# EXECUTIVE SUMMARY: Inventory Forecasting & Optimisation at Urban Retail Co.

Urban Retail Co., a growing retail chain with a multi-city presence, faces persistent inventory inefficiencies—frequent stockouts of fast-moving items, overstocking of slow movers, and limited visibility into demand drivers across regions and product categories. This project utilized advanced SQL analytics and performance dashboards to transform raw sales, inventory, and promotional data into actionable insights for smarter inventory decisions.
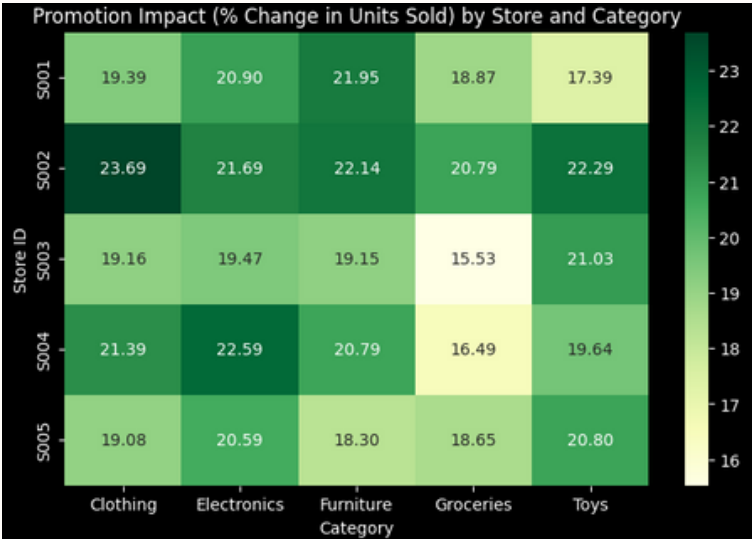
Recommendations

1. Prioritize high-turnover SKUs (especially in Clothing) for restocking; avoid overstocking volatile items.
2. Focus promotions on responsive store-category pairs (e.g., S002 – Clothing).
3. Stock up ahead of December and winter to meet seasonal peaks.
4. Incorporate weather and weekend patterns into store-level demand planning.

Expected Business Impact

- Reduced stockouts and holding costs
- More accurate and seasonal demand forecasting
- Targeted, ROI-driven promotions
- Higher customer satisfaction and improved supply chain efficiency

Key Insights

Category & Product Performance
- Clothing is the top-performing category, contributing 39.9% of total revenue.
- Top 5 SKUs (e.g., P0057, P0066) contribute disproportionately to sales—ideal for focused inventory planning.

Inventory Efficiency
- High-turnover products like P0046 and P0133 show strong performance consistency.
- Volatile SKUs such as P0013 and P0075 showed inconsistent performance, requiring cautious stock planning.
- Frequent low inventory alerts in Clothing highlight a critical need for proactive restocking to prevent stockouts in the most profitable category.

Promotion Drives Sales
- Promotions led to 18–24% increases in unit sales across product categories.
- Store S002 – Clothing recorded the highest lift at +23.7% in units sold.
- A promotion impact heatmap highlighted Store S002 – Clothing as the most responsive segment, validating localized promotional effectiveness.

Seasonal & Weekly Demand Trends
- December saw peak sales with 930K+ units, followed by November and October.
- Winter and weekends drive stronger demand, with 6–7% more units sold than weekdays.

Weather Correlation
- Minor sales uplifts during rainy and snowy conditions suggest potential for weather-aware demand forecasting.