

PowerBI Data Visualization Narrative

David D Berberena

Bellevue University

DSC 500 Introduction to Data Science

Nasheb Ismaily

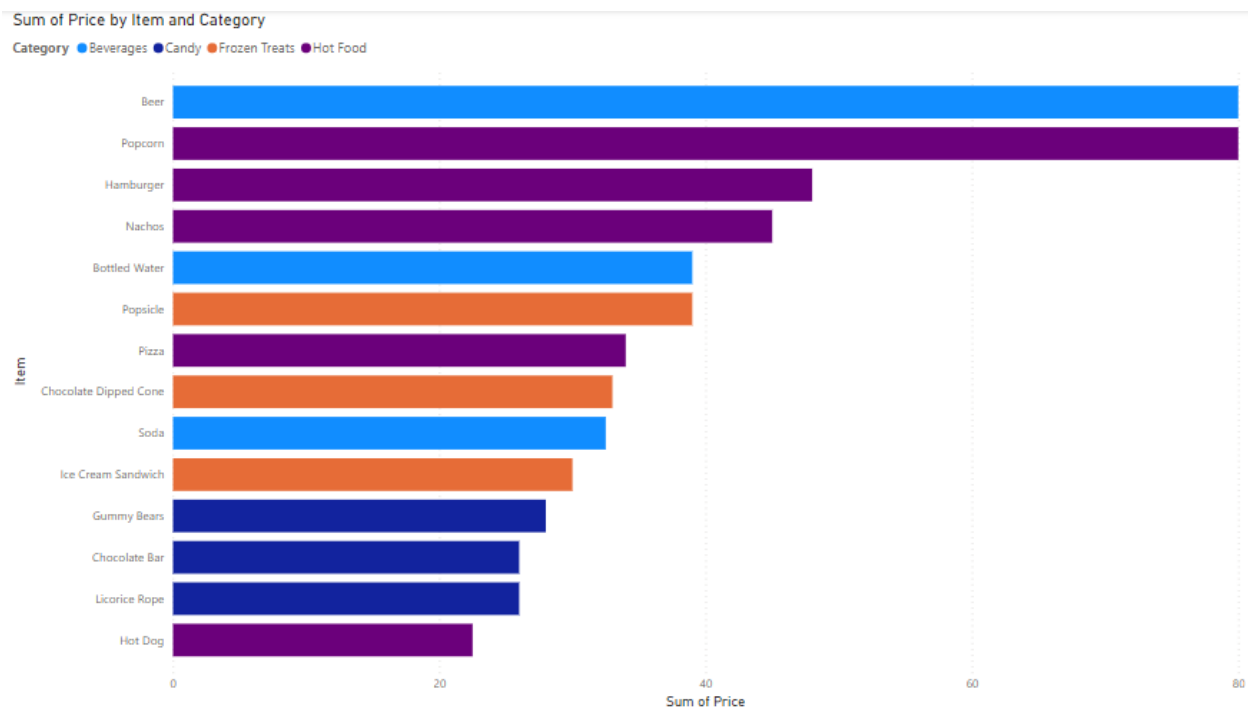
October 29, 2023

PowerBI Data Visualization Narrative

Introduction

The data presented by the visualizations I created stem from this week's Concessions dataset. The dataset shows the revenue generated by the sale of each item in the tabular data, profit in dollar amount, percentage of profit, the calories associated with each item, the dates that each sale took place, and the category associated with each concession item. There are various ways to visualize this data, and the dataset includes one basic visualization of a table that shows the number of calories for each item. I have created four visualizations based on the data via PowerBI, and my reasoning behind these visualizations will follow.

Visualization 1

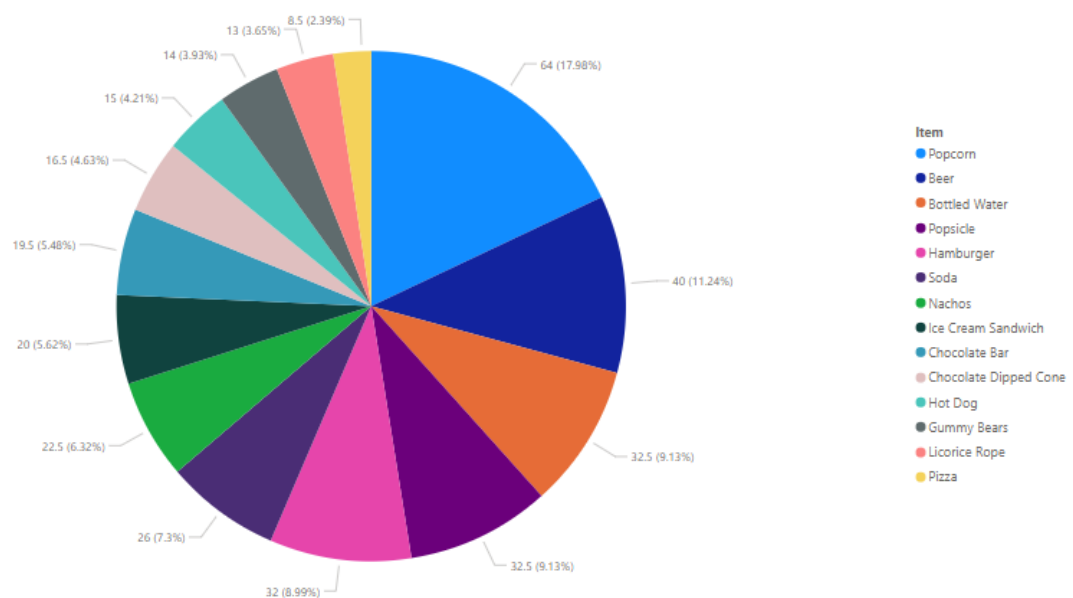


This visualization shows the sum of price by item and category, with the items of the same category being displayed as like colors that are distinct from the other categories. The sum of the price is another way to say total revenue, so this visualization compares the total revenue generated by an individual item with all of the others. I chose this visual aid due to its ease of understanding and its

relatability to many viewers. Visual aids that are unfamiliar to the general public tend to lose their effectiveness in the face of confusion. The color scheme is one that I created which allows the viewer to see that while each category and item are different from one another, the items all are a part of the visual aid. My color choices are so that each category can be easily identified via the legend at the top of the visual aid, yet the colors are not so far from each other on the color spectrum that the categories represented are considered radically different.

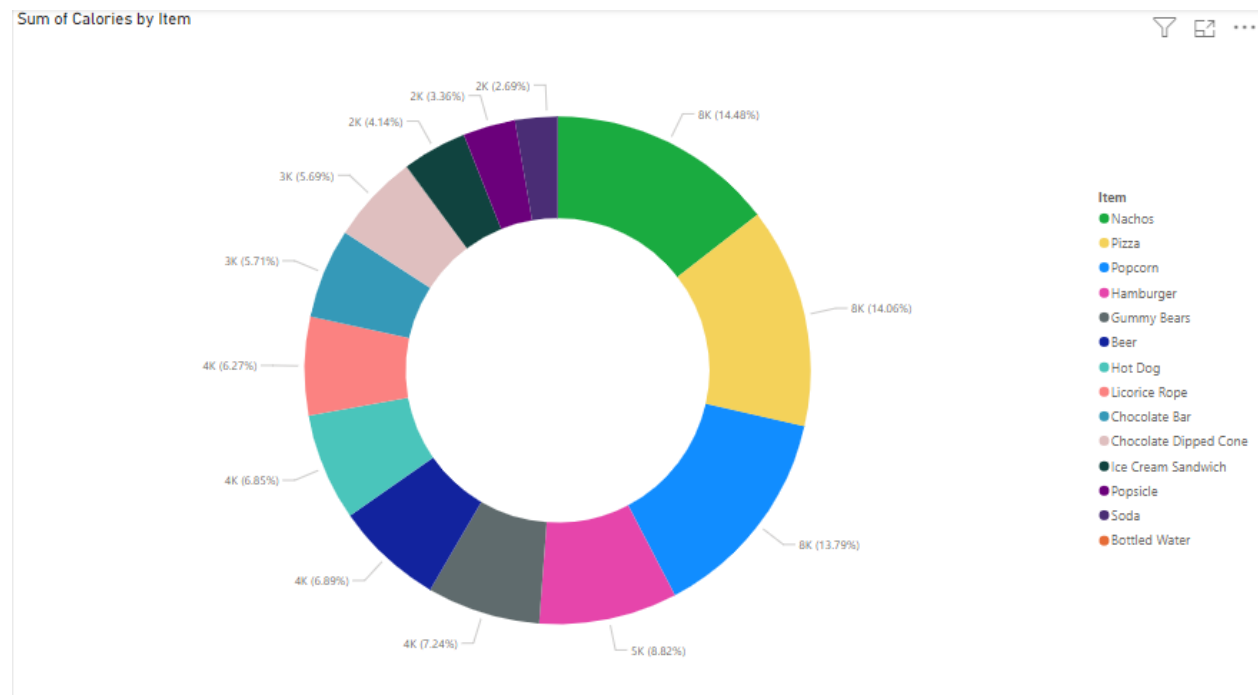
Visualization 2

Sum of Actual Profit by Item



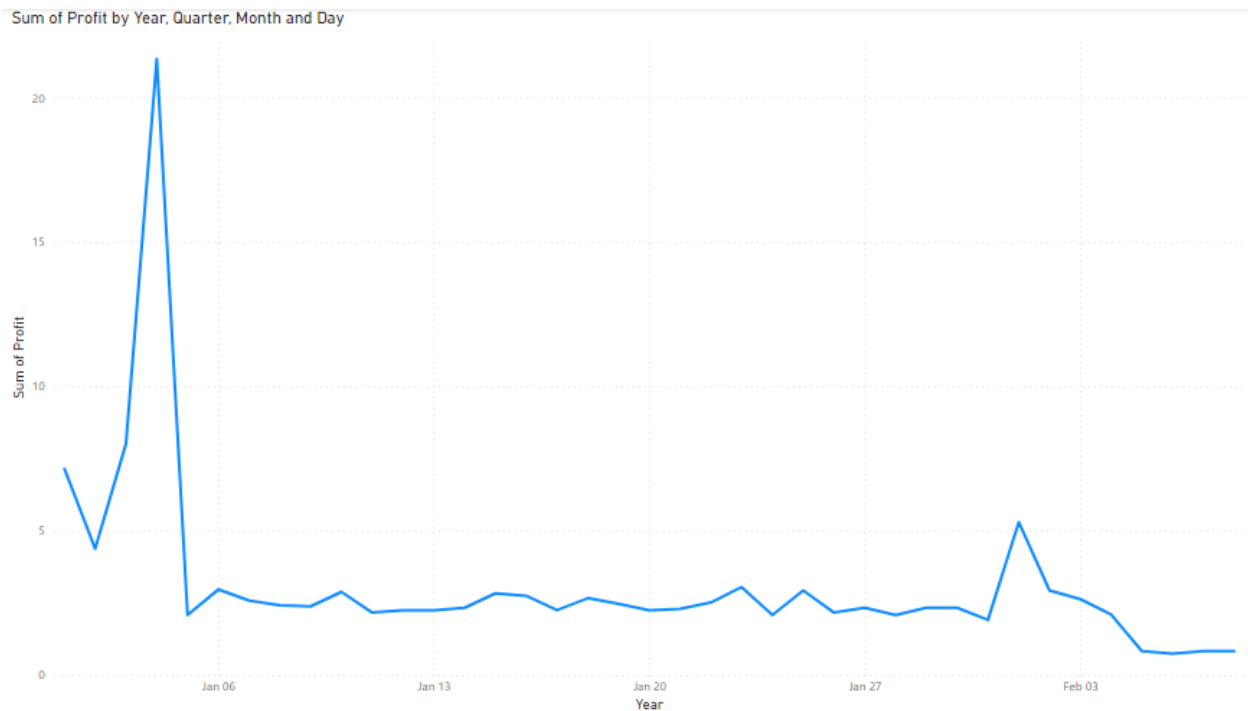
The visual aid provided is a traditional pie chart, showing the relationship between actual profit and item. Again, a pie chart is very relatable to the general public and shows data points in relation to one another. The legend identifies each sliver of the pie chart as one concession item and shows the actual profit in dollar amount attached to each item and the percentage that each item's profit holds in relation to the entirety of the pie chart. My custom color scheme provides high contrast for each sliver of the pie, distinguishing each segment from the others around it. Any segments that may look similar in color are far enough away from each other for the individuality of the item to be effectively captured.

Visualization 3



The donut chart visual aid illustrates the total calories for the duration of the dataset by item. Just like a pie chart, a donut chart shows data relative to the other data points being displayed. This is made evident by the percentages next to the sum of calories present for each item. Even though a donut chart is not as recognizable to the general population, the visual aid breaks down information very similarly to the more commonly used pie chart. They are also almost identical in appearance, with the obvious exception of a gaping hole in the middle of the donut chart, hence the name. This color scheme follows the same reasoning as the previous pie chart visualization, yet in this aid, I believe the color scheme works a little better due to the lack of centralized color in the area that would have been present in the pie chart. I also wish to point out that while the legend includes bottled water with a color, it is not present on the donut chart as the number of calories for bottled water in the dataset is zero.

Visualization 4



My final visualization shows the sum of profit from all items by date. This visual aid is much different than the previous visualizations as a line chart expresses time series data. The color scheme has much less impact on the effectiveness of the visual aid due to the lack of differentiation between categorical data. The axes are appropriately labeled, with the time axis being labeled by the week beginning January 1, 2019. The line chart is another common visual aid that most individuals can glean understanding from rather easily, as it is simple yet effective in communication. The color of the actual line was made to draw the eye as line charts tend to be bland in appearance, with black and white dominating the appearance of the chart.

Conclusion: With these visual aids telling the story of the Concessions dataset, it is apparent that certain categories of food as well as individual items did much better in sales and profit than others over the entirety of the dataset timeframe. Caloric intake was also accounted for in relation to sales as another element of depth to the dataset, and the visualizations I created attempted to capture that depth.