

Executive Overview

KPI Name	Definition	Formula / Logic	Target / Threshold	Real-World Example	Owner	Frequency	Significance/ Business Impact
Total Inventory Value	Total on-hand inventory valued at unit cost. Higher values may indicate overstock or slow-moving items; lower values may suggest leaner inventory or stockouts.	Total Inventory Value = $\sum (\text{Qty On Hand} \times \text{Unit Cost})$	<ul style="list-style-type: none"> - Healthy Range: Depends on business size, but typically aligned with 20–40 days of cover. - Red Flag: A sudden spike without matching demand → overbuying or slow-moving stock. 	If Dairy has 8,000 units on hand at an average cost of \$2.10, and Produce has 12,000 units at \$1.40 → Total = \$16,800 + \$16,800 = \$33,600.	Inventory Manager, Finance Controller (joint responsibility)	Daily (automated refresh)	<ul style="list-style-type: none"> - Direct impact on cash flow, working capital, and carrying cost. - Helps assess whether stock levels align with demand and sales velocity.
Inventory Turnover (Annual)	Annualized rate at which inventory cycles through the FC. Higher turnover indicates efficient stock movement; lower turnover signals slow-moving or excess stock.	Turnover = $(\text{Annualized COGS} / \text{Average Inventory Value})$	<ul style="list-style-type: none"> - E-grocery benchmark: 8–15 turns per year depending on perishability. - Below 6: Inefficient stock usage / old inventory. - Above 15: Stock too lean → stockout risk. 	If annualized COGS = \$12M and average inventory = \$2M → Turnover = 6.	Inventory Manager, Supply Chain Director	Weekly / Monthly	<ul style="list-style-type: none"> - Forecasts inventory health, obsolescence risk, replenishment optimization. - Key metric tied to cash efficiency and operational agility.
Value Expiring <30d	Inventory value expiring within the next 30 days. Higher values indicate elevated spoilage risk and require prioritization for clearance or transfers.	Expiring Value = $\sum (\text{Unit Cost} \times \text{Qty On Hand})$, where Expiry Date ≤ 30 days	<ul style="list-style-type: none"> - Ideal: < 5% of total perishable value. - Red Flag: > 10% consistently → replenishment or demand forecasting issue. 	If Frozen category has \$12K worth expiring within 30 days → FC may mark items for markdown, bundling, or store transfer.	Inventory Control Specialist, Category Manager	Daily (for perishables)	<ul style="list-style-type: none"> - Direct impact on waste, margin loss, and shelf-life management. - Identifies issues in buying practices or inbound lead times.

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% SKUs Oversold (ATP < 0)	Share of SKUs where Available-to-Promise (ATP) is negative. Higher values indicate overselling, inaccurate stock, or operational errors requiring investigation.	% Oversold SKUs = (Count of SKUs with ATP < 0 / Total Active SKUs)	<ul style="list-style-type: none"> - Ideal: 0–0.5% - Acceptable: < 2% - Red Flag: > 5% → major stock accuracy or WMS issue. 	If 12 out of 800 SKUs show ATP < 0 → 1.5% oversold rate.	Warehouse Operations Manager, Inventory Accuracy Lead	Real-time / Daily	<ul style="list-style-type: none"> - Drives customer dissatisfaction, order cancellations, and operational rework. - Indicates issues with cycle counts, receiving delays, or system sync errors.
Days of Inventory	How many days the current stock can support average daily demand. Higher values suggest excess stock; lower values indicate risk of stockouts.	Days of Inventory = (Total ATP Qty / Avg Daily Order Qty)	<ul style="list-style-type: none"> - Perishables: 5–10 days - Non-perishables: 15–30 days - Above 40 days: cash trapped in excess stock. 	If ATP = 160,000 units and Avg Daily Demand = 4,000 units → Days of Inventory = 40 days	Inventory Manager	Daily	<ul style="list-style-type: none"> - Operational measure of stock adequacy. - Helps prevent stockouts and control working capital.
Days of Cover	Number of days the entire warehouse can continue fulfilling orders using current ATP levels, based on the average daily order volume across the full period. Higher values imply healthy buffers; very low values indicate stockout exposure. <u>Real-World Meaning:</u> FC-level stock sufficiency Used by executives for capacity planning	For each SKU: Days of Cover = (Total ATP Qty / Avg Daily Order Qty)	<ul style="list-style-type: none"> - High (>30): Stock-rich; low stockout risk but higher holding cost - Low (<15): Tight inventory; risk of stockouts or supply delays 	SKU A = 4 days cover, SKU B = 15 days, SKU C = 60 days → Median = 15 days	Replenishment Planner, Category Manager	Daily / Weekly	<ul style="list-style-type: none"> - SKU-level visibility of replenishment gaps. - More accurate than aggregate days-of-inventory.

	Ignores SKU variability (macro view)						
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Inventory Health & Risk							
KPI Name	Definition	Formula / Logic	Target / Threshold	Real-World Example	Owner	Frequency	Significance/ Business Impact
% SKUs Below ROP	Share of active SKUs whose Available-to-Promise (ATP) is below established Reorder Point. Higher values indicate replenishment risk and potential upcoming stockouts.	%SKUs Below ROP = \sum (SKUs where ATP < ROP / Total Active SKUs)	<ul style="list-style-type: none"> - Healthy: < 10% - Warning: 10–20% - Critical: > 20% → replenishment model failing or sudden demand surge 	If 150 out of 1,000 SKUs fall below ROP → % Below ROP = 15%	Replenishment Planner, Category Manager	Daily	<ul style="list-style-type: none"> - Directly flags SKUs at risk of stockouts. - Helps planners prioritize purchase orders and emergency replenishments. - Acts as an early-warning signal before % Oversold rises.
% SKUs Below Safety Stock	Percentage of SKUs whose ATP has fallen below their Safety Stock buffer. Higher values indicate reduced shock absorption against demand spikes or supply delays.	%SKUs Below Safety Stock = \sum (SKUs where ATP < Safety Stock / Total Active SKUs)	<ul style="list-style-type: none"> - Healthy: < 5% - Warning: 5–15% - Critical: > 15% 	If ATP for “Bananas – Organic” is 200 and safety stock is 300 → the SKU is below buffer.	Replenishment Team, Inventory Manager	Daily	<ul style="list-style-type: none"> - Indicates the loss of cushion against variability. - Highly actionable for operational teams to avoid downstream stockouts. - Often tied to demand forecasting accuracy and supplier reliability.

KPI Name	Definition	Formula / Logic	Target / Threshold	Real-World Example	Owner	Frequency	Significance/ Business Impact
Total ATP Quantity	Total Available-to-Promise (ATP) units across all warehouses. Higher ATP suggests good stock readiness; very low ATP indicates upcoming stockout exposure.	Total ATP Qty = \sum (On-hand Qty - Allocated Qty)	<ul style="list-style-type: none"> - Not a fixed numeric threshold — depends heavily on SKU mix. - Healthy ATP means balanced buffers without excess stock. 	If combined ATP across all categories is 192K units, planners compare it with daily demand (~4–5K orders) to check readiness.	Inventory Manager, FC Operations Lead	Daily	<ul style="list-style-type: none"> - Determines ability to fulfill near-term demand. - Directly tied to order fill rate, stockouts, and revenue protection. - Key input for Days of Inventory and Sellable Coverage.
Median Sellable Coverage	<p>Typical (median) number of days a SKU can continue selling before its ATP reaches zero, based on overall daily order averages. Low values indicate stockout exposure; higher values indicate stronger coverage.</p> <p><u>Real-World Meaning:</u> SKU-level stock horizon Detects SKU concentration problems hidden by aggregate metrics Much more sensitive to replenishment frequency and SKU-level ATP imbalances</p>	<p>Sellable Coverage per SKU = (SKU ATP / Avg. Daily Order Qty)</p> <p>Median Sellable Coverage = Median across all SKUs</p>	<ul style="list-style-type: none"> - High (>15): Most SKUs have comfortable buffer - Low (<10): Many SKUs trending toward replenishment - Much higher than Days of Cover: ATP is unevenly distributed (a BA insight!) 	If SKU coverage values for 5 items are {4, 10, 15, 18, 60} → Median = 15 days (healthy)	Replenishment Team, Inventory Strategy Analyst	Daily/ Weekly	<ul style="list-style-type: none"> - Reveals systemic stock risk, unlike “Days of Inventory” which is aggregate. - Very useful for identifying categories trending toward stockouts. - Helps adjust replenishment frequency or safety stock settings.

Sales & Demand Performance							
KPI Name	Definition	Formula / Logic	Target / Threshold	Real-World Example	Owner	Frequency	Significance/ Business Impact
Total Orders	Total number of customer orders placed in the selected period. Higher values indicate increased customer activity and warehouse workload.	Total Orders = Distinct Count of Order ID	<ul style="list-style-type: none"> - No fixed industry benchmark — depends on business size. - Tracking focuses on trend direction (WoW, MoM) rather than an absolute target. 	If 122,800 orders were placed between March–November → this indicates steady demand and consistent FC workload.	Sales & Operations Planning (S&OP), Warehouse Operations Lead	Daily/ Weekly/ Monthly	<ul style="list-style-type: none"> - Core measure of demand volume and operational load. - Drives downstream impacts: staffing, picking/packing load, replenishment pace, and fleet planning. - Serves as a baseline denominator for Avg. Daily Orders and capacity planning.
Total Revenue	Total sales revenue generated from all fulfilled orders in the selected period. Higher values indicate strong demand and product mix contribution.	Total Revenue=Σ (Order Qty × Unit Price)	Benchmarked against business goals, typically: <ul style="list-style-type: none"> - Stable/Healthy: Revenue trending upward MoM - Risk: Revenue drop >10% in any period - Strong Growth: >5–8% MoM increase 	If total revenue for the period is \$11.3M, and October contributed \$1.71M, this shows strong seasonal peaks.	Head of Sales, Finance Analyst	Daily/ Weekly/ Monthly	<ul style="list-style-type: none"> - The most important top-line commercial metric. - Used to evaluate product performance, promotions, pricing strategy, and customer retention. - Critical for gross margin forecasting and financial reporting.

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Avg. Daily Orders	Average number of orders placed per day during the selected period. Higher values indicate heavier operational workload and stronger demand consistency.	Avg. Daily Orders = (Total Orders / Number of Active Order days)	Benchmarks vary, but typical FMCG/e-grocery expectations: - Healthy / Stable: Smooth daily pattern, low volatility - Risk: Extreme spikes (>50% deviation) → FC strain - Growth: Sustained uplift in average daily orders over multiple months	If total orders = 122,800 over 248 active days → Avg. Daily Orders ≈ 495 per day	Warehouse Operations, S&OP Team	Daily	- Direct indicator of FC workload forecasting. - Helps determine picking labor, shift planning, and fleet scheduling. - Useful in detecting demand anomalies before inventory shortages appear.
Total Order Qty	Total units ordered across all customer orders. Higher values indicate strong unit-level demand and higher throughput for FCs.	Total Order Qty = \sum (Order Qty)	Again trend-based: - Healthy when aligned with Total Orders trend - Misalignment (e.g., orders ↑ but quantity ↓) may indicate: - product substitutions - order basket shrinkage - category mix change	If Total Order Qty = 1.7M units, FCs must plan capacity to handle that inbound → outbound flow.	Warehouse Operations Manager, Merchandising / Category Team	Daily/ Weekly/ Monthly	- Determines warehouse volume throughput. - Informs inventory replenishment cycles and vendor purchase planning. - Tracks how order mix (small vs large baskets) changes over time.

Supplier Performance

KPI Name	Definition	Formula / Logic	Target / Threshold	Real-World Example	Owner	Frequency	Significance/ Business Impact
On-Time Delivery (OTD) %	Percentage of supplier deliveries that arrived on or before the promised date. Higher values indicate more reliable suppliers.	OTD % = (Number of On-Time Deliveries / Total Deliveries) × 100 Where: On-time = Received_Date ≤ Promised_Date	<ul style="list-style-type: none"> - Best-in-Class: ≥ 90% - Acceptable: 80–89% - Risk Zone: < 80% 	If a supplier made 20 deliveries and 15 were on time → OTD% = 75%, indicating high operational risk for fresh/perishables.	Procurement Manager, Inbound Logistics Lead	Weekly/ Monthly	<ul style="list-style-type: none"> - Poor OTD disrupts shelf availability, increases stockouts, and decreases customer satisfaction. - Directly influences safety stock settings and replenishment frequency. - Key metric in vendor scorecards and contract negotiations.
Avg. Lead Time (Days)	Average number of days a supplier takes to deliver goods after a purchase order is placed.	Avg Lead Time = AVG (Received Date – PO Last Date)	Varies by category: <ul style="list-style-type: none"> - Local fresh suppliers: 1–3 days - Regional/non-fresh suppliers: 3–7 days - Higher than 7 days → supply chain fragility 	If Supplier A consistently takes ~10 days → high risk of mismatch with fast-moving perishable items.	Procurement Team, Supply Chain Planning	Monthly	<ul style="list-style-type: none"> - Affects inventory levels, reorder timing, and buffer stock. - Longer lead time → higher safety stock requirements → higher working capital. - Lead-time variability propagates bullwhip effects in replenishment.

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Top-3 Supplier Qty Share %	Share of total on-hand units supplied by the top 3 suppliers. High values indicate supplier concentration risk.	Qty Share = $\frac{\text{Sum (Qty from Top 3 Suppliers)}}{\text{(Total Qty On-Hand)}} \times 100$ Top 3 suppliers are ranked by Qty_On_Hand contribution.	<ul style="list-style-type: none"> - Healthy Diversification: < 30% - Moderate Risk: 30–45% - High Dependency Risk: > 45% 	If total on-hand units = 192,000 and top 3 suppliers contribute 54,000 → Top-3 Share = 28%	Procurement Manager, Risk & Compliance Team	Monthly / Quarterly	<ul style="list-style-type: none"> - High dependency exposes the company to disruption if one supplier fails. - Helps procurement justify multi-sourcing and contract renegotiation. - Critical metric for risk mitigation planning.
Avg. Unit Cost	Average cost per unit procured from suppliers. Higher values may signal premium sourcing or inefficient procurement.	Avg Unit Cost = $\frac{\text{Total Procurement Cost}}{\text{Total Units Received}}$ In the Dataset, Avg Unit Cost = AVERAGE (Unit Cost per SKU)	Not universally fixed - depends on: <ul style="list-style-type: none"> - category cost structures - vendor contracts - seasonality But norms include: <ul style="list-style-type: none"> - Stable costs $\pm 5\%$ month over month - Red flags: sudden cost spikes, especially for high-velocity SKUs 	If Avg. Unit Cost = \$6.5, and certain suppliers charge \$10+, procurement may evaluate renegotiation opportunities.	Procurement / Purchasing Manager, Finance (Cost Accounting)	Monthly	<ul style="list-style-type: none"> - Drives gross margin and profitability. - Helps detect pricing anomalies from suppliers. - Critical input to pricing, promotions, and category management.