



DEMAND FORECASTING & INVENTORY OPTIMIZATION

Your Gut Says Order More. The Math Says How Much.

ShivAI Distributor Inventory Planner — 10 AI forecasting models compete to predict demand for every SKU at every retailer. Newsvendor optimization calculates the exact stock level that maximizes profit. Connects to Tally, SAP, Zoho, Shopify, Amazon, and 8 more systems out of the box.

THE DISTRIBUTOR'S DILEMMA

3,000 SKUs. 4 Warehouses. Every Day Is a Guessing Game.

<p>Rs.80 Lakhs Stuck in Slow Movers Overstocked on items that won't sell for 6 months. Working capital bleeding. But you keep ordering because 'what if a big order comes?'</p>	<p>Stockouts on Your Top 20% SKUs The items that drive 80% of revenue are the ones that run out. Lost sales. Angry retailers. Competitors fill the gap.</p>
<p>Reorder Decisions by Gut Feel No demand forecast. No service-level math. The buyer looks at last month's sales and adds 10%. For 3,000 SKUs. Every month.</p>	<p>Different Data, Different Systems Sales in Tally. Orders in Excel. Inventory in WhatsApp messages. No single source of truth. Every number is debatable.</p>

THE SOLUTION

10 AI Models Compete. Newsvendor Math Optimizes. You Decide.

Upload your sales history from any system — Excel, Tally, SAP, Zoho, or connect directly to PostgreSQL. ShivAI trains 10 forecasting models per SKU, picks the best one automatically, then uses Newsvendor optimization to calculate the exact order quantity that balances service level against holding cost. Every recommendation comes with an explanation of why.

THE FORECASTING ENGINE — 10 MODELS

<p>Baseline NaiveLast3M — average of last 3 months. The benchmark every AI model must beat.</p>	<p>Statistical ETS (Holt-Winters) — captures trend + seasonality. SARIMA — autoregressive with seasonal differencing.</p>	<p>Intermittent Demand Croston + TSB — specialized models for SKUs with sporadic, lumpy demand patterns (spare parts, seasonal items).</p>
<p>Machine Learning RandomForest, XGBoost, LightGBM, CatBoost — 4 tree-based ML models. Features: month, price, promotions, discounts, schemes.</p>	<p>Deep Learning Prophet — Facebook's time series model. Learns trend + seasonality + holidays. Requires 24+ months of history.</p>	<p>Ensemble Inverse-RMSE weighted average of all models with valid accuracy. Automatically downweights poor models. Best overall accuracy.</p>

Orders: **4,199**

SKUs: **5**

Forecasts: **5**

Champion: **ETS**

PO Value: **₹11,840**

Last forecast: 10 Apr 2026 (today)

⚠ Urgent Reorders — 0 Critical · 1 High Priority

SKU	Product	On Hand	Safety Stock	Order Qty	Unit Cost (₹)	Urgent
SKU-101	Premium Mixer	90	163	1,323	₹1,742.19	● Hi

Top 1 urgent SKUs shown. Full list with profit analysis in Recommendations.

Full Recommendations →

Go to Export →

Dashboard — Champion Forecast model, PO values, urgent reorders identified



Not Just 'How Much Will Sell' — 'How Much Should I Stock'

Forecasting tells you expected demand. But the real question is: what stock level maximizes profit given the risk of stockout vs. the cost of holding excess? ShivAI uses the Newsvendor model — the gold standard in inventory theory — to compute the optimal stock level S^* for each SKU.

The Right Quantity — Calculated, Not Guessed For every SKU, the system calculates exactly how much to stock — factoring in your expected demand during the supplier's delivery window, the uncertainty in that demand, and the service level you want to offer your customers. You don't set up formulas or tune parameters. It reads your sales history, your costs, and your supplier lead times, and gives you a number you can act on.

Every Recommendation Explained No black box. Each SKU comes with a plain-English explanation: "We recommend ordering 450 units because you'll likely sell 720 during the lead time, you need 130 units of safety buffer to maintain 95% availability, and you already have 400 units in stock." Your team understands the logic. Your auditor can trace the reasoning.

Profit-Optimized, Not Just Availability-Optimized Most systems tell you what to stock. ShivAI tells you what that stocking decision earns. For each SKU, you see: expected revenue, procurement cost, holding cost, and net profit per order cycle. You stop over-stocking slow movers just because "what if someone orders."

What-If: Change Anything, See the Impact Instantly What happens if you raise the selling price by 5%? What if your supplier's lead time slips from 3 weeks to 5? What if you lower service level from 95% to 90% to free up cash? Move the sliders. Stock recommendations and profit projections update in real time. Make decisions with data, not debate.

SKU Code	Product	On Hand	On Order	Monthly Forecast	Safety Stock	Order Qty	Unit Cost (₹)	Sell Price (₹)	Service Level	Expected Profit (₹)	Urg	
0	SKU-101	Premium Mixer	90	80	1329	163	1323	₹1742.19	₹17262.29	86.3%	₹6,962,859	🔴
2	SKU-103	Compact Grinder	230	60	1108	0	818	₹5655.05	₹5520.58	50.0%	₹-435,534	🟡
1	SKU-102	Regular Mixer	210	90	938	86	725	₹2329.67	₹6075.65	80.8%	₹3,238,609	🟢
3	SKU-104	Deluxe Grinder	110	45	602	45	492	₹5188.90	₹8139.43	75.9%	₹1,458,156	🟢
4	SKU-105	Juicer Pro	60	20	305	33	258	₹2602.34	₹8994.66	87.7%	₹1,847,171	🟢

Stock recommendations — SKU table with S^* , order qty, service level, safety stock, profit per cycle, and drill-down explanation

13 PRE-BUILT DATA CONNECTORS

Works With Whatever System You Already Use

Each connector is a profile that maps your system's column names to ShivAI's standard schema. No coding. No data transformation. Just select your profile and upload.

Indian ERPs Tally Sales Export, Busy Accounting, Marg ERP — the systems 80% of Indian distributors use	Global ERPs SAP Business One, Zoho Inventory, QuickBooks — for larger or international operations	E-Commerce Amazon Seller, Flipkart Seller, Shopify — forecast demand across online channels
Database Direct PostgreSQL connector — connect directly to your ERP database without export	Generic Formats Simple Excel, Generic POS, CSV — works with any system that can export data	Custom Profiles Create your own profile in minutes. Map any column name to the standard schema

COMPLETE CAPABILITIES

SKU or SKU x Retailer Forecasting Forecast at SKU level (total demand) or SKU x Retailer level (per-retailer demand). Aggregation handles both automatically. See which retailers drive demand for each product.	Model Explainability Every champion model selection and every stock recommendation include a plain-English explanation. Not a black box. Your team understands WHY the system recommends what it does.
Feature-Rich ML ML models learn from: month-of-year, average wholesale price, discount percentage, scheme/promo flags. Price-sensitive demand curves. Promotional lift quantified.	Intermittent Demand Handling Croston and TSB models handle SKUs with sporadic, lumpy demand — spare parts, seasonal products, new launches. Standard forecasting models fail on these; DIP handles them natively.

THE BUSINESS CASE

40% Fewer stockouts on top SKUs	25% Lower inventory holding cost	10 AI models compete per SKU	13 Pre-built data connectors
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WHO IT'S FOR

FMCG Distributors High SKU count, fast-moving stock, margin pressure on every line	Auto Parts Intermittent demand, long tail of slow movers, critical availability	Pharma Distribution Expiry-sensitive, regulatory, seasonal demand patterns	Industrial Supplies B2B, variable order sizes, project-based demand spikes
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Stop Guessing. Start Optimizing.

Start your 30-day Pilot (₹4,999) | contact@shivaiscsolutions.com | www.shivaiscsolutions.com