

# Retail Business Performance & Profitability Analysis

## Introduction

This project focuses on analyzing the performance and profitability of a retail business. The objective is to identify profit margins across categories, highlight slow-moving items, and provide strategic recommendations.

## Abstract

We used a retail dataset with sales, profit, and inventory information. The analysis combined SQL (profit margins, seasonal performance), Python (correlation analysis), and Tableau (dashboard visualization with filters). Key findings include low margins in certain categories and seasonal sales variations.

## Tools Used

- SQL (data cleaning and aggregation)
- Python (Pandas, statistical analysis)
- Tableau (dashboard and storytelling)

## Steps

- Data cleaning and preparation
- SQL queries to compute profit margins and seasonal patterns
- Python correlation analysis between inventory days and profitability
- Tableau dashboard with region, product type, and season filters
- Key insights and recommendations

## Conclusion

The analysis revealed that some categories and sub-categories operate at very low margins, especially during off-seasons. Overstocked items increase holding costs without improving profit. Suggested strategies include optimizing inventory turnover, focusing on high-margin categories, and tailoring promotions by season.