Executive Summary

This analysis combines customer shopping habits and sales data from three supermarket branches (Abuja, Lagos, and Port Harcourt) to uncover insights into sales patterns, customer behavior, and product performance.

Methodology

1. Imported necessary libraries and set the working directory.

2. Combined datasets from the three branches using pd.concat.

3. Saved the combined dataset to a new CSV file.

4. Loaded the combined dataset and checked for missing values.

5. Performed data manipulation and cleaning.

6. Converted date columns to datetime format.

7. Added new rows for day, month, year, and hour.

8. Grouped data by city and aggregated.

9. Generated visualizations using seaborn.

Key Findings

1. Product Category Sales: Highest sales in Home and Lifestyle, Fashion Accessories, and Electronics (primarily among female customers).

2. Gender-Based Purchasing Habits: Female customers purchase more Fashion Accessories, while male customers prefer Sports and Leisure.

3. Product Quantity and Unit Price: High quantity of Food and Beverages sold, with Fashion Accessories having the highest unit price.

4. Payment Channels: Payment channels vary across branches, with Epay and Cash being the most common.

5. Gross Income and Tax: Higher gross income leads to higher tax.

Insights and Recommendations

- Female customers drive sales in Fashion Accessories and Home and Lifestyle products.

- Male customers dominate sales in Food and Beverages, Sports, and Travel.

- Optimize pricing strategies for Fashion Accessories and Health and Beauty products.

- Enhance payment channel options to improve customer convenience.

- Conduct Time Series Analysis, Sentiment Analysis, and develop interactive dashboards to visualize key insights and trends.