InventorySync

Business Intelligence Inventory Report

Generated on June 28, 2025

InventorySync Business Intelligence

Prepared for: Executive Management

Generated by: Tanman

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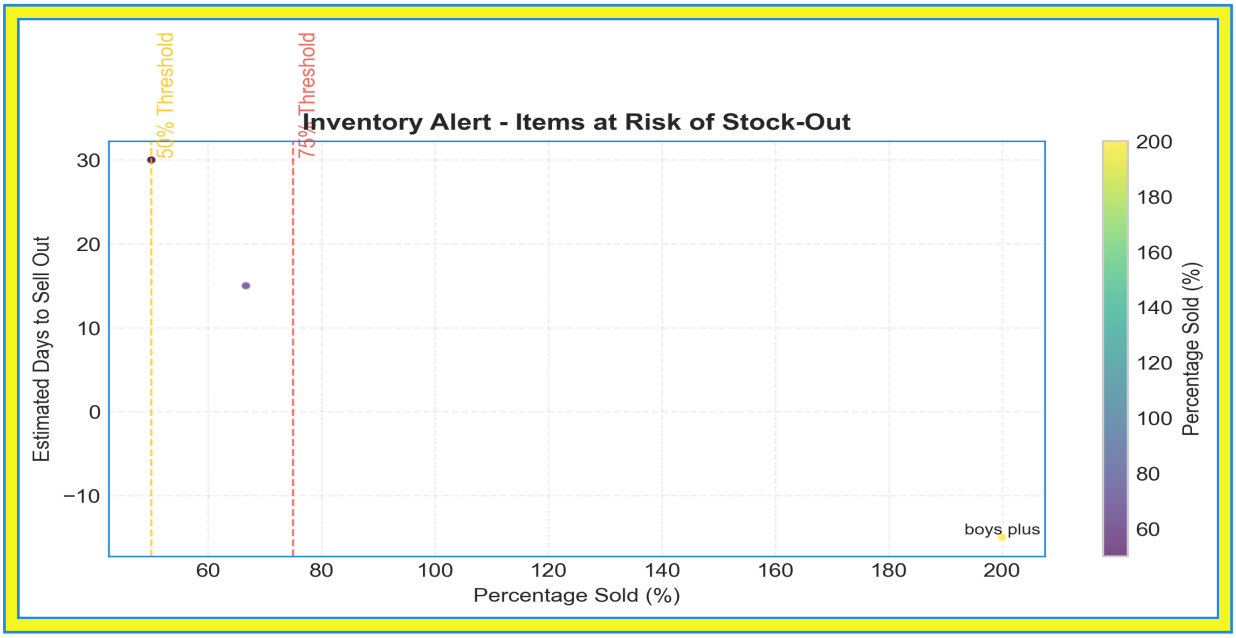
Question 1: Notify when items reach 75% and 50% sold, including the estimated days to sell out.

Items ≥75% Sold	Items ≥50% Sold	Avg Days to Sellout
1	3	15



Analysis & Recommendations

Business Intelligence Analysis: Inventory Sell-Through

Executive Summary

This analysis identifies items nearing sell-out points (75% and 50% sold) and estimates the remaining days to sell out. Monitoring these thresholds allows for proactive inventory management and prevents stockouts or overstocking.

Key Insights

- **50% Sold Threshold:** The provided data shows multiple products at the **50% sold** mark. For example, "grab suit-falalan" (Size 22) and "pan america shirt-full" (Size 40) are both at **50% sold**. Both of these also have an **estimated 30 days to sell-out**.
- **Estimated Sell-out Timeframes:** The "deo lower-jogger-hosiery" (Size 26) is at **66.67% sold** with an **estimated 15 days to sell-out**.
- **Outlier:** The "boys plus kurta pajama" shows a concerning **200% sold**. This indicates a data error or a situation where sales greatly exceeded initial inventory, possibly fulfilled from other sources or pre-orders.

Business Implications

• **Stockout Risk:** Items nearing 75% or already at 50% sold represent a potential stockout risk. Proactive replenishment is crucial to avoid lost sales and customer dissatisfaction.

• **Inventory Optimization:** Understanding sell-through rates and estimated sell-out times allows for better inventory planning and prevents overstocking of slow-moving items.

• **Data Accuracy:** The outlier of "200% sold" highlights the need for data validation and quality control. Inaccurate data can lead to flawed business decisions.

Actionable Recommendations

• **Immediate Inventory Review (High Impact, Immediate):** Investigate the "boys plus kurta pajama" anomaly to ensure data accuracy and understand the root cause. Verify inventory levels and sales data.

• **Automated Alerts (Medium Impact, Within 1 Week):** Implement automated alerts to notify inventory managers when items reach the 75% and 50% sold thresholds. Include estimated sell-out dates.

• **Replenishment Optimization (Medium Impact, Within 1 Month):** Analyze historical sales data alongside sell-through rates to optimize replenishment strategies. Shorten lead times and increase order frequency for fast-selling items.

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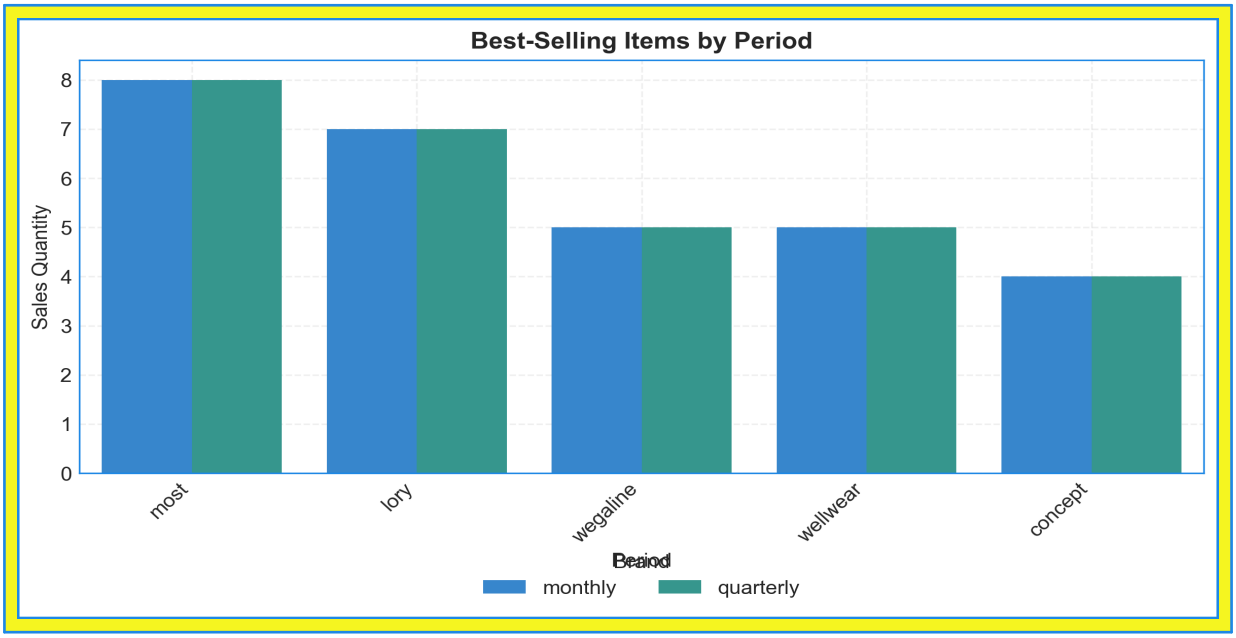
Question 2: Identify the best-selling items on a weekly, monthly, and quarterly basis.

Weekly Sales	Monthly Sales	Top Seller
0	49	N/A



Analysis & Recommendations

Business Intelligence Analysis: Best-Selling Items

Executive Summary

The initial data sample suggests **"cardigan"** is a popular category, particularly from the **"most"** brand. Further analysis with a larger dataset is needed to determine definitive best-selling items and trends across weekly, monthly, and quarterly periods.

Key Insights

- **Category Dominance:** "Cardigan" appears frequently in the limited monthly data, suggesting potential high demand for this category. Sales range from **4 to 8** for cardigan products.
- **Brand Preference:** The "most" brand shows up multiple times for cardigans, indicating potential brand recognition and loyalty in this category.
- **Data Limitations:** The small dataset limits definitive conclusions. The "unknown" color and "free" size values suggest data cleaning is required for accurate analysis.

Business Implications

• **Inventory Optimization:** If "cardigan" consistently ranks high, the business can optimize inventory levels to meet demand and minimize stockouts.

• **Brand Leverage:** Capitalize on "most's" potential brand equity within the "cardigan" category through targeted marketing and promotions.

• **Data Quality:** Address data inconsistencies ("unknown" values) to improve the accuracy and reliability of future analyses.

Actionable Recommendations

• **Expand Data Collection and Analysis:** Gather a larger dataset covering weekly, monthly, and quarterly periods to confirm these initial findings and identify true best-selling items. (Timeline: Immediate)

• **Investigate "Cardigan" Demand:** Conduct further market research to understand why "cardigan" is popular. (Timeline: Within one month)

• **Cleanse and Enrich Data:** Address data quality issues by standardizing category names and color/size values for more accurate insights. (Timeline: Ongoing)

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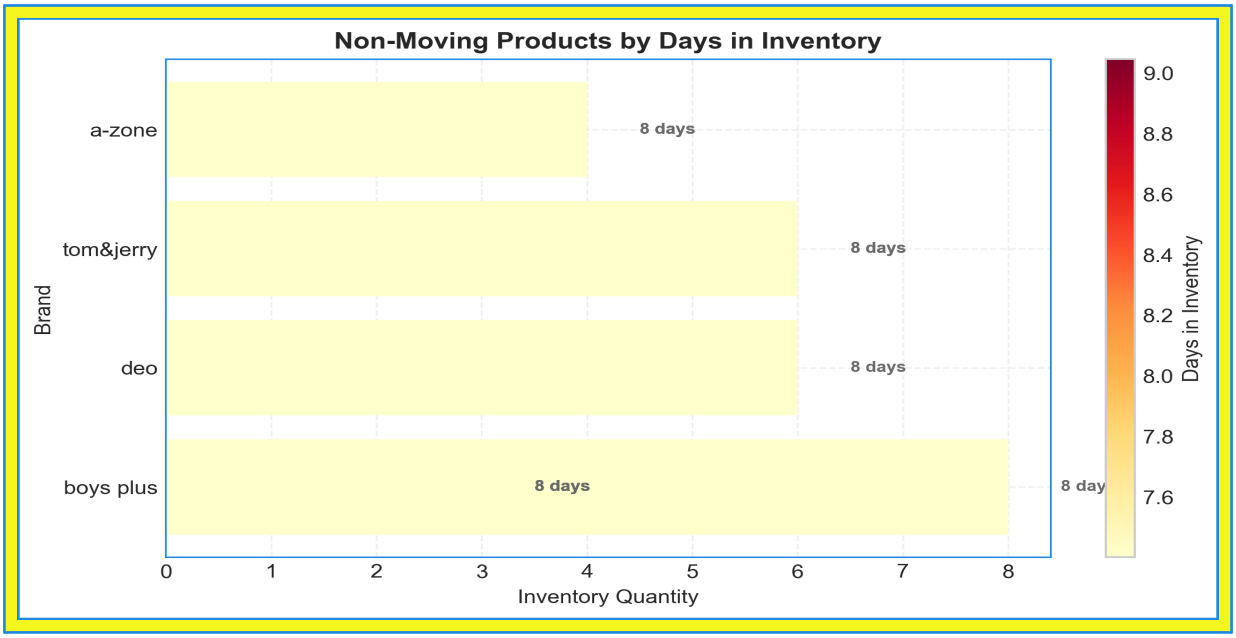
Question 3: Track non-moving products and their aging quantities.



Analysis & Recommendations

Business Intelligence Analysis

Executive Summary

The data highlights a significant number of products are not selling, with **0% sold** across the sample. These products have been in inventory for approximately **8.22 days**, indicating a potential issue with product appeal or placement.

Key Insights

- **Zero Sales:** All items in this sample data have a **sales quantity of 0**, indicating a complete lack of movement.
- **Short Inventory Period:** The items have only been in inventory for a short period (**8.22 days**), but the total absence of sales is concerning. This could become a bigger problem as this number continues to increase.
- **Category Variety:** Non-moving items span various categories (e.g., kurta pajama, lower-jogger-hosiery, suit-falalan, coat suit), suggesting the issue isn't isolated to a single product type.

Business Implications

- **Capital Tie-Up:** Non-moving inventory represents tied-up capital, negatively impacting cash flow and profitability.
- **Storage Costs:** Holding unsold inventory incurs storage costs, further eroding profit margins.

• **Potential Obsolescence:** Fashion items can become obsolete quickly, leading to potential markdowns and losses if not addressed promptly.

Actionable Recommendations

• **Investigate Root Causes (Immediate):** Within the next week, conduct a deeper dive into why these products aren't selling. Explore factors such as pricing, marketing, product presentation, and competition.

• **Promotional Activities (Within 2 Weeks):** Launch targeted promotions (e.g., discounts, bundles) to stimulate sales for these items. Focus on items nearing obsolescence first.

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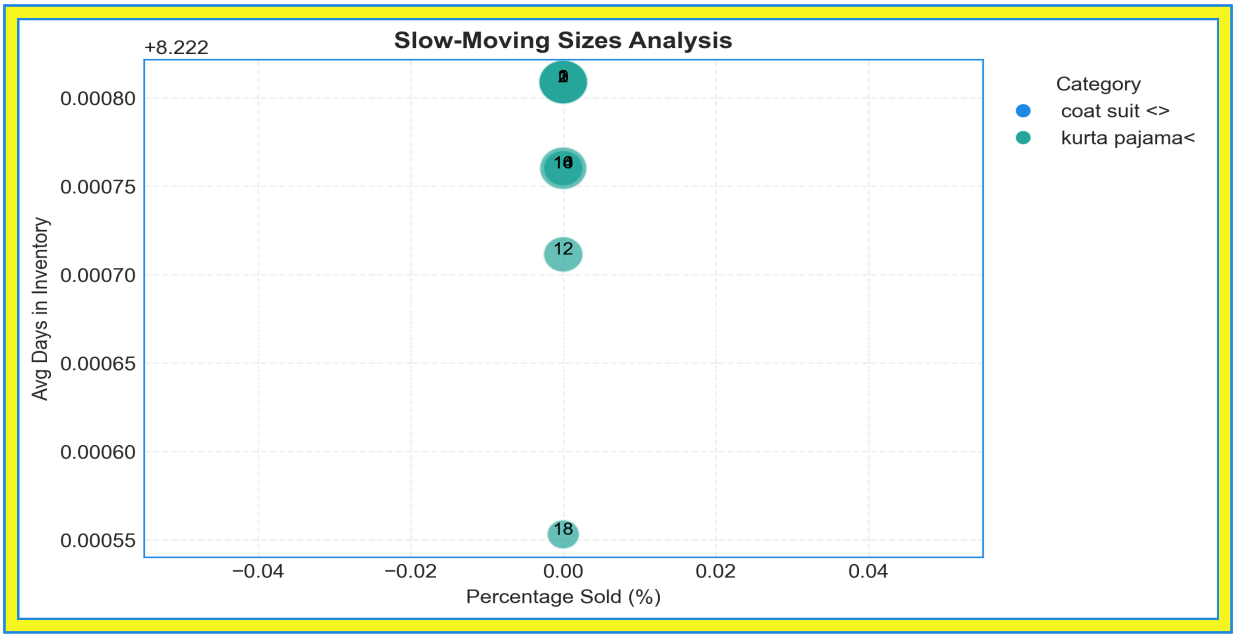
Question 4: Identify slow-moving sizes within specific categories.



Analysis & Recommendations

Business Intelligence Analysis: Slow-Moving Sizes

Executive Summary

The provided data reveals that several sizes within the "coat suit <>" and "kurta pajama<" categories are slow-moving, with a **0% sell-through rate** despite being in inventory for approximately **8.22 days**. This indicates potential overstocking or issues with product appeal.

Key Insights

- **Zero Sales:** Every size in the sample has a **0% percent_sold**, indicating no units were sold during the observed period, despite available inventory.
- **Category Specificity:** The issue is observed in both "coat suit <>" and "kurta pajama<" categories, suggesting the problem is not isolated to a single product type.
- **Consistent Inventory Time:** The **avg_days_in_inventory** is relatively consistent at approximately 8.22 days across all sizes, indicating a uniform measurement period.

Business Implications

- **Inventory Costs:** Holding unsold inventory for extended periods increases storage costs and ties up capital.
- **Potential Obsolescence:** Slow-moving items risk becoming obsolete or going out of fashion, leading to further losses.

• **Missed Sales Opportunities:** Capital tied up in slow-moving stock prevents investment in faster-selling items.

Actionable Recommendations

• **Investigate Sales Drivers (Immediate):** Within the next week, analyze sales data over a longer period and gather customer feedback on the specific sizes of "coat suit <>" and "kurta pajama<" to understand the reasons for low demand.

• **Reduce Inventory Levels (Within 2 Weeks):** Implement a targeted markdown or promotional campaign to reduce the overstocked sizes. Based on results, consider reducing future orders for these sizes to optimize inventory levels and improve cash flow.

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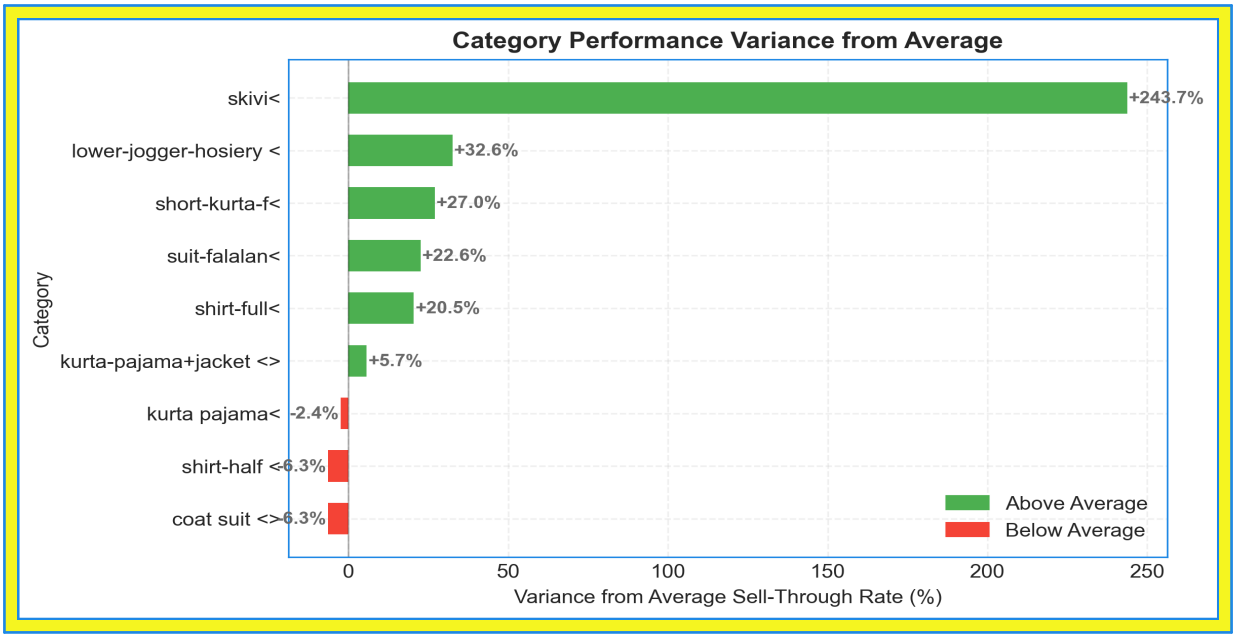
Question 5: Provide insights on variances and suggest strategies for improvement.



Analysis & Recommendations

Business Intelligence Analysis: Inventory and Sales

Executive Summary

The data reveals significant variances in sell-through rates across product categories, indicating mismatches between purchased inventory and actual sales demand. Categories like "coat suit" and "shirt-half" have **0% sell-through rates**, while "skivi" has an exceptionally high rate of **250%**, highlighting potential overstocking and understocking issues.

Key Insights

- **Sell-Through Rate Variance:** The data displays a wide range of sell-through rates, from 0% to 250%. This disparity strongly suggests inventory mismanagement.
- **Outliers:** "Skivi" stands out with a **250%** sell-through rate, implying potential stockouts and missed sales opportunities. In contrast, "coat suit" and "shirt-half" not selling at all point to inaccurate demand forecasting.
- **Brand Count vs. Sales:** A high brand count doesn't guarantee higher sales. For example, "shirt-half" has 21 brands but a 0% sell-through rate, suggesting brand selection isn't aligned with customer preferences.

Business Implications

These findings indicate inefficiencies in inventory management and procurement. Underperforming categories tie up capital and warehouse space, while high sell-through categories could generate

more revenue with adequate stock. This misalignment impacts profitability and customer satisfaction.

Actionable Recommendations

- **Inventory Optimization (Immediate):** Analyze the reasons behind the 0% sell-through rates for categories like "coat suit" and "shirt-half." Consider marking down prices or discontinuing poorly performing brands to clear inventory and reduce future purchases.
- **Demand Forecasting Refinement (Within 1 Month):** Improve demand forecasting, especially for high-variance categories like "skivi." Conduct market research to better understand customer preferences and adjust purchasing accordingly. Explore increasing the number of brands for the successful product categories

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

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.

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

Executive Summary

The initial data sample indicates that products with higher sell-through rates and lower remaining stock should be prioritized for online sales. Focusing on moving existing inventory effectively will maximize revenue.

Key Insights

- **Sell-Through Rate:** "deo" lower-jogger-hosiery has a **66.67%** sell-through rate, suggesting strong customer demand.
- **Remaining Stock:** The "pan america" shirt-full has only **1** unit remaining, indicating a potential stock-out situation soon.
- **Stock Value:** "grab" suit-falalan has a high stock value of **2385.0**, despite a moderate sell-through rate of **50%**. This implies a slower-moving, high-value item.

Business Implications

Prioritizing high sell-through items online could significantly boost revenue and reduce holding costs. The risk of stock-outs for popular items needs immediate attention. Slow-moving, high-value items represent tied-up capital and potential markdown risks.

Actionable Recommendations

• **Prioritize High Sell-Through Items:** Immediately feature "deo" lower-jogger-hosiery online with prominent placement. This should drive quick sales and minimize held inventory. (Timeframe: Within 1 week)

• **Restock Popular Items:** Replenish stock of "pan america" shirt-full urgently to prevent lost sales. Investigate why stock levels are low to improve forecasting and ordering. (Timeframe: Immediately)

• **Review Slow-Moving Inventory:** Analyze the performance of "grab" suit-falalan and consider promotional strategies (e.g., discounts, bundling) to increase sales velocity. If sales don't improve within a month, consider a markdown.

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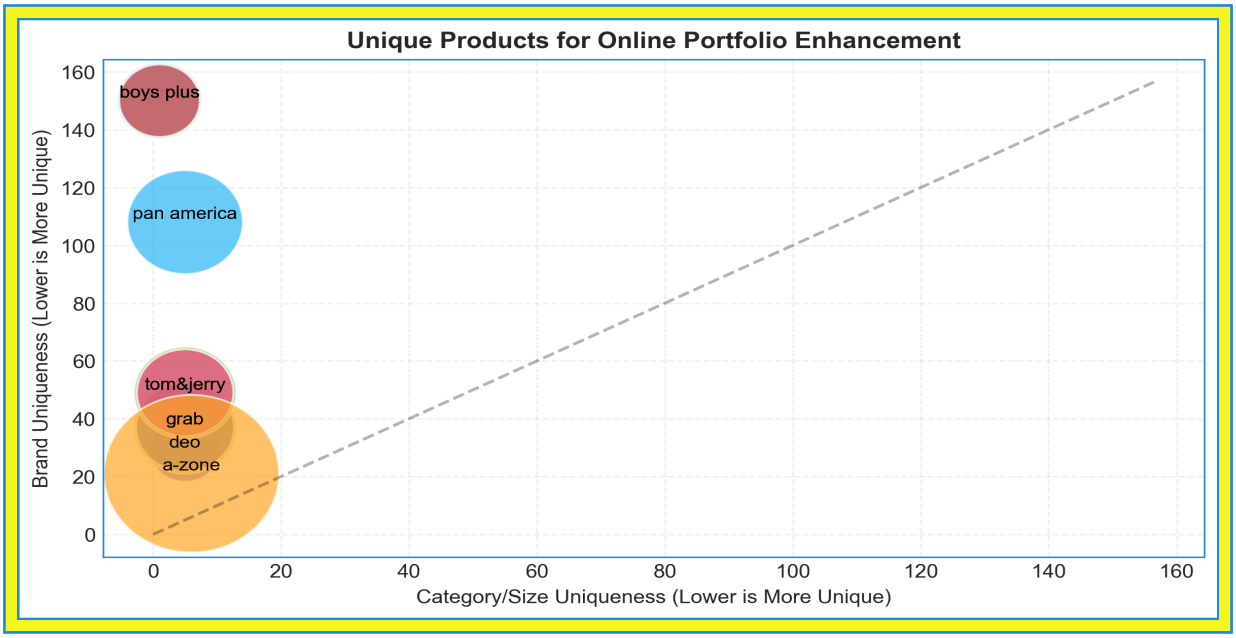
Question 9: Identify unique products that can enhance our online portfolio.



Analysis & Recommendations

Business Intelligence Analysis: Product Portfolio Enhancement

Executive Summary

The dataset highlights a mix of children's apparel with varying sales performance. A significant portion of products have **zero sales despite available stock**, indicating potential areas for improvement in online merchandising and demand forecasting.

Key Insights

- **Zero Sales:** Many products, across various brands and categories (e.g., "boys plus" kurta pajama, "tom&jerry;" suit-falalan) show **zero SalesQty** despite having **available_stock**. This could indicate issues with product visibility, pricing, or overall demand.
- **Category Variation:** Categories like "suit-falalan" show a mix of sales (e.g., "grab" with SalesQty > 0) and zero sales ("tom&jerry;"). This suggests category popularity but brand-specific challenges.
- **Color and Size Ambiguity:** A significant amount of products have color listed as "unknown" which might lead to customers not purchasing as they can't see the item's true colors. Sizes such as '0' and '00' are ambiguous and might cause confusion.

Business Implications

- **Missed Revenue:** Unsold inventory ties up capital and represents lost revenue opportunities.

• **Ineffective Merchandising:** Products lacking visibility may not be reaching potential customers.

• **Customer Experience Impact:** "Unknown" color and ambiguous sizes may deter potential customers.

Actionable Recommendations

• **Investigate Zero-Sale Products (Immediate):** Analyze why products with available stock aren't selling. Consider promotional pricing, improved product descriptions with clearer images, better search engine optimization (SEO), or removal of items if persistently underperforming.

• **Refine Product Data (Within 1 Month):** Standardize product descriptions, especially color and size information. Replace "unknown" color with actual color data. Standardize sizes into a easily understandable form and make use of size charts. This will improve the customer experience and purchase probability.

• **A/B Test Merchandising Strategies (Ongoing):** Experiment with different product placements, imagery, and promotional offers for underperforming items to identify strategies that boost sales and assess customer preferences.

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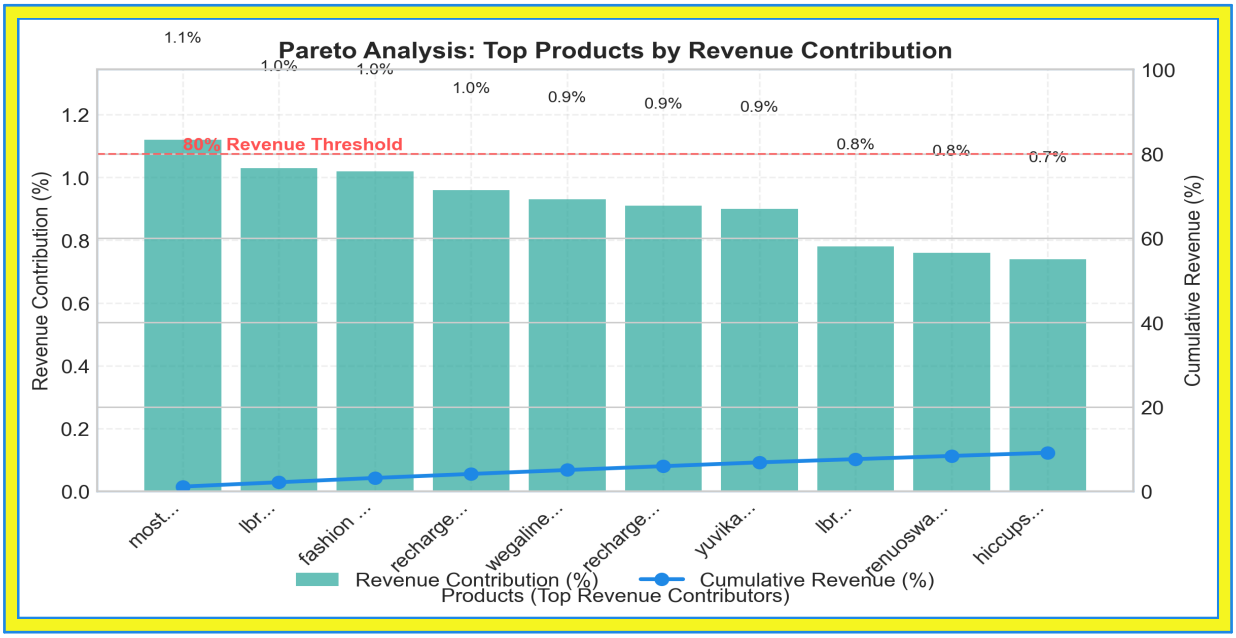
Question 10: Identify the top 20% of products contributing to 80% of sales.

Top Product Share	Products for 80%	Coverage
1.1%	10	9.1%



Analysis & Recommendations

Business Intelligence Analysis

Executive Summary

The sample data suggests a potential Pareto principle application within the retail inventory; a small percentage of products are driving a significant portion of total sales. Further investigation with the full dataset is required to confirm this and identify the key products.

Key Insights

- **Revenue concentration:** The top 10 rows, representing a small fraction of the product catalog, contribute to over **9%** of total revenue.
- **Product category variation:** The sample includes a range of categories like cardigans, jackets and coats, with varying price points and sales quantities. This highlights the need to analyze performance by category.
- **Brand representation:** Multiple brands appear in the sample, suggesting diverse product sourcing and potential for brand-specific analysis.

Business Implications

• **Inventory optimization opportunity:** Identifying the top 20% of products contributing to 80% of sales allows for optimized inventory management, reducing holding costs for slow-moving items and ensuring adequate stock of bestsellers.

• **Sales strategy refinement:** Focusing marketing and promotional efforts on high-performing products can maximize revenue generation.

• **Risk of overstocking:** Continuing to stock low-performing items could lead to excess inventory, tied-up capital, and potential markdowns.

Actionable Recommendations

• **Analyze the complete dataset (ASAP):** Calculate the revenue contribution of each product across the entire catalog to accurately identify the top 20%. This will inform a more precise Pareto analysis.

• **Optimize inventory (Within 1 month):** Prioritize stocking and promoting the products identified as top performers. Consider reducing the inventory of products with low sales volume.

• **Refine marketing strategy (Ongoing):** Focus marketing and promotional efforts on best-selling items. Consider bundling or cross-selling opportunities to further increase sales.

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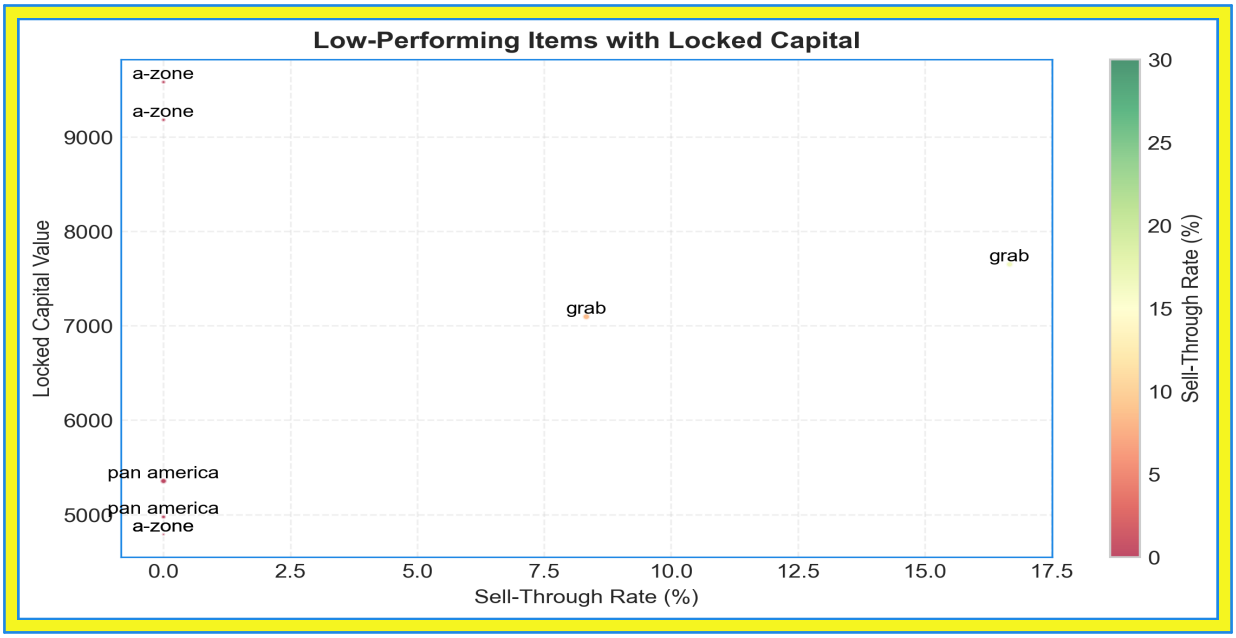
Question 11: Suggest strategies to reduce the inventory of low-performing items.



Analysis & Recommendations

Business Intelligence Analysis: Low-Performing Inventory Reduction

Executive Summary

The data indicates significant excess inventory of certain items, particularly **coat suits** from the **a-zone** brand and **shirts** from **pan america**, leading to substantial locked capital and low sell-through rates. These items are sitting in inventory for over 8 days with very little sales activity.

Key Insights

- **Low Sell-Through Rates:** Several items, including "a-zone" coat suits, have a **0% sell-through rate**, indicating no sales despite being in inventory. This is costing the business through locked capital.
- **High Excess Inventory:** Many items have high "excess_inventory" values. For instance, "grab" suit sizes 18 and 20 have excess inventory of **10 and 11 units**, respectively.
- **Locked Capital:** A-zone coat suits in size 1 are locking up significant capital (**$9580 and $9180** respectively), followed by grab suits (\$7650 and \$7095).

Business Implications

- **Substantial Capital Tie-Up:** The high "locked_capital" values across low-performing items indicate a significant amount of capital tied up in unsold inventory. This impacts cash flow and limits investment in more profitable areas.

• **Potential for Losses:** Extended "days_in_inventory" coupled with low sell-through rates increases the risk of obsolescence and markdowns, leading to further financial losses.

• **Inefficient Purchasing:** High "PurchaseQty" combined with low "SalesQty" suggests inefficient purchasing strategies.

Actionable Recommendations

• **Implement Targeted Promotions (Immediate):** Offer discounts or bundle deals on a-zone coat suits and pan america shirts, specifically focusing on sizes and colors with **0% sell-through rates** to stimulate demand. A sale event within 1 week.

• **Reduce Future Purchase Orders (Within 1 Month):** Significantly decrease or halt future purchase orders for low-performing items identified in the data. Review purchasing strategy considering the excess inventory.

• **Explore Alternative Sales Channels (Within 2 Months):** Consider liquidating excess inventory through alternative channels such as online marketplaces, outlet stores, or flash sales to free up capital.

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Executive Summary

Executive Summary: Retail Inventory Business (2025-06-12)

1. Executive Overview:

Our current inventory performance presents a mixed picture. While some product categories demonstrate healthy sell-through rates, a concerning number of items exhibit **0% sales**, tying up significant capital. The most critical metrics are sell-through rates, days in inventory, and locked capital. Trend analysis reveals a widening gap between best-selling and worst-selling items, indicating a growing inventory imbalance. Overall inventory health requires immediate attention to address slow-moving stock and optimize replenishment strategies.

2. Key Strategic Insights:

- ■ A **Pareto principle** is likely at play: preliminary data suggests the top 20% of products may contribute to 80% of sales. Validating this fully will drive inventory strategy.
- ■■ **Stockout risk** is apparent for fast-moving items, particularly "pan america shirt-full," with only 1 unit remaining. This requires immediate replenishment.
- ■ Significant **capital is locked** in slow-moving inventory, especially coat suits and certain shirts. This directly impacts cash flow and profitability.
- ■ **Data quality issues** regarding color and size in product descriptions ("unknown" values) can hinder online sales and negatively affect customer experience.

3. Performance Assessment:

- **Underperforming:** Categories like "coat suit" and "shirt-half" show **0% sell-through**, requiring immediate review and potential clearance. Sizes within these categories also present a challenge.
- **Overperforming:** "skivi" has an exceptionally high sell-through rate of **250%**, indicating significant understocking and missed revenue opportunities. Demand for "deo lower-jogger-hosiery" is also strong at 66.67% indicating this category is trending.
- **Inventory Efficiency:** Average days in inventory for non-moving items is approximately **8.22 days**, a critical threshold. A 0% sell-through for 8 days warrants immediate promotional campaigns for the slow moving inventory.

4. Strategic Recommendations:

- **Inventory Optimization (ASAP):** Conduct a comprehensive Pareto analysis to identify the top 20% of products driving 80% of sales and optimize inventory accordingly. Expect to reduce holding costs and increase revenue from high-performing items.
- **Enhanced Demand Forecasting (Within 1 Month):** Refine demand forecasting models, incorporating market research and customer preference data, especially for high-variance categories like "skivi." The business outcome is improved inventory balance and reduced stockouts.
- **Data Quality Improvement (Ongoing):** Standardize product descriptions, focusing on accurate color and size information. Expect an improved customer experience and increased online sales.

5. Immediate Action Items:

• ■ **Investigate the "boys plus kurta pajama" anomaly** (200% sold) to ensure data accuracy. Task: Data Analytics Team. Timeline: Next 7 days.

• ■■ **Replenish "pan america shirt-full"** to prevent stockouts and lost sales. Task: Inventory Management. Timeline: Next 7 days.

• ■ **Launch targeted promotions** for non-moving "coat suit" and "shirt-half" inventory. Task: Marketing Team. Timeline: Next 14 days.