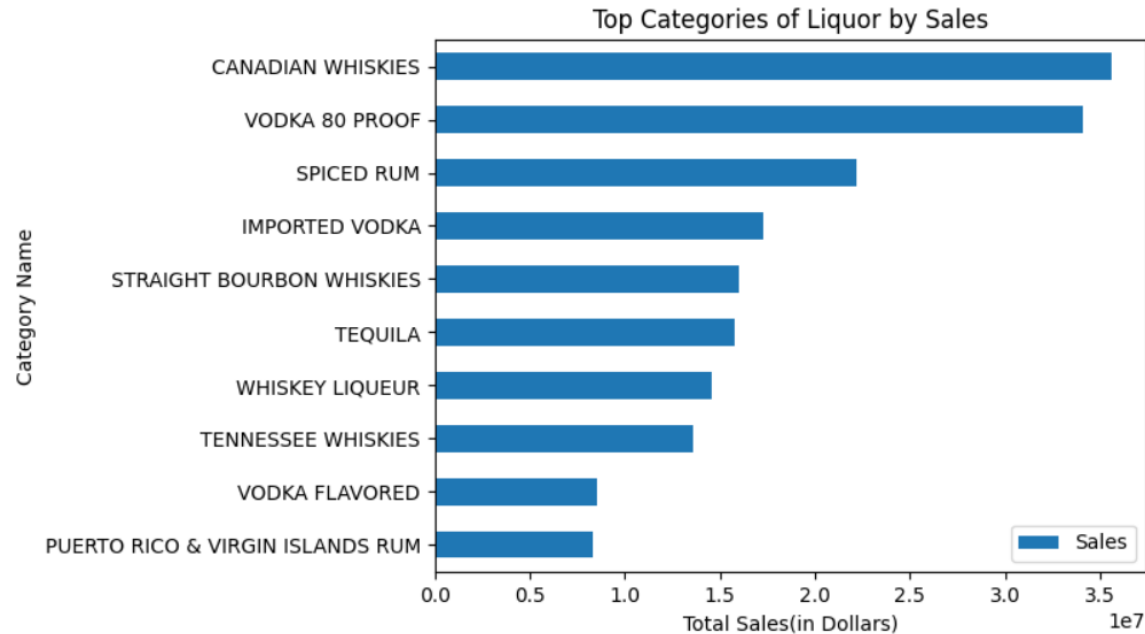
- The sales is highest at \$30.6 million in December which is a festive season and vacation for most people.
- There is also a peak in June at total sales of \$27 million that can be explained by the onset of summer.
- The Halloween month of October also shows a peak at \$25.9 million.



Category of Liquor by Sales



Top Liquor Categories By Sales

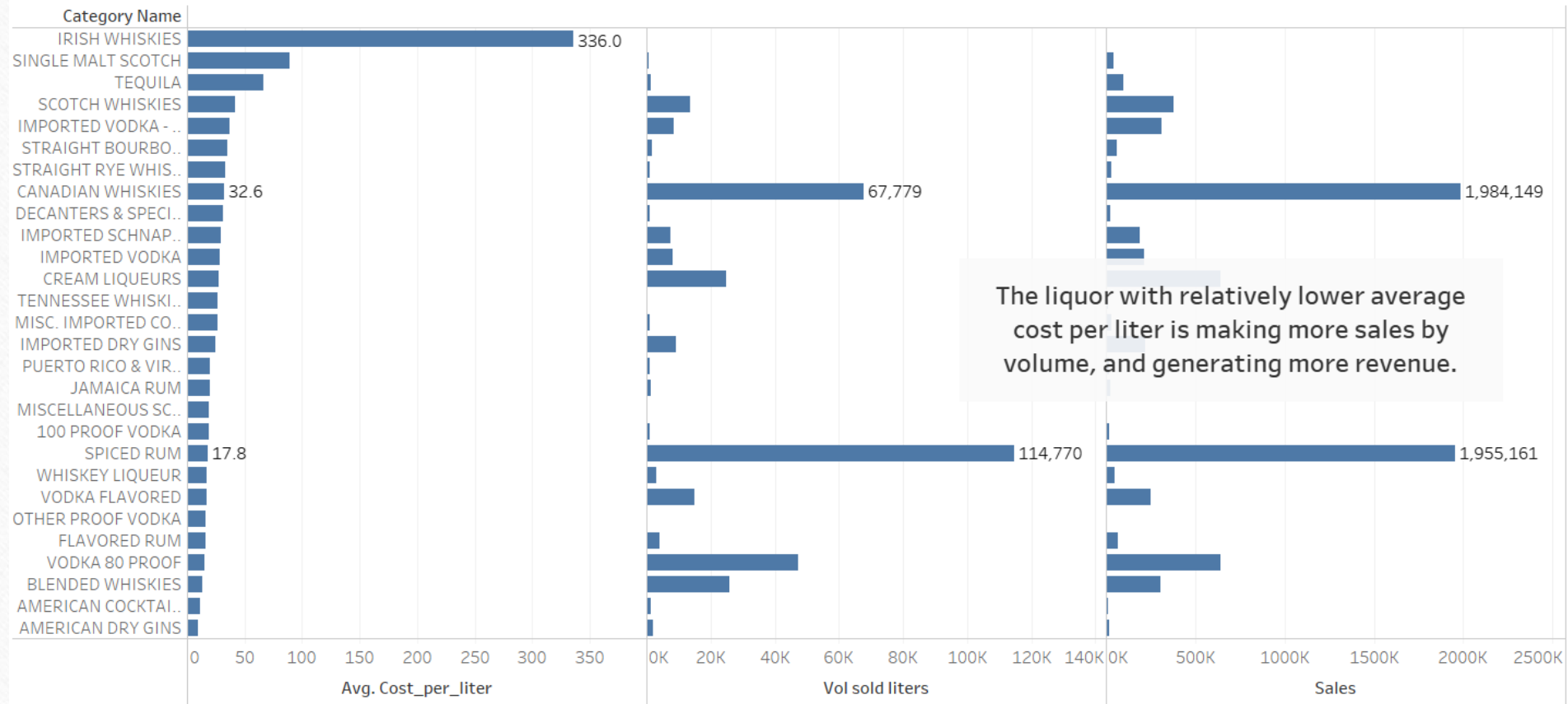


- The Canadian Whiskies are on top of the charts at a sales value of \$3.9 million.
- Vodka 80 Proof is close to the \$3.4 million sales.
- Overall, the various types of whisky, vodka and rum are the most highly selling types of liquor, among others like gin, brandy, scotch, cocktails.

Top Vendor- 'Diageo Americas'

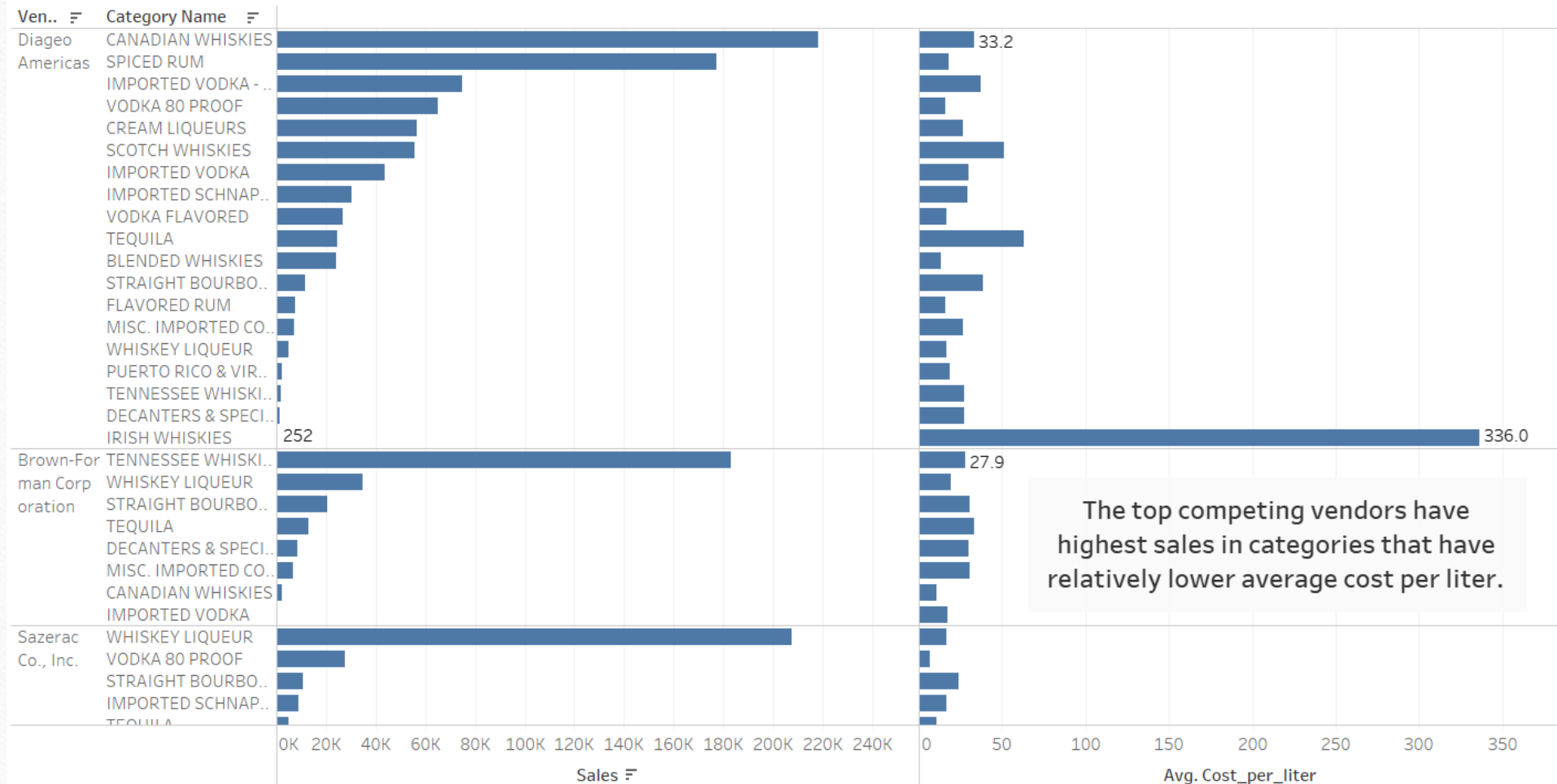
The liquor with relatively lower average cost per liter is making more sales by volume and generating more revenue.

Volume and Sales by Category for Highest selling Vendor: Diageo Americas



Top City by Sales- 'Des Moines'

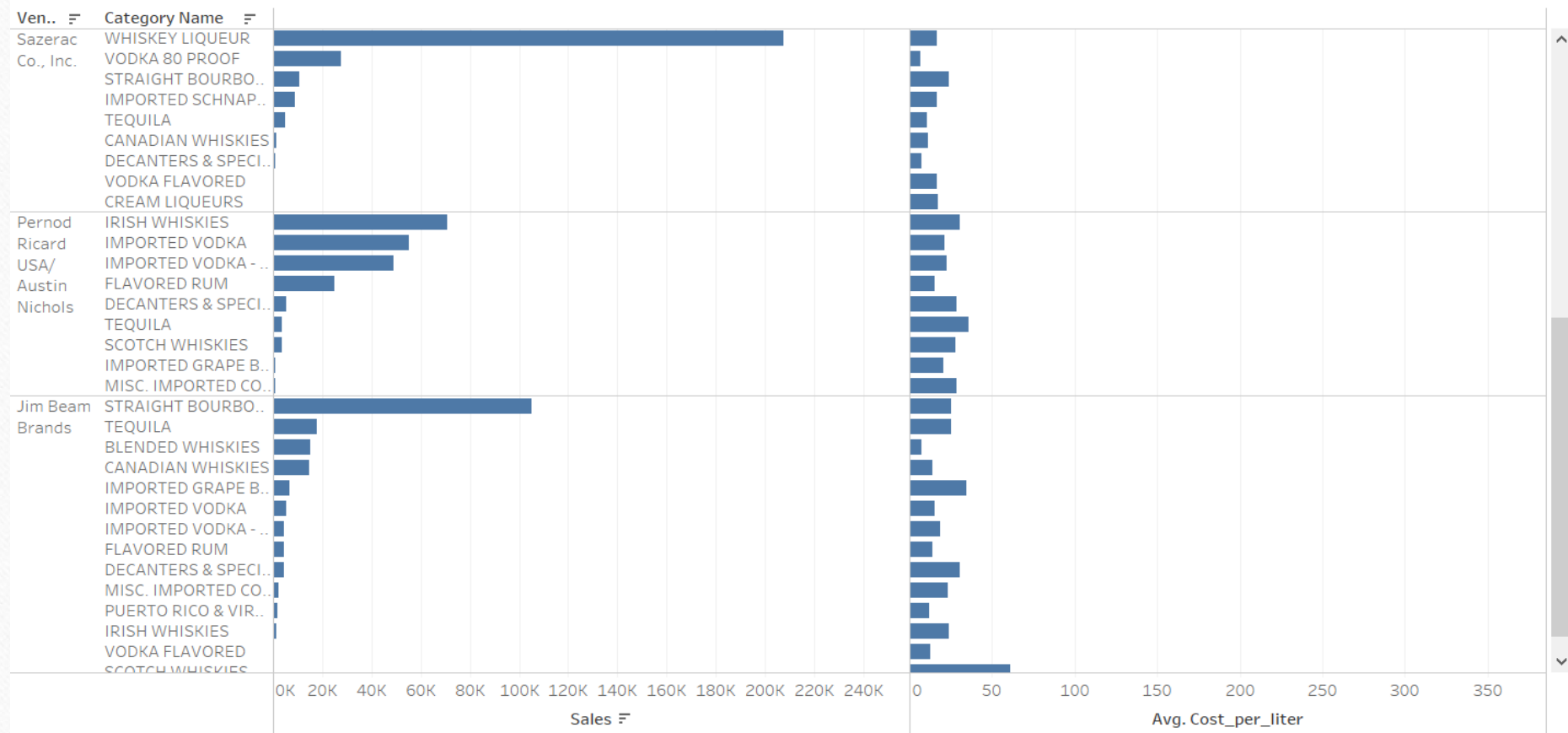
Competing Vendors in Top city by Sales -'Des Moines'



Top City by Sales- 'Des Moines'

The majority of liquor types sold by the competing vendors in the city are in the mid-range of average cost per liter. It is a bracket that most people are comfortable buying in.

Competing Vendors in Top city by Sales - 'Des Moines'



SUMMARY

- The highest sales is in the month of December owing to the festive season and marking the beginning of the winter.
- The most revenue is generated by few types of liquor, which are whisky, rum and vodka.
- Things low performing vendors can learn from the top vendor is that they are concentrating on the types of alcohol that have a relatively modest cost. But the top vendor gets the upper hand since he also sells liquor that fall in the expensive bracket.
- The majority of buyers are interested in buying liquor that is not too expensive, at an average cost of \$20 per liter.
- This throws light on their buying pattern, that they are regular buyers and are comfortable in the mid-range of spending.