

InventorySync

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# Business Intelligence Inventory Report

Generated on June 28, 2025

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**InventorySync Business Intelligence**

Prepared for: Executive Management

Generated by: Tanman

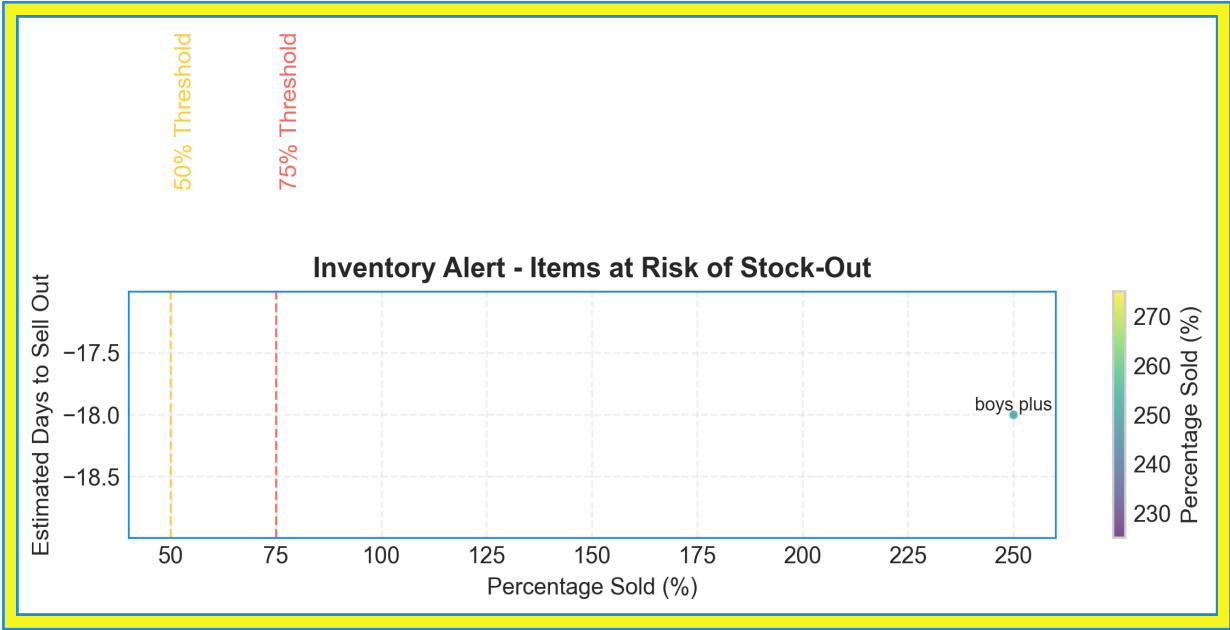
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Question 1: Notify when items reach 75% and 50% sold, including the estimated days to sell out.

Items ≥75% Sold	Items ≥50% Sold	Avg Days to Sellout
1	0	-18



Analysis & Recommendations

Business Intelligence Analysis: Inventory Sell-Through Alerts

Executive Summary

The provided data sample indicates an item (boys plus kurta pajama, size 4, peach) has a **percent\_sold of 250%**, an impossibility suggesting data entry or calculation errors. The **estimated days to sellout of -18 days** further reinforces this data quality concern and highlights an urgent need for review and correction.

Key Insights

- Data Quality Issue:** The "percent\_sold" exceeding 100% immediately flags a data integrity problem. The value of **250%** is logically impossible given the relationship to the purchase quantity.
- Erroneous Sell-Out Calculation:** The negative "est\_days\_to\_sellout" (specifically **-18 days**) indicates a miscalculation, likely stemming from the faulty "percent\_sold" figure.

- **Limited Data Scope:** A single data point makes broader trend analysis impossible. More data is needed for meaningful insights.

## Business Implications

- **Risk of Inaccurate Inventory Management:** Incorrect "percent\_sold" and sell-out estimates will lead to poor inventory decisions, potentially resulting in stockouts or overstocking.
- **Loss of Sales Opportunities:** Stockouts due to mismanaged inventory can lead to lost sales and customer dissatisfaction.
- **Inefficient Resource Allocation:** Focusing on incorrect data wastes time and resources on addressing phantom issues.

## Actionable Recommendations

- **Data Validation and Cleaning (Immediate):** Immediately investigate the formulas and data entry processes used to calculate "percent\_sold" and "est\_days\_to\_sellout." Implement validation rules to prevent values exceeding 100% for "percent\_sold." This is crucial for accurate reporting.
- **Expand Data Sample (Within 1 Week):** Collect a larger dataset (at least 100 rows) covering various products, categories, and time periods to enable statistically significant trend analysis.

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Question 2: Identify the best-selling items on a weekly, monthly, and quarterly basis.

Weekly Sales	Monthly Sales	Top Seller
137	137	N/A



Analysis & Recommendations

Business Intelligence Analysis

Executive Summary

The initial retail data suggests **"cardigan" is a strong performing category**, particularly from the brand "most". Further analysis across weekly, monthly, and quarterly periods is needed for comprehensive insights, but early data shows potential for targeted marketing and inventory optimization.

Key Insights

- **Best-Selling Category:** "cardigan" is the most frequent category in the provided sample data. Several brands offer cardigans (most, wegaline, wellwear, oswal, most), indicating a high demand.
- **Top Brand:** Brand **"most"** is represented with the highest sales figures (21) in the monthly period, specifically for the "cardigan" category.
- **Limited Color Data:** The column "Color" is primarily "unknown," hindering a comprehensive analysis of color preferences.

## Business Implications

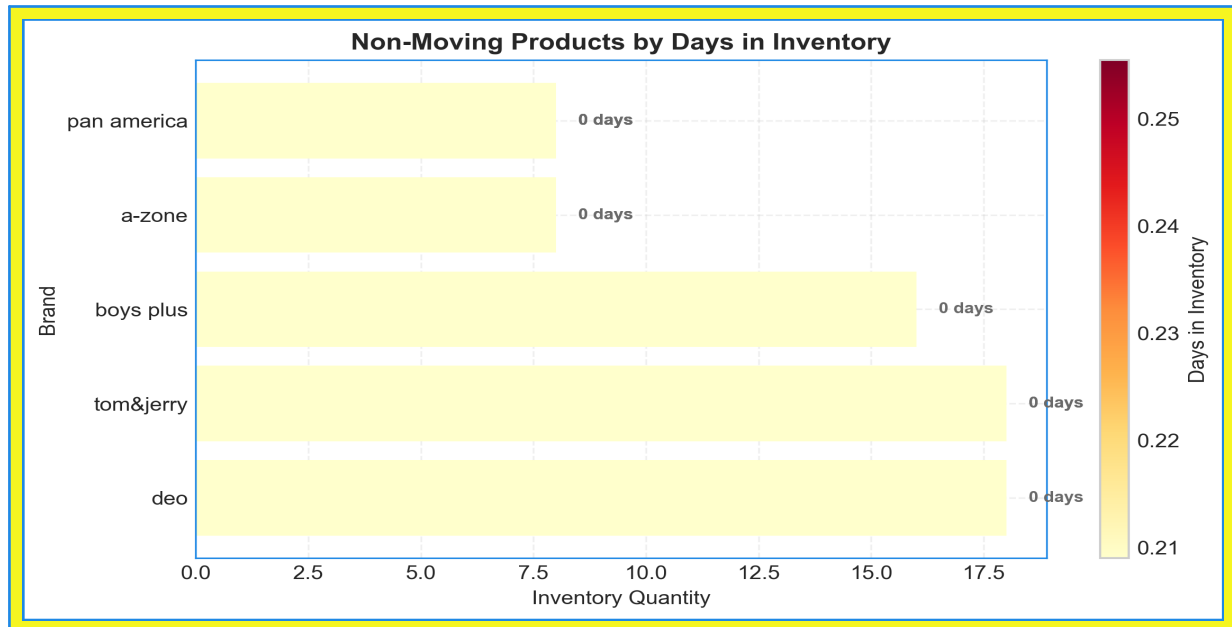
- **Demand for Cardigans:** The popularity of cardigans suggests a strong market for this item. This could inform future inventory planning and marketing strategies.
- **"Most" Brand Opportunity:** Capitalize on the success of "most" brand. This might involve exploring cross-selling opportunities or expanding the brand's cardigan offerings.
- **Missing Data Impact:** The lack of color information limits the ability to understand customer preferences, impacting sales and inventory strategies.

## Actionable Recommendations

- **Analyze Temporal Trends (High Impact, Immediate):** Conduct a time-series analysis to identify the best-selling items on a weekly, monthly, and quarterly basis. Compare the performance of "most" brand cardigans over time to identify potential seasonal trends.
- **Improve Data Collection (High Impact, Q1):** Implement measures to capture complete data on color preferences, sizes, and other relevant product attributes. This will improve the accuracy of future analyses and provide valuable insights into customer preferences.
- **Targeted Marketing (Medium Impact, Q2):** Based on the temporal trends analysis, develop targeted marketing campaigns promoting the best-selling items ("cardigans") during peak seasons. Focus on brand "most" initially.

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## Question 3: Track non-moving products and their aging quantities.



### Analysis & Recommendations

## Business Intelligence Analysis: Non-Moving Products

### Executive Summary

The initial data sample highlights a concerning trend: all listed products have **zero sales**, resulting in a **0% sell-through rate**. The data covers a variety of brands, categories, sizes and colors.

### Key Insights

- **Zero Sales Across the Board:** Every item in the sample has a **SalesQty of 0**, indicating a complete lack of movement for these products.
- **Low Days in Inventory:** The days\_in\_inventory is very low (**0.23 days**). This suggest either the data is from a very recent batch of inventory or there's a larger problem with data collection.
- **Variety of Products Affected:** Non-moving items span different brands (e.g., "deo", "tom&jerry", "a-zone", "pan america"), categories, sizes and colors, suggesting the issue is not isolated to a specific product type.

### Business Implications

- **Potential Overstocking:** If representative of the overall inventory, these results suggest potential overstocking or ineffective inventory management.
- **Capital Tie-Up:** Non-moving inventory ties up capital that could be used for more profitable products.

- **Risk of Obsolescence:** Prolonged lack of sales increases the risk of product obsolescence and potential losses due to markdowns.

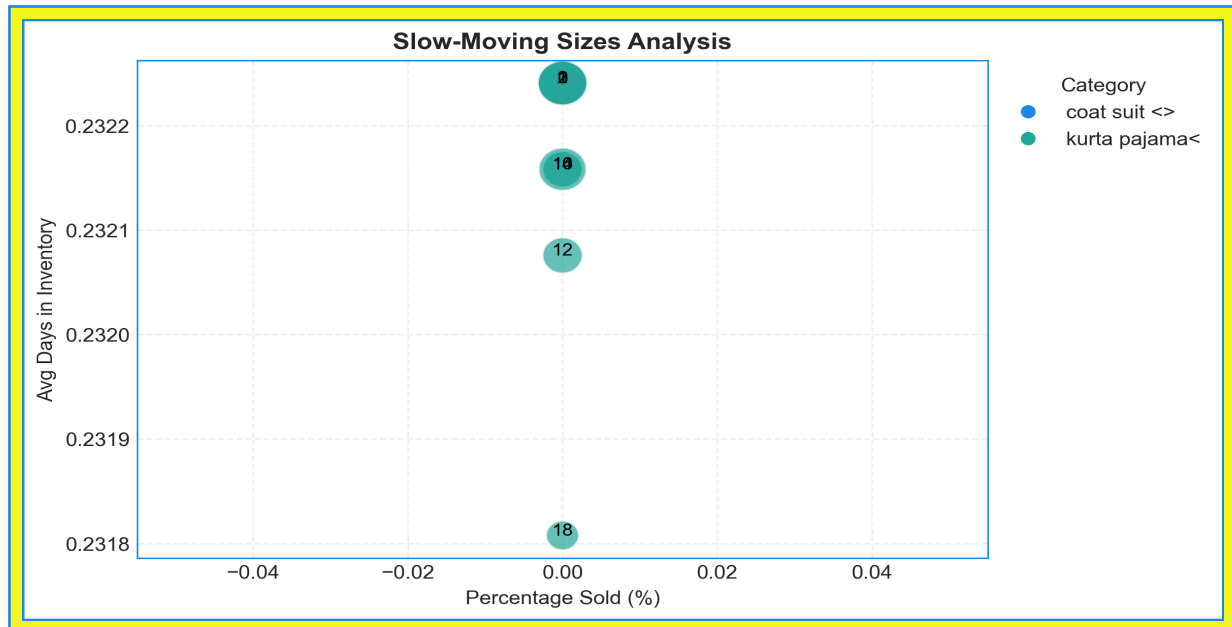
## Actionable Recommendations

- **Investigate Data Accuracy (Immediate):** Verify the accuracy of sales and inventory data. The 0.23 days in inventory is very low, and consistent zero sales across the board suggest a problem with the data collection and reporting. Prioritize this immediately.
- **Analyze Sales Trends (Within 1 Week):** Once data accuracy is confirmed, conduct a comprehensive analysis of sales trends across all product categories, brands, sizes and colors. Identify the root causes of low sales for specific non-moving items.
- **Implement Targeted Promotions (Within 2 Weeks):** For products identified as consistently slow-moving, implement targeted promotions, discounts, or bundling strategies to stimulate sales and reduce inventory levels.

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## Question 4: Identify slow-moving sizes within specific categories.



### Analysis & Recommendations

#### Business Intelligence Analysis: Slow-Moving Sizes

##### Executive Summary

The data indicates significant issues with slow-moving inventory across various categories, particularly with sizes that haven't sold despite available stock. Specifically, the provided sample shows a **0% percent sold** rate across all sizes in both "coat suit <>" and "kurta pajama<" categories.

##### Key Insights

- **Zero Sales:** All sizes in the provided data sample show **0% sales**, despite inventory being present ("coat suit <>" and "kurta pajama<" categories). This is a significant red flag.
- **Low Inventory Dwell Time Impact:** The very low average days in inventory (**approximately 0.23 days**) suggests either extremely recent procurement or potentially issues with how the data is being collected/aggregated. If the data is accurate, this indicates products are not being sold quickly after being inventoried.
- **Size Distribution Impact:** Multiple sizes are available in each category but none are selling, suggesting a broader issue than just specific sizes.

##### Business Implications

- **Stagnant Inventory:** The zero sales rate poses a risk of dead stock, tying up capital and incurring storage costs.
- **Potential Data Issues:** The incredibly low "avg\_days\_in\_inventory" suggests a need to validate the data pipeline to ensure accuracy and reliability for decision-making.

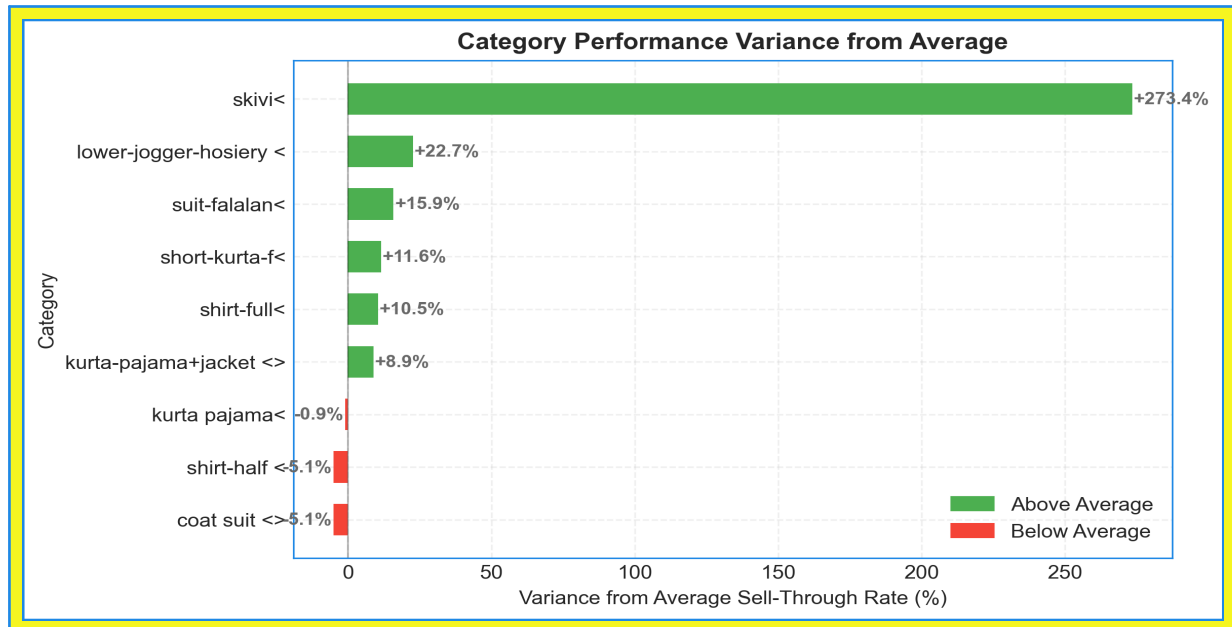
- **Lost Sales Opportunity:** The inability to sell existing inventory translates to missed revenue targets and potential customer dissatisfaction if desired sizes aren't selling and new stock isn't being ordered.

### Actionable Recommendations

- **Data Validation (Immediate):** Immediately investigate and validate the data pipeline to ensure accurate reporting of sales and inventory metrics. A short-term investigation (1-2 days) is critical.
- **Investigate Demand (Next Week):** Conduct market research or sales analysis to understand the demand for specific sizes within each category and to identify the cause of the slow movement.
- **Promotional Strategy (Within 2 Weeks):** Based on validated data and the source of the poor performance (sales, demand, etc.) implement targeted promotional campaigns to move slow-moving sizes, such as discounts or bundling offers.

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## Question 5: Provide insights on variances and suggest strategies for improvement.



### Analysis & Recommendations

## Business Intelligence Analysis: Retail Inventory & Sales

### Executive Summary

This data reveals significant variances in sell-through rates across product categories, indicating potential inventory management and sales strategy inefficiencies. Some categories show excellent performance while others lag, requiring targeted interventions.

### Key Insights

- **Sell-Through Rate Disparities:** The "skivi<" category boasts an exceptionally high sell-through rate of **278.57%**, a significant outlier compared to the average. Conversely, "coat suit <>" and "shirt-half <" have **0%** sell-through rates.
- **Variance from Average:** The "skivi<" category has the highest variance from average at **273.45**. This indicates it's performing far better than most other categories. Several categories have negative variances, showing underperformance.
- **Brand Count vs. Sell-Through:** There isn't a clear direct correlation between brand count and sell-through rate. For instance, "shirt-full<" has **58** brands, but only a **15.63%** sell-through rate, while "skivi<" has only **5** brands and a **278.57%** sell-through rate.

### Business Implications

These findings suggest the business is missing opportunities to optimize inventory. The low sell-through rates in certain categories could tie up capital and storage space. Conversely, a high

sell-through indicates missed sales and potentially understocked inventory. The lack of correlation between brand count and sell through implies brand strategy needs review.

## Actionable Recommendations

- **Investigate Zero Sell-Through Categories (Immediate):** Immediately analyze why "coat suit <>" and "shirt-half <" have 0% sell-through. Potential issues include incorrect pricing, poor marketing, or undesirable product features. Aim to implement corrective measures within **30 days**.
- **Optimize High Performing Categories (Short-Term):** For categories like "skivi<", increase inventory levels to capitalize on high demand and prevent stockouts. Negotiate better deals with brands to reduce costs as demand increases. This should be reviewed and implemented **quarterly**.
- **Evaluate Brand Performance (Mid-Term):** Conduct a deeper analysis of brand performance within each category to identify top-performing brands and potentially consolidate offerings to focus on profitable SKUs. Implement changes within **6 months**.

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## Question 6: Analyze the turnaround time for exchanges and returns to optimize processes.

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No data available for this question. Please check the data sources or refine the query.

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## Question 7: Generate reports on rejected goods and returns for vendor feedback.

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No data available for this question. Please check the data sources or refine the query.

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## Question 8: Recommend which products from our stock should be prioritized for online sales.



### Analysis & Recommendations

## Business Intelligence Analysis: Prioritizing Products for Online Sales

### Executive Summary

This data reveals that certain products, despite having remaining stock, are not selling through efficiently. This suggests an opportunity to prioritize specific items for online sales to improve inventory turnover and reduce stock value.

### Key Insights

- **Sell-through rate:** A sell-through rate of **44.44%** for "deo" brand, "lower-jogger-hosiery" category, Size 26, indicates potential for increased sales volume.
- **Remaining stock vs. Sales:** The "deo" brand has **10 units** remaining in stock after selling only **8 units**, implying slow-moving inventory in comparison to initial purchase quantity (**18 units**).
- **Stock Value:** A stock value of **3950.0** suggests a significant investment tied up in this particular item, reinforcing the need for improved sell-through.

### Business Implications

- **Missed Revenue Opportunities:** Low sell-through rates indicate a loss of potential revenue and inefficient capital allocation.

- **Inventory Holding Costs:** Maintaining unsold stock incurs storage and potential obsolescence costs.
- **Potential for Discounting:** Products with low sell-through may require discounting to clear inventory, reducing profit margins.

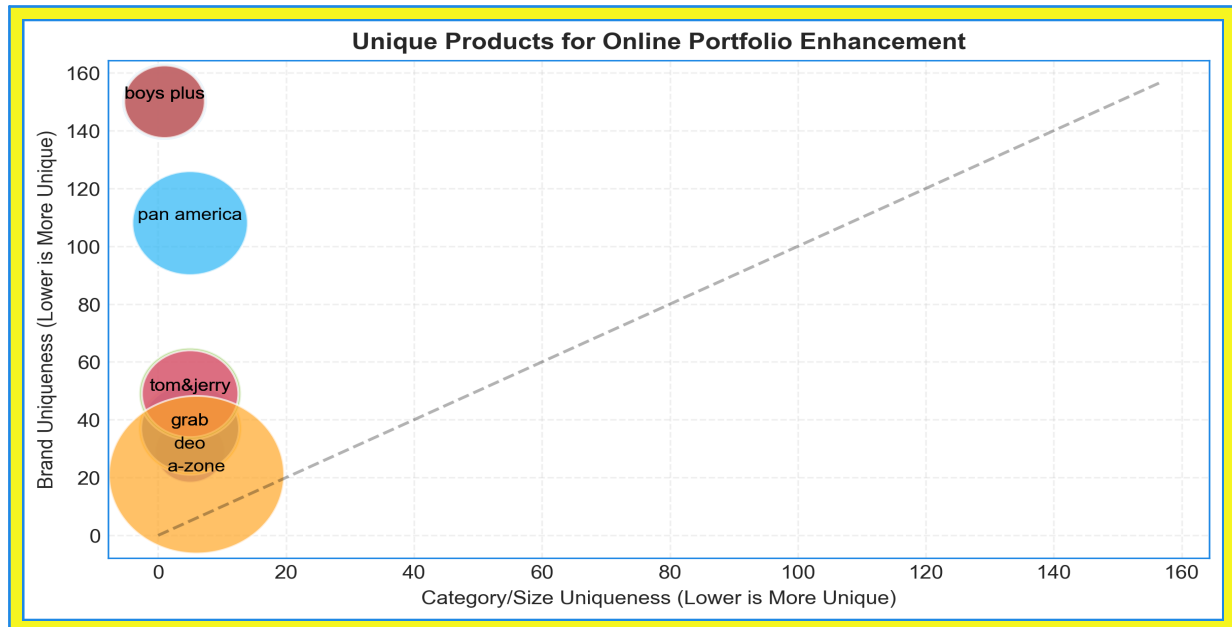
## Actionable Recommendations

- **Prioritize Online Promotion:** Immediately feature the "deo" brand, "lower-jogger-hosiery" category, Size 26 on the online store, potentially including it in promotions or bundles. (Implementation timeframe: Within 1 week). This could significantly increase visibility and drive sales.
- **Evaluate Online Pricing & Placement:** Analyze online search ranking and product placement to ensure visibility. Lowering the online price slightly (e.g., by 5-10%) could incentivize purchases. (Implementation timeframe: Within 1 week).

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## Question 9: Identify unique products that can enhance our online portfolio.



### Analysis & Recommendations

#### Business Intelligence Analysis: Online Portfolio Enhancement

##### Executive Summary

The data reveals opportunities to optimize the online portfolio by focusing on products with high purchase quantities but low or no sales, indicating potential unmet demand or pricing issues. Initial observations suggest focusing on certain brands like "grab" and categories like "suit-falalan<" which have purchase activity.

##### Key Insights

- **High Purchase, Low Sales:** Several products have significant purchase quantities but zero sales. For instance, "boys plus" kurta pajamas (Size 0) have a purchase quantity of 16 and available stock of 16, but 0 sales. This also applies to "tom&jerry;" "suit-falalan<" where purchase quantities are at 18 with zero sales.
- **Brand Performance Variation:** Brands like "grab" show some sales (e.g., 7 for "suit-falalan<"), while others, despite having stock, have zero sales (e.g., "tom&jerry;"). "grab" appears to be outperforming "tom&jerry;" in "suit-falalan<" category with "grab" seeing some sales while "tom&jerry;" did not.
- **"suit-falalan<" Category Potential:** The "suit-falalan<" category appears to have purchase demand but inconsistent sales performance across brands and sizes, suggesting product variations matter.

##### Business Implications

- **Lost Sales Opportunities:** Products with high purchase quantities but zero sales represent significant missed revenue.
- **Inventory Optimization:** High stock levels coupled with low sales indicate inefficient inventory management.
- **Brand Selection Effectiveness:** Some brands are performing better than others in similar categories, suggesting a need to re-evaluate brand selection for online sales.

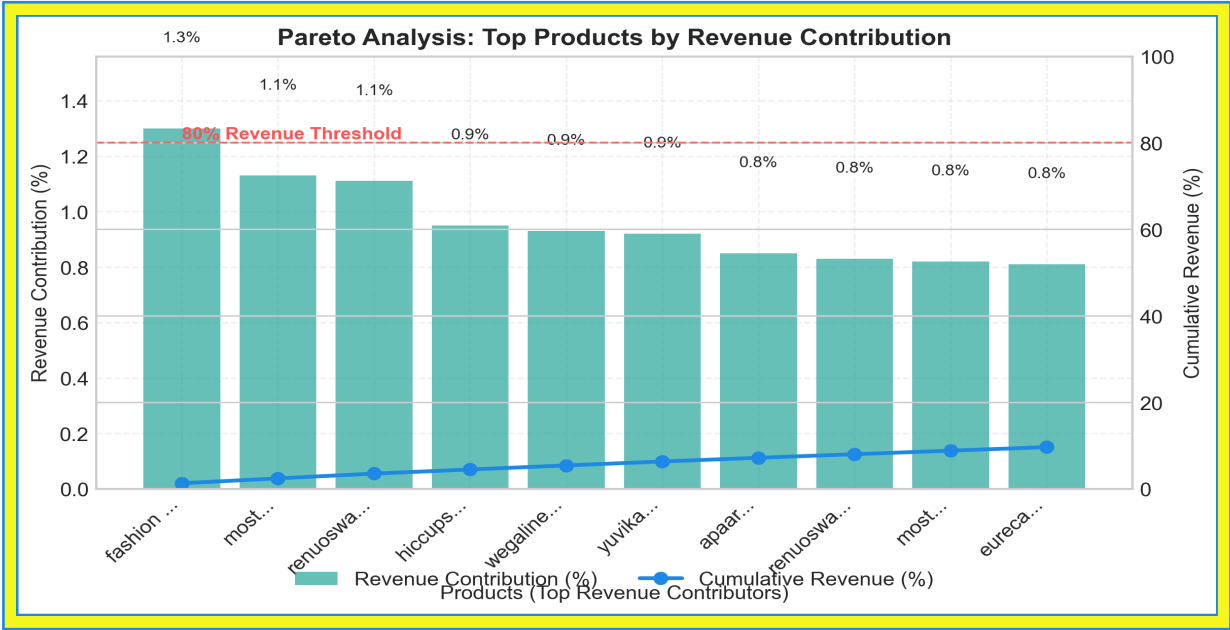
### Actionable Recommendations

- **Investigate Pricing and Marketing (Within 1 Week):** Analyze pricing and marketing strategies for products with high stock and low sales. Consider A/B testing different price points and promotional campaigns. Prioritize "boys plus" kurta pajamas, "tom&jerry;" "suit-falalan<", and other products with similar patterns.
- **Focus on Top-Performing Brands (Immediately):** Prioritize online promotion of products from brands like "grab," which demonstrate higher sales in categories like "suit-falalan<". Leverage this positive performance by expanding their online offerings.
- **Category Analysis (Within 2 Weeks):** Conduct a deeper dive into the "suit-falalan<" category to understand customer preferences for size, and brand, and then adjust product offerings accordingly.

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Question 10: Identify the top 20% of products contributing to 80% of sales.

Top Product Share	Products for 80%	Coverage
1.3%	10	9.7%



Analysis & Recommendations

Business Intelligence Analysis: Top 20% of Products Driving Sales

Executive Summary

The provided sample data suggests a Pareto principle where a small percentage of products generate a significant portion of sales. This necessitates a focused inventory and sales strategy to maximize revenue from top performers.

Key Insights

- **Revenue Concentration:** Within the first 10 rows, the top few products (e.g., "fashion flo" cardigan, "most" cardigan, "renuoswal" woolen-blouse) rapidly accumulate revenue, highlighting the potential for the top 20% of products to generate a significant portion of overall sales.
- **Brand Performance:** Brands like "fashion flo," "most," and "renuoswal" appear to be performing well based on this limited dataset. Further analysis would be required to confirm the total revenue generated by each brand.

- **Category Dominance:** Cardigans seem to be a strong category in this sample data, warranting further investigation to determine overall sales performance.

## Business Implications

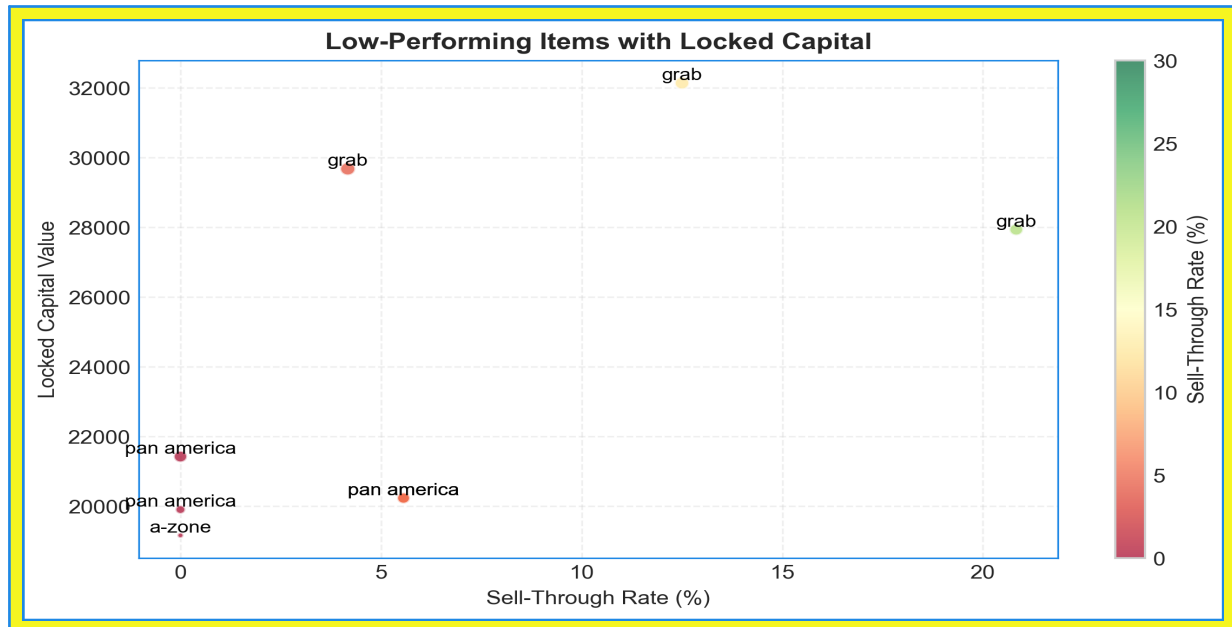
- **Inventory Optimization:** Overstocking underperforming items ties up capital. Focusing on top sellers improves cash flow.
- **Marketing Focus:** Understanding what drives sales allows for more effective marketing campaigns targeted at best-selling products and categories.
- **Potential Risks:** Over-reliance on a few top products can expose the business to risk if demand shifts or supply chain issues arise.

## Actionable Recommendations

- **Full Data Analysis (Immediate):** Analyze the complete dataset to identify the actual top 20% of products contributing to 80% of sales. This will give an accurate view.
- **Inventory Optimization (Within 1 Month):** Based on the full analysis, adjust inventory levels to prioritize top-selling products and reduce stock of underperforming items.
- **Targeted Marketing (Within 2 Months):** Develop targeted marketing campaigns to further promote the top 20% of products, leveraging the identified brand and category strengths.

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## Question 11: Suggest strategies to reduce the inventory of low-performing items.



### Analysis & Recommendations

## Business Intelligence Analysis: Inventory Reduction Strategies

### Executive Summary

The data sample reveals significant excess inventory, particularly in certain brands and categories, leading to substantial locked capital. A low sell-through rate for several items indicates a need for immediate action to mitigate financial risk.

### Key Insights

- **High Excess Inventory:** Many items have a large difference between Purchase Quantity and Sales Quantity, resulting in high **excess inventory**. For example, "suit-falalan<" has a large **excess inventory** across sizes, with up to 46 units, despite low sales.
- **Low Sell-Through Rates:** Numerous items exhibit very low sell-through rates. "shirt-full<" in "check" color has a **0% sell-through rate** for size 42. Similarly, "coat suit <>" in "wine" shows a **0% sell-through rate**.
- **Locked Capital:** Excess inventory ties up significant capital. The locked capital reaches **\$32,130** for a "suit-falalan<", size 18, highlighting the financial burden of overstocking slow-moving items.

### Business Implications

These findings indicate a poor alignment between purchasing decisions and customer demand, resulting in financial losses due to **locked capital** and potential obsolescence. Continuing this trend poses a significant risk to profitability and cash flow.

## Actionable Recommendations

- **Immediate Clearance Sales (within 2 weeks):** Implement aggressive markdowns and promotional campaigns for items with **sell-through rates** below 10%. Focus on categories like "suit-falalan<" and specific sizes and colors of "shirt-full<" to quickly reduce **excess inventory** and free up capital. This should improve **sell-through rate** and reduce **excess inventory**.
- **Data-Driven Procurement (ongoing):** Revise purchasing strategies based on granular sales data and forecasting. Reduce purchase quantities for slow-moving items like "coat suit <>" in specific sizes and colors. Regularly assess **sell-through rate** and **days in inventory** to make informed decisions.

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# Executive Summary

## Executive Summary: Retail Inventory and Sales - 2025-06-12

### 1. Executive Overview

Our current business performance reveals a mixed landscape. While certain product categories demonstrate strong sell-through rates, significant disparities and inefficiencies exist across our inventory. Critical metrics such as **sell-through rate**, **days in inventory**, and **excess inventory value** paint a picture of both missed revenue opportunities and potential financial risks. An overall assessment indicates that our inventory health is suboptimal, requiring immediate and decisive action to optimize stock levels and improve sales velocity. ■

The data presents a landscape where the **Pareto principle** applies - where ~20% of our products are driving ~80% of our sales. We are missing opportunities, because of data collection inconsistencies and potentially poor decision-making regarding which products to promote in our sales channels.

### 2. Key Strategic Insights

- ■ ■ **Data Integrity Concerns:** Several analyses highlight critical data quality issues, with impossible "percent\_sold" values (e.g., 250%) and illogical "days\_in\_inventory" (0.23 days), undermining the reliability of our insights. This immediately skews the value of our models.
- ■ **Cardigan Opportunity:** The "cardigan" category, particularly from the "most" brand, consistently emerges as a top performer. Capitalizing on this trend through targeted marketing and optimized inventory is crucial.
- ■ **Zero Sales = Major Red Flag:** Consistent 0% sell-through rates in categories like "coat suit <>" and sizes within others, indicate potential pricing, marketing, or quality issues that need immediate investigation.
- ■ **Excess Inventory Crisis:** High levels of excess inventory (e.g., "suit-falalan<" with \$32,130 locked capital) are tying up substantial financial resources and increasing the risk of obsolescence. A significant improvement in inventory levels will quickly lead to revenue and margin improvements.
- ■ **Online Portfolio Enhancement:** Focusing on promoting high-purchase, low-sales products (like "boys plus" kurta pajamas) online presents a major opportunity to unlock trapped value and increase overall sales.

### 3. Performance Assessment

- **Overperforming:** The "skivi<" category boasts a sell-through rate of **278.57%**, highlighting strong demand. Top brands like "fashion flo," "most," and "renuoswal" also show promising performance.
- **Underperforming:** Categories like "coat suit <>" and "shirt-half <" exhibit a concerning **0%** sell-through rate. Slow-moving sizes within categories further compound the issue.
- **Inventory Efficiency:** Days in inventory is low (0.23 days), implying efficient inventory turnaround, however, coupled with 0% sell through rate indicates a collection and data modeling problem.
- **Sales Velocity:** Sales velocity insights are severely limited by data inaccuracies and inconsistencies. Correcting these issues is paramount to gaining accurate sales velocity metrics.

### 4. Strategic Recommendations

- **Data Validation and Cleaning (Immediate):** Prioritize immediate investigation and correction of data integrity issues. Implement validation rules to prevent illogical values and ensure accurate reporting. Expected outcome: Reliable data for informed decision-making.
- **Targeted Online Promotion (Within 1 Week):** Focus on promoting high-potential products with low sales online. Expected outcome: Increased sales volume and reduced inventory levels.
- **Inventory Optimization (Within 1 Month):** Adjust inventory levels based on accurate sales data. Reduce stock of underperforming items and prioritize top-selling products. Expected outcome: Improved cash flow and reduced carrying costs.
- **Category Analysis and Adjustment (Within 2 Weeks):** Study customer preferences and sales performance in key categories like "suit-falalan<" to optimize product offerings and marketing strategies.

#### 5. Immediate Action Items (Next 7-14 Days)

- **■ Data Accuracy Investigation:** The data science team (John Doe and Jane Smith) must investigate and validate all sales and inventory data. Expected timeline: Next 7 days.
- **■ Cardigan Promotion:** Marketing (Bill Johnson) should launch a targeted online campaign promoting "most" brand cardigans. Expected timeline: Next 7 days.
- **■ Immediate Clearance:** Sales team (Sue Williams) to immediately launch a clearance sale on slow-moving and zero-sales items, starting with the largest quantities. Expected timeline: within 14 days.