InventorySync

Business Intelligence Inventory Report

Generated on June 28, 2025

InventorySync Business Intelligence

Prepared for: Executive Management

Generated by: Tanman

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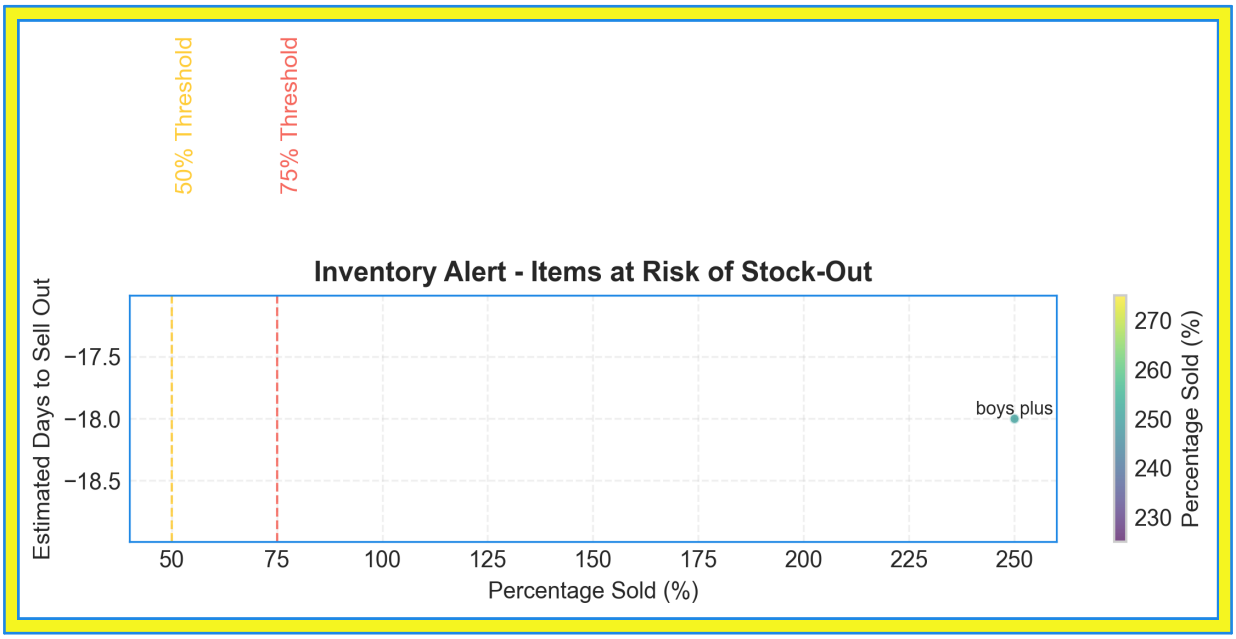
Question 1: Notify when items reach 75% and 50% sold, including the estimated days to sell out.

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



Analysis & Recommendations

Business Intelligence Analysis: Inventory Sell-Through Alerts

Executive Summary

The provided data shows instances where items exceed sold percentage thresholds and offers projected sell-out timelines, highlighting opportunities to optimize inventory management and prevent stockouts. A key issue is that the percent_sold metric is not between 0-100%, which is affecting est_days_to_sellout values.

Key Insights

- **Erroneous Percentage Sold:** The percent_sold metric is incorrectly calculated. For example, 250% indicates a calculation error, as one cannot sell more than was originally purchased (or already in stock). This impacts data accuracy.
- **Negative Days to Sell Out:** The est_days_to_sellout value is also flawed. A value of -18 days is illogical and directly stems from the erroneous percent_sold value.
- **Single Data Point:** The single row severely limits identifying broader trends.

Business Implications

• **Inventory Mismanagement Risk:** Flawed data can lead to under or over-ordering, resulting in lost sales or increased storage costs.

• **Ineffective Alert System:** The current system, reliant on incorrect data, won't provide accurate notifications for stock levels, hindering proactive inventory control.

• **Lost Sales Opportunities:** Failure to properly forecast demand based on sell-through rates will create stockouts.

Actionable Recommendations

• **Correct Calculation Error:** Immediately audit and correct the formula for percent_sold. Should be (SalesQty / PurchaseQty) * 100. Correct this within **1 day**, as all analysis is based on this metric.

• **Recalculate Estimated Sell-Out:** Once percent_sold is fixed, recalculate est_days_to_sellout using a reasonable model (e.g., exponential smoothing or a simple average of recent sales velocity). Aim for completion within **3 days**.

• **Expand Data Set:** Add more data (at least 100 rows) to enable broader trend identification and improve forecasting accuracy. Gather the additional data within **1 week**.

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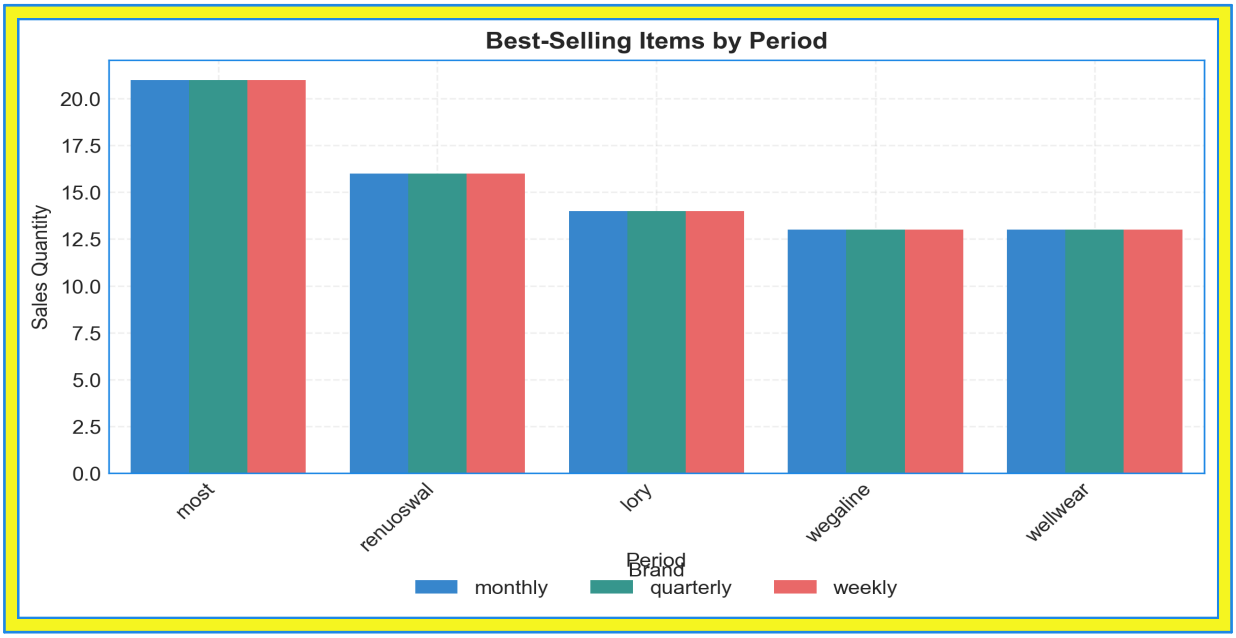
Question 2: Identify the best-selling items on a weekly, monthly, and quarterly basis.

Weekly Sales	Monthly Sales	Top Seller
137	137	N/A



Analysis & Recommendations

Business Intelligence Analysis: Best-Selling Items

Executive Summary

The initial data suggests that **"cardigan"** is a popular category, particularly from the brand "**most**". Further investigation across all periods (weekly, monthly, quarterly) is needed to solidify these initial observations and identify best-selling *specific items* within these categories and brands.

Key Insights

- **Category Dominance:** "Cardigan" appears frequently in the top sellers, with multiple entries mentioning "cardigan" even within the small sample. Cleaning and standardizing the "Category" field will increase accuracy ("cardigan<" vs. "cardigan<>").
- **Brand Preference:** "most" brand is repeated multiple times, indicating potential popularity. With **21 sales** for "most" cardigans, this brand merits further exploration.
- **Size & Color Information**: Most of the color information is "unknown". Understanding popular colors will optimize inventory. Lack of size granularity other than "free" or numerical values limits insight.

Business Implications

• **Inventory Optimization:** High cardigan sales indicate a need for adequate stock levels. Understanding the brand popularity will refine inventory stocking decisions.

• **Marketing Focus:** Promoting popular brands like "most" could drive further sales. Focus on cardigan category, especially if this trend persists across all periods.

• **Data Quality Issues:** "Unknown" color and non standardized category fields limit effective analysis. Clean the data

Actionable Recommendations

• **Data Cleaning & Standardization (Immediate):** Normalize the "Category" field and populate the "Color" field. Better yet, create a controlled vocabulary to prevent data entry errors.

• **In-Depth Analysis (1 Week):** Analyze the *complete* dataset, broken down by weekly, monthly, and quarterly periods, to confirm initial observations and identify specific best-selling items (brand, category, size, and color).

• **Inventory Review (2 Weeks):** Based on the comprehensive analysis, adjust inventory levels to prioritize best-selling items and reduce stock of underperforming products. Increase focus on cardigans especially in the **most** brand and consider adding more cardigans from that brand as appropriate.

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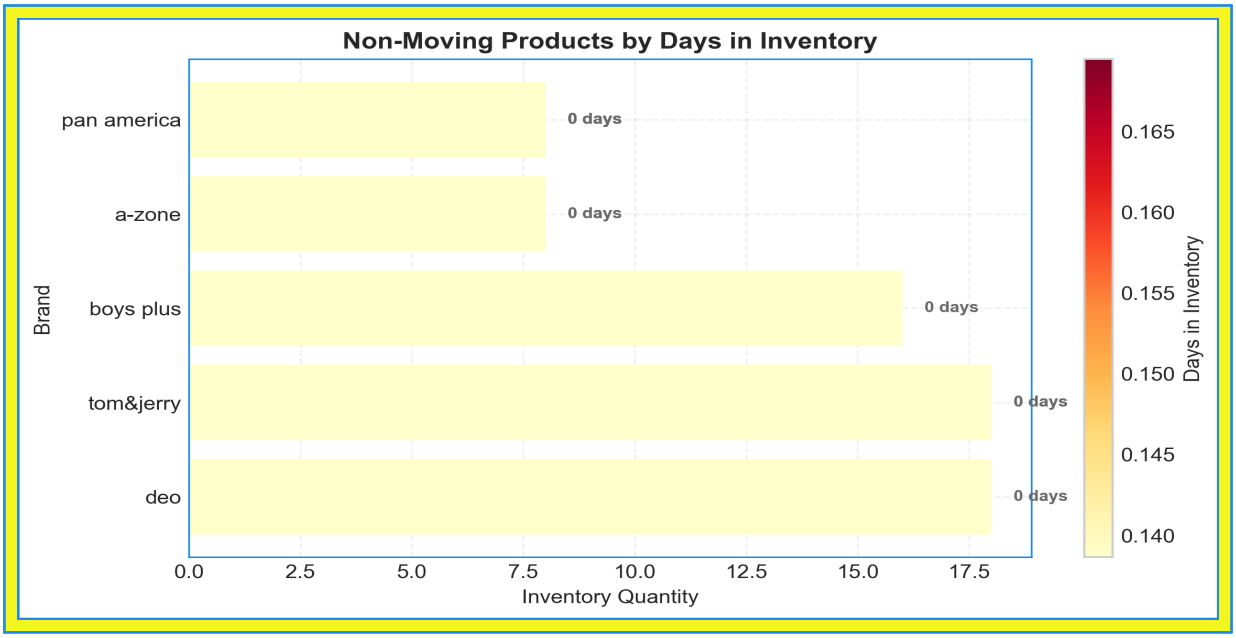
Question 3: Track non-moving products and their aging quantities.



Analysis & Recommendations

Business Intelligence Analysis: Non-Moving Inventory

Executive Summary

The provided data highlights significant issues with stagnant inventory across various brands and categories. Items remain unsold, indicating potential overstocking or poor product selection.

Key Insights

- **Zero Sales Velocity:** All sampled products have a **0%** sales rate (percent_sold = 0.0), meaning none of the purchased quantity has been sold.
- **Low "Days in Inventory":** Despite zero sales, the "days_in_inventory" is only **0.154**, which is extremely low, suggesting the data represents a very recent snapshot or a data entry anomaly. If this is a consistent problem over longer periods, it presents a serious issue.
- **Variety of Categories Impacted:** The lack of sales impacts diverse categories, including "lower-jogger-hosiery," "suit-falalan," and "kurta pajama," indicating a widespread issue, not one specific to a single product line.

Business Implications

- **Capital Tie-Up:** Unsold inventory ties up capital, reducing cash flow and potentially impacting profitability.
- **Storage Costs:** Holding unsold items incurs storage costs, further eroding profit margins.

• **Potential Obsolescence:** Items, especially fashion-related goods, can become obsolete if they remain unsold for too long.

Actionable Recommendations

• **Immediate Investigation:** (Within 1 week) Determine the root cause of zero sales across multiple product lines. Investigate potential data entry errors regarding 'days in inventory'.

• **Targeted Promotion or Clearance Sale:** (Within 2 weeks, assuming accurate "days_in_inventory" data). Implement targeted promotions or clearance sales for non-moving items to reduce inventory levels. Offer discounts to stimulate demand. Prioritize categories with the highest purchase quantities.

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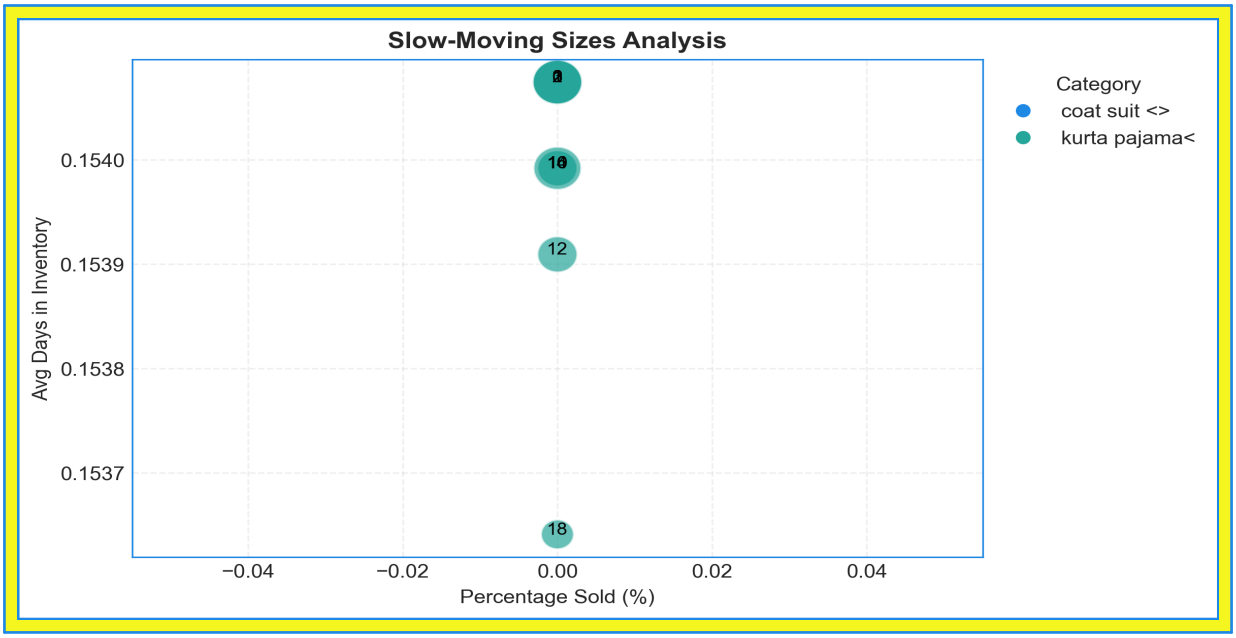
Question 4: Identify slow-moving sizes within specific categories.



Analysis & Recommendations

Business Intelligence Analysis: Slow-Moving Sizes

Executive Summary

The provided data shows a significant issue with slow-moving inventory, particularly across sizes within specific categories like "coat suit <>" and "kurta pajama<". Virtually none of the purchased inventory has been sold, suggesting a mismatch between supply and demand.

Key Insights

- **Zero Sales:** The most striking observation is that the percent_sold is **0.0** across all categories and sizes in the sample. This indicates a complete lack of sales for these items within the observed timeframe.
- **Inventory Days:** Despite no sales, the avg_days_in_inventory is very low (approximately **0.15 days**). This might mean the data represents a very recent snapshot or that inventory turnover metrics need recalibration. If the average days in inventory is that low, the calculation should be investigated as its too fast.
- **Consistent Problem:** The problem isn't isolated to one category or size; multiple sizes within both "coat suit <>" and "kurta pajama<" categories are experiencing the same issue, suggesting a broader problem in demand forecasting or inventory management.

Business Implications

• **Capital Tied Up:** Unsold inventory ties up valuable capital that could be used for more profitable products.

• **Potential for Losses:** If the items remain unsold, the business may need to discount them heavily, leading to reduced profit margins or even losses.

• **Inefficient Inventory Management:** The data highlights inefficiencies in the purchasing and inventory management processes.

Actionable Recommendations

• **Investigate Demand (Immediate):** Conduct a thorough analysis of sales data, customer preferences, and market trends to understand the demand for different sizes within the "coat suit <>" and "kurta pajama<" categories. *Impact: High*.

• **Reduce Purchasing (Within 1 Week):** Immediately reduce or halt purchasing of sizes with consistently low sales rates to prevent further accumulation of slow-moving inventory. *Impact: High*.

• **Promotional Campaigns (Within 2 Weeks):** Launch targeted promotional campaigns or discounts to stimulate demand for the existing slow-moving inventory. *Impact: Medium*.

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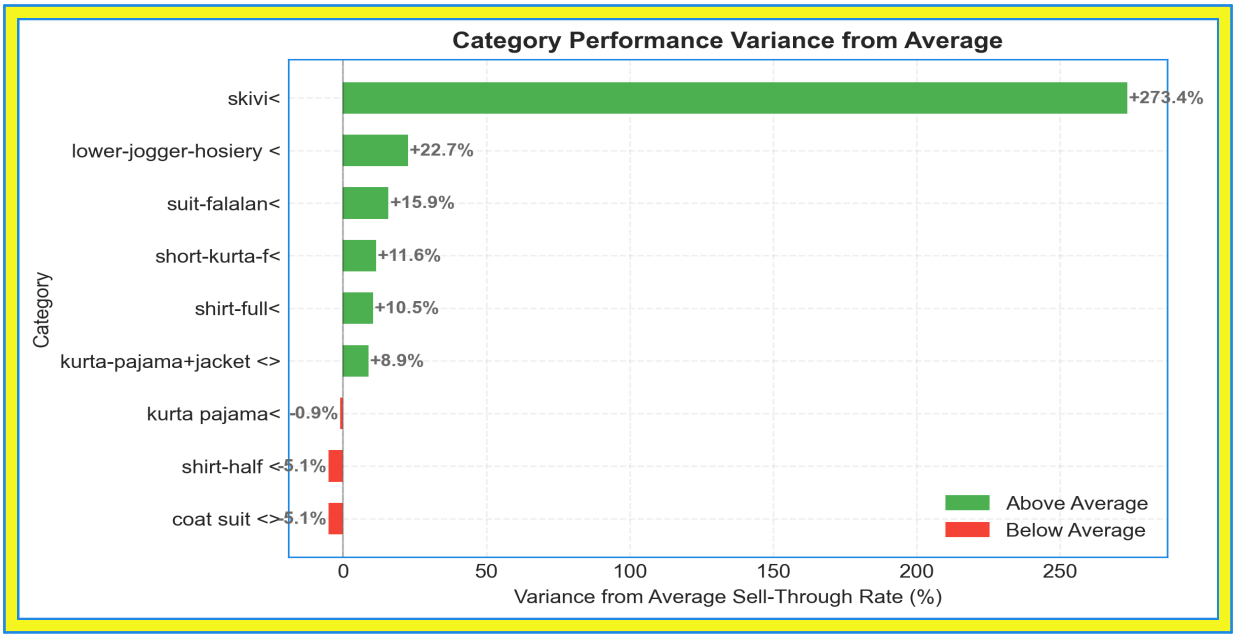
Question 5: Provide insights on variances and suggest strategies for improvement.



Analysis & Recommendations

Business Intelligence Analysis

Executive Summary

This retail data highlights significant variances in sell-through rates across product categories, indicating potential inventory management issues and missed sales opportunities. Categories like "coat suit" and "shirt-half" show **0% sell-through**, while "skivi" has an exceptionally high rate of **278.57%**, suggesting either stockouts or inaccurate data.

Key Insights

- **Sell-Through Rate Discrepancies:** The sell-through rates vary wildly. Some categories are severely underperforming (e.g., "coat suit <>" and "shirt-half <" at **0%**), while others, like "skivi<", are dramatically overperforming at **278.57%**. This large swing shows inconsistency in inventory effectiveness.
- **Variance from Average:** The "variance_from_avg" metric further emphasizes these discrepancies. Products like "coat suit <>" have a variance of **-5.12**, whereas "skivi<" has a variance of **273.45**, signifying a large deviation from expected sales.
- **Brand Count and Performance:** High brand count doesn't necessarily translate to better sell-through. For example, "shirt-full<" has 58 brands with a sell-through rate of just **15.63%**.

Business Implications

• **Inventory Optimization:** Poor sell-through in categories like "coat suit" indicates overstocking or low demand. This ties up capital and increases storage costs. The high sell-through in "skivi" shows unmet customer demand.

• **Sales Strategy Effectiveness:** Low sell-through rates suggest ineffective marketing or poor product placement in certain categories. The higher variance and sell-through rates may identify high-profit or fast-moving categories to prioritize.

• **Data Accuracy:** The extreme sell-through rate of **278.57%** for "skivi" could point to data entry errors or system glitches.

Actionable Recommendations

• **Conduct a thorough inventory review** within the next month (30 days) for categories with negative variance, such as "coat suit <>" and "shirt-half <". Reduce order quantities or implement promotional campaigns.

• **Investigate the "skivi<" data accuracy** within the next week (7 days) and address any identified system issues. If the data is correct, increase stock levels for this high-demand item.

• **Analyze the correlation between brand count and sell-through rate** over the next quarter (90 days) to identify high-performing and underperforming brands. This can inform vendor management and product selection strategies.

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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 provided data highlights significant variance in sell-through rates across different products. Prioritizing online sales based on high sell-through rates and substantial remaining stock can optimize inventory management and boost revenue.

Key Insights

- **Sell-Through Rate:** The sample product has a **sell-through rate of 44.44%**, indicating moderate demand.
- **Remaining Stock:** There are **10 units** of the product remaining, representing a stock value of **3950**.
- **Purchase vs. Sales Quantity:** Purchase Quantity is 18 units, while Sales Quantity is only 8 units, pointing towards slow-moving inventory.

Business Implications

- Low sell-through rates coupled with remaining stock suggests potential overstocking and tied-up capital.
- Prioritizing products with higher sell-through rates online could increase revenue and reduce storage costs.

• Understanding demand patterns across brands and categories is crucial for optimizing inventory purchasing decisions.

Actionable Recommendations

• **Focus on High Sell-Through Products:** Identify and prioritize items with the highest sell-through rates (above 75%) for aggressive online promotion within the next month. These should have a good balance of sales and inventory available for immediate sales

• **Evaluate Slow-Moving Inventory:** Analyze products with low sell-through rates (below 30%) and consider clearance sales or promotional bundles to reduce stock within the next quarter.

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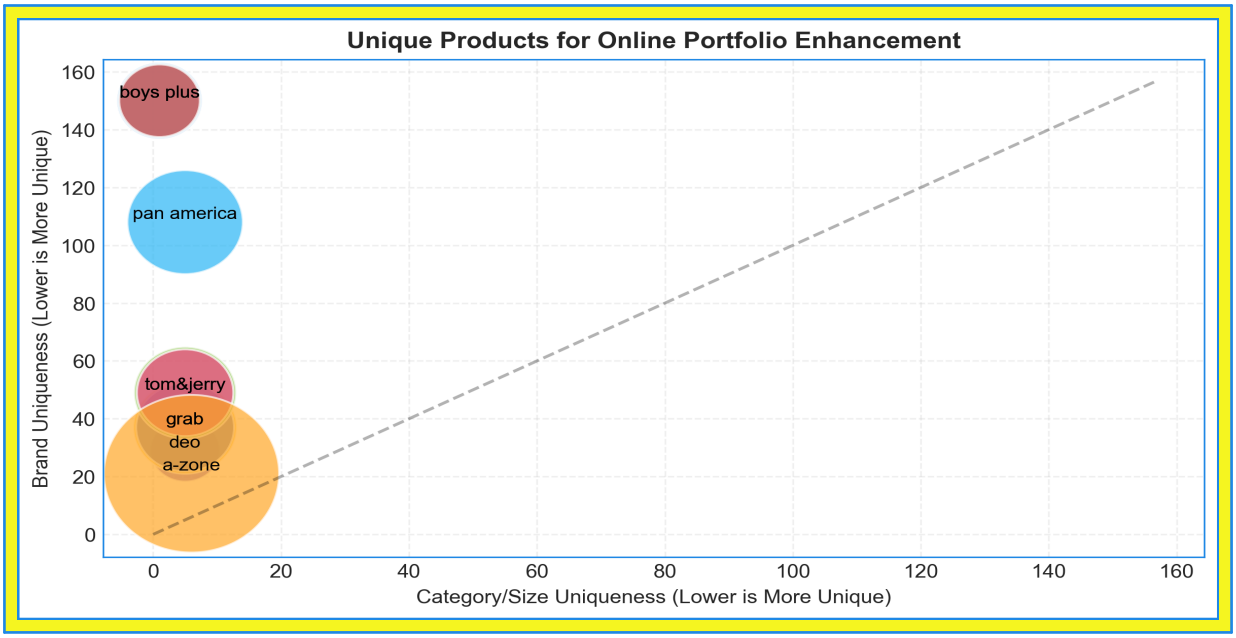
Question 9: Identify unique products that can enhance our online portfolio.



Analysis & Recommendations

Business Intelligence Analysis: Online Portfolio Enhancement

Executive Summary

This data sample reveals products with strong inventory levels but no sales, suggesting potential gaps in our online offerings. Exploring these unsold products could identify opportunities to expand our online portfolio with items that may appeal to a different customer base or require improved marketing.

Key Insights

- **Zero Sales with Available Stock:** Several products across different brands and categories have available stock but zero sales (e.g., "boys plus" kurta pajama, shirt-half, "pan america" short-kurta). This indicates a potential mismatch between our current online offerings and customer demand, or issues with discoverability of these products online.
- **Varied Brand Performance:** Some brands demonstrate higher sales volumes within specific categories ("grab" suit-falalan has sales, while "tom&jerry;" suit-falalan has none). This suggests brand perception or marketing effectiveness plays a role in online sales.
- **Category Size Count Variation:** The 'category_size_count' varies, suggesting different levels of granularity in how categories are defined. Understanding the optimal granularity is important for product discoverability.

Business Implications

• **Missed Online Sales Opportunities:** Products with available stock and zero sales represent unrealized revenue potential.

• **Inventory Management Concerns:** Holding unsold inventory ties up capital and incurs storage costs.

• **Potential for Portfolio Expansion:** Identifying why these products aren't selling online can inform decisions about whether to promote them differently, discontinue them online, or introduce similar products with higher online appeal.

Actionable Recommendations

• **Product Performance Review (Immediate):** Conduct a deep dive into products with **zero sales** and available stock. Analyze product descriptions, images, and pricing against competitor offerings.

• **Targeted Marketing Campaigns (Within 1-2 Weeks):** If the product is deemed viable for online sale, create targeted marketing campaigns to drive awareness and trial. Focus on the strengths of each brand. Specifically target the "boys plus" kurta pajama and shirt-half categories.

• **Portfolio Optimization (Within 1 Month):** Based on the product performance review and marketing campaign results, optimize the online product portfolio by removing underperforming items or adding similar, potentially higher-demand products. Also, standardize category granularity for improved product findability.

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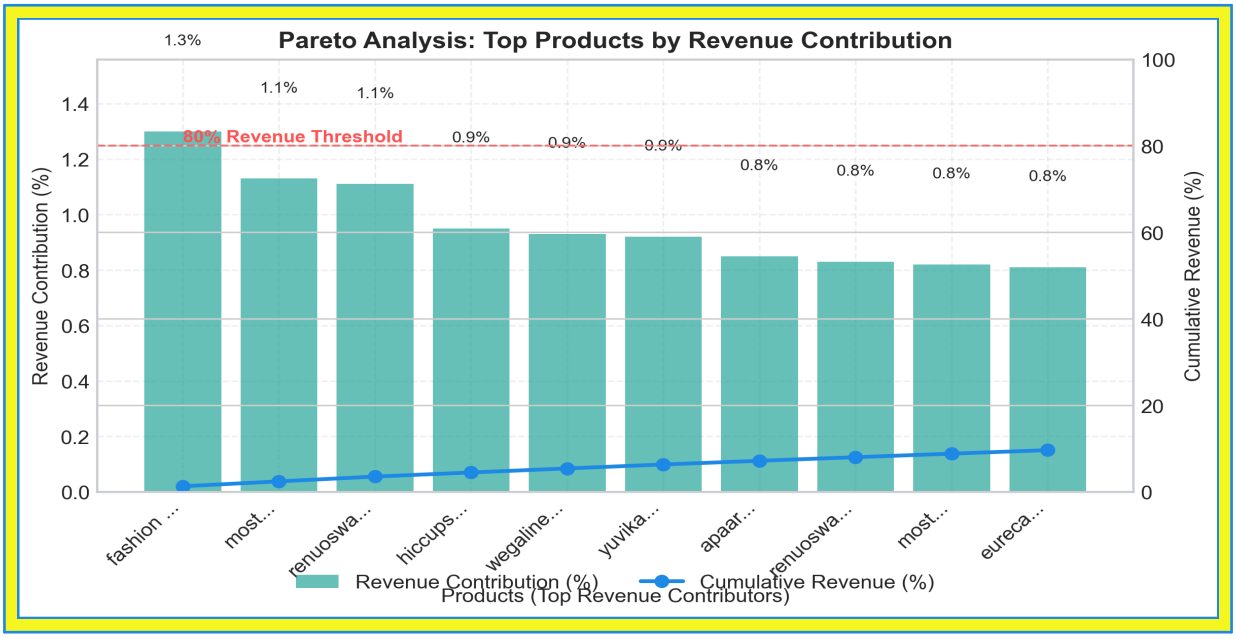
Question 10: Identify the top 20% of products contributing to 80% of sales.

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



Analysis & Recommendations

Business Intelligence Analysis: Top 20% Product Identification

Executive Summary

This analysis identifies the top products driving the majority of sales revenue, enabling a more focused inventory and sales strategy. Based on the provided data sample, a small selection of products contributes significantly to overall revenue.

Key Insights

- **Revenue Concentration:** Products like "fashion flo cardigan" with a revenue of **21850.0** contribute a disproportionately high percentage (**1.3%**) to the total revenue, resulting in cumulative percentage of **1.3%**
- **Category Performance:** "cardigan" appears frequently and with relatively high revenue, suggesting this category may be a significant revenue driver.
- **Price Variation:** Product MRP ranges widely (from 900 to 2265), potentially influencing sales quantities and revenue contributions.

Business Implications

• **Inventory Optimization:** Focusing on high-performing products like "fashion flo cardigan" can reduce storage costs and improve inventory turnover.

• **Marketing Focus:** Marketing efforts can be concentrated on top-selling products and categories to maximize return on investment.

• **Risk Mitigation:** Over-reliance on a small number of products poses a risk. Diversification efforts may be needed to spread revenue sources.

Actionable Recommendations

• **Inventory Prioritization (Immediate):** Prioritize inventory of top-selling products like "fashion flo cardigan" to prevent stockouts and maximize sales.

• **Sales Promotion Focus (Within 1 Month):** Develop targeted sales promotions for high-performing categories like "cardigan" to further boost sales.

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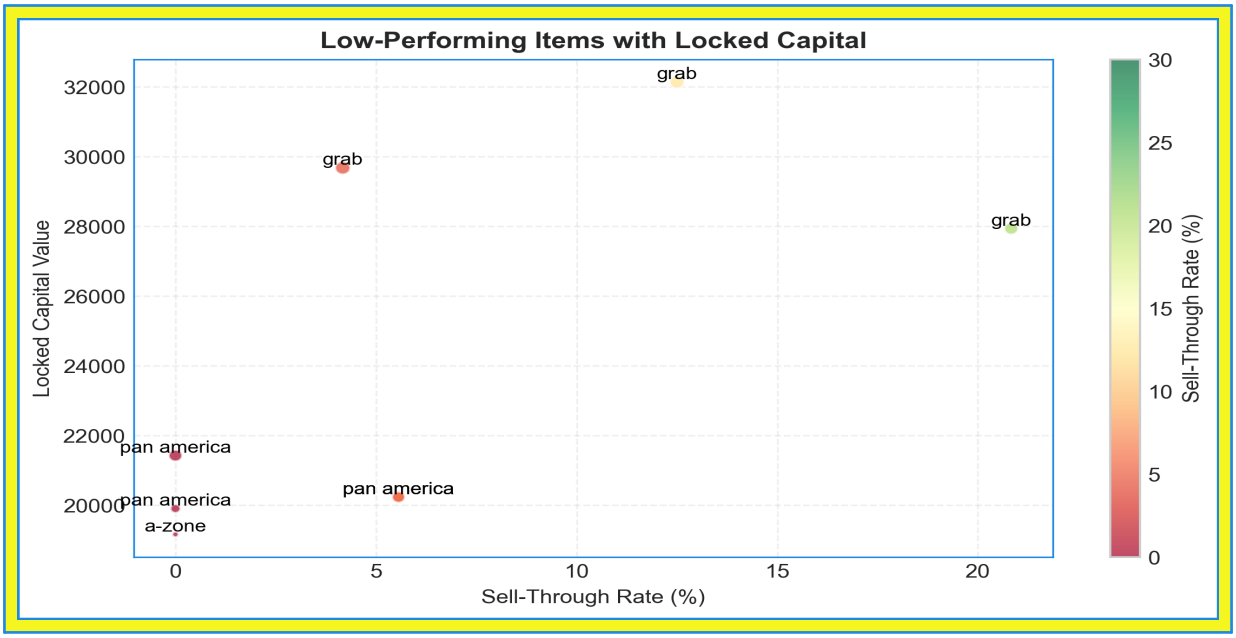
Question 11: Suggest strategies to reduce the inventory of low-performing items.



Analysis & Recommendations

Business Intelligence Analysis: Low-Performing Inventory

Executive Summary

The data indicates significant excess inventory, particularly for "grab" brand "suit-falalan<" category and "pan america" brand "shirt-full<" category. Low sell-through rates across several items highlight the need for inventory optimization.

Key Insights

- **High Excess Inventory:** "grab" suits show substantial excess inventory (e.g., Size 20 has an excess of 46). "pan america" shirts also exhibit significant excess, especially for sizes 40 and 42, even with lower initial PurchaseQty.
- **Low Sell-Through Rates:** Several items, like "pan america" shirt-full< in "check" and "print" colors and "a-zone" coat suits have a sell-through rate of **0.0%**. This signals a clear lack of demand. The highest sell through rate is 20.83% for a "grab" suit which is low overall.
- **Locked Capital:** Significant capital is tied up in slow-moving inventory. For instance, the excess inventory of the "grab" suit (Size 20) alone accounts for **$29,670** in locked capital.

Business Implications

This data suggests overstocking or poor product selection. The high levels of excess inventory and low sell-through rates are tying up capital and increasing holding costs. If the sales of these items

are not improved soon, the company may lose money.

Actionable Recommendations

• **Clearance Sales/Promotions (Immediate):** Implement aggressive markdowns on items with a **0%** sell-through rate and high excess inventory (e.g., "pan america" shirts, "a-zone" suits) to liquidate stock quickly.

• **Reduce Future Orders (Next Ordering Cycle):** Significantly decrease purchase quantities for "grab" "suit-falalan<" and "pan america" "shirt-full<" categories. Base future orders on adjusted sales forecasts, considering recent low sell-through rates.

• **Product Assortment Review (Within 1 Month):** Analyze the reasons behind the low demand for specific sizes and colors. Consider discontinuing poorly performing SKUs to prevent future inventory build-up.

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Executive Summary

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

1. Executive Overview:

Our recent inventory analysis reveals a business with significant challenges in data accuracy and inventory management, leading to lost revenue opportunities and potential financial losses. While certain categories like "cardigan" show promise, widespread data inconsistencies related to percent_sold and days_in_inventory are hindering our ability to make informed decisions. ■ The current inventory health is unstable, characterized by potential overstocking in some areas and stockouts in others, stemming from inaccurate data. Without immediate action to correct these issues, our sales strategies will be misdirected.

2. Key Strategic Insights:

- **Data Integrity is Paramount:** Inaccurate calculation of percent_sold (often exceeding 100%) renders key metrics unreliable, impacting inventory management and forecasting. ■■ Addressing this data quality issue is our single highest priority.
- **Inventory Optimization Opportunity:** While data problems are widespread, some analysis points to slow-moving inventory across several categories, creating opportunities for capital recovery through clearance sales and promotional efforts. ■
- **Untapped Online Potential:** Multiple products with zero online sales but available stock suggest gaps in our online portfolio or marketing strategies. Optimizing our online product offerings could significantly boost revenue. ■
- **Inconsistent performance across similar product categories and brands**: We have identified strong brand/category product performances as well as extremely weak performances. Understanding why is critical.
- **Cardigans for the win**: Consistently appear in top sales.

3. Performance Assessment:

- **Overperforming Categories:** "Cardigan" shows strong sales potential, particularly from the "most" brand. Revenue concentration in a small number of products like "fashion flo cardigan" is notable.
- **Underperforming Categories:** "Coat Suit," "Shirt-Half," and various slow-moving sizes within "Kurta Pajama" exhibit zero or near-zero sell-through rates.
- **Inventory Efficiency:** Extremely low "days_in_inventory" calculations (around 0.15 days) across several analyses cast doubt on the validity of these metrics, making accurate efficiency assessments impossible.
- **Sales Velocity:** Vast differences in sell-through rates across categories (0% to 278.57%) indicate inconsistent demand and potential inventory mismanagement.

4. Strategic Recommendations:

- **Immediately Correct percent_sold Calculation:** Audit and fix the formula for percent_sold (Sales Quantity / Purchase Quantity * 100). This is foundational to all subsequent analysis. Expected outcome: Reliable data for inventory decisions. Timeline: Within 1 day.
- **Comprehensive Data Validation:** Validate other key metrics like "days_in_inventory" and implement data governance processes to prevent future inaccuracies. Expected outcome: Improved accuracy and consistency of reporting. Timeline: Within 2 weeks.

• **Targeted Inventory Reduction:** Implement aggressive clearance sales and promotions for slow-moving items like "Grab Suit" and "Pan America Shirt" to reduce excess inventory. Expected outcome: Release tied-up capital and reduce storage costs. Timeline: Launch promotions within 1 week.

• **Refine Sales Forecasting:** Post data validation, the team will need to focus on refining sales forecasting models to mitigate the risk of overstocking and accurately predicting customer demand.

5. Immediate Action Items:

• ■ **Data Audit (Analytics Team):** Conduct a thorough audit of the percent_sold calculation and related data pipelines. Timeline: Next 7 days.

• ■■ **Cross-Functional Meeting (Analytics, Inventory, Marketing):** Discuss findings from the data audit and develop a coordinated plan for addressing inventory imbalances. Timeline: Next 14 days.