InventorySync

Business Intelligence Inventory Report

Generated on June 28, 2025

InventorySync Business Intelligence

Prepared for: Executive Management

Generated by: Tanman

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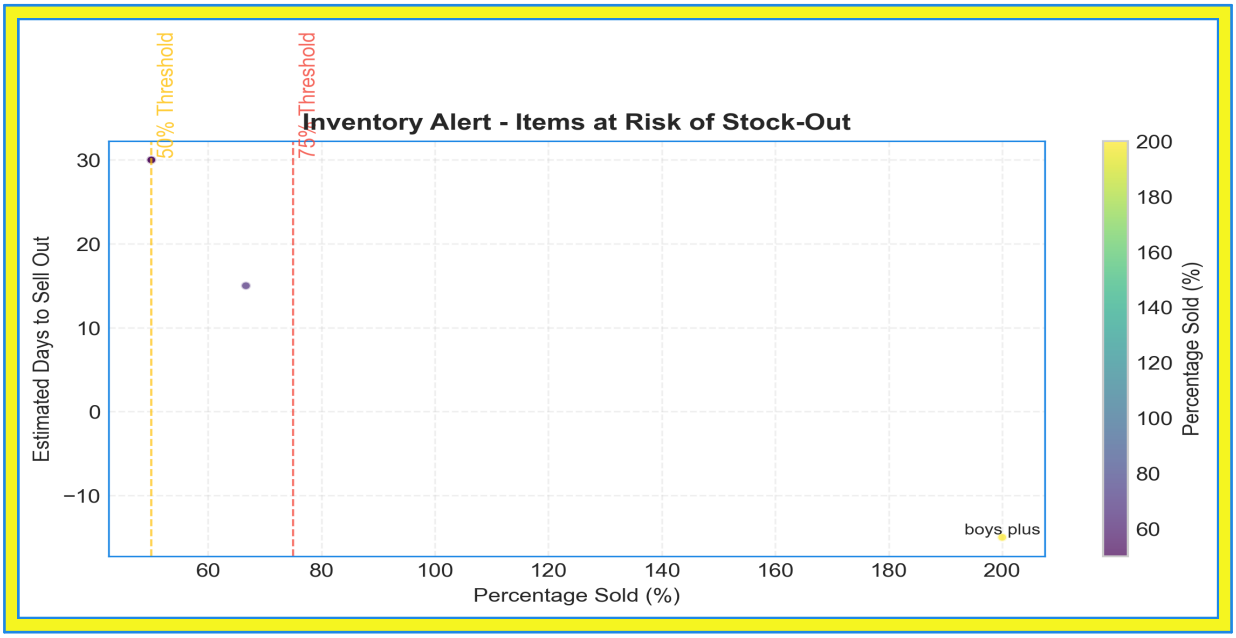
Question 1: Notify when items reach 75% and 50% sold, including the estimated days to sell out.

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



Analysis & Recommendations

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# Business Intelligence Analysis: Inventory Sell-Through

## Executive Summary

This analysis identifies inventory items nearing sell-out thresholds (75% and 50% sold) and estimates their remaining shelf life, allowing for proactive inventory management. The data sample indicates some items are already sold out (e.g., "boys plus") while others, like "grab" and "pan america", are at the 50% threshold.

## Key Insights

- **Sell-Through Thresholds Reached:** Some items, such as "grab" and "pan america" at **50% sold**, require immediate attention. "boys plus" showing **200% sold** suggests data anomalies or significant backorders need investigation.
- **Estimated Days to Sell Out:** The est_days_to_sellout ranges significantly, from negative values to **30 days**. This variability highlights the need for more granular demand forecasting.
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• **Category Performance:** The limited data doesn't allow for detailed category analysis, but the variety of categories (kurta pajama, lower-jogger, suit, shirt) suggest differing sell-through rates.

Business Implications

• **Lost Sales Risk:** Items nearing sell-out (e.g., "grab," "pan america") risk stockouts, leading to lost sales and customer dissatisfaction.

• **Potential Data Inaccuracies:** The "boys plus" item with **200% sold** signifies data quality issues that must be addressed to maintain report accuracy.

• **Inventory Optimization:** Understanding sell-through rates allows for optimized inventory levels, minimizing holding costs and stockouts.

Actionable Recommendations

• **Immediate Action: Investigate and correct data discrepancies.** Prioritize the "boys plus" entry exhibiting 200% sold (immediate). This anomaly likely represents incorrect sales data or inventory tracking errors.

• **Short-Term (1 week): Replenish items at 50% sold (e.g., "grab", "pan america")** Initiate reordering to prevent stockouts. Consider promotional activities for slower-moving items within these categories.

• **Medium-Term (1 month): Improve demand forecasting accuracy.** Review and refine demand forecasting models to better predict sell-through rates and optimize inventory levels based on more precise predictions. ```

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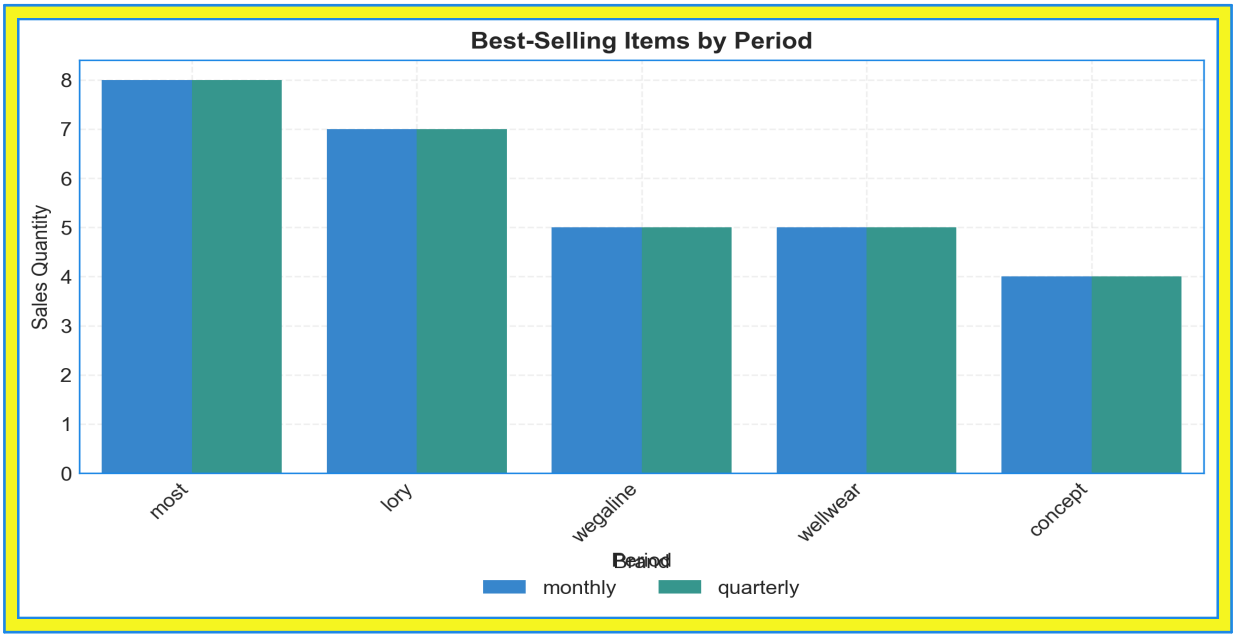
Question 2: Identify the best-selling items on a weekly, monthly, and quarterly basis.

Weekly Sales	Monthly Sales	Top Seller
0	49	N/A



Analysis & Recommendations

Business Intelligence Analysis

Executive Summary

The data reveals that "cardigan" items from various brands are top sellers on a monthly basis, particularly in "free" sizes. Focus should be placed on optimizing cardigan inventory and understanding customer preferences for specific brands.

Key Insights

- **Best-Selling Category:** "Cardigan" consistently appears as a top seller across multiple brands (most, wegaline, wellwear), indicating strong demand for this category. With "sales" ranging from 4-8 units monthly, it is the most popular category in the sample.
- **Size Preference:** "Free" size is highly prevalent among the best-selling "cardigan" items. This suggests a preference for adaptable, less fitted clothing options.
- **Color Analysis Limited:** "Unknown" is listed as the color for the majority of the top selling items. This data limitation prevents any conclusions about color preferences.

Business Implications

• **Inventory Optimization:** There is an opportunity to capitalize on the popularity of "cardigans" by ensuring sufficient stock levels.

• **Brand Performance:** Understanding why "most" brand is performing well will help inform merchandising decisions.

• **Data Quality:** The prevalence of "unknown" for the "color" variable limits insight. Data collection should be improved.

Actionable Recommendations

• **Prioritize "Cardigan" Inventory (Immediate):** Ensure sufficient stock of "cardigans", especially in "free" sizes, to meet current demand. This could increase sales in the short term.

• **Improve Data Collection (Within 1 Month):** Implement processes to accurately capture item colors at the point of sale to gain further insights into customer preferences and refine merchandising strategies.

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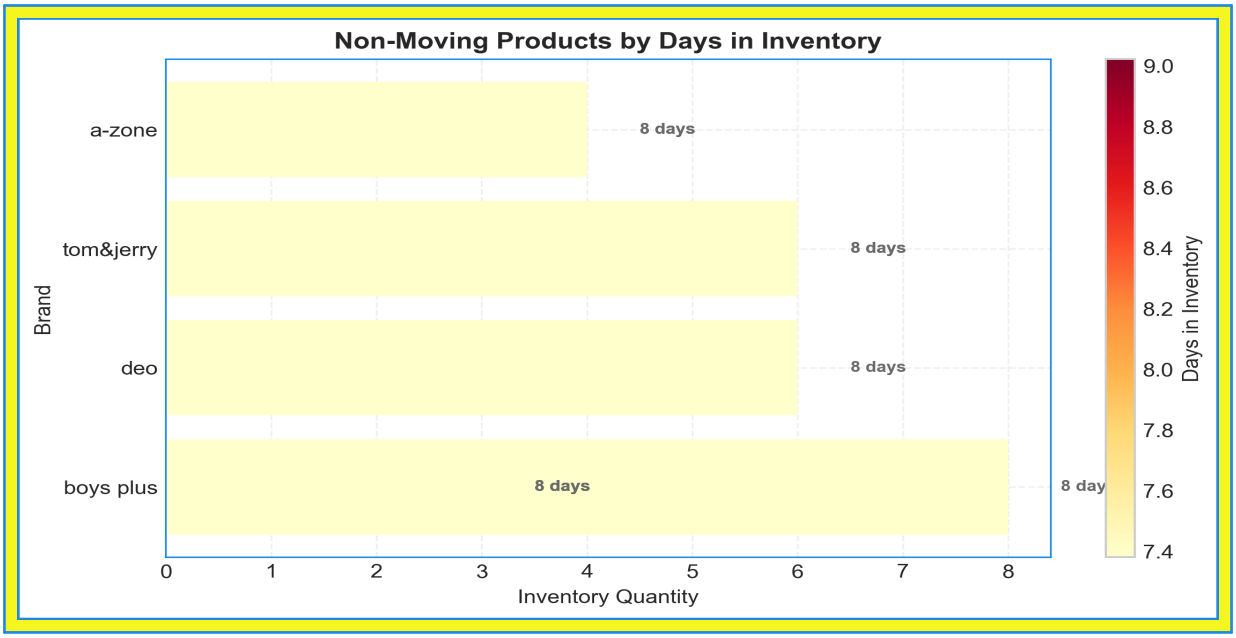
Question 3: Track non-moving products and their aging quantities.



Analysis & Recommendations

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# Business Intelligence Analysis: Non-Moving Products

## Executive Summary

The data highlights a significant issue with **non-moving inventory**. All items in the sample data have a **0% sell-through rate**, indicating stagnant stock with an average of **8.2 days in inventory**.

## Key Insights

- **Stagnant Inventory:** A **0% sales quantity (SalesQty)** across all items suggests a complete lack of product movement within the observation period.
- **Short Inventory Timeframe:** While **8.2 days in inventory** is relatively short, the 0% sell-through raises immediate concerns and suggests a potential ongoing issue.
- **Brand & Category Concentration:** Multiple "boys plus" brand items in the "kurta-pajama" category are not selling, potentially indicating specific issues with this brand or category.

## Business Implications

- **Tied-Up Capital:** Non-moving inventory represents a significant amount of capital tied up in products that are not generating revenue.
- **Potential for Obsolescence:** If this trend continues, the value of these products could depreciate significantly, leading to losses.
- **Storage Costs:** Storing unsold inventory incurs ongoing costs that erode profitability.
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Actionable Recommendations

• **Investigate Non-Selling Items (Immediate):** Conduct a thorough investigation into the reasons behind the **0% sales** of the "boys plus" kurta-pajama and other items. Consider pricing, marketing, and product placement.

• **Targeted Promotion (Within 1 Week):** Launch a targeted promotional campaign to stimulate demand for these slow-moving items. Consider discounts or bundled offers. ```

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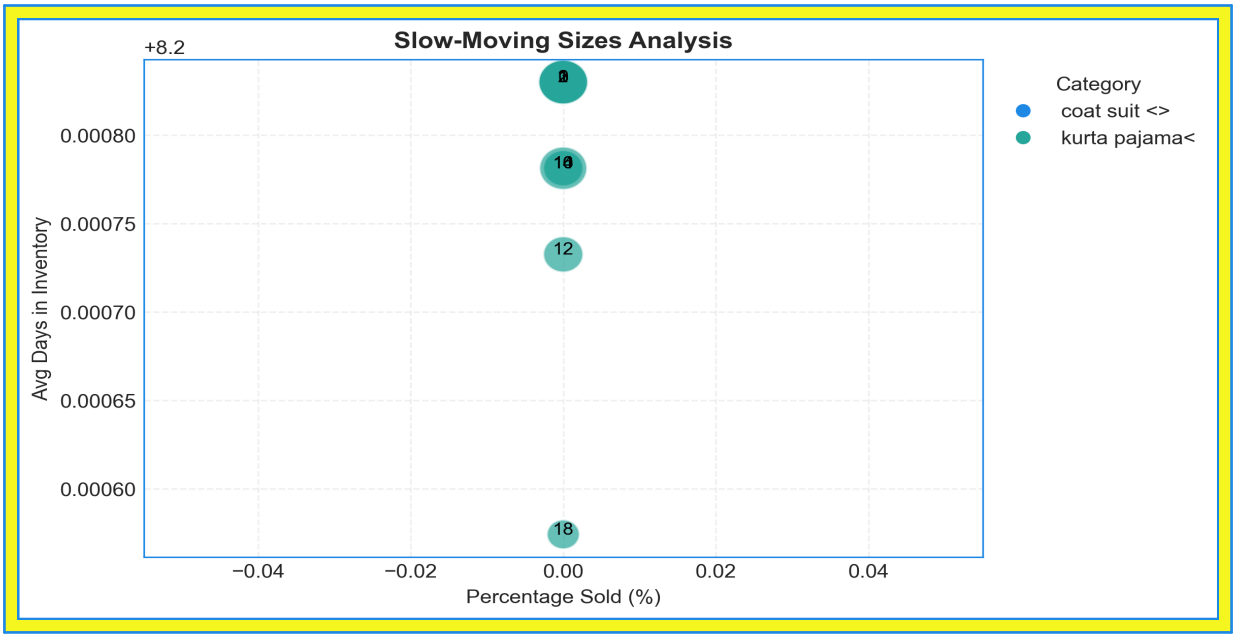
Question 4: Identify slow-moving sizes within specific categories.



Analysis & Recommendations

Business Intelligence Analysis: Slow-Moving Sizes

Executive Summary

The provided data indicates significant issues with inventory management as evidenced by **0% sales across all categories and sizes**. Furthermore, the average days in inventory is uniformly high across the sample.

Key Insights

- **Zero Sales:** The most striking insight is that **no items** in the sample dataset have been sold (**total_sold = 0** and **percent_sold = 0.0** for all rows).
- **Consistent Inventory Age:** The avg_days_in_inventory metric is approximately **8.2 days** across all categories and sizes, despite varying purchase quantities.
- **Variable Inventory Levels:** While some sizes have a higher purchase volume (e.g., size "1" in "kurta pajama<" with **total_purchased = 13**), none of them are selling.

Business Implications

- **Stagnant Inventory:** The lack of sales across different sizes and categories suggests serious problems in demand forecasting, product selection, or pricing.
- **Capital Tie-Up:** Unsold inventory represents a significant financial burden, tying up capital that could be used for more profitable ventures.

• **Potential Obsolescence:** If this data reflects broader trends, products could become obsolete while sitting in inventory, leading to markdown losses.

Actionable Recommendations

• **Immediate Sales Review:** Conduct a thorough review of sales strategies, pricing, and marketing efforts across these categories (**within 1 week**). Determine why items are not selling despite being in stock. (High Impact)

• **Inventory Reduction:** Implement a markdown strategy to clear out existing inventory. Consider promotions, discounts, or bundle deals to stimulate sales (Implement **within 2 weeks**). (High Impact)

• **Demand Forecasting Improvement:** Analyze past sales data to improve demand forecasting accuracy for future purchases. Implement a system to track slow-moving items and adjust purchasing decisions accordingly (ongoing). (Medium Impact)

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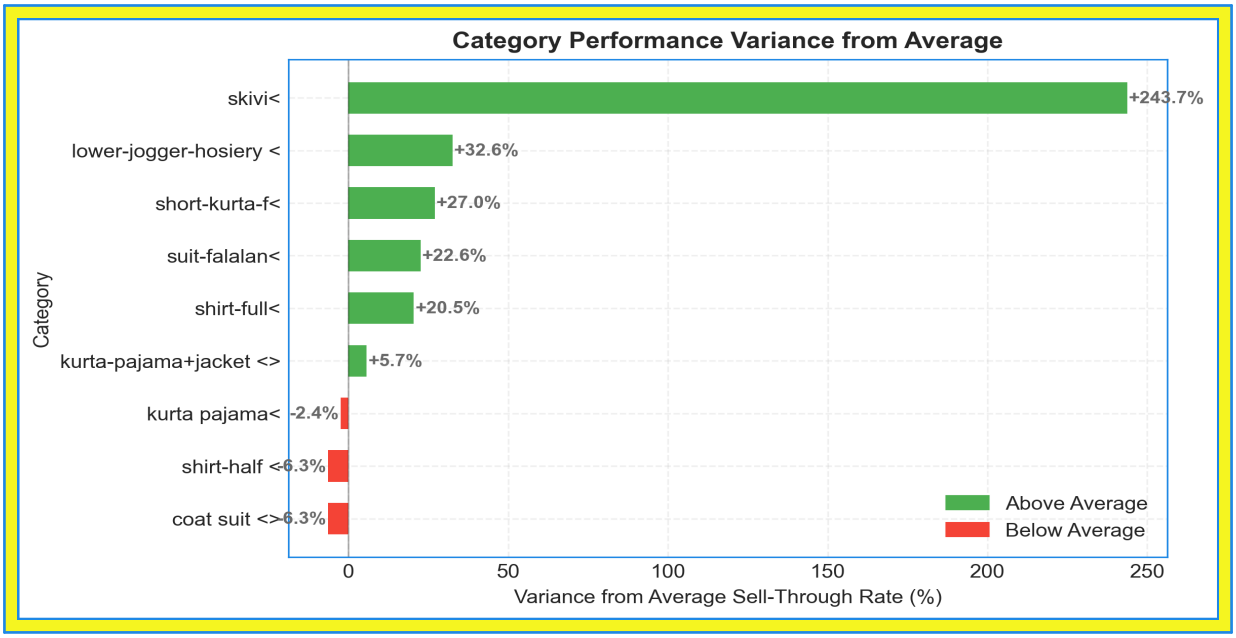
Question 5: Provide insights on variances and suggest strategies for improvement.



Analysis & Recommendations

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# Business Intelligence Analysis: Retail Inventory & Sales

## Executive Summary

This data reveals significant variances in sell-through rates across different clothing categories, indicating potential inefficiencies in inventory management and sales strategies. Some categories are underperforming, while others suggest untapped potential for growth.

## Key Insights

- **Sell-through Rate Discrepancies:** Sell-through rates vary drastically, ranging from **0%** for "coat suit <>" and "shirt-half <" to 25**0%** for "skivi<". The average variance from the mean sell-through rate highlights these discrepancies.
- **Brand Count vs. Sell-Through:** The "shirt-full<" category has a high brand count (58) and a relatively low sell-through rate of **26.79%**. This may indicate over-saturation and a need to optimize brand selection.
- **Negative Variance:** Categories like "coat suit <>" and "shirt-half <" have negative variance (-6.3), indicating significant underperformance compared to the average. This suggests poor product selection or ineffective marketing for these categories.

## Business Implications
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These findings imply potential lost revenue due to unsold inventory in low sell-through categories. Overstocking underperforming items ties up capital and increases storage costs. Conversely, the "skivi<" category may be experiencing stockouts and missed sales opportunities. A reevaluation of product mix and promotional strategies is necessary.

Actionable Recommendations

- **Phase Out Underperforming Categories (Immediate):** Immediately discontinue or significantly reduce purchases of categories with consistently low or zero sell-through rates, such as "coat suit <>" and "shirt-half <". This will free up capital and reduce storage costs.
- **Investigate High Sell-Through Categories (Within 1 Month):** Conduct a deeper analysis of the "skivi<" category to understand the drivers of its high sell-through rate (**250%**). Increase inventory levels and explore marketing initiatives to capitalize on this demand.
- **Optimize Brand Selection (Within 2 Months):** For categories with high brand counts and relatively low sell-through rates, like "shirt-full<" (58 brands, **26.79%** sell-through), analyze individual brand performance. Remove underperforming brands to streamline inventory and improve overall sell-through. ```

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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: Prioritizing Online Products

Executive Summary

The provided data sample reveals that products with higher sell-through rates and lower remaining stock should be prioritized for online sales. We need to analyze a larger dataset, but initial insights point to optimizing online sales for high-demand, low-stock items to maximize revenue.

Key Insights

- **Sell-through Rate:** Products like the "deo" lower-jogger-hosiery, with a **66.67% sell-through rate**, demonstrate strong customer demand.
- **Remaining Stock:** The "deo" product also has a low **remaining_stock of 2**, indicating a potential shortage.
- **Stock Value:** While "grab" suit-falalan has a higher stock value (**2385.0**) than "pan america" shirt-full (**1045.0**), its lower sell-through rate (**50.0%**) suggests lower consumer interest.

Business Implications

These findings suggest that focusing on products with high sell-through rates and low remaining stock online can minimize lost sales due to stockouts and maximize revenue. Prioritizing online promotion of high-demand items can further boost sales. Conversely, products with lower sell-through rates may require different marketing strategies or reduced online visibility.

Actionable Recommendations

• **Immediate Action:** Prioritize online promotion and inventory management for products with sell-through rates above **60%** and remaining stock below **5**. (Within 1 week)

• **Short-Term Strategy:** Analyze the full dataset to identify all products fitting this criteria and implement targeted online marketing campaigns. (Within 1 month)

• **Long-Term Strategy:** Develop a dynamic inventory management system that automatically adjusts online visibility based on sell-through rate and remaining stock. (Ongoing)

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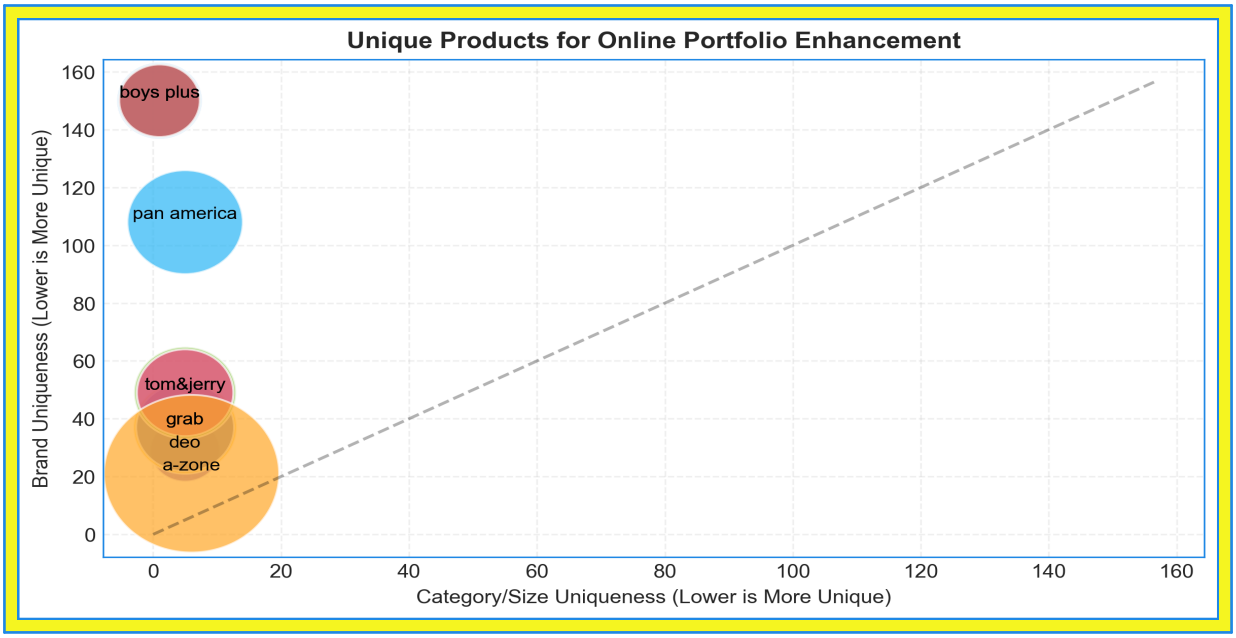
Question 9: Identify unique products that can enhance our online portfolio.



Analysis & Recommendations

Business Intelligence Analysis

Executive Summary

The data highlights potential opportunities to optimize our online product portfolio by focusing on products with low sales but existing stock, suggesting untapped demand. There's a need to refine product categorization and address potential issues with specific brands or categories.

Key Insights

- **Low Sales Volume:** Several products, like "boys plus" kurta pajama and shirt-half, and "pan america" short-kurta-f, have zero **SalesQty** despite available stock (**8, 1, 2** respectively). This suggests these items are not performing well online.
- **Inconsistent Categorization:** Categories like "kurta pajama<", "shirt-half <" and "suit-falalan<" show inconsistent formatting (trailing "<"), hinting at data entry or parsing issues, which can impact product discoverability online.
- **Varied Brand Performance:** The dataset shows varying brand counts, from "**boys plus**" at **150** to "**deo**" at **29**, suggesting differences in the breadth of product offerings per brand.

Business Implications

- **Missed Sales Opportunities:** Stagnant stock indicates potential products that could be successful online with proper marketing or improved product placement.

• **Data Quality Issues:** Inconsistent categorization hinders accurate product classification, impacting search functionality and customer experience on the online store.

• **Brand Portfolio Analysis:** Examining brand counts and sales performance will enable decisions on which brands to promote, expand, or potentially reduce.

Actionable Recommendations

• **Product Portfolio Review (Immediate):** Launch a focused marketing campaign targeting products with available stock and zero sales. Prioritize items with higher inventory levels. A/B test product descriptions and images to improve appeal.

• **Data Cleansing and Standardization (Within 1 Week):** Implement a data cleansing process to standardize category names. This includes removing trailing characters and ensuring consistent formatting. This will improve search results and product filtering.

• **Brand Performance Analysis (Within 2 Weeks):** Analyze sales data across all brands to identify high-performing and underperforming brands. Consider featuring popular brands prominently online or adjust marketing strategies for less successful brands.

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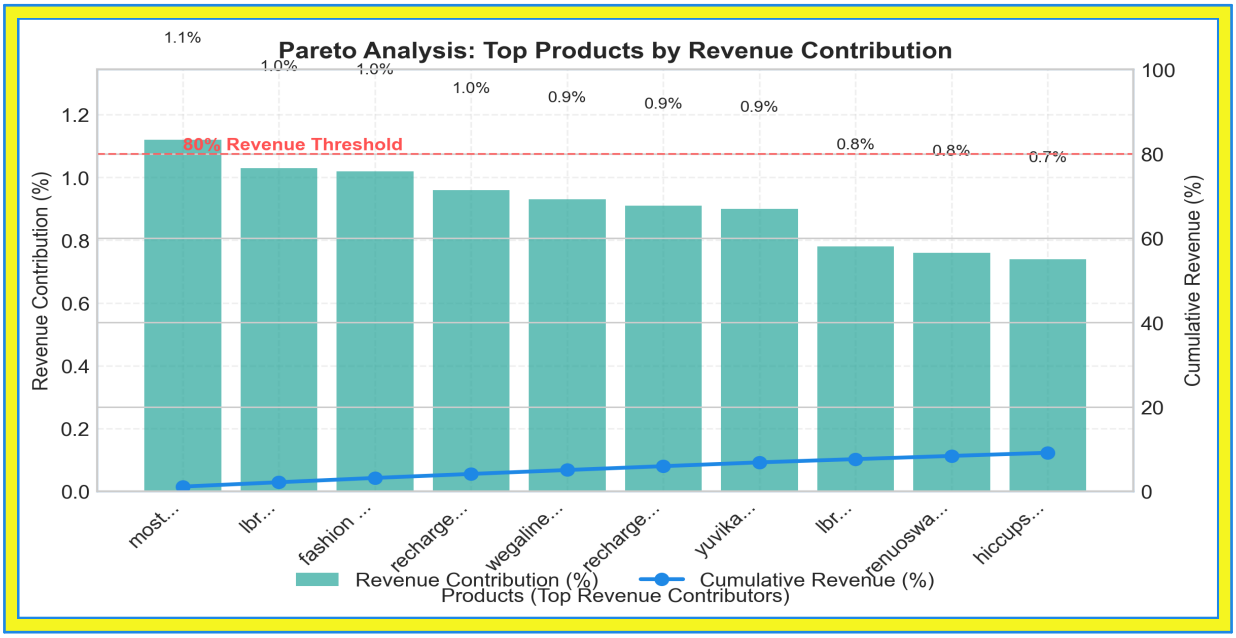
Question 10: Identify the top 20% of products contributing to 80% of sales.

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



Analysis & Recommendations

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The data shows 10 records with columns: Brand, Category, Size, Color, SalesQty, MRP, revenue, percent_of_total, cumulative_percent.

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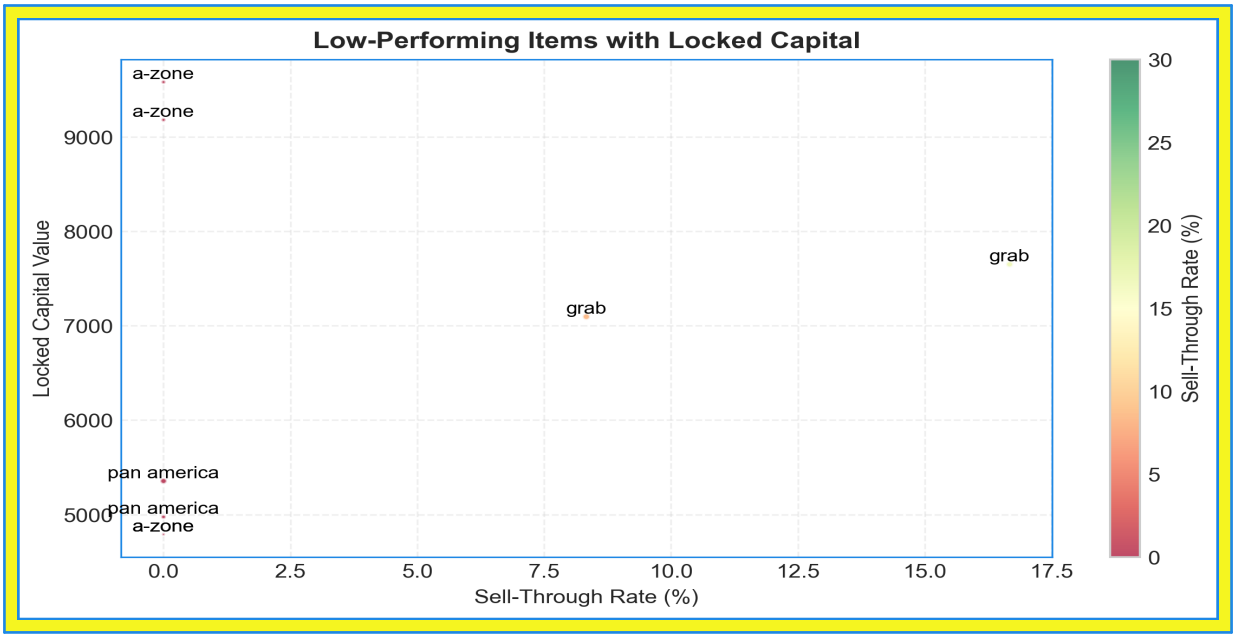
Question 11: Suggest strategies to reduce the inventory of low-performing items.



Analysis & Recommendations

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The data shows 10 records with columns: Brand, Category, Size, Color, MRP, SalesQty, PurchaseQty, excess_inventory, sell_through_rate, locked_capital, days_in_inventory.

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Executive Summary

Okay, here is an executive summary crafted from the provided business intelligence analyses, formatted as requested:

Executive Summary: Retail Inventory Analysis – 2025-06-12

1. Executive Overview

Our current inventory performance presents a mixed picture ■. While we see potential for growth in specific categories, significant inefficiencies exist, particularly in managing slow-moving and non-moving stock. Preliminary data indicates discrepancies and anomalies that require immediate attention to ensure data accuracy. Addressing these concerns is crucial for optimizing inventory levels, reducing capital tie-up, and mitigating potential revenue loss.

2. Key Strategic Insights

- **High Sell-Through/Low Stock ■:** Prioritizing online sales and replenishment of items with sell-through rates above **60%** while remaining stock is below **5** can maximize revenue. Initial insights on "deo" lower-jogger-hosiery suggest strong demand.
- **Non-Moving Inventory ■:** A significant portion of our inventory exhibits **0% sell-through**, tying up capital and increasing storage costs. "boys plus" items, particularly in the "kurta-pajama" category, are consistently identified as slow-moving.
- **Data Quality ■■:** Inconsistencies and anomalies in the data, such as items showing **200% sold** and inconsistent category naming (e.g., "kurta pajama<"), hinder accurate analysis and decision-making. Correcting these errors is paramount.
- **Variance in Sell-Through:** Sell-through rates vary significantly across categories, from **0%** to 25**0%**, signaling a need to re-evaluate product mix and marketing strategies.
- **Category Focus ■:** "Cardigan" items consistently perform well monthly. Prioritizing these items for inventory replenishment can increase sales.

3. Performance Assessment

- **Overperforming:** "Cardigan" items and possibly "skivi" are showing strong sales velocity. Understanding why, should be high priority. The "skivi" category (**250% sell-through**) shows particularly strong momentum.
- **Underperforming:** "coat suit <>," "shirt-half <," and several "boys plus" items consistently show poor sales.
- **Inventory Efficiency:** Overall inventory efficiency is hampered by a significant amount of non-moving and slow-moving stock. Average days in inventory for non-moving items is approximately **8.2 days**.

4. Strategic Recommendations

- **Immediate Data Cleansing (Next 7 Days):** IT and Analytics teams should immediately address data inconsistencies, including correcting the "boys plus" anomaly (**200% sold**) and standardizing category naming. *Expected Outcome: Improved data accuracy for decision-making.*
- **Phase Out Underperformers (Next 30 Days):** Based on validated data, reduce or discontinue purchases of categories with consistently low or zero sell-through rates (e.g., "coat suit <>," "shirt-half <"). *Expected Outcome: Reduced capital tie-up and storage costs.*

• **Investigate and Replenish High-Demand Items (Next 14 Days):** Increase inventory and promotional efforts for items with high sell-through rates (e.g., "cardigan," "skivi," "deo" lower-jogger-hosiery). *Expected Outcome: Increased sales and customer satisfaction.*

• **Refine Demand Forecasting (Ongoing):** Review and refine demand forecasting models to better predict sell-through rates and optimize inventory levels. *Expected Outcome: Improved inventory efficiency and reduced stockouts.*

5. Immediate Action Items

• **Investigate "boys plus" Data Anomaly:** Analytics team to identify and correct the cause of the 200% sold value (within 7 days).

• **Replenish Cardigan Inventory:** Merchandising team to ensure sufficient stock of "cardigans," especially in "free" sizes (within 14 days). ■

• **Review Sales Strategies:** Sales and Marketing teams to review and adjust sales strategies, pricing, and marketing efforts across underperforming categories (within 14 days).