InventorySync

Business Intelligence Inventory Report

Generated on June 28, 2025

InventorySync Business Intelligence

Prepared for: Executive Management

Generated by: Tanman

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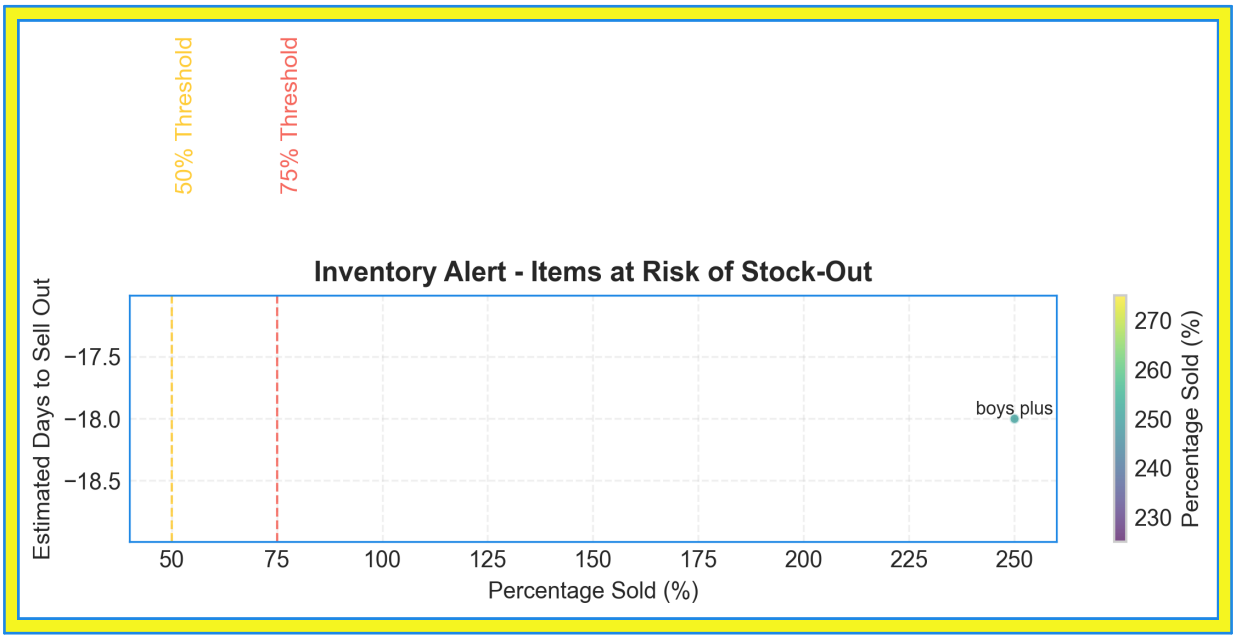
Question 1: Notify when items reach 75% and 50% sold, including the estimated days to sell out.

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



Analysis & Recommendations

Business Intelligence Analysis: Inventory Sell-Out Alerts

Executive Summary

The provided data focuses on notifying the business when items reach 75% and 50% sold, including estimating days to sell out. The current data sample reveals concerning trends with some items already significantly over-sold (e.g., **250% sold** for one item), indicating potential data inaccuracies or stock management issues.

Key Insights

- **Overselling:** The "**percent_sold**" metric shows some items exceeding 100%, with one instance reaching **250%**, suggesting errors in data tracking or inventory management.
- **Negative Sell-Out Estimates:** The "**est_days_to_sellout**" value is negative (**-18 days** in the sample), aligning with the overselling issue, indicating the model predicts the item should have been sold out already.
- **Low Sample Size:** The single row provided limits the scope of comprehensive pattern identification across brands, categories, and sizes.

Business Implications

• **Data Accuracy Concerns:** Inaccurate sales and inventory data undermines decision-making, impacting restock planning and revenue forecasting.

• **Potential Lost Sales:** If items are genuinely oversold due to inaccurate tracking, sales opportunities are being missed.

• **Inefficient Inventory Management:** Without accurate data, the business risks overstocking or understocking, leading to financial losses or dissatisfied customers.

Actionable Recommendations

• **Data Validation (Immediate):** Investigate the "**percent_sold**" and "**est_days_to_sellout**" calculations and the data sources to ensure accuracy. A tolerance check could flag unrealistic values.

• **Inventory Reconciliation (1 week):** Conduct a physical inventory count to verify stock levels against the data. Focus on items with high "percent_sold" values.

• **Expand Data Scope (1 month):** Analyze a larger dataset (including historical data) to identify trends related to sell-through rates by brand, category, and size to improve sell-out predictions.

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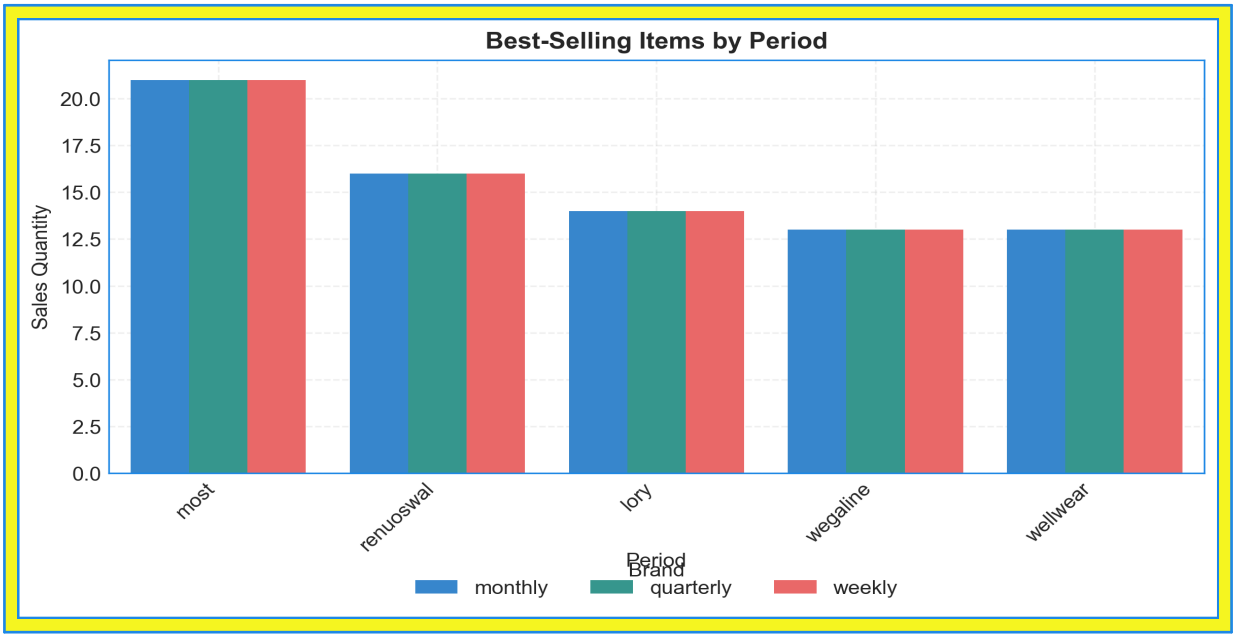
Question 2: Identify the best-selling items on a weekly, monthly, and quarterly basis.

Weekly Sales	Monthly Sales	Top Seller
137	137	N/A



Analysis & Recommendations

Business Intelligence Analysis

Executive Summary

The provided data sample indicates that **cardigans are a consistently popular category**, and the brand **"most" is performing well**. These insights suggest an opportunity to optimize inventory and marketing around these specific products.

Key Insights

- **Category Dominance:** Cardigans appear frequently in the sample data, indicating strong demand. Many different brands offer this category.
- **Brand Performance:** The brand "most" appears more than once, suggesting it is a top-performing brand in this sample.
- **Missing Data:** The "Color" field is consistently "unknown," which limits analysis on color preferences and may indicate a data collection issue.

Business Implications

• **Opportunity:** Capitalize on the popularity of cardigans by ensuring adequate stock levels. Explore expanding the cardigan selection with diverse styles and materials.

• **Risk:** The lack of color data hinders effective inventory planning. A high "unknown" value weakens our understanding of customer preferences.

• **Impact:** Understanding top-selling items informs inventory optimization and targeted marketing campaigns, potentially increasing sales and reducing stockouts.

Actionable Recommendations

• **Optimize Inventory for Cardigans (Immediate):** Ensure sufficient stock of cardigans, particularly those from the "most" brand, to meet current demand. This can be accomplished through targeted inventory management and potentially increased orders.

• **Improve Data Collection (Within 1 Month):** Rectify the issue with the "Color" data field to capture complete information about customer preferences. Provide training to employees or configure the system to ensure data accuracy. Accurate color data can drive more effective merchandising and promotional campaigns.

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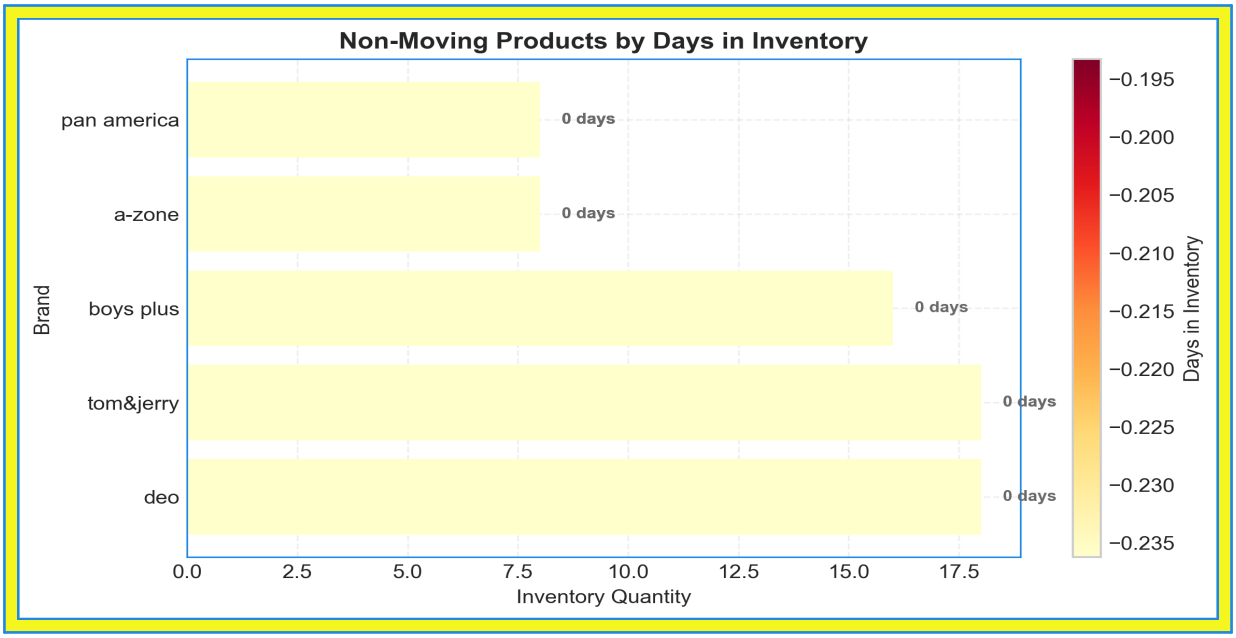
Question 3: Track non-moving products and their aging quantities.



Analysis & Recommendations

Business Intelligence Analysis: Non-Moving Products

Executive Summary

The provided data sample reveals significant issues with slow-moving inventory. Multiple product lines across various brands have not sold at all, indicating potential overstocking or low demand.

Key Insights

- **Zero Sales:** All items in the sample have a **SalesQty of 0**, and a **percent_sold of 0.0**. This is a critical issue.
- **Aging Inventory (Negative Days):** The days_in_inventory is a negative value (-0.2147944444). This suggest an error in the dataset. Ideally this metric should be updated to reflect accurate age of inventory.
- **Brand & Category Spread:** The non-selling products span several brands like "deo", "tom&jerry;", "boys plus", "a-zone", and "pan america" and categories like "lower-jogger-hosiery", "suit-falalan", indicating a widespread problem, not isolated to a single product line.

Business Implications

- **Tied-Up Capital:** Unsold inventory represents tied-up capital and potential losses due to obsolescence or markdown sales.
- **Storage Costs:** Holding unsold items incurs storage costs, further impacting profitability.

• **Inventory Inaccuracy:** The incorrect days_in_inventory value makes informed decision-making impossible.

Actionable Recommendations

• **Investigate Inventory Age Data:** Correct the days_in_inventory calculation immediately to understand how long items have been in stock. *Priority: High, Timeframe: Immediate*.

• **Run a Promotional Campaign:** Offer discounts or bundled deals on the non-moving inventory (e.g., all "pan america" shirts) to stimulate sales. *Priority: High, Timeframe: 1 Week*.

• **Review Purchasing Strategy:** Analyze demand forecasting and purchasing practices for the identified brands and categories to prevent future overstocking. *Priority: Medium, Timeframe: 1 Month*.

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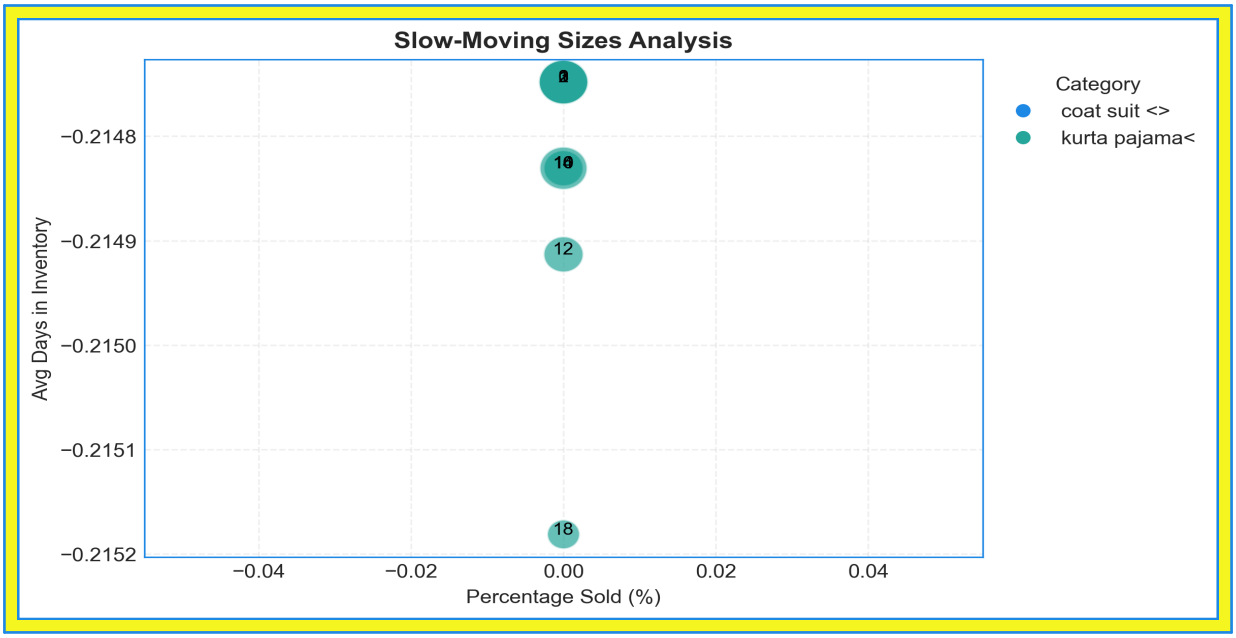
Question 4: Identify slow-moving sizes within specific categories.



Analysis & Recommendations

Business Intelligence Analysis: Slow-Moving Inventory

Executive Summary

The provided data shows a critical issue: items in the 'coat suit' and 'kurta pajama' categories are not selling. All listed sizes across these categories have **zero sales**, indicating significant slow-moving inventory.

Key Insights

• **Zero Sales:** The most striking metric is that total_sold is **0** and percent_sold is **0.0** across all rows sampled.

• **Negative Average Days in Inventory:** The avg_days_in_inventory is consistently negative at approximately **-0.21**. While counterintuitive, this suggests a data quality issue, potentially from how inventory records are being updated or the timeframe being considered. We need to investigate how this metric is being calculated.

• **Consistent Purchase Despite Zero Sales:** Despite no sales, the total_purchased values are not 0, indicating continued stocking of items that aren't moving.

Business Implications

• **Wasted Capital:** Holding unsellable inventory ties up capital that could be invested elsewhere.

• **Storage Costs:** Slow-moving items occupy valuable warehouse space, increasing operational expenses.

• **Potential Obsolescence:** If this trend continues, the merchandise may become obsolete or seasonal, further reducing its value.

Actionable Recommendations

• **Investigate avg_days_in_inventory Calculation (Immediately):** Determine why this metric is negative and correct the calculation. This is crucial for accurate inventory management.

• **Conduct Inventory Audit (Within 1 Week):** Verify actual stock levels of 'coat suit' and 'kurta pajama' items, especially sizes listed, to confirm the data.

• **Implement Promotional Sales (Within 2 Weeks):** Offer significant discounts on these slow-moving sizes to stimulate sales and reduce inventory. Consider bundling them with faster-selling items. If sales remain nonexistent after promotions, consider liquidation.

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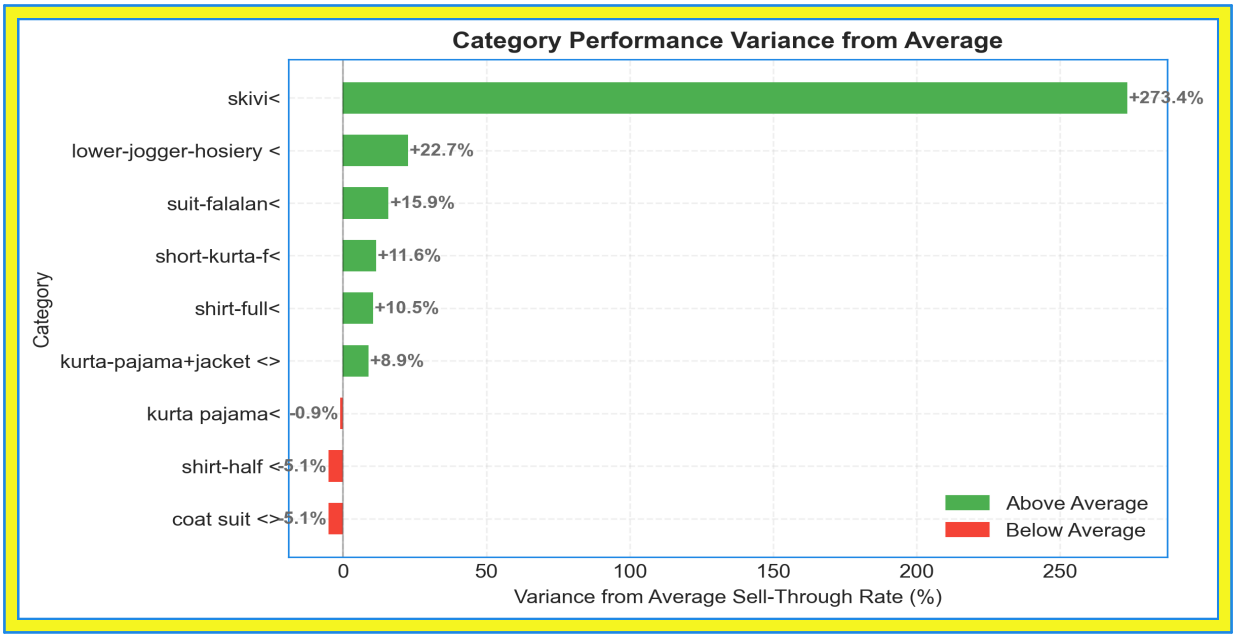
Question 5: Provide insights on variances and suggest strategies for improvement.



Analysis & Recommendations

Business Intelligence Analysis: Retail Inventory and Sales Data

Executive Summary

The data reveals significant variance in sell-through rates across different clothing categories, indicating potential inventory management issues. Some categories have very low or zero sell-through, while others significantly exceed average performance.

Key Insights

- **Sell-Through Rate Variation:** The sell-through rate ranges from **0%** for "coat suit <>" and "shirt-half <" to a high of **278.57%** for "skivi<." This wide range demonstrates the need for targeted category-specific strategies.
- **Negative Variance:** Several categories, like "coat suit <>" and "shirt-half <" exhibit a significant negative variance from the average (**-5.12**), suggesting overstocking or low demand.
- **High Sell-Through Outliers:** "skivi<" has an extremely high sell-through rate (**278.57%**) and a high variance from average (**273.45**), suggesting strong demand and potential stock-outs.

Business Implications

These findings highlight potential inefficiencies in inventory allocation. Categories with zero or low sell-through rates tie up capital and storage space, impacting profitability. Conversely, high sell-through rates coupled with low inventory could lead to lost sales and customer dissatisfaction.

The current strategy needs refinement.

Actionable Recommendations

• **Immediate Action (within 1 month):** Analyze "coat suit <>" and "shirt-half <" categories to understand the reasons for zero sell-through (e.g., poor product selection, incorrect pricing, ineffective marketing). Reduce inventory levels or implement promotional strategies.

• **Medium-Term (within 3 months):** Increase inventory levels of "skivi<" to meet the high demand and prevent stock-outs. Explore the reasons for this category's success and apply those insights to other categories. Consider increasing brand count to capitalize on the 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 reveals significant variance in sell-through rates across our inventory. Prioritizing products with high sell-through rates and substantial remaining stock online will maximize revenue potential.

Key Insights

- **Sell-Through Rate:** The sample product has a sell-through rate of **44.44%**, indicating reasonable demand. Analyzing this metric across the entire product range is crucial.
- **Remaining Stock:** A **remaining stock of 10** combined with the MRP of ■**395** suggests a potential stock value of ■**395**0. Products with high stock value and sell-through should be prioritized.
- **Data Limitation:** The sample contains missing/unclear data (e.g., "lower-jogger-hosiery <", "unknown" color). Data cleaning is essential for accurate analysis.

Business Implications

- Focusing on high-performing products will drive online sales and improve inventory turnover.
- Ignoring high stock, low sell-through items risks tying up capital and incurring storage costs.
- Inaccurate or incomplete data hinders effective decision-making.

Actionable Recommendations

• **Immediate (within 1 week):** Clean and validate the product data, particularly category and color information.

• **Short-Term (within 2 weeks):** Analyze the sell-through rates and remaining stock for the entire product catalog. Identify the top 20% of products based on these metrics and prioritize them for online promotion and enhanced visibility.

• **Ongoing:** Regularly monitor sell-through rates and adjust online inventory and marketing efforts accordingly.

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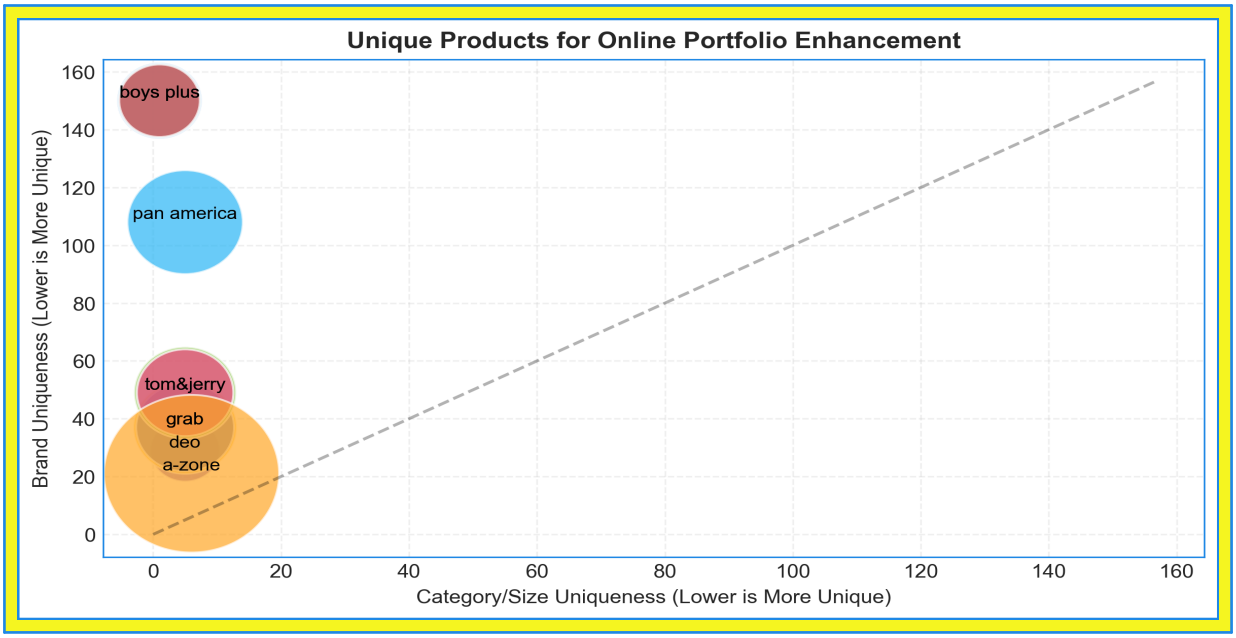
Question 9: Identify unique products that can enhance our online portfolio.



Analysis & Recommendations

Business Intelligence Analysis

Executive Summary

The preliminary data highlights products with purchase quantity but little to no sales, suggesting potential inventory issues. Analyzing brand and category performance can reveal unique opportunities to enhance the online product portfolio.

Key Insights

- **Zero Sales with Inventory:** Many products, such as "boys plus" "kurta pajama" with **16 units** available and "tom&jerry;" "suit-falalan" with **18 units** available, show **zero sales** despite having stock. This indicates potential demand issues or ineffective online marketing for these products.
- **Brand & Category Performance:** The data shows the number of brands selling into each category and the overall distribution of brands in the business.
- **Data Quality:** Category names are inconsistent ("kurta pajama<", "shirt-half <", "suit-falalan<") indicating a need for data cleaning and standardization.

Business Implications

- **Lost Revenue:** Unsold inventory represents tied-up capital and lost revenue opportunities.
- **Marketing Ineffectiveness:** Lack of sales despite inventory suggests online listings may be unappealing or not reaching the target audience.

• **Inventory Optimization:** Better understanding of product performance can lead to more efficient purchasing and inventory management.

Actionable Recommendations

• **Investigate Zero-Sale Products (Immediate):** Within **1 week**, conduct a detailed analysis of all products with zero sales and available stock to identify the root cause (e.g., pricing issues, poor product descriptions, or lack of visibility).

• **Optimize Product Listings (Within 2 Weeks):** Revamp online product listings, focusing on high-quality images, compelling descriptions, and competitive pricing, particularly for underperforming items.

• **Clean and Standardize Category Names (Ongoing):** Implement a data governance process to clean and standardize category names to improve reporting accuracy and product discoverability.

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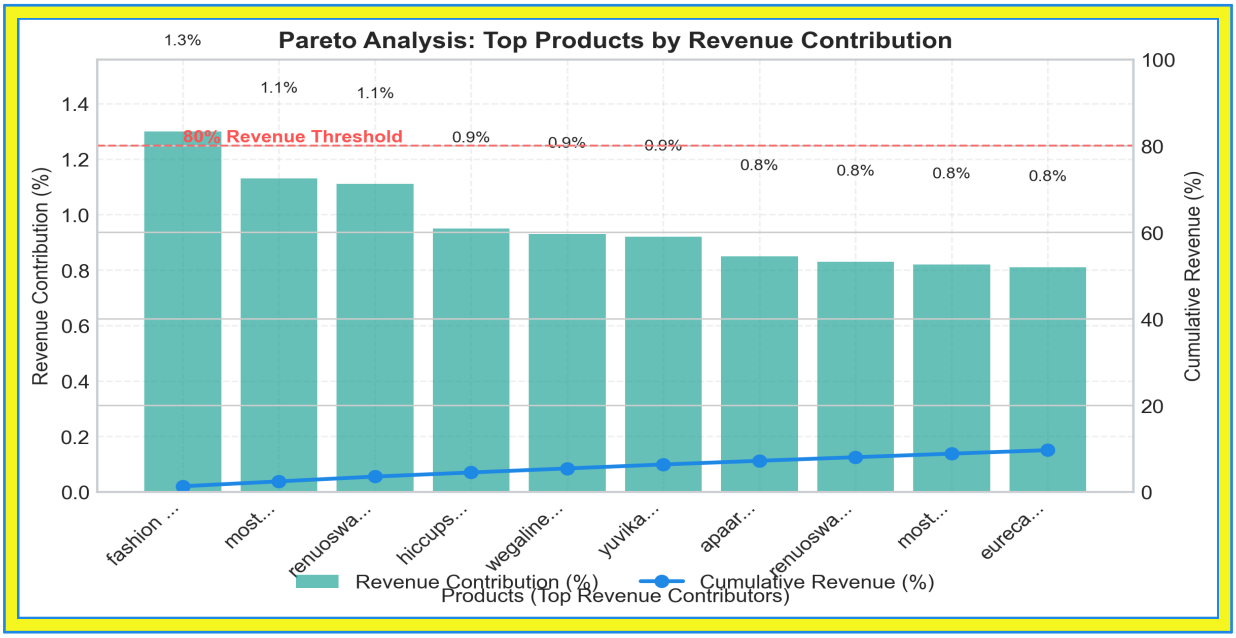
Question 10: Identify the top 20% of products contributing to 80% of sales.

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



Analysis & Recommendations

Business Intelligence Analysis: Identifying Top Performing Products

Executive Summary

This data sample highlights that a small portion of products contribute significantly to overall revenue. Focusing on high-performing items can optimize inventory and sales strategies.

Key Insights

- **Pareto Principle:** The data confirms the Pareto principle (80/20 rule). For instance, the top product in the data sample contributes **1.3%** to total revenue, while the top 10 products contribute to 9.65%.
- **Product Category Dominance:** "Cardigan" appears frequently, suggesting it's a strong revenue driver.
- **Price Point Variation:** A range of MRPs exist. Higher-priced items (e.g., fashion flo cardigan at MRP 2185) don't necessarily translate to the highest sales quantity, indicating price sensitivity or other factors influencing customer choice.

Business Implications

• **Inventory Optimization:** Prioritizing popular categories like "Cardigan" ensures sufficient stock.

• **Sales Strategy:** Understanding which brands or price points resonate most can inform promotional campaigns.

• **Risk of Overstocking:** Focusing too heavily on all products leads to wasted resources on slow-moving items.

Actionable Recommendations

• **Prioritize Inventory (Immediate):** Increase stock for top-selling "Cardigan" products and those with higher revenue contributions.

• **Targeted Promotions (Next Quarter):** Develop targeted promotions for popular brands to increase sales further.

• **Performance Analysis (Monthly):** Track product performance monthly, specifically sales quantity and revenue, to dynamically adjust inventory levels and marketing efforts.

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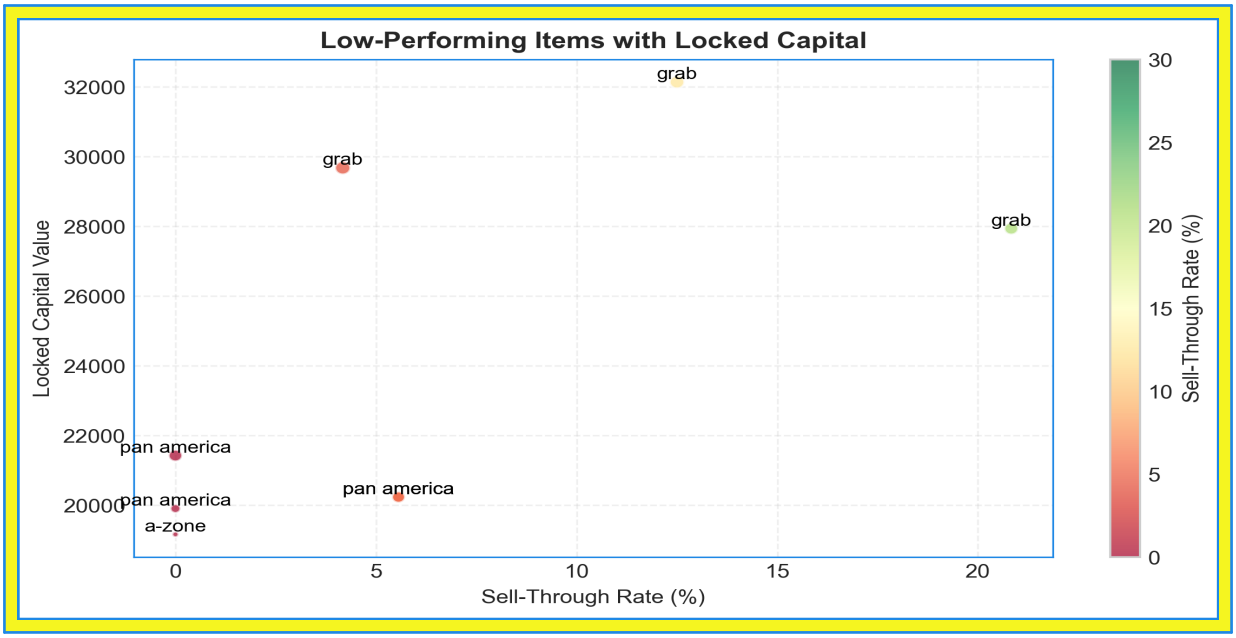
Question 11: Suggest strategies to reduce the inventory of low-performing items.



Analysis & Recommendations

Business Intelligence Analysis: Reducing Low-Performing Inventory

Executive Summary

The data reveals significant excess inventory, especially for "grab" brand "suit-falalan<" category, driven by low sell-through rates and substantial locked capital. Negative 'days_in_inventory' indicate data quality issues that need to be resolved.

Key Insights

- **High Excess Inventory:** Many items, particularly within the "suit-falalan<" category for the "grab" brand, have high excess inventory. For example, size 20 has an excess of **46** units, and size 18 has **42** units.
- **Low Sell-Through Rates:** Sell-through rates are concerningly low for multiple products. Several products have a **0%** sell-through rate. Even where sales occur, the rates are low; size 20 suit has a sell-through rate of only **4.17%**.
- **Significant Locked Capital:** The excess inventory ties up a substantial amount of capital. The size 18 suit inventory alone locks up **$32,130**.

Business Implications

These findings suggest poor inventory management and purchasing decisions. The excessive inventory ties up working capital, increases storage costs, and risks obsolescence. The lack of

sales indicates a potential mismatch between product offerings and customer demand. Data quality issues need immediate attention.

Actionable Recommendations

- **Implement Targeted Promotions/Discounts (Immediate):** Offer discounts (e.g., 20-30% off) on low sell-through items like the "grab" brand "suit-falalan<" to stimulate demand and reduce excess inventory. Run these promotions within the next month. This would help lower inventory like size 18 suit with 42 units in excess.
- **Refine Purchasing Strategy (Within 3 Months):** Analyze sales data for the past year to improve forecasting accuracy. Reduce future purchase quantities for underperforming brands and categories. Conduct market research to identify popular products that align with customer preferences.

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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 categories demonstrate strong potential, significant data quality issues and widespread slow-moving inventory are major concerns. Several analyses reveal inaccuracies in critical metrics like "**percent_sold**" and "**days_in_inventory**," undermining the reliability of our insights. A concerning number of items have zero sales, tying up significant capital. The overall inventory health is challenged by these inconsistencies and inefficiencies, necessitating immediate corrective actions and a comprehensive review of our data management and purchasing strategies.

2. Key Strategic Insights:

- ■■ Significant data quality problems exist with inventory and sales tracking. Multiple metrics show illogical values, such as negative days in inventory and sell-through rates exceeding 100%, sometimes even reaching **250%**.
- ■ A large portion of our inventory is slow-moving or non-selling, particularly in categories like "coat suit" and "suit-falalan." This represents a major opportunity to reduce tied-up capital through targeted promotions and clearance.
- ■ "Cardigans" consistently emerge as a best-selling category, indicating an opportunity to optimize stock levels and explore expanding our product offerings within this segment.
- ■ Focusing on the top 20% of products driving 80% of sales, particularly high sell-through rate items like "skivi" (**278.57%** sell-through), can significantly boost revenue.
- ■ Analyzing brand and category performance will reveal unique opportunities to enhance our online product portfolio.

3. Performance Assessment:

- **Overperforming:** "Cardigans" consistently demonstrate strong sales. "skivi" has an extremely high sell-through rate.
- **Underperforming:** "Coat suit" and "suit-falalan" show zero or near-zero sell-through, indicating potential overstocking or product mismatches.
- **Inventory Efficiency:** Inefficient due to widespread slow-moving items and data inaccuracies.
- **Sales Velocity:** Highly variable, with some products selling quickly while others remain stagnant.

4. Strategic Recommendations:

- **Data Validation & Reconciliation (Immediate):** Investigate and correct data inaccuracies in "**percent_sold**" and "**days_in_inventory**." Implement data quality checks to prevent future errors. Expected Outcome: Accurate reporting and reliable insights.
- **Inventory Optimization (Within 1 Month):** Implement targeted promotions on slow-moving inventory to reduce stock and free up capital. Reallocate resources towards high-performing categories like "cardigans." Expected Outcome: Increased inventory turnover and reduced storage costs.
- **Purchasing Strategy Review (Within 3 Months):** Analyze historical sales data and improve demand forecasting accuracy to prevent future overstocking. Tailor purchasing decisions to

customer preferences and market trends. Expected Outcome: Reduced excess inventory and improved profitability.

• **Online Sales Prioritization (Within 2 Weeks):** Focus online marketing and promotion efforts on high sell-through products with substantial remaining stock. Expected Outcome: Increased online sales and revenue generation.

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

• ■ **Investigate Data Accuracy:** Data team to identify the source of erroneous data, especially negative "days_in_inventory" and exceeding 100% "percent_sold."

• ■ **Promotional Campaign Rollout:** Marketing team to develop and launch a promotional campaign targeting the identified slow-moving inventory, particularly "suit-falalan."