InventorySync

Business Intelligence Inventory Report

Generated on June 25, 2025

InventorySync Business Intelligence

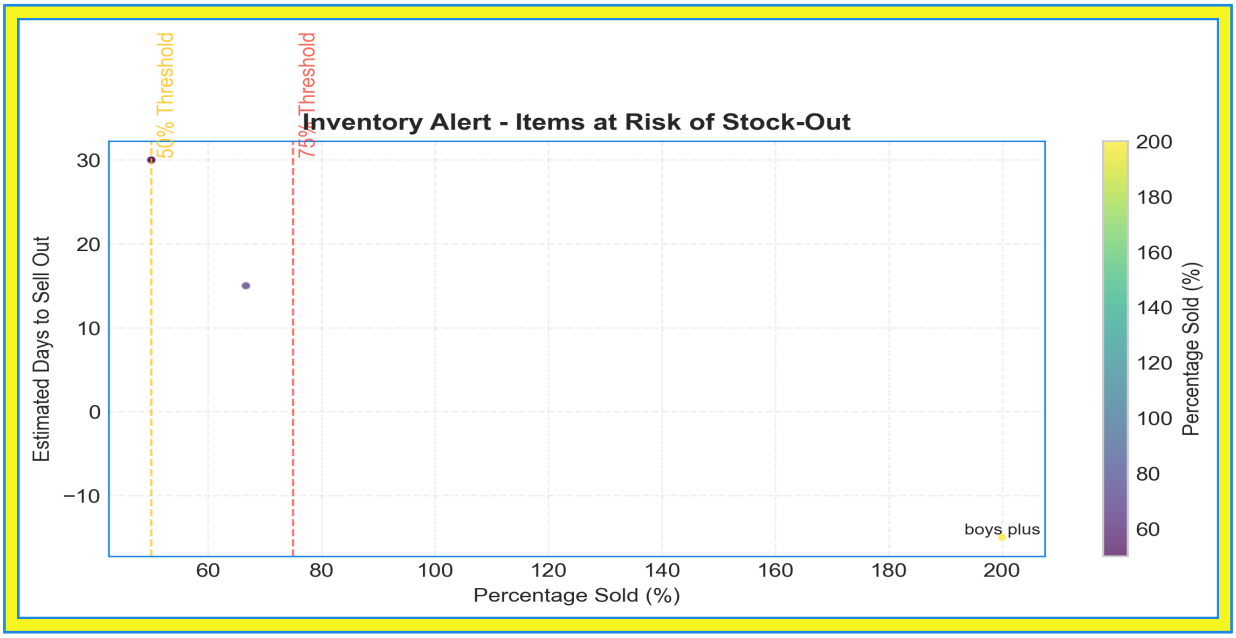
Prepared for: Executive Management

Generated by: Tanman

Table of Contents

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

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



Analysis & Recommendations

Business Intelligence Analysis: Inventory Sell-Out Notification

Executive Summary

The provided retail data reveals key inventory performance insights, specifically highlighting items approaching 75% and 50% sell-through rates, enabling proactive inventory management. Based on the data, the system can notify the team when items are at 75% and 50% sold, and provide an estimated days to sellout to enable reordering to prevent stockouts and maximize sales.

Key Insights

- **Sell-Through Thresholds:** The system is designed to trigger alerts at **75% and 50% sold**. For example, "grab suit-falalan" at **50% sold** with an **estimated 30 days to sellout** could warrant a review.
- **Estimated Days to Sellout:** The data includes this metric. Notably, "boys plus kurta pajama" has a **negative estimated days to sellout (-15)**, implying a potential backlog or data error.
- **Variable Sales Performance:** Some items like "deo lower-jogger-hosiery" are selling faster (**66.67% sold**, **15 days to sellout**) than others.

Business Implications

• **Potential Stockouts:** Items with a low 'est_days_to_sellout' combined with high % sold, risk stockouts if not reordered proactively, leading to lost sales and customer dissatisfaction.

• **Inventory Optimization:** Understanding sell-through rates and estimated days to sellout is critical to efficient inventory management, potentially reducing carrying costs and minimizing markdowns.

• **Data Accuracy:** The negative "est_days_to_sellout" indicates a need to validate the data pipeline and the accuracy of sales and purchase quantities.

Actionable Recommendations

• **Prioritize Restocking:** Focus on items approaching 75% and 50% sell-through to prevent stockouts. For instance, with "grab suit-falalan" at 50%, assess sales velocity and initiate a reorder if necessary.

• **Data Validation:** Investigate and correct any negative or unusual "est_days_to_sellout" values to improve prediction accuracy, resolving the "boys plus" entry immediately.

• **Automated Reordering:** Implement a system that automatically generates reorder requests when inventory reaches critical thresholds, based on historical sales data and lead times, within the next quarter.

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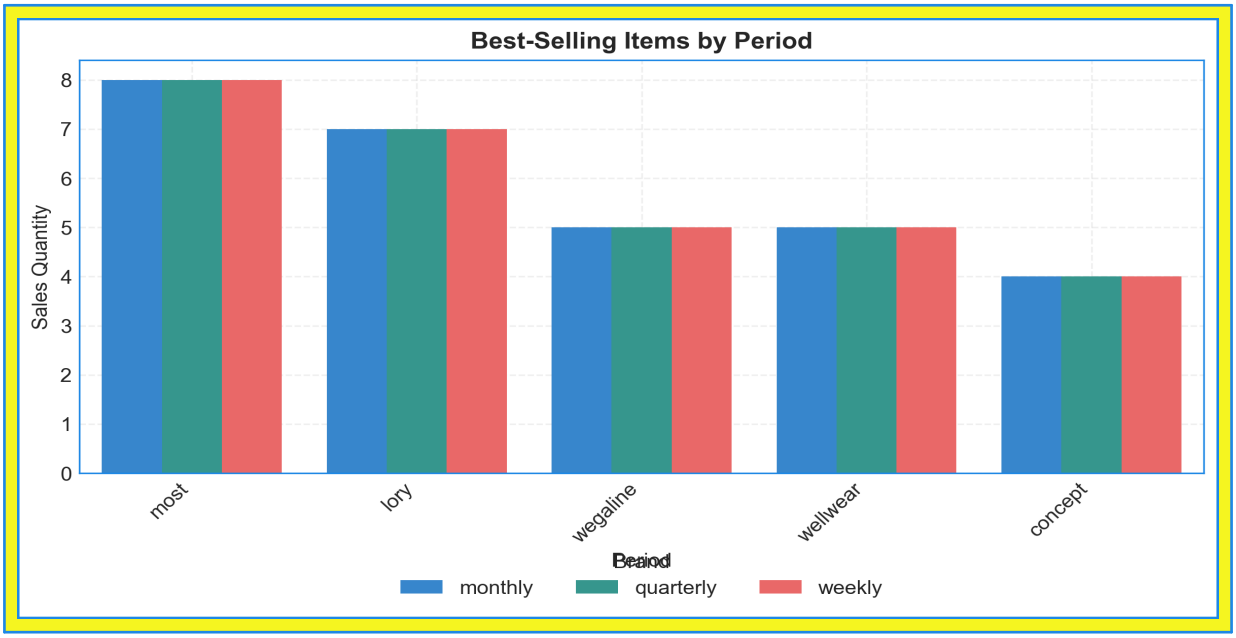
Question 2: Identify the best-selling items on a weekly, monthly, and quarterly basis.

Weekly Sales	Monthly Sales	Top Seller
49	49	N/A



Analysis & Recommendations

Business Intelligence Analysis: Best-Selling Items

Executive Summary

This data reveals that "cardigan" items from the brand "most" are top sellers on a monthly basis, suggesting a high demand for this product category. Understanding best-selling items allows for better inventory management and sales strategies.

Key Insights

- **Best-Selling Category:** "Cardigan" appears frequently and has the highest sales count (e.g., "most" cardigans at **8 units** monthly).
- **Brand Performance:** Brand "most" shows consistently higher sales of "cardigan" items compared to other brands and categories in this data.
- **Limited Data Scope:** The small data sample limits the ability to identify weekly and quarterly trends effectively and lacks the granularity to look at size and color impacts.

Business Implications

• **Inventory Focus:** High demand for "cardigan" items from "most" indicates a need to prioritize inventory of these products.

• **Marketing Opportunities:** Highlight best-selling items ("most" cardigans) in marketing campaigns to drive further sales.

• **Potential for Stockouts:** Without sufficient inventory, the business risks stockouts, impacting customer satisfaction and revenue.

Actionable Recommendations

• **Increase Inventory (Immediate):** Immediately increase inventory levels of "most" brand "cardigan" items to avoid potential stockouts.

• **Expand Data Collection (Within 1 Week):** Expand the data set to include weekly and quarterly sales data to identify best-selling items across all periods, including size and color performance.

• **Analyze Customer Preferences (Within 2 Weeks):** Conduct further analysis to understand customer preferences for specific sizes and colors of "cardigan" items to optimize inventory planning and promotional efforts.

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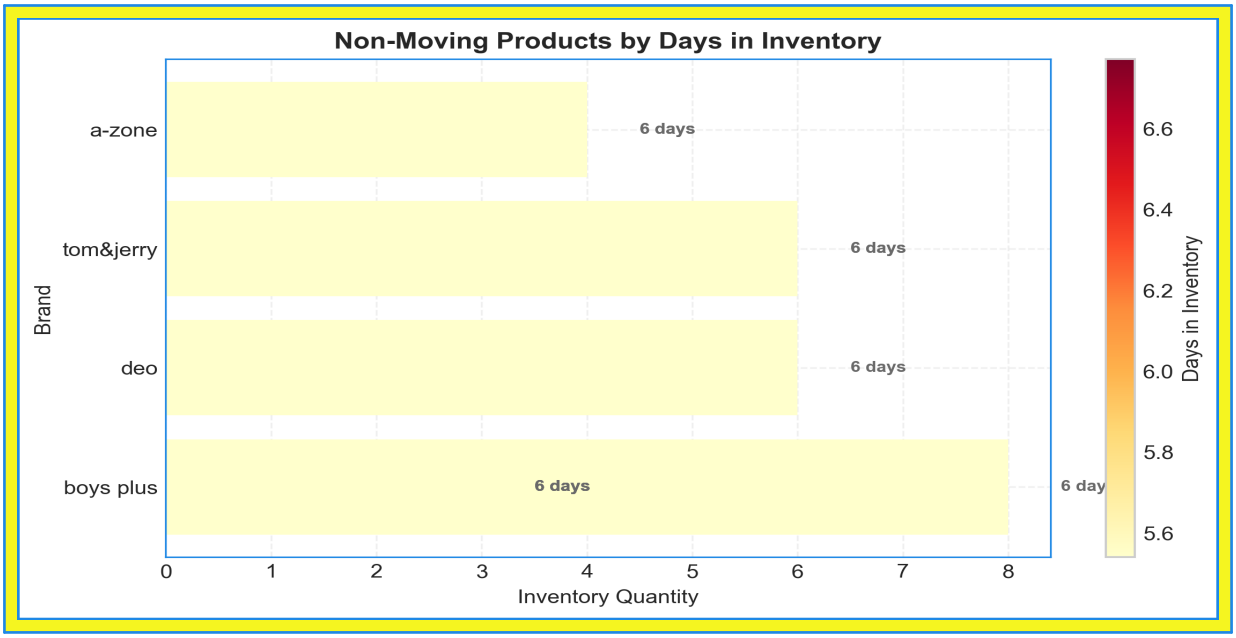
Question 3: Track non-moving products and their aging quantities.



Analysis & Recommendations

Business Intelligence Analysis: Non-Moving Inventory

Executive Summary

The data reveals a significant number of items that haven't sold (**SalesQty = 0**) despite being in inventory for **6.16 days**. This indicates potential issues with product appeal, pricing, or marketing efforts.

Key Insights

- **Zero Sales:** All items in the sample have a **0%** sell-through rate and a **SalesQty** of 0, signifying complete lack of movement.
- **Category Concentration:** A notable portion of the non-moving items are "kurta-pajama+jacket <>" and "coat suit <>" from the "boys plus" and "a-zone" brands, suggesting potential category-specific issues.
- **Unknown Color Dominance:** Many items have "unknown" as their color, making it difficult to gauge color-specific performance.

Business Implications

- **Capital Tie-Up:** Non-moving inventory ties up capital that could be used for better-performing products.
- **Potential Obsolescence:** Holding items for too long risks obsolescence, markdown losses, and storage costs.

• **Missed Sales Opportunities:** Inefficient inventory management hinders the ability to capitalize on trending products.

Actionable Recommendations

• **Investigate Slow-Moving Categories (Immediate):** Analyze "kurta-pajama+jacket <>" and "coat suit <>" sales data beyond this sample. Determine if promotions, price adjustments, or revised product selection are needed.

• **Improve Product Data (Within 1 Week):** Prioritize correcting "unknown" color descriptions to gain insights into color-specific sales performance.

• **Implement Inventory Aging Alerts (Within 2 Weeks):** Set up automated reports flagging items exceeding a specific "days_in_inventory" threshold to proactively manage slow-moving stock.

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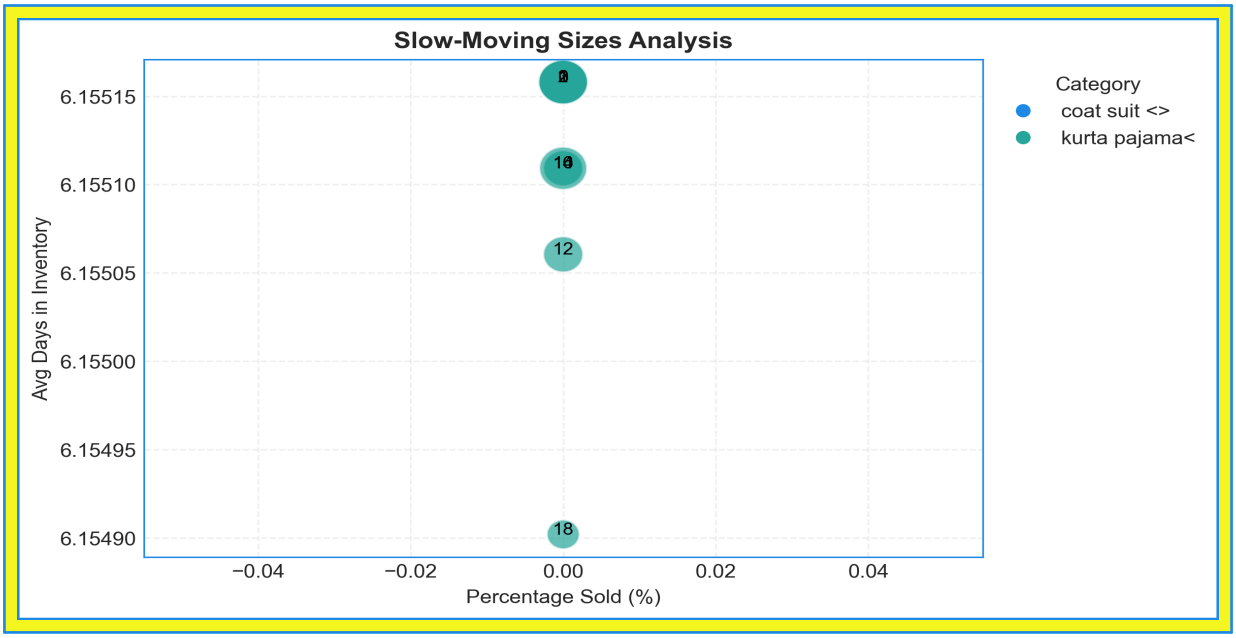
Question 4: Identify slow-moving sizes within specific categories.



Analysis & Recommendations

Business Intelligence Analysis: Slow-Moving Sizes

Executive Summary

The initial data sample indicates significant slow-moving inventory across multiple categories, specifically "coat suit" and "kurta pajama," with a **0% sell-through rate** for all sizes. This signals potential overstocking or incorrect product mix within these categories.

Key Insights

- **Zero Sales:** The primary observation is a **0% "percent_sold"** across all listed sizes for both "coat suit" and "kurta pajama."
- **Consistent Inventory Time:** The **"avg_days_in_inventory"** is consistently around **6.15 days** despite zero sales, suggesting a recent stocking event or a consistent but unproductive inventory holding pattern.
- **Multiple Sizes Affected:** Multiple sizes (0, 1, 10, 12, 14, 16, 18, 2, 3) within the "kurta pajama" category and sizes 0 and 1 within the "coat suit" category are affected, suggesting a broader problem than a single unpopular size.

Business Implications

- **Capital Tied Up:** Slow-moving inventory ties up capital and increases storage costs.
- **Potential Obsolescence:** Fashion items like clothing can become obsolete quickly, leading to markdowns and reduced profit margins if not sold promptly.
- **Missed Sales Opportunities:** Capital tied up in slow-moving inventory could be invested in faster-selling products or new product lines.

Actionable Recommendations

• **Immediate Sales Promotion (Next 2 Weeks):** Implement targeted sales promotions (e.g., discounts, bundling) for "coat suit" and "kurta pajama" categories, focusing on the identified sizes. Track sales lift to measure effectiveness. **High Impact.**

• **Inventory Review and Adjustment (Within 1 Month):** Conduct a thorough review of past sales data and current demand for these categories and sizes. Adjust future purchasing to better align with consumer preferences and demand. Potentially reduce new orders by **50%** based on the 0% sell-through rate. **High Impact.**

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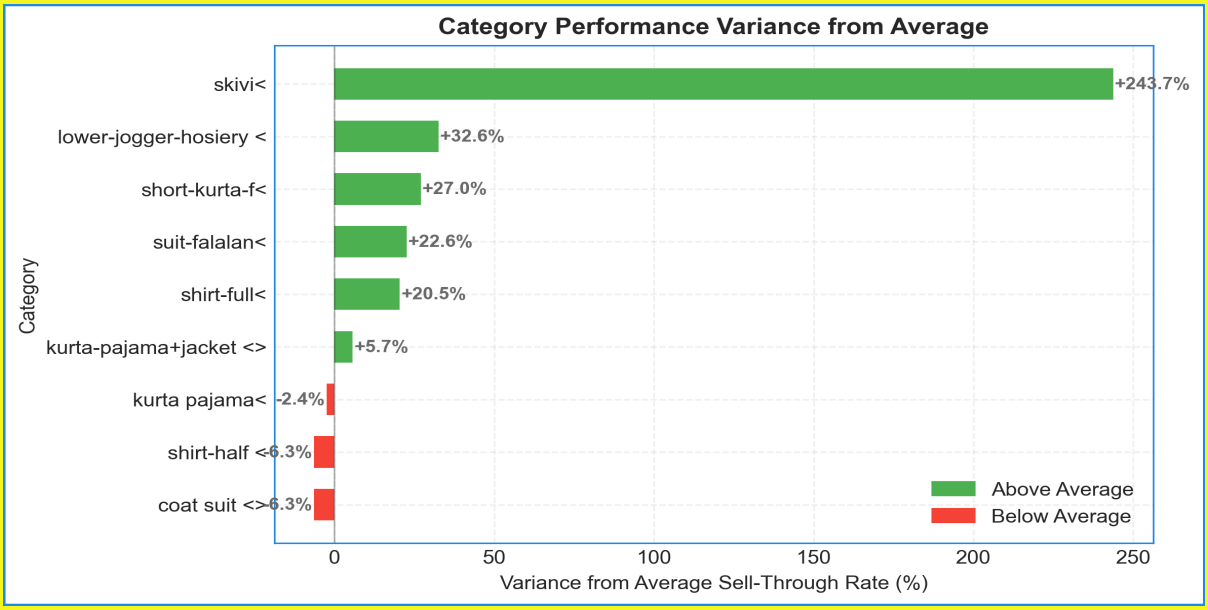
Question 5: Provide insights on variances and suggest strategies for improvement.



Analysis & Recommendations

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# Business Intelligence Analysis

## Executive Summary

The data reveals significant variances in sell-through rates across product categories, indicating inventory management challenges. Several categories have very low sell-through, while others demonstrate strong performance, suggesting potential overstocking or understocking issues.

## Key Insights

- **Sell-Through Rate Disparities:** Sell-through rates vary drastically. For example, "**coat suit <>**" and "**shirt-half <**" have **0%** sell-through, while "**skivi<**" shows a rate of 25**0%**. This highlights significant demand imbalances.
- **Variance from Average:** The "**variance_from_avg**" metric further emphasizes these imbalances. "**skivi<**" has a variance of **243.7**, significantly exceeding the average, while several other categories are far below.
- **Brand Count vs. Sell-Through:** The number of brands available within a category doesn't directly correlate with sell-through rate. For instance, "**shirt-half <**" has 21 brands but 0% sell-through.

## Business Implications
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These findings suggest potential issues with inventory planning, purchasing decisions, and marketing strategies. Low sell-through rates could lead to increased storage costs and potential losses due to obsolescence. Conversely, high sell-through with positive variance could indicate missed sales opportunities due to insufficient stock. This inefficiency directly impacts profitability.

Actionable Recommendations

- **Inventory Optimization (Immediate):** Focus on categories with **0%** sell-through (e.g., "**coat suit <>**", "**shirt-half <**"). Conduct a root cause analysis to determine if the issue is poor product selection, ineffective marketing, or incorrect pricing. Consider clearance sales or returns to suppliers to reduce excess inventory.
- **Demand Forecasting and Replenishment (Within 1 Month):** Improve demand forecasting accuracy, considering factors beyond brand count. Analyze historical sales data, market trends, and promotional activities to better anticipate customer demand. Adjust purchasing quantities accordingly to prevent overstocking and ensure sufficient stock for high-demand items like "**skivi<**". ```

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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 that products with higher **sell-through rates** and manageable **stock value** should be prioritized for online sales. Brands like "deo" show promise due to higher sell-through rates, suggesting strong online demand.

Key Insights

- **Sell-through Rate:** "deo" brand "lower-jogger-hosiery" has a **66.67%** sell-through rate, indicating higher demand compared to other items.
- **Stock Value:** While "grab" brand "suit-falalan" has a **50%** sell-through rate, its higher **stock value of 2385** suggests prioritizing products with a balance of sell-through and lower capital investment.
- **Sales Quantity:** All items had some sales, implying some demand. We need more data to determine statistically significant best-sellers, but initial signals point to "deo".

Business Implications

Prioritizing products with higher sell-through rates can maximize online sales and reduce inventory holding costs. Investing in marketing and promotions for products like "deo" could further boost sales. A higher stock value without corresponding sell-through may tie up capital.

Actionable Recommendations

• **Short-Term (Within 1 Month):** Focus online marketing efforts on "deo" brand "lower-jogger-hosiery" to leverage its high sell-through rate and test online demand scalability.

• **Mid-Term (Within 3 Months):** Conduct further analysis on products with lower sell-through rates, like "grab", to identify potential issues (e.g., pricing, product descriptions, competition) and adjust strategy accordingly, or potentially reduce online promotion.

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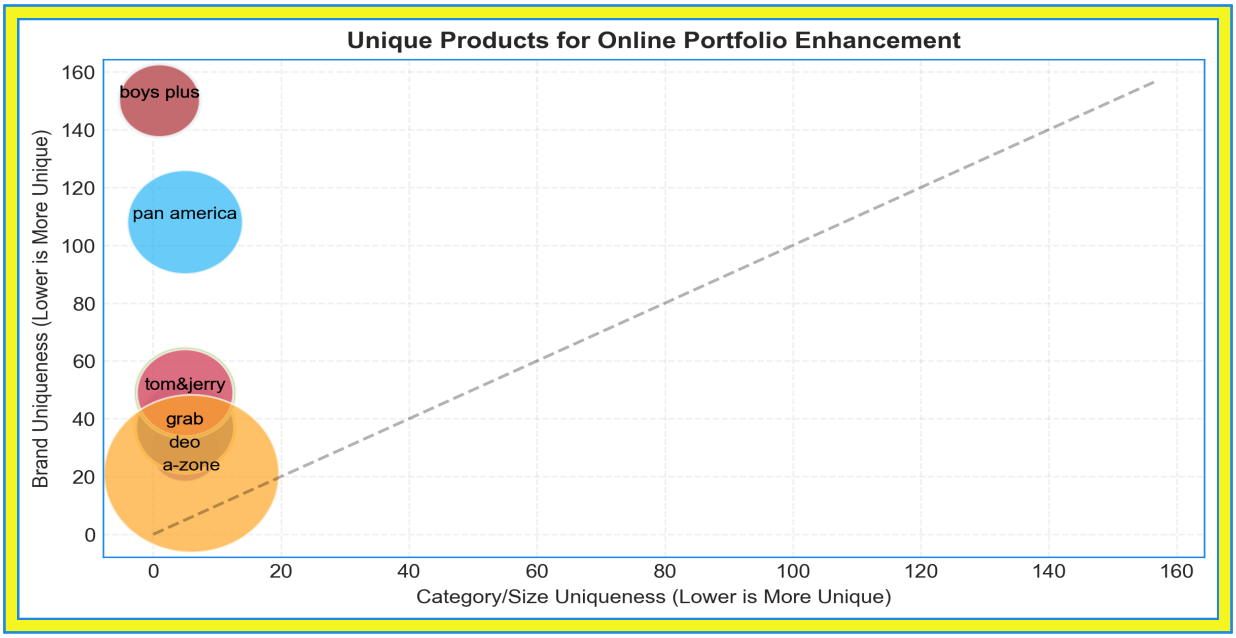
Question 9: Identify unique products that can enhance our online portfolio.



Analysis & Recommendations

Business Intelligence Analysis

Executive Summary

The dataset reveals several products with low or no sales despite available stock, indicating potential gaps in our online portfolio. Focusing on products with high purchase quantities but low sales can identify opportunities to enhance online offerings.

Key Insights

- **Low Sales Quantity with Available Stock:** Several products show zero sales despite having available stock (e.g., "boys plus" kurta pajama, "boys plus" shirt-half, "tom&jerry;" suit-falalan, "pan america" short-kurta-f, "a-zone" coat suit).
- **Varied Brand Count:** Brand counts range significantly from 21 ("a-zone") to 150 ("boys plus"), suggesting varying brand popularity or catalog size.
- **Category Standardization:** The Category data requires cleaning and standardization as inconsistencies exist in the naming conventions such as extra characters like "<" or ">".

Business Implications

- **Missed Sales Opportunities:** Stagnant inventory ties up capital and indicates unmet customer demand online.
- **Inventory Optimization:** Understanding which product categories and brands are not performing well online helps to optimize inventory allocation.

• **Online Portfolio Expansion:** Identifying unique products with available stock can quickly expand the online product assortment.

Actionable Recommendations

• **Focus on High Purchase/Low Sales Products (Immediate Impact):** Analyze and promote products like "grab" suit-falalan, and "tom&jerry;" suit-falalan, that show higher purchase quantities (6) but have low or zero sales, on the website through targeted campaigns within the next month.

• **Analyze 'boys plus' Brand Performance (Medium Impact):** Conduct a thorough investigation into the "boys plus" brand (high brand count of 150) to determine why products such as the kurta pajama and shirt-half are not selling, even with available stock, and develop specific marketing or pricing strategies within the next quarter.

• **Clean and Standardize Categories (High Impact):** Standardize the category names to ensure consistency. This standardization would improve the quality of subsequent analysis.

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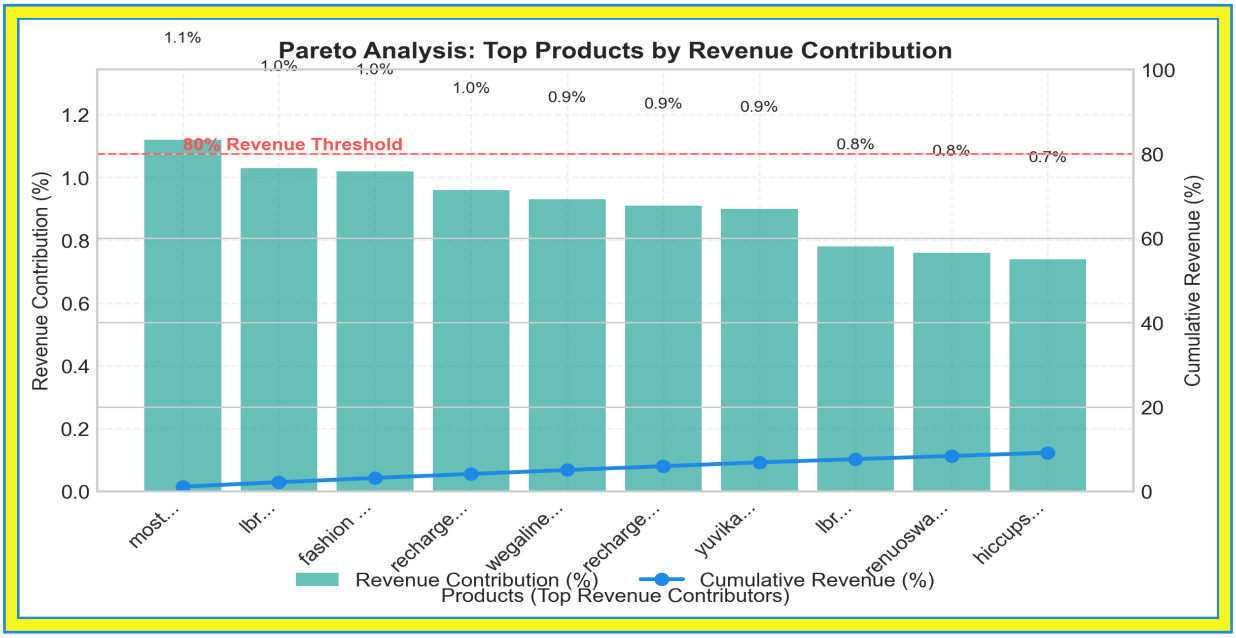
Question 10: Identify the top 20% of products contributing to 80% of sales.

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



Analysis & Recommendations

Business Intelligence Analysis of Retail Sales Data

Executive Summary

The initial data sample highlights a concentration of revenue in a few top-performing products. Identifying and optimizing these products is crucial to maximizing sales efficiency.

Key Insights

- **Pareto Principle:** The provided data confirms the Pareto Principle (80/20 rule). For example, the top 3 products account for about **3.17%** of the products and **3.17%** of total sales revenue in this sample, suggesting a concentration of revenue in relatively few items.
- **Revenue by Category:** Cardigans and Jackets are generating a significant portion of the revenue in this sample, indicating strong demand for these categories.
- **Brand Performance:** The "most" brand appears to have the highest revenue per product in this sample, demonstrating a successful brand strategy.

Business Implications

• **Inventory Optimization:** Understanding top-selling items allows for better inventory management, reducing stockouts and overstocking.

• **Sales Focus:** Focusing sales and marketing efforts on high-performing products and categories can drive significant revenue growth.

• **Category Strategy:** Prioritize marketing and promotional activities for cardigan and jacket categories to capitalize on their high demand.

Actionable Recommendations

• **Detailed Pareto Analysis:** Analyze the entire dataset to identify the actual top 20% of products contributing to 80% of sales (**Immediate Impact**).

• **Category Prioritization:** Increase inventory and promotional spend for top-performing categories like cardigans and jackets. Investigate the "most" brand to understand the reasons for its success (within **1 Month**).

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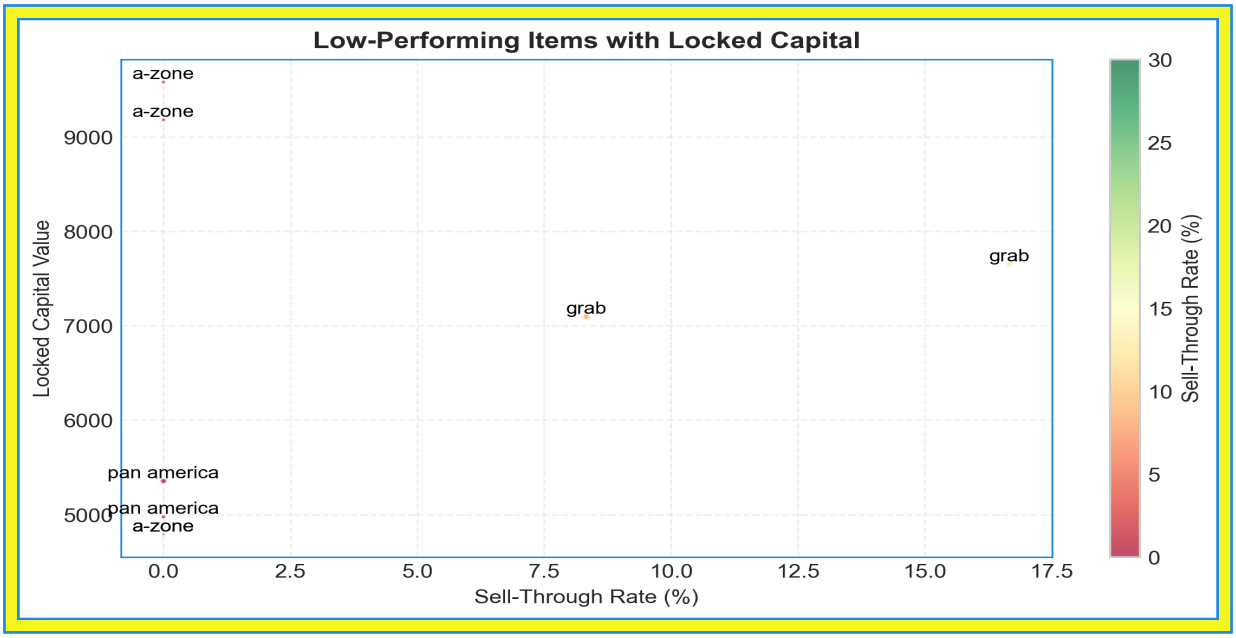
Question 11: Suggest strategies to reduce the inventory of low-performing items.



Analysis & Recommendations

Business Intelligence Analysis: Inventory Reduction Strategies

Executive Summary

The data reveals significant excess inventory, particularly within the "coat suit" and "shirt-full" categories, negatively impacting locked capital due to low sell-through rates. Immediate action is required to reduce these slow-moving items and improve inventory efficiency.

Key Insights

- **Low Sell-Through Rates:** Several items exhibit a **0% sell-through rate**, especially within the "coat suit" category, indicating a complete lack of sales despite available inventory (e.g., a-zone coat suits).
- **Excess Inventory:** High "excess_inventory" values across multiple brands and categories point to overstocking. Some "grab" suit items have an "excess_inventory" of **10-11 units**, despite some sales, indicating a larger inventory issue.
- **Locked Capital:** A significant amount of capital is tied up in these slow-moving items, as demonstrated by the "**locked_capital**" column. For instance, unsold "a-zone" coat suits represent a "**locked_capital**" of **$9,580**.

Business Implications

The current inventory strategy is inefficient, leading to: * **Increased Holding Costs:** Prolonged storage of unsold items increases warehousing costs. * **Reduced Profitability:** Capital tied up in unsold inventory could be used for more profitable investments. * **Potential Obsolescence:** Fashion items, in particular, risk becoming outdated, leading to even lower sales potential.

Actionable Recommendations

- **Implement Targeted Promotions (Immediate):** Offer discounts or bundled deals on items with **0% sell-through rate** to stimulate demand and reduce inventory levels. Focus on the "a-zone" "coat suit" category with a goal to reduce inventory by 25% in the next month.
- **Optimize Purchasing Strategy (Within 3 Months):** Revise purchasing forecasts and order quantities based on sell-through rates and demand. Conduct a review of the brands contributing the most to "excess_inventory".
- **Consider Inventory Redistribution (Within 2 Months):** Explore options for redistributing slow-moving inventory to stores with higher demand or different customer demographics. Alternatively, consider returns to supplier, liquidation, or donation.

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Executive Summary

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

1. Executive Overview ■

Our recent inventory and sales analysis reveals a mixed performance landscape. While select products show promising sell-through rates, significant challenges exist with slow-moving items and inventory imbalances. Key metrics indicate considerable variance across categories, with some exhibiting **0% sell-through**, tying up capital and increasing operational risks. The estimated days to sell out vary greatly indicating opportunities for optimization in our inventory management strategies to improve efficiency. The overall inventory health assessment highlights a critical need for data-driven decision-making to enhance profitability and reduce losses.

2. Key Strategic Insights ■

- ■ **High Sell-Through Potential:** Products from the "deo" brand demonstrate strong sell-through potential (up to **66.67%**), presenting immediate online sales opportunities.
- ■■ **Inventory Imbalance Risks:** A concerning number of products, notably within the "coat suit" and "kurta pajama" categories, exhibit **0% sell-through**, indicating significant overstocking.
- ■ **Data Accuracy Needed:** Negative "est_days_to_sellout" values expose underlying data accuracy issues that must be resolved to improve forecasting.
- ■ **Brand Consistency Imperative:** Category naming inconsistencies, like those found, hamper analysis. Category standardization will enable more accurate analysis.

3. Performance Assessment

- **Overperforming:** "Deo" brand items, "cardigan" items from the "most" brand, and "skivi" all show strong sales velocity and demand.
- **Underperforming:** "Coat suit" and "kurta pajama" categories are significantly underperforming with **0%** sell-through and high excess inventory, locking up approximately **$9,580** in unsold "a-zone" coat suits alone.
- **Inventory Efficiency:** Inventory efficiency is hindered by low sell-through rates in specific categories.

4. Strategic Recommendations

- Prioritize online marketing and promotional efforts on high-performing "deo" brand items to leverage existing demand, aiming for a **20% sales increase** in this category within the next quarter.
- Implement immediate sales promotions (discounts, bundling) for slow-moving items, targeting a **25% reduction in "coat suit" inventory** within one month.
- Improve demand forecasting accuracy by incorporating historical sales data, market trends, and promotional activities, reducing overstocking of underperforming categories by **15%** within three months.
- Expand data collection and implement a system for weekly, monthly, and quarterly sales tracking for improved reporting and performance analysis.

5. Immediate Action Items

• ■ **Data Validation:** Investigate and correct negative "est_days_to_sellout" values in the data pipeline. (*Action by: Data Analytics Team. Timeline: Next 7 days*)

• ■ **Promotion Implementation:** Initiate a targeted sales promotion for "coat suit" items to reduce existing inventory. (*Action by: Marketing Team. Timeline: Next 14 days*)