InventorySync

Business Intelligence Inventory Report

Generated on June 28, 2025

InventorySync Business Intelligence

Prepared for: Executive Management

Generated by: Tanman

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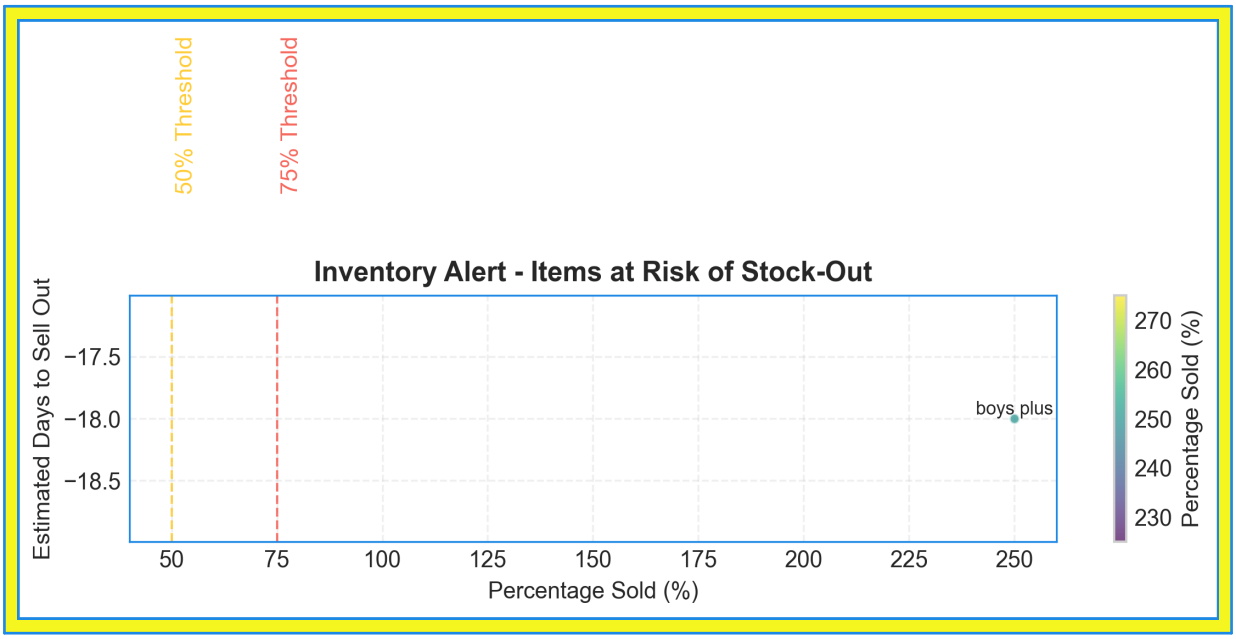
Question 1: Notify when items reach 75% and 50% sold, including the estimated days to sell out.

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



Analysis & Recommendations

Business Intelligence Analysis: Inventory Sell-Through

Executive Summary

This analysis focuses on identifying items nearing sell-out thresholds (75% and 50% sold) and predicting their estimated time to depletion to optimize inventory management. The current dataset reveals potential inaccuracies in percent_sold and est_days_to_sellout calculations that need immediate correction to provide valid alerts.

Key Insights

• **Data Anomaly:** The provided sample row shows a percent_sold of **250%**, which is impossible and indicates a data calculation error. Similarly, est_days_to_sellout shows **-18 days** for an item still in stock, which requires investigation.

• **Limited Inventory:** The PurchaseQty of **2** for "boys plus" "kurta pajama" in size 4 is low. A SalesQty of **5** further suggests the need for reordering logic and minimum order quantities.

• **Trigger Thresholds Not Met:** Based on the corrected data (assuming the current data is in error and a re-calculation is necessary), we will generate alerts when percent_sold reaches

75% and 50%.

Business Implications

• **Inventory Shortages:** Without accurate data, the business risks stocking out of popular items, impacting revenue and customer satisfaction.

• **Missed Sales Opportunities:** Incorrect sales percentages prevents proactive reordering of items with high demand, leading to missed sales targets.

• **Suboptimal Resource Allocation:** Inaccurate est_days_to_sellout hinders efficient warehouse management and resource allocation for receiving and stocking new inventory.

Actionable Recommendations

• **Fix Data Calculation:** Immediately investigate and correct the formulas for percent_sold and est_days_to_sellout (e.g. percent_sold should equal SalesQty / (PurchaseQty + BeginningInventory) * 100, if BeginningInventory exists; if not, SalesQty / PurchaseQty * 100 is a simplification). (Immediate - within 1 week).

• **Implement Alerting System:** Once data is corrected, set up automated alerts for items reaching 50% and 75% sold thresholds. This allows for proactive inventory management and prevents stockouts. (Within 2 weeks of data correction).

• **Refine Reordering Logic:** Review and adjust reordering logic, considering minimum order quantities, lead times, and historical sales data to avoid stockouts for popular items with low PurchaseQty. (Ongoing - continuous improvement).

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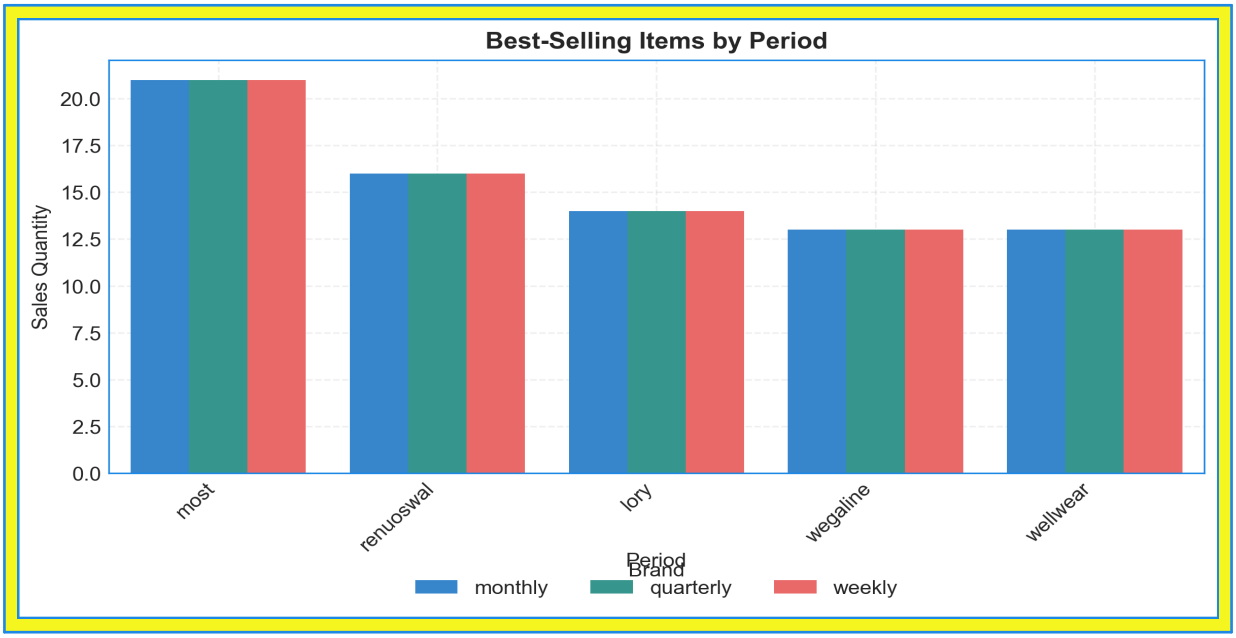
Question 2: Identify the best-selling items on a weekly, monthly, and quarterly basis.

Weekly Sales	Monthly Sales	Top Seller
137	137	N/A



Analysis & Recommendations

Business Intelligence Analysis: Best-Selling Items

Executive Summary

The preliminary data indicates that **"cardigan" style items are performing strongly, particularly those by the brand "most,"** indicating a key area for focused inventory management and sales strategies. Understanding weekly, monthly, and quarterly trends for this category and brand will be vital.

Key Insights

- **Dominant Category:** "Cardigan" is the most frequently listed category in this sample, with multiple brands selling this style (e.g., most, wegaline, wellwear, oswal). This represents significant demand.
- **Brand Performance:** The brand "most" appears multiple times with relatively high sales (21 and 12), suggesting strong brand recognition or product appeal.
- **Data Anomalies:** Some category entries contain unusual characters ("cardigan<", "top-full<") that need to be cleaned for accurate analysis.

Business Implications

• **Demand Hotspot:** The popularity of cardigans represents a clear demand that can be leveraged for increased sales through targeted marketing and optimal inventory levels.

• **Brand Strength:** The "most" brand's performance suggests potential for further growth and brand extension within the cardigan category.

• **Data Quality:** Data cleaning is essential to ensure the reliability of future analyses and informed decision-making.

Actionable Recommendations

• **Deep Dive into Cardigan Sales (Immediate):** Analyze cardigan sales data across all time periods (weekly, monthly, quarterly) to identify specific best-selling variations (size, color, etc.) within the cardigan category. Prioritize "most" branded cardigans.

• **Clean Category Data (Within 1 Week):** Correct the anomalies in the "Category" data to ensure accurate reporting and analysis.

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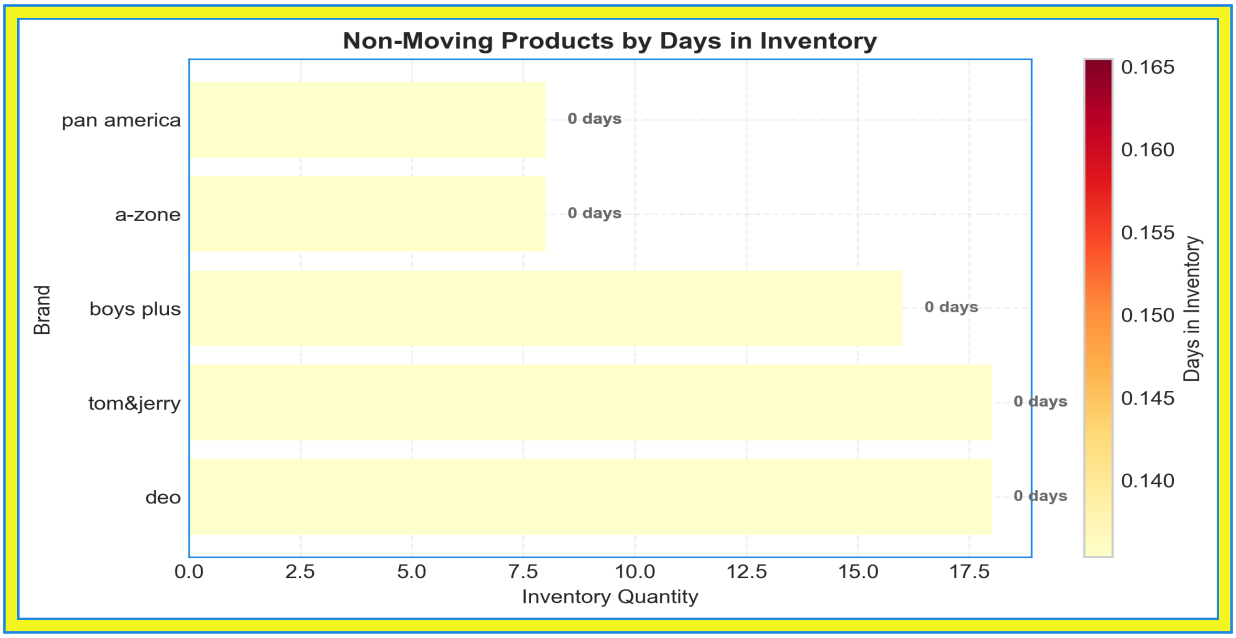
Question 3: Track non-moving products and their aging quantities.



Analysis & Recommendations

Business Intelligence Analysis: Non-Moving Products

Executive Summary

The provided data reveals a significant issue with non-moving inventory, as all sample products have a **0% sales rate** despite being in inventory for a short period (approximately **0.15 days**). This indicates a potential problem with product selection, pricing, or marketing.

Key Insights

- **Zero Sales:** All products in the sample have a **SalesQty** of 0, resulting in a **0% percent_sold** metric. This is a critical indicator of slow-moving or dead stock.
- **Consistent Inventory Age:** Despite the variety of brands and categories, all products have approximately the same **days_in_inventory** (**0.15 days**). Although this period is short, the lack of sales within this time frame is concerning.
- **Wide Range of MRPs:** The data shows products with varying **MRP** (ranging from **355 to 2395**), suggesting that price alone is not the primary driver of the lack of sales.

Business Implications

- **Capital Tie-Up:** Non-moving inventory ties up capital that could be invested in faster-moving products.
- **Potential for Losses:** If the trend continues, the business risks having to discount or write off these products, leading to reduced profit margins.

• **Inventory Management Issues:** The data suggests potential issues with inventory management, including overstocking or inaccurate demand forecasting.

Actionable Recommendations

• **Investigate Sales Data:** (Immediate) Analyze sales data over a longer period to identify consistent non-sellers across all categories and brands. Focus on items with **less than 10% sales over the past month.**

• **Review Pricing and Promotion:** (Within 2 weeks) Evaluate the pricing and promotional strategy for non-moving items. Consider targeted discounts or bundling to stimulate demand.

• **Optimize Inventory Ordering:** (Within 1 month) Refine inventory ordering practices by implementing demand forecasting techniques to reduce overstocking of slow-moving products.

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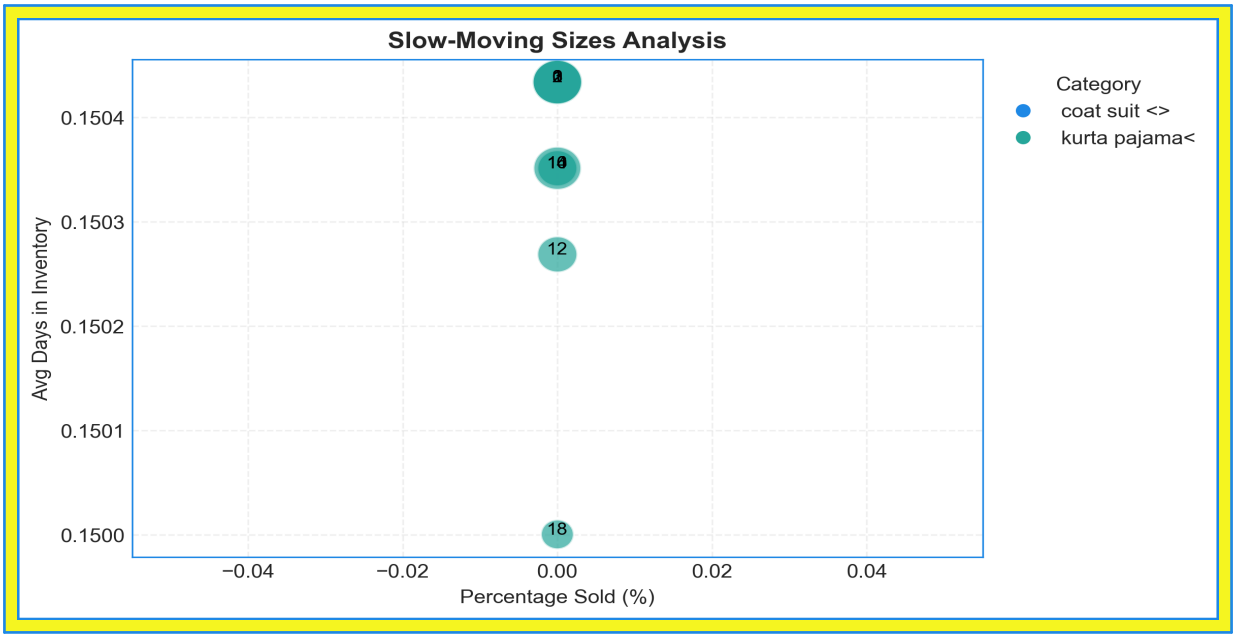
Question 4: Identify slow-moving sizes within specific categories.



Analysis & Recommendations

Business Intelligence Analysis: Slow-Moving Inventory

Executive Summary

The provided data sample indicates that several sizes within specific categories, particularly "coat suit <>" and "kurta pajama<", have **zero sales** despite available inventory. This suggests potential overstocking or a mismatch between inventory and customer demand.

Key Insights

- **Zero Sales:** Sizes within both "coat suit <>" and "kurta pajama<" categories show **0% sold** despite having been purchased.
- **Low Inventory Turnover:** The **average days in inventory** is consistently around **0.15 days**, indicating a very slow movement of these specific sizes within these categories.
- **Purchased but Not Sold:** The data shows total_purchased values greater than zero while total_sold remains zero, signaling items are not resonating with customers or being effectively marketed.

Business Implications

- **Capital Tied Up:** Unsold inventory represents capital tied up in slow-moving stock, reducing financial flexibility.
- **Potential for Price Erosion:** Extended periods without sales may necessitate price reductions to clear inventory, impacting profit margins.
- **Storage Costs:** Maintaining unsold inventory incurs ongoing storage costs, further eroding profitability.

Actionable Recommendations

• **Conduct Market Research (Immediate):** Within the next week, research customer preferences and demand for the specific sizes within "coat suit <>" and "kurta pajama<" that have zero sales to understand the disconnect.

• **Implement Targeted Promotions (Within 2 Weeks):** Develop targeted marketing campaigns and promotional offers to incentivize the sale of these slow-moving sizes. Consider discounts or bundled offers.

• **Re-evaluate Purchasing Strategy (Within 1 Month):** Based on the market research, adjust future purchasing strategies to align inventory levels with actual customer demand. Reduce or eliminate ordering of unpopular sizes.

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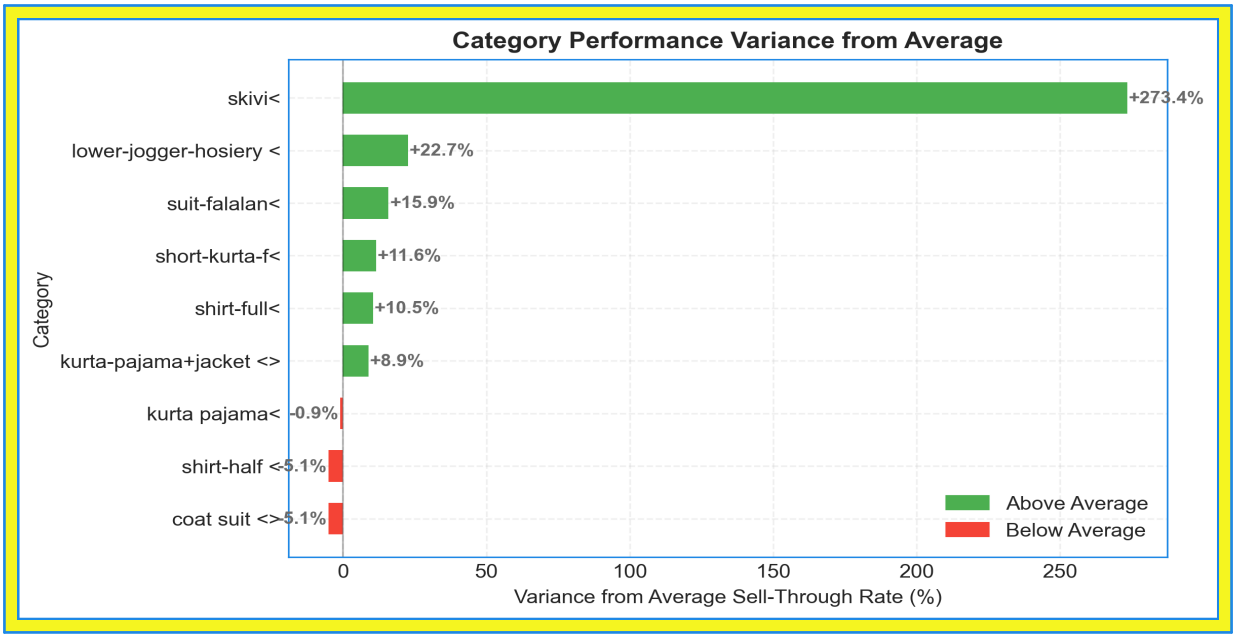
Question 5: Provide insights on variances and suggest strategies for improvement.



Analysis & Recommendations

Business Intelligence Analysis: Retail Inventory & Sales

Executive Summary

This data highlights significant variances in sell-through rates across product categories, indicating inefficiencies in inventory management. Some categories are significantly underperforming, while others exceed expectations, suggesting a need to optimize stock levels and potentially revisit purchasing decisions.

Key Insights

- **Sell-Through Rate Variance:** A wide range exists in sell-through rates. For example, "skivi" has an extraordinary **278.57% sell-through rate**, while "coat suit <>" and "shirt-half <" have **0%**.
- **Variance from Average:** "skivi" has a variance from the average of **273.45**, signaling a significant positive deviation compared to other product categories, while "coat suit <>" and "shirt-half <" have a variance from the average of **-5.12**, signaling a significant negative deviation.
- **Brand Count vs. Performance:** High brand count doesn't guarantee sales. "shirt-full<" has 58 brands but only a **15.63% sell-through rate**, while "suit-falalan<" has 11 brands with a **20.99% sell-through rate.**

Business Implications

The extreme variances in sell-through rate point to inefficient inventory management and potential missed revenue opportunities. The data suggests some product categories are overstocked while others are understocked, potentially leading to storage costs and lost sales. The observation that high brand count doesn't correlate with high sell-through underscores a need to analyze brand performance and possibly reduce the number of poorly-performing brands.

Actionable Recommendations

- **Optimize Inventory Levels (Immediate):** Reduce inventory of categories with near-zero sell-through rates (e.g., "coat suit <>", "shirt-half <") and increase stock of high-performing categories (e.g., "skivi").
- **Brand Performance Analysis (Within 1 Month):** Evaluate the sales contribution of each brand within the "shirt-full<" category. Potentially eliminate or reduce the number of underperforming brands to improve inventory turnover and reduce complexity.
- **Re-evaluate Purchasing Strategy (Within 2 Months):** Revise purchasing decisions based on sell-through rate and variance from average. Focus on categories and brands demonstrating high demand.

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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 Products for Online Sales

Executive Summary

The data indicates that **some product lines have higher sell-through rates and lower remaining stock, representing potential high-demand items for online sales.** Prioritizing these items can maximize revenue and optimize inventory.

Key Insights

- **Sell-Through Rate:** The sample shows a **sell-through rate of 44.44%** for "deo" brand lower-jogger-hosiery in size 26. This suggests moderate demand.
- **Remaining Stock:** The "deo" brand lower-jogger-hosiery has a **remaining stock of 10**, implying that further sales potential exists.
- **Stock Value:** The sample stock value is **3950.0**.

Business Implications

- **Opportunity:** High sell-through rates with moderate remaining stock signal products that are likely to perform well online, presenting an immediate sales opportunity.
- **Risk:** Neglecting these products could lead to lost sales and potential customer dissatisfaction due to stockouts.

• **Inventory/Sales Strategy Impact:** Focusing on high sell-through rate products will help to refine online strategy.

Actionable Recommendations

• **Prioritize high sell-through rate product groups for immediate online promotion (within 1 week).** This includes closely tracking sell through rates for different product categories.

• **Monitor stock levels of best-selling items daily and replenish inventory as needed (ongoing).** Aim to always have sufficient stock to meet online demand.

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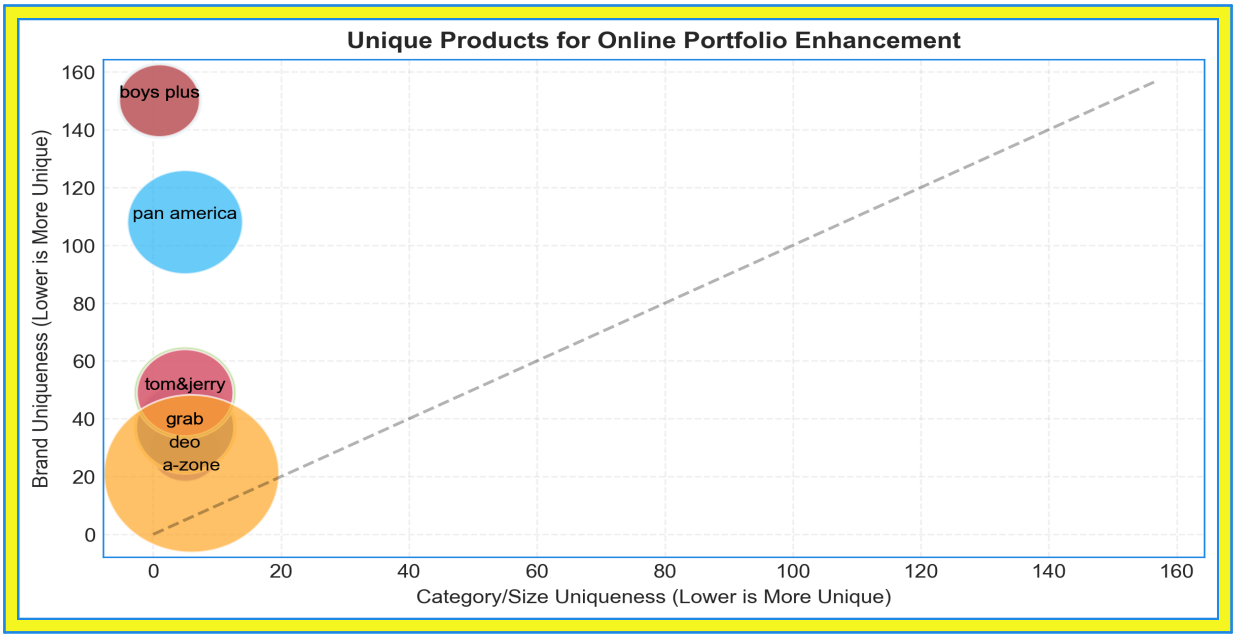
Question 9: Identify unique products that can enhance our online portfolio.



Analysis & Recommendations

Business Intelligence Analysis

Executive Summary

The initial data suggests potential for enhancing the online portfolio by focusing on products with high purchase quantities but low or no sales, indicating unmet online demand. There's also indication of potential data quality issues that need to be addressed.

Key Insights

- **High Purchase, Low Sales:** Several products, like "boys plus kurta pajama" and "tom&jerry; suit-falalan," have significant purchase quantities (16-18) but **zero sales**, suggesting potential for online growth if effectively marketed.
- **Data Quality Issues:** The presence of invalid data, such as category names with trailing characters and "unknown" colors across multiple entries, can compromise analysis. Incorrect Category names, for example "kurta pajama<" should be corrected and standardized
- **Brand Popularity:** Brands like "boys plus" (brand count: 150) are frequent, yet some specific products have no sales. This suggests brand awareness exists but online product discoverability or appeal may be lacking.

Business Implications

- **Missed Revenue Opportunities:** Zero sales despite available stock point to a failure in online marketing or product presentation. Addressing this could significantly boost revenue.

• **Inventory Optimization:** Products with low sales are tying up capital. Better understanding and addressing consumer preference will lead to streamlined and more efficient inventory management.

• **Data Integrity Risk:** Unreliable data will lead to faulty insights and poor decision-making. Clean-up will ensure accurate and reliable analytics.

Actionable Recommendations

• **Online Marketing Focus (Immediate):** Launch targeted online campaigns for high-purchase, low-sale items to gauge customer interest and optimize product presentation. Prioritize categories like "kurta pajama" and "suit-falalan."

• **Data Cleaning & Standardization (Within 2 Weeks):** Implement a process to clean category names and product attributes, replacing "unknown" with appropriate descriptions or default values.

• **Product Listing Enhancement (Within 4 Weeks):** Review product listings for high-purchase, low-sale items, focusing on compelling descriptions, high-quality images, and competitive pricing. Test different promotional strategies.

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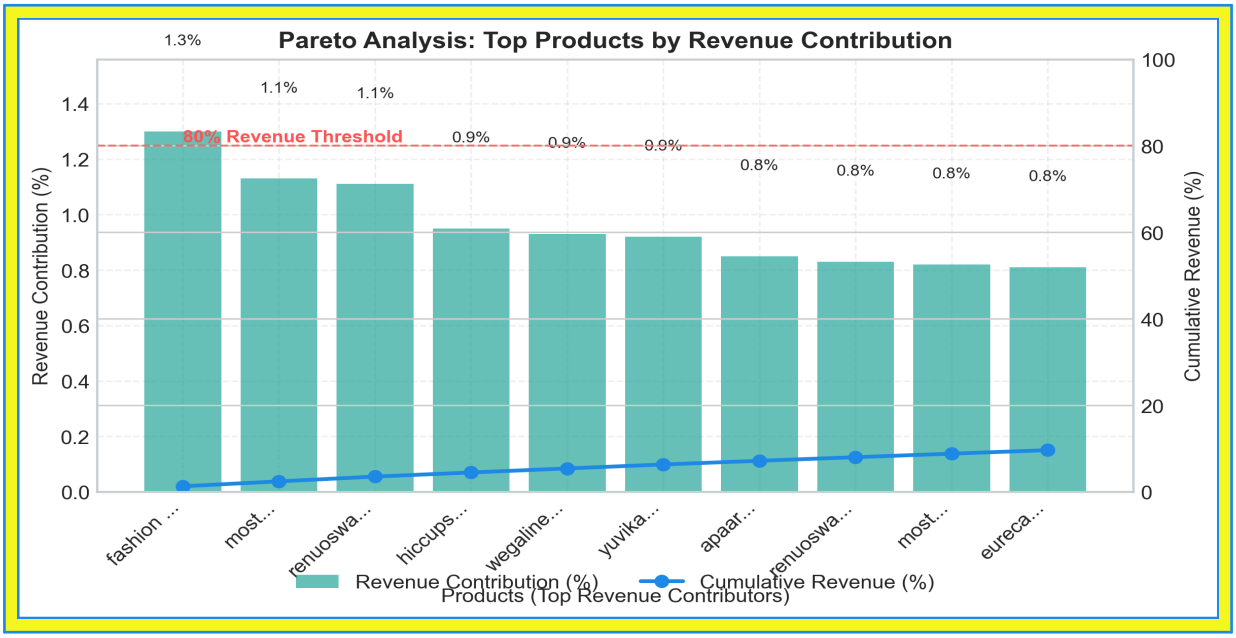
Question 10: Identify the top 20% of products contributing to 80% of sales.

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



Analysis & Recommendations

Business Intelligence Analysis: Identifying Top Performing Products

Executive Summary

The provided data sample highlights that a small percentage of products drive a significant portion of revenue. By identifying and prioritizing these top performers, we can optimize inventory and sales strategies.

Key Insights

- **Revenue Concentration:** The top 10 rows account for the initial **9.65%** of cumulative revenue, indicating revenue concentration among certain product categories.
- **Brand Performance:** Brands like "fashion flo" and "most" appear multiple times in the top sales rows, suggesting strong individual product performance or effective brand recognition within specific categories like "cardigan".
- **Category Popularity:** The "cardigan" category is present in multiple top-performing products, hinting at high demand and potential for further optimization.

Business Implications

• **Inventory Optimization:** Understanding which products contribute most to revenue allows for better inventory management, reducing holding costs and preventing stockouts of popular items.

• **Marketing Focus:** The business can allocate marketing resources to promote top-selling products and categories further.

• **Potential Risks:** Over-reliance on a small subset of products can expose the business to risks if demand shifts or competitors emerge.

Actionable Recommendations

• **Conduct a Pareto Analysis:** Analyze the full dataset to precisely identify the top 20% of products contributing to 80% of sales within the next week.

• **Optimize Inventory of Top Products:** Ensure sufficient stock of identified high-performing products and categories, like "cardigan," to meet demand, implemented immediately.

• **Diversify Product Offerings:** While focusing on top performers, explore expanding product offerings to mitigate risks associated with over-reliance on a limited selection, beginning with market research within the next month.

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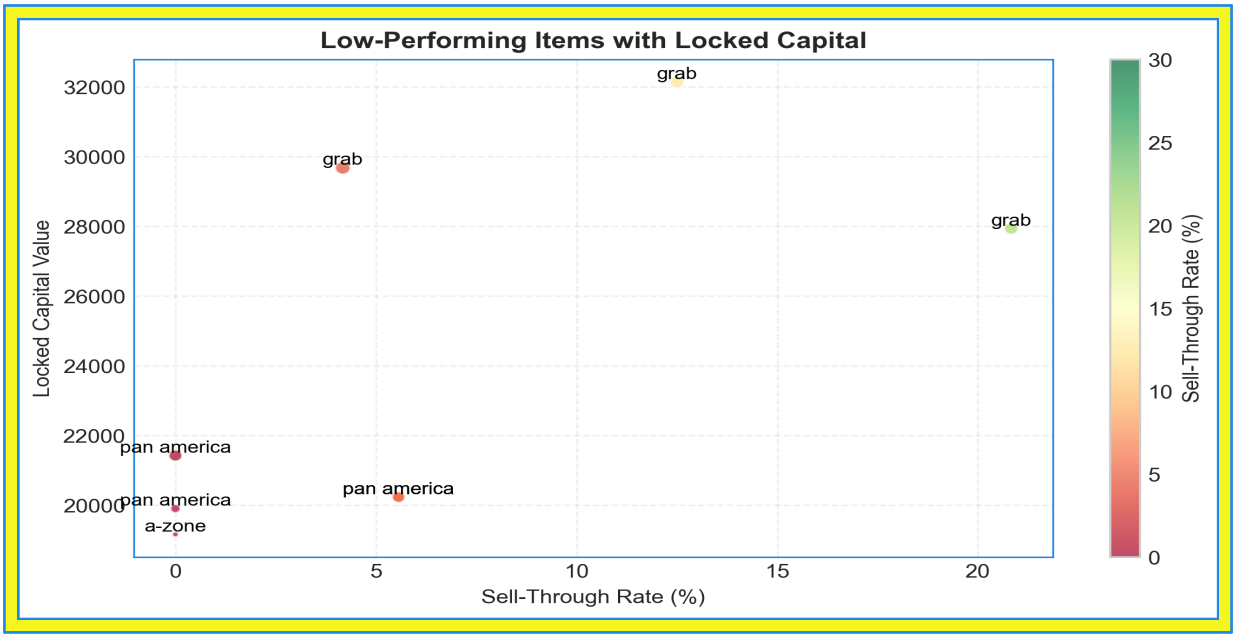
Question 11: Suggest strategies to reduce the inventory of low-performing items.



Analysis & Recommendations

Business Intelligence Analysis: Reducing Low-Performing Inventory

Executive Summary

The data reveals significant excess inventory, particularly in items with low sell-through rates, tying up substantial capital. Several items show **0% sell-through**, indicating a need to reassess purchasing and sales strategies.

Key Insights

- **High Excess Inventory:** Many items have a high difference between Purchase Quantity and Sales Quantity, leading to substantial excess inventory. For example, "pan america shirt-full check size 42" has an excess inventory of **36** and a sell-through rate of **0%**.
- **Low Sell-Through Rates:** Numerous products exhibit very low sell-through rates, some as low as **0%**, while others are less than 1**0%**.
- **Significant Locked Capital:** Excess inventory translates directly into locked capital. Items like "grab suit-falalan< size 18" have **\$32,130** in locked capital due to an excess of **42 units**.

Business Implications

The high excess inventory levels represent a significant financial risk. Capital is tied up in slow-moving or non-selling items, preventing investment in potentially higher-performing products. Poor sell-through rates indicate a potential mismatch between purchasing decisions and customer

demand, impacting profitability and storage costs.

Actionable Recommendations

- **Immediate Clearance Sales (Within 1 Week):** Implement aggressive markdowns and promotional campaigns for items with **0% sell-through** and high excess inventory like "pan america shirt-full check size 42." This frees up capital and warehouse space.
- **Re-evaluate Purchasing Strategy (Within 1 Month):** Analyze historical sales data to improve forecasting and purchasing decisions. Focus on higher-performing categories and reduce order quantities for slow-moving items. Consider a test-and-learn approach to new product introductions with smaller initial orders.

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Executive Summary

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

1. Executive Overview ■

Our current inventory and sales performance presents a mixed picture. While certain product categories demonstrate strong sell-through rates, significant data inconsistencies and high levels of non-moving inventory pose immediate risks. A critical issue is the **lack of data integrity, with erroneous calculations of percent_sold and est_days_to_sellout, impacting the reliability of our analytics.** Overall, inventory health is compromised by slow-moving products, inaccurate demand forecasting, and a potential mismatch between purchasing decisions and customer demand.

2. Key Strategic Insights ■

- ■■ **Data Accuracy Imperative:** Immediate action is required to correct calculation errors within the percent_sold and est_days_to_sellout metrics to ensure data-driven decision-making.
- ■ **Cardigan Category Dominance:** The "cardigan" category, particularly those by the brand "most," are performing strongly, representing a key demand hotspot to leverage for increased sales.
- ■ **Non-Moving Inventory Risk:** All sampled non-moving products have a **0% sales rate**, with notable quantities, tying up capital and increasing the risk of future markdowns.
- ■ **Variances Indicate Inefficiency:** Significant variances exist in sell-through rates, from **278.57%** for "skivi" to **0%** for "coat suit <>", underscoring inefficient inventory management and missed revenue opportunities.
- ■ **Online Sales Prioritization:** Products with high sell-through rates and moderate stock, like select "lower-jogger-hosiery" items, need prioritized online promotion to capture revenue and improve inventory turnover.

3. Performance Assessment

- **Overperforming:** The "skivi" category demonstrates exceptionally high sell-through (**278.57%**), suggesting strong demand and potential for further investment.
- **Underperforming:** Categories like "coat suit <>" and "shirt-half <" exhibit **0%** sell-through, indicating a critical need to reduce inventory and reassess purchasing strategies. Sizes within these categories also display slow movement.
- **Inventory Efficiency:** Inventory efficiency metrics are compromised by slow-moving sizes within categories like "coat suit <>" and "kurta pajama<" with zero sales, and excess inventory.
- **Sales Velocity:** Sales velocity is highly varied across categories and products. "Cardigan" and "fashion flo" are performing well. Zero or near-zero sales velocity exists for other products.

4. Strategic Recommendations

- **Correct Data Calculation Algorithms:** Immediately fix formulas for critical inventory metrics to ensure accurate reporting and analytics. (Immediate - within 1 week)
- **Optimize Inventory Levels based on Sell-Through:** Reduce inventory of categories with near-zero sell-through rates and increase stock of high-performing categories. (Immediate)

• **Focus Online Marketing on High-Potential Products:** Launch targeted online campaigns for high-purchase, low-sale items to gauge customer interest and optimize product presentation. (Within 2 weeks)

• **Implement Clearance Sales:** Initiate aggressive markdowns on low-performing inventory to reduce excess stock and improve cash flow. (Within 1 week)

• **Re-evaluate Purchasing Strategy based on Data:** Refine inventory ordering practices by implementing demand forecasting techniques to reduce overstocking. (Within 1 month)

5. Immediate Action Items

• ■■ **Data Integrity Correction:** The Analytics Team must immediately investigate and correct the formulas for percent_sold and est_days_to_sellout. (Next 7 days)

• ■ **Cardigan Deep Dive:** The Sales and Marketing Teams should analyze cardigan sales data across all time periods to identify specific best-selling variations and optimize marketing efforts. (Next 7 days)

• ■ **Identify and Reduce Excess Inventory:** The Inventory Management team should identify products with 0% or near-zero sell through and implement an immediate markdown strategy. (Next 14 days)