DATA ANALYSIS TRAINING

PROJECT REPORT

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Supermarket Sales Analysis Project Report

Title:

Sales Analysis of a Supermarket Chain Using Python, SQL, and Excel

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Introduction:

This project analyzes a publicly available dataset that contains sales records of a supermarket over a 3-month period. The dataset includes information such as invoice IDs, branch locations, payment methods, product lines, unit prices, and customer demographics. The goal is to extract meaningful business insights from this data to support decision-making.

Objectives:

- To analyze sales trends and customer preferences across different branches.

- To explore how sales vary by gender, payment method, and product line.

- To use SQL for querying sales data and Python for visualization.

- To design an interactive Excel dashboard for business reporting.

Tools Used:

- **Python:** For data cleaning, exploration, and visualization.

- **SQL (SQLite):** For querying and summarizing the dataset.

- **Excel:** For creating a dashboard with charts, pivot tables, and slicers.

Key Findings:

- **Branch Giza** had the highest average total sales.

- **Male customers** were slightly fewer than female customers, but they made higher average purchases.

- **Electronic accessories** and **Food and beverages** were top-selling product lines.

- **Ewallet** was the least-used payment method, while **Cash** was the most popular.

- Customer type **"Member"** made up a significant portion of repeat customers, suggesting good loyalty.

Conclusion:

This project demonstrates how structured sales data can provide valuable insights into customer behavior and product performance. By using Python, SQL, and Excel together, we were able to clean, analyze, and visualize the data effectively. The Excel dashboard makes it easy to share insights with non-technical stakeholders and enables interactive exploration of the data.