Tableau Mini Project

Dataset used : **CollegeLife Data Challenge.xlsx**

Introduction :

This dataset contain the sales data for 4 states Ohio , Texas, Kentucky and Indiana collected over 156 weeks from January 2009 to December 2011 from some stores. There are 4 category that have been majorly taken:
BAG SNACKS ,
COLD CEREAL ,
FROZEN PIZZA ,
ORAL HYGIENE PRODUCTS

Some of the Features used are :
HHS :The purchasing households
VISITS: The number of Visits
product_size: The product size(oz)
parking_space_qty: The number of parking space available
MSA_code: It is short for Metropolitan Statistical Area.
UNITS: Number of units sold

Now, for this mini project I have visualized 7 worksheets and categorized them into 3 dashboards and then combined these 3 dashboards to make a final storyboard and added the recommendation at the end of the storyboard.

Dashboard 1 visualizations:

Naming this dashboard as Quarterly and weekly analysis over the years as we see trends over the years from 2009 to 2012

Here ,in the above dashboard we are visualizing 2 area graphs

In the 1st one :

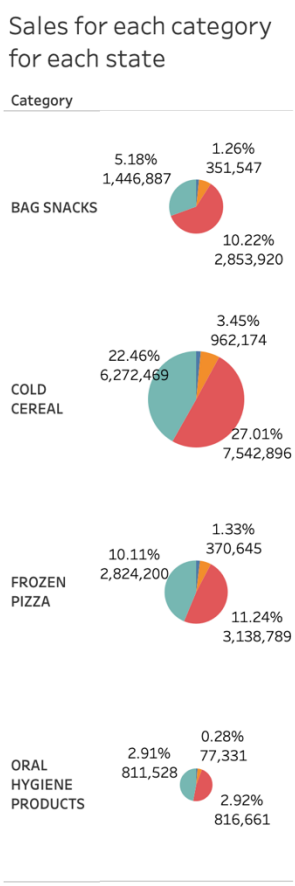
- We are plotting the distinct count of Units sold and distinct count of Visits quarterly over the years from 2009 Q1 to 2021 Q1.
- We color coded each manufacturer for clearer visualization.
- We see that KELLOGGS has had the highest distinct count of units of 285 and visits of 280 on 2010 Q2 when considering all the years.
- And WARNER has had the least number of units sold among all the manufactures and had the least number of distinct visits.

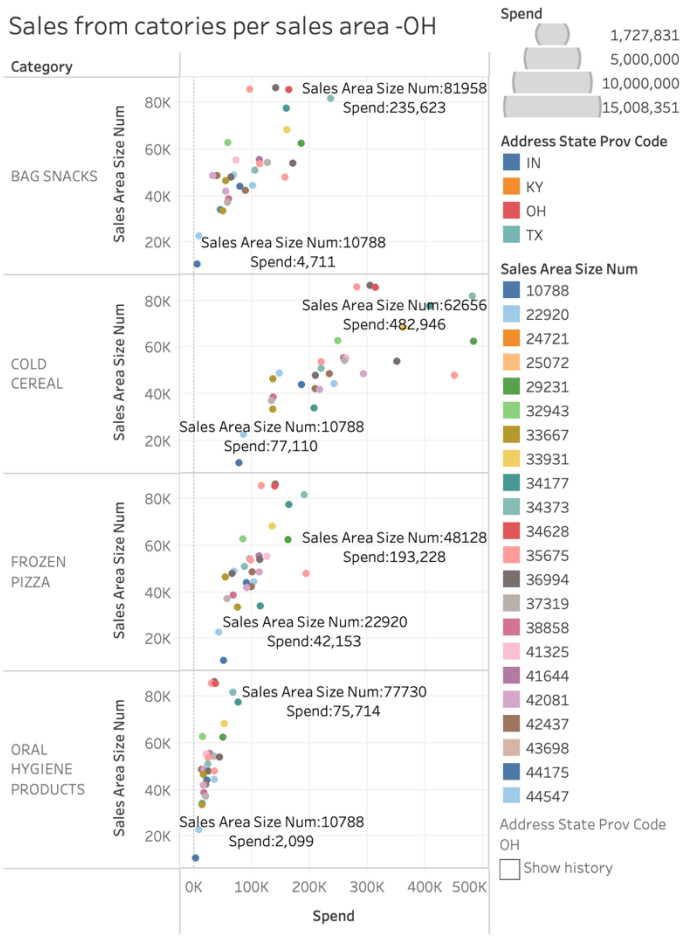
For the 2nd visualization:

- We again visualize an area graph but this time we plot the total sales over all the years (week end) for all the 4 categories: BAG SNACKS ,COLD CEREAL ,FROZEN PIZZA ,ORAL HYGIENE PRODUCTS.
- We see that clearly COLD CEREAL has had the maximum sales over the years with 153k sales being the highest in Feb 2010.
- We see that ORAL HYGIENE PRODUCTS have had the lowest sales with only 4k being the lowest over the years.

Dashboard 2 visualizations:

Naming this dashboard as Sales trends of categories and some features as we will be analysing the sale trends with the specific manufacture/Categories and how they get affected with some features.





For the first visualization:

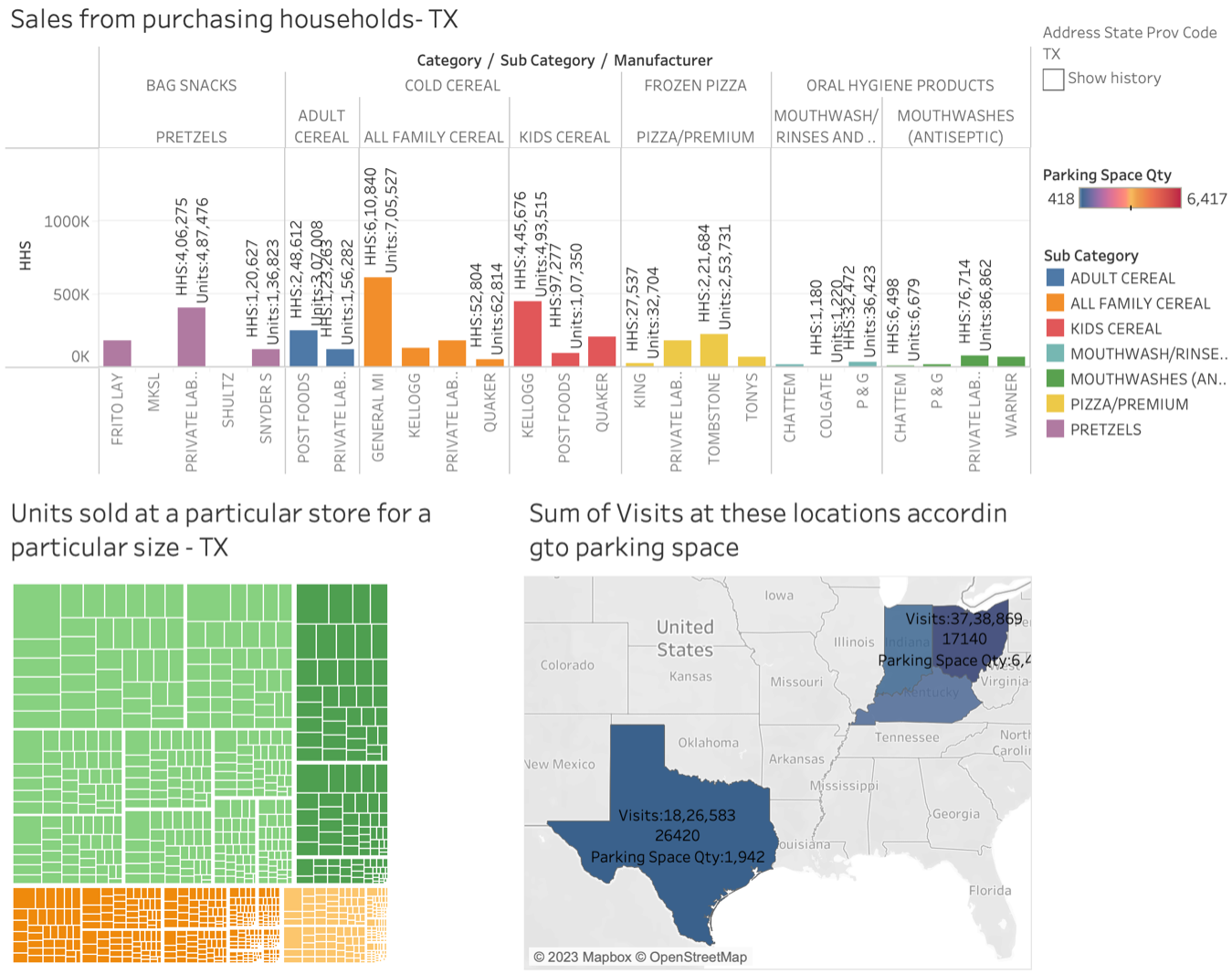
- We are analyzing the sales for each of the four categories: BAG SNACKS , COLD CEREAL, FROZEN PIZZA ,ORAL HYGIENE PRODUCTS using pie charts.
- And we can see the percentages of each out of the total.
- With the largest sales belonging to the category COLD CEREAL and the lowest being ORAL HYGIENE PRODUCTS as also seen in the above dashboard. We also see that the state Ohio has had the highest sales with up to 27% in COLD CEREAL and INDIANA has had the lowest with as low as 0.28% in ORAL HYGIENE PRODUCTS.

For the 2nd visualization:

- I am using a graph to show how Sales Area Size Num affect the sales for each category state wise.
- Here, we can see that for usually the greater sales area size num , the sales are greater with up to 482k sales in OHIO for COLD CEREAL .
- We see very clearly that lesser sales area size number has lesser sales with only 2k sales in OHIO for ORAL HYGIENE PRODUCTS.

Dashboard 3 visualizations:

Naming this dashboard as Statewise sales and some features as we will be analysing trends state wise with some features.



For the 1st visualization:

- We will be plotting a bar plot of purchasing households (HHS) for each manufacturer/category /Sub-category. And we also will be seeing the sum of units.
- So for Ohio, we clearly see the highest HHS is for Pretzels from manufacturer private label for bag snacks with sum of HHS = 841k and sum of units = 728k.
- Th manufacturer GENERAL MI comes to a close second with 721k HHS and Units= 853k for the category cold cereal .
- And manufacturer CHATTEM comes the lowest under oral hygiene products.
- For the state Indiana , the HHS are very low with the highest being only 22k and units= 26k.

For the 2nd visualization

- We will plot a tree map for the sum of units for a particular size (in oz) for different store names.
- Now for Ohio, we clearly see that again cold cereal has the highest sold units and the ANDERSON TOWNE CTR being the store with the maximum sales for 18oz. Many other stores also have high unit sales of 65k for 18 oz product sizes.
- In Texas for the category COLD CEREAL, Houston comes first with 18 oz product size and highest sold units equal to 78k sold units.
- In Indiana comes the lowest, with 18 oz and only 30k sales at the store LAWRENCEBURG.

For the 3rd visualization:

- We see that when analyzing Visits with Parking Qty for each state, we see that the visits are the highest in OHIO with 3M visits and parking space of 6k.
- Next comes Texas with 1.8M visits and around 2k parking space.
- Third comes Kentucky with 500k visits and 604 parking spaces.
- There is no information for the state Indiana on parking spaces but the visits are 145k.

Now , for the final Story board recommendation:

Recommendation

We can conclude from the above visualization:

1.It can be stated that one of the important factors affecting the visit of people to the store is parking spot availability . As the number of parking spots increase, we can also say that number of visits increases.
Therefore, increasing number of parking spaces will have an effect on number of visits in turn affecting the number of sales.
2.When a particular product is available in various sizes it can be stated that the number of items sold also increases, a store will have increased product sales for a particular manufacturer when the product is available in various sizes.
3.A manufacturer will dispatch item batches based on number of sales or percentage of sales based on product categories sold in each state. For a particular product item that is consumed more in a particular state will also require the manufacturer to dispatch the product in a higher quantity to the same state. So the recommendation would be to dispatch more items from the manufacturer to the store based on consumption for a product category sold.
4. It can be noticed that stores with larger area attract more visitor and have higher sales as well. So, the recommendation will be to increase sales a particular store should consider increasing store size in order to attract more customers and in turn increase sales.
5. Number of units sold is found to be always greater than the number of visits to the stores per state. As the customer count is lesser compared to the sales that happen at the stores, we can infer that a customer buys a product in multiple quantities. Recommendation is that, on an average the store should make sure to have item quantities in bulk so that they never run out of stock when more customers visit.