SALES DATA ANALYSIS PROJECT REPORT

Tools Used: SQL | Python | Power BI
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Project Overview

This project analyzes retail sales data to identify revenue trends, top-performing categories, and profitability patterns.
The objective was to clean raw data, perform exploratory data analysis, and build an interactive dashboard for business decision-making.

Problem Statement

Businesses often struggle to understand which products and stores drive the most revenue and profit.
This project aims to uncover actionable insights from sales data using data analytics tools.

Data Cleaning (SQL)

The raw dataset contained missing values, duplicate entries, and inconsistent formats.

SQL was used to:
• Remove duplicates
• Handle NULL values
• Standardize date formats
• Create calculated columns
• Perform aggregations

Exploratory Data Analysis (Python)

Python (Pandas & Matplotlib) was used to explore trends and distributions.

Key Analysis Performed:
• Revenue by Category

• Monthly Sales Trend
• Profit Distribution
• Store-wise Performance

Dashboard Development (Power BI)

An interactive Power BI dashboard was created to visualize:
• Total Revenue
• Total Profit
• Category Performance
• Monthly Trends
• Regional Analysis

Key Insights

• Electronics generated the highest revenue.
• Q4 showed peak seasonal sales.
• Some stores had high sales but low profitability.
• Profit margins varied significantly across categories.

Business Recommendations

• Focus marketing efforts on high-margin categories.
• Improve pricing strategy for low-profit stores.
• Increase inventory before peak seasonal months.
• Optimize underperforming regions.

Conclusion

This project demonstrates an end-to-end data analytics workflow from raw data to business insights.
It highlights the importance of data-driven decision-making in improving profitability and operational efficiency.