

# Business Problem

Effective inventory and sales management are critical for optimizing profitability in the retail and wholesale industry. Companies need to ensure that they are not incurring losses due to inefficient pricing, poor inventory turnover, or vendor dependency. The goal of this analysis is to:

- Identify underperforming brands that require promotional or pricing adjustments.
- Determine top vendors contributing to sales and gross profit.
- Analyze the impact of bulk purchasing on unit costs.
- Assess inventory turnover to reduce holding costs and improve efficiency.
- Investigate the profitability variance between high-performing and low-performing vendors.

## Deliverables:

1. Identify Brands that needs Promotional or Pricing Adjustments which exhibit lower sales performance but higher profit margins.
2. Which vendors and brands demonstrate the highest sales performance?
3. Which vendors contribute the most to total purchase dollars?
4. How much of total procurement is dependent on the top vendors?
5. Does purchasing in bulk reduce the unit price, and what is the optimal purchase volume for cost savings?
6. Which vendors have low inventory turnover, indicating excess stock and slow-moving products?
7. How much capital is locked in unsold inventory per vendor, and which vendors contribute the most to it?
8. What is the 95% confidence intervals for profit margins of top-performing and low-performing vendors.

9. Is there a significant difference in profit margins between top-performing and low-performing vendors?