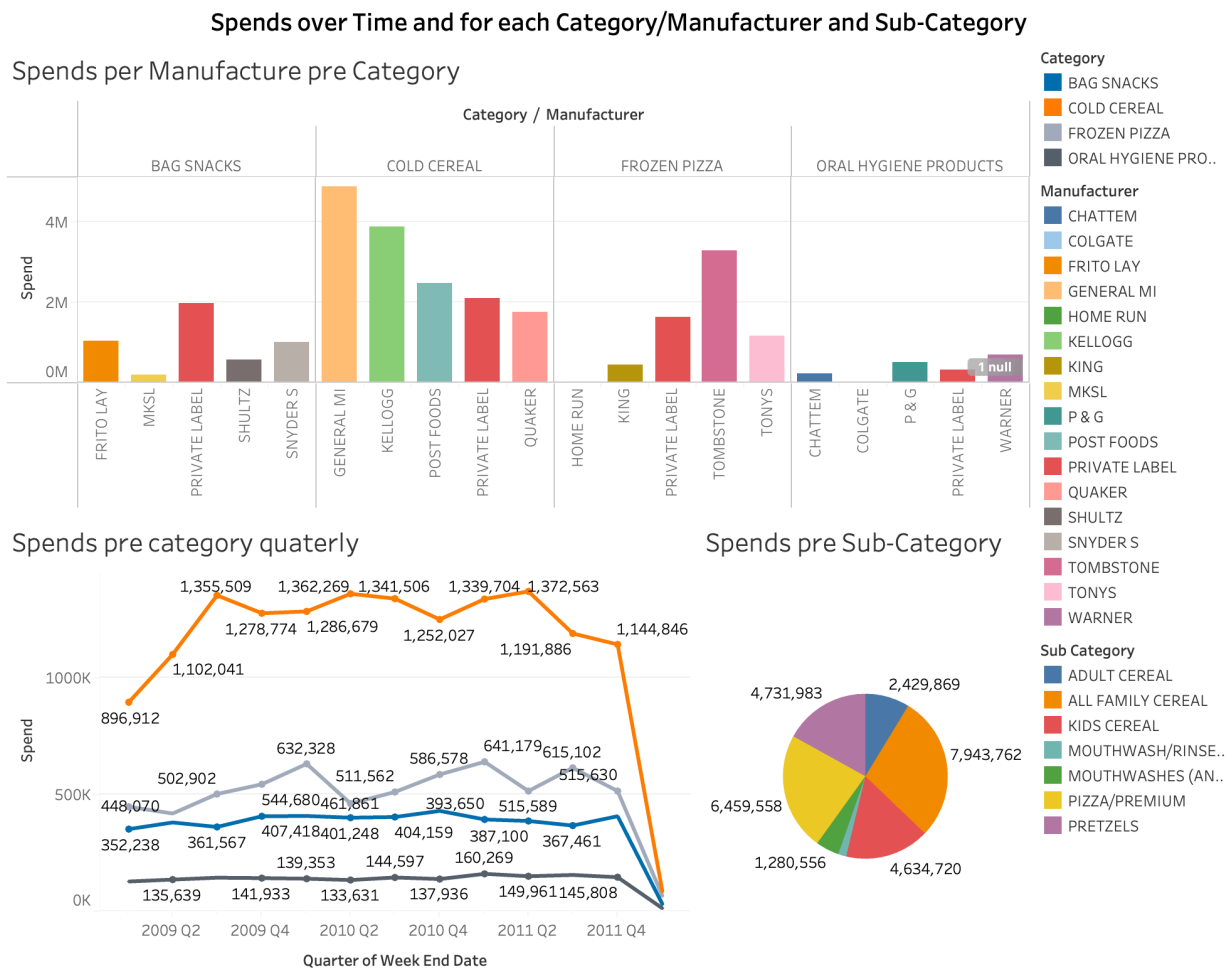


About Dataset:

The dataset comprises three primary data-frames: "Store," "Transaction," and "Product." The "Store" dataframe contains details about diverse retail outlets, encompassing store ID, name, city and state location, metropolitan statistical area (MSA) code, parking space quantity, sales area size, average weekly baskets, latitude, and longitude. The "Transaction" dataframe outlines weekly transaction particulars, including the concluding week date, store number, Universal Product Code (UPC), units sold, visits, households (HHS), spend, price, base price, and insights into promotions like feature, display, and temporary price reduction (TPR). The "Product" dataframe encompasses product-specific data like UPC, description, manufacturer, category, sub-category, and product size. Additionally, the information section furnishes diverse data attributes, their origins, and explanations, aiding in the comprehension of the dataset.

Visualizations:

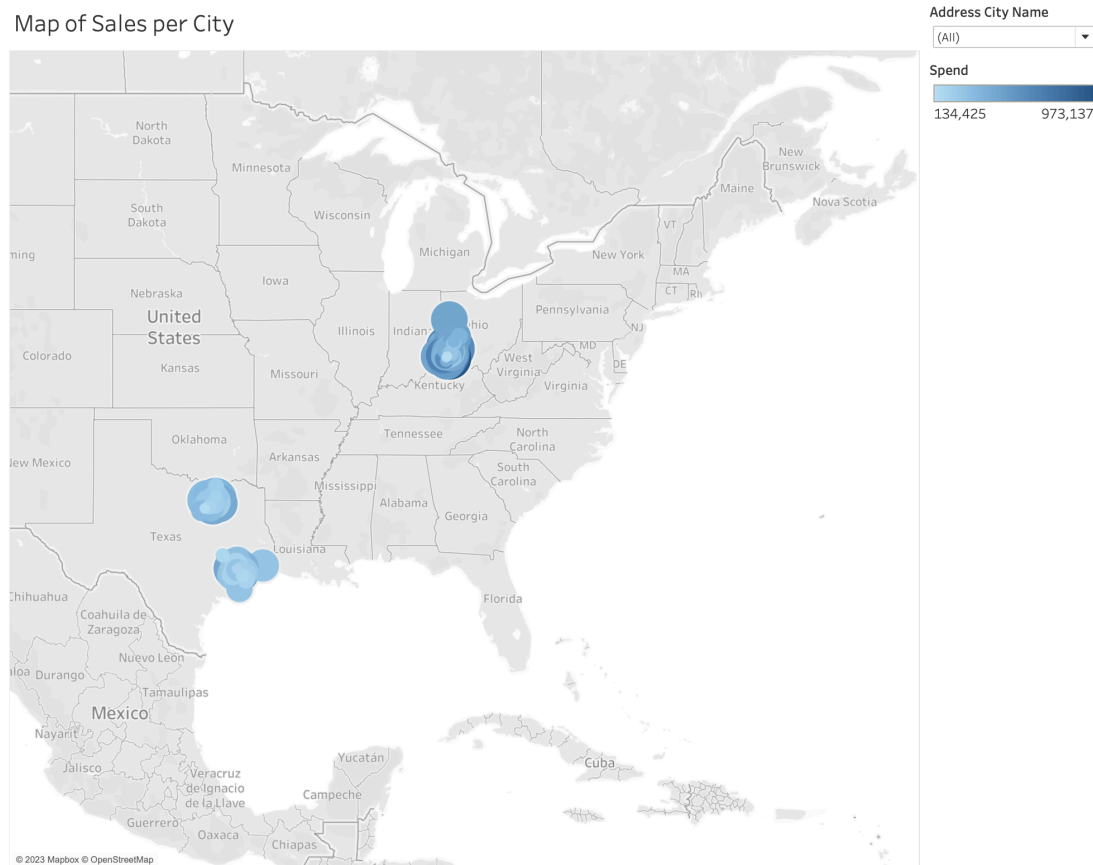
Story Point - 1:



The analysis of the provided plots reveals that the category 'Cold cereal' exhibits the highest spending compared to other categories. Within this category, sub-categories such as 'All Family Cereal' and 'Pizza' particularly stand out with elevated spending levels. Additionally, there is a notable increase in spending during the 2nd quarter, indicating a potential seasonal trend or a period of heightened consumer activity.

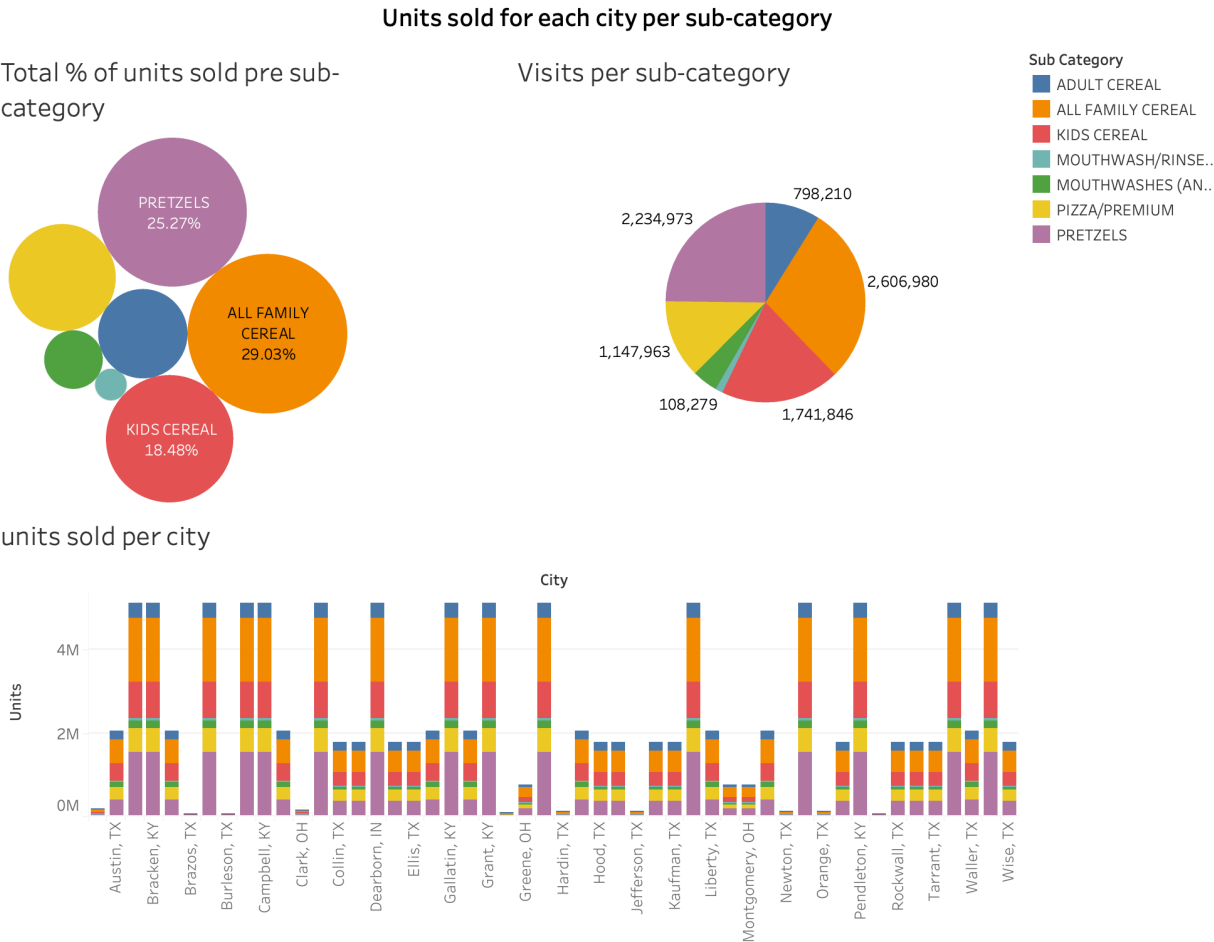
Story Point - 2:

Map of Sales per City



The analysis of the map indicates that the predominant spending is concentrated in specific states, namely Texas, Ohio, Indiana, and Kentucky. These regions emerge as significant contributors to overall spending, suggesting potential economic activity, consumer demand, or targeted marketing efforts in these particular areas. Understanding the factors driving spending patterns in these states could be crucial for businesses or policymakers looking to optimize strategies or allocate resources effectively.

Story Point - 3:



The visualizations reveal that 'Pretzels,' 'All Family Cereal,' and 'Kids Cereal' stand out with higher numbers of units sold, and this trend is consistent with the increased number of visits. The strong correlation between high unit sales and visitation suggests a consumer preference or demand for these specific product categories. Understanding the factors driving the popularity of these items could be valuable for businesses seeking to optimize their inventory or marketing strategies.

Story Point - 4:**Recommendations:**

1. Manage retail outlets with diverse promotions and sufficient inventory during the first quarter (Q2), as historical data indicates an increase in consumer expenditures during this period.
2. The number of customer visits is somewhat influenced by the size of the store, so it's advisable to maintain a sufficiently large size to accommodate a greater number of customers.
3. Stores are advised to maintain ample inventory of items in the "Bag Snack", and "Frozen Pizza" categories.
4. Stores are recommended to ensure an ample supply of "All Family Cereal," "Pretzels," and "Kids Cereal" sub-categories, given their significant popularity, collectively contributing to over 70% of units sold.
5. Customers prioritize product quality over factors such as higher cost or smaller quantity/volume. Consequently, sub-categories characterized by superior quality experience greater sales compared to other sub-categories within the same category.