Dear Data Science Team Leader,

I am writing to provide a summary of the exploratory data analysis (EDA) I have conducted on the "sample\_sales\_data" dataset as part of the assigned task.

Task: Exploratory Data Analysis

Step 1: Prepare

I successfully downloaded the CSV file "sample\_sales\_data.csv" and imported it into Google Colab as instructed. The dataset consists of transactional data related to sales.

Step 2: Exploration

During the data exploration phase, I rigorously analyzed the dataset to gain valuable insights. Here are the key findings:

**Top 10 Best-selling Products by Total Sales:**

Category Total

kitchen 14456.65

dairy products 14412.87

meat 14102.31

seafood 10754.81

medicine 10393.78

beverages 9930.64

cleaning products 9483.75

baked goods 8348.21

refrigerated items 7436.45

canned foods 6743.48

**Average Unit Price for Each Category:**

Category Total

medicine 17.148848

seafood 16.063518

kitchen 15.100995

meat 15.012513

cleaning products 12.802671

beverages 12.624551

baby products 12.285536

pets 10.578820

frozen 10.071369

personal care 9.198475

dairy products 8.274731

baked goods 7.619797

refrigerated items 6.922235

condiments and sauces 6.886685

canned foods 6.269350

baking 5.342273

packaged foods 4.924714

spices and herbs 3.080400

fruit 2.503627

snacks 2.378593

vegetables 2.368369

**Quantity of Products Sold by Customer Type:**

customer\_type quantity

basic 2.486239

gold 2.499011

non-member 2.483448

premium 2.510692

standard 2.527900

**Average Sales Across Different Days of the Week:**

day\_of\_week total

Friday 20.092635

Monday 20.187654

Saturday 20.300773

Sunday 19.316069

Thursday 19.856651

Tuesday 19.042026

Wednesday 19.264375

**Category with the Highest Average Quantity Sold per Transaction:**

Category with the highest average quantity: ***seafood***

**Average Total Sales for Different Customer Types on Each Day of the Week:**

**customer\_type basic gold non-member premium standard**

**day\_of\_week**

Friday 19.426889 20.188935 20.386062 19.869626 20.578987

Monday 21.087887 20.119252 21.220793 20.151709 18.544596

Saturday 20.254978 21.831343 20.67677 18.23514 20.591165

Sunday 19.290046 17.401156 20.440415 19.529292 19.593433

Thursday 18.56035 22.224249 19.329128 19.937149 19.418707

Tuesday 18.660306 18.469748 17.557511 20.730283 19.664292

Wednesday 18.53181 18.506445 19.191555 20.840388 19.504449

Step 3: Communication

Based on my analysis, I would like to provide the following recommendations for further investigation:

Conduct a detailed analysis of the top-selling products to identify underlying trends and factors contributing to their success.

Investigate the relationship between unit price and total sales to determine optimal pricing strategies and potential opportunities for revenue growth.

Explore customer behavior patterns on specific days of the week to tailor marketing campaigns and promotions for maximum impact.

Best regards,

Sahil Tambe