

# Inventory Optimization for Urban Retail Co

## At-a-Glance KPIs

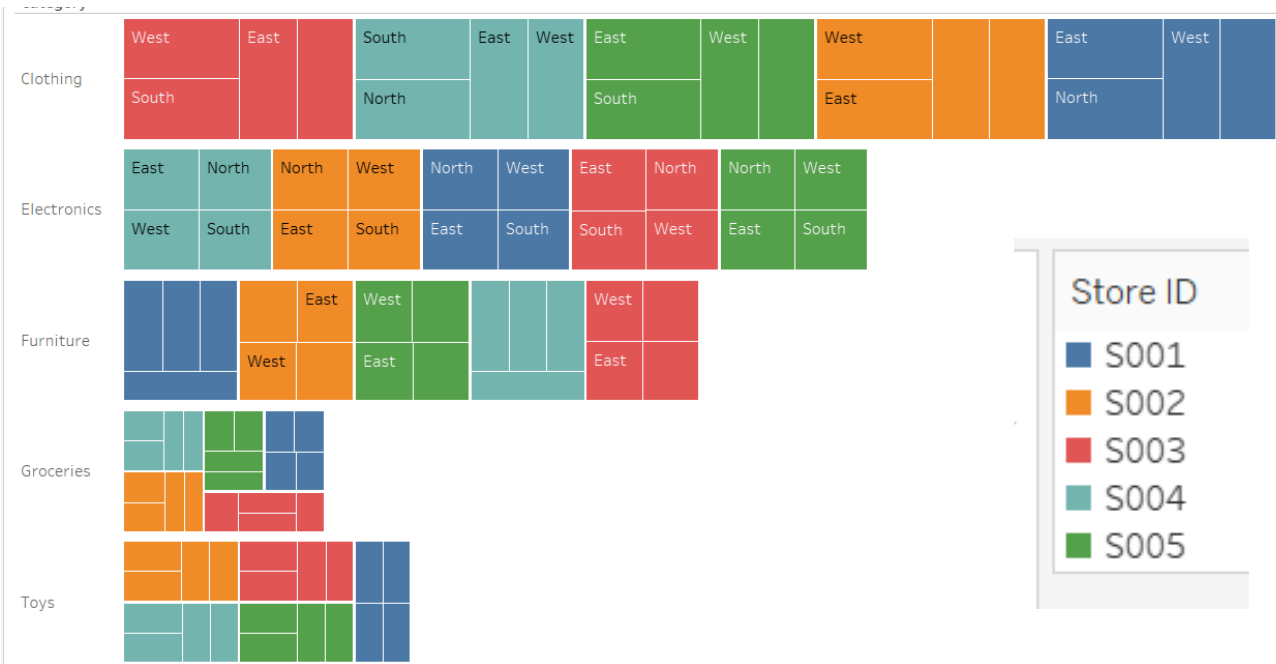
- **Stockout Rate:** Low across most stores; minimal lost sales due to out-of-stock.
- **Overstock Rate:** Noticeable in slow movers, especially Furniture and select Electronics.
- **Inventory Turnover Ratio:** Highest in Groceries and Clothing, lowest in Electronics and Toys.
- **Promotion Uplift:** Clothing and Toys see the largest seasonal sales increase during promotions.
- **Average Inventory Age:** Most SKUs are well-managed, but slow movers show aging stock.



Product sales across categories show a balanced distribution across all four regions

- Supporting centralized supply chain planning.
- Even store performance, with all five stores contributing steadily.
- No urgent inventory rebalancing is needed,

## Inventory Distribution & Store Performance



**Clothing** is your most diverse and highest-selling category. The wide SKU range contributes to consistently high units sold across regions.

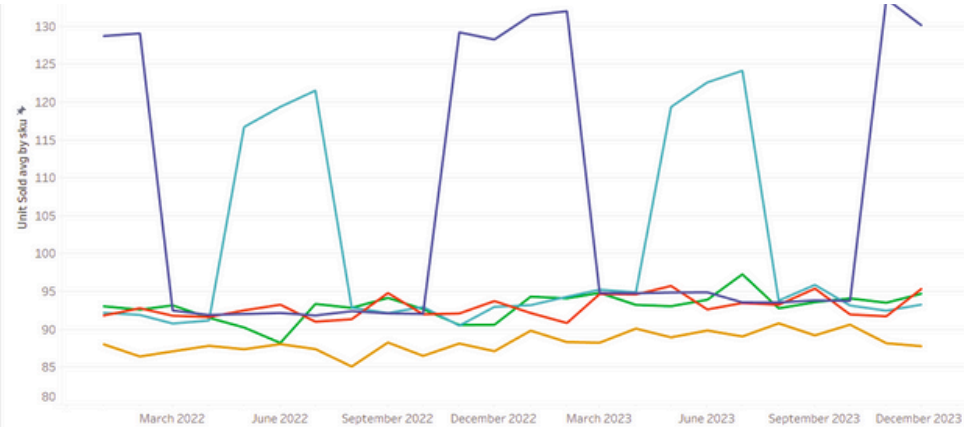
**Electronics** also performs well. With a medium SKU base, it balances depth and demand efficiently.

**Furniture** sees healthy regional coverage. Slightly fewer SKUs but good spread. May benefit from targeted expansion.

**Groceries** have very limited SKU count – yet the visibility in the chart suggests decent velocity. May be high-turnover items (e.g., essentials).

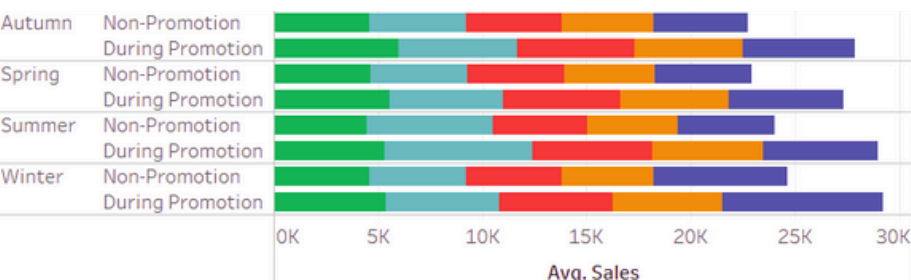
**Toys** have limited range and lower volume. Possibly seasonal or niche appeal.

## Sales & Demand Trends



Category	Peak Month	Seasonality
Clothing	Oct – Mar	Strong
Groceries	Apr – Aug	Strong
Furniture	All Year	Low
Electronics	None	Low
Toys	None (current)	Latent

## Promotion Effectiveness



- **Clothing:** Strong uplift in Summer & Winter (seasonal effect).
- **Electronics:** Moderate uplift in Autumn & Spring.
- **Toys:** High uplift in Winter (holiday-driven).
- **Furniture & Groceries:** Low to moderate response.

## Strategic Implementation

### Promotion

- Use category-based discounting – tailor promotions to product elasticity.
- Avoid deep discounts on electronics – offer value through services instead.
- Time promotions smartly – align Grocery & Toy offers with key events/seasons.

### Discount

Eliminate discounts; maintain pricing integrity to protect margins.

Cap discounts at 5%; use value bundling instead.

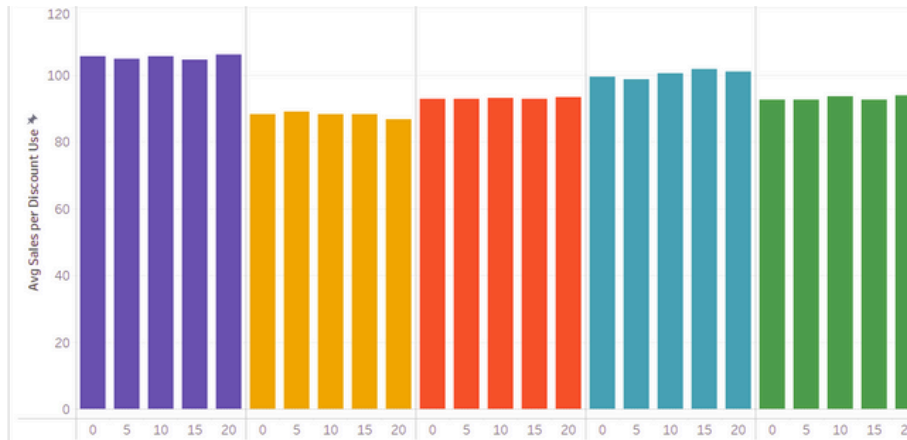
Replace discounts with non-monetary perks (e.g. free assembly).

Use 10–15% discounts tactically during weekends or end of month.

Shift to event/season-based promotional planning.

## Impact of Discount

No change across discounts	Slight dip with higher %	Very stable	Slight peak at 15%	No clear pattern
Customers are indifferent to discounts	Deep discounts reduce perceived value	Discounts don't drive purchases	Mild discount sensitivity	Possibly driven by seasonality/ events



Data-Driven Insights & Recommendations

Price Comparison with Competitors

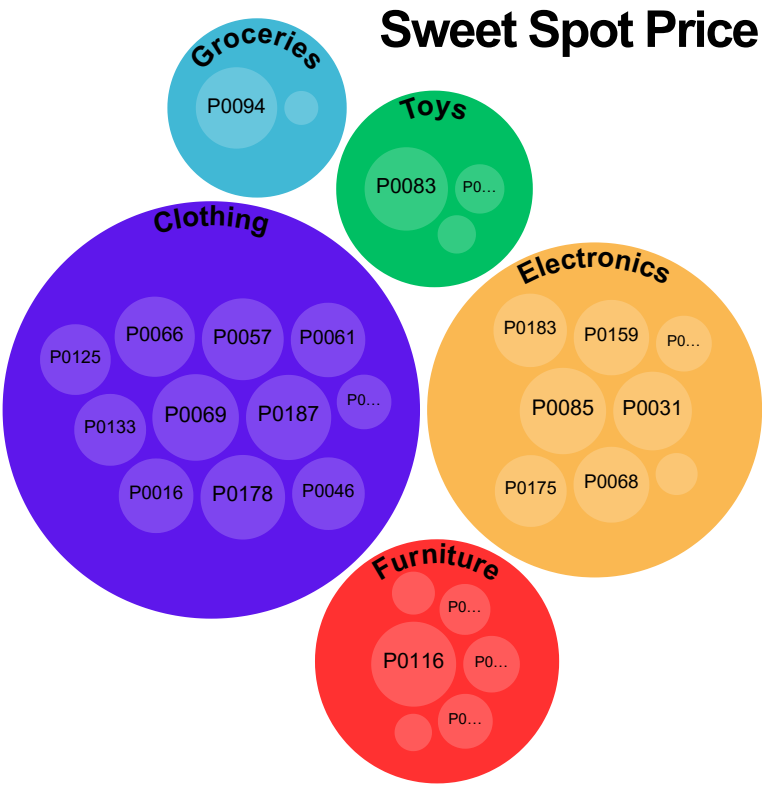
Segment	Definition	Avg Unit Sold Trend	Insights
Positive Price Gap (Premium)	Your price is higher than competitors	Generally stable (88–106 units)	Moderate to high sales despite higher price; indicates brand trust or product differentiation
Neutral (± ₹0.10)	Price nearly identical	Avg units ~93–106	Balanced competitiveness
Negative Price Gap (Cheaper)	Your price is lower	Some SKUs with low prices still sell less (e.g., P0175, P0159)	Lower price ≠ higher sales; diminishing returns below a threshold

Recommendations

Review pricing on P0166, P0066; consider price alignment or added value.

Maintain competitive parity and ensure consistent availability (e.g. P0125, P0046).

Focus on product visibility, placement, and stock availability.



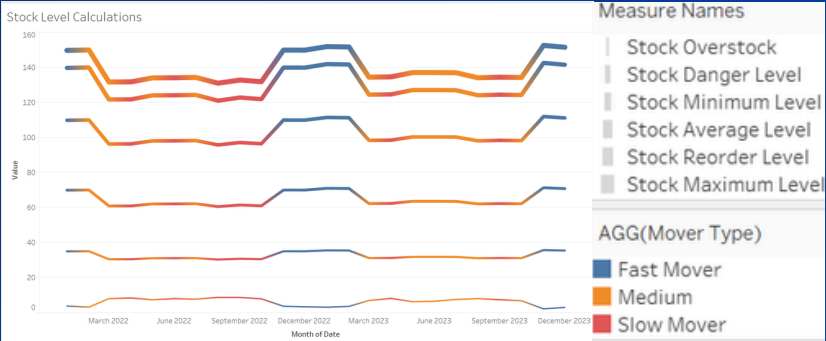
Business Impact

Sweet Spot Pricing Optimization

- Actual Historical Revenue: ₹583,368,447
- Projected Revenue at Sweet Spot Prices: ₹666,726,155
- Estimated Revenue Gain: ₹83,357,708

A potential increase of ~14.3% simply through price optimization

Kanban System for Inventory Optimization

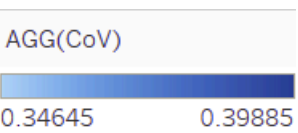


Inventory Flow Lifecycle

Backlog	SKUs with low forecast or inactive (typically Slow Movers)
Ready to Reorder	Inventory reaching Reorder Point; often Medium Movers
Active/Hot Sellers	Fast Movers during peak seasons; linked to high Minimum/Danger thresholds
Overstock Review	SKUs breaching Overstock level; needs markdown, bundling, or promotion
Action Taken	SKUs for which price, promotion, or reorder actions have been applied

Reorder Point

- Calculated COV ~(0.34-0.40)



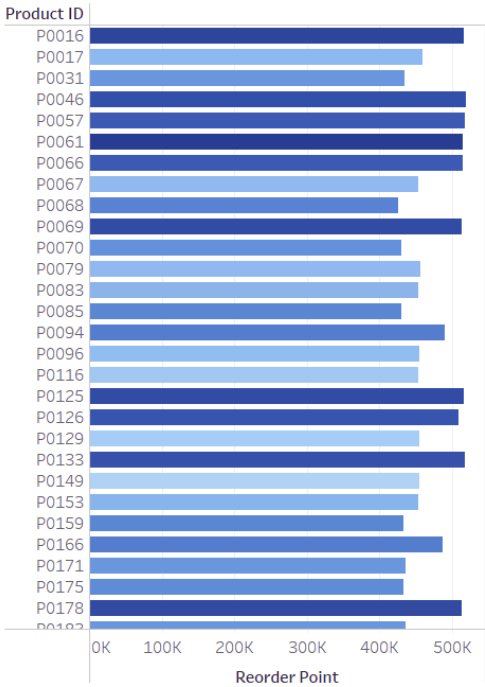
CoV Range	Safety Margin Alpha
CoV > 1	2
0.5 < CoV ≤ 1	1.5
CoV ≤ 0.5	1.2 (fixed)

**Top sellers (Unit Sold > 105):** P0057, P0046, P0166, P0066

**Underperformers with steep discounts:** P0159, P0175

**High-price SKUs with strong sales:** P0166, P0066, P0061

- Note: Adjust Alpha during seasonal spikes or promotions.



Inventory Turnover Analysis

Key SKUs	Turnover Range	Performance	Insight
P0046, P0057, P0133, P0178, P0187	> 2489	High	Fastest-moving category; strong demand; discount-independent performance.
P0159, P0031, P0070, P0171, P0068	~2250–2350	Low	Poor turnover; deep discounts hurt perception; risk of overstock.
P0153, P0079, P0149, P0067, P0129	~2390–2410	Mid-range	Consistent but slow movers; discounts don't significantly boost sales.
P0166, P0094	~2450	Balanced	Healthy turnover; responds well to strategic 10–15% promotions.
P0017, P0096, P0083	~2380-2400	Mid-range	Indicates steady sales with scope for promotional optimization.

**Q1**

Restock Groceries, reduce overstock from Q4 sales, reassess Electronics

**Q2**

Peak Groceries → Maintain fast cycle, Toys trials

**Q3**

Overstock risk → Conduct clearance, prep for Clothing ramp-up

**Q4**

Max demand (Clothing, Furniture, potentially Toys) → Peak stock levels