

Network Redesign: Cutting Logistics Cost 18% for a Consumer Goods Company

Supply Chain Optimization | Industry: Consumer Goods | Client: Consumer Goods Company (hypothetical) |

Timeline: 12 weeks | Date: July 2026

Redesigned the 27-warehouse network to 14 facilities, cutting logistics cost from 8.9% to 7.3% of revenue (Rs.87 crore saved annually) while improving service levels from 91% to 96.5%.

Frameworks: Facility Location Optimisation . Network Scenario Modelling . Service-Level SLO Design . 3PL Sourcing & Contracting

Challenge

A Rs.8,900 crore consumer goods company - personal care, home care, and foods - had grown through acquisition, and its distribution network showed it: 27 warehouses (some inherited, some duplicated), 41% of freight moving on inter-warehouse transfers (products shipped *in* only to ship *out* again), and logistics costs at 8.9% of revenue vs. a 6.8% best-in-class benchmark. Service levels had slipped to 91% as the network grew more complex.

The COO's question: **"We added 9 warehouses in 3 years and service got worse. What's the right network - and can we get there without a supply disruption?"**

Approach

We ran a 12-week network-optimisation engagement:

1. Data foundation (weeks 1-2). We cleaned and triangulated 14 months of shipment-level data (SKU x origin x destination x cost x transit time) across 4,800 SKUs, 1,900 pin-codes, and 27 warehouses - reconciling ERP, TMS, and freight-invoice records that disagreed on 23% of line items.
2. Demand clustering (weeks 3-4). We built a demand model at pin-code level with a 3-year growth overlay (by SKU family and channel: general trade, modern trade, e-commerce).
3. Network optimisation (weeks 5-8). We modelled 12 network scenarios in a facility-location optimisation engine: 27>27 (baseline), 27>20, 27>14, 27>10, and hybrid "direct-to-store for e-commerce" variants, with constraints on service-time targets (metro <=24h, Tier-2 <=48h), capacity, and capital.

4. Transition planning (weeks 9-12). We designed a 15-month migration: sequencing, inventory-buffer policy, 3PL contract renegotiation (single national partner vs. regional), and a KPI framework to protect service during the transition.

Analysis

****The network was solving a problem that no longer existed.**** The 27 warehouses had been built to serve 2006's channel structure. E-commerce (now 18% of revenue) needed **different** nodes (fulfilment centres near metro demand), not the same wholesale nodes. The inter-warehouse transfer rate of 41% was the smoking gun: Rs.124 crore/year of freight was pure waste.

****The optimisation model's answer was unambiguous:**** the 14-facility scenario dominated on cost **and** service in 9 of 12 modelled variants.

Scenario | Facilities | Logistics cost (% rev) | Service level | Inter-warehouse transfers | Capex needed

Baseline | 27 | 8.9% | 91.0% | 41% | -

Consolidate | 20 | 8.2% | 92.5% | 28% | Rs.18 cr

Optimal mix | 14 | 7.3% | 96.5% | 9% | Rs.42 cr

Aggressive | 10 | 7.1% | 94.0% | 4% | Rs.68 cr

The 10-facility scenario had marginally lower cost but **worse** service - it violated metro next-day targets in 3 of 8 metros. The 14-node design hit the sweet spot: 4 mega-warehouses (metro demand + e-commerce fulfilment), 8 regional nodes, and 2 strategic buffers near ports.

****The e-commerce dimension changed the answer.**** Splitting fulfilment (e-commerce orders via 4 metro fulfilment centres with same-day/next-day capability) added Rs.4 crore of cost but unlocked a 6-point service improvement on the fastest-growing channel - and enabled a 3.5% conversion lift in the client's own D2C channel.

****3PL economics favoured a hybrid.**** One national 3PL partner (vs. the current 14 regional vendors) reduced handling and line-haul cost by 11% but raised single-vendor risk; the optimal contract was a "national spine + 2 regional specialists" structure with penalty-backed SLAs.

Findings

1. The prize was Rs.87 crore/year (1.6% of revenue) from: transfer elimination (Rs.41 crore), consolidation economies (Rs.24 crore), 3PL renegotiation (Rs.13 crore), and e-commerce network efficiency (Rs.9 crore).
2. Service and cost were not in tension - the current network was bad at both; fixing the structure improved both simultaneously.

3. *Inventory would rise 8-10% during transition* (buffer policy) before settling 12% lower than baseline - a working-capital bridge of Rs.35 crore needed CFO sign-off upfront.
4. The transition was the actual risk. 60% of past failed network changes failed on execution (stockouts during migration), not design.

| Recommendation

We recommended the **14-facility "optimal mix" network** with a 15-month migration in three waves:

- Wave 1 (months 1-6) - Quick structural wins: consolidate 7 warehouses with overlapping coverage; renegotiate the national 3PL contract; launch the 4 metro e-commerce fulfilment centres. Target: Rs.38 crore annualised.
- Wave 2 (months 6-12) - Core migration: open the 2 port-buffer nodes; migrate 5 regional nodes; retire 6 legacy warehouses; hold +10% safety stock during the moves.
- Wave 3 (months 12-15) - Optimise & embed: SKU-to-node assignment rationalisation, dynamic rebalancing policy, and a network-review cadence (quarterly) so the network never drifts back to complexity.

Guardrails: service-level SLOs with weekly monitoring during migration; a "no two waves in the same region simultaneously" rule; and customer-communication templates for any OTIF (on-time-in-full) dips.

| Outcome

Twenty months after launch, logistics cost stood at 7.3% of revenue (Rs.87 crore/year saved), service at 96.5% OTIF - a 5.5-point improvement - and inter-warehouse transfers at 9% vs. 41%. The e-commerce fulfilment centres carried 71% of D2C volume with same-day delivery in 6 metros, lifting D2C conversion 3.4%. The quarterly network-review cadence the team embedded now prevents the "accretion creep" that created the 27-warehouse problem in the first place.

Case study reconstructed for illustration from typical engagement patterns. Client and figures are hypothetical.

Prepared by Kunwar Analytics - kunwaranalytics.in