

Project Issued
1/1/2026



Optimizing High-Season Inventory

A Walmart Supply Chain Case Study

Preventing High-Season Stockouts using Historical Pattern Analysis

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2010 - 2012

Case Study based on Public Historical Data (2010-2012) Market Pattern Analysis

Executive Summary

User Need:
Supply Chain Manager
Regional Operation Director
Category/Merchandize Manager



Misconception

- Label format “Holiday” is not synchronize with real shopping behavior. Best time to ready product stock is before the event for a week or 2 week.



Discovery

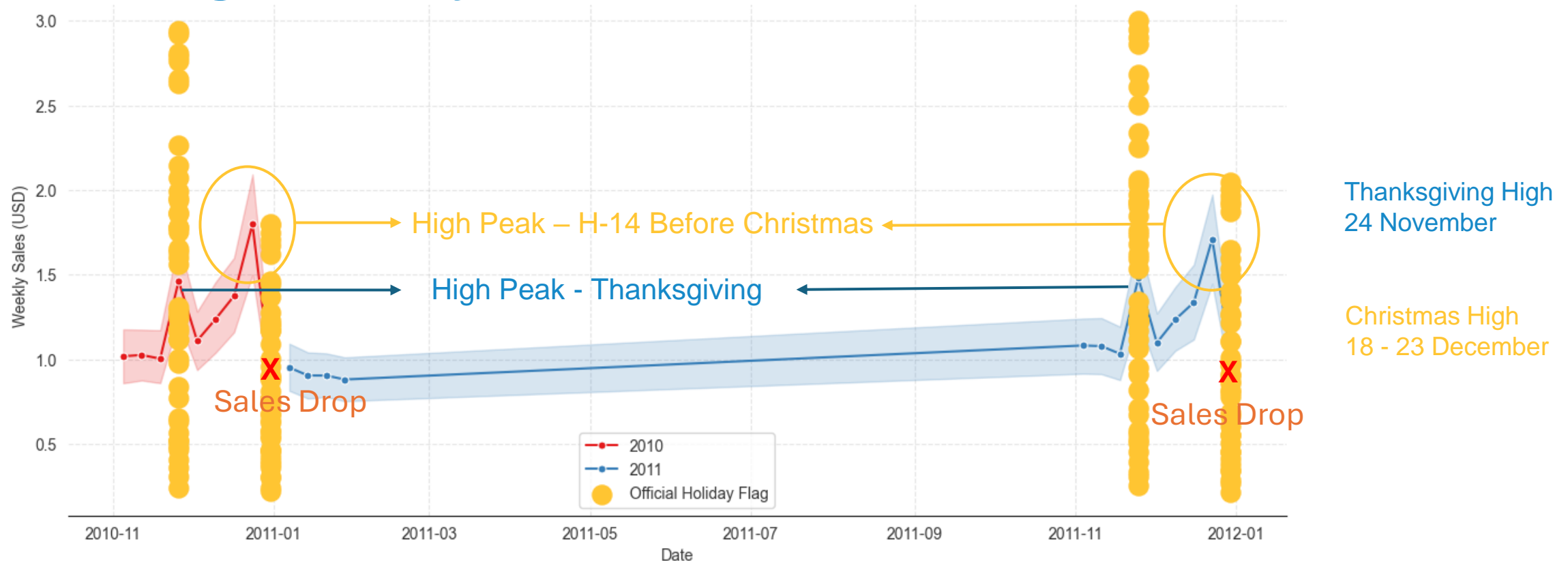
- Thanksgiving and Christmas Event increasing sales significantly.
- Detected “Pre-Christmas Rush” in Week 50 and 51 spikes sales demand 1.68x
- 27 Main Store supplying 80% of sales



Recommendation

- Apply Multiplier Stock 1.63x only on H-14 Period Christmas and H-7 Thanksgiving
- Priorities logistic allocation to 27 Main Store for efficiency distribution cost

Demand Surges 1.69x in Non-Holiday Weeks (Week 51), Catching Inventory Off-Guard

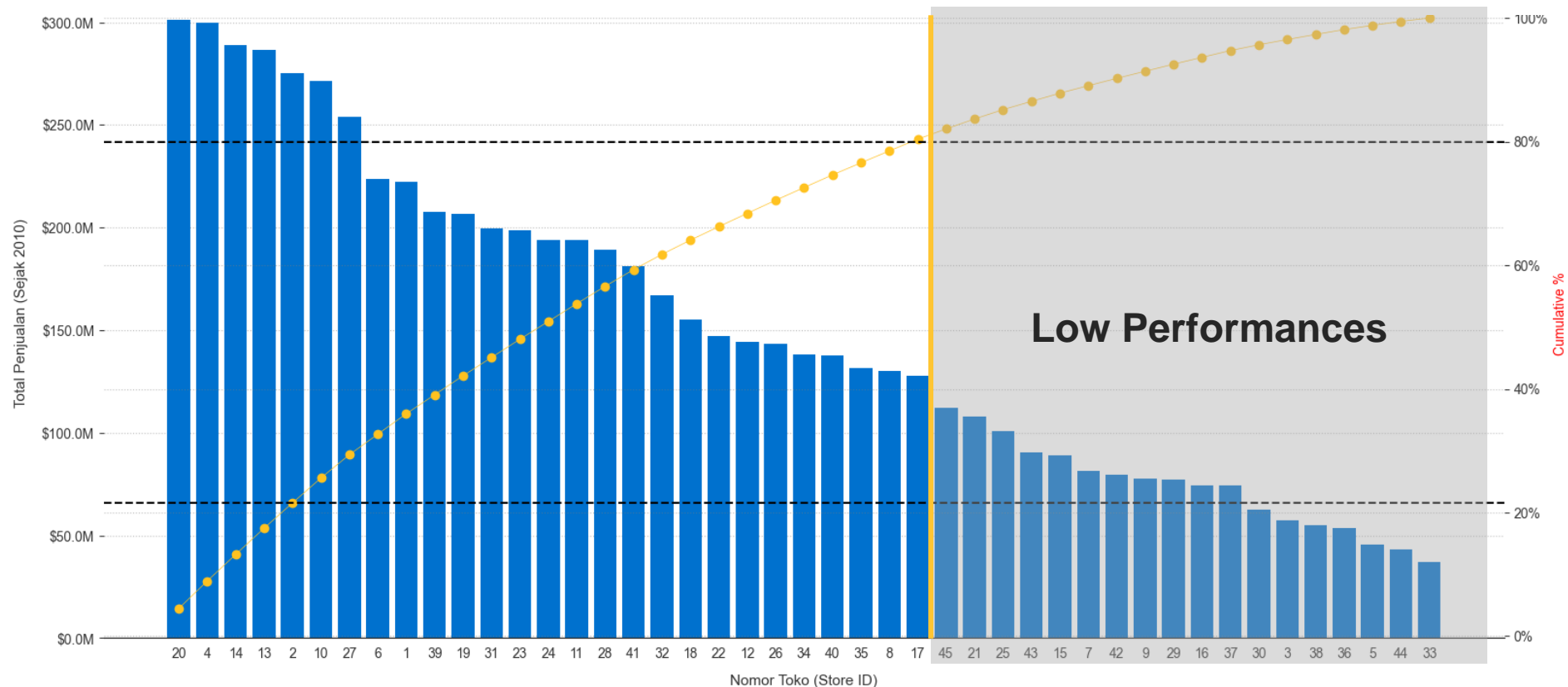


Insight: We must prepared ready stock 1 Week before Thanksgiving and 2 Week before Christmas

Risk: If the stock placement time wrong and/or low volumes. Our sales would decrease and stock would be dead

Pareto Analysis Rule of 80/20

60% of Stores (27 Units) Drive 80% of Total Revenue



Strategy: Don't Full Stock to all 45 stores, some stores was low Incomes

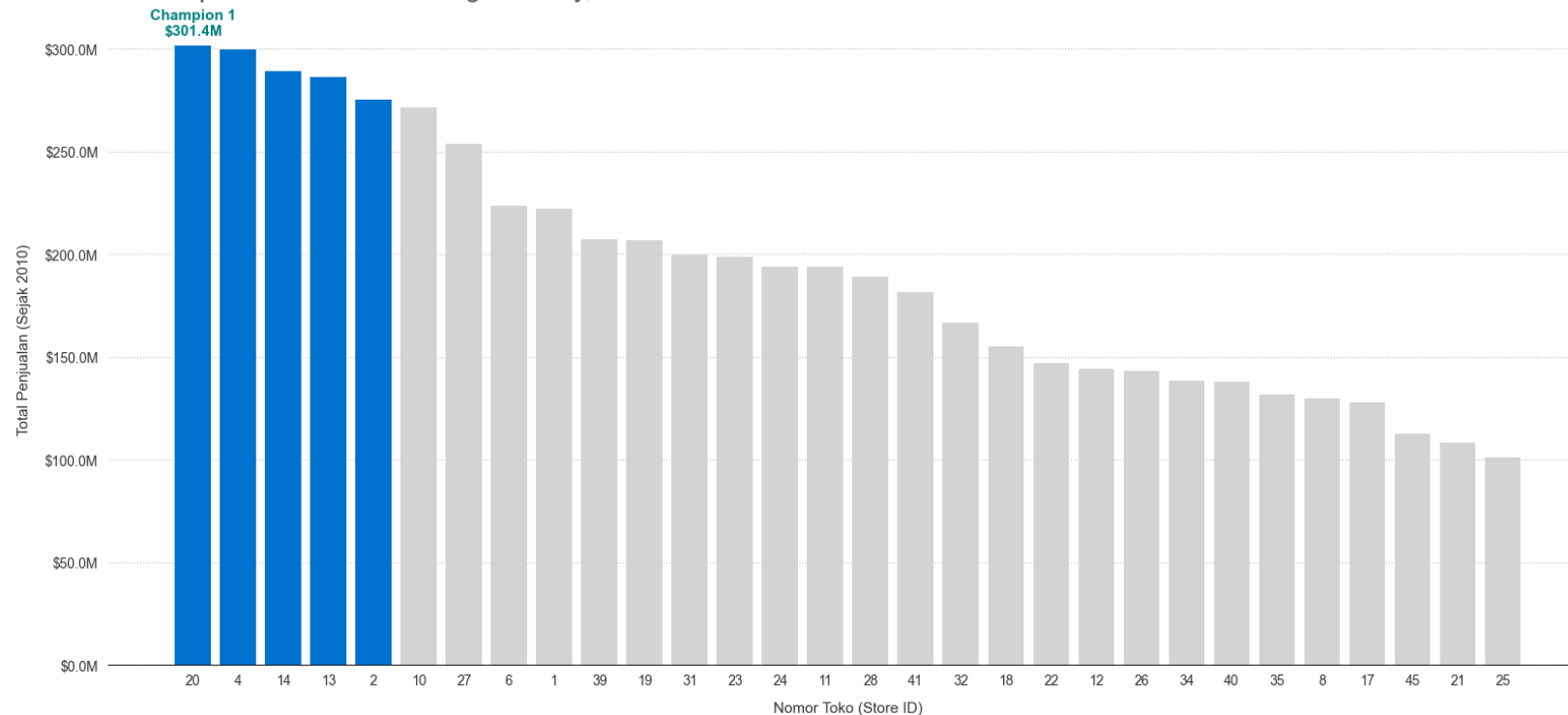
Action: 6 Highest and 21 High Store must be our priorities to get more stock H-14, and the under perform store on H-7

Filter Chart: The 5 Champion Store From 27 Store

These filtered 5 store have affording contribution in sales for 21.5%

Who Company (Backbone) Stores?

5 Top Stores Contribute Significantly, but Distribution is Quite Even.



- Chart above are 27 stores who dominant contributes 80% of all sales

Business Recommendation

Phase	Timeline	Inventory Strategy	Pricing Strategy
1. Preparation	Week 45 - 48	Full Restock Inventory	High Discount (Black Friday) attract and interest the customer to increasing traffic
2. Demand Peak	Week 49 - 51	Max Stock (1.69X Multiplier)	Normal Price/Bundling
3. Liquidation	Week 52+	Stock Restock for Event Empty Warehouse	Clearance Sale
New year prepare normal stock for daily inventory stock			

Future Improvement

To Increase accuracy, future analysis need Data Real-time inventory Level and Competitor Data

[Github](#)