

MODULE 01

Supply Chain Fundamentals: The Practitioner's Playbook

Inventory Strategy, S&OP, KPIs, and Interview Mastery



The Two-Sided Risk of Inventory



STOCKOUT

Demand cannot be served from available stock.

CAUSES

Underestimated demand, late supply, bad data, low buffer.

RESPONSE

Root cause analysis, expedite, allocate carefully.

IMPACT

Lost sales, service failure, customer churn.



EXCESS

Stock beyond expected need or policy.



CAUSES

Overforecasting, poor phase-out, high MOQ, cancellations.

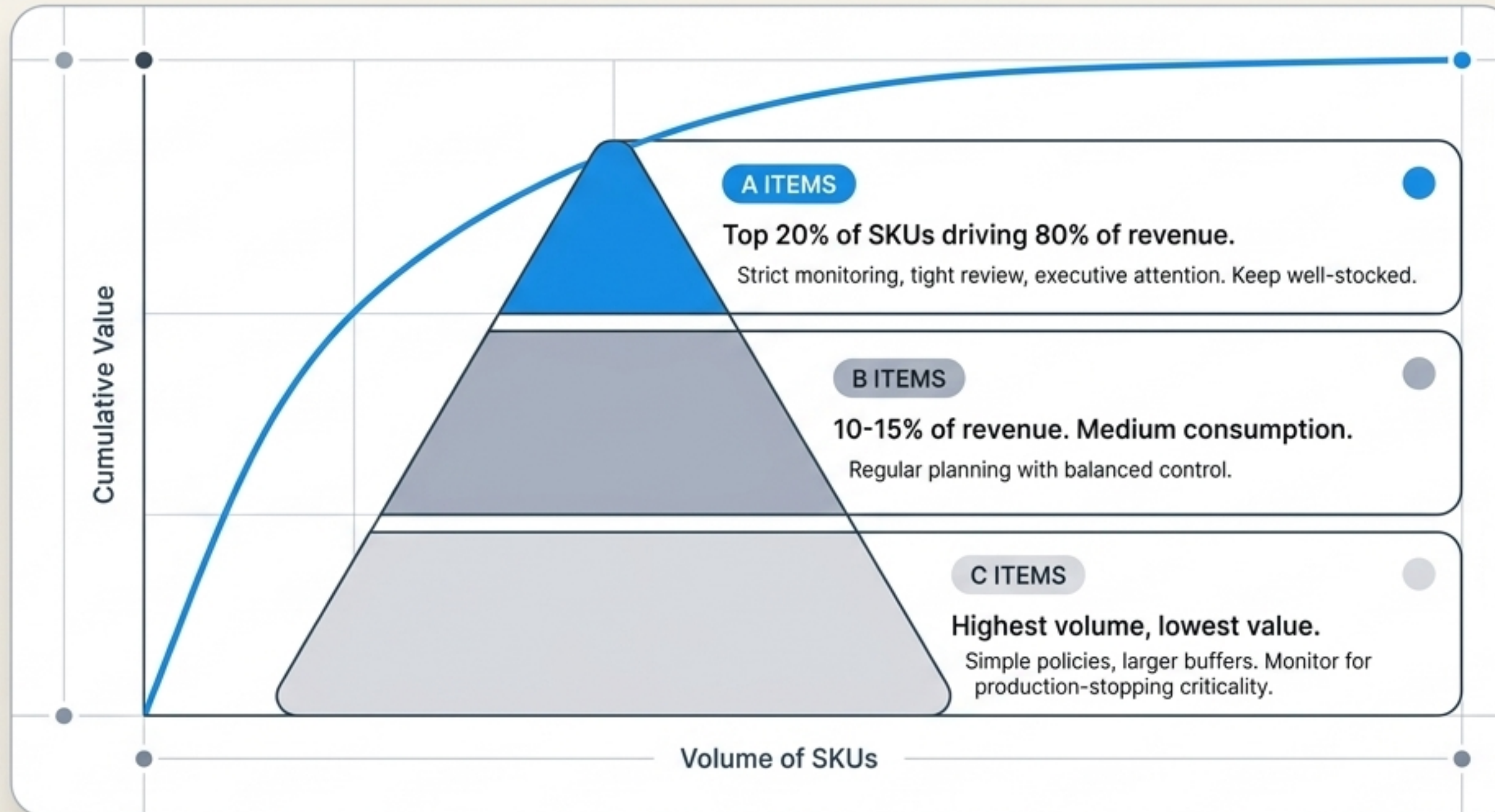
RESPONSE

Transfers, promotions, defer purchases, write-downs.

IMPACT

Tied-up cash, obsolescence, space constraints.

ABC Analysis: Focusing Limited Attention



ABC Micro-Case: Live Calculation

	SKU	Annual Volume	Unit Cost	Total Annual Value
✓	SKU X	100 units	\$500	\$50,000 (62.5%)
2	SKU Y	1,000 units	\$20	\$20,000 (25.0%)
3	SKU Z	2,000 units	\$5	\$10,000 (12.5%)

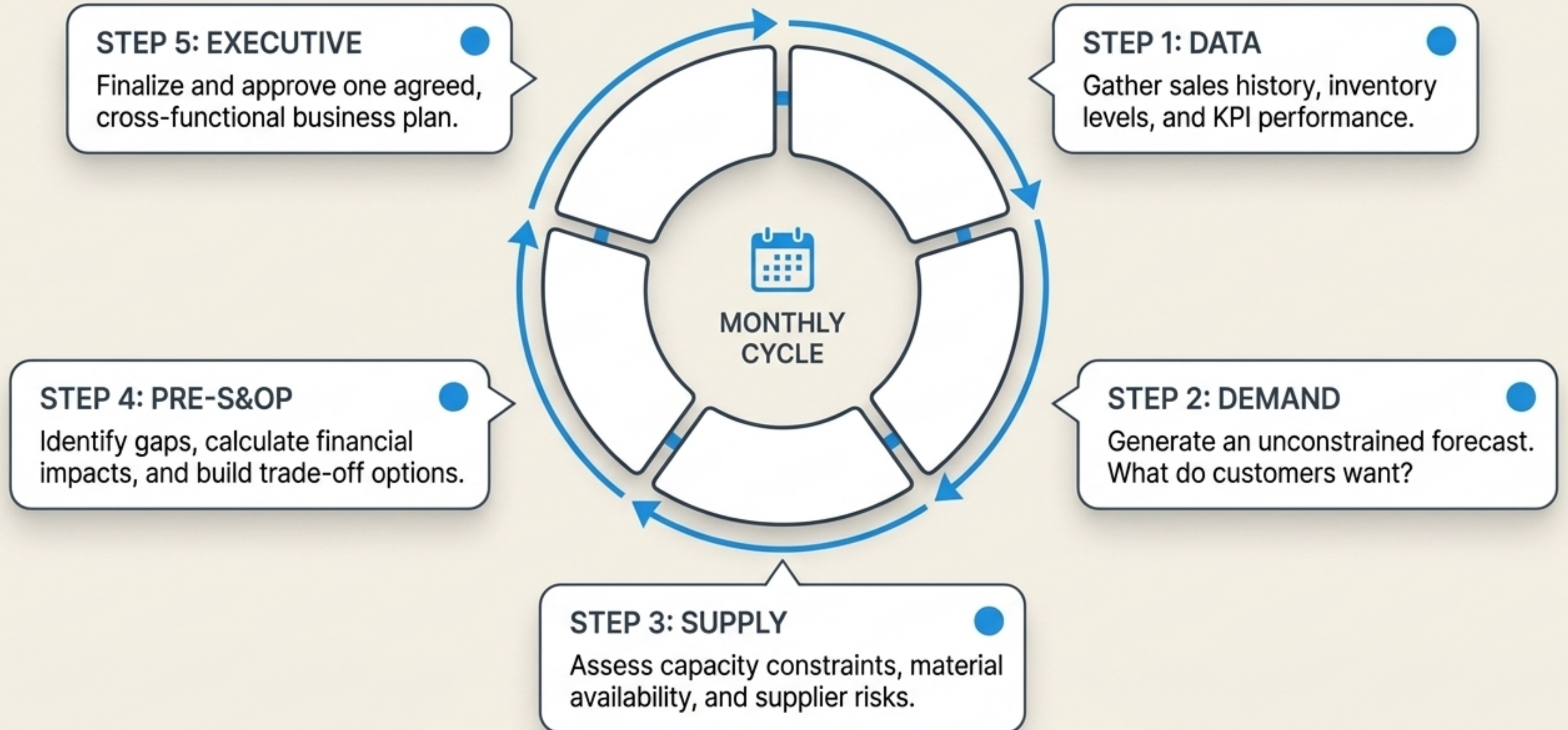
RANK: A

RANK: B

RANK: C

TAKEAWAY: **Volume is a trap.** SKU X has the lowest physical volume but **drives 62.5% of the annual financial value.** Assigning ABC labels requires **explicit financial thresholds**, not just unit counts.

S&OP: A Monthly Cross-Functional Rhythm



The S&OP Boardroom: Inputs and Trade-offs

Sales & Marketing

Brings customer intelligence and promotions.

Goal: Maximize revenue and availability.

Finance

Brings revenue targets, margin analysis, and cash flow.

Goal: Control costs and protect margins.

Supply Chain Leadership

Brings scenarios, trade-offs, and escalation points.

Goal: Consensus and actionable decisions.

Operations & Procurement

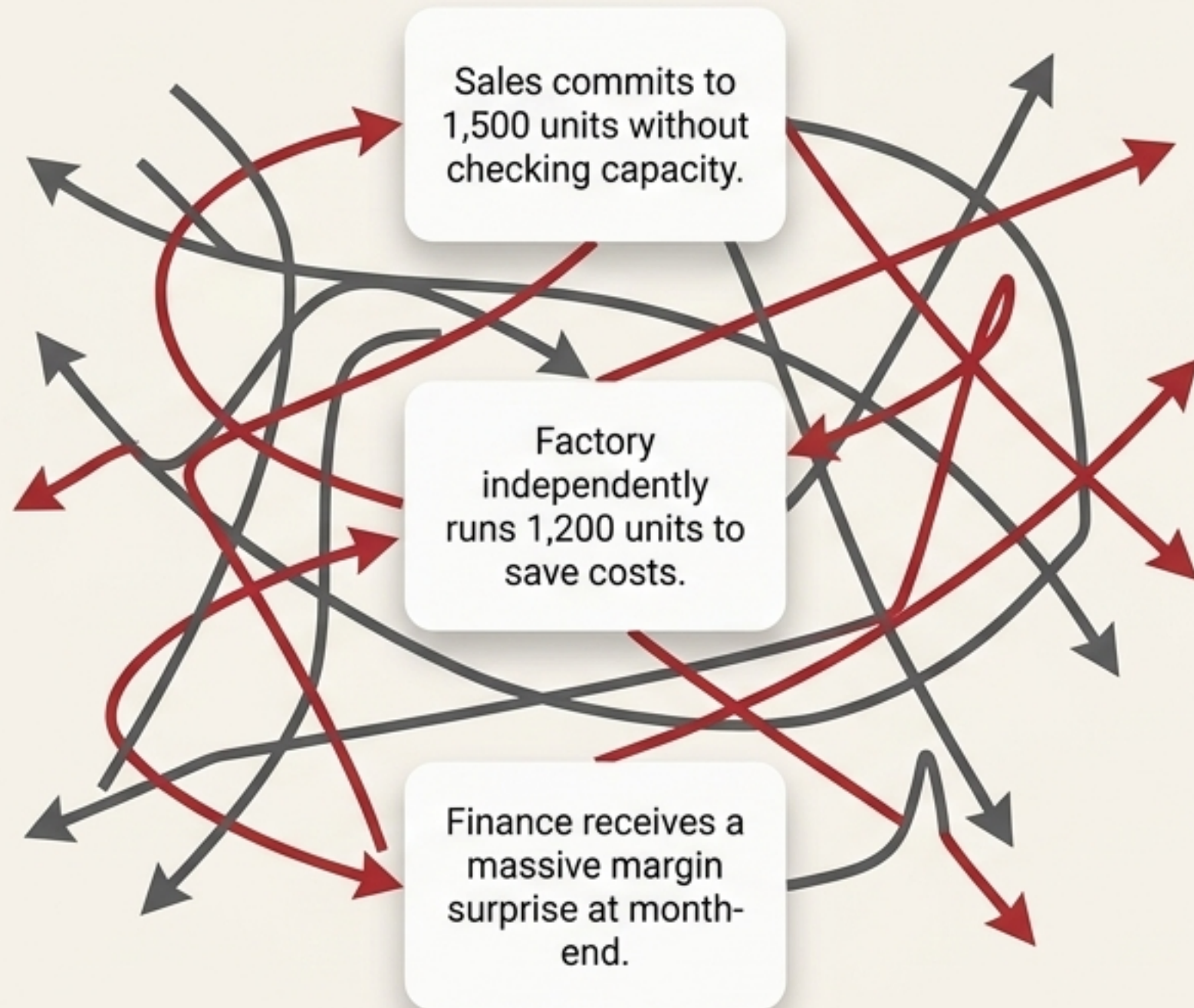
Brings factory limits, shift costs, and bottlenecks.

Goal: Efficiency and feasibility.

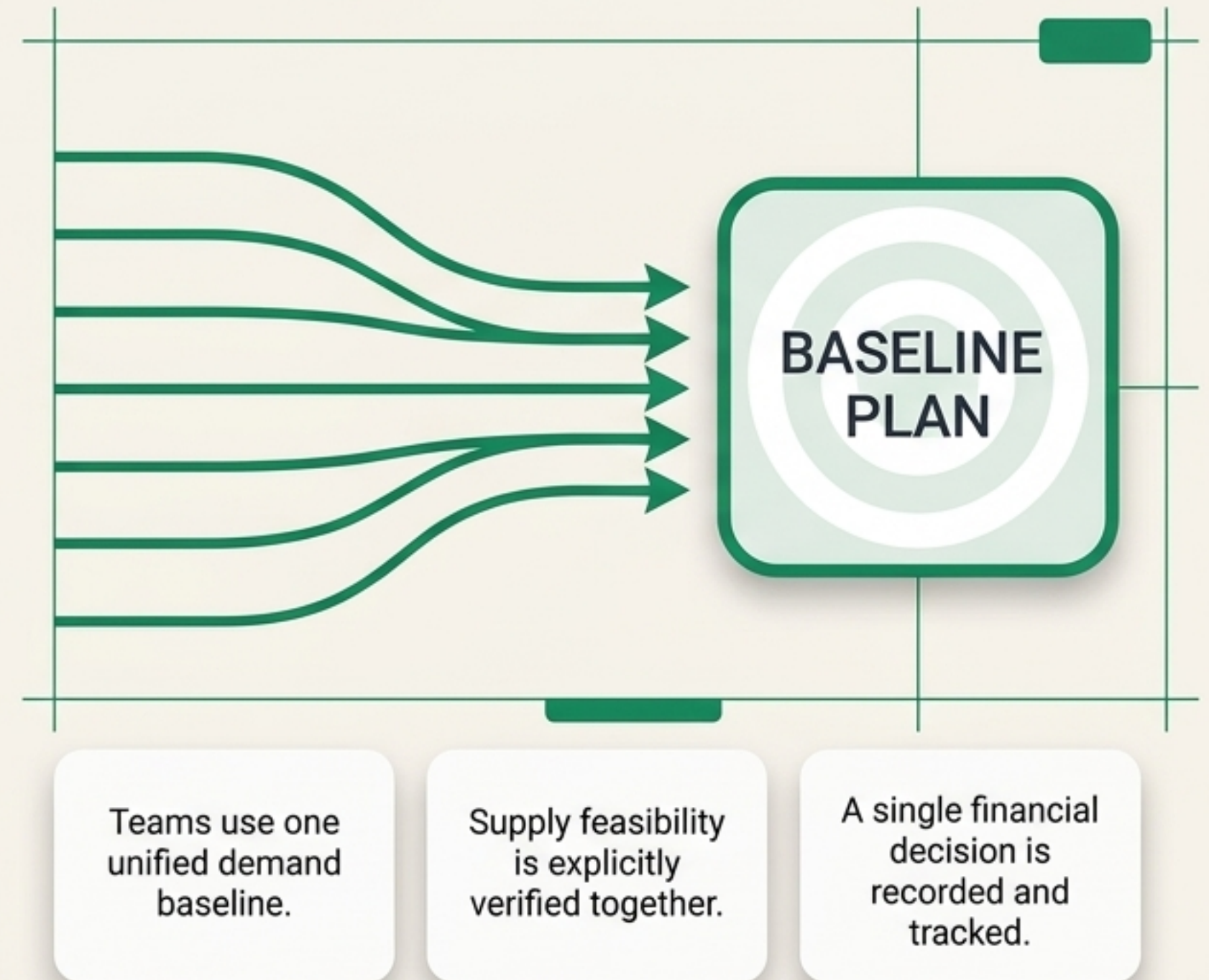


The 'Why' Behind S&OP

● SILO PLANNING



● CONSENSUS PLANNING



The Practitioner's Scorecard

CUSTOMER SERVICE

Did we keep our promise?

OTIF (On-Time, In-Full)

Fill Rate

Order Cycle Time

Backorder Rate

INVENTORY HEALTH

Are we managing cash efficiently?

Inventory Turnover

Days on Hand (DOH)

Stockout Rate

Aged Stock

PLAN RELIABILITY

Are our inputs accurate?

Forecast Error / Bias

Supplier On-Time Delivery

Schedule Adherence

Warehouse Pick Accuracy

Demystifying KPI Math (Live Examples)

FILL RATE

$$\frac{950 \text{ Units Served Immediately}}{1,000 \text{ Units Demanded}} = 95\%$$

Translation: Demand served directly from available stock.

OTIF

$$\frac{90 \text{ Perfect Orders}}{100 \text{ Total Orders}} = 90\%$$

Translation: End-to-end order promise fulfilled.

INVENTORY TURNOVER

$$\frac{\$1.2\text{M Annual COGS}}{\$200\text{k Average Inventory}} = 6 \text{ Turns}$$

Translation: How many times inventory cycles per year.

DAYS ON HAND (DOH)

$$\frac{365 \text{ Days}}{6 \text{ Turns}} = 60.8 \text{ Days}$$

Translation: Days of stock we hold at current cost basis.

KPI Traps & Misinterpretations



TRAP: Higher turns is always better.

REALITY: Excessively high turns can mean dangerously low buffers, leading directly to stockouts and lost sales. Always pair Turnover with Fill Rate.



TRAP: 95% accuracy is great.

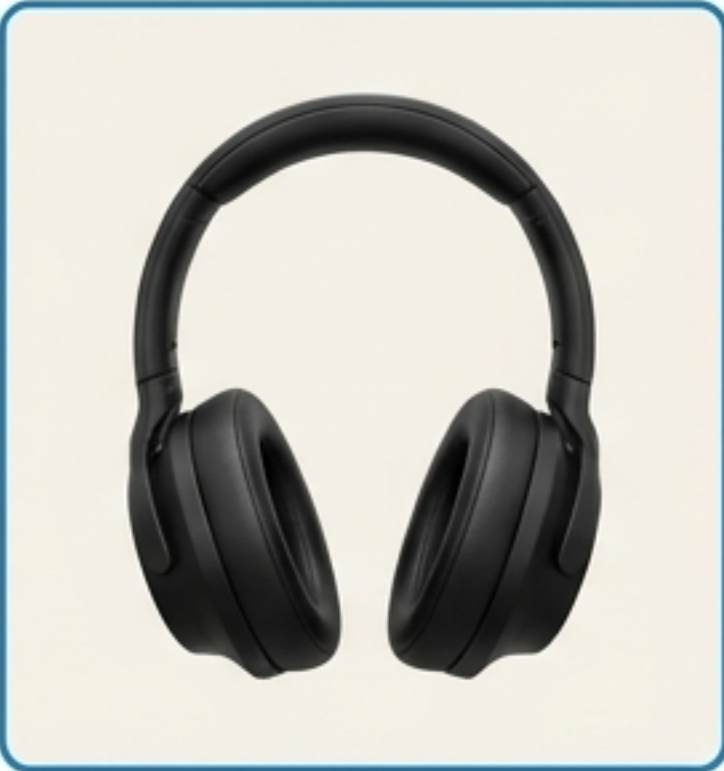
REALITY: Accuracy means nothing without context. Is there a consistent bias (always overforecasting)? What is the product granularity? Define accuracy first.



TRAP: Averages hide everything.

REALITY: A strong company-wide OTIF can easily hide a critical, recurring shortage on a flagship SKU. You must drill down by product, site, and segment.

LIVE SIMULATION: The Headphone Business



SKU: HP-BLK-01

● Daily Average Demand 40 units		● Supplier Lead Time 5 days (fixed)	Segment
● Safety Stock 60 units		● Current On-Hand 180 units	Segment
● Open POs (On-Order) 30 units	● Backorders 10 units	● Target Order Quantity 250 units	

MISSION PROMPT: Do we trigger an order today?

LIVE SIMULATION: The Logic Map

Step 1: Calculate Reorder Point (ROP)

(40 daily demand × 5 days lead time) = **200** Expected Demand.

200 + **60** Safety Stock = **260** ROP.



Step 2: Evaluate Inventory Position

180 On-Hand + **30** On-Order - **10** Backorders = **200** Current Position.



Step 3: The Decision

Inventory Position (200) is **LESS THAN** Reorder Point (260).

TRIGGER REORDER (Order 250 units)

LIVE SIMULATION: The Curveball



SYSTEM ALERT: Supplier warns of +2 Days Delay on incoming shipment.

THE MATH IMPACT:

2 extra days × 40 units/day = 80 units of unexpected demand during the new lead time.

PLANNER'S ACTION PLAN:

Reassess stock exposure immediately. You will burn through your 60-unit safety stock and face a 20-unit shortage before the order arrives. Action required: Expedite freight, allocate existing stock strictly to top customers, or secure alternate supply.

TRIGGER REORDER (Order 250 units)

The Interview Playbook

The STAR Method (No Experience Needed)

[S]

Situation: Set the scene using an academic project or simulation.

[T]

Task: Define the goal (e.g., prevent a stockout).

[A]

Action: Detail your analysis, steps, and stakeholder communication.

[R]

Result: State the measurable outcome or core learning.

Glossary & Key Phrases

Safety Stock: Buffer against variability.

Reorder Point: When to reorder, not how much.

S&OP: Aligning demand, supply, and finance into one plan.

Demand vs Supply Plan: Unconstrained wants vs. constrained feasible fulfillment.

The Final Checklist & Your 60-Second Pitch

The Flight Check

- ✓ Map end-to-end SC steps?
- ✓ Define SKU, MOQ, LT, Safety Stock, ROP?
- ✓ Calculate fill rate, turns, and lead-time demand?
- ✓ Explain S&OP participants and outputs?
- ✓ State assumptions before using formulas?

The Pitch

“A supply chain coordinates demand, sourcing, inventory, operations, and delivery. Good planning matches customer needs with feasible supply while balancing service, cost, and working capital. I use forecasts, lead times, reorder points, S&OP, and KPIs to manage these trade-offs.”