Dear Team Leader,

The tasked assigned is to perform an in-depth exploratory data analysis (EDA) on the provided dataset using Python, which aim is to understand statistical problem and key insights. Then summarize the findings and provide business-friendly recommendations in an e-mail to the Data Science team leader.

My findings are:

* When I used category analysis the top five categories with the highest sales volume are: fruit, vegetables, packaged foods, baked goods and canned foods.
* When I used customer type analysis the customer types with the highest frequency are: non-member, standard, premium, basic and gold.
* When I used demand analysis for the top five products with the highest sales volume are: product\_id\_1 (288 units sold), product\_id\_2 (266 units sold), product\_id\_3 (259 units sold), product\_id\_4 (254 units sold), and product\_id\_5 (252 units sold).
* When I used demand analysis for the top five categories with the highest sales volume are: fruit (2439 units sold), vegetables (2124 units sold), packaged foods (1280 units sold), baked goods (1089 units sold), and canned foods (1082 units sold).
* And finally, when I used payment analysis the most common payment methods are: cash, credit card, e-wallet, and debit card, with cash being the most frequently used.

My business-friendly recommendations are:

* Given that the significant sales volume in categories such as fruit and vegetables, I recommend prioritizing these items in inventory stocking. Ensure an adequate supply of fresh to produce to meet customer demand.
* Develop loyalty programs or promos for premium and gold customers to encourage repeat purchases. And attract new customers by offering benefits for basic and non-member customers.
* Consider offering incentives or discounts for customers using digital payment methods to encourage the usage of e-wallet and reduce cash handling costs.

Best regards,

Mikko A. De Torres

Data Analyst