URBAN RETAIL CO. EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Urban Retail Co., a rapidly growing mid-sized retail chain, has been facing inefficiencies in inventory management, leading to missed sales and declining customer satisfaction. Our team conducted a detailed analysis of historical inventory and sales data to identify and address the core issues.
We found key problems such as inconsistent stock levels, overstocking of slow-moving items, and delayed restocking of in-demand products. Additionally, we evaluated store-level inventory patterns to identify outlets with consistently low stock. We also generated monthly item-wise forecasts and assessed the accuracy of these forecasts by comparing them with actual sales, helping us measure the reliability of the forecasting method used.
To address these challenges, we proposed targeted inventory optimization strategies including real-time tracking, centralized stock monitoring, and predictive restocking. These measures aim to streamline operations, improve product availability, and support the company's continued growth.

TOOLS OR METHODS USED

- **Calculated Averages:**
  Computed average sales and average inventory for each product.
- **Identified Understocking:**
  Calculated (inventory - sales) for each entry and classified products as understocked if:
  inventory - sales < (average inventory - average sales - 1.3 × standard deviation of (inventory - sales))
  Filtered Frequent Understocked Products:
  Selected products that were understocked on more than 10% of the days.
- **Defined Optimal Inventory Levels:**
  For FMCG items: optimal inventory = avg sales + 1 × standard deviation
  For slow-moving items: optimal inventory = avg sales + 0.5 × standard deviation
- **Calculated Reorder Points:**
  For FMCG: reorder point = avg inventory - avg sales
  For slow-moving: reorder point = avg inventory - avg sales - 0.5 × standard deviation

FEW INSIGHTS

1. Forecasted demand is consistently higher than actual sales, leading to overstocking.
2. Inventory levels are misaligned with actual store-level demand across most product lines.
3. Reorder points are calculated using average inventory and sales, tailored for FMCG and slow-moving products.
4. ~11% of products are frequently understocked, indicating poor replenishment planning.
5. Optimal inventory levels are based on product velocity, using adjusted standard deviation margins.
6. Reorder logic differentiates between fast- and slow-moving items, helping refine stock targets.
7. Several stores show recurring understock issues for specific high-demand products.
8. Products falling below inventory thresholds on >10% of days are flagged for immediate review.
9. Store-level understock patterns reveal systemic stock mismanagement at local outlets.
10. Top 5 understocked products per store highlight gaps in demand fulfillment and restocking efficiency.

RECOMMENDATION

- Utilize the Provided Dashboard Actively: Leverage the interactive dashboard we've delivered, which includes all key metrics—inventory trends, reorder points, forecast accuracy, and understock frequency—updated automatically for real-time decision-making.
- Refine Forecasting with Visual Trends: Use the monthly forecast vs. actual sales visualizations to adjust predictions and reduce overestimation bias.
- Adopt Store-Specific Replenishment Plans: Rely on store-level understock tracking in the dashboard to customize reorder policies for each outlet.
- Follow Inventory Threshold Alerts: Use the built-in understock threshold logic (based on historical averages and variability) to flag and act on high-risk items.
- Apply Segmented Stocking Rules: Use the FMCG and slow-moving product logic embedded in the dashboard to maintain optimal stock without overburdening inventory.
- Monitor Top Understocked SKUs Regularly: Refer to the store-wise top 5 understocked product listings to prioritize critical restocking actions.

CONCLUSION

Urban Retail Co. is currently facing inefficiencies in inventory management due to a mismatch between forecasts and real demand. To address this, we have developed a comprehensive, data-driven dashboard that provides real-time visibility into key metrics such as forecast accuracy, reorder points, and understock alerts. By consistently using this tool, the company can proactively manage inventory, tailor restocking strategies per store, and minimize both stockouts and excess. With disciplined adoption, this system will significantly improve operational agility, product availability, and customer satisfaction.