Dear Professor X, Data Science Team Leader,

Based on the sample data provided for Gala groceries sales, I have conducted an exploratory data analysis investigating the question, “How to better stock the items that they sell?”

The outcome of the EDA entails:

* Dataset contains approximately 7,800 unique observations and 9 key features (columns)
* Majority of consumers **(About 26%)** use cash as forms of payment
* non-member customers represent the largest category of customers, leading by a margin of **20.5%**
* **Fruit** was the most purchased item
* In terms of distribution of values: Majority of the values in total column are concentrated on the left side of the histogram. This means that total value of products bought by customers are in the lower ranges
* Based on type and strength of correlation between variables/features in the dataset, as the **unit price or quantity** of an item increases, the total price of the item also tends to increase
* Conversely, as the **unit price of an item** increases, the quantity of the item that is sold tends to decrease

Next steps:

1. Acquire Inventory Data: Real-time data on current stock levels and the rate at which items are selling.
2. Acquire Supplier Information: Details about the suppliers, their capacity, and delivery schedules.
3. Ascertain the demand cycle of the grocery's products: Is the demand fluctuation based on seasons, consumer trends, etc
4. Supplement the current sample size of historical data

Recommendations:

* Acquire the needed data outlined in Next steps
* Recommend adoption of optimal predictive analytics solutions based on narrowed down business problem

Best regards,

Collins Ogombo, Junior Data Scientist