Supermarket Sales Analytics: From Data to Dashboard

Problem Statement Supermarket Together, a growing retail chain with 21 branches, needed a clear understanding of its sales performance to optimize inventory, identify top-selling products, and improve revenue generation. The management team lacked actionable insights from their sales data, making it difficult to make informed decisions about promotions, stock replenishment, and regional performance.

The Analysis Process

1. Data Collection & Cleaning Source: Historical sales data was extracted from an SQL database and compiled into an Excel file (Sales.xlsx).

Cleaning Steps:

Checked for missing values in key columns (Product, Category, Revenue).

Standardized category names (e.g., "Meat/Routing" → "Meat/Poultry").

Ensured correct formatting for dates and currency.

1. Exploratory Data Analysis (EDA) Key Metrics Calculated:

Total Revenue: $1.35M

Products Sold: 77

Top Categories: Dairy Products, Beverages, Condiments

Top Products by Revenue:

* Côte de Blaye
* Thüringer Rostbratwurst
* Raclette Courdavault
* Camembert Pierrot
* Tarte au sucre

Geographical Insights:

Highest revenue-generating cities were mapped to identify strong and weak markets.

1. Dashboard Development Power BI The interactive dashboard (shown in the image) was designed to provide:

Revenue Overview: Total revenue, products sold, and branch count.

Product Performance:

* Top 5 products by revenue (bar chart).
* Fast-Moving Consumer Goods (FMCGs) with sales percentages.
* Geographical Sales Distribution:
* A world map highlighting top revenue-generating cities.
* Sales trends across continents (America, Europe, Asia).

Key Findings & Insights Dairy Dominance: Dairy products (especially Camembert Pierrot and Raclette Courdavault) were top revenue drivers.

Regional Strengths:

* Europe (France, Germany) had the highest sales density.
* Emerging markets in South America (Brazil) showed growth potential.
* Underperforming Categories: "Grains/Cereal" and "Seafood" had lower sales, suggesting a need for promotion or discontinuation.

Recommendations Inventory Optimization:

* Increase stock for high-revenue dairy products.
* Phase out underperforming categories or run targeted promotions.

Regional Strategy:

* Expand marketing efforts in high-growth regions (e.g., Brazil).
* Investigate low sales in certain areas (e.g., Australia).

This project transformed raw sales data into actionable insights, helping Supermarket Together make data-driven decisions. The dashboard provided visibility into sales performance, enabling better inventory management and strategic planning.

Next Steps:

Implement real-time data integration for live tracking.

Conduct customer segmentation analysis for personalized promotions.